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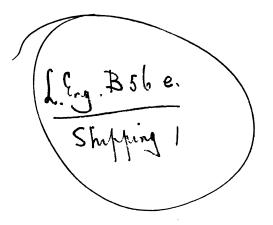
IN

SHIPPING CASUALTIES

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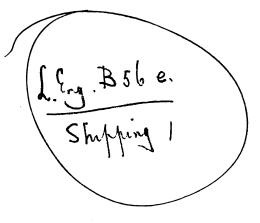
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OF THE

JUDGMENTS

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BOARD OF TRADE INQUIRIES

INTO

SHIPPING CASUALTIES,

DELIVERED BY

H. C. ROTHERY, Esq.,

The Wreck Commissioner,

FROM

1876-1880;

WITH

A CHAPTER ON THE PROCEDURE OF THE COURT.

By T. F. SQUAREY,

BARRISTER-AT-LAW;

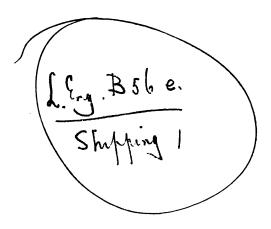
Of the Middle Temple and Northern Circuit.

LONDON:

WATERLOW BROS. & LAYTON,

24, BIRCHIN LANE, E.C.

1999



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PROCEDURE.

INQUIRIES may be ordered by the Board of Trade in the following cases:—

- 1. Whenever any ship is lost, abandoned, or materially damaged, on or near the coasts of the United Kingdom.
- 2. Whenever any ship causes loss or material damage to any other ship, on or near such coasts.
- 3. Whenever, by reason of any casualty happening to, or on board of, any ship, on or near such coast, loss of life ensues.
- 4. Whenever any such loss, abandonment, damage, or casualty happens elsewhere, and any competent witnesses thereof arrive, or are found at any places in the United Kingdom.
- 5. Whenever a British ship has been lost, or is supposed to have been lost, and any evidence can be obtained in the United Kingdom to show her condition when she proceeded to sea, or when she was last heard of.

These inquiries may be held either before the Wreck Commissioner, a stipendiary magistrate, or two justices of the peace, with assessors in each case.

In cases where engineering skill and knowledge are required, a person possessing such skill and knowledge may be appointed as assessor.

Upon the conclusion of the case, the assessors are either to signify their concurrence in the report made to the Board of Trade by signing it; or, if they dissent therefrom, are to inform the Board of Trade of their reasons for so doing.

As soon as an investigation has been ordered, the Board of Trade may cause a Notice of Investigation to be served upon the owner, master and officers of the ship, and upon any person who may appear in any way to have contributed to the casualty

The Board of Trade, and any certificated officer upon whom such notice has been served, are deemed to be parties to the proceedings.

Any other person served with such a notice, or any one who is able to show that he has an interest in the investigation, has a right to appear, and the fact of such appearance makes him also a party.

Finally, any other person may, by permission of the Judge, appear, and thereupon becomes a party.

At the time and place appointed, the Court may proceed with the case, whether the parties served with a notice are present or not.

The course of procedure is as follows:--

The representative of the Board of Trade, in the first place, makes an opening statement, describing briefly the facts of the case, upon the conclusion of which, any witnesses whom the Board may wish to examine, and who are able to give material evidence with regard to the casualty, whether they were on board the ship at the time or not, are called.

These witnesses are then cross-examined by the various parties, the Board of Trade having the right of re-examination.

All the witnesses having been called, the Board of Trade, by their representative, state in Court the questions, in reference to the causes of the casualty, and the conduct of any persons connected therewith, upon which they desire the opinion of the Court.

If the conduct of any certificated officer is in question, they also state in Court their opinion as to whether his certificate should be dealt with or not.

Any officer whose certificate they consider should be dealt with, is entitled to a copy of the questions upon which the opinion of the Court is asked.

As soon as these have been read, the parties themselves, or their legal representatives, are heard in such order as the Judge may direct; vafter which, the Board of Trade has the right of reply.

The Court then generally adjourns for a time in order to consider and prepare its judgment, which must be delivered in open Court in all cases where a certificate is cancelled or suspended.

In ordinary cases of suspension, when, in the opinion of the Board of Trade, the justice of the case requires it, it is usual to grant a certificate of a lower grade, to be in force during the time of suspension of the original one.

The Court has full power as to costs, and may order them, or any part of them, to be paid by the Board of Trade, or by any party to the proceedings. In the great majority of cases, however, no order is made.

The learned Wreck Commissioner, in the case of the Dinorah and Dorunda, s.s. (p. 1), which was the first to come before him, stated his opinion that the intention of the Legislature was not to give costs as a matter of course, but rather to enable the Court to do so in exceptional cases. This rule has been adhered to ever since, though there are several cases in which parties have been condemned, for gross misconduct or negligence, to pay a share of the expenses of the inquiry; and there is nothing to prevent the Board of Trade themselves being condemned in costs when, in the opinion of the Court, an inquiry has been ordered which proves, on investigation, to be futile and improper.

Until quite recently, the decision of a Court in a Board of Trade inquiry was final, there being no right of appeal whatever; but in the year 1879 a remedy was provided for a state of things which had long been regarded as anomalous.

In that year was passed the 42 & 43 Vic. c. 72, known shortly as the "Shipping Casualties Investigations Act, 1879." The first section provided that where an investigation has been held, the Board of Trade may, in any case, and shall, if new and important evidence, which could not be produced at the investigation, has been discovered, order that the case be reheard, either generally or as to any part thereof.

The same power is given to them where there is ground, in their opinion, for suspecting a miscarriage of justice. The rehearing is to be either by the Court or authority before whom it was heard in the first instance, or by the Wreck Commissioner, or in England or Ireland by a Judge of Her Majesty's High Court of Justice, exercising jurisdiction in Admiralty cases; or in Scotland, by the Senior Lord Ordinary, or any other Judge of the Court of Session, whom the Lord President of that Court may appoint for the purpose.

Section 2 provides that where, in any investigation, the certificate of a master, mate, or engineer has been cancelled or suspended, and where an application for a rehearing has not been made, or has been refused, an appeal shall lie:—

I. If the decision has been given in England, or by a Naval Court, to the Probate, Divorce and Admiralty Division of the High Court of Justice.

II. If in Scotland, to either division of the Court of Session.

III. If in Ireland, to the High Court of Admiralty, or to the Judge or Division of Her Majesty's High Court of Justice exercising jurisdiction in Admiralty cases.

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DIGEST

OF THE

WRECK COMMISSIONERS' JUDGMENTS.

Collision-Speed in Fog-Loss of Life.

"DINORAH" AND "DORUNDA," S.S.

Inquiry held 30th October, 1876.

Assessors: R. ASHMORE POWELL, R.N.; H. HARRIS.

The Dinorah was a three-masted barque of 367 tons register. She left the Tyne on the 3rd of July, 1876, bound for Brindisi with a cargo of coals, having a crew of 13 hands all told. On the 27th of July, about 1 a.m., when 35 miles to the eastward of Gibraltar, going close-hauled on the port tack 4 knots, heading about E.S.E., she entered a fog. In about 10 minutes the red and mast-head lights of a steamer were seen on the starboard quarter. The fog horn, which had been previously blown forward, was then blown from aft, and the crew shouted to the steamer to port her helm. The steamer, however, came on at full speed, ultimately striking the barque close to the taffrail on the starboard quarter. Just before the actual blow, the helm of the Dinorah was put hard-a-starboard. Whilst the crew were in the act of getting out the longboat the vessel sank under them, 10 being drowned.

The Dorunda was a screw steamer of 2,977 tons gross and 1,943 tons net register. She left London on the 21st July, nothing particular occurring till shortly after midnight of the 27th, at which time the second officer took charge; the captain also being on deck till about 12.25, when he went to his cabin, leaving orders that he was to be called if anything unusual occurred. In about 10 minutes the second officer saw a fog rising to the eastward, the ship's course being then E. by S., and, having immediately given the orders "Stand-by," "Half-speed" and "Slow," sounded the whistle and called the captain. About two minutes after the ship had slowed down, the look-out forward reported a ship ahead, and nearly at the same time the second officer heard voices from the same direction shouting, "Helm hard-a-port," which he ordered to be done. The captain then came on deck and telegraphed "Stop," "Half-speed astern," and in about a minute and a-half or two minutes, "Full speed

astern," but at that moment they struck the vessel. This was the story of the second officer; but, if all this had occurred at the intervals of time which he mentioned, it was clear to the Court that there would have been time to bring the steamer to rest before she reached the barque. The Court held, therefore, that the steamer must, when the collision occurred, have been going at a considerable speed, a conclusion which was strengthened by the evidence of the third engineer, who was in charge of the engines at the time, to the effect that the second officer did not give the order to slow the engines down as he approached the fog, but continued at full speed until he had entered it. The Court held that he was wrong in so doing, and having expressed to him their opinion that his conduct was marked by a want of due care and caution, recommended him in future to exercise a greater degree of vigilance.

Collision-Loss of Life.

"VIGILANT" AND "CYMBA," S.S.

Inquiry held 13th November, 1876.

Assessors: HENRY KNOX, R.N.; J. S. CASTLE.

The Vigilant was a cutter yacht of nearly 22 tons register. On the 11th October, 1876, she left Grays, a little above Gravesend, with a crew of four hands, besides the owner, for a cruise down the river. Shortly before 12 noon, having got down as far as between Yantlet Buoy and Jenkin Buoy, she was put from the starboard on to the port tack, and was laid a course W.N.W. up the river, with two reefs in her mainsail. She had been on the port tack about five minutes, when the helm was put down for the purpose of shaking the sails; but owing to an accident, the tiller broke, and the yacht immediately flew up into the wind. Attempts were made to get the stump of the tiller out of its socket, but without success. In the meantime, after getting up into the wind, she first got stern way, and then fell off again to the W.N.W. At that moment a steamer was seen ahead, a little on the starboard bow, coming end on, under a port helm. The foresail of the yacht was hauled down, and the jib sheet eased, the effect being to make the vessel fly up again into the wind. Almost immediately, however, the starboard bow of the yacht collided with the port bow and stem of the steamer, the port side of the former being forced under water. Everything was done to save life, but unfortunately two of the yacht's crew were thrown into the water, and sank before the steamer's boat could reach them.

The Cymba was a screw steamer of 790 tons gross and 598 tons net register. She left London for Dublin, on the morning of the collision, with a crew of 23 hands all told. After passing Gravesend, at 11.50 a.m., the captain had charge of the deck. As she approached the Yantlet and Jenkin buoys, the wind blowing a strong breeze from the S.W., weather clear and the tide ebb, with her jib, foretrysail, main trysail, mizen and foretopsail set, she was going about 7 or 8 knots, steering E.S.E. The captain and

second mate were on the lower bridge, and three men were coiling rope on the forecastle head, but there was no regular look-out. The yacht was first seen at a distance of from 2½ to 3 miles, and the steamer kept on her course till she was within about a mile of her, when the helm was ported so as to bring the yacht about 1½ points on her port bow, and then steadied. After this the steamer again ported, thinking that the yacht was coming too near them, and again steadied. When within about 150 or 200 yards, the captain, observing the Vigilant shoot right up into the wind across his course, immediately ordered the helm hard-a-port, rushed to the telegraph, and gave the orders, "Stop," "Full speed astern," but too late to avoid the collision.

The Court upon these facts considered that the Cymba was not in any way to blame for the collision. On the other hand, they thought that the yacht was guilty of unseamanlike conduct. She might either have kept her course up the river when she saw the steamer approaching, by keeping her headsail full, and lowering the peak of her mainsail, or, if she wished to anchor, she should have taken in her jib as well as her foresail, which would have shown the steamer what she was going to do.

Collision—Loss of Life—Duty to render assistance.
"HURUNUI" and "PATER."

Inquiry held 28th November, 1876.

Assessors: H. HARRIS; B. S. PICKARD, R.N.

The Hurunui was an emigrant ship belonging to the Port of London. and she measured 1,053 tons gross. She had a crew of 40 hands all told, and 6 boats, of which 2 were lifeboats, 8 cutters and one a gig. She left London on the 20th September, 1876, bound for Wellington, New Zealand, with 9 saloon passengers, 220 emigrants, and from 800 to 900 tons of cargo. After a detention of 6 weeks, owing to fever having broken out on board, she left Plymouth on the 10th November. Soon after 8 p.m. of that evening, the second mate left the deck to go into the chart room, leaving the captain, William Boyle Boyd, in charge, when the look-out man forward sang out "Ship right ahead!" and receiving no answer, repeated the words. The captain then asked him what he said, when he again sang out: "Ship right ahead," and called to the man at the wheel to hard-a-port the helm. The captain repeated the order, but it was too late to avoid a collision, and the Hurunui ran into the stem of the other vessel, doing considerable damage. The carpenter, on examining the fore peak, found that the water was coming in at two holes in the plates; that the collision compartment was full, and the bulkhead buckling or bulging. While he had been making his examination, the Hurunui had continued her course without altering her helm or reducing her speed; but upon hearing the carpenter's report, the captain ordered the vessel to be put about for the purpose of returning to Plymouth, where she arrived in due course.

The Pater was a Greek barque, of about 450 tons, having a crew of 11 hands all told, and two boats. About sunset of the 10th November, having reached the entrance to the British Channel, and the wind being about S.E., she was beating up. There was no evidence before the Court as to any of the circumstances which occurred previously to the coming up of the Hurunui. The mate, who was below, came on deck, hearing the hands shonting. He heard the master call "Hard-a-port the helm," and immediately afterwards the other vessel ran into them, the end of her jibboom carrying away their mizen mast, her stem then striking the stern of the Pater, and cutting her down to the water's edge. The head of the Pater was then laid for the shore, and in about an hour the mate, observing that the vessel was sinking, with three others got into the small boat and cut her adrift. The rest of the crew endeavoured to get out the long boat, but it was jammed by the fall of the mizen mast, and they were unable to launch her. When the small boat was three or four ship's lengths off, those in her saw the Pater go down, but having no oars were unable to render any assistance to their comrades, who were drowned.

The Court came to the conclusion that the Hurunui was to blame for the collision. She was going down channel with a fair wind, under complete control, and at a great rate of speed, which rendered it incumbent on her to take every precaution to avoid injury to other vessels. The first report of the look-out man was not heard, the second was not acted upon, and it was only after the third that the vessel's helm was ported. The captain admitted to the Court that he was about 160 feet away from the look-out, and the Court thought that there should have been some person placed amidships to pass the word. Had the report been made immediately, the Hurunui would probably have had ample time to pass either on the one side or the other of the Pater. Upon the important question whether the captain of the Hurunui duly rendered assistance to the Pater and those on board of her, after the collision, in accordance with the provisions of the Merchant Shipping Act, the Court were of opinion that he had shown a great want, not perhaps of humanity, but of discretion and presence of mind. Though perfectly aware that the mizen mast of the Pater had gone, and having been told by the look-out man that there had been damage, he did not concern himself at all about the other vessel, but continued on his way for 10 minutes, and when he did put about it was the fact that his own vessel had sustained some damage to her bows which induced him to do so. The Court accordingly suspended his certificate for 12 months.

Foundering-Grain Cargo-Steering Gear.

"GENOA," S.S.

Inquiry held 14th and 16th December, 1876.

Assessors: H. HABRIS; G. H. FORSTER, R.N.

The Genoa was an iron screw steamer of 1,872 tons gross and 1,215 tons net register, built under special survey, and classed 100 A 1 at Lloyd's.

She was divided by iron bulkheads into five water-tight compartments, and about 16 feet forward of the bulkhead, at the fore part of the engine room, there was a permanent wooden bulkhead running from the upper deck to the bottom of the ship. She had 2 water tanks at the bottom of the vessel, resting upon girders built on the floor plates, extending from side to side; upon the after tank rested the screw tunnel, which was about 6 feet high. The arrangements for shifting boards were all that could be desired. There were also two temporary wooden bulkheads put up for the purpose of confining the cargo, -one in the 'tween decks of the after hold, about 12 feet abaft the after hatchway, and from 20 to 30 feet aft of the aftermost bulkhead; the other just forward of the fore hatch in the lower fore hold, about 14 or 16 feet from the collision bulkhead. In the spaces thus formed, i.e., between the after bulkhead and the end of the ship, and between the forward bulkhead and the collision bulkhead, there was neither cargo nor stores. These temporary bulkheads were formed of planks 21 inches thick, the upper ends being placed against one of the beams of the ship, giving a hold of 4 inches, and the lower end being secured by battens about 4 inches square nailed to the ship's ceiling with nails sufficiently long to give a hold of about 2 inches in the ceiling. Across the middle of the planks were nailed two others of the same thickness, extending from side to side of the ship, one on each side of the bulkhead. The outer one served as a support for some shores, about 14 feet long, placed so as to withstand the outward thrust of the grain cargo.

'With regard to the stowage of the cargo in the fore hold, the lower hold was filled quite full of grain right forward to the temporary bulkhead, as was also the 'tween decks. The space forward of the engine room bulkhead was full below the 'tween decks, but in the 'tween decks there was only sufficient cargo left to fill up any settlement. The lower hold of the after hold was quite filled, and the 'tween decks also as far aft as the temporary wooden bulkhead.

Thus laden, with a cargo amounting altogether to 2,200 tons, she left Sulina on the 31st of October, 1876, bound to Malta for orders, where she arrived on the 6th of November, left again on the 7th, and on the evening of the 11th passed through the Straits of Gibraltar. At that time it was calm, but during the night the wind increased until it blew almost a hurricane from the W.N.W., the vessel heading N.W. The engines were kept at full speed against wind and sea, four men being at the double wheel amidships.

About 6 a.m. the vessel pitched stern under, and a heavy sea smashed in the gratings over the rudder head, when it was observed that the starboard steering chain was broken, and the vessel, becoming unmanageable, fell off into the trough of the sea, heeling over to starboard. The tiller was then secured amidships, and in a short time the after steering gear was attached to it. Almost immediately, however, the stanchion to which the blocks on each side were fastened gave way, and the vessel again fell off into the trough of the sea, heeling over more and more, until the starboard rail was two or three feet below the water, nd the sea half-way up the deck. At this time, two of the boats on the

starboard side, and the boat on the main hatchway, had been stove, and the gig was full of water. The port lifeboat was capsized while being lowered, the master and third mate being drowned; and having subsequently been righted, the remainder of the crew, with the exception of the chief mate, boatswain, and two of the crew, who remained by the vessel and went down with her, were rescued by a brig and landed at Gibraltar.

, After hearing the evidence, the Court came to the conclusion that the loss of the vessel was caused by the giving way of the temporary wooden bulkhead forward, which would have had to withstand the pressure of some 1,300 tons of grain standing up 18 feet from the bottom of the vessel. When the bulkhead gave way the grain would have passed into the empty space forward, and when the vessel fell into the trough of the sea, would have shifted at once over to starboard. The Court considered that the bulkhead in question should have been a much stronger one. derangement of the steering gear, which was the immediate cause of the vessel falling into the trough of the sea, was probably caused, in the opinion of the Court, by the wreckage falling upon the chain; and the Court did not in any way blame the owners, who seemed to have spared no expense in obtaining what they believed to be the best material; but they commented upon the absence of any relieving tackles to attach to the tiller when the steering chains gave way, and pointed out the importance of having them ready at all times.

Beaching-Use of Lead.

"RESCUE."

Inquiry held 16th and 18th December, 1876.

Assessors: H. HARRIS; G. H. FORSTER.

The Rescue, a wooden brig, left Landgangan, in Norway, on the 29th of November, 1876, bound with a cargo of pit props to Sunderland, and a crew of seven hands all told. At 4 a.m. on the 1st of December she took her departure from the Naze, and on the 1st and 2nd, no observations having been obtained, her position was determined by dead reckoning alone. At about 11 p.m. of the 2nd, the master, Christopher Vasey, stated that he determined to lay to in order to take a cast of the lead, when no bottom was found at 45 fathoms; whereupon he concluded that they were some 50 or 60 miles from the land, and determined to hold on until 4 a.m. At about 2 a.m. a light was seen ahead, or a little on the port bow, when the captain made out that it was the masthead light of a vessel. At 2.30 another bright light was seen, which they thought was the Hartlepool Light; but suddenly it was observed to turn red, when it was immediately recognised as the Coquet Light. The helm was put up and the vessel wore round on to the port tack; but it being found impossible to weather the rocks, she was run on to the beach, the crew being saved by the rocket apparatus.

The Court were not able to say that it had been proved to their satisfaction that any cast of the lead at all had been taken, as alleged by the master, and he himself admitted that he was not at all sure that he had taken a correct one. They considered that he ought to have taken another at the time, or later on, instead of standing on as he did, and they accordingly suspended his certificate for 6 months.

Stranding-Arbroath Harbour-Steering Gear.

" VESPER," S.S.

Inquiry held 20th and 21st December, 1876.

Assessors: G. H. FORSTER, R.N.; C. Y. WARD.

The Vesper was a screw steamer of 223 tons gross and 138 tons register. She left Sunderland on the 1st of December, 1876, bound to Arbroath with a cargo of coals. At 3.30 on the 5th they sighted the Bell Bock, at about 3.40 the town lights of Arbroath, and at 4.15 what are called the leading lights. At the time there was a heavy sea running. According to the master, Thomas Inglis, he kept the vessel on a straight course for the fairway or mid-channel midway between the pier head and the breakwater; but when she was just between them her head canted to port towards the breakwater. He immediately put the helm hard-a-port; but finding that she did not answer, ordered the engines full speed astern. She then got into broken water, upon which he ordered her to be put shead again, until she ultimately became fixed fore and aft on the rocks, broadside to the sea, where she became a total wreck, the crew reaching the shore in safety.

It was clearly shown by the evidence, that unless a red light was exhibited from the pier head it was not safe for a vessel to enter the harbour, and also that the master did not see any such red light. After an easterly or a south-easterly gale a strong current sets across the mouth of the harbour towards the western rocks.

Upon the whole the Court considered that the master being, as he was, intimately acquainted with the harbour, showed great recklessness in attempting to go in as he did.

They also blamed him severely for not having, as he said he knew that the steering arrangements were defective, taken extra precautions in case they should go wrong.

They therefore suspended his certificate for 6 months.

Stranding-Steering Gear.

"CORSEWALL," S.S.

Inquiry held 4th January, 1877.

Assessors: E. G. VISCONTI, R.N.; C. Y. WARD.

The Corsewall was a screw steamer of 923 tons gross and 538 tons net register. She left Glasgow on Friday, the 1st of December, 1876, bound to Dublin, with a crew of 25 hands all told. She arrived at Dublin on the 3rd, where she discharged a portion of her cargo, took in some more, and sailed

for Cork. A little after 6 a.m. of the 5th, when they were abreast of Roche's Point, and about 6 or 7 lengths from the shore, the helm was, by the master's order, put to port, and when her head was sufficiently round it was steadied; but finding that she still continued to pay off to starboard, he ordered the helm hard-a-starboard. The helmsman then sang out that there was something wrong with the wheel. The master immediately came down from the bridge and ran aft, but almost directly returned to the engine-room skylight and ordered the engines to be stopped and put full speed astern. It was then found that the port steering chain had parted, and the vessel kept forging ahead with the wind and sea until she struck on the Cow and Calf Rocks, ultimately going to pieces.

The Court considered that none of the officers were to blame for the parting of the steering chain which directly led to the casualty, but they blamed the master for not having seen that the cutter, which had to be inserted in the slot made to receive it in the rudder head, before the after wheel could be rendered of any use, was not kept in its proper place over the rudder head, instead of, as in this vessel, in a drawer in the carpenter's room; and also for having allowed the tiller to have been kept lashed on the main deck, near the engineer's room, instead of to the bulwarks on the quarter deck. The Court accordingly recommended him for the future to be careful to have all ordinary precautions ready at hand in case his vessel met with a similar accident.

Abandonment-Shifting of Cargo-Insufficient Engine Power. "WOODHAM," S.S.

Inquiry held 9th, 10th, 11th, 18th and 19th January, 1877.

Assessors: C. D. PERRY, R.N.; E. HIGHT.

The Woodham was an iron screw steamship of 1,340 tons gross and 1,024 tons net register, having 2 engines of 99 horse-power combined. She had 3 holds, a fore, main and after hold, with 5 bulkheads extending from the main deck to the bottom of the vessel, namely, the collision bulkhead forward, a bulkhead between the fore hold and the main hold, one between the main hold and the engine room, one between the engine room and the after hold, and one separating the after hold from the lazarette. The height of the 'tween decks was 7 feet, that of the lower hold 15 feet. The vessel left Odessa on the 14th of November, 1876, with a cargo of wheat, consisting of from 1,400 to 1,500 tons. The main and after holds were full, as also the lower fore hold, but the compartment above it was empty, except for about 50 or 60 quarters, piled up against the bulkhead, which separated it from the main hold.

In the 'tween decks there were permanent shifting boards, extending from deck to deck, supported on the starboard side by iron stanchions running down the middle of the vessel fore and aft, and forming part of her permanent construction on the port side by upright wooden stanchions cleated and wedged top and bottom, and secured in their places by shores

from the side of the ship. In the lower hold the shifting boards were constructed in the same way, but instead of going from the main deck to the bottom of the vessel they were only six planks deep, the planks being prevented from falling down by half stanchions underneath, nailed to the upright midship wooden stanchions. These planks were 3 inches thick and about 9 inches deep, so that the total depth of the shifting boards in the lower hold was about 4 feet 6 inches.

The vessel left Odessa with a crew of 22 hands all told. She had 160 tons of coal, and between Odessa and Constantinople she consumed from 27 to 28 tons. At the latter place she shipped 25 tons and proceeded on her voyage to Malta.

On the way she met with strong head winds, and two days before her arrival, the coals beginning to get low, all the spare wood about the decks, and about 25 quarters of grain were used as fuel. At this time the bottom of the port boiler had begun to leak badly, and the tubes of the starboard one were also leaking. On her arrival at Malta, the port boiler was caulked at the bottom, and the tubes expanded. Having coaled there, they proceeded at Gibraltar, before reaching which, however, the back end of the starboard boiler began to leak, and a patch was accordingly put over it. She reached Gibraltar on the 3rd December, and having taken in 120 tons of coal, proceeded the same ovening on her voyage.

About 2 a.m. of the 5th the vessel had a strong list to starboard, and was making water slightly in the engine room. It was found that the cargo had shifted, upon which all hands were set to trim it, until they got the vessel partly upright.

On the following night, however, it again shifted, and again efforts were made to trim it, but without success. On the 6th and 7th it blew a gale, and at midnight of the 7th the captain shaped a course for Lisbon. In the morning, while she was in Cascaes Bay, a pilot came on board, and being unable, owing to the state of the tide, to enter Lisbon at once, she was kept steaming easy ahead, but the leak in the engine room increasing considerably, she went on full speed until between 5 and 6 p.m., but was unable to make head against the stream, and at that time the starboard and port fires were put out by the water.

The anchor was then dropped, and ultimately, no assistance coming the boats were lowered and left the vessel about midnight, at which time she was settling down.

Charges of neglect and drunkenness were made against the captain and chief engineer by the Board of Trade.

The Court came to the conclusion that the shifting boards in the lower fore hold were wholly insufficient; but as the agent of the Board of Trade had given the captain a certificate of their sufficiency, they were unable to hold him guilty with respect to them.

As regarded the engineer, it was proved that upon the vessel's arrival at Odessa some 8 or 9 of the boiler tubes were choked up; before reaching Malta the starboard boiler leaked badly, and many of the tubes also. The other boiler began to leak before their arrival at Gibraltar; and looking at the fact that this vessel, though of 1,024 tons net register, had only

engines of 99 horse-power, the Court could hardly say that her steam power was sufficient; but they considered that it had not been satisfactorily proved that blame attached to the chief engineer, and further, that the charges of drunkenness against the captain and chief engineer had not been satisfactorily established.

They thought that the loss was due to the shifting of the cargo in the lower fore hold, and to the insufficient power of the engines to take the vessel into Lisbon.

Abandonment-Construction of Engine Room bulkhead. "DHOOLIA," S.S.

Inquiry held 12th, 13th and 15th January, 1877.

Assessors: G. H. Forster, R.N.; J. S. Castle.

The Dhoolia was a screw steamship of 2,659 tons gross and 1,726 tons net register. All the evidence went to show that when the vessel left England on her last voyage she was, as far as the owners knew, in a proper and efficient state of repair. She left Alexandria on the 3rd of December, 1876, bound for Hull, with a cargo chiefly of cotton seed, amounting in all to from 2,700 to 2,800 tons. She drew 22 feet forward and 22 feet 6 in. aft. The Plimsoll mark was about 6 inches out of the water, and as this mark was about 5 feet 2 inches below the deck, there was no reason to suppose that she had not a sufficient freeboard. Her crew consisted of 43 hands all told. On the voyage from Alexandria to Malta nothing material occurred. She left Alexandria with 380 tons of coal, and upon her arrival at Malta, five days later, she took in about 240 tons more. She left Malta for Gibraltar on the 10th December, and on the 11th, at 8 a.m., owing to the neglect of the second engineer, Henry Dibb, the furnace tops of the port forward boiler came down upon the bars, from which time the vessel continued her voyage with 3 boilers instead of 4, her speed being reduced from about 81 to something under 7 knots an hour. On the 17th she reached Gibraltar, and having taken in 105 tons of coal she proceeded on her voyage. On rounding Cape St. Vincent she met with a strong head sea, and soon afterwards, with the wind strong from the N.W. and W.N.W., the foretrysail was blown away. By 7.30 p.m. of the 22nd the wind increased considerably, till at 9 the foot of the topsail was blown away and the sail split to ribbons. The wind then rose to a gale, blowing in squalls. About 10.30 a heavy sea broke over the port side just forward of the bridge, rushed through the alley ways aft, filled the decks between the poop and the bridge, and breaking open the doors of the officers' berths on the starboard side, forced out the bottom of the bulkhead which separated them from the engine room hatchway, and went down in tons into the engine room. The captain immediately ordered the foretrysail (which had been re-set) and forestaysail to be taken in, and the helm to be put down so as to bring her head to the wind, all hands being sent down into the engine room to endeavour to secure the bulkhead, which was constructed of inch or inch and a-half

plank, and was found to have parted for its whole length of 14 or 15 feet at the lower end, and to be hanging upon the top as though upon an hinge. The awning pole and flagstaff were shored up against the opposite side of the hatchway, and handspikes were obtained and wedged against the nuts in the cylinder; as fast, however, as one shore was put up another gave way, and the water kept running from the alley ways into the officers' berths, and thence down into the engine room. Whilst they were endeavouring to secure the bulkhead, the chain, extending aft from the midship wheel, parted, and the vessel became immediately unmanageable, falling off broadside to the sea; orders were immediately given to connect the after wheel, which was done in a very short space of time, owing to the fact that everything was ready and in its place.

The Court laid stress upon this fact, as being very creditable to the master and officers of the ship.

By 3 a.m. the starboard fires had been put out, and about an hour afterwards the port fires were extinguished, the donkey engine fire remaining alight for a short time longer. After this the water continued to increase rapidly in the engine room, until at 8.30 a.m. there was from 10 to 11 feet of water there. At 8 a.m. the Malta was observed at some distance, when preparations were made for lowering the boats. The first boat left about 9.30, other boats at intervals; but it was not until about 2.30 that the master, who had been left alone on the ship with the donkeyman, was taken off in the Malta's pinnace. At that time there were from 16 to 17 feet of water in the engine room. On the following morning nothing was to be seen of the Dhoolia, and the Malta thereupon proceeded on her voyage, and ultimately brought the crew to England.

The Court held that, looking at the fact that her main deck was nearly six feet out of the water when she left Alexandria, there was no reason to say that she had not sufficient freeboard, or that she was too heavily laden for safety; and as regarded the stowage of the cargo, there was nothing to complain of, or in the arrangement of the shifting boards.

As to the parting of the steering chain, everything, as before stated, appeared to have been in its place to meet such an emergency; and as to the attempts to secure the bulkhead, the Court could see nothing at all to complain of in the conduct of the master or officers of the vessel, who seemed to have done everything which they could to secure it.

Under the circumstances, the Court considered that the abandonment was fully justified.

The Court considered that the loss of the vessel was due entirely to the giving way of the bulkhead. In the after part of the *Dhoolia* was the saloon, which extended about 100 feet forward from the sterm; in the centre was the deck house, raised about 7 feet above the main deck. It was in all about 76 feet long, the after part being about 6 feet aft, and the forward part about 20 feet forward of the engine room space. Between the deck-house and the bulwark were alley ways about 4 feet wide. On the starboard side, opposite the engine room hatchway, were the officers' berths, and on the port side were the engineers' berths, the latter opening from the engine room, the former from the alley way. At the

back of the officers' berths was a bulkhead separating them from the engine room hatchway, which hatchway was about 14 or 15 feet long, and about 12 feet wide. On the top of it was a skylight to give light to the engine room. The bulkhead which separated the engine room hatchway from the officers' berths stood upon, and was flush with the iron bulkhead separating the engine room space from the coal bunkers, but instead of being of iron, as the lower bulkheads were, it was constructed of inch and inch and a-half plank, and was secured by a batten of from 2 to 3 inches square, nailed upon the floor of the officers' berths, which appeared to have been the only security that it had.

The Court came to the conclusion that a weak point in the construction of the vessel had been shown to exist, of which neither the builder, the owner, nor any of the persons who surveyed her had ever before any suspicion. Had the bulkhead been of iron, as it should have been, the vessel would probably have reached her destination in safety. The surveyors stated that they would not again pass any vessel where the bulkheads of the engine room hatchway were not of iron.

Under the circumstances, the Court considered that it would not be right to charge either the owners or the builders with any culpable neglect on this account, but added, that if after that inquiry any vessel should be built with a bulkhead constructed in such a way, or if in any vessel which might at the time be afloat, such a thin wooden bulkhead were allowed to remain, it would be a question whether the builders and owners would not be very seriously to blame.

The Court cancelled the certificate of the second engineer for drunkenness and neglect of duty at the time of the casualty.

Collision-Abandonment.

"ETHEL."

Inquiry held 15th January, 1877.

Assessors: A. RONALDSON; H. KNOX, R.N.

The Ethel was a vessel of 185 tons. She left Cowes on the 13th of December, 1876, with a crew of 7 hands all told, in ballast, bound to Casabianca. At 4 a.m. of the 18th she was heading S.W. by S., with the wind W.N.W., when the master observed the green light of a versel, which proved to be the Goethe, about 4 points on his lee bow. She was on the same course as the Ethel, beating down Channel. On approaching the Goethe, the master of the Ethel ordered the helm to be put up, intending to pass under her stern; but instead of doing so, the Ethel struck the starboard side of the Goethe, forward of the main chains, with her port bow. After striking, the Ethel went ahead, upon which her mainmast went by the board, and at length she got right across the Goethe's bows, until the latter, as she rose and fell with the see, cut into her. The Ethel, however, continued to forge ahead, and ultimately went clear; her master, with the whole crew, having previously clambered up over the Goethe's bows on to

her deck. At daylight the next morning, seeing the Ethel still afloat, away to leeward, her captain and crew left in one of the Goethe's boats; but as they approached, sail was made upon her, when it was discovered that a strange vessel had taken possession of her. Ultimately the master found her at Brixham.

Upon this evidence, the Court came to the conclusion that the abandonment was, under the circumstances, justifiable.

Stranding-Deviation of Compass-Current.

"BARRASFORD," S.S.

Inquiry held 19th and 20th January, 1877.

Assessors: G. H. FORSTER, R.N.; T. BEASLEY.

The Barrasford was an iron screw steamer of 899 tons gross and 573 tons net register. She left Libau, in Courland, on the 18th of November, 1876, bound to Schiedam, having a crew of 19 hands, including the captain, John Halder. In crossing the bar at Libau she touched slightly, and accordingly the captain ordered the engines to be stopped, and the vessel to be put under sail on a W.N.W. course. At 11.45 a.m., no damage having been found to have been done to the engines, she was, according to the master, laid on a W. & S. course, and proceeded, under steam and sail, at full speed. At 7 p.m. she was put on a W. by S. course, and at 9 the captain went below, leaving directions that a cast of the lead was to be taken at 4 a.m., when he was to be called, expecting at that time to be on the Middle Bank. From 8 to 12 the W. by S. course was continued, but there was no evidence of what took place between 12 and 4, when the second officer went down to the cabin and told the master that the patent log showed 120 miles run, and that a cast of the lead had given him 17 fathoms. The master thereupon ordered full speed again; but before he came on deck the chief officer, on hearing from the second officer the distance run, and the sounding, immediately came to the conclusion that the vessel was off her course, and ordered the helm hard-a-starboard, the yards to be braced forward, and the boatswain to stand by the engine room, in order that another cast of the lead might be taken. He then went below to look at the chart, came on deck again, and when the vessel had got to about S.S.W., she struck on the coast of Oland, opposite a village called Stenasa. The crew were all saved, but the vessel broke up.

The vessel had not only run ahead of the master's reckoning by something like 20 miles, but she was between 42 and 43 miles to the northward of where the master put her, and this in the course of a run of 16 hours. The entries in the log book showed that while his estimate of her speed had been 7½ knots, she had in fact been going 8½, and for a short time 8. In respect of this miscalculation the Court considered that the master was very greatly to blame.

With regard to the deviation of 42 miles, the Court considered that it

might have been accounted for by a W.N.W. course having been kept for a longer time than the master stated; or by a deviation in the compass, caused by the presence of iron goods on a previous voyage, and they added that the current might have had something to do with it. They thought that the master had been guilty of negligence in going below at 9 p.m. and staying down till 4 a.m., at a time when the navigation was, to say the least of it, difficult, and they accordingly ordered his certificate to be suspended for 6 months.

Foundering-Loss of Life-Iron cargo-Shifting boards. GNES WYLLIE." S.S.

Inquiry held 1st, 2nd and 5th February, 1877.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Agnes Wyllie was an iron screw steamer of 301 tons gross and 189 tons net register. She left Middlesborough on the 30th December, 1876. with a cargo of pig iron, bound to Caen, in France, having a crew of 12 hands all told. The engines and boilers were in the after part of the vessel, and forward of these was the hold, about 72 feet long, and forward of that again, a chain locker, then a fresh water tank, and then the forepeak. At the bottom of the hold, and running very nearly the whole length of it, was a water tank, which stood 3 feet above the keel, resting upon girders standing upon the floor plates. The top of the tank formed a level floor for the hold, the sides of which, for about 48 feet forward of the boiler space, were straight up and down, the width being about 20 feet. forward of which the space gradually narrowed to about 8 feet. Over the engines and boilers was the engine room casing of iron, riveted down to the quarter-deck beams. Forward, on the top of this casing, which stood 2 feet 6 inches above the quarter-deck, was an open grating, 7 feet long by 2 feet wide, to give ventilation to the engine room, which was provided with a cover to be riveted down, in order, in case of very bad weather, to prevent the sea from coming in.

The iron of which the cargo consisted was built in two lifts, constructed with double chequers in the wings, and solid and cross bars in the centre, the top being level with the wings, without any arrangement of shifting boards. Nothing particular occurred on the voyage till about 9 a.m. of the 1st of January, when the wind had increased to a very severe gale, blowing from the W. directly up the Channel; upon which the master ordered the helm to be ported, in order to run into the Downs. After the vessel had come round, but when, exactly, did not clearly appear, the cargo shifted to such an extent that the top of the starboard rail was level with the water; upon which the master ordered the helm to bestar boarded, with a view to bringing the vessel's head to the wind. Finding that this did not succeed, he ordered the mizen to be set, in order to bring her stern round; but that also failed. Meanwhile the vessel had gone still further over, so much so, that the water was on the deck, or possibly over the

main hatchway. Accordingly the master, the mate, and two seamen, went forward, intending to let the anchor go; but by the time they had got forward, the vessel took another lurch, falling over almost on her beam ends, while the water entered the engine room through the grating mentioned above. A few minutes afterwards the vessel suddenly sank all the crew, except one man, being drowned.

The Court came to the conclusion that, when the vessel came broadside to the wind, she heeled over so much, that probably the whole body of the cargo fell over to leeward, when nothing would have saved her. They thought that the captain was justified in having attempted to run for the Downs. With regard to the stowage of the cargo, they thought that it had been done with great care, adding: "that it might be a matter for the consideration of those interested in the loading of cargoes of iron, whether some system of shifting boards might not be adopted with advantage."

Stranding-Mistake in Lights.

"VINE," S.S.

Inquiry held 3rd and 5th February, 1877.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Vine was an iron screw steamer of 545 tons gross and 424 tons not register. She left Grimsby at 10.15 a.m. of the 20th of January, 1877, for Hartlepool, arriving off Flamborough Head at 3 p.m. The master, Alexander Marshall, did not take any cross bearings there, but guessed the distance of the Head to be 6 miles. Thence she was steered N.N.W. by compass: no allowance being made for deviation. At 6.30 p.m. they were off Whithy, but again no cross bearings were taken, the master guessing the distance to be 5 miles, when her course was laid N.W. 1 N. At 8.30 p.m. the master saw 2 lights about a point on the port bow and, after examining his chart, came to the conclusion that they were the Seaton Carow Lights. About 10 minutes later he saw a third light directly ahead, which he took to be the Hartlepool Heugh Light, when he ported about half-a-point. and continued this course until the vessel took the ground at about 9.30. He then for the first time discovered that these lights proceeded from furnaces on shore. The following morning the vessel came off without having sustained any very serious injury. The place where she grounded was on the edge of the Redcar Rocks. The master accounted for being so far out of his course by a supposed error in the compasses, but the Court considered that the casualty was due to his negligence in not having ascertained his exact position by cross bearings when off Flamborough Head and Whitby; in not having attended to the deviation of his compasses as shown by the deviation card; in not having made due allowance for the set of the tide towards the shore; and in having mistaken furnace lights for the Seaton Carew and Hartlepool Heugh Lights.

His certificate was accordingly suspended for 6 months.

"BONNY, S.S. Stranding.

Inquiry held 8th and 9th February, 1877.

Assessors: J. S. CASTLE; J. F. G. GRANT.

The Bonny was an iron screw steamship of 1,277 tons gross and 797 tons net register. She left Mattacong on the 8th of January, 1877, bound to Liverpool, vid Grand Canaries and Madeira, with a crew of 45 hands all told, thoroughly well found in every respect. At noon on the 14th an observation was taken, which placed her in 26° 16' N., and 16° 6' W. was then steered N.E. by the steering compass till 10 p.m., when the course was altered to N.E. & N., in order, as the master stated, to make a good N.E. course. Shortly after midnight, something having the appearance of land was reported on the port bow, upon which the master, believing it to be the easternmost point of the Grand Canary, ordered the helm to be ported so as to bring it abeam. The land gradually became clearer, till, shortly before 1 a.m., it was seen to be high ground, but at what distance was doubtful. The master then observed something white on the port bow. and, immediately apprehending danger, ordered the helm hard-a-port and telegraphed to the engine room to stop. At that instant, however, she took the ground and remained fast, but, having been lightened, came off on the 17th, ultimately reaching Liverpool. The place where she struck was to the northward of Maspalomas Point.

When she grounded, the vessel had got nearly 10 miles to the westward of the course on which the master thought he was, but the assessors considered that this fact alone was no evidence that the vessel had been carelessly navigated. They thought that the fact of the sea becoming quite smooth after the land was sighted, although the wind continued as strong as ever, ought to have warned the master that he was approaching the island to leeward. Again, the master stated that when he first sighted the land at 12 o'clock, he thought it was Areynaga Point, whereupon he laid the vessel on a N.E. by E. ½ E. course, bringing the land on his port beam, but if this were so, she must inevitably have been standing away from it, whereas all the witnesses agreed in saying that as they went on it became clearer. This fact also, the Court thought, should have warned the master that he was not where he thought he was, and should have induced him to exercise greater care than he did. They accordingly recommended him to be more cautious in future.

Stranding-Insufficient Ballast.

"H. A. BRIGHTMAN," S.S.

Inquiry held 14th, 15th and 26th February, 1877.

Assessors: G. H. FORSTER, R.N.; A. RONALDSON.

The H. A. Brightman was an iron screw steamer of 1,120 tons gross, and 850 tons net register. She left Rotterdam on the 30th of December, 1876, with a crew of 22 hands all told, bound to Cardiff;

and having on board 65 tons of coal, and water ballast contained in tanks. Of these, one 30 feet long ran the whole length of the fore hold. In the fore part of the main hold there was one 33 feet long. In the after hold there was a tank running the whole length, 54 feet 3 inches, on which the screw tunnel rested. There was another small one, quite in the run of the vessel, astern. These tanks varied in depth from 31 to 51 feet, extending from side to side of the ship, and containing altogether about 228 tons of water. It appeared that the vessel, when originally built, had ballast tanks ranged along the whole length of her bottom, except under the engine room and boiler compartment, but having been lengthened 40 feet amidships, the tank was not continued along the new part but, on the contrary, a length of 5 feet 5 inches was cut off the tank adjoining the engine room bulkhead, the result being that with 40 feet more length she had 5 feet 5 inches less ballast tank. When she left Rotterdam, she drew 9 feet forward and 10 feet 5 or 6 inches aft, and the diameter of the screw being 12 feet, it followed that at least 2 feet of it would be out of the water. After leaving the Maas, the vessel encountered strong head winds from the southward and westward till about 6.15 a.m. of the 1st of January, when, being off Dungeness, she was laid on a course S.W. by S. down channel. So she continued till 7.30 or 8 a.m., when having to port her helm to clear a passing vessel, the sea and wind, which had considerably increased, struck her on the port bow, driving her head inshore towards the N. The throat halyards of the foretrysail gave way, and the maintrysail also immediately blew away. The master finding that he could not bring her up to the wind tried to wear her, setting the forestaysail, putting the engines full speed ahead and the helm hard-a-port, but without success. At about 9.45 a.m. land was seen to leeward, when the master finding that it was impossible to clear Dungeness, set the engines on full speed and beached the vessel within a ship's length of Lydd coastguard station, the whole crew being landed in safety by means of the rocket apparatus. The vessel was ultimately got off and taken to London. The Court considered that there were other means which might and ought to have been adopted for the purpose of tacking or wearing the vessel-first, by putting a spar with a hawser attached to it over the stern to act as a drag-second, by dropping overboard one of the anchors and thus bringing her head to the The Court held that the failure to adopt either of these courses showed a want of readiness in the master and officers, but that the omission did not justify them in dealing with the certificate of the former.

The Court further believed that the stranding was partly due to the vessel's having been insufficiently ballasted for the voyage for which she was intended, having regard to the time of the year, and to the weather which might reasonably have been expected.

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"CITY OF SERINGAPATAM."

Inquiry held 16th and 17th February, 1877.

Assessors: R. A. POWELL, R.N.; T. BEASLEY.

The City of Seringapatam was an iron three-masted ship of 1,190 tons register. She left London on the 27th of October, 1876, with a general cargo and a crew of 32 hands all told, for Melbourne. When near the Canaries, she came into collision with a vessel called the City of Berlin, which necessitated her bearing up for Santa Cruz, in Teneriffe, for repairs, which having been done, she proceeded on the 5th of December.

At noon of the 11th, an observation placed her in 18° 12' N. and about 22° 20' W. From that time she was steered S. by W. & W., which the master considered would take her 20 miles to the eastward of the Island of Boa Vista, allowing half-a-knot an hour for the set of the current to the westward. At 1.30 p.m. the patent log was set, when it was found that she was making 10 knots an hour. At 8 p.m. she had run, from 12 o'clock, 80 miles, which the master estimated would place her off the northern end of the Island of Sal, bearing W. and by S. At 10 p.m. the master went below, leaving orders that he was to be called if necessary. At midnight the first mate examined the log, which showed 120 miles from noon, allowing 15 for the hour and a-half from 12 to 1.30. This distance was reported to the master. At about 1 a.m. he thought that he saw land three or four points on the port bow, and the look-out man, on its being pointed out to him, came to the same conclusion; upon which the mate went down to inform the master. The latter turned out, and on looking at what was supposed to be land, was uncertain about it; but observed breakers on the port bow. Thinking that they must come from the Hartwell Reef, he ordered the helm to be starboarded, but immediately the look-out reported breakers on the port bow again, when the helm was put hard-a-port, but the vessel soon afterwards struck on a reef, beat over it, and after drifting some four or five miles, grounded on the beach. Ultimately the crew, with the exception of one man, succeeded in reaching the shore.

The spot where she stranded was in a bay on the north side of Boa Vista, and to the westward of Broyal Point, and was therefore 10 miles west of the Hartwell Reef, and as the master stated that he laid his course so as to pass 20 miles to the east, the vessel must have been 30 miles out of her course. This the master accounted for by supposing that she must have been carried by a strong current to the westward, and there appeared to be no doubt of the existence of such a current, setting at first to the S.W. on the Island of Boa Vista, and then turning to the W. between that island and the Island of Sal.

The Court considered that when the master laid his course S. by W. \(\frac{1}{2}\) W. at noon of the 11th, he omitted to make any allowance for the southwesterly current which was shown on his chart, forgetting also that the strong north-easterly trades would increase its force. Being thus carried

much further W. than he anticipated, he was brought within the influence of the other stream, and was then drifted to the westward. The Court blamed the master for this, and warned him to be more careful in future.

Damage to Cargo—Condition of Soil Pipes—Pipe Casings. "BROOMHALL."

Inquiry held 5th, 6th and 7th March, 1877.

Assessors: G. T. HOLT, I.N.; J. R. RAVENHILL, C.E.

The Broomhall was a three-masted iron ship of 1,379 tons net register. Having discharged a cargo of coal and coke at Rio, and preceded thence in ballast to Calcutta, she took in a full cargo, consisting of 1,700 tons of jute and 25 tons of linseed, and left on the 27th of September, 1876, bound to Dundee, with a crew of 28 hands all told. She laboured and strained a good deal on her voyage, but nothing particular occurred till the 9th of January, when she took a strong list to starboard, which, in spite of many attempts, they were unable to get rid of. At daylight of the 10th the captain made a careful search for the leak; and here it becomes necessary to describe the construction of the ship, and the way in which the cargo was stowed. She had an upper and a main deck, the height of the 'tween decks being about 7 feet 6 inches, and that of the lower hold from 13 to 14 feet. She had only one bulkhead, viz., a collision bulkhead forward. In the bottom of the ship were about 150 tons of stone ballast, rising about 11 inches; on this was placed a layer of mats, the lower hold being then filled up with bales of jute, as also the 'tween decks. The linseed was stowed principally in the run of the ship aft. The captain found that on the starboard side three or four tiers of the jute were saturated with water, while on the port side it was quite dry, and there being at the same time no water in the well, he concluded that the leakage was in the 'tween decks on the starboard side. The carpenter accordingly examined the scuppers and ports, but found nothing wrong. This vessel had six water-closets, three on each side, the soil pipes of which passed through the upper deck into the 'tween deck, and had their outlet in the side of the ship, about a foot above the main deck. When the vessel was loaded as she was at this time, the outlets were awash, or nearly so, those on the lee side being under water. In order to ascertain whether the water was coming in at these soil pipes, the captain began to clear away the cargo, a work of very great difficulty, for the bales had to be torn to pieces, being wedged tightly together, through having become swollen. Before all the pipes were reached from 1,400 to 1,500 bales of jute were thrown overboard. It was ultimately found that there was only one sound pipe, and the master accordingly plugged them all.

The Court considered that the master and officers were deserving of the highest praise for their skill and exertions in bringing the ship in safety to this country.

It was quite clear that the damage arose from the faulty condition of

the soil pipes. The diameter of these pipes was from 3 to 3½ inches, the lead being about 3/16-ths of an inch thick, or as one witness described it a ½ of an inch rough, which would be only 3/16-ths in parts.

The Court could not state positively how the fractures occurred, but were inclined to think that it was due partly to the vibration of the tube, partly to the transverse labouring and motion of the vessel, and partly to the sea beating in at the open mouth of the pipe; but there was no doubt that the lead was not sufficiently thick. The obvious way to prevent water from flowing into the ship, should the soil pipes be broken, would be to place them high up on the ship's side; but this would be objectionable on the ground of cleanliness. They considered, however, that whenever it was thought desirable to have the outlets of the soil pipes below the surface of the water, they should be fitted with inside valves, such as are commonly called "storm valves," and that the lower parts of the pipes should be made of some hard metal, such as iron or gun metal.

Again, the pipe casings on board the *Broomhall* were made of $1\frac{1}{4}$ to $1\frac{3}{4}$ inch plank, and the Court suggested that they might well be made of iron, attached to the frames of the ship, and carried down to the level of the bottom of the outlet.

Stranding-Beaching.

"WILLIAM."

Inquiry held 13th March, 1877.

Assessors: B. S. PICKARD, R.N.; A. RONALDSON.

The William was a three-masted barque of 713 tons register. On the 27th of January, 1877, she put to sea from Flushing, bound to Matanzas, in Cuba, with a cargo of railway iron. At about 7 p.m. on the 31st, the South Foreland lights were observed, bearing W.N.W., distant 8 miles. The vessel was then put on the starboard tack with her head off shore. At 8.30 she was put on the port tack, and while in the act of going about, a cast of the lead was taken, and 15 fathoms found. Ten minutes later another cast was taken, without slackening her speed, when something less was found, and in 20 minutes from that time only 12 fathoms were found. In another 10 minutes she touched upon the east end of the Varne Sand with her heel, and falling off, was driven by the ebb tide to the S.W. down channel, further upon the sand, until she was brought up by both anchors being let go. At 12 midnight the flood tide having made, the anchors were shipped, and she bore away for the South Foreland, to try to obtain the assistance of a steam tug, but not meeting with any, the master resolved to beach the ship, which he did in a skilful manner. She was ultimately hauled off and taken to London.

The Court came to the conclusion that the stranding was due to the master not having held on when he first sighted the South Foreland lights, until he had ascertained his exact position, and to his not having made due allowance for the set of the ebb tide, but they thought that he was justified under the circumstances in beaching her as he did.

Collision-Stranding-Holyhead Harbour.

"DUKE OF SUTHERLAND," S.S.

Inquiry held 16th and 17th March, 1877.

Assessors: J. R. RAVENHILL, C.E.; R. WILSON.

The Duke of Sutherland was a paddle-wheel steamer of 860 tons gross and 409 tons net register, having two engines of 270 horse-power, and the property of the London and North Western Railway Company. At the time of the casualty she was in good order and well found in every respect. She left Dublin about 8 p.m. of the 19th of February, 1877, bound to Holyhead, and after bad weather during the passage, arrived off the end of the breakwater at about 1.50 a.m. of the 20th.

At the upper end of the old harbour, and opening out of it, is the inner harbour, the entrance to which is protected on the N. side by the fish jetty, carrying at its extremity a red light, and on the S. side is the Turkey Shore quay and rocks, on which a green light is exhibited. It appeared that in order to prevent their incoming and outgoing vessels from meeting in the old harbour, the channel being very narrow, the Railway Company had directed that, whenever any vessel was going out of the harbour, a red light should be exhibited from the top of a pair of shears standing near the. end of the fish jetty, in order to warn any vessel which might be making for the harbour. At the same time, care was taken not to put this light up until it was seen, so far as was possible, that there was no vessel approaching. The master of the Duke of Sutherland, on rounding the head of the breakwater, looked out for the red light on the shears, but not seeing any, steered for the old harbour, all the crew at the time being on deck, the master on the bridge, the chief mate forward on the look-out with 3 hands, and the second mate at the wheel amidships. When a little inside the breakwater the engines were slowed down to half speed, but the wind and sea immediately turned the vessel's head round toward the fleet of vessels lying at anchor, upon which the master ordered the engines full speed astern; and then finding that her head paid off to the southward, turned the engines ahead and steered for the old harbour.

Just as they were about to enter, however, a vessel was reported coming out; upon which the engines were ordered full speed astern, and the Duke of Sutherland, as she lost her way, was carried past the end of the jetty to leeward. The other vessel by this time had got away, but as soon as the Duke of Sutherland's engines were turned ahead, the wheel chains parted; but everything being at hand, the tiller was shipped in an extremely short space of time, the tackles were attached, and the vessel was again under command.

No sconer, however, had they got her inside the end of the jetty, than the Stanley was seen, apparently across the entrance to the inner harbour. It was then too late for the Duke of Sutherland to stop, and accordingly she went on full speed ahead until she was well inside the pier on the S. side, when she was put full speed astern; but as she lost her way the wind caught her and drove her bodily down, with her port bow against the port quarter of the Stanley.

The Duke of Sutherland then backed clear into the bay between the pier and the Turkey Shore, but before any headway could be got upon her, she was driven bodily down upon the rocks close to the entrance of the graving dock, where she became fast, so close to the shore that the passengers were landed by the regular gangway. She was ultimately got off and taken into harbour for repairs.

After hearing the evidence the Court came to the conclusion that the red light was hoisted on the shears, but was not seen by the *Duke of Sutherland* owing to the state of the atmosphere and the violence of the gale. They recommended that better arrangements should be made for indicating to an approaching vessel that a vessel was leaving the harbour.

With regard to the wheel chains, it was found that they were only full if or bare γ_5 ths chain, and the Court recommended that for the future they should be at least ith thick.

The master and officers were acquitted of all blame, the Court being of opinion that they had acted with great skill and presence of mind throughout.

Beaching-Want of Ballast.

"BEVERLEY," S.S.

Inquiry held 27th and 28th March, 1877.

Assessors: B. G. W. NICOLAS; E. G. F. G. VISCONTI, R.N.

The Beverley was a steamer of 624 tons gross and 474 tons net register. She left Dunkirk on the 13th of February, 1877, bound to Bilbao, with a crew of 13 hands, including the master, Mathew Smith Ford. When she left Dunkirk she had about 11 tons of chicory stowed in the forward part of the vessel, one ton of pig iron and about 100 tons of coal, distributed in the coal bunkers, the after hold and the 'tween decks. She had also 10 tons of water in a tank quite in the stern of the ship, and had filled the midship tank, which held 120 tons, rather more than half-full, when the bottom of the cylinder of the pump came out, thus disabling it. The whole weight of the water in this tank was forward of the centre of buoyancy. This accident to the pump occurred two days before they left Dunkirk, but no repairs were done to it, nor was any attempt made to fill the tank, and the vessel left drawing 3 feet forward and 9 feet 6 inches aft. At daylight of the 19th they sighted the Spanish coast right ahead, distant some 25 to 30 miles, and the vessel was continued on the same course, heading for the land, when, at about 10 a.m., a rain squall obscured the coast. The master went himself to the helm, whilst the second mate and the men of his watch proceeded to take in the sails. At 4 p.m. her head was laid N. and by E. off shore, which course was continued till 2 a.m. of the 20th, when it was changed to N.E. by N., but at 6 a.m. she was steered S.W. by W., heading for the Spanish shore, till 10, when her course was again shaped N.E. and by N. All this time the wind was blowing a gale from the N.W., and the vessel was so light that she could not lay her course, but drifted bodily to leeward. At 3 o'clock they had approached close to the French coast, and soundings having been taken, and only 17 fathoms found, the captain ordered the port

anchor to be let go, which held her till 7 p.m., when the chain parted. The starboard anchor was then let go, but at 8.30 that chain also parted. The loose ends were then slipped and the vessel's head turned to the shore, on which she was beached at something like 4 or 5 miles N. of the mouth of the River Adour, and ultimately, all hopes of getting her off having been abandoned, she was sold as she lay.

The Court arrived at the conclusion that the loss of this vessel was partly due to the captain's having allowed her to go to sea without being sufficiently ballasted, and partly to his unskilful navigation of her: first, in having emptied the midship ballast tank when, according to his own showing, he was some 18 or 19 hours from his destination, before there was any necessity to do so, and then in not having dropped both anchors at once, when he found himself on a lee shore unable to beat to windward.

The Court also found that the captain had been incapable of the efficient performance of his duties through drink at different times of the voyage, as well before as after the vessel was beached, and they accordingly cancelled his certificate.

Stranding.

"ORWELL." S.S.

Inquiry held 5th and 6th April, 1877.

Assessors: H. KNOX, R.N.; J. S. CASTLE.

The Orwell was a screw steamship of 631 tons gross and 404 tons net register. She left Sunderland at 7 a.m. of the 21st of February, 1877, bound for London, with coals. After discharging the pilot, the vessel was kept on a course somewhere about S.E. or E.S.E. for a time, and then S.E. by E. ½ E. In about 10 minutes she struck something heavily, but went clear, and when it was found that she was making no water, she almost immediately proceeded to London, where she was repaired at an expense of between £400 and £500.

The Court came to the conclusion that the casualty was caused by the negligence of the master in having stood too far to the eastward after coming out of the southern outlet of Sunderland harbour, before laying the vessel on a S. by E. \(\frac{1}{2} \) E. course, the result being that she struck upon the White Stones Shoal. They accordingly admonished him to be more careful in the future.

Missing-Stowage of Cargo-Patent Wood Powder.

"GREAT QUEENSLAND."

Inquiry held 9th, 10th, 11th, 16th, 17th, 24th, 26th, 27th, 28th, and 30th April, 1877, and 21st July, 1877.

Assessors: C. W. Younghusband, R.A.; R. A. Powell, R.N.; H. Jones.

The Great Queensland was a three-masted iron sailing ship of 1,697 tons net register, the property of Messrs. Taylor, Bethell & Roberts, Fenchurch

Street, London. She was built in 1852 as an auxiliary screw steamer, but in 1872 was converted into a sailing ship, after which she appeared from the evidence to have been up to the time when she left on her last voyage, a thoroughly good and efficient vessel, being classed "20 years black" in the Liverpool Registry. She had 5 watertight bulkheads, 7 boats, 7 compasses, 2 pumps worked by flywheels, and a force pump forward, with an ample provision of hydrants in case of fire.

She left the East India Docks on the 5th of August, 1876, on a voyage to Melbourne, having on board 12 second and 21 steerage passengers, and a crew of 36 hands all told. Her cargo consisted of about 2,300 tons of general merchandise, composed principally of pig and bar iron, cement, marble, sulphur, whiting, soda and saltpetre, a large quantity of flooring boards and deals, measurement goods, pickles, and some 33 to 34 tons of gunpowder, and a few cases of fuzes, percussion caps, and detonators. With the exception of the gunpowder and explosives, there was apparently nothing either in the cargo or in the manner of stowing it which would be a source of danger to the ship or to those on board. She left Gravesend on the 6th of August, and was never heard of after the 12th, when she was spoken in about 48° N. and 9° W.

The Court, from evidence produced during the inquiry, rejected the theory that the Great Queensland foundered in a storm; and considered it extremely improbable that she was run down and sunk with all hands, having regard to the fact that she had 5 watertight bulkheads, and was well supplied with boats. It was further suggested that she might have caught fire and been burnt, but the Court pointed out that she was exceptionally well fitted to put out any fire that might have occurred. With regard to the explosives, it appeared from the evidence that with the exception of 4 cases of detonators which were put into the berth of a spare cabin, there was nothing in their character or stowage to lead the Court to suppose that they in any way contributed to the loss of the ship, Some 30 tons of the gunpowder consisted of common black powder, contained in ordinary kegs or barrels, the remainder, about 2 tons, consisting of patent wood powder, contained in 183 square cases; this was stowed in the forepart of a compartment which had been constructed for the purpose, the ordinary powder being packed all over it, the barrels being laid on their bilges with the ends close against the cargo, and against the cases of wood powder. The Court were not disposed to attribute the loss of the vessel to any defect in the construction of the chamber, although they considered that a regularly constructed magazine would have been better, nor did they think that it was due to the common black powder, which would only have exploded if brought into direct contact with fire, and was not liable to spontaneous combustion.

The patent wood powder was manufactured by the Patent Gunpowder Company, Limited; the process being, first, to disintegrate the wood, then remove the whole of the sap and mineral salts, by boiling for about six hours, at a pressure of from 200 to 300 pounds to the square inch, in a strong solution of caustic soda or alkali. It was then thoroughly washed in pure water, and after passing through a beater, was strained and dried

The fibrous pulp was then steeped in a solution of nitric and sulphuric acid, then subjected to the action of running water, to remove all the free acid, placed in a strainer or drying machine, put into moulds of the required shape, and finally pressed and dried. The evidence showed that if all the free acid were not removed, or if any albuminous or resinous substances were allowed to remain, heat would be generated, which, under favourable conditions, might become so great as to result in ignition, almost inevitably followed, if the powder was confined in closed cases, by explosion. During the year 1875, the Government Inspector, Major Majendie, had had several samples of the powder made by the Company analysed, all of which had been found to be more or less impure and decomposed, and accordingly the manufacture was suspended, Mr. Hunt, the resident manager, at the same time resigning his position. During the first five months of 1876 the process of remaking Mr. Hunt's powder, by dipping it into a potash solution, was carried on, and it was clearly established by the evidence that the two tons of powder shipped on board the Great Queensland were part of the impure powder manufactured by Mr. Hunt, and afterwards remade. A few days after the sailing of the vessel, Major Majendie received a letter from the Secretary of the Gunpowder Company, informing him that an accident had occurred in their drying-shed on the 11th of August. A portion of a cartridge, which was there at the time, was found on analysis to be "a "very impure nitro-cellulose, which, under conditions favourable to decom-"position, such as a high temperature, might be liable to spontaneous "ignition." Upon this evidence the Court could come to no other conclusion than that two tons of a dangerously impure nitro-compound were shipped on board the Great Queensland, in the same compartment with about 30 tons of ordinary black powder; and that the impurities which these two tons contained were liable to decompose, and in so doing to generate spontaneous combustion. Whether it burnt or exploded, the result would be the same, namely, the utter destruction of the vessel and everything on board. The Court considered that this was probably the cause of the disaster, and held that the Patent Gunpowder Company were alone to blame for the impure state of the powder; and they also censured the owners of the vessel for having, in violation of the 49th of the Thames Conservancy Bye-Laws, which were sanctioned by the Board of Trade on the 26th of January, 1876, shipped the two tons of wood powder, which was a nitro-compound, in the same ship and in the same compartment with 30 tons of ordinary black powder.

Foundering-Cargo of Pig Iron.

"PRINCE," S.S.

Inquiry held 19th, 20th, 21st, and 23rd April, 1877.

Assessors: G. H. FORSTER, R.N.; J. R. RAVENHILL, C.E.

The *Prince* was an iron screw steamer of 492 tons gross and 312 tons net register. On the 1st of December, 1876, she commenced to load a cargo of pig

iron at Middlesborough, amounting in all to 630 tons, which was distributed between the fore, main, and after holds. The fore hold was about 41 feet 6 inches long, and running under it and the main hold was a ballast tank, about 2 feet deep, extending from one side of the ship to the other, and resting upon the keelson and false keelsons and upon transverse beams raised upon the floor plates. The stowage of the fore hold was as follows;--There were four tiers, and as the pigs averaged about 3 feet 6 inches in length, these four tiers would occupy a space of 15 or 16 feet fore and aft of the hold; but as the hold was 41 feet long, and the tiers were placed in the after part, close against the bulkhead, there was an empty space of from 25 to 26 feet in front of them, and the fore part of the tiers stood straight up from the bottom of the hold to a height of from 10 to 11 feet. Added to this, the upper part of the 3 foremost tiers consisted of about 15 tons of pigs laid fore and aft, with the centre raised some 2 feet above the wings. At 4 p.m. on the 2nd of December, the vessel left Middlesborough, and was left by the pilot clear of the mouth of the Tees, steering a N. by E. course, the wind blowing a fresh breeze from the southward and eastward. From that time till midnight the wind continued to increase. At 10.45 p.m. the Prince was seen by another vessel about two cables' lengths astern, the Souter light bearing W.S.W., distant about 7 miles. Suddenly the lights of the Prince were observed to disappear. The master of another vessel, who was just astern of her, said that she seemed to rise on the top of a wave, and then disappear suddenly. Neither the vessel nor any of the crew were ever seen again.

The Court stated that, in their opinion, the foundering was due to the improper stowage of the cargo in the fore hold, causing it, when she pitched, to fall into the empty space forward, thus bringing her down by the head.

Stranding-Breaking of Screw Shaft.-Loss.

"ALEXANDRA," S.S.

Inquiry held 1st, 2nd, 3rd, and 4th May, 1877.

Assessors: G. T. HOLT, I.N.; R. WILSON.

The Alexandra was an iron screw steamer of 581 tons gross and 363 tons net register. She left Cadiz on the 24th of December, 1876, in good and seaworthy condition, bound to Liverpool, Dublin, and Glasgow, with a cargo of wine, and a crew of 21 hands all told. She arrived at Liverpool on the 30th of December, and having there discharged 100 tons of her cargo, left for Dublin on the 3rd of January, 1877. About 8 a.m. she was off Point Lynas, whence the master laid his course W.N.W., calculating upon the ebb of the tide to set him to the southward, but unfortunately, when he passed Point Lynas it was low water, so that instead of having the ebb tide setting him to the southward, he had a six hours' flood setting him some 12 miles to the northward, in addition to which there was a strong south-east wind blowing. When he had got, as he estimated, some 27 miles past Holyhead, the screw shaft suddenly broke, but he continued

his course under his square foresail till about 1 o'clock, when the weather being somewhat hazy, he hauled his vessel up with her head to the N.E., thus exposing his starboard side to the gale. From 1 till 4 he continued thus drifting bodily to the N.W., when suddenly land was observed, but, having no after sails (they having been previously blown away), he was obliged to continue his course, keeping the land on his port beam. Finding, however, that she was driving ashore, the port anchor was let go, but the chain immediately parted, and the stopper of the starboard anchor being foul, the master, in the opinion of the Court wisely, determined to run the ship's bows on to the beach, which was done, all on board being saved. The place where she took the ground was a mile and a quarter W. by N. of Clogher Head, something like 27 miles to the northward of Dublin Harbour.

The Court found that the stranding was due partly to the breaking of the screw shaft, and partly to the fact that the master had not made any allowance for the flood tide, and they accordingly reprimanded him for his negligence.

After the casualty the owners abandoned the vessel to the underwriters, who dispatched an agent to Clogher Head with full authority to take all necessary measures. On the morning of the 29th of January she was afloat, having lost her rudder and rudder post, and she was then taken in tow by two tugs ahead, a small steamer, the Seamen, being astern to assist in steering her. The course was ordered to be laid as close to the shore as possible, but it was necessary to cross Dundalk Bay and Dundrum Bay, in doing which they were at a considerable distance from the land. They accomplished this in safety, and having reached St. John's Point, all went well until six o'clock, when they were approaching the North and South Rocks, in order to round which it was necessary to keep out from the land as much as four or five miles. By this time the wind was blowing a strong breeze from the westward, off the shore, and one of the tugs, the Challenger, was towing ahead, the other, the Kingfisher, following in her wake. As they got further out, the vessel got a strong list to starboard, so that the pumps would not act, and accordingly a signal being made from the Alexandra, the master of the Seamen hailed them, and was told that they thought she would sink, but ultimately, being taken into smoother water, she became upright and the pumps got a better hold of the water. In crossing the bay, between Skulmartin and Donaghadee, the same thing happened, and the Alexandra was taken inshore and held with her head to wind.

The chief cause for anxiety arose from the water in the lazarette, where there was merely a hand pump, quite insufficient to keep it under. Accordingly the engineer, with some of the men, went into the main hold to cut a hole in the bulkhead dividing it from the lazarette, but before this was done, and therefore before the lazarette was clear of water, an order was suddenly given by someone on board the Alexandra, to put out to sea for the purpose of rounding the Coupland Light.

To do this it was necessary to round Mew Island, and at this point it was observed that the *Alexandra* was settling down by the stern. The men were called up from the hold, and the *Challenger* was brought as ne

as possible, when a great number of persons jumped on board, but seven went down with the vessel and were drowned.

The Court considered that this was due to the neglect of the agent of the underwriters and the master of the Alexandra, in having allowed her to leave the shelter of the land when her stern was low down in the water, and before the measures which were being taken to free the lazarette from water were completed. They accordingly strongly reprimanded them; but having regard to the fact that they were not acting at the time as officers in charge of a vessel, but as agents for salvors, did not deal with their certificates.

Stranding.

"MENAM," 8.8.

Inquiry held 9th May, 1877.

Assessors: T. BEASLEY; B. S. PICKARD, R.N.

The *Menam* was an iron paddle-wheel steamer of 195 tons gross and 96 tons net register, having two engines of 75 horse-power. She was built with the intention of sending her out to Siam to be employed as a steam tug in the Menam river, and accordingly she left Port Glasgow in February, 1877, for Siam, viâ the Suez Canal, with a crew of 15 hands all told. On her way down the Spanish coast she touched the ground, owing to the fault of the master, but came off without the least damage.

She left Suez on the 4th of March, the captain having engaged the services of an Arab pilot to assist in the navigation of the vessel through the Red Sea. At noon of the 8th the vessel was in 18° 1′ N. and, according to the master, in longitude 40° 37′ E., but, according to the mate, in 40° 47′ E. Thence she was kept on a S.S.E. ½ E. course till between 8 and 9 p.m., when she ran on shore on a coral reef, just north of the island of Seil Mokawar.

The Court came to the conclusion that the loss was due to the master having kept the vessel on a S.S.E. ½ E. course from noon of the 8th, and they accordingly strongly reprimanded him, but looking at his great age and his long sea service, did not deal with his certificate.

Collision-Overtaking Vessel.

"FAIRBY" AND "RAINBOW," S.S.

Inquiry held 14th and 15th May, 1877.

Assessors: H. Jones; E. G. F. G. Visconti, R.N.

The Fairby was a sailing barge of 38 tons register, which left Shoeburyness on the 18th of March, 1877, with a crew of two, the master and his son, and the wife of the master as a passenger. At 9 p.m. they got under weigh, and proceeded on the flood tide up the river with the wind from the S. Socn after 12 p.m., when about a mile and a-half below the Mucking Light, they

were on the port tack, laying a N.W. course, her head being slightly inclined to the north shore, when the red and masthead lights of a steamer were seen coming up the river a little to the northward of their course. When she got near, the master of the barge, who was at the helm, hailed her, at the same time taking the fog horn and blowing it twice; but the steamer came ahead, till, just before she struck the barge, a voice was heard ordering her helm hard-a-starboard, and, almost in the same breath, hard-a-port, but too late, for she came on, striking the barge in the stern with such force that the latter soon sank, and the master, with his wife, was drowned.

The Rainbow was a screw steamer of 1,083 tons gross and 637 tons net register. About midnight of the 18th of March, they passed the Chapman Light. Shortly afterwards the first officer came up to relieve the watch, joining the master and second officer on the upper bridge. The vessel was then going from 10 to 10½ knots. The captain at this time telegraphed to slow the engines, as he thought he saw a fog or haze, or something black ahead. Two minutes afterwards the second officer saw the sail of a barge ahead, a little on the port bow. He walked across the bridge to the starboard side, where the captain was standing, and reported it, where upon the captain immediately ordered the helm hard-a-starboard, and then seeing the sail a little on the port bow, ordered it hard-a-port, and telegraphed to the engines "full speed astern," but in half a minute the steamer struck the barge.

At the time this accident happened there was no rule in existence imposing upon the Fairby the necessity of exhibiting a light astern, and in this case she did not do so to the overtaking steamer. But she did take measures to indicate her presence by blowing her fog horn, which was all she was required to do; in addition to which she kept her course.

With regard to the Rainbow, the Court considered that she had no right to be navigating Sea Reach, where she might naturally expect to meet a great number of vessels, at such a rate of speed as to render it impossible for her to see them at a greater distance than 200 feet off, which was too little to enable her to avoid collision. They therefore considered that the master was to blame, and warned him to be more careful for the future.

Stranding—Steering arrangements.

"DAKOTA," S.S.

Inquiry held 24th, 25th and 28th May, 1877.

Assessors: R. A. POWELL, R.N.; H. JONES.

The Dakota was an iron screw steamer of 4,331 tons gross and 2,482 tons net register. At the time of her loss she was in every way a good and efficient vessel. She had five compasses on deck, one a binnacle on the forward bridge, another binnacle on the after bridge, one over the companion skylight, and two at the wheel-house. She left Liverpool on the 9th of May, 1877, bound for New York, having on board 218 passengers, about

1,800 tons of cargo, and a crew of 109 hand all told. At 7.30 p.m., having passed the Bar Light, she proceeded at full speed from 14 to 15 knots, on a course, according to the captain, of W. by N. N. True. At 8 p.m. the second officer went to the forward bridge, and the fourth officer to the after one, in accordance with the practice on board this vessel. The officer forward kept the vessel clear of collisions with other ships, transmitting his orders to the men at the wheel by one of Gisborne's patent tell-tale telegraphs. It was the duty of the officer on the after bridge to con the wheel, and to see that the vessel was kept on her course; but as the distance to the wheel-house from where he stood was 75 feet, he transmitted his orders by whistle, one whistle signifying "port," two "starboard," and three "steady."

The captain remained on deck, going from bridge to bridge. At about 9.80 Point Lynas was sighted, bearing from two to three points on the port bow, upon which the master ordered the second officer to take a four points' bearing.

As they approached the light, the pilot, who had previously given up charge, told the captain that he did not think it was more than 2 miles off; upon which the captain went to the after bridge, and told the officer to port a point and a-quarter, and immediately afterwards to keep her N.W. \(\frac{1}{2} \) W., which would be a point and three-quarters. The fourth officer went aft and gave the order to the quartermaster at the wheel, returning in about two minutes.

The captain then went to count the revolutions of the engines, and to look out to starboard, returning to the after bridge in about five minutes. In the meantime the fourth officer had noticed that the ships' head had rather a tendency to go to port, and accordingly gave one whistle for them to port the helm, which he repeated when he found the captain by his side. The latter immediately seeing by the vessel's head going to port that the helm must be to starboard, shouted to the fourth officer to run aft and make them port.

The second officer in the meanwhile, on the forward bridge, after having been told by the pilot that the helm was to be ported, walked from the port to the starboard side, and coming back after a time, observed the light two or three points on the port bow, and saw that the vessel's head was gradually drawing towards it, upon which he looked at the tell-tale, and found that the helm, instead of having been ported, was hard-a-starboard. He at once telegraphed for it to be put hard-a-port, and ordered the engines to go half-speed, and immediately afterwards to be slowed, stopped, and put full speed astern; notwithstanding which in a very short time the vessel ran on a reef about 200 feet from the shore, on the western extremity of Amlwch Bay, and inside the East Mouse. All the passengers and crew were safely landed, but the vessel ultimately went to pieces.

The Court came to the conclusion that the casualty was due to a mistake having been made by the man at the wheel, owing to the order to port having been given by the fourth officer merely by a motion of the arm, which motion might have been understood by them to be applicable either to the helm or to the vessel's head.

The Court added that the master and the second and fourth officers were to blame for having allowed the vessel to get too far inshore, and for not having discovered, until too late, that the helm had been starboarded instead of ported, and they were accordingly reprimanded.

The Court expressed their opinion that the arrangements on board the vessel with regard to the steering were most objectionable, and likely to lead to much confusion.

Missing-Powder Magazines.

"CAIRO."

Inquiry held 30th May and 1st June, and 3rd and 4th December, 1877.

Assessor: H. HARRIS. (See Note).

The Cairo, which had been originally a steamer, was built in 1857. For many years she had traded between England and the Mediterranean, but in 1874 she was purchased with a view to being converted into a sailing ship, and after hearing the evidence of the gentlemen by whom this was done, the Court came to the conclusion that after conversion she was a thoroughly good and efficient ship in every respect. She was then classed 95 A 1 at Lloyd's. On returning from her first voyage to Melbourne, she was put in dry dock, where her bottom was found to be in very good condition. While she was taking in her cargo, a deck house was constructed between the second and main hatches, close up to the former and within 2 feet of the latter. Its length was about 22 feet by 16 feet 4 inches, and it was divided into two parts, the forward compartment being fitted up with berths for the steerage passengers, whilst the after one was fitted as a cooking galley, containing also a condensing apparatus. The bulkhead separating these two compartments was lined with iron on the galley side. It appeared that the after 'thwartship combing of the house did not come directly over the first beam forward of the main hatch, so that it could not be bolted to the beam, but it was found necessary to put a piece of plank underneath, through which the bolts passed. That piece of plank was on the after side of the beam, between it and the main hatch, so that the after part of the house came to within about 2 feet of the fore combings of the main hatchway. The floor of the galley was laid with cement and tiles. the cooking stove was placed a little on the starboard side, the end being about a foot from the side of the house, the back some few inches from the bulkhead, and the bottom of the fire-box about 18 inches or 2 feet from the floor, the front of it being about 3 feet 6 inches from the back of the house. On the port side of midships was the boiler for condensing the water, the bottom of the fire-box of which also stood some 18 inches or 2 feet above the floor.

The vessel's cargo consisted of about 2,600 tons weight and measurcment goods; among the most important being 100 tons of pig iron, 247 boxes of lucifer matches, a great number of boxes of candles, 53 bales of

corks, barrels of beer, casks of wine and spirits, and 23,500 floor boards. As the Court considered that these articles were all properly arranged, it is unnecessary to go into detail in the matter of stowage.

A compartment was specially reserved for gunpowder, of which the floor boards formed the sides, the two ends being formed of square cases, more particularly of the boxes of candles. The compartment measured 22 feet by 18 feet, and was carried 3 feet under the deck in the fore part of the main hatch; part of it, therefore, was under that portion of the newly constructed deck house, which contained the cooking stove and condensing apparatus.

Thus constructed and loaded, the Cairo was towed down on the 16th of November, 1876, to the Powder Buoys below Gravesend, and on the following morning they began to take in powder. On the lower deck a number of planks were laid so as to raise it to the level of the combings of the hatch, and over these planks and the hatch others were laid so as to form a level floor. Two iron stanchions at each end of the hatch were covered with canvas, but the iron beams overhead were left uncovered. On the floor was laid an old sail. The quantity of powder taken in was from 27 to 30 tons, consisting of 1,675 quarter barrels, in which the powder was loose, and 755 quarter cases, in which the powder was either in flasks or in tin canisters. It appeared to the Court that the powder was well and securely packed. There was some doubt as to whether boards had been placed between the powder barrels and the cargo, but upon the whole the Court were disposed to believe that there was only a single thickness of canvas. When it had all been taken in, the sailcloth slightly overlapped the powder; some planks were then put in, and also some cork fenders to keep the whole tight and secure. The hatch was then securely battened down, and the vessel proceeded, having a crew of 26 hands all told, and 17 male and 2 female passengers. The pilot left her on the 22nd of November, since which time nothing was heard of her till the 21st of December, when she was spoken a little to the south of the equator, and again on the 28th and two or three days following. From that time nothing more was seen or heard of her. but on the 16th of January, 1877, some wreckage was fallen in with by a vessel called the Strathdon, in about latitude 39°, longitude 0°, consisting of floor boards fastened firmly together, bales apparently of corks, some empty cases, and a box which seemed like passengers' luggage.

After hearing a quantity of evidence, the Court found themselves unable to say to what cause the loss of the ship was due, but stated their opinion that the arrangement by which the galley and condenser fires were brought so near to the gunpowder was improper and unsafe, adding that if ship owners would construct regular magazines for the conveyance of powder, formed of double boards with an intermediate lining of felt, or even of single boards with sailcloth or felt, as suggested in a Board of Trade Circular of February, 1877, it would afford a much greater protection to life and property.

Norz.—Captain Nicolas, the second assessor, was present on the first two days of the inquiry, but was unable to attend at the further hearing, and was, therefore, not asked to sign the report,

WWW. ij Burning, Spontaneous Combustion.

"AMADINE."

Inquiry held 6th, 8th, and 11th June, 1877.

Assessors: G. H. FORSTER, R.N.; S. J. CASTLE.

The Amadine was a three-masted composite vessel of 547 tons net register. In August, 1876, she took in a cargo in the West India Export Dock consisting of 325 tons of Hartley coal, coal tar, matches, gin, brandy, wine, bottled beer and crockery. With this cargo, which was of the most inflammable character, she sailed for Penang on the 30th of August.

The coals were shot down through the main hatchway, then trimmed across the vessel amidships as high as the hold beams, and sloped off forward as far as the bulkhead, and aft beyond the mizen mast. In the fore part they were levelled, and the barrels of coal tar were laid upon them up to the bulkhead forward. Above these were placed crates or cases of crockery, barrels of bottled beer and other things. The matches were stowed above the hold beams and immediately under the deck house. Nearly-all the gin, brandy and wine was stowed aft, the after hatch being quite full of spirits; a few cases of spirits were in the main hold.

All went well until the 6th of December at 12 p.m., when the first mate found the boatswain stupefied in the cabin, and a strong sulphurous smell which passed off when the companion door was opened.

On the 7th and 8th of December the smoke and steam increased; but nothing was done to ascertain the cause.

On the 9th the captain had a ventilator made, which was put down through a hole cut in the floor of the cabin aft, immediately over the spirits, and at 10 p.m. water was pumped down the fore hatch.

At 11 p.m. 60 or 70 holes were cut in the deck aft from the deck house. The main pumps had been burnt through and were useless, and at 5 a.m. of the 10th the vessel was abandoned, the crew being ultimately picked up and landed at Calcutta.

It appeared that the coal had been conveyed to the ship in six barges, the two first containing Davison's Hartley coal, which was a portion of a cargo taken out of another ship which had sustained some damage, and had therefore been subjected to more than the usual amount of breakage.

It was admitted that the coal was shipped very wet, and there was no evidence to show that there was not pyrites in it.

It appeared to the Court that there was a reasonable probability that spontaneous combustion had taken place in the coal, which had caused the destruction of the vessel.

The Court held that want of ventilation in the hold was not an element of danger and did not conduce to the loss of the vessel in this instance. It was conclusively shown that there was no explosion, the fire was not due to any volatile gases emitted from the coal, which ventilation might have carried off, but if it originated with the coal at all it arose from spontaneous combustion, in which case ventilation would have done rather harm than good. Whilst the hatches were kept closed the fire made little

progress, smouldering for some three days, and it was only after the ventilator had been put down that it burst into a blaze.

They added that, even assuming that the master had not provided ventilation for the hold, and that the ventilation was defective, it would be the owners who were responsible for not providing a better system.

The master was held to be not altogether free from blame on the ground that though, according to his own admission, as early as the night of the 6th, vapour was observed issuing from the hold powerful enough to stupefy the boatswain, yet from that time until the morning of the 9th no steps were taken to ascertain the cause of the mischief; this omission they considered amounted to a grave error of judgment, and he was warned to be more cautious in the future.

Stranding.

"AROS BAY."

Inquiry held 9th and 11th June, 1877.

Assessors: B. S. PICKARD, R.N.; J. SCEALES.

The Aros Bay was a three-masted iron ship of 1,412 tons net register. She left Rangoon for London on the 10th of February, 1877, with a cargo of rice, having a crew of 26 hands all told, and one passenger. She had three compasses, two aft, one on each side of the wheel, and a standard compass, about 50 feet forward of the mizen mast, and raised about 18 feet above the deck. By this latter the ship was always steered. Before midnight of the 17th of May, Dungeness Light was sighted, bearing E.N.E., three points on the port bow. At 12 the chief mate came on deck and took charge. It was a fine clear night, and having a strong flood tide in their favour, they were making from 8 to 9 knots through the water. As they approached the light, the vessel's head was turned towards the shore, the master's object being to pick up a pilot on the other side of the point. A little before 2 a.m. they were close in to the light, and the master and chief officer were looking at another light, which they took to be that of a pilot boat, when the look-out reported land ahead, upon which the helm was ordered to be ported; but too late, as the vessel almost immediately took the ground, a little to the west of the Beacon, at the extreme end of Dungeness Point. In a few minutes three steam tugs came up, and succeeded in hauling her off, and she ultimately arrived at London without having sustained any material damage.

The Court came to the conclusion that the stranding was due to the carelessness of Peter McIntyre, the master, in having gone too near the shore after passing Beachy Head, in order to round Dungeness Point, and in having mistaken, through want of knowledge of the lights, the flashing light at the end of the point for a pilot boat. They accordingly suspended his certificate for six months.

WWW.libtool.com.cn Steam Explosion—Safety Valves.

"SIDONIAN," S.S.

Inquiry held 14th, 15th and 16th June, 1877.

Assessors; J. R. RAVENHILL, C.E.; R. C. MAY; C. Y. WARD.

The Sidonian was an iron screw steamship of 1,235 tons gross and 799 tons net register, having two vertical direct-acting engines of 203 horse-power combined. She left New York for Bristol on the 20th of April, 1877. Nothing particular occurred until the morning of the 29th, when at 9.30 the engines stopped. At about 10.20 an explosion took place, caused by the combustion box of the starboard boiler giving way. At the time there were in the engine room the master, first, second and third engineers, two firemen, and a coal trimmer, all of whom were killed.

Each of the boilers was fitted with a safety valve, 5½ inches in diameter. The valve was kept closed by a spring lever, made in the form of a Salter's balance, one end of the lever being fixed to the boiler on a kind of hinge or pin, the other being free, and having the spring attached to it.

In addition to this, in accordance with the Board of Trade requirements, there was a dead weight hanging immediately over the lever, and attached to a spindle, which had, at its lower end, a long slot eye, so that when the spindle and weight were lowered, the slot eye would hold the lever down. Ordinarily, the weight and spindle were held up by a chain attached to a beam over the boiler, and secured by a padlock; the object of the dead weight being to bring the required pressure to bear upon the safety valve, in case, by any accident, the spring should become deranged. It was never intended that both the spring and the dead weight should be applied to the lever at the same time; indeed, to bring the latter to bear at all, it would be necessary to undo the padlock and lower the chain. The pressure on the spring was 56 lbs., that of the dead weight 51 lbs.; their combined pressure being, therefore, 107 lbs., which was much more than the boiler was ever intended to bear. There was a pressure gauge in the engine room and another in the stokehole.

During the early part of March, while on a voyage between Cardiff and Naples, the pressure had averaged from 50 lbs. to 58 lbs., and the steam had been continually blowing off; but after leaving Naples, though the pressure sometimes went up to 68, the average being from 60 to 65, no steam blow off. During the inquiry, it was sworn positively that the chains by which the dead weights were suspended were loose after the vessel left Naples, showing clearly that the weights were pressing upon the lever. This was found to be so when the vessel returned to Bristol, no alteration having been made since the explosion.

It appeared, therefore, to the Court, that the accident occurred in the following manner:—

For the first 10 minutes after the engines stopped, during which all the witnesses said that steam was blowing off, the safety valves were raised, which would have been readily done by means of the lifting gear in the engine room. When, however, attempts were being made to set the engines

in motion, the lifting gear would necessarily be shut down, and the steam turned into the cylinders. After the three attempts which were actually made, it would be shut off from the cylinders, when, no doubt, the raising of the lifting gear was forgotten. Then, during all the time they were endeavouring to repair the engines, steam would be accumulating, and both the springs and dead weights being down on the levers of the safety valve, such a pressure would be generated, that at length the boiler must go.

The Court considered that the chief engineer, who was killed, was responsible for this accident. It appeared that the padlock on the safety valve was removed, probably soon after leaving Naples; but whether or not with the knowledge of the master, there was nothing to show.

The Court expressed their opinion that the placing a dead weight immediately above the lever was not a desirable arrangement; and were glad to hear that it was being gradually abandoned.

Burning-Improper stowage of Rum.

"BIFLEMAN."

Inquiry held 27th and 28th June, 1877.

Assessors: G. T. HOLT, I.N.; J. SCEALES.

The Rifleman was a barque of 346 tons register. She left Demerara on the 11th of April, 1877, with a cargo of rum, sugar, cocoa nuts and cocoa beans; the sugar being stowed in the after part of the ship, and the rum forward. All went well till, at 1.30 of the 25th, a cry of "Fire" was raised by three men who were in the forecastle, which immediately became so full of smoke that it was impossible to enter it. When the smoke had cleared off a little it was found to be coming up through the hand holes of the hatch which led down from the forecastle into the fore peak. Water was poured down and holes were cut in the deck. There was a slight explosion at 3.30, and another more serious one at 5.30, followed by a still greater volume of smoke, whereupon the captain determined to cover up all the holes with the view of stifling the fire. At daylight of the 26th the covers were taken off and water was again poured on the cargo. At about 6.30 and 9, explosions took place, the latter being a very violent one. The boats were then got out, and stayed by the ship, till at 1 a.m. of the 27th she disappeared. The boats were ultimately picked up.

The three men who were in the forecastle at the time when the fire was discovered, before they could be served with notices to attend the inquiry, embarked on board another vessel, and left the country. All the other witnesses proved to the satisfaction of the Court that they had nothing to do with causing the fire.

The Court rejected the theory of spontaneous combustion, and came to the conclusion that the fire must have been caused by one or other of the three men, who had both the opportunity and inducement to get at the rum. They considered, that to stow a cargo of rum close up to a bulkhead, composed of plank only one inch in thickness, which separated it from a place to which the crew had ready access, was a most improper proceeding.

www.libtoolStranding-Taking bearings.

"DAMIETTA," S.S.

Inquiry held 3rd July, 1877.

Assessors: E. G. F. G. VISCONTI, R.N.; W. PARFITT.

The Damietta was an iron screw steamer of 682 tons gross and 434 tons net register. She left Riga on the 1st of June, 1877, bound to Rotterdam. She passed the Skaw at 2 a.m. of the 6th, and was then, according to the captain, George Dixon, steered W. by S. till 7.30, and then W.S.W. At 8 o'clock he hauled her in 4 or 5 miles towards the land, then put her on a S.W. course till 11, when her head was laid to the W.; at 12 she was steered W. by N. \frac{1}{2} N., and at 12.30 she ran aground on the Bragene Shoal. With these courses it was hard to understand how she grounded where she did; but the difficulty was to some extent removed by the evidence of the second mate, who stated that from 8 o'clock till 8.50 the course steered was S. The assessors considered that a W. by S. course was a proper one after passing the Skaw, in order to clear Hirtshall Point, and that then the master should have taken a W. by S. \frac{1}{2} S. course to clear Haustholm Point.

The Court came to the conclusion that the master was to blame for having stood in too near to the shore after rounding Hirtshall Point; in not having taken bearings to ascertain his true position; and in having left the deck when he ought to have known that he was approaching a dangerous shoal. They accordingly suspended his certificate for six months.

Stranding.

"MADELINE," S.S.

Inquiry held 31st July, 1877.

Assessors: T. BEASLEY; B. S. PICKARD, R.N.

The Madeline was an iron screw steamer of 1,320 tons gross and 845 tons net register. She left Cardiff on the 16th of May, 1877, with a cargo of coal, and a crew of 23 hands all told, bound to Constantinople. At midnight of the 31st of May she was off the west point of the Island of Tenedos, at which time the second mate, John Owens, took charge, the course being, according to the captain, N.E. by E. \(\frac{1}{2}\) E., according to the second mate, N.E. \(\frac{1}{4}\) N. The captain remained on deck till 12.30, before which time Cape Helles Light had been made out, upon which he ordered the helmsman to keep it three-quarters of a point on his starboard bow, and then went into the chart room, where he fell asleep, after having been on deck for about 40 hours. The Court were unable to discover what course had been steered from that time, but the vessel ultimately ran ashore off Cape Tekeh to the westward of Cape Helles.

It appeared from his own admissions, that the second officer was aware that the vessel had altered her course to the extent of 9 or 10 points, which he took, solely on the authority of the man at the wheel, to have been done by order of the captain. His excuse for not specially directing the

captain's attention to this was that he thought he was awake, and was cognizant of the course of the vessel. The Court came to the conclusion that he had shown himself utterly unfit for his position, and accordingly cancelled his certificate. They also blamed the master for having given over the charge of the deck, when he was approaching the Dardanelles, to an officer whom he knew to be incompetent.

Collision with Lightship.

"RHINE," S.S.

Inquiry held 2nd August, 1877.

Assessors: R. A. POWELL, R.N.; W. PARFITT.

The Rhine was an iron paddle-wheel steamer, 441 tons gross and 277 tons register, which ran between London and Boulogne. She left St. Katherine's Wharf on the 12th of July, 1877, at 1 a.m., and at 6 a.m. was off the Prince Lightship. A course was then steered E.S.E., for the purpose of clearing the Tongue Lightship, and the master went into his berth, leaving the deck in charge of the second officer. John Kyle, one man being at the helm and another on the look-out. The man at the wheel, owing to the peculiar construction of the vessel, was unable to see directly ahead. The look-out man, 5 or 6 minutes before the collision, left his post, going aft to the companion for the purpose, as he said, of seeing whether it was time for him to relieve the man at the wheel. Whilst he was away, the second officer either fainted or fell asleep. They were then approaching the Tongue Lightship. There was a small schooner standing up the river, apparently from 2 to 3 points on the Rhine's starboard bow, and whether the helm of the latter was slightly starboarded or not, it was certain that she slightly altered her course to port, coming stem on into the starboard bow of the Tongue Lightship, which was so seriously damaged that she sank soon afterwards, but without any loss of life.

The Court held that the conduct of the look-out man in leaving his post was utterly inexcusable, and that it would have been better if the captain had delayed going down into his cabin till the ship had passed clear of the lightship.

The second mate soon after the accident appeared to have admitted that he had sat down and then fallen asleep, though he stated in Court that he believed he had fainted. He excused himself on the ground that he was overworked, but the Court held that this was not so, and accordingly suspended his certificate for six months.

Collision—Conduct of Master after—Boats ready for Launching.
"AVALANCHE" and "FOREST."

Inquiry held 3rd, 4th, 5th, 6th, 8th and 9th October, 1877.

Assessors: H. JONES; G. T. HOLT, I.N.

The Avalanche was a three-masted iron sailing vessel of 1,160 tons register. She left London for New Zealand on the evening of Saturday,

the 8th of September, 1877, with a crew of 35 hands all told. She carried 5 boats, namely, 2 cutters on chocks forward, a lifeboat in davits on the port quarter, a small cutter in davits on the starboard quarter, and a gig bottom upwards on the after house, and had on board 63 passengers. Off Deal she cast off the tug, the Trinity House pilot was discharged, and she proceeded down Channel with an easterly wind. By 8 p.m. of the 11th, when off Portland, under foretopsails, foresail, reefed mainsail, inner and outer jibs, foretopmast staysail and spanker, having shortly before taken in her topgallantsails, she was standing close-hauled on the port tack, heading about W.N.W. She then saw the red light of the Forest on her starboard bow.

The Forest was a wooden vessel of 1,422 tons register. She left London on the 9th of September, with a crew of 21 hands all told, bound to Sandy Hook for orders, and being in ballast, was very high out of the water. She went down the river in tow of a tug, and with a Trinity House pilot and a Channel pilot on board. Off Deal the tug was cast off, and the Trinity House pilot having left her, she proceeded down Channel with a leading wind from the eastward, the Channel pilot having been disembarked off the Isle of Wight. At 8 p.m. on the 11th she also was off Portland, under foretopmast staysail, reefed topsails and foresail, standing close-hauled on the starboard tack, with the wind which was about S.W., blowing a fresh gale, making a nasty chopping sea. She then saw the green light of the Avalanche on the port bow.

Unfortunately, all on board the Avalanche were lost except the third officer, who was below until the vessel actually struck, and two seamen who were in the watch, but were unable to give any further information than that having heard the red light reported, they were some time afterwards ordered to go on the poop to brail up the spanker, and that it was only after they had got on the poop that an order was given to hard up the helm. The third officer stated that he heard the light reported a quarter of an hour before the collision, that some five or seven minutes before it he heard the order to "hard up," from which it appeared, that for some time after the light of the Forest had been discovered, nothing whatever was done on board the Avalanche, but that she was kept close-hauled on the port tack, until at length the order to "hard up" was given, and she went off some four points before the collision occurred. As regarded the Forest, the master, who was in charge of the deck, was saved, as also were some of the watch: from the master's evidence it appeared that the green light of the Avalanche was first seen by him about 20 minutes before the collision, some 21 points on his port bow, this statement being confirmed by the look-out man. The master stated that he watched the light as it drew ahead of him, until it was about a point on the port bow, when he lost sight of it, not seeing it again until the collision had occurred. The look-out man, however, who was on the topgallant forecastle, said that he watched it all the time drawing ahead of them; that when ahead he reported it a second time; that it then suddenly turned to red, when almost immediately the collision occurred. His statement was confirmed by a man who was. on the main deck: indeed, the master admitted that the reason why the

light was not seen continuously by him was because it was hidden either by the forest, or more probably by the topgallant forecastle, which in the Forest was a very high one. The master of the Forest said that after seeing the light, not knowing whether his vessel was close up to the wind or not, he ordered the man at the wheel to luff, which was done about the same time as he lost sight of the light. When he saw the sails lifting, he gave orders to keep her full, when her head fell off two or three points beyond her original course. He then ordered the helm hard down, and as she was coming up again to her original course the collision occurred, his stem and port bow striking the Avalanche on the port side amidships. The stem of the Forest continued to strike the Avalanche along her port side, and such was the extent and nature of the damage, that in about three minutes from the time of the collision the Avalanche sank, carrying with her the whole of the passengers and all the crew, except as stated, the third officer and two A.B.'s.

It was clear, in the opinion of the Court, that the Avalanche, when she saw the red light of the Forest, must have known that it was the light of a vessel close-hauled on the starboard tack, and that it was her (the Avalanche's) duty to get out of the way, either by passing ahead or astern as she thought fit; but whichever she elected to do, it was her duty to do it in sufficient time. This being so, the onus was upon her to show that she took the proper measures to avoid a collision.

After carefully considering all the evidence, the Court came to the conclusion that the Avalanche did not port her helm as soon as she ought to have done, nor until long after she had made out the red light of the Forest on her port bow; but that she continued her course, until finding that she could not clear her, her helm was ported too late, the collision being the result.

It was the undoubted duty of the Forest, being on the starboard tack, to keep her course close up to the wind, which was done. The Court, however, blamed the captain for not having kept the Avalanche's light in view, and for having manœuvred his vessel after he had lost sight of the light before he had ascertained what she was about to do. The Forest fell off some two or three points beyond her original course, and it was as she was coming up again that the collision occurred. The captain admitted that if his vessel had not fallen off there would have been no collision, and that if he had known what the other vessel was doing he would have let go his lee forebraces, have kept his ship up in the wind, and thus prevented her from falling off. For failing to do this the Court thought he was to blame, but looking at his long services of some 26 years as master, and to his good conduct after the collision, they thought that they ought not either to cancel or suspend his certificate, but they severely reprimanded him, and expressed their opinion that one of the Forest's boats should have been in the davits ready for launching.

www.libtool.com. Stranding.

"CALABRIA," S.S.

Inquiry held 10th October, 1877

Assessors: T. APLIN, R.N.; J. S. CASTLE.

The Calabria was an iron screw steamer of 2,901 tons gross and 1,730 tons net register. She left Portland Roads on the 29th of August, 1877, with about 500 tons of telegraph cable, and a crew of 110 hands all told, bound to the neighbourhood of Cape Finisterre, for the purpose of taking up and repairing the telegraph cable. The weather was quite fine, a light breeze from the N. and no sea. She rounded Portland Breakwater at about 10.40 a.m., whence she steered S. and by E. & E., intending to round the Shambles Lightship, and leave it on the starboard hand. The captain stated that he passed the lightship at a distance of about half-a-mile, and when it bore W.S.W. he ordered the helm to be ported, and she was then put upon a westerly course. She passed the lightship at 11.30 a.m., and in five minutes afterwards was aground on the Shambles; but got off soon afterwards. The Court considered that clearly the master could not have passed the lightship at a distance of half-a-mile; for if he had done so, he would never, on a westerly course, have gone near the Shambles. He himself admitted that the accident was attributable to his having underestimated the distance from the light vessel, and to his having been overconfident as to his position. The Court considered that he had been guilty of a grave error of judgment and an amount of rashness which deserved their censure, and they accordingly severely reprimanded him.

Stranding-Use of Lead in Fog.

"BACKWORTH."

Inquiry held 15th October, 1877.

Assessors: R. A. POWELL, R.N.; W. PARFITT.

The Backworth was a wooden vessel of 297 tons register. She left North Shields on the 26th of September, 1876, bound for Bahia, with a cargo of 500 tons of coal, and a crew of 9 hands, including the master, James Koefod and the mate, Alexander Sellars. It appeared, from the evidence of the former, that on a W. by S. and W.S.W. course there was a deviation of the compass of three-quarters of a point to the east.

At 4 a.m. of the 2nd of October they were off the South Foreland Lights, which bore W. by N. ½ N., the vessel at the time steering a course W. by S. by compass. The master then went below, ordering the mate to keep her on a W. by S. course until abreast of Dover, when he was to lay her W.S.W., being careful not to get her too near the land. At this time there was a light wind from the north, the weather being clear, with a smooth sea.

At 5.30 a.m. the weather became hazy, and at 5.4 the mate altered the

course to W.S.W. At 6 it was quite thick, but the mate kept on his course till 75 at which time the lead gave 5 fathoms, upon which the helm was starboarded and steadied, when her head was S.W. by S.

At 7.15 there were only 4 fathoms, upon which the course was again altered to S.S.W. till 7.30, when 3½ fathoms having been found, the helm was put hard-a-starboard, and the after yards were squared; but in a very short time she took the ground, and remained fast to the north of the Ness and inside Newcombe Buoy.

The Court held that the stranding was partly due to the default of the master, for having, after he had laid the vessel on a course which he knew must take her to the north of Dungeness Point, neglected to take proper precautions against her going ashore, and gone below, leaving the deck in sole charge of the mate.

They considered that it was partly due to the mate for having continued his course for more than a hour in a thick fog, when he must have known that he was approaching the land, without taking a cast of the lead, or consulting the chart; and also for not having immediately laid the vessel's head off-shore, when he found only 5 fathoms of water, and for having neglected to call the master.

Accordingly the Court suspended the certificates of each of them for six months.

Abandonment—Grain Cargo—Shifting Boards—Freeboard—Duty of Master as to Overloading.

"DAMIETTA," S.S.

Inquiry held 12th, 13th and 14th November, 1877.

Assessors: T. APLIN, R.N.; H. HARRIS.

The Damietta was an iron screw steamer of 682 tons gross and 434 tons net register. She left Dantzic for Stockton-on-Tees on the 5th of October, 1877, with a cargo of 900 tons of wheat, drawing 15 feet 6 inches forward, and about 15 feet 9 inches aft, or a mean of 15 feet 7 inches to 15 feet 8 Her crew consisted of 18 hands all told. When she left Dantzic, her coal bunkers, which contained about 100 tons, were quite full. Nothing particular occurred until about 7.30 p.m. on the 10th October, when she was about 120 miles to the westward of Hautsholm Light. It was then blowing strong from the W., with a heavy sea, and accordingly the engines were eased, and continued alternately going slow and full speed until Friday, the 12th, when it was discovered that water was coming in through the stern between the plates. On Friday night the engines were again eased, till at about 3 a.m. on the 13th three feet of water were reported in the main hold, when the pumps were set to work. The master then determined, if the weather moderated, to run for Cuxhaven, being influenced by the fact that on the 10th the coals had begun to run short.

The weather not having moderated, the ship was kept on her course, until a smack having come in sight on the morning of the 14th, the crew desired to go on board, but the master, in the opinion of the Court, very properly objected to their doing so.

At 11 a.m. on the same day the steamer Annic Ainslie came up, and began to tow the Damietta towards the English coast at 3.30 p.m., the wind and sea increasing. At 9 p.m. a heavy sea struck the Damietta on the port bow, giving her a heavy list to starboard.

At 11 a.m. on the 15th the hawser parted, and the vessel fell off into the trough off the sea and became unmanageable. The master immediately put some sail on the main rigging, and let go the sea anchor to bring her head to the wind, but without effect, the sea making a clear breach over her. At 3.30 p.m., having launched the lifeboat, all hands got into her, pulled to the Annie Ainslie, and were taken on board. On the following morning the Damietta had disappeared. The Annie Ainslie eventually landed the crew at Copenhagen.

The Court held, that though there was no evidence that she ever had more than from two to three feet of water in her, still the fact that they were not able to free her from it; that she had a list to starboard, caused, as was believed, by the shifting of the cargo; that she was lying in the trough of the sea, the waves making a clean breach over her; and that all her coals with the exception of 2 cwt. had been consumed, rendered it expedient for the crew to leave her for the safety of their lives.

So far as regarded the failure of the coals, which the Court considered to have been one of the causes, if not the principal cause of the loss of this vessel, they were not disposed to blame the master.

With regard to the stowage and shifting boards, it appeared that the cargo consisted, as previously stated, of 900 tons of wheat, of which 600 tons were stowed in bulk in the main hold, a small quantity, about 50 tons, in the fore hold, and the remainder, about 250 tons, in the after hold. The depth of the hold from tonnage deck to ceiling amidships was 16 feet 3 inches. She had shifting boards in the main hold, and in the fore part of the after hold, but none in the fore hold. In the main and after holds they were composed of 5 planks, giving a total depth of about 4 feet, or, with the deck beams, of about 4 feet 6 inches; whereas in "Stevens on Stowage," the rules laid down for the stowing of grain cargoes in ships of over 400 tons register require that the shifting boards should be "fitted tight under and between the beams and carlines, and should extend not less than 6 feet downwards."

The after hold was divided into two parts by a bulkhead across the ship, that went down below the hold beams. Forward of this bulkhead, grain in bulk was filled in right up to the deck, but aft of it the grain in bulk rose to about the hold beams; above this was laid one tier of grain in sacks, and above that again were coils of rope and ship's gear. On the 12th the after hatch and fore hatch were opened for the purpose of taking out the sail, cordage and other things to assist the fires, and it was then that the slight list took place, When these things were removed from the top of the sacks abaft the bulkhead, there was nothing to prevent the grain which was in the fore part from working under the bulkhead, and thus leaving a space at the top, so that if the vessel had heeled over to starboard the cargo would naturally shift.

The Court came to the conclusion that both the shifting boards, and the

arrangement of the after hold were defective, and were not such as to prevent the cargo from shifting in such weather as might naturally have been expected. They thought also that the cargo did shift, and that such shifting materially contributed to the loss of the vessel.

With regard to her draught of water, while there was a height of only 26 inches above the Plimsoll mark, there was a depth of about 16 feet below it. The owners were in the habit of allowing a freeboard of two inches for every foot of the vessel's immersion. So, even according to their own rule, there should have been a freeboard of 32 instead of 26 inches. But in "Stevens on Stowage" it is laid down, that in the case of grain ships of over 400 tons, "the load draught must be regulated by the depth of the hold, allowing 3 inches to every foot depth of hold, measured from lowest line, of deck amidships to the water when upright."

Upon the whole, the Court came to the conclusion that the loss of the vessel was due partly to her having been too deeply laden, and partly to the insufficient depth of the shifting boards, and as the legislature has thrown the obligation upon the master, as well as upon the owner, of seeing that the vessel is not overloaded, and in grain cargoes, that the grain is properly secured by shifting boards or bulkheads, they were unable altogether to acquit the master of blame for the loss of this ship and her cargo.

Stranding.

"BLACK WATCH."

Inquiry held 16th and 17th November, 1877.

Assessors: T. APLIN, R.N.; R. WILSON.

The Black Watch was a three-masted wooden sailing vessel of 1,318 tons net register. She left Bremerhaven on the 10th of September, 1877, in ballast for New York, the captain at first intending to go through the English Channel, but finding that the wind was adverse, he determined to go north about, which he had never done before. On the evening of the 18th, at 7.30, she was off Auskerry Light, which bore N.W. ? N., distant about 8 miles, on a N.E. by N. course, but at 10 p.m., the wind having drawn slightly more to the westward, her course was altered to N.N.E. until midnight, when the captain and second mate came on deck. Soon afterwards, the wind having again hauled more to the westward, she was laid a course N. and by E. 1 E. to N. 1 E. At 1 a.m. the captain made out the North Ronaldsha Light, bearing about N.W., when he found that he was about an hour behind his reckoning. At 1.15 a.m., observing that the fog appeared to be coming over the light, he took a bearing of it, found it to bear N.W. 1 W., and conjectured its distance to be from 8 to 10 miles. From that time the vessel was kept on a course N. \ E. until about 3.30, when the look-out man amidships observed breakers abeam on the starboard side, which he at once reported. The forward look-out had heard them previously, but not knowing what they were had not reported them. The captain immediately came out of his cabin, where he had gone to consult his charts, and ordered the vessel to be put about, which was done, and she had got round and was drawing ahead, when she struck with her port side on a sunken rock, where she become fast, filling in about half-an-hour. The whole crew were safely landed, when it was found that she had grounded on the rocks at the S.W. point of Fair Island.

The captain stated that he laid his course to pass between North Ronaldsha Light and Fair Isle, expecting to pass 15 miles clear to the W. of the latter, but he admitted before the Court that he had not formed this intention until after he had made the North Ronaldsha Lighthouse; when the Court considered that if he had thought at all about the matter, he must have known that he could not have cleared it, and that with the leeway he was making, owing to his ship being high out of the water, there would be every probability of his running on it, if not of going to leeward of it. They considered that he had been guilty of great want of judgment, especially as the weather was foggy, and he was ignorant of the navigation in those parts; and accordingly reprimanded him severely, and recommended him to be more careful in the future.

Stranding-Soundings-Speed in Fog.

"ROWLAND," S.S.

Inquiry held 20th and 21st November, 1877.

Assessors: T. Aplin, R.N.; R. Wilson.

The Rowland was an iron screw steamer of 1,229 tons gross and 799 tons net register. She left Montreal on the 12th of September, 1877, with a cargo of wheat, partly in bulk and partly in bags, bound to Queenstown for orders. At 4 p.m. of the 17th, having coaled at Sydney Harbour, Cape Breton, she proceeded to sea; from that time until she struck the weather was foggy, notwithstanding which the master, John Phillips Swaffin, kept the vessel at full speed, which was about 8 or 84 knots.

At midnight of the 18th the chief officer took charge, his watch consisting of himself, the boatswain, two A.B.'s, and an ordinary seaman.

About 2.30 a.m. the look-out man reported ice ahead, upon which the chief officer ordered the helm to be put hard-a-port, and the engines full speed astern, but before she could be stopped, she took the ground forward, and ultimately broke up.

The ship carried three compasses, a pole just forward of the bridge, a standard before the wheel amidships, and another compass before the after wheel. The standard was frequently out of order, and the men were accordingly ordered to steer by the pole. On an E.S.E. and S.E. and by E. course, which the vessel followed after leaving Sydney Harbour, the pole and the standard generally agreed, but on this occasion a difference of one point was observed, and as it was not known which was wrong, the Court considered that it was a circumstance which should have called for more than ordinary vigilance on the part of the master.

They held that he was to blame for not having laid his course on leaving

Sydney Harbour so as to take the ship further off the land, and well out of the influence of the current, which is well known to set along and into the bays on the south coast of Newfoundland. They also censured him for not having taken any soundings, which would have shown him that the vessel was getting dangerously close to the land, and for having gone at full speed in a dense fog. His certificate was accordingly suspended for 6 months.

The chief officer was also censured for not having told the master that he considered the ship was going too fast, if, as he stated in his evidence, he really thought so, and the Court accordingly severely reprimended him.

Stranding-Lascar Crew.

"LIFFEY."

Inquiry held 23rd and 24th November, 1877.

Assessors: J. S. CASTLE; B. S. PICKARD, B.N.

The Liffey was a three-masted iron ship of 1,338 tons net register, classed 100 A 1 at Lloyd's. She left Liverpool on the 18th of December, 1876, bound to Calcutta, with a crew of 28 hands all told. On her arrival there, the whole crew, with the exception of the master, first mate, carpenter, 3 A.B.'s, and 5 apprentices, were discharged. Another second mate was engaged, as well as about 30 Lascars; and having taken in a cargo of rice, she left on the 18th of May, 1877, for the Mauritius, where she discharged, leaving again on the 22nd of July, in ballast for Calcutta, with the same crew, with the exception of one apprentice.

At noon of the 3rd of August an observation was taken, when it was stated the vessel was found to be 80 or 85 miles from the entrance to the Kudah Huahdu Channel, which is a narrow but deep passage lying between Collomandu and Nillandu Atolls; and she was accordingly laid on an E. by N. course, to make it—the wind being from the S. At 4.30 another observation was taken, which placed her 65 miles from the entrance. From 8 p.m. the master and second mate were on deck, an apprentice was at the wheel, and the Lascars, but no Europeans, were also on deck. At 8.30 or 9, when, according to the master's calculation, they were still some 45 miles from the entrance to the channel, a sound was heard; saibly some to have been breakers; and, in about half-an-hour, breakers were discovered ahead, upon which the helm was put hard down; but the vessel, having missed stays, drifted bodily on to the rocks, on the N.W. edge of the Collomandu Atoll, about 45 miles ahead of the place where the master believed them to be. The crew took to the boats, and were ultimately all saved.

The Court considered that the loss of the vessel was due either to some error in taking the observations, or calculating the longitude; or, perhaps, to some exaggeration as to the distance at which the master stated he was from the channel; or, possibly, to his not having made any allowance for the currents. In any case, they held that it was due to the negligence of

the master in not having taken better measures to ascertain his precise position when approaching the Maldive Islands, and for not having hove the vessel to when he heard a noise, which some of the crew warned him proceeded from breakers.

They further blamed him for having had only one European, namely, the apprentice, at the wheel, on deck, in addition to the officer of the watch, and for having left the look-out to the Lascar crew alone; and, accordingly, severely reprimanded him, warning him to be more careful in the future.

Stranding-Want of proper Chart.

"AYTON," S.S.

Inquiry held 26th, 27th and 28th November, 1877.

Assessors: E. G. F. G. VISCONTI, R. N.; T. BEASLEY.

The Ayton was an iron screw steamer of 1,504 tons gross and 970 tons net register. On the 14th of September, 1877, she left the Tyne, bound to Calcutta, having a crew of 20 hands all told. Everything on board seemed to have been in thoroughly good and efficient condition. She carred 3 compasses; a standard on the fore part of the bridge, another just forward of the midships' wheel, and a third just before the after wheel, all of which were in good working order.

The vessel arrived at Port Said on the 3rd of October, discharged her cargo there, and received orders to proceed to Patras instead of Calcutta. Accordingly she sailed on the 8th in water ballast, and at about 12.15 a.m., of the 11th, the chief mate took an observation of Cape Katakolo, finding it to bear S.E. and by E. 1 E., distant about 5 miles. The course was continued N. 1 W. until they had rounded Cape Trepito, when it was altered to N. and by E. & E. At 1.20 a.m. the master, Mark Storey, ordered the mate to look at the patent log, and on hearing his report, thought that they must be nearing Cape Glarenza, and as the chart which he had on board stated that that light was only visible at a distance of two miles, he came to the conclusion that he was further out than he had intended, and beyond the radius of the light. Accordingly the helm was ported until the ship headed N.E. by N., when in about 10 minutes a ripple was observed on the port bow. The captain ordered the mate to take u cast of the lead, and the helm to be ported; while the mate was so engaged, the captain saw a small island where the ripple had been, when he ordered the helm hard-a-port, and himself took a cast of the lead, getting 51 fathoms, the mate having before found only 31. All this time the vessel had been going full speed ahead, when she suddenly took the ground, but was ultimately got off without any damage whatever.

The only chart which the master had on board was the Admiralty Chart of the Mediterranean on a small scale, which the Court considered was not a proper one with which to navigate those waters. He ought to have obtained one on a larger scale, which would have shown him the special dangers of the coast, especially as the owners stated that they had

directed him to get all needful charts and directions, without placing any limit upon him.

The Court further thought that the master was very much to blame for having kept his ship at full speed too close to the shore when he was ignorant of the depth of water; and also for having, when he saw the small island, ported his helm and attempted to pass between it and the shore, instead of stopping and reversing full speed. They accordingly suspended his certificate for six months.

Collision-Duty of Sailing Vessel.

"ALBANIAN," S.S. AND "NYDIA."

Inquiry held 6th, 7th and 8th December, 1877.

Assessors: G. H. FORSTER, R.N.; J. P. WILSON.

The Albanian was an iron screw steamer of 1,417 tons gross and 918 tons net register. She left Liverpool at 9 a.m. on the 18th November, 1877, with a crew of 27 hands all told, and a general cargo, bound for the Mediterranean, and having discharged her pilot off the Bar Lightship, steered a course W. and by N. 1 N. The weather then becoming fine, the vessel proceeded at full speed, going from 8 to 9 knots an hour; and at about 12.40 (noon) the master went down to his cabin, leaving the third mate, Hugh Penny, who held a master's certificate, on the bridge and in charge of the deck. Soon afterwards the Nydia was seen on the port bow at a considerable distance. She was then close-hauled on the port tack, heading to the N., and so as to cross the Albanian's course, the wind being W.N.W. The steamer, nevertheless, continued her course and ultimately collided; the Nydia's stem and bows striking the steamer amidships on the port side, cutting her down below the water's edge. The engines, which had been stopped immediately after the collision, were put on ahead again, but before she could reach shallow water she was found to be setling down by the stern, upon which the engines were stopped and steps taken to launch the boats. All the crew were safely taken on board a steam tug, with the exception of the steward, who doubtless, went down with the ship.

The Nydia was a three-masted ship of 833 tons register. She left Liverpool at 8.15 p.m. of the 17th of November, in ballast, with a crew of 17 hands all told, and in charge of a pilot, who was to accompany her as far as Point Lynas. At noon of the 18th she was within about a mile of the Great Orme's Head and 10 minutes later she was put on the port tack, heading N. ½ E., the wind being W.N.W. The master, chief officer and pilot soon afterwards went below to dinner, leaving the deck in charge of the second officer. At 12.45 the chief officer came up and relieved the second officer, but the latter returned in about a quarter of an hour and was left with the pilot on deck.

At this time the Albanian was in sight, away to the eastward, some two or more miles on the Nydia's starboard bow, heading apparently so as to

cross her course. As she approached without altering her helm, the pilot ordered the vessel to be kept close to the wind, the mate going aft to see that the order was carried out. The steamer continued to approach, keeping the same course, until, when she was within about a ship's length, and a collision appeared inevitable, the pilot ordered the Nydia's helm to be put hard down; but the time was so ahort as to make it very doubtful whether the vessel answered her helm at all, and she certainly could not have come up more than half-a-point.

The Nydia's bows were completely smashed in by the collision, the jibboom and bowsprit being carried away. The crew took to the boats, and were ultimately picked up, with the exception of two, who were drowned.

There was practically no dispute as to these facts; and the Court held that it was clearly proved that the Nydia continued her course as she was bound to do, at the last moment only, putting her helm hard down with the hope of diminishing the force of the blow.

The third officer of the Albanian admitted that he was in charge of the deck, and gave no excuse whatever for what the Court characterised as "This cruel and wanton outrage," and accordingly his certificate was cancelled.

Abandonment—Duty of Master as to Stowage of Cargo—Insufficiency of Sails,

"KATE," S.S.

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Inquiry held 11th and 12th December, 1877.

Assessors: J. M. G. GRANT, R.N.; H. JONES.

The Kate was a screw steamer of 969 tons gross and 627 tons net register, and was fitted with 2 compound surface-condensing engines of 95 horse-power. She left Barrow-in-Furness on the 4th of November, 1877, with a cargo of 1,015 tons of steel rails, bound for Riga, drawing 14 feet 4 inches forward and 17 feet 9 inches aft, or a mean of 16 feet, and having a freeboard of 2 feet 1 inch. Her crew consisted of 18 hands all told. At 8 p.m. of the 9th the engines were stopped, when it was found, the cover of the low-pressure cylinder having been removed, that a portion of the guard-plate, 8 inches long by 11 broad and 5/16ths deep, had become detached from the rim. Previously to this the vessel had been carrying her foretrysail, but the master then ordered the jibs and square foresail to be set. A squall however caught her, the jibs and square foresail were carried away, and the vessel broached to and fell into the trough of the sea. At about 9 o'clock, whilst the engines were being put to rights, it was found that the cargo in the after hold had shifted to port, and that there was on the starboard side a space of 6 or 7 inches between the cargo and the side, which, owing to the rolling of the ship, they were unable to fill up.

At 10.30 p.m. the engines went ahead, but stopped suddenly at about midnight, when it was found that the piston rod of the low-pressure cylinder had become bent, and the piston itself had jammed in the cylinder to such

an extent that it was impossible to move it. It was then determined to disconnect the high and low-pressure cylinders, which was a work of considerable difficulty and occupied a great deal of time, during which the vessel fell into the trough of the sea, and the master paid out 75 fathoms of chain cable with a view of bringing her head to sea—without much effect, however, as the cargo continued to shift more and more to port. On the morning of the 10th the engineer got the high-pressure cylinder to work, but after two or three turns it stopped. At 2 p.m. a Hamburg steamer came up and tried to tow the Kate, but after the hawser had parted three times, gave up the attempt. Another steamer called the Hewett came up and broke two hawsers. At 6 p.m., the maintrysail and mainstaysail having split, they were taken down, repaired, and reset at 10.30.

At daylight of the 11th the Hewett again commenced towing; at 4 p.m. the donkey engine stopped altogether, probably choked by the coal from the bilge; accordingly the master determined to leave the ship for the night, and at 5 p.m. they all went on board the Hewett. Before doing so they set up a light in the rigging, which continued visible till 8 p.m., but on the following day the Kate had disappeared, and in all probability foundered during the night.

The Board of Trade charged the master with misconduct in having gone to sea without having seen that the cargo was safely and properly stowed, and without being well supplied with sails.

The Court considered that it was clear that the master and officers had left the whole stowage of the cargo to the stevedore. There were two holds, the main hold forward, and the after hold aft of the engine room. There were about 700 tons of rails in the main hold, and about 300 in the after one.

Owing to the fore part of the after hold being wider than the after part, and to the way in which the rails were laid, an empty space was left in the centre forward, very much in the shape of the letter V with the apex pointing aft. The space at the mouth of the V would be about 1 foot 9 inches. There was something of the same kind in the main hold, but not to the same extent. An attempt was made to prevent the cargo from shifting into this empty space, by putting two blocks of wood down vertically at a distance of about 6 feet from the ends; but if anything occurred to derange the position of these blocks, there was nothing to prevent the cargo from shifting over either to the one side or the other.

The Court thought that it would have been better to have completely filled up the space in some way or other; but considering that ordinary, and not extraordinary knowledge was required from a master, they did not hold the master of the *Kate* to blame for not having corrected the mistakes made in the stowage of the cargo. As to the defect in the engines, they considered that there was nothing to show that it was other than a latent defect, which no skill on the part of the engineer or the owner's superintendent could have enabled them to detect.

The only sails which the master had on board, after leaving Barrow-in-Furness, were a fore and maintrysail, a square foresail, a forctopsail, a maintopmast staysail, and two jibs. Of all these the only ones that could be called square sails, and which could help to keep the vessel before the wind, were the square foresail and the foretopsail, which was damaged, and which, as well as the jibs, had been in the vessel when the master had joined her, at least three years before. The Court thought therefore that the master had no justification for going to sea without this foretopsail having been repaired, and that if the square foresail was not in good condition, it was his duty to have informed his owners. They could not therefore acquif him of blame, but did not consider it a case in which they would be justified in either suspending or cancelling his certificate. They also thought that the vessel was much too heavily laden when she left on her last voyage.

Stranding.

" DUESBERY."

Inquiry held 13th and 14th December, 1877.

Assessors: J. M. G. GRANT, R.N.; H. JONES.

The Duesbery was a barque of 384 tons register. She left Demerara in ballast on the 21st of July, 1877, for Frontera de Tabasco, with a crew of 11 hands all told, and in every respect well and sufficiently equipped for the voyage.

At 8 a.m. on the 17th of August, the vessel, which had arrived off the west coast of Yucatan, was put on a S. and by W. course, 25 fathoms having been obtained by a cast of the lead. That course was continued till noon, when an observation was taken which placed her in latitude 20° 32" N., her longitude by dead reckoning being 91° 30" W., but by observation 91° 38" W. At noon the vessel was steered S.S.W., till 4 p.m., when the master, - Wilkie, said that, thinking he had got too far to the westward, he laid the vessel on a N.E. by N. course, until 8 p.m., when she was steered S. and by E. until she took the ground. The second mate, however, said that from 4 to 6 o'clock the course was S.S.W. At 10.30 p.m. 25 fathoms were found, and at 12.15 a.m. of the 18th, the master and second mate went below. the first officer continuing the course, until, at 2 a.m., she suddenly took the ground. Nothing at all was done until daylight, except putting the yards aback and sounding round the ship, but between 7 and 8 a.m. the stream anchor was laid out with a Manilla hawser attached. As the tide, however, had fallen considerably, it was found impossible to move her, and at 6.30 p.m., the vessel being badly bilged, and the water on a level inside and out, the crew left her, ultimately reaching land safely.

The Court considered that it was the duty of the master, as a careful navigator, when he arrived on the west coast of Yucatan, to take care that he did not go nearer to the coast than the 10 fathoms line, and did not go farther from it than the 20. The channel between these two lines of soundings averages from 25 to 40 miles in width, and is clearly defined on the charts. Instead, however, of doing this, when he got beyond the 20 fathoms line of soundings, he continued his course S. and by W., running still further into danger. At noon again he headed still more to the westward,

the result in the end being that he struck on a point some 20 miles out of his course, which the Court considered to be a gross and culpable act of negligence on his part. They also blamed him for not having sooner taken measures to get the vessel off, and accordingly suspended his certificate for 12 months.

Abandonment.

"GAUNTLET."

Inquiry held 15th and 17th December, 1877.

Assessors: J. M. G. GRANT, R.N.; H. JONES.

The Gauntlet was a barque of 367 tons. She left Cardiff on the 5th of November, 1877, bound to Pernambuco, with a cargo of coals, and a crew of 10 hands all told. On the 14th she left the inner Penarth Roads, but the wind having become adverse, she put back, getting away finally on the 17th. At 3 a.m. of the 21st, the wind at the time blowing a strong gale, the vessel was struck by a sea, which carried away the lashings of the lifeboat, and the battens and one of the tarpaulins of the main hatch. From that time she began to make water, the hands being almost continually at the pumps. From 5 a.m. of the 21st, till noon of the 22nd, she lay to under mizen staysail and maintopsail, when the master determined to run back to the English Channel for shelter. Whilst the crew were engaged in reefing the foresail, the vessel was struck by a heavy sea on the port bow, which carried away some of the stanchions and bulwarks, and started the covering board. Shortly afterwards another sea did further damage, carrying away everything moveable on the deck, including the spare spars. Shortly before 2, it was observed that she was rapidly filling with water, upon which the pinnace was got out, and all the crew left in her except the carpenter, whose absence was not observed at first. When it was seen that he was not on board the pinnace, every effort was made to reach the ship, but without success. Ultimately the boat reached the French coast in safety.

The Court came to the conclusion, that when the vessel left Cardiff she was in a good and seaworthy condition, and that the cargo was properly stowed. In their opinion, although fully laden, she was not overladen, and they considered that her loss was due entirely to the extremely severe weather to which she was exposed, and that the master was not to blame for having abandoned her when he did.

Stranding.

"EUROPEAN," S.S.

Inquiry held 20th and 21st December, 1877.

Assessors: T. APLIN, R.N.; B. G. W. NICOLAS.

The European was a screw steamship of 2,271 tons gross and 1,460 tons net register. On the 1st of December, 1877, she left Madeira, homeward bound from the Cape of Good Hope, with a crew of 74 hands all told, and perfectly equipped in all respects. About 10 a.m. of the 4th, the land in the immediate neighbourhood of Cape Finisterre was observed on the starboard

beam, distant from 25 to 30 miles. From that point the vessel continued on her course N.E. and by N., by the standard compass, till noon of the 5th, when her position was computed by dead reckoning to be 47° 33' N. and 6° 19' W. Owing, however, to the indraught into the Bay of Biscay, the master, Robert William Ker, supposed her to be in longitude 6° W. At 1.30 p.m., the vessel having been stopped, soundings were taken, when, according to the master and chief officer, no bottom was found at 90 fathoms. She was then steered N.E. and by N. till 4.30 p.m., when she was again stopped for soundings, but no bottom was found. The master thereupon, thinking that she was too far to the westward, altered the course to N.E. & E. by the standard compass, which was continued till 7.45, when bottom was found at 48 fathoms. The master then altered the course to N.E. and by N., he and the chief mate going below to examine the character of the bottom, during which 8 bells struck, and the second and third officers took charge of the deck. On the master going up again shortly, he found that the vessel was still steering N.E. & E., upon which he put her on a N.E. by N. course. In about 10 minutes Ushant Light was seen 4 points on the port bow. The helm was then starboarded, but whether the engines were stopped was doubtful. In the meantime breakers had been seen along the starboard side, and when the light was two points on the starboard bow, the master, thinking that he saw his way clear to port, ordered the engines full speed ahead; but in a short time the vessel struck upon a reef of rocks. Water was found in the foreholds and engine rooms, the rocks having completely ripped up her bottom. The boats were lowered, and owing to the admirable discipline which prevailed, the crew of 74 hands and 30 passengers were safely placed in them, and got clear away in 20 minutes, just before she sank, ultimately reaching St. Malo in safety.

It appears from the sailing directions, that the locality about Ushant is most dangerous, and that the utmost care and vigilance should be used in approaching it. The Court considered that the master of the European had kept his vessel on a course which he knew would take him dangerously near the coast; and had not sufficiently attended to the soundings which he obtained, and compared them with the chart. They also censured him for having gone on at full speed, after he had twice ascertained by soundings that the vessel was not in the position in which he supposed her to be. His certificate was accordingly suspended for 6 months.

The Court further expressed their opinion that the chief mate had not rendered the master such efficient assistance in the navigation of the vessel as might have been expected of an officer holding, as he did, a master's certificate.

Stranding-Duty of Master to wait for Pilot.

"WESTELLA," S.S.

Inquiry held 28th December, 1877.

Assessors: R. A. POWELL, R.N.; W. PARFITT.

The Westella was a screw steamship of 1,037 tons gross and 658 tons net register. She left Gefle on the 22nd of November, 1877, bound to

London with a cargo of iron and deals. At 8 a.m. of the 30th, she made the land off Yarmouth, when her course was laid S.W. by S. At 3 p.m. she passed Orfordness, where the master, Thomas Stevenson Elliott, endeavoured to procure a pilot, but without success. At 8.20 she was abreast of the Nore Lightship, whence she was steered, as the master said, N.W. by W., passing about half to three-quarters of a mile to the northward of it; and after her course had been altered two or three times to avoid passing vessels, or vessels at anchor, she found herself ashore, at 8.40, on the Nore Sands, inside the first buoy. After striking, her engines were kept some 10 minutes full speed ahead. The following morning she was hauled off, without having sustained any material injury.

In order to get the vessel to the place where she stranded, she must, as the master admitted, have made a west course from off the Nore Lightship, instead of a N.W. by W.

The Court decided that the master was to blame for having taken a course which brought him too close to the Nore Sand; for not having waited for a pilot; and for having kept on his course at full speed on a night when, as was admitted, vessels could only be seen at a distance of half-a-cable's length. They also consured him for not having, when she took the ground, immediately stopped and reversed the engines; and accordingly suspended his certificate for 3 months.

 ${\bf Abandonment-Unseaworthiness-Knowledge\ of\ Owner.}$ "CALENICK."

Inquiry held 8th, 21st and 22nd January, 1878.

Assessors: B. L. Pickard, R.N.; W. Cubling.

The Calenick was a vessel of 126 tons, built at Llanelly, in South Wales, in the year 1826, George Henry Bate, of Fowey, in Cornwall, being the principal and managing owner. She left Fowey on the 19th of October, 1877, with a cargo of above 200 tons of china clay, and stone, bound to Bremerhaven, with a crew of 6 hands all told. On the 20th she put into Plymouth to take in one of her crew, and proceeded on her voyage. Soon afterwards a strong breeze sprang up, in consequence of which she made so much water that the crew went aft to request that she might be taken to some port; and accordingly they put in to Cowes, on the 21st of October. There two shipwrights were employed upon her, 12 to 14 hours each: some slight caulking was done, a few patches put into her, and on the 26th she again set sail. On the 29th she met with severe weather, making a great deal of water, and continuing to do so till her arrival in the Weser, on the 1st of November.

She discharged her cargo, and having taken in 80 tons of sand ballast, left on the 14th, proceeded down the river to Bremerhaven, where she' anchored till the 19th, when she proceeded to sea, bound for Frederickstadt in Norway.

At 1.30 p.m. on the 19th, the pilot having left her, she proceeded on her voyage. At 10 o'clock that night it came on to blow hard, and by midnight

she was found to have a good deal of water in her hold. She was laid to, and an unsuccessful attempt was made to clear her with buckets, the pumps being choked. About 5 or 6 a.m. of the 20th she was again laid upon her course for two hours, but it was found impossible to proceed, owing to the water that she made, and the list which she then had to port. Accordingly she was put about to return to Bremerhaven, but continued to make so much water, that it was found necessary again to lay her to, and bale her with buckets. From this time she drifted about the North Sea till about 8 a.m. of the 24th, the weather being more or less stormy, and the crew being employed baling the water out with buckets. A vessel then hove in sight, and the master, fearing that the Calenick would not outlive another gale, resolved to abandon her, and he and the crew were in due course safely landed at Bremerhaven.

The Calenick having been fallen in with on the 26th by a steamer named the Mary Ann Briggs, was by her towed safely up to Hamburgh.

The Court held that on the whole the master and crew were justified, under the circumstances, in abandoning her as they did, though the mere fact that she was in an unseaworthy state would not have made it right for them to do so apart from the other circumstances of the case; and it would not have justified them in not attempting to bring her into port, if they could have done so without imminent risk to their lives. But they knew her rotten condition; that she made a great deal of water from Plymouth to Cowes; that nothing, comparatively speaking, had been done to her at Cowes; that after leaving that place she made a great deal of water before her arrival in the Weser; that at Brake, where she discharged, literally nothing had been done to her, and after leaving Bremerhaven, they were for five days almost constantly engaged in baling, with only two hours' rest during the whole time.

On the question of seaworthiness the Court held, after hearing the evidence of Mr. Turner, a surveyor, and principal shipwright surveyor to the Board of Trade for wooden vessels in the port of London, that she was utterly unseaworthy.

With regard to the owner, the Court could not shut their eyes to the fact that he must have thought the vessel unfit to proceed to sea, as he had instructed the master to offer the crew higher wages to induce them to undertake the additional risk; but they considered that it was for another Court to deal with him, and accordingly did not condemn him in costs, leaving it to the Board of Trade to take what action they pleased against him.

Collision—Position of Side Lights—Standing by after Collision— Alteration of Log Book.

"BROTHERS" AND "VINDOLANA," S.S.

Inquiry held 10th, 11th, 12th, 14th, 15th January, 1878.

Assessors: T. APLIN, R.N.; J. S. CASTLE.

The Brothers was a barque of 537 tons register. She left Bristol on the 7th of November, 1877, with a crew of 12 hands all told, bound for the

United States. At 4 a.m. of the 10th the chief mate took charge. At this time the wind was about W.S.W., and the vessel was close-hauled on the starboard tack, heading about S. or S. by W., making about 3 knots an hour. At about 6 a.m. a bright light was observed about 4 points on the lee bow, distant from 8 to 5 miles. According to the mate's evidence, when it had got about 2 points on the port bow, he observed a green light. At this time the Brothers was under foretopmast staysail, lower foretopsail, small foresail, reefed upper maintopsail, lower maintopsail, reefed spanker and mizen staysail; and in order to keep her close to the wind, it was necessary to put the helm half down. When he saw the green light, the mate went aft and told the man at the wheel to keep the helm down. Seeing, however, that the steamer continued her course, and that there was a risk of collision, he ordered the bell to be rung violently, which brought the master on deck, and very shortly afterwards the steamer ran stem on into the barque, striking her in the way of the fore chains on the port side. She then rebounded and came into her again a little forward of the main rigging, cutting her down below the water line. She then backed clear and passed astern to windward, and after a short time continued her course to the W., although, as she passed, the crew of the Brothers sang out for them to stand by and lower their boats, as the ship was sinking. The Brothers, however, ultimately succeeded in reaching Dublin.

The Vindolana was a screw steamer of 1,963 tons gross and 1,268 tons net register. At the time of the casualty, the second officer was in charge of the deck. The Vindolana was then heading about N.W. by W ½ W., and making about 6 knots against a strong head wind and sea, when, at about 6.15 a.m., an object was observed about 2 points on the starboard bow, distant from one mile to three-quarters of a mile. Not being able to make out which way she was going, the second officer telegraphed to the engine room to go slow, when the master, Robert Robertson Gillon, came out of the chart room, and on examining the object with their glasses, he and the second officer, in about 40 seconds, discovered her to be a barque standing to the southward and westward on the starboard tack. The master then ordered the helm to be ported, which brought the Brothers right ahead.

Hardly, however, had the order to port been given, when the master saw that the Brothers had starboarded, and was paying off, till she had got about half a point on his starboard bow, and was opening her starboard side to them. When the Brothers was distant about 80 yards her helm was suddenly ported. In the meantime orders had been given to put the engines of the Vindolana full speed astern; but the Brothers, under her port helm, came right across the Vindolana's bows, and with her port midships, struck the latter on the stem and port bow, bilging in 2 of her plates. The Vindolana soon after put her engines on full speed ahead, passing to windward under the barque's stern. There, according to her account, she lay for an hour and 10 minutes, when seeing the Brothers set her foresail and square her yards, she proceeded on her voyage to New York.

As will be seen from the above, there was a great discrepancy in the

evidence as to whether or not the Brothers, as was clearly her duty to do, kept her course. The Court came to the conclusion that she did do so, and that the collision was caused by the Vindolana continuing her course without altering her helm until too late.

An important question arose, as to whether the side lights of the Brothers were in proper position and burning brightly on the night in question, as to which latter point the Court held that there was certainly some doubt, but the evidence as to their position was as follows:--When the Brothers left Bristol, the screens were placed on stanchions forward of the main rigging, which was a very proper place for them, and one from which the lights would be visible to an approaching vessel. After she left, however, the mate took them from the stanchions and fastened them to the mizen rigging, where the vessel being narrower than amidships, the screens could not throw the light from right ahead to two points abaft the beam; for assuming that the screens had been placed parallel to the midship line of the vessel, the main rigging would have interfered with the lights as seen from right ahead. As a fact, however, they were not thus fixed, but they were placed against and parallel to the mizen rigging, with the fore part slightly inclined outwards, so that the light would certainly not have been seen from right ahead, and were therefore not placed in the position required by the rules, and for this they held the master to blame. At the same time the Court considered that, apart from the question of lights altogether, the Brothers was seen in time to have been avoided by the Vindolana, and therefore the latter were held solely to blame for the collision; and they added that the master had not complied with the provisions of the Merchant Shipping Act with regard to standing by and rendering assistance, for which they suspended his certificate for 6 months. They also expressed their strong disapproval of the manner in which the log books of both vessels had been tampered with.

Stranding-Use of Lead in Fog.

"SOUKAR."

Inquiry held 18th and 24th January, 1878.

Assessors: H. HARBIS; E. G. F. G. VISCONTI, R.N.

The Soukar was a three-masted iron ship of 1,304 tons register. She left Hamburg on the 24th of December, 1876, bound to London, in ballast, with a crew of 23 hands all told, and in addition, a Hamburg pilot. The vessel herself was in good condition, but her ballast consisted of 700 tons of sand, which, when taken on board, was partly wet and partly frozen, so that there was considerable leakage from it. At 7 a.m. on the 31st, when about half-way across to the English coast, a furious gale burst upon the ship, which increased to a hurricane. At 12 she had a strong list to port, and a good deal of water was found in the ship forward, washing about the hold. At 7 a.m. of the 1st of January the whole of the crew were employed to trim the ballast, but she became almost unmanageable. At noon of the 2nd, being in latitude 52° 39' N. and longitude 2° 36' E.,

she was put on a W. $\frac{1}{2}$ S. course, and at 6 p.m. Lowestoft Light bore W. by compass. At midnight the weather became hazy, and at 2 a.m. of the 3rd the light was lost sight of. At 6 a.m. the captain put her on a W.N.W. course, which was continued till she struck. At 9 a.m., the weather being thick and foggy, a cast of the lead was taken, giving 16 fathoms, and the same at 9.50. At 10.15 only 10 fathoms were found, whereupon orders were given to put the helm hard up and wear ship, but she took the ground, and remained fast on the Holm Sand. About 7.45 p.m. she came off, and was taken safely to Yarmouth Roads.

In the course of their judgment, the Court blamed the master for having taken wet and frozen sand on board at Hamburg, instead of telegraphing to his owners for permission to take stone ballast in its place. They considered that the casualty was due to the negligent navigation of the master in having laid the vessel from noon of the 2nd upon a course which would inevitably land him on the Holm Sand; and in having headed direct for the shore in thick weather from 6 to 9 a.m. of the 3rd, when he did not know his position, and had not taken a cast of the lead.

They further blamed him for having placed too much reliance upon the pilot, and for not having trusted to his own better judgment.

In respect of these matters they accordingly severely reprimanded him.

Abandonment—Defective construction—Overloading—Insufficiency of Shifting Boards.

"DANAE," S.S.

Inquiry held 28th and 29th Junuary, 1878.

Assessors: G. H. FORSTER, R.N.; H. JONES.

The Danae was an iron screw steamship of 1,156 tons gross and 744 tons net register. She was built at Sunderland in the year 1873, and at the time of her loss was the property of Mr. Joseph Robinson, of 106, Howard Street, North Shields, and other gentlemen, Mr. Robinson being the managing owner. The vessel had two holds, a fore and main hold in one, and an after hold—between them being the engine room. Extending under the main and after holds were water ballast tanks, the former being 18 inches deep and holding 160 tons of water, the latter being 22½ inches deep and holding 86 tons; when the vessel was lost these tanks were empty. Above the tennage deck she had erections of different kinds, with a capacity of 203 tons, with a tennage under the tennage deck of only 953 tons. Forward of the bridge space extended the main deck, uncovered, but flanked on each side with solid iron bulwarks, affording, as the Court observed, an admirable trap for catching any seas which might break over her bows, and holding them there.

The cargo, when completed, consisted of 9,847 chetwerts of wheat, which the master, Thomas Hutchinson Smith, stated to be equivalent to about 1,490 tons. The vessel then drew 17 feet forward and 19 aft, leaving her a freeboard of from 30 to 31 inches, equivalent to about 1\frac{3}{4} inches per foot

depth of hold. The vessel was fitted with shifting boards, which extended about 4 feet below the bottom of the beams, giving a depth of less than 5 feet out of a total depth of hold, available for cargo, of 16 feet 8 inches.

The vessel left Port Baltic on the 14th, and Copenhagen on the 20th of December, 1877, and at noon of the 21st came to anchor under the Skaw, there being at the time a strong gale from the westward. She proceeded on the 23rd, but on the 24th encountered a gale from the S.W., which increased by midnight to a hurricane. At 2 a.m. of the 25th the vessel, which had a slight list to port from the time she left Port Baltic, was observed to have perceptibly increased it, until, at 2.50 a.m., it was so great, that she became unmanageable, falling off into the trough of the sea. At 3.45 she shipped a heavy sea, which carried away part of the chart room, wheel house, lamp room and water closet, entirely gutted the berths, started the water-tight iron bulkheads between the bunkers and the main deck, and lifted the bridge deck several inches, so as to allow a quantity of water to pour down through the bunker into the engine room. The pumps were set to work, but as the list increased and the vessel settled down by the head, it was found impossible to keep the water under, and she gradually fell over on to her beam ends. At 1 p.m. the boats were launched, and the whole crew, having been taken on board a fishing smack, were ultimately landed at Hull.

The Court came to the conclusion that the loss of this vessel was due to her defective construction; to her having been overladen; to the insufficient depth of her shifting boards; and to the sluices between the engine room and the main hold having been left open.

For the three latter causes the Court considered that the master was to blame, and they accordingly suspended his certificate for 6 months. They added that they considered him and the owners almost equally culpable; but as regarded the owners, the Court had no power to deal with them.

Stranding-Drunkenness of Master.

"JULIA."

Inquiry held 31st January, 1878.

Assessors: G. T. Holt, I.N.; T. S. CASTLE.

The Julia was a brig of 237 tons register. She left Wyborg, at the top of the Gulf of Finland, on the 28th of October, 1877, bound to Shoreham, with a crew of 8 hands all told, including the captain, Henry Chaney. At 2 a.m. on the 9th of November, Hoburg Light, on the S.E. point of the Island of Gottland, was sighted, distant about 8 miles, bearing about a point on the starboard bow, the vessel at the time heading W.N.W.; she was immediately put about on the starboard tack, heading S.S.E., till she had made a distance of about 34 miles, when she was again put on the port tack, close-hauled till 3.15 a.m. of the 11th, when she grounded on a reef two miles E.S.E. from Unskar, where she ultimately broke up. It appeared

that at midnight of the 10th the mate's watch commenced, when the captain went below, leaving orders that he was to be called if anything particular occurred. At 2 a.m. of the 11th a light was observed one or two points on the vessel's starboard or lee bow. The mate reported this to the captain, who was lying on the cabin sofa with his clothes on; but instead of coming on deck, or even looking at the chart, the captain said that it must be the Ertholms Light, and ordered the mate to keep the vessel away. On his returning on deck the latter ordered the helm to be put up, when, as previously stated, she took the ground off Unskar.

The Court considered that it was perfectly clear that the light which the mate saw was the Utklippor Light, some 50 miles to the north of the Ertholms Light. They also came to the conclusion that when it was reported the captain was drunk, and that he was guilty of grave misconduct in having been so at that time, and also subsequently to the stranding.

They further blamed him for having neglected to keep himself informed of the true position of his vessel from the time when Hoburg Light was sighted until she grounded; and considering that the casualty was entirely due to his misconduct, the Court cancelled his certificate.

Abandonment—Sand Ballast—Drunkenness of Master.
"EL DORADO."

Inquiry held 8th, 9th, 11th, 12th, and 13th February, 1878.

Assessors: T. APLIN, R.N.; B. G. W. NICOLAS.

The El Dorado was a barque of 828 tons, built at St. John's, New Brunswick, in 1848. She left Hull on the 14th December, 1877, in ballast, bound to Beaufort, in South Carolina, with a crew of 18 hands Her ballast consisted of 60 tons of chalk rubbish and 390 tons of sand ballast. She had two main pumps just abaft the mainmast, and two windmill pumps further aft; and was in every respect well found for her intended voyage. On the 16th December she reached the Downs, where she lay for 36 hours, when she again proceeded on her voyage. On the 18th she came into collision with a sailing barge, which struck her on the port bow; there was no appearance of injury even to the bow port, although some of the witnesses said she made a little more water than before. She required, however, to be pumped out every watch, and it took the crew from a quarter of an hour to 20 minutes to do so. On the 20th or 21st, she took her departure from the Eddystone, and continued her course to the southward under all sail, including topgallantsails, going from 10 to 11 knots an hour. During Sunday, the 23rd, the wind increased, and that night the crew, hearing a noise in the fore hold, went down through the fore hatch and saw a quantity of water washing about on the skin of the ship, forward of the ballast. The second mate ordered the pumps to be manned, from which time they were used at least two or three times in every watch. The water continued to increase, and on the 25th invaded the ballast, making a clean breach over it, fore and aft; soon afterwards,

both the windmill pumps were choked, and then the port main pump, and the vessel being on the starboard tack, the ballast settled down to port. giving the vessel a strong list to that side. At 7.30 p.m., the whole of the A. B.'s asked the master, Samuel Colledge, to put into some port, which he refused to do; and a short time afterwards, making the same request, and meeting with the same refusal, they declared that they would not do any more duty. There then only remained for the duties of the ship, the five officers, (exclusive of the master) and two ordinary seamen who went to the wheel, while the former continued through the night baling with buckets. At 8 a.m. of the 26th they laid the vessel on the port tack, in order, if possible, to right her, and get the water to the starboard pump, but in 2 hours that pump also was choked. It was then resolved to steer the vessel for some port, upon which the men immediately resumed work. As, however, this was done without the master's consent, and might have been regarded as an act of mutiny, the mate got the officers and men to sign a paper, requesting him to take charge of the vessel to navigate her to some port, owing to the incapacity of the master through drunkenness. That paper was unfortunately lost, but it was clear that it was signed by everybody on board except the master. The vessel was thereupon put about on the starboard tack for Lisbon. The men kept baling, but the water gained and the list became more and more serious. At 4 a.m. of the 25th the long boat was put out. At 10 a.m. the captain ordered the pinnace to be put out. At 12 the vessel had arrived within five or six miles of the coast of Portugal, and being at that time almost unmanageable, gunwale under water, the anchor was dropped. dinner the men left the ship in the longboat, which was capsized in attempting to go through the breakers. At 10 a.m. of the 27th a steamtug came to the ship, and with the El Dorado in tow, arrived off Oporto, about 4 p.m., when the captain of the tug refused to stay by her as he had not sufficient coals. Accordingly the officers went on board the steam-tug, and left the ship adrift, and during the night she either foundered or went on shore, very little of her being saved.

The Court was of opinion that the loss of this vessel was due to the pumps being choked with sand, and it accordingly became necessary to inquire into the nature and character of the ballast, and the means which were taken to prevent it choking the pumps.

The vessel was solid bottomed, with close timbers in her bottom, no limbers and no proper waterways; consequently any water that she might make forward would have to find its way to the pump well through the ballast. The evidence as to how this ballast was laid was very conflicting, but one thing was certain; namely, that the sand was not stowed at a sufficient height above the bottom to prevent the water getting to it. Either the sand was laid on the ceiling of the vessel, or there was not sufficient chalk placed under the sand, having regard to the construction of the vessel, and the great quantity of water that she made.

The Court considered that sand ballast might be a very good ballast for a dry vessel, but not for a vessel of the description of the *El Dorado*, and that the whole blame for having taken it on board rested with the master.

They further considered that the charge of drunkenness against the master was made out. The vessel was a teetotal one, but the owner had put on board some brandy and port as medicines. The captain had the opportunity of helping himself to these when he liked, and his conduct and language when his men went to ask him to put into some port showed that he was drunk at the time. Had he acceded to the reasonable request of the men, there could be little doubt but that the vessel would have been saved.

The Court held that, under the circumstances, the crew were not to blame for having abandoned the vessel as they did on the 28th.

The Court accordingly ordered the certificate of Samuel Colledge, the master of the El Dorado, to be cancelled.

Abandonment.-Misconduct of Master.

"CHILLIANWALLAH."

Inquiry held 14th, 15th and 16th February, and 18th and 19th March, 1878.

Assessors: B. S. Pickard, R.N.; T. Beasley.

The Chillianwallah was a sailing ship of 299 tons register. On the 17th November, 1877, she was lying at New York, with a cargo of resin and staves, when William McLeod, hearing that a master was wanted, applied for the situation, and having been accepted by the owner, immediately took measures for clearing her. On the 19th her crew, consisting of 8 hands all told, having joined, she left the dock in tow of a steam tug, but as she received some damage to her quarter in going out, she brought up off Staten Island for repairs.

On the 21st the 4 A.B.'s left her, and went ashore, giving as their reasons for so doing that her rigging was rotten, and that she was making a great deal of water. On the 27th, one A.B. and 3 ordinary seamen were sent on board to replace the men who had left her, and on the 28th she proceeded to sea. The second mate stated in his evidence that the vessel after getting to sea began to make so much water that they had to pump her every two hours. During the first 3 days they had fine weather and a fair wind, but after that the wind was strong and there was a heavy sea, so that she was put under lower topsail, foresail and double-reefed mainsail, when she made so much water that they had to be almost constantly at the pumps.

On the 2nd December a barque was seen to leeward, and the captain said that he was going to get a boat out and go to her. He then ordered a boat to be got out, all the clothes to be put into her, and the mate with the 3 ordinary seamen to pull to the barque, put the clothes on board, and then return for the rest of the crew. She was seen to go alongside of the strange vessel, and shortly afterwards to drift away without anyone in her. The Chillianwallah was then left with the master, second mate, steward, and one A.B. on board. During the night they lost sight of the barque

altogether. The diminished crew continued throughout the night pumping the vessel. Next day the weather moderated, and the vessel continued her During this day (the 3rd) the second mate asked the course to the S.E. captain why he did not run for Bermuda, which was 150 miles to leeward of them; but the captain replied that he would not go there, for that it was understood between him and the owner that he was to make a clean job of it; that the ship and freight were insured, and that he would put her on the beach, but would not take her into a port. Soon after daylight on the 5th, after continually pumping the vessel, they sighted the German ship Der Pommer, which bore down to them, sent a boat off, and took on board the steward and the able seaman. Whilst the boat was away, the captain took an axe, and with it cut a hole in the deck by the side of the main hatch, and wrenched off 2 of the planks from the main hatch itself. He then ordered the mate to draw the pump boxes and throw-them overboard, which the latter refused to do till he saw that the boat was returning. He then threw the pump boxes overboard, got into the boat, was followed by the captain, and they were both taken to the Der Pommer.

This evidence of the second mate was substantially confirmed by the steward and the able seaman, with some slight discrepancies.

The master, in his evidence, after having been cautioned by the Court, denied most positively the conversation sworn to by the second mate. He said that the suggestion to abandon the vessel came from the crew. He denied having cut a hole in the deck and main hatch, and having ordered the mate to throw the pump boxes overboard; and said that his only reason for wishing to abandon the *Chillianwallah* was to save the lives of the crew. He admitted that she had not been pumped out at all after 9 a.m. on the day on which they abandoned her, and that when they left she had $3\frac{1}{4}$ feet of water in her.

The Der Pommer continued her voyage, arriving at Hamburg on the 2nd of January, where the captain made a protest before the British Consul. Another protest was prepared in London and signed there by the master, the second mate, and the A.B., the steward refusing to sign it.

An attempt was made to impeach the evidence of the second mate and the A.B. by showing that the protest which these two men had signed contained statements diametrically opposed to those which they had made in Court. The Court, however, held that though the circumstances threw great discredit upon the second mate, on the whole the balance of probabilities was in favour of his story being true; and having regard to the discrepancies between the entries made by the master in the log book, and the protests made at Hamburg and London; and the omission from the Hamburg protest of all mention of the abandonment of the vessel by the mate and three of the seamen on the 2nd of December; as well as the way in which the master gave his evidence, the Court came to the conclusion that no reliance whatever could be placed on Captain McLeod's statement.

After the vessel had been finally abandoned, she was fallen in with on the following morning by a vessel called the *Vick and Mebane*, the master and mate of which went on board her, and by their evidence as to her state, corroborated the second mate, adding that if there had been pump boxes

on board they would have tried to have taken her to some port on the American coast. Upon this the Court held that the charge against the captain had been established, and added that, had he possessed a certificate which they could have dealt with, it would undoubtedly have been cancelled. As it was, however, he only held a certificate of competency granted by the United States, and one of service from the Canadian authorities.

Collision.

"AGNES" AND "ANNIE VERNON," S.S.

Inquiry held 18th and 19th February, 1878.

Assessors: H. Knox, R.N.; E. HIGHT.

The Agnes was a two-masted ketch of 109 tons register. She left London on the 4th of January, 1878, bound to Antwerp, with a crew of 4 hands all told. At 6 p.m. of the 7th she was off Yantlet Creek, when, her head having been turned towards the south shore, on getting into 5 fathoms of water, the port anchor was dropped with 15 fathoms of chain, the tide being about half-ebb. From 5 to 7 a.m. of the 8th the mate took the watch. According to the captain's evidence, the light, which was a globe lamp, hung from the forestay about 14 feet above the deck, was burning brightly at 6 a.m. About 6.15, the mate, who, during his watch, passed part of his time in the cabin, and occasionally took a turn round the deck, after remaining up about five minutes, returned to the cabin, and was in the act of lighting his pipe when the collision occurred. The two men who were in the forecastle, were drowned, but the captain and mate were picked up by the Annie Vernon.

The latter was a screw steamer of 528 tons gross and 318 tons net register. She left Erith at 3 a.m. of the 8th of January, bound for Sunderland. She had a pilot as far as Gravesend, when the master took charge, from which time he and the second mate were on the bridge on the look-out; there was also a man forward on the topgallant forecastle looking out, and another at the wheel amidships. went at half speed, from 4 and a-half to 5 knots an hour, with an ebb tide of 3 knots, the night being clear for seeing lights. Shortly before the collision they had to port for two vessels at anchor, and when in the act of straightening again down the Channel, the second mate saw, as he believed, the hull of a small vessel a little on the starboard bow. He immediately helped the man at the wheel to put the helm hard-a-starboard; and very shortly afterwards the master telegraphed to the engine room to stop; but before she had stopped, or the helm took effect, she came into the Agnes, striking her on the port bow, and canting her head round to the N. She was then kept going ahead slowly, and the boat was lowered. It was contended by the Annie Vernon that the Agnes was anchored in an improper position, but the Court considered it proved that she was anchored out of the fairways, and, therefore, in a proper place, and further, that the Annie Vernon was a good deal nearer to the south shore than she had any

idea of. As to the light on board the Agnes, the Court held that, although the presumption was very strong that the light was burning at the time of the collision, it was not conclusively proved; but, in any case, there was no justification for the way in which the watch had been kept on board her—for which they blamed the master.

They further considered, that the master of the Annie Vernon was to blame for having got so far down to the S. as he did. He should, as they thought, have kept further to the N., in the full strength of the tide.

Collision.

"BENBOW," S.S. AND "OSTRICH," S.S.

Inquiry held 22nd, 23rd, 25th, 26th, and 27th February, 1878.

Assessors: E. G. F. G. VISCONTI, R.N.; H. JONES,

The Ostrich was a vessel of 624 tons gross and 424 tons net register. The Benbow was a vessel of 894 tons gross and 582 tons net register, and both belonged to the General Steam Navigation Company.

The story told by the Ostrich was that she left Irongate Wharf at 6 a.m. on the 2nd of January, 1878, bound to Newcastle, having on board a cargo of general merchandise, 12 passengers, and a crew of 27 hands all told.

She proceeded down the river in charge of a pilot named John Edward Bigg, having the ebb tide with her, and going, according to the master, George Edmund Bone, and the pilot, at the rate of 5 knots an hour through the water, and 7 knots over the ground. This, however, was afterwards shown to be an entire mistake, as she was in fact proceeding over the ground at the rate of between 11 and 12 knots, and through the water at the rate of between 9 and 10 knots an hour. The morning was fine and clear, the water smooth, and the wind from the S.W. From the time of leaving her moorings the captain and pilot were on the bridge, and the second mate and an able seaman at the wheel. The first mate was on the look-out forward until they arrived in Bugsby's Hole, when he was relieved by the boatswain, who, instead of attending to the look-out, proceeded to assist the men to clear up the decks, so that there was in fact no look-out on board the vessel at the time of the collision.

At 6.35 the vessel passed Hookness Point, being then a little to the northward of mid-channel. It was impossible for her to go very far over to the N. shore, owing to a bank which runs out at that point. Her helm was starboarded for the purpose of rounding the Point, and at that time the green and masthead lights of an approaching steamer, which afterwards proved to be the Benbow, were observed on the port bow coming up Woolwich Reach. On the Ostrich rounding the Point, her helm was steadied and she was straightened down the Reach. At this time the green light of the Benbow bore from two to three points on the Ostrich's starboard bow. After proceeding for some time in this direction, green light to green light, the Benbow sounded her whistle, upon which the helm of the Ostrich was starboarded, in order to give her more room, and the Ostrich.

sounded her whistle in reply. Soon after all three lights of the Benbow appeared, showing that she had ported her helm. Orders were thereupon immediately given to hard-s-starboard the helm and to stop the engines of the Ostrich; but before these measures could be carried into effect the Benbow came stem on into her starboard bow, cutting her down below the watermark, filling the fore compartment, and drowning 4 of the passengers and one fireman. Both vessels took the ground either at the moment of the collision, or very shortly afterwards, on the N. shore, and when the Ostrich sank she was about 100 yards from the N. shore. According to the Ostrich, the casualty was due to the Benbow having suddenly ported her helm when they were passing one another, starboard side to starboard side.

The story told by the Benbaw was, that she left Rotterdam at about 10.30 a.m. on the 19th of January, bound to London, with a crew of 24 hands all told. At 4.15 a.m. of the 20th she arrived off Gravesend, when a pilot came on board, and she then proceeded up the river at full speed, going at the rate of 81 to 9 knots through the water, the morning being clear and moonlight. On entering Woolwich Reach, the pilot and first mate were on the bridge, the second mate and an A.B. at the helm, and another A.B. on the forecastle keeping a look-out. The master had shortly before gone below. When abreast of the sections, in a line with and above the Warspite, on the south side of the Reach, the chief officer observed the red and masthead light. of a steamer, which afterwards proved to be the Ostrich, on his starboard bow, coming down Bugsby's Reach. On the Ostrich founding the Point and straightening down the Reach, the red light was brought about one point on the Benbow's port bow, distant from half to three-quarters of a mile. The Benbow continued her course up the Reach, when the pilot observing that the red light of the Ostrich was closing in upon him, ordered the helm to be ported, and blew his whistle. Shortly afterwards all three lights of the Ostrich appeared, showing that her helm must have been starboarded, whereupon the helm of the Benbow was put hard-a-port, her engines being kept going full speed ahead, and shortly afterwards they came together. According to the Benbow the cause of the casualty was the act of the Ostrich in starboarding her helm when the two vessels were passing port side to port side.

It was admitted that below the Warspite the navigable part of the river was very narrow, and entirely on the south side; therefore both vessels, when abreast of the Warspite, would have been on the south side of the river, more or less near to the south shore. The ebb tide, when it gets to the lower part of Bugsby's Reach, sets down to the southward and runs along the south side of Woolwich Reach: to the northward of mid-channel the ebb tide is slack. Therefore the course which the Ostrich would naturally have pursued in going down Woolwich Reach would have been to keep to the south side of the Reach, in the strength of the ebb tide, and the Benbow, after passing the Warspite, would have edged over as far as she could towards the north shore to avoid the strength of the tide. The witnesses from the Benbow said this was what they did, and those from the Ostrich said it was what they would have done had there been nothing in the way. There was great difference of opinion as to whether vessels on an ebb tide

were in the habit of passing port to port, or vice versa; but upon the whole, the Court were of opinion that it was strongly in favour of the Benbow, and they accordingly found that the blame of the collision was due to the Ostrich for having starboarded her helm, and thus thrown herself across the Benbow's bows; but that the latter was also to blame for not having stopped and reversed, when she saw that the Ostrich had starboarded, and that a collision was inevitable. So far as regarded the starboarding, the pilot of the Ostrich was chiefly responsible, but as regarded the want of a good look-out, the speed of the vessel, and the want of knowledge of the distance run, the master was, in the opinion of the Court, to blame.

As to the Benbow, both the master and the pilot were to blame for not having stopped and reversed.

The Court were of opinion that they had no power to deal with the certificates of the pilots, and they could only therefore express their strong disapprobation of their conduct; but they suspended that of the master of the Ostrich for 6 months.

Stranding.

"AMAZON," S.S.

Inquiry held 27th and 28th February, 1878.

Assessors: B. S. PICKARD, R.N.; T. BEASLEY.

The Amazon was an iron screw steamer of 673 tons gross and 528 tons net register. She left London on the 20th of December, 1877, bound to Gibraltar, and thence to the Coast of Morocco. Her crew consisted of 22 hands all told, and she appeared to have been generally well fitted for the voyage. She arrived at Gibraltar, and thence proceeded on her usual course to the ports on the Morocco Coast. She left Casa Blanca at midnight of the 31st, bound to Mazighan, a port some 40 or 50 miles further south. At first her course was laid N.W., for the purpose of obtaining an offing, and after continuing on that course for about 40 minutes, her head was laid to the W. Up to this time the captain, Thomas Hay, and chief officer had been on deck, and there was a look-out man, and a At 12.40 the master went below, leaving orders man at the wheel. with the mate to call him at 4 o'clock, and in the meantime to continue the course to the W. At 4.10 the master came on deck to relieve the mate, when he altered the vessel's course to W. and by S. According to the master that course was continued until about 10 minutes to 5, when, making quite sure that they had passed Azamor Point, he altered the course to W. and by S. southerly. According to the man at the wheel the W. by S. course was continued for only half-an-hour, and her course was then laid W.S.W. At about 10 minutes after 5 the vessel touched the ground; the master immediately ordered the helm to be put to port, and being himself on the poop, gave the man a hand to heave it over. The vessel, however, after touching two or three times, became fast, and although the engines were kept going ahead, for the purpose, if possible, of

forcing her off the reef, she could not be moved. Owing to the swell then setting in from the N.W., she bumped heavily, and soon began to make water, upon which the master ordered the boats to be got out. The passengers and crew were ultimately all saved, but the vessel went to pieces.

It appeared from the evidence that, just previously to the stranding, the look-out man had left the bridge to get his coffee, and that the master when he came on deck at 4 o'clock, instead of being at his proper place on the bridge, was on the poop, where it was quite impossible for him to keep any look-out ahead, or to give any orders to the engine room. The captain said that, although on a W. course the steering compass was true, on a W. by S. course there was a westerly deviation, which continued to increase up to S.W.; consequently, when she was laid W. and by S., and still more when she was laid W.S.W., she would have been heading still more to the S. than the magnetic course indicated, and therefore more for the reef off Azamor Point.

In respect of these matters the Court held the master to blame, and also for not having used the patent log, which he had on board, to ascertain the distance run. They considered that the loss of the vessel was due to his negligent navigation of her, and accordingly suspended his certificate for 3 months.

Collision.

"C. M. PALMER," S.S. AND "LUDWORTH," S.S.

Inquiry held 6th, 7th and 8th of March, 1878.

Assessors: G. H. FORSTER, R.N.; W. PARFITT.

The C. M. Palmer was a vessel of 628 tons net register. She left Newcastle on the 16th of February, 1878, bound for London, with a crew of 22 hands all told, from 30 to 40 passengers, and a cargo of about 600 tons. She had 6 boats; 2 lifeboats on the saloon deck, and 4 quarter boats, 2 on each side.

At 8 a.m. of the 17th she was off Southwold, when the captain came on deck, the second officer going on the bridge. At this time the wind was from about S.W., the sea smooth; it was about quarter flood, and the vessel was going at full speed, about 11 knots an hour, through the water. At about 9 a.m. they had arrived off Aldboroughness Buoy, when the weather becoming hazy, the captain went on the upper bridge and took charge of the telegraph; a man was placed on the look-out forward, and an extra man at the wheel. All hands were then called to get the anchor ready for letting go in case of need, and the vessel's course was altered a quarter of a point to the south, making it, by the steering compass, S.W. & S., the magnetic course being S.W. 2 S. At 9.15, when about half-way between Aldboroughness Buoy and the Shipwash Lightship, the fog having thickened, orders were given to "stand by," "ease her," and "stop her;" but shortly afterwards the engines were again set on easy ahead, from which time until immediately before the collision, the vessel, according to the evidence of all on board, was going at a very easy speed,

sometimes stopping, sometimes going ahead easy, the second mate, who had charge of the steam whistle, sounding it two or three times every minute. At 9.45 they were abreast of the Shipwash Lightship and heard the foghorn; and shortly afterwards, while still on the same course, namely, S.W. & S., the north-east Bawdsey Buoy was observed about half a point on the port bow, distant from 90 to 100 yards. The engines were immediately stopped, and the helm was ordered to be put to starboard for the purpose of getting into the shipway, the fairway channel between the Bawdsey and Shipwash Sands. The engines were then turned ahead easy, and she was going about a couple of knots through the water, when a vessel, which afterwards proved to be the Ludworth, was observed a point and a-half upon the C. M. Palmer's starboard bow, at a distance of about 200 yards. Orders were immediately given to hard-a-starboard the helm, and to reverse the engines full speed, but before those measures could produce any effect, so short was the interval of time, the two vessels came together, the Ludworth's stem striking the C. M. Palmer on the starboard side, just forward of the bridge. Orders were immediately given by the master to get the boats out, but owing to the confusion on board arising from their having a number of passengers, who made a rush for the quarter boats on the starboard side, it was found impossible to launch them so expeditiously as might otherwise have been done. The fore-quarter boat on the starboard side was however got over the ship's side, but unfortunately one of the fall tackles was let go, and she was swamped. The C. M. Palmer was still going astern, for owing to the communication between the bridge and the engine room having become deranged by the collision, the captain had been unable to communicate his orders to the engine room to stop the engines; but the chief officer, hearing the captain give orders to stop the engines, conveyed the order by word of mouth down the engine room skylight, and the engines were then stopped. On attempting to launch the after boat upon the starboard quarter, a rush was made by the passengers, and great delay occurred before they could get the male passengers out, and put the women and children in. In the meantime the Ludworth, which after the collision had at first backed clear, had returned, and some of the men rushed forward and got up over her bows. In six or seven minutes, however, from the time of the collision, and before it was possible to get out any of the other boats, the C. M. Palmer sank, upsetting the quarter boat, which was alongside with a number of passengers in her. By that time, however, the Ludworth had lowered her two boats, and in the result the crew and the passengers were saved, with the exception of 5 of the crew and about 9 passengers.

The Ludworth was a vessel of 488 tons gross and 304 tons net register. She left London for Hartlepool on the morning of the 17th of February, in ballast, having a crew of 14 hands. She had three boats, and the requisite equipments for a vessel of her character. She proceeded down the river, and at 8.25 a.m. the master, Robert Meldrum, who had been on deck since leaving London, went below, leaving the chief officer on the bridge. At this time the vessel was going at full speed, with the wind from the S.W., and her course N.E. and by N. From this time until

the collision the master was frequently on deck, and virtually retained the charge of the vessel in his own hands. At 9 a.m. certain patches of fog were seen ahead, and at 9.15 the sails were taken in. Soon after 9.30 the vessel's course was altered to N.E. 1 N. Just before the collision, when the vessel was in so thick a fog that it was impossible to see more than from 60 to 100 yards, the look-out man observed the N.E. Bawdsey Buoy right ahead. Whether the helm was then starboarded or ported was doubtful; but however that was, very soon after reporting the buoy, the look-out man saw a vessel, which proved to be the C. M. Palmer, at a distance of from 60 to 70 yards ahead, and reported her; upon which, according to the chief officer, orders were immediately given to hard-a-starboard the helm, and turn the engines full speed astern; but before these measures took any perceptible effect, the two vessels collided as previously described.

In the course of the investigation, the Court, after carefully examining the ship's log book, and the engineer's log book of the *Ludworth*, came to the conclusion that, owing to palpable alterations and erasures, no reliance could be placed upon the entries in it.

The Court considered upon the evidence that there could be no doubt that a good look-out was kept on board the C. M. Palmer from the time when the fog set in; that the whistle was sounded frequently, and that the vessel was going at a moderate rate of speed, not exceeding from 2 to 3 knots an hour.

As to the Ludworth, there was the greatest discrepancy in the evidence as to the state of the weather and the speed of the vessel; but the Court held that, whatever the speed was at a quarter-past 8, that speed was substantially kept up till 9.30, and that if, after that time, it was reduced to half-speed, it was on the authority of the chief engineer alone and without any orders either from the master or the chief officer. At any rate, they considered that she must have been going at from 6 to 7 knots at the least, when she first sighted the C. M. Palmer. As regarded the weather, they considered it proved, in the absence of any reliable evidence to the contrary, that for some time before the collision the vessel was in a thick fog. They held that the Ludworth had no right to be going at the speed at which she was, and that she was therefore to blame for the collision; and considering that the master had been guilty of gross carelessness, they suspended his certificate for 6 months.

Abandonment-Overloading.

"STALLINGBRO," S.S.

Inquiry held 26th, 27th, and 28th April, 1878.

Assessors: T. APLIN, R.N.; H. JONES.

The Stallingbro' was an iron screw steamship of 1,699 tons gross and 1,085 tons net register. On Monday, the 25th of March, 1878, she commenced to take in a cargo of coals, completed it on the 27th, and at 2.30

p.m. of the 28th left Cardiff, with a crew of 24 hands all told, bound to Odessa, with instructions to call at Malta for orders.

When well clear of the land she began to labour a good deal, and between 10 and 11 a.m. of the 29th shipped some heavy seas, one of which tore away the tarpaulin from No. 2 hatchway, and another carried away one of the forward ventilators. Attempts were made, but apparently not with much success, to replace the tarpaulin; the ventilator, however, was plugged, and the other plugs were got up ready to be used in case of need.

Finding that the vessel still continued to labour, and to ship heavy seas, and that she was steering rather wildly, the master, William Barff, determined to heave to on the port tack, with the wind still from the northward and eastward; it was then between 11 and 12 o'clook. The gale increased, she continued to ship heavy seas forward of the bridge house, and a second ventilator rather further aft was carried away. The hole was, however, plugged; but, from some cause not explained, the plug did not remain in the hole, but required a man to hold it down with a boathook to prevent its coming out.

In the meantime, water had begun to accumulate in the stokehole, and the engine room pumps were thereupon set to work. The water, however, continued to gain, coming in not only at No. 2 hatchway, but at the ventilator hole, by the engine room skylight, and at the stokehole grating, as well as at the hatchway of the 'thwartship bunker. At about 2 p.m. the pumps were choked with small coal, but they cleared them from time to time, until the water had risen so as to make it impossible for them to get at the roses, when they punched holes in the pipes to allow the water to run to the pumps, and, as the engineers stated, the pumps were kept constantly working until, about 6 p.m., the water had risen so high as to extinguish the fires; the hand pumps were afterwards brought on deck, and one of them having been shipped, was set to work. Throughout Friday night only one pump was kept at work, and this, with some baling from the stokehole, was all that was done to keep the water under.

By daylight of Saturday, the water having gained upon them considerably, there were 10 feet in the stokehole. It was accordingly determined to abandon her, and for this purpose orders were given to get the boats out; but during Friday the jolly boat and one of the lifeboats got badly stove, so as to render them useless, and there remained but one lifeboat and the gig. These were put over the side without delay. The second mate, the steward, the donkey man, three firemen, and two able seamen got into the gig; and the remainder of the crew, 16 in number, including the master and the mate, William Clarkson, got into the lifeboat; and both boats shoved off. For about an hour they kept company, but a snow squall having then come on, they got separated, and the gig was not again seen. The lifeboat continued to make head against the sea, apparently not shipping any water of consequence until 2 p.m., when they fell in with a German barque, which took them on board, and landed them at Brixham. The master and mate said that they saw the Stallingbro' for about an hour after they had left her, but some of the men stated that they saw her for three or four hours afterwards. She must have sunk soon afterwards, as she had from 10 to 13 feet water in the engine room when they left her, and the water would necessarily gain upon her when the pump ceased to work.

The principal questions for the Court were—whether the cargo was properly stowed, whether she had a sufficient freeboard, and whether the abandonment was justifiable.

They held that there could be no question that she was a thoroughly good vessel, and, so far as the owners were concerned, well fitted for the voyage, and also that there was nothing in the mode of stowing the cargo which called for any remark.

As to her freeboard, she took in at Cardiff 1,876 tons of coal as cargo, in addition to 238 tons of bunker coal, making a total of 2,114 tons. When fully laden she drew 19 feet 6 inches forward and 20 feet aft, and she then had a freeboard of 24 inches with a draught of about 20 feet of water and a depth of hold of 20 feet and 2/10ths.

The Court considered that she was so deeply laden that any little increase to the weight she had on board, whether from taking in water or from any other cause, would tend to render her position one of very considerable danger: in fact, that she was very deeply laden. They thought that the captain acted to the best of his judgment in heaving the ship to. As to the measures which were taken to prevent water from getting down into the hold, it appeared that there were four hatchways, two between the bridge house and forecastle, and two aft; each hatch had two hand holes or 36 hand holes in each hatchway, through which the water would find its way into the hold, unless they were securely covered by tarpaulins. On leaving Cardiff the carpenter set to work to put the hatches on, but left, by the mate's directions, two in each hatchway off, with the tarpaulins turned back, in order to allow the escape of gas. During that night, the vessel shipped a good deal of water, some of which would necessarily find its way down into the hold, and the Court considered that it was an act of gross negligence on the part of the master and mate to leave those hatches off during the whole of that night: the mate was also greatly to blame for not having seen that the vessel was provided with sufficient tarpaulins. The Court further considered that no proper measures were taken after the water was in the vessel to save her from foundering, nothing having been done except to man one pump and take a little from the stokehole, and that she was abandoned too hastily. They accordingly suspended the certificates of the master and mate for 3 months.

Stranding.

"CORINTH," S.S.

Inquiry held 29th April, 1878.

Assessors: T. APLIN, R.N.; H. JONES.

The Corinth was an iron screw steamer of 287 tons gross and 182 tons net register. She left Neath Abbey for Belfast on the 6th of April, 1878, with a cargo of coal, and a crew of 10 hands all told. At mid-day of the 8th,

after having been compelled by the weather to lie to since 4 a.m., she proceeded on her voyage, keeping away to the E., so as to get under the shelter of the Mull of Galloway. At about 10 or 10.30 p.m. she was abreast of the Copeland Light, and in half-an-hour was aground on the Briggs, ultimately being lost. The Court came to the conclusion that the casualty was due to the negligence of the master, William Thomas, in not having made sufficient allowance for the current to the southward, when he laid his course from Copeland Light; and in not having ascertained the true position of his vessel, as he might easily have done by taking cross bearings. They further blamed him for having, when he found that the vessel was being carried too far to the southward and was nearing the shore, left the deck to consult his chart before ordering the helm to be ported.

The Court accordingly ordered his certificate to be suspended for 3 months.

Stranding.

"ALBERT EDWARD," S.S.

Inquiry held 3rd and 4th May, 1878.

Assessors: G. T. HOLT, I.N.; H. HARRIS.

The Albert Edward was a paddle-wheel steamer of 364 tons gross and 221 tons net register. She was regularly employed in the conveyance of passengers between Folkestone and Boulogne, and left the latter place at mid-day on the 18th of April, 1878, with 125 passengers, being in every way well fitted for the voyage. The weather was rather foggy, but she was kept at full speed on a N.N.W. course till 1.19 p.m., when, the fog having increased, the engines were put at half-speed, her course at the same time being altered to N.N.W. ½ W., to allow for the set of the tide to the eastward. Two men were placed on the look-out forward. At 1.45 both men together reported "Land ahead." The engines were immediately stopped and reversed full speed; but the vessel took the ground and remained fast. When the fog cleared off, it was found that they were ashore about 2 miles to the east of Folkestone Harbour. No lives were lost, and on the rise of the tide the same night she floated, and was taken into the harbour.

The Court held that the accident was due to the master's not having made sufficient allowance, when laying his course across the Channel, for the direction and strength of the tide. He ought to have known that in the hour and three-quarters occupied in the passage he would have been carried some 4 or 5 miles to the eastward. The Court also blamed him for having continued his course, although the weather was so foggy that he could not see more than two lengths ahead, without taking any steps to ascertain the true position of his vessel, until she had run the full distance required to take her to the entrance of Folkestone Harbour.

Owing to the fact that this vessel had received no "material damage" within the meaning of the Merchant Shipping Act of 1854, the Court held that, under any circumstances, they had no jurisdiction to deal with the certificate of the master.

WWW.liberglesion Defective construction of Boilers. "ORION," S.S.

Inquiry held 6th, 9th, 10th, 11th, and 13th May, 1878.

Assessors: B. G. W. NICOLAS; J. R. RAVENHILL, C.E.

The Orion was an iron paddle steamer of 777 tons gross and 569 tons net, fitted with oscillating engines of 200 horse-power, having the ordinary jet condensers. She left London at about 12.50 p.m. on the 6th of April, 1878, bound to Antwerp, having a crew of 26 hands all told, 10 passengers, and 200 tons of cargo. Nothing particular occurred until 3 a.m. of the 7th, when the master came on deck, and at 3.30 they took in a pilot at Flushing, and proceeded up the river, the weather being patchy, till at 5.30 they ran into a determined fog. Orders were thereupon given to stand by, stop her, and to let go the anchor. The chief engineer, who was on duty in the engine room with two firemen, on hearing the anchor let go, set the donkey-engine on to pump water into the boilers, and ordered the smokebox doors to be opened; and, as he was going towards the stokehole to open the connection between the donkey-engine and the boilers, he was met by a rush of steam. He succeeded in getting on deck, but on hearing cries, although himself very much scalded, with great gallantry went below and assisted a fireman on deck who was so badly scalded that he died 3 hours afterwards. On the steam clearing away, the second engineer went below, and discovered that one of the plates on the starboard side of the uptake had given way, and the smoke-box doors being open, the steam had found its way into the stokehole and thence into the engine Had the smoke-box doors remained closed, probably no serious injury would have been done, as the steam would have gone up through the uptake and out at the funnel. As soon as possible after the accident the captain sent a boat ashore to telegraph to Antwerp for a tug, which took the vessel in tow to Antwerp. The Orion subsequently returned to this country with the port boiler only at work, the starboard boiler having become useless.

The boilers were ordinary, return, multitubular boilers, with the furnaces and the tubes above them lying fore and aft, abaft the stokehole. The fire and smoke passed from the back of the furnaces into the combustion chambers, and returning through the tubes into the smoke-box, passed upwards through the uptake, and thence by the superheater into the funnel. The uptake, on the form of which a good deal turned, sprang from the top of the smoke-box; at the back was the main part of the boilers and steam space, above the tubes; in front were the smoke-box doors. The sides of the uptake sloped in for about eight feet towards the middle of the vessel, having at the same time a slight upward tendency. thus forming a kind of flat roof over the smoke-box, and only a little distance above the mouths of the tubes, then turning upwards, they assumed a vertical position, going upwards to the superheater and the funnel. It was the plate on the starboard side of the uptake, just where it was rounded off, and before it had assumed a vertical position, that had given way.

On examining this plate, it was found to be considerably eaten away, not on the side of the uptake, but on the reverse side, where it had been subjected to the action of the steam, and chiefly in a horizontal line, just below the lap of the seam of rivets connecting the fractured plate with the plate above it; and again, in a vertical line close to the lap of the rivets connecting the plate with the front plate of the uptake. Along those lines, which united at the corner of the plate, the thickness of the plate did not exceed one-sixteenth, or, according to one of the witnesses, one thirty-second of an inch; and it was along those lines of maximum thinness that the fracture took place. The length of the horizontal fracture, along the top of the plate, was about 3 feet 6 inches, the plate being forced out in that part about 6 inches, and the length of the vertical fracture on the fore part of the plate was about 1 foot.

After the casualty, the corresponding plate on the port side of the uptake was examined and found to have been eaten away in almost exactly the same way.

In the space between the sides of the uptake and the outer casing of the boilers, which, when the fires were alight, would be filled with steam, there were angle irons and stay plates for the purpose of strengthening the plates on each side. For some reason, however, these angle irons were not continued round the curve, but terminated some 11 inches above the fracture, and more than 2 feet below it, nor were there any stay plates at the curve of the uptake for a distance of 5 feet. Consequently, while the plates above and below were held fast by angle irons and stay plates, the fractured plate, having no such support, would give, expanding and contracting from the steam and heat. In the line, too, of the seams or caps, the plates, being doubled, would be more especially rigid, so that the whole of the expansion and contraction would have been concentrated on the edge of the unsupported plate contiguous to the seam. Again, the sides of the uptake projected, forming, as it were, a roof above, and at only a short distance from the mouths of the tubes, where the flames issued, the heat accordingly striking with great force upon the horizontal part of the uptake.

The above facts the Court considered to have caused the accident. They thought also, that the construction and form of the boilers were so far defective; but more especially so, because the steam space between the sides of the uptakes and the outer casing of the boilers was so confined as to render it quite impossible to inspect them. They added, that the plate in question should have been strengthened either by angle irons and stay plates, or by being made of greater thickness or superior iron,

Inquiry held 6th, 9th, 10th, 11th, and 13th May, 1878.

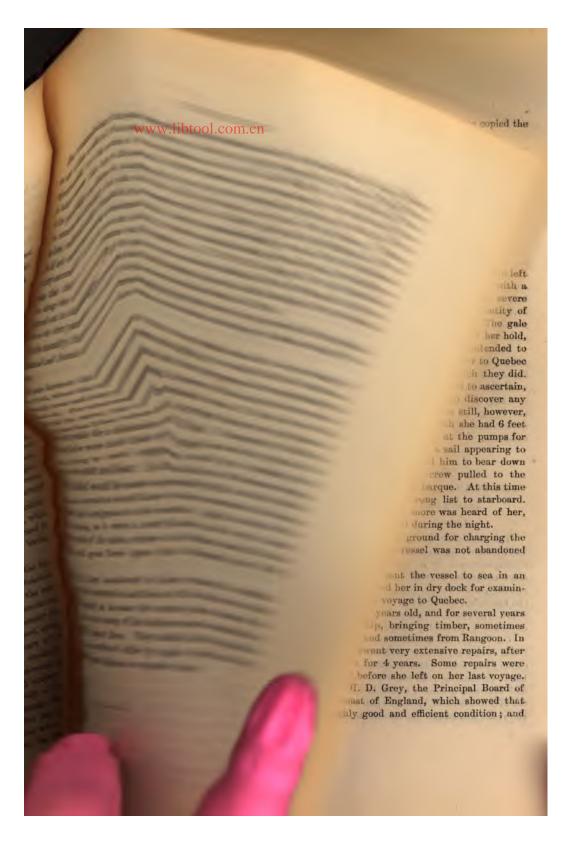
Assessors: B. G. W. NICOLAS; J. R. RAVENHILL, C.E.

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" UNION" AND "SHERBURNE," S.S.

Inquiry held 21st May, 1878.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The Union was a ketch of 46 tons. She left London on the 29th of April, 1878, with a cargo of 75 tons of manure and 20 casks of flour, bound to Blakeney, in Norfolk, with a crew of 3 hands all told. At 10.30 p.m. of the 30th, at which time she was between the Nore and Mouse Lights, the mate came on watch and the boy went below. The master also retired to his cabin, coming up, however, on deck from time to time; but at midnight he came on deck, and called the boy. At this time the wind was light from the W.N.W., the sea smooth, and the vessel was heading E. and by N. under all sail, making one and a-half knots an hour, and nearing the Mouse Light. After he had called the boy the master went aft, and he then observed the lights of a steamer a little on his starboard quarter. The lights that he saw were the masthead and port lights. Apprehending no danger, the master went down into the cabin, and, having returned on deck, observed that the steamer was closing in upon them. Becoming alarmed, he and the mate hailed the steamer as loud as they could, and the boy whistled through his fingers. No other steps appeared to have been taken to attract the steamer's attention, and she came on and struck the ketch on the starboard quarter, sinking her almost immmediately. The master succeeded in clambering up by the fore rigging on to the steamer's bow; the boy threw himself into the water, and was ultimately picked up by the steamer's boat; but the mate was unfortunately drowned.

The Sherburne was an iron screw steamer of 643 tons gross and 437 tons net register. She left London at 7 p.m. on the 30th of April, 1878, having at the time a crew of 17 hands all told. Having discharged her pilot at Gravesend, she proceeded down the river at full speed. It was the mate's watch from 8 to 12 that night, but the master, Richard Benson, was on the bridge the whole of that watch. The vessel was steered from amidships, and the master stood on the bridge near the helmsman. At 12 o'clock the watch was called, and in about 10 minutes afterwards they came on deck. The boatswain went to relieve the mate on the bridge; one man went on the topgallant forecastle on the look-out, and another to the wheel. Just before the mate went below, the master, thinking that he was rather too near the Mouse Sand, ordered the helm to be altered half-a-point to E. and by N. 1 N.; and after continuing on that course for a short time, it was again altered to N.E. and by E. & E. The night was intensely dark, lights could be seen at a considerable distance, but objects not further than a ship's length. The vessel continued at full speed, going about 9 knots; and almost immediately after the last alteration of the helm, a cry was heard from forward, to starboard the helm. The master immediately gave the order, and telegraphed to the engine room to stop the engines, and turn them full speed astern; but before these orders could take effect, she struck the ketch. No charge was made against the master of not having used due diligence to save the crew of the ketch; he lost no time in lowering his boat, by which the boy was saved.

Under the 15th and 17th Articles of the Regulations, it was clearly the duty of the Sherburne, being a steamer as well as an overtaking vessel, to get out of the way of the Union. The evidence was conclusive that the night was an intensely dark one, that lights could be seen, but not objects on the water. It was a night on which it behoved the master to exercise extraordinary caution in navigating his vessel. The law, as it was at the time of this collision, imposed no obligation upon the overtaken vessel to show a light. The crew of the Union, however, when they saw the steamer bearing down upon them, did what they could by shouting, hailing and whistling, to indicate her presence. There appeared to the Court to be no blame attributable to those on board her; and the question therefore arose, whether the master of the Sherburne was justified on such a night. and under such circumstances, in going down the river through a crowded channel at such a speed as he did; as to which, the Court held that the speed was excessive, and accordingly suspended his certificate for 3 months.

Stranding.

"CHICAGO," S.S.

Inquiry held 24th and 25th May, 1878.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The Chicago was an iron screw steamship of 1,383 tons gross and 892 tons net register. She left Newcastle at 5 a.m. of the 7th of May, 1878, bound to Boston, U.S., with a cargo of coal and a crew of 23 hands all told, including the master, Michael Pennock Lund. At 11 p.m. of the 7th she made Cromer, passed between Cromer and Hasborough Sand, then left the Newarp Lightship on her starboard hand, and at 2 a.m. of the 8th the course was altered to the southward and westward. At 4.30 a.m., during the first mate's watch, the captain, who had been on deck since leaving Newcastle, went to lie down in the chart room, where he remained till 5 a.m., when he altered the course half a point to the westward, and therefore nearer the shore, after which he again went into the chart room.

At 7 a.m. he was called out by the mate, who had observed what he believed to be a buoy on the starboard beam, but the master failed to make it out. A cast of the lead was then taken, giving 14 fathoms, upon which they concluded that it was the buoy on the Inner Gabbard. The vessel was then put at half-speed, her head being laid half a point off the shore. The weather was so foggy that they were unable to see more than a mile, or a mile and a-half. At about 8.30, when the master came on deck from breakfast, he saw broken water three points on the starboard bow, wherespon he ordered the helm to be starboarded, the engines stopped, and a cast of the lead to be taken, which gave 10 fathoms, a second one giving 7. The engines were then put full speed astern, but the water shoaled rapidly, till the vessel took the ground amidships on the inner side of the

Long Sand, and although every effort was made to get her off, she ultimately became a total wreck.

The Court came to the conclusion that the master, although he knew, before he reached the Dudgeon, that she was getting to the westward of her proper course, neglected, after passing the Newarp Lightship, to put her more to the eastward. He also failed to take proper measures to verify his position after sighting a buoy, which he erroneously supposed to be the Gabbard, but which was, in fact, the Shipwash. The Court accordingly suspended his certificate for 6 months.

Stranding-Falsification of Log.

"ALRUNE," S.S.

Inquiry held 5th June, 1878.

Assessors: B. S. PICKARD, R.N.; W. PARFITT.

The Alrune was an iron screw steamer of 763 tons gross and 478 tons net register. She left Dantzic on the 19th of April, 1878, with a crew of 17 hands all told, and a cargo of grain, bound for London. She appeared to have been well found in all respects. Her compasses, which were three in number, consisted of a pole compass, one in the wheelhouse amidships, and one aft. She passed Hantzholm Light at about 8.20 p.m. of the 21st, when she was put on a S.W. ½ W. course for about an hour, after which it was altered to S.W. At midnight she was laid on a certain course, which was continued till 11.30 p.m. of the 22nd, when she struck on a shoal N.W. of Ameland Island, on the coast of Holland, where she remained till the 30th, when she was got off and proceeded to London.

The master, Robert Bay, in his evidence stated that, before passing Hantzholm Light, he had laid down on his chart a course which he considered would have taken the vessel quite clear of the Dutch coast. That course was S.W. \(\frac{1}{2}\) W. magnetic, but as his pole compass on that course had a deviation of three-quarters of a point, they had to steer S.W. by it. He allowed half-a-point for the wind and sea; and accordingly, at midnight of the 21st, intended to give S.W. \(\frac{1}{2}\) S.; but the chief mate said that he gave the course S.W. by S. \(\frac{1}{2}\) S.; upon which she was kept for nearly 24 hours—and it was not disputed that that course would necessarily take her ashore very near where she grounded.

The master admitted that, during the day, he had been frequently on deck, and had observed that the vessel was to windward of the course which he had intended; but he never took the trouble to call the attention of the mate to the fact, simply telling the man at the wheel to be careful not to keep her too much to windward. The Court accordingly considered that he had been guilty of gross negligence. As soon as they were ashers he discovered the mistake which had been made; whereupon, in orden to conceal the fact from the Court, and from his owners, he suggested to the chief mate that the entry in the log book should be made S.W. § S.; but as the mate had already put it down as S.W. by S. § S., he further suggested

that the leaf should be torn out. This was done, and the mate copied the entry on the next sheet.

This the Court considered the most serious part of the case, and they accordingly suspended the certificate of the master for 6 months.

Abandonment.

" IDA."

Inquiry held 7th and 8th June, 1878.

Assessors: H. KNOX, R.N.; H. JONES.

The Ida was a barque of 1,009 tons register, built in 1852. She left Gloucester on the 20th of April, 1878, in ballast, bound for Quebec, with a crew of 22 hands all told. On the 3rd of May she encountered a severe gale, when she laboured very much, and made an unusual quantity of water; all hands were accordingly set to work at the pumps. The gale continued, and at noon on the 4th she had 31 feet of water in her hold, and at 7 p.m. 41 feet. The men asked the captain what he intended to do with the vessel, and he answered that he meant to take her to Quebec if he could, and advised them to return to the pumps, which they did. The carpenter and second mate were sent down into the hold to ascertain. if possible, where the leak was, but they were unable to discover any place at which the water appeared to be coming in. She still, however, continued to make more water, until at daylight of the 5th she had 6 feet 4 inches in her hold. The men had been continually at the pumps for 22 hours at least, and being thoroughly exhausted, on a sail appearing to leeward, they again came aft to the master and asked him to bear down towards her. The captain did so, and the whole crew pulled to the stranger, which proved to be the Ezio, an Austrian barque. At this time the Ida had seven feet of water in her, and a strong list to starboard. She remained affoat for some hours, but nothing more was heard of her. and there could be little doubt that she foundered during the night.

The Court was of opinion that there was no ground for charging the master with any neglect of duty, and that the vessel was not abandoned one moment too soon.

The owners were charged with having sent the vessel to sea in an unseaworthy state, and with not having placed her in dry dock for examination and repair on her return from her last voyage to Quebec.

At the time of her loss the *Ida* was 26 years old, and for several years past had been employed as a timber ship, bringing timber, sometimes from Quebec, sometimes from Pensacola, and sometimes from Rangoon. In the years 1872, 1873 and 1875, she underwent very extensive repairs, after which she was classed Æ 1 at Lloyd's for 4 years. Some repairs were also done to her in April, 1878, shortly before she left on her last voyage. Finally, evidence was given by Mr. H. D. Grey, the Principal Board of Trade officer for the S. and S.W. coast of England, which showed that the vessel in 1875 was in a thoroughly good and efficient condition; and

the Court accordingly came to the conclusion that it was impossible for them to find that the owners knowingly and wilfully sent the vessel to sea in an unseaworthy condition.

The question still remained as to how it was that the vessel was in such a condition as to necessitate her abandonment.

In June, 1877, on her outward voyage to Quebec, she grounded in the St. Lawrence. She took the ground forward, having at the same time deep water astern; and though she remained only about an hour on the shoals, she was all the time in a position of great danger, not being upon an even keel and having at the time a cargo of coals in her. On getting off she proceeded to Quebec where she was surveyed and found to be making a large quantity of water. She was accordingly docked for examination, when water was found issuing out of the upper seams of the garboard strake aft on the starboard side, on the same side forward, and also from the keel seam, and it was recommended that both the places should be caulked, covered with felt, and metalled as before. This having been done, the surveyor gave it as his opinion that she was fit to receive a cargo of timber and to proceed on her voyage to Great Britain.

The Court considered that the water found in her on her last voyage might have, and probably had, come in at the keel seam, where it was found to be coming in after she had grounded in the St. Lawrence. They were also of opinion that it would have been better had the owners placed the ship in dry dock for examination and repairs on her arrival from the voyage on which she had grounded, but they could not say that the owners had been guilty of knowingly sending her to sea in an unseaworthy condition.

Gas Explosion—Defective Ventilation.

"SARDINIAN," S.S.

Inquiry held 14th, 15th, 25th, 26th and 27th June, 1878.

Assessors: G. H. FORSTER, R.N.; J. P. WILSON.

The Sardinian was an iron screw steamship of 4,376 tons gross and 2,577 tons net register. The lower main hold of the vessel was divided into 2 compartments by a bulkhead immediately abaft the hatch. In the after compartment, which was 14 feet long, were stowed hogsheads of pipeclay, while in the forward one, which extended forward of and under the hatchway, and was 42 feet long, were 405 tons of coal. This was all South Wales coal of a fiery nature, giving off great quantities of gas, more especially when freshly worked.

On Friday, the 3rd of May, whilst the vessel was in the Wellington Dock, Liverpool, 80 tons of Ebbw Vale coal, which had been sent from the colliery between the 19th and 30th of April, were put into her lower main hold. On Saturday, the 4th of May, a further quantity of 120 tons of Nixon's and Crawshay's mixed, which had been sent from the collieries between the 27th and 30th of April, was put into the same hold. On Monday, the 6th, the vessel was hauled out into the stream. On the following day 125 tons

of Crawshay's, sent off from the collieries on the 1st and 2nd of May, were put in the main hold; and on the same day 45 tons of Nixon's, sent off on the 3rd, and 35 tons sent off on the 4th, were put into the same hold.

Whilst the loading was going on, and until shortly before 4 p.m. of the 9th, when the vessel left Liverpool, the hatches both of the orlop and steerage decks were kept open to allow the free escape of the gases, but before leaving, the hatches on the steerage deck were put on and covered with tarpaulins; at the same time only part of the hatches on the orlop deck were put on, so that any gas which the coal might give off would pass through the hatches in the orlop deck into the lower 'tween decks, from which there was no means of escape. Any gas, therefore, which the 405 tons of coal might continue to give off after the hatches of the steerage deck had been put on would rise from the lower hold into the 'tween decks and be there retained. Scientific evidence was given as to the quantity of gas which would be likely to be given off by the 405 tons, and, allowing a very wide margin, it was estimated at an average of 1,760 cubic feet in 24 hours, which, mixed with 10 times its volume of atmospheric air, would produce a mixture of the most violently explosive character.

The cubical contents of the lower 'tween decks were 15,680 feet, or deducting certain occupied spaces, about 15,000 feet. The 1,760 cubic feet of gas would therefore have been quite sufficient to render the whole of the air in the 'tween decks violently explosive.

The Sardinian left Liverpool at 4 p.m. on Thursday, the 9th of May, 1878, bound to Quebec, with a crew of 103 hands all told, 60 cabin, and 355 steerage passengers. At 7 a.m. of the following morning she arrived at Moville, Lough Foyle, and came to anchor, there to wait for passengers and mails. At 4 p.m. of the same day the tender was seen approaching, and the captain thereupon ordered the first officer to go forward and heave short. Previous to this, the second officer had given orders to chock off the cargo, and had at the same time directed that some more of the pieces of the hatches should be taken off from the lower holds. This had been done by the fourth officer in the after hold, and on his being relieved at 4 p.m. he passed on the word to the third officer, who thereupon proceeded to the main hold for that purpose, taking with him three men and a boy. Of these, two only survived, and from them the Court had an account of what then occurred.

In the way of the main hold there were 4 decks, an upper, a main, a steerage, and an orlop deck; and it was the cargo and the passengers' luggage which was between the steerage and the orlop decks, or, as it was called, the lower 'tween decks, that the third mate and his men were proceeding to chock off. They first turned back the tarpaulin, and having taken off the two foremost pieces of the hatch, one man, named Jardine, went below, carrying in his right hand an ordinary cargo lamp, and was immediately followed by another man named Latham. Jardine went down from the port side and moved towards the centre of the ship with his face looking aft. Latham descended from the same side, so that the lamp, which Jardine held in his right hand, would be between them. As Latham was about to put his foot upon a case, which was immediately below the

lamp in Jardine's hand, he observed a blue flame playing about it, which seemed to run down on to the deck. At the same moment he heard the third officer, who was standing on the starboard side of the hatch, shout out to Jardine to put the light out and to come up. Jardine stood like one transfixed, dropped the lamp, and as Latham jumped to get out of the hold, a violent explosion took place, and a yellow flame rushed up the hatchway. The explosion was so violent that it carried away the skylight of the upper deck, killing instantly Jardine, the boy, and a female passenger, and so severely injuring the third man that he afterwards died in the infirmary; Latham was also seriously injured.

On the officers and men rushing to the spot, they immediately set to work to get out the people who had been buried by the débris, and finding that the lower 'tween decks were on fire, the hose was laid on for the purpose of extinguishing it. Soon afterwards the tender came up, and another tender having been obtained, the cabin passengers were transferred to one, and the steerage passengers to the other. Every effort was made to extinguish the fire, but in vain; and it was then determined to sink the vessel. She was accordingly moved into five fathoms of water, and the injection pipes having been opened, the water was let in, and the vessel gradually settled down, thus extinguishing the fire. She was subsequently raised, pumped out, and brought back to Liverpool.

The Court, after going at very great length into the evidence, came to the conclusion that it was established beyond the shadow of a doubt that the explosion was owing to the gas from the 405 tons of coal stored in the lower main hold having been allowed to accumulate in the 'tween docks above to such an extent as to form a dangerously explosive mixture; and to the fact of a light having been taken down immediately on the hatches being removed after they had been fastened down for 24 hours.

The question then remained whether the casualty might, by any means, have been avoided; and the Court expressed the opinion that it might, in a very simple and inexpensive manner, namely, by having had two ventilating shafts—one at each end of the compartment where the coal was stowed, fitted with cowls, trimmed in such a way as to form a downcast and upcast current, which would have carried off the explosive gases as soon as they were evolved. No charge of negligence was brought against any person by the Board of Trade.

Stranding.

"GARONNE," S.S.

Inquiry held 12th July, 1878.

Assessors: G. APLIN, R.N.; T. BEASLEY.

The Garonne was an iron screw steamship of 3,870 tons gross and 2,464 tons net register. She left Port Adelaide at midnight on the 14th of May, 1878, bound to London, with a crew of 110 hands all told, a general cargo, and about 400 passengers. The vessel was well and properly equipped in every respect, including compasses.

At noon of the 6th of June an observation was taken, which placed the vessel in latitude 8° 30' N., her longitude by chronometer being 51° 18' E. Up to that time her true course had been N. 5° W., but on finding himself so far to the west, the master, Rowland de Steiger, altered the course to N. 1 E. by standard compass, which, allowing for a deviation of 5° to the W., gave N. 2° W. true. At 3 p.m. of the same day, finding by observations that he was in longitude 51° 31' E., the master altered the course to N. 20° W. true, which was not again changed until just before she took the ground, her speed being 12 knots an hour. At about 6 p.m. land was observed on the port side, both abeam, and some three or four points on the bow. The master, supposing it to be Ras Hafun, continued his course till shortly after 10 o'clock, when he and the third mate observed a low black line on the sea. The helm was accordingly put hard-a-port, and the engines were stopped and reversed full speed; but when she had paid off about six points, she struck and remained fast until the 9th, when she was got off, and subsequently arrived safely in London. Two passengers were drowned by the upsetting of a boat.

The Court came to the conclusion that the stranding was due to the negligence of the master in having, at nooh, and at 3.80 p.m. of the 6th of June, laid his vessel on the courses mentioned above, which would have taken him about 30 miles west of his proper course. They also blamed him for having continued his course at full speed from 6 p.m., without having taken any steps to ascertain what the land was which he had seen, and they accordingly suspended his certificate for 6 months.

Gas Explosion-Absence of Ventilation.

"CADUCEUS," S.S.

Inquiry held 1st August, 1878.

The Caduceus was a screw steamship of 1,844 tons gross and 1,179 tons net register. On the afternoon of the 24th of June, 1878, she began to take in coals at Cardiff, and by the morning of the 28th had shipped about 2.180 tons, her full cargo being about 2,225 tons. The vessel was then shifted so as to bring the hatch of the forehold under the spout, and the foreman trimmer went down to see whether an additional quantity could be put in there or not. The vessel had only two decks, and in the lower forehold had been put about 400 tons of coal, which had been trimmed so as to be within about 18 inches of the under side of the lower deck. The lower hatch had then been filled in with coal halfway up the combings, so that the foreman trimmer had to clear a way through the hatch; having done this, he went down feet foremost into the empty space under the lower deck. One of the other trimmers, who had gone into the 'tween decks with him, struck a light, but had hardly done so when an explosion took place, resulting in serious injury to 5 of the men who were below, but without any material damage to the ship herself. The Court considered that the colliery owners were in no way to blame, as they had issued a notice ٤

warning the captain of the vessel of the probability of explosive gas being given off. The shipowners, however, had taken no precautions whatever to secure the proper ventilation of the holds, and it was to their neglect that the Court considered the casualty to be due.

Note.—This inquiry was held under the 14th Article of the "Merchant Shipping Act, 1854," by H. C. Rothery, Esq., as an inspector appointed by the Board of Trade, and there were therefore no assessors.

Boiler Explosion.

"HUMBOLDT," S.S.

Inquiry held 16th August, 1878.

Assessors: J. R. RAVENHILL, C.E.; J. S. CASTLE.

The Humboldt was a screw steamer of 1,346 tons gross and 994 tons net register, fitted with one engine of 120 h.p. At 4 p.m. of the 27th of July, 1878, she weighed anchor in the Mersey for the purpose of proceeding on her voyage to Brazil and Rio Janeiro, having a crew of 38 hands all told, 4 passengers, and a coal cargo. For the first five or six minutes she went slow ahead; then half-speed for about ten minutes; and in about four minutes after that an explosion took place in the engine room, at which time there were two engineers on the starting platform and three firemen in the stokehole. Before they could be got on deck one fireman was dead, the other two being so badly scalded that they died in the course of the day. The two engineers, although badly scalded, ultimately recovered.

The boiler in question, with the superheaters attached, had been put into the vessel in 1870. They were originally intended to bear a pressure of 70 lbs., but in 1873 they passed for a pressure of 68 lbs., and subsequently for 65 lbs. Her certificate as a passenger ship having run out, on the application of her owners, Mr. Robert Taplin, engineer and shipwright surveyor to the Board of Trade at Liverpool, inspected her on the 15th and 23rd of July, 1878, and afterwards gave her a certificate for 6 months, from the 23rd of July to the 23rd of January, 1879; but, having regard to the age of the boiler, he allowed for a pressure of only 62 lbs.

The boiler, which lay fore and aft, was of the ordinary cylindrical form, some 26 feet long, with 3 furnaces at each end, opening into a common combustion box between them. Above the boiler were two horizontal annular superheaters, each 10 feet 6 inches long, with an external diameter of 5 feet 4 inches, with a space between the two shells of the superheaters of from 9 to 10 inches deep for steam. Each one stood upon, and was connected with the boiler by two circular necks or tubes 15 inches in diameter, and about 9 inches long, through which the steam passed. The flue of each superheater was composed of 6 half-inch plates between 5 and 6 feet long, which were lapped and singly riveted. Two plates were required for the length, and 3 for the round of the flue. The vertical seam in the middle where the two lengths met, was strengthened by a T iron ring or band. The longitudinal seams were disposed, one at

the top of the fine and one at each side a little below the centre, so that the bottom of the flue on each side of the strengthening band consisted of a single plate, and it was in the lafter plate in the bottom of the flue of the aftermost superheater that the explosion took place. There was only one stop valve for the steam to pass to the engines, and that was on the after superheater, therefore the vacuum caused by the steam drawn from the after superheater, to feed the engine, could be more readily supplied through the necks of the after superheater direct from the boiler, than through the forward superheater, and thence through the connecting pipe between them. Again, the steam, as it issued from the boiler through the necks, would impinge directly on the under sides of the plates forming the bottom of the flues.

At the point in the after plate where the fracture began, the thickness was only one-sixteenth of an inch, and almost the whole of the under surface was considerably eaten away, more especially at the place where the steam impinged upon it, and this, in the opinion of the Court, was the cause of the mischief.

The question then arose as to how the condition of the plate could have escaped the notice of Mr. Taplin. He stated that it was extremely difficult to inspect the plate in question owing to the smallness of the neck; that he saw the under side was corroded, but not sufficiently to cause anxiety; and that, finding the upper side sound and good, he considered that he was entitled to pass it, without taking any other precautions to test it.

The Court referred, at some length, to certain instructions issued by the Board of Trade to the surveyors of steamships, and came to the conclusion that Mr. Taplin was greatly to blame for having so utterly disregarded them, and for not having taken proper measures to ascertain the state of the plate in question, which might have been done either by drilling or applying hydraulic pressure.

Collision-Speed of Steamer in Fog.

"G. A. PYKE" AND "ADRIATIC," S.S.

Inquiry held 17th and 19th August, 1878.

Assessors: J. M. G. GRANT, R.N.; J. S. CASTLE.

The G. A. Pyke was a vessel of 159 tons net register. On the morning of the 19th July, 1878, she was in the neighbourhood of the Tuskar, and at 10 a.m. was on the port tack, heading E. by 8., with the wind from N.E. to N.N.E., under all sail, going at the rate of from 3½ to 4 knots an hour. Since 5 a.m. she had been in a dense fog. All on board the G. A. Pyke, except one seaman, were drowned, but from the evidence of the survivor it appeared that it was his watch below, and that the first intimation he had of the steamer's approach was one of the crew calling to the men below to turn out quick. On reaching the deck, he saw the steamer to windward two or three points on the port bow, coming down fast upon them. He heard the master of the G. A. Pyke order the helm to be put up, when she

immediately began to pay off; but almost directly the helm was ordered to be put down, when she came up into the wind, her sails beginning to shake. By this time the steamer was into them, striking them between the fore and main rigging on the port side, and cutting into her nearly across her main hatch. The brigantine almost immediately sank, carrying all the crew, except this one man, with her.

The Adriatic was a vessel of 3,887 tons gross and 2,458 tons net register, having four engines of 600 horse-power combined. She left Liverpool at 9 p.m. of the 18th of July, for New York, with a crew of 138 hands all told and 216 passengers, besides cargo. At 3.5 a.m. of the 19th, having passed the South Stack, she was steered on a S.W. by W. course to make the Tuskar. At 4.20, a fog having come on, the engines were slowed. At 4.30 a whistle was heard on the starboard bow, when the master ordered the helm to be starboarded/ This whistle proceeded from a tug, and after just touching the vessel in tow the Adriatic proceeded on her course, her engines still being at slow, till 10 a.m. The master and chief officer were then on the bridge, the third officer was superintending the steering, and there were 3 men, quite in the bows of the ship, 2 on the starboard bow, the other ready to signal by the bell to the officer of the watch the approach of any vessel. The fog was still very thick, when a sail was discovered on the starboard bow, upon which 2 strokes of the bell were made as a signal to the officer on the bridge. Almost immediately afterwards the captain and chief officer observed her, when the captain immediately ordered the helm to be put hard-a-starboard, but before this could be done, seeing that the vessel was on the port tack standing across his bows from starboard to port, he gave the orders: "port!" "stop her!" "full speed astern:" all of which were promptly obeyed. The head of the Adriatic paid off a point to starboard, but the brigantine having thrown herself up into the wind, drifted down across the steamer's bows. Everything that was possible under the circumstances was done by the Adriatic after the collision to save life, but unfortunately without success, except as to the one man previously mentioned.

The Court were of opinion that the principal question for them to consider was whether the speed of the Adriatic was or was not a moderate one under the circumstances. They held that there could be no doubt that she was going at nearly 10 miles an hour, which was an undue rate of speed; in fact, so great was it, that, whether the helm of the G. C. Pyke had been ported or starboarded, the Adriatic had no time to avoid her.

They added that the steps taken by the master of the Adriatic to avoid the collision were proper and seamanlike; but they blamed him for having allowed certain entries to be made in the log-book, and for having stated in the course of his examination that the speed of the vessel during the fog was only 5 knots an hour, when he must have known, as a fact, that it was much greater.

Having regard to his general good conduct, both before and after the collision, the Court did not deal with his certificate, but warned him to be more careful in future.

WWW coal Gas Explosion—Defective Ventilation.

"BONNIE DUNKELD."

Inquiry held 25th October, 1878.

Assessors: T. APLIN, R.N.; J. S. CASTLE.

The Bonnie Dunkeld was a brigantine of 177 tons net register. On the 16th of September, 1878, while the vessel was lying at Swansea, 111 tons of coal from the Seven-Sisters Mine were shipped, and on the 17th of the same month 202 tons more. She had only one hold, with three hatches, and the coals were trimmed so as to slope down from aft forwards. On the evening of the 17th the fore and main hatches were put on. The evidence did not show clearly how they were during the 18th, but on the evening of that day the main and after hatches were closed, the fore one being left open to enable the crew to get at the store room. She left Swansea on the morning of the 19th, and at 11 a.m. all the hatches were battened down. At 5 p.m. of the 20th, the weather being then fine, the fore hatch was taken off to enable one of the men to get to the sail room. This man went down accordingly, but being unable to find the sail in the dark, the master handed down to him some lucifer matches. He struck one, and immediately there was an explosion. The man was very severely injured, and the master and mate were also burnt.

The above facts, in the opinion of the Court, fully explained the explosion, no measures having been taken for 36 hours to ventilate the hold. For this neglect they held the master, who held no certificate, solely to blame.

Abandonment.

"ROVER," S.S.

Inquiry held 31st October and 1st November, 1878.

Assessors: R. A. POWELL, R.N.; H. JONES; R. C. MAY, C.E.

The Rover was an iron screw steamship of 422 tons gross and 264 tons net register, fitted with one compound vertical inverted direct acting engine of 65 horse-power. She was surveyed by the inspecting engineer of the owners, at Middlesboro', in the end of September, 1878, and certain defects, more especially in the engine room department, were ordered to be repaired; and whilst they were going on, the cargo was shipped—210 tons of iron rails being placed in the fore and main hold, which were in one, and about 100 tons in the after hold. There were also about 140 tons of coal shipped, 60 tons being placed in the bunkers, and the remaining 80 in the main hold, apaft and on the top of the iron. She left Middlesboro' on the 3rd of October, in the opinion of the assessors very deeply laden. Her crew consisted of 14 hands all told.

On the morning of the 7th a fresh gale set in, gradually increasing to a whole gale. The vessel strained and shipped large quantities of water, so that they were compelled to keep her head to sea. At 4 p.m. she received some damage from a heavy sea—large quantities of water going down

into the engine room and the after hold—but she cleared herself with the assistance of her pumps. At 9.30 p.m., the engines being in charge of the second engineer, a very inexperienced young man, it was reported to the captain that the water was rising in the engine room, the stokehole plates being washed up. All hands were immediately called up to bale and pump the ship. About this time the chief engineer, John Gleeson, observed that water was coming in at a fracture in the sea injection pipe, close to and inside of the flange. The engines having been stopped, the captain, with the help of one of the crew, plugged the leak by wrapping the pipe round with red lead, tow, and canvas; but the coals were so wet, owing to the bunker doors not having been closed, that they could not get up steam, and accordingly, the pumps being almost useless, owing to the coal which had been allowed to get into the bilge, they baled the water out of the engine room. By 4 a.m., having succeeded in relighting the fires, they steered in the direction of one of the channel ports, but when the engines had been at work about an hour, the water was seen to be gaining again, until, at 7 a.m., the fires were put out. The vessel's course was then. altered for Brest, the crew setting to work to pump and bale her. Between 7 and 9 she took a list to starboard, and about 10 the men came out of the stokehole, the water being then up to their waists. They went into the after hold to try to shift the cargo, so as to right the vessel, but without effect. They then got into the boats, and were soon picked up by the steamer Ulleswater. Ultimately, after towing the Rover for some distance, the Ulleswater arrived at Plymouth, and sent out a tug by which the Rover was brought safely into port.

The questions for the Court were as to what was the cause of the abandonment, and whether such abandonment was premature.

The Court were of opinion that nothing that was essential to the vessel's safety was left undone when she sailed from Middlesboro', and that the cargo was properly stowed. It was proved to their satisfaction that no great quantity of water came into her from above; nothing, at all events, which would be likely to endanger her safety. After her arrival at Plymouth her hull was found to be perfectly sound and tight, but in the course of the inquiry it came out that the valve of the sea injection pipe had been left open until about a quarter of an hour or 20 minutes before the vessel was abandoned. It was impossible, in going through the facts of the case, not to see that there was a direct connection between the opening of this valve and the rise of the water in the ship. After the fracture at the flange had been repaired, the evidence of all the witnesses was positive that no leakage took place there. After the vessel's arrival at Plymouth she was inspected by one of the Board of Trade Surveyors. He observed that the jam-nut of the regulating screw of the bilge pump suction valve stood up about half-an-inch from the cover; and on taking the cover off it was found that there was a small piece of coal under the valve which prevented it from closing tightly down on the seat. There was a connection between the sea injection pipe and the bilge pump, so that the water which entered through the former would flow through to the bilge unless prevented from doing so by the closing of the suction valve, the result being that, whenever the sea injection pipe was open, the water would flow from it through the suction pipe of the bilge pump and out at the bottom of the pipe into the bilges. It was estimated that in this way about 30 tons an hour would flow into the engine room. This, in the opinion of the Court, was the origin of the mischief. Had either the valve of the sea injection pipe, or the valve cutting off the connection between the sea injection pipe and the bilge pump been closed, no water would have got into the ship.

The Court considered that the master could hardly be held responsible for such an accident, and so far as regarded his management of the ship there was nothing to complain of. The chief engineer was, however, greatly to blame for having allowed the bunker doors to remain open, the result being that the coal washed down in large quantities into the bilges, which led to the choking of the pumps, and to the coal getting into the suction valve of the bilge pump and keeping it open. He ought, also, to have examined most carefully the pipes and valves through which the water could come in from the sea, and should have seen that the suction valve of the bilge pump was not properly down on its seat. He was therefore guilty of great negligence, and his certificate was accordingly suspended for 12 months.

Stranding.

"HARRIET AGNES," S.S.

Inquiry held 5th November, 1878.

Assessors: E. G. F. G. VISCONTI, R.N.; E. HIGHT.

The Harriet Agnes was a screw steamship of 623 tons gross and 473 tons net register. She left London for Bona on the 12th of July, 1878, with a full cargo, and a crew of 18 hands all told. On the 18th she was off the coast of Portugal. At 1.30 a.m. of that day she was abreast of Cape Roca, when her course was altered, according to the captain, William James, to S. and by W.; according to the mate, to S. 1 W. At noon she was in latitude 37° 15' N., her longitude being 9° 15′ W. She was going full speed, about 7½ knots. At 2 p.m. the weather became very thick, whereupon the engines were ordered to go easy, and a look-out man was stationed forward. At 2.50 the engines were stopped for a cast of the lead, when, 52 fathoms having been obtained, she was laid on a S.S.W. course, going ahead easy. In five or ten minutes from that time some of the witnesses said they saw the cliffs ahead, but the captain said that he heard voices. The helm was immediately put hard-a-port, and very shortly afterwards the vessel struck-whether upon the wreck of the Childwall Hall or upon the rocks themselves was immaterial. The weather then suddenly cleared up, and Cape St. Vincent was seen a quarter of a mile off on the port quarter. The engineer reported that water was rising fast in the engine room, and the master ordered the boats to be got out, and at 4 p.m., the water having put out the fires, the whole of the crew, with the exception of the master and mate, went into the boats. About this time a small Portuguese tug came up, and the Harriet Agnes was laid on the beach between Cape St. Vincent and Sagres. She was ultimately got off and taken to London.

It was admitted that the master alone was responsible for all that was done on board the vessel. The Court thought that there was no doubt that the vessel passed Cape Roca at a distance of four miles, and that from that point she was steered on a S. \(\frac{1}{2} \) W. course till noon, and then on a S. by W. course, which would necessarily have taken her on to Cape St. Vincent. They also blamed the captain for not having, when he got a depth of 52 fathoms, at once put his helm hard-a-port, and gone right off the shore into deep water, knowing, as he must have done, that he was very close to the shore; and, accordingly, they suspended his certificate for 6 months.

Abandonment-Grain Cargo-Shifting Boards.

"LEADER."

Inquiry held 13th and 14th November, 1878.

Assessors: B. S. Pickard, R.N.; B. G. W. Nicolas.

The Leader was a two-masted schooner of 99 tons net register. On the 18th of October, 1878, she left Randers, a port in the Cattegat, with a cargo of 811 quarters of barley, equal to about 160 or 170 tons, bound to London, with a crew of 5 hands all told, and drawing 10 feet 3 inches forward and 11 feet 2 inches aft, with a freeboard of 2 feet. On the evening of the 24th a gale sprang up from the S.S.E., the wind suddenly veered to the W., and the gale continuing to increase, the vessel was laid on her beam ends, and before the fore and aft scuttles could be closed tons of water poured down through the forecastle and cabin into the hold. The vessel lay over on her port side, head to wind, with a very small portion of the mainsail set, for about 10 hours, when, the gale having abated, she righted herself, but had a list to port of from 7 to 8 inches. On the 25th and 26th sail was made, and she proceeded on her voyage, the list still continuing; but on the 27th, the gale recommencing with great fury, the vessel was again thrown on her beam ends. On the 28th the weather moderated, but on the 29th the gale began again, the ship layingto, with her port side under water. Fearing that she would founder, the master hoisted signals of distress, upon which a smack, the Regard, bore down and sent her boat to them, by which the whole of the crew were taken on board. The wind and sea continuing very high, the Regard lay off, being spoken at noon by another smack, the Nelson. At 2 o'clock, the gale having somewhat abated, a boat was sent from the Regard to the schooner, and some of the master's and seamen's effects were brought away. On a second visit, the mate of the Regard and the mate of the Leader tried the starboard pump for half-an-hour, but failed to make it suck, and, accordingly, they returned to the Regard, taking with them some more of the private effects. At half-past 4 they bore away for The Nelson then proceeded to her fishing ground, but the next morning they bore down towards the schooner, followed by another smack, the Spray in The mates from the two smacks boarded her, and finding no water in the forecastle or cabin, sounded the pumps, finding in the starboard one only three feet of water. This they pumped out, and having set some sail, eventually took her safely to Ramsgate.

The Court were of opinion that the cargo was properly stowed, and that the list which the vessel got was owing to the water taken in when she was laying on her port side, the effect being to wet the cargo on that side, making it much heavier than on the other. This, they thought, would sufficiently account for the list. The shifting boards were composed of two rows of planks, each eight inches deep, giving a total depth of only 1 foot 4 inches below the beams; and, adding 9 inches for the beams, a total depth of only 2 feet 1 inch from the deck in a depth of hold of 11 feet 3 inches, which was insufficient.

The Court further held that it was not an improper thing for a vessel of this size to proceed to sea with the whole of her cargo in bulk, provided that she had proper shifting boards, and that precautions were taken to feed the hold as the cargo settled. They did not accuse the master of any grave misconduct in having abandoned his ship under the circumstances, but thought that it was to be regretted that he had not remained by her a little longer, as he would have found, when the gale abated, that the vessel would have righted of herself again.

Stranding.

"ESTHER SMEED."

Inquiry held 14th and 15th November, 1878.

Assessors: B. S. PICKARD, R.N.; B. G. W. NICOLAS.

The Esther Smeed was a barque of 493 tons register. In September, 1878, being at Gafle, in Sweden, she took in a cargo of deals, and left on the 29th, bound to London. At 1 a.m. of the 30th, the Gottska Light was sighted, but whether it was more or less on the starboard bow was a matter of dispute; all the witnesses agreeing, however, that from that time the vessel was laid on a S. by W. course. At 2.25, the chief mate, whose watch it was, seeing the land on his starboard side, ordered the course to be altered to S.; ten minutes afterwards to S. by E.; and, within a few minutes, the vessel grounded on the north side of Kyrk Point, the most easterly point of Gottska, where she ultimately went to pieces, no lives being lost.

According to the master, after passing the Svenska Bjorn Lightship, he ordered the vessel to be laid on a S. by W. course, which, as he alleged, was continued until she struck, except for about three-quarters of an hour, when she was S. by W. \(\frac{1}{2} \) W.

Upon this supposition, the vessel would have passed some 12 miles to the eastward of Gottska; but it was shown to the satisfaction of the Court that, instead of a S. by W. ½ W. course having been steered for three-quarters of an hour only, the vessel must have been kept on that course for fully 5 hours. It was proved also that the captain had neglected his duty in

not having been on deck at a time when the safety of the ship required his personal upper soil of the Court also blamed the chief officer for not having called the captain when he saw the land on his starboard side, and for not having assured himself by looking at the chart of the exact position of the vessel.

The Court accordingly suspended the certificate of James Bennett, the master, for 12 months, and that of William Hambly, the mate, for 6 months.

Stranding.

"ENTERPRISE."

Inquiry held 15th and 16th November, 1878.

Assessors: H. D. GRANT, R.N.; T. BEASLEY,

The Enterprise was a full-rigged ship of 1,460 tons net register. She left the South West India Docks, London, for Cardiff on the 25th of September, 1878, in tow of a steam tug called the Scotia, which had engines of 130 horse-power, and was, with one exception, the most powerful tug on the Thames. The tow-rope was a 14-inch hawser, having a bend at the end which was passed over a hook, connected by a chain and swivel to a tow-bar coming up from the vessel's keelson between the boilers and through the deck.

Between 1 and 2 a.m. of the 26th they passed the Downs, and at 2 a.m. the South Sand Head Light bore S.E. by E. ½ E., and the South Foreland Light W. ½ S. At this time the wind was blowing fresh from W.S.W., the vessel being nearly head to wind. By 3 a.m. it was blowing a gale from S.W. and by S., upon which the master signalled to the tug to put about in order to run for the Downs. Whether these signals were obeyed was one of the disputed points; but however that might have been, between 4 and 4.30 a.m., while the Enterprise was lying broadside to the sea with her head to the W. and pointing inshore, one of the links of the chain which held the tow-rope parted, whereupon the Enterprise went adrift, having the whole length of the tow-line with the swivel and the remainder of the chain hanging from her bows.

The master immediately attempted to set the foretopmast staysail and the upper foretopsail, but they were blown away. The anchor was then ordered to be let go, but the chain jammed twice, and in the meantime the vessel had grounded at a place called Hope Point, between St. Margaret's Bay and Hope Bay. Some of the men left the ship, contrary to the master's orders, in the whale boat, which was capsized and four were drowned. The vessel herself was subsequently got off.

The Court considered that the master of the *Enterprise* had committed an error of judgment in going on from the Downs toward Dungeness, having regard to the facts that he was in good and safe anchorage ground, that the barometer was low, and the weather threatening; at the same time, the Court could not say that he was not justified in making the attempt.

With regard to the tug, they held that she did obey the orders given by

the master of the Enterprise, and added that the latter, when the towing gear gave way, had taken all proper measures to prevent the stranding, except that he ought to have ordered the tow-rope to be cut away, and when the port chain jammed, to have ordered the starboard bower anchor to be at once let go.

Collision-Spare Steering Gear.

"LUNA," S.S., "WESTMINSTER," S.S., AND "HAND OF PROVIDENCE."

Inquiry held 25th November, 1878.

Assessors: H. HARRIS; G. T. HOLT, I.N.

The Luna was an iron screw steamer of 477 tons gross and 374 tons net register. She left London at 30 minutes past midnight of the 9th November, 1878, with a crew of 15 hands all told. Shortly after 3 a.m., the pilot having left her off Gravesend, her helm was ordered hard-a-starboard to straighten her down the reach, when the Westminster was seen, riding at anchor some four or five points on the port bow, at a distance of 400 or 500 yards. The Luna's helm was kept hard-a-starboard, but when the Westminster was two points on her port bow, a link of the Luna's wheel chain suddenly broke. The master, fearing lest he should be drifted across the Westminster's bows, kept on full speed ahead, but the Luna's port midships came into contact with the stern of the Westminster and was stove in. The master then ordered full speed astern in the hope of beaching his vessel on the north shore, but before getting there, she, being quite out of control, ran into a barge whose name was unknown. The effect of this was to turn her head down the river and towards the north shore, upon which the master ordered full speed ahead. Before, however, she reached the shore, she ran stem on into the Hand of Providence, and was ultimately beached.

The broken link of the chain was not produced, but the rest of it was seven-sixteenths of an inch thick, which the Court considered amply sufficient for the purpose. They came to the conclusion that there must have been some latent defect in the link, but that no blame attached to the master for not having discovered it, if it did exist.

Another point was as to whether the Luna carried sufficient and proper spare steering gear. In addition to the wheel amidships by which she was being steered, there was one aft; but it would probably have taken from 10 to 15 minutes to unshackle the chains from the former and connect them with the latter. The Court did not consider that such a plan, which would leave the vessel totally helpless and unmanageable for that space of time, was an adequate one, especially as nothing would have been easier than to have had a spare iron tiller hanging on the rail alongside the after wheel, to fit on to the rudder head which projected above the deck.

They considered that the master acted quite rightly in all that he did after the breaking of the rudder chain, but added that he should, as soon as the wheel chain broke, have ordered the chains to be at once connected with the after wheel, in order to get the vessel under control, although probably, it could hardly have been done in time to avoid the collision.

Collision.

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"HELENA" AND "ELECTRYON."

Inquiry held 26th and 27th November, 1878.

Assessors: H. HARRIS; G. T. HOLT, I.N.

The Helena was a schooner of 98 tons register. She left Duddon, in Cumberland, on the 1st October, 1878, bound to Middlesboro', with a crew of 5 hands all told and a cargo of 162 tons of iron ore. On the 6th of November she brought up in Yarmouth Roads to wait for a favourable wind. At 10 a.m. of the 8th she sailed with a breeze from the S.W., which carried her as far as the Hasbro' Lightship, when it veered round to W., N.W., N., and finally to N.E., when it blew a gale. At 10 p.m. sail was shortened, in doing which the topsail blew away. She was then put about to run back under close-reefed mainsail, forestaysail and standing jib. Some distance from the Newarp Lightship the standing jib gave way in the after leech. The head sail was then taken in, and the vessel was laid on the port tack. At 2 a.m. it was blowing a gale from N.N.E. to N.E., the ship heading from E. to E. and by N., and drifting to leeward. At this time the Electryon's light was observed broad on the port bow, about threequarters of a mile distant, and appearing to be going astern of the Helena-When, however, about three or four ship's lengths off, she suddenly bore down upon the Helena, striking her nearly at right angles on the port quarter and cutting her down below the water's edge. All the Helena's people succeeded in getting on board the Electryon, except a boy, who was lost with the ship.

The Electryon was a brigantine of 190 tons. She left Yarmouth for Newcastle on the 26th October, in ballast, with a crew of 6 hands all told. When at Cromer the wind came on to blow hard from W.N.W., compelling her to run back to Yarmouth Roads, where she lay till the 8th of November, when she again sailed. After passing Newarp Light the wind came away from the N.E., blowing a hurricane, and the vessel was kept about a S.S.W. course, with the wind a little on her port quarter, and under her lower foretopsail alone. Shortly before 2 a.m. the Helena's port light was seen two points on the port bow. The captain, James Randall, came on deck, but not seeing the light, waited a few moments, until he saw the Helena's sail, upon which he ordered the helm hard-a-port. The man at the wheel, however, said that the captain first ordered the helm a-port a little, which was done; and that it was not till after the Electryon had broached to that the order was given to hard-a-port. All the witnesses agreed in saying that the Electryon at first appeared to be going clear astern of the Helena. when a sea suddenly struck her and she broached to, running stem on into - the Helena's port quarter.

The Court were of opinion that there was nothing in the evidence to show that the lights of each vessel were not good ones. As regarded the Helena, there was no doubt that a good look-out was kept, but the evidence of the witnesses from the *Electryon* on this point was very contradictory and unsatisfactory. It appeared that when the Helena was first sighted,

only one person, the officer of the watch, was looking out to windward, and the Court accordingly came to the conclusion that there was no good and efficient look-out being kept, the consequence being that the *Helena* was not seen until they were on top of her.

The assessors considered that the captain of the *Electryon*, knowing, as he said, that his vessel was a bad steerer in bad weather, ought to have kept her under better control by setting his foretopmast staysail in addition to the lower foretopsail.

Upon the question whether, after sighting the *Helena*, proper measures were taken by the *Electryon* to avoid her, the Court held that Article 12 of the Regulations for preventing collisions at sea applied. Both these vessels had the wind on the same side, the *Helena* some four or five points on the port bow, the *Electryon* on the port quarter and nearly right aft; and it was, therefore, clearly the duty of the latter to keep out of the way. There was a contradiction in the evidence as to what was done, and what orders were given just before the collision, but it was clear that much valuable time was lost before any orders were given at all.

For his wrongful acts and default in not having kept a proper look-out, in not having taken proper measures to avoid a collision, and in not having taken more active measures to save those on board the *Helena*, the Court suspended the certificate of the master of the *Electryon* for 3 months.

Collision-Look-out-Boats.

"HELVETIA," S.S. AND "FANNY."

Inquiry held 30th November and 2nd December, 1878.

Assessors: H. D. GRANT, C.B., R.N.; H. PARFITT.

The Helvetia was a screw steamer of 4,587 tons gross and 2,921 tons not register. She left Liverpool on the 30th October, 1878, for New York, with 140 passengers and a crew of 85 hands all told. At 3.38 a.m. of the 31st, when about 3 miles from the Tuskar, the master, Archibald Thomson, the chief officer, and an A.B. being on the look-out bridge, the third officer at the standard compass, conning the ship, and one man in the wheel-house, a red light was observed a little on the starboard bow, and an order was given by the master to hard-a-port the helm. The vessel had just began to answer when, the red light disappearing, the green came into view, upon which the master ordered the helm hard-a-starboard and the engines to be stopped. Almost immediately, however, the steamer struck the Fanny on the starboard side a little abaft the beam, cutting her down to the water's edge. Before a boat could be lowered, seven of the Fannu's crew had climbed up the Helvetia's bows, but the Fanny had sunk with the remainder. The boat pulled about for a considerable time, but without picking anyone up.

The Fanny was a vessel of about 153 tons register, yawl rigged, and doing duty as a coastguard cruiser. She left Queenstown at 1.20 p.m., on the 30th of October bound for Kingstown. About 2.30 a.m. on the 31st

she was steering a course E. 1 N. for the Tuskar, with the wind from the N. and by E., under double reefed mainsail, foresail, third jib, and small mizen. According to the evidence of the only two witnesses from the Fanny, who were on deck at the time, a light was observed on her starboard bow. Shortly afterwards the vessel was struck by a squall, when orders were given to lower the foresail, but owing to some mistake this order was not carried out for some time. As soon, however, as it was on deck, orders were given for all hands to go and trice up the main tack, after doing which they returned to the foresail to tie up the reefs. Whilst so engaged it was observed that the steamer was bearing down upon them. The men immediately all got up and began to shout, but in an instant she was into them. It was clear that the Fanny's helm was put down before the collision, for both the witnesses said that at the moment when the vessels came together, the jib was shaking.

The Court considered that the lights carried by the Fanny were of sufficient power and proper construction; that they were properly and carefully managed, and that at the moment of the collision they were burning brightly.

The most important question was as to whether a sufficient and proper look-out was kept on board the *Helvetia*. The only persons who were in a position to keep a look-out at all, were the master, mate and a seaman, all of whom were on the bridge, about 130 feet from the ship's bows. According to the master's evidence, only a minute before he saw the light, he had been taking the bearings of the Tuskar, and probably the mate was assisting him; so that, in fact, the seaman, who was at the end of the bridge on the port side, was the only person looking out at all. Having regard to the fact also that the speed of the *Helvetia* was nearly 12 miles an look-out over the ground, the Court thought that there was not such a look-out as there ought to have been; adding that, in their judgment, it was a most improper thing for the officer of the watch to have been converted into a look-out man, and that there was no reason why the look-out should not have been stationed forward instead of 130 feet aft.

They also blamed the master of the Helvetia for entering a statement in the official log-book as though it had been made on the day on which the casualty occurred; whereas it was not really made until four or five days after, in violation of section 281 of the Merchant Shipping Act, 1854.

They thought that he ought to have reversed the engines after he ordered the helm to be put hard-a-starboard, and that he was not justified in putting to sea with all his boats inboard, covered up with sailcloth, and fastened down with gripes to ringbolts.

They came to the conclusion that the casualty was principally due to the neglect of the master of the *Helvetia*, and accordingly suspended his certificate for 6 months; adding, that the luffing of the *Fanny* might also have contributed to the accident.

WWW | | Collision Steamer starting in Fog.

"GEM," S. AND "BOWFELL."

Inquiry held 10th, 11th, 12th, 13th, and 14th December, 1878.

Assessors: T. APLIN, R.N.; H. JONES.

The Gem was a paddle-wheel steamer owned by the Wallasey Local Board, of 118 tons gross and 36 tons net register, fitted with engines of 50 h.p. At the time of the casualty she was a thoroughly good and substantial vessel. At 9.30 a.m. of the 26th of November, 1878, she left' Seacombe Ferry for Liverpool, with nine hands all told, and from 200 to 250 passengers, in an intensely thick fog. The tide at the time was half-flood, running from five to six knots an hour, and the wind light from the S. On leaving Seacombe, with her head to the N., the master and mate were on the bridge, the latter being at the helm. There was a man at the steam whistle, which was on the bridge, and two men forward on the look-out, one on each bow. In consequence of a wreck, and lightship bearing from the Seacombe Stage about S.E. and by E., and nearly in a direct line between the Seacombe Stage and the George's Stage on the Liverpool side, boats leaving the former were compelled to pass either to the N. or S. of these vessels. The master of the Gem on this occasion determined to go to the S.; and accordingly, as the Gem left the stage, her helm was put hard-a-port to bring her round with her head up stream. At the same time the whistle was sounded as a signal that she was about to start, and the engines went on at half-speed a-head. The whistle was then kept going three times in quick succession; the three whistles being repeated about three times in each minute or minute and a-half. vessel rounded to under her port helm till her head was about S.E., when, finding from the sound of the lightship's bell that they had passed her, it was put hard-a-starboard to bring her head to the tide, and thus cross the river, drifting down with the tide so as to make the George's Stage. In a minute and a-half or two minutes after passing the lightship, and when her head was about E.N.E., the bowsprit of the Bowfell was seen by the master just forward of the starboard paddle box. He immediately ordered the engines full speed a-head and the helm to be put hard-a-port, to cant her stern off, the result of this manœuvre being to throw the Gem clear of the Bowfell's stem. Her funnel, however, was caught and carried away, and her starboard quarter collided with the Bowfell's starboard bow. She passed clear, however, merely scraping down the Bowfell's starboard side, when she was brought up. Unfortunately, owing principally to a panic which seized the passengers, some 19 were found eventually to be drowned and missing.

The Bowfell was a sailing vessel of 1,001 tons register. About 1.80 a.m. of the 26th of November she was off the Rock Light, in charge of a pilot, having arrived there from Calcutta, with a crew of 28 hands all told. The pilot originally intended to have anchored between the Rock Light and Egremont, but owing to the number of vessels there, including two wrecks, he found it impossible to get a clear berth, and determined to proceed up the river above Woodside Ferry. He accordingly went over towards the

Liverpool side, but observing a bank of thick fog coming down the river from the S.E., he ported the vessel's helm, and at the same time signalled to the tug to port her helm, so as to bring his vessel over more to the Cheshire side, and out of the way of the small craft on the Liverpool side, and the ferry boats and tugs which would be making for the Liverpool Stage. Observing to the S. what ultimately turned out to be the lightship, but which he took to be simply a vessel riding at anchor, he dropped his anchor and brought up on the ebb tide, paying out at the same time 45 fathoms of chain. By this time the fog was on them, and an anchor watch was set. At 8 o'clock, the fog being still very intense, the mate set a sea watch, one of the hands being put at the helm, and another set to ring the bell, which had been kept going continually from the time she was brought to an anchor. Soon afterwards 15 fathoms more chain were paid out, thus giving her 60 fathoms. At 9.30 a.m. the pilot was walking the quarter-deck, the master and chief mate being below; there was a man at the wheel, the eldest apprentice at the bell, and the vessel had a slight sheer to the W., heading about N. 1 W. or N .by W. on the flood tide, when the Gem was observed crossing their bows and drifting rapidly down upon them. Before the pilot could run forward the steamer was foul of them. The boat of the Bowfell was immediately lowered and some seven or eight people rescued. There was no charge made against the masters or officers of either vessel that they neglected to take all proper measures to save life.

The first question considered by the Court was, whether the Gem was justified in attempting to cross the river on the morning in question; upon which, looking at the fact that the fog was so thick as only to enable objects to be seen at a distance of 60 or 70 feet off, they were of opinion that under such circumstances a master would not be justified in attempting to cross the river, at all events when the tide was running at the rate of from five to six knots an hour. Indeed the manager of the vessels belonging to the Wallasey Local Board, who gave his evidence in such a manner as to call for the high approbation of the Court, said that, in his opinion, it was not prudent to run on that morning, that he would have preferred not to take the risk, and that if it had been left to his discretion he should not have done so. The blame for doing so, the Court considered, lay more with the ratepayers and the Wallasey Local Board than with the captain of the Gem or the ferry manager.

The second question was whether the master of the Gem took proper precautions to avoid the collision. When he started from Seacombe, he knew, according to the evidence, that a bell had been heard to the S. of the lightship, but no one knew what was the exact position of the vessel to which that bell belonged. The master nevertheless determined to pass between the lightship and this unknown vessel, instead of, as the assessors thought he ought to have done, going to the N. of the lightship and the wreck, clear of all obstructions. When he sighted the Bowfell, the Court considered that the measures which he took were proper ones and such as a prudent captain would have taken.

They held further that the Bowfell was not in such a place as to be a source of danger to the ferry-boats if the latter were worked with due care

and caution; and taken every precaution, not only to avoid the ferry track, but to place his vessel in such a position that she could ride with safety to herself and others; and further that the Bowfell carried and used proper fog signals on the morning in question.

Collision-Overtaking Vessel.

"FARNLEY HALL," S.S. AND MORNA," S.S.

Inquiry held 16th, 17th and 18th December, 1878.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Farnley Hall was an iron screw steamship of 945 tons gross and 606 tons net register. Shortly before mid-day of the 10th of November, 1878, she arrived off Gravesend from the Baltic, and having taken on board a pilot, proceeded up the river, her destination being the Grand Surrey Canal. Except when rounding the points she went full speed, which was about 91 knots, until she arrived in Limehouse Reach; at which time the master, chief mate and pilot were on the navigating bridge, raised about 71 feet above the lower bridge. The boatswain and two men were on the bridge steering her. It was nearly high water, but the flood tide was still running, and the wind blowing strong, with squalls from the S.W. When halfway up Limehouse Reach, the vessel was put slow. Towards the top of the reach she was steered to pass to the north of three barges and a schooner, which were lying at anchor a little to the southward of mid-channel. Her helm was then starboarded in order to round Cuckold's Point. When, according to her account, she had rounded the point and straightened up Limehouse Hole, and her helm had been steadied for about a minute and a-half or two minutes, the chief mate happening to turn round, observed a steamer, which proved to be the Morna, from 60 to 130 feet astern, and heading for their port quarter. He immediately blew the whistle, and the master ordered the engines to go on full speed ahead. however struck her with her stem and starboard bow on the port quarter, damaging her considerably below the water line, so that it became necessary to lay her upon the mud.

The Morna was an iron screw steamship of 930 tons gross and 544 tons net register. On the morning in question she was bound to London, and on passing Gravesend about noon, took on board a pilot, Henry Whittingham Allen. When about halfway up Limehouse Reach, her engines were put at half-speed. As she approached the barges previously mentioned, her helm was slightly starboarded in order to pass to the south of them, which would take her somewhat closer to the south shore. When she was past them, she starboarded in order to round Cuckold's Point, when they observed the Farnley Hall suddenly and unexpectedly starboard her helm, and come across their bows, at the same time stopping her engines. The helm of the Morna was thereupon put hard-a-starboard and the engines reversed full speed,

Upon the evidence the Court came to the conclusion that the engines of the Farnley Hall were never stopped at all, and further, that she had rounded the point gradually and in the usual and accustomed manner, and that she was heading up the reach on a N.W. or N.W. and by W. course before the collision took place. It was therefore for the Morna to show why, being the overtaking vessel, she did not keep clear, and this, in the opinion of the Court, she did not satisfactorily do.

They held that the collision was due to the Morna having been going at so high a rate of speed that she was unable to avoid the Farnley Hall either by stopping and reversing, or by passing under her stern; and the Morna, having been at the time entirely under the control of the pilot Allen, and all the orders given by him with regard to the course and speed of the vessel having been carried out, the Court had no hesitation in saying that the collision was due to his wrongful act and default.

In answer to a question by the Board of Trade as to whether the Farnley Hall was to blame for not having had a look-out stationed aft, the Court said that she had a good look-out forward, which, under the circumstances, was all that was necessary.

Gas Explosion-Ventilation.

"RICHMOND," S.S.

Inquiry held 19th and 20th December, 1878.

Assessors: R. A. POWELL, R.N.; J. S. CASTLE.

The Richmond was a vessel of 694 tons gross and 406 tons net register. In November, 1878, she left London for Penarth, and having there taken in a cargo of 1,233 tons of South Wales coal, left on the 19th of the same month for Malta, with a crew of 20 hands all told. On the 22nd, when nearly across the Bay of Biscay, a gale sprang up which obliged them to ease the engines, and a heavy sea having got up, the hatches, which till then had remained open, were put on and securely battened down. At 7.30 a.m. of the 24th an explosion took place in the after hold, when the captain, William Parssey, found the steward sitting down on the grating just outside the cabin door, very severely burnt, the cook being brought on deck from the lazarette also severely burnt. As there was a great deal of smoke coming up from the lazarette in the stern of the ship, as well as from the officers' quarters abaft the engine room, the master ordered the hose to be brought from forward and water turned on, so that in about half-an-hour they were able to go below. On descending into the lazarette, the master observed that the bulkhead which separated it from the cargo portion of the 'tween decks had been blown out of shape, and some of the rivets that fastened the plates to the angle irons having been blown away, the water was consequently coming into the ship. On looking down into the after peak, he saw water pouring in there also. He then closed the after peak, and had the leaks in the lazarette stopped up as well as could be done. The three steam and two hand pumps were set to work, but as none of the

suction pipes led down into the after hold, it became necessary, in order to pump the water out, to let it into the engine room, and for that purpose the sluices were opened. Finding, between 11 and 12 o'clock, that all efforts to keep the water under were useless, that the lower after hold was quite full, while the vessel was rapidly settling down astern, the master determined to abandon her. The boats were lowered, the injured men put into them, all hands got in, and having been taken on board a steamer called the Nelly Wise, were brought to England.

To ascertain the cause of this casualty, it was necessary for the Court to inquire into the form and construction of the vessel. She had her engines amidships, with two holds; one before, the other abaft the engines, separated from them by watertight bulkheads. The fore and after holds were divided by a deck into upper and lower holds, there being two hatches to the fore hold but only one to the after hold. The fore part of the after 'tween decks being divided off from the hold, formed the engineers' and officers' berths and mess-room; the after part being also partitioned off, formed the lazarette, which ran back aft to the frame of the ship. officers' quarters and lazarette were separated from the cargo space by bulkheads, the former being rebated; whilst the latter was formed of rough boards, with interstices of a quarter of an inch between the planks, having a door in it, to enable provisions to be taken down through the after hatch into the lazarette. The only access thereto, when the vessel was loaded, was through a hatchway in the passage leading from aft to the saloon, and placed within a foot or two of the outer door. Under the lazarette was a watertight compartment called the after peak.

Both the lower holds were full of coal; the fore 'tween decks was pretty full, but in the after 'tween decks the coal had been trimmed up against the forward bulkhead which separated the cargo space from the officers' berths and mess-room, and it sloped away aft from the hatch to the foot of the after bulkhead, thus leaving a large empty space immediately forward of the bulkhead of the lazarette. Over the fore hold there were two ventilating bollards, standing some two and a-half to three feet above the deck, and the same over the after hold; but in three of them the cap or screw which closed the orifice had become rusted in, and could not be moved, the key for unscrewing them having been lost, so that for any purposes of ventilation they were quite useless. As a fact, they were all closed when she left Penarth, and were not opened before the vessel foundered. There was also a ventilating cowl just abaft the saloon and captain's cabin, which was intended for the ventilation of the lazarette, but it became unshipped some time during the evening of the 22nd, and instead of replacing it the master ordered the hole to be plugged up.

The coal with which the vessel was laden was all South Wales steam coal, supplied by the Ocean Steam Coal Collieries Company. The total quantity put on board was 1,233 tons, of which 450 were in the after, and the remainder in the fore hold. About 400 tons of this coal had been wrought on the 15th, and shipped on the 16th of November; about the same quantity was wrought on the 16th and shipped on the 18th; and the remainder wrought and shipped on the 18th, except a small quantity

shipped on the morning of the 19th. All, therefore, was fresh or newly wrought, and in a condition to give off large quantities of gas. That which had been last worked was put in the after hold.

All the South Wales steam coal is of a very fiery character, and has a tendency to give off gas in large quantities for some time after it has been wrought. In the case of this vessel, what was naturally to be expected happened. After the 22nd, when the hatches were battened down, there was no ventilation of any kind to either of the holds or the lazarette. The newly-wrought coal in the after hold gave off gas which accumulated in the empty space in the 'tween deck forward of the bulkhead of the lazarette, passed through the interstices which existed between the rough boards of that bulkhead and so filled the lazarette.

The next point which the Court had to ascertain was whence the flame came which caused this gas to explode—and although there was no positive evidence, it seemed pretty clear that the steward had a candle in his hand and was going down into the lazarette when the gas which had accumulated there exploded.

The Court came to the conclusion that the master altogether neglected to use the means which were provided for ventilating the hold; that he failed to see that the ventilating bollards were in good order, and allowed them to remain closed from the time of leaving port; that he neglected to replace the ventilating cowl to the lazarette after it had been unshipped; and that he failed to raise the hatches to give ventilation to the holds as soon as he might and ought to have done; and they therefore suspended his certificate for six months.

Stranding-Pilot's Negligence.

"PAWASHICK."

Inquiry held 21st December, 1878.

Assessors: R. A. POWELL, R.N.; J. S. CASTLE.

The Pawashick was a barque of 359 tons register. She left Cardiff on the 5th of December, 1878, bound to Barcelona, having a crew of 10 hands all told, and in charge of a duly licensed pilot.

At 8 p.m. she was laid upon the port tack, heading about N.E., the Nash Light then bearing N.E. by E. \(\frac{1}{2} \) E., distant about 10 miles. The first officer then went below, as did the master at 8.30; leaving the pilot and boatswain on deck. Some time afterwards the pilot went down into the cabin and there fell asleep. At 9.30 the boatswain woke the pilot, who found on coming on deck that the higher light on Nash Point was to the northward of the lower light, and that the vessel must therefore be near to the Nash Sands. He then called all hands up, and put the helm hard down, but before she could pay off she struck the ground on the further point of the West Nash. In about two hours she floated, upon which, as she was making water, the master returned to Cardiff.

The Court found that the stranding was due to the vessel having been

kept too long on a N.E. course, heading for the north shore of the Bristol Channel, till she grounded on the Nash Sands. They blamed the pilot for having been below and asleep when he should have been on deck, and attached no blame to the master.

Damage.

"KATE KELLOCK."

Inquiry held 7th, 8th and 9th January, 1879.

Assessors: H. Knox, R.N.; J. P. WILSON.

The Kate Kellock was an iron ship of 1,175 tons burthen. She left San Francisco on the 16th of April, 1878, with a cargo of from 1,400 to 1,500 tons of grain and flour, having a crew of 26 hands all told, and carrying five boats. Soon after sailing, a leak was discovered in the fore peak, owing to a pipe having given way close to the ship's side; consequently it was thought prudent to return to San Francisco, where the damage was repaired, and she sailed again on the 23rd of April. All went well until 2 a.m. of the 18th of June, when she was nearing Cape Horn. At this time it was the chief officer's watch; the vessel was under two lower topsails, close-reefed foresail, and foretop staysail, steering S.E. and by E., with the wind from the westward, a little on the starboard quarter. A wave suddenly broke over her stern, washing two men away from the wheel, and breaking the chief officer's leg. The ship then broached to and fell off into the trough of the sea.

When the captain came on deck he ordered the yards to be braced up, but the lower maintopsail was immediately blown away. About two hours afterwards another sea struck her, carrying away all her compasses, besides doing other damage. Soon afterwards the three after boats were smashed and the two forward ones carried away. An attempt was then made to get her head to wind, but without success. During the day the mainmast went overboard, tearing up a portion of the deck, so that a good deal of water got down into the hold before the hole was covered with tarpaulins securely battened down. Orders were then given to cut away the fore and mizen topmasts, and subsequently the lower masts also, a jurymast being made in their place from a studding sail boom. During the night the crew set to work to jettison the cargo, the only way to get at it, owing to the heaviness of the sea, being through the hatch in the forecastle, where the captain, with his wife and child, had taken refuge. In this state they drifted helpless, until Tuesday, the 25th of June, when land was seen, and they anchored in 37 fathoms, under the lee of Noir Island. On the 28th, the weather having moderated, she was got under weigh, in the hope of finding a better anchorage; but the wind failing, and the weather coming on very thick, they were again obliged to anchor in an exposed position in 37 fathoms, with 105 fathoms of chain out. On the 2nd of July the chain parted, whereupon sail was made, and she succeeded in getting safely into Melville Sound, where they came to an anchor very close to the rocks. By the 14th of July the carpenter had finished a new boat, in which the second mate, with two A.B.'s and an apprentice, volunteered to endeavour to reach Sandy Point, in the Straits of Magellan. They ultimately, however, fell in with a steamer. At Sandy Point they obtained the assistance of a Chilian man-of-war, which eventually, having taken the Kate Kellock in tow, brought her safely to Sandy Point. The crew, a day or two after their arrival, were taken on shore to the consul's office, and asked to sign a protest, which they one and all refused to do.

In the course of their judgment, the Court expressed their opinion that there was nothing to show that the orders given when the vessel was first pooped were improper ones. They considered, however, that the master was greatly to blame, inasmuch as he had allowed his chronometer to run down; and that his conduct, in giving up charge of the ship to the second mate, on the 2nd of July, was almost inconceivable and wholly unjustifiable. They also held him responsible for the log not having been properly kept from and after the 17th of June.

But as none of these grave acts of misconduct in any way contributed to the casualty, which was due entirely to the extreme severity of the weather, and to the ship having been pooped, the Court considered that they had no power to deal with the certificate of Charles Ricker, the master of the Kate Kellock, much as they regretted it, and unfit as they believed him to be to hold the position and discharge the duties of a master.

Abandonment.

IBIS."

Inquiry held 10th January, 1879.

Assessors: H. Knox, R. N.; J. P. WILSON.

The Ibis was a vessel of 232 tons register. She left England in a thoroughly good condition on the 20th June, 1878, bound to Benin, with a crew of eight hands all told. She arrived there on the 8th August, discharged her cargo, and proceeded to load a cargo of palm oil, after taking in a large portion of which she crossed the bar, and lay in the roads for the purpose of taking in the remainder. Before she left the wharf, several of the crew, including the first and second mate, had been struck down with African fever, and, whilst lying in the roads, one of the ordinary seamen died. She left on the 21st of September, at which time the mate and two of the men were ill and off duty with fever, and another being only half fit for duty, the whole work of the ship fell upon the remaining three men, of whom the master was one. On the 13th of November the mate died, at which time the master was off duty. Some of the crew were ill, and in this condition they encountered a severe gale of wind. On the 12th of December they encountered another severe gale, which carried away all their sails except the lower topsail and storm trysail. The only persons who could get on deck were the master and steward, the remainder of the crew being down with fever. The two men could do nothing but desh the helm and trust to falling in with some vessel. Two days after they fell in with a Norwegian barque called the Alert, with the assistance of whose crew, the whole of the survivors, six in all, were taken on board, the master and steward being alone able to get over the side without help. They were subsequently landed at the Port of London on the 23rd of December. The Ibis, after abandonment, was fallen in with by a vessel called the Mary Cook, and three hands having been put on board, she was eventually brought to Queenstown.

The Court was asked to say whether the master was justified in leaving the port of Benin with only three hands, including himself, to do the whole duty of the ship; and they considered that he exercised a very wise discretion in putting to sea as he did, and with the small crew that he had; for if he had waited at Benin till he could have got fresh hands, it was more than likely that he and the rest of the crew would have been dead before those hands could have arrived.

They also stated that, in their opinion, the ship was not prematurely abandoned, and that the master was fully justified in abandoning her as and when he did.

Stranding.

"BARCELONA," S.S.

Inquiry held 11th January, 1879.

Assessors: H. Knox, R.N.; T. WILSON.

The Barcelona was an iron screw steamer of 1,855 tons gross and 1,216 tons net register. She was steered from amidships, but had also a wheel aft, and carried four compasses—the standard compass on the wheel-house, one in the wheel-house, and another before the after wheel, the fourth being a spare one. She left Cadiz for Montreal on the 6th October, 1878, and on the 15th encountered a very severe gale, which carried away the standard compass. Thereupon the master transferred the one which had been before the after whoel (which was one of Sir William Thompson's patents) to the place of the standard.

At 8 a.m. of the 19th, the Island of S. Pierre, off the south coast of Newfoundland, bore N. ½ E. by compass, distant about 10 miles. At 10 a.m. an azimuth observation was taken by the master, which led him to think that the deviation of the standard compass was a point and a-half, instead of a point, as he had supposed. At noon, therefore, he laid the vessel on a N.W. by N. ½ N. course by compass, which was continued till 3 p.m., when another azimuth observation having been taken, which confirmed his belief, the ship was laid on a N.W. by N. ½ N. course till 8 p.m., when she was put back to N.W. by N. The master's object in keeping to the N. was, as he stated, for the purpose of making the Rose Blanche Light, from whence to take his departure across the Gulf of S. Lawrence. At 9.50 p.m., observing a white light some two to three points forward of the starboard beam, he immediately concluded that this was the light he was in search of and continued his course. Shortly afterwards he saw breakers

on the starboard bow. The engines were reversed full speed and the helm put hard-a-starboard, but when she got sternway upon her she struck aft twice. At length, having cleared the rocks which were off Dead Island, they arrived in due course at Montreal, where it was found that one of the blades of the propeller had been knocked off, and the sternpost and rudder-locking damaged.

The Court were of opinion that the master was mistaken in supposing that the deviation in the compass was so great as he had estimated, and that the stranding was due to this error. They thought that he ought to have taken greater precautions when approaching the land, but added that he was entitled to great credit for having, by his skilful and seamanlike conduct, extricated the vessel from a position of extreme peril, and they accordingly returned his certificate, cautioning him to be more careful in the future.

Stranding.

"C. S. BUTLER," S.S.

Inquiry held 14th January, 1879.

Assessors: B. S. PICKARD, R.N.; T. BEASLEY.

The C. S. Butler was an iron screw steamship of 760 tons gross and 516 tons net register. She left Newcastle on the 19th of December, 1878, with a crew of 17 hands all told, and a coal cargo; in good condition and well found, bound to London. At 2.20 p.m. of the 20th she passed the Dudgeon Lightship, bearing W. by S., distant about five miles. She was then steered, according to the master, S. and by E. & E. magnetic. Just before 4 p.m. they entered a fog, when the engines were slowed by the chief mate. At 4 o'clock the master, John Copeman, having come on deck, altered the course to S. 3 E. magnetic, keeping the engines easy till about 5 p.m., when the fog having cleared a little, they were put on for a quarter of an hour full speed; but the fog again coming on, they were again eased down till 6 o'clock, when they went on full speed again. At 6.20 the look-out man reported breakers ahead, and though the engines were stopped and reversed, the vessel almost immediately took the ground, ultimately becoming a total wreck, the crew getting to shore in safety. The place where she stranded was on Hasborough Sand.

The Court came to the conclusion that she had not been steered from the Dudgeon the courses which the master stated, but that she was steered too much to the eastward, and that she was navigated at too great a rate of speed (eight knots) having regard to the foggy state of the atmosphere, which rendered it impossible for them to see the lights of the Hasborough Lightship, although they passed within a mile of it. They added that, when she had run the distance between the Dudgeon and the Hasborough Light, and the light of the latter was not seen, the master ought to have taken a cast of the lead, and that the casualty was due entirely to his wrongful acts and defaults. They accordingly suspended his certificate for six months.

Stranding-Ignorance of Pilot.

"FLEETWING: "libtool.com.cn

Inquiry held 16th and 17th January, 1879.

Assessors: B. S. PICKARD, R.N.; T. BEASLEY.

The Fleetwing was a barque of 349 tons register. She left Algoa Bay for London on the 4th September, 1878, in good condition, and well fitted for the voyage. At noon of the 25th of November Beachy Head bore N.N.E., distant six miles, and at 4 p.m. they were abreast of the Royal Sovereign Shoal Lightship, the wind being light from W. to W.S.W., and the sea smooth. At this time they were boarded by a man named Charles Pearson, a Walmer boatman, who engaged to pilot the ship as far as Dungeness, and for that purpose put her on an E. by N. course, till between 7 and 8 o'clock, when the wind came away from the northward and eastward. At 9.30 p.m. the master went below, having been on deck for 50 hours, leaving orders to keep the vessel as nearly as possible on an E. by N. course. At midnight lights were observed ahead, which the pilot supposed to be the lights of Hastings, and he accordingly ordered the vessel to be put upon a S.E. to E.S.E. course. From that time she was kept tacking about until 3.30 a.m., when a bright light was observed on the port bow, which both the master and Pearson thought was the Dungeness Light. The master, who had come on deck at 1.30 a.m., accordingly ordered the helm to be ported, and in about a quarter of an hour, land having been observed on the weather bow, the helm was harda-ported, but almost immediately the vessel struck, when it was found that the light was the Cape Grinez Light, and that they were in fact on the French coast. When the tide rose she came off, and was taken to London and repaired.

It appeared from the evidence, that from the time when the bearings of the Royal Sovereign Lightship were obtained, no measures whatever were taken to ascertain the true position of the vessel, nor was the lead hove at any time. The Court also came to the conclusion that the vessel had been improperly handled, in having been kept on an E.S.E. course from midnight till she grounded. They considered that the casualty was entirely due to the fact of her having been kept on the above course by James Isles, the master, and they added that he was not justified in having given up the charge of the vessel to Charles Pearson, of whose qualifications he was entirely ignorant, and who was in fact utterly incompetent.

The Court accordingly suspended the master's certificate for six months.

Gas Explosion-Defective Ventilation.

"CHARLES W. ANDERSON," S.S.

Inquiry held 21st and 22nd January, 1879.

Assessors: H. D. GRANT, R.N.; H. JONES.

The Charles W. Anderson was an iron screw steamship of 1,452 tons gross and 937 tons net register. She left Penarth Dock, Cardiff, on the

25th of May, 1878, bound to Malta with a cargo of 1,685 tons of coal, besides 246 tons of bunker coal, well found and in good condition in every respect, except as to the ventilation of the holds. She had five watertight compartments-right forward was the fore peak, then the fore and main holds in one, then the engine room amidships, then the after hold, and right aft the lazarette. Her lower or main deck was of iron, and the upper deck of wood. Of the cargo, 1,000 tons were stowed in the fore and main holds, and the remainder in the after hold. The fore and main 'tween decks contained hardly any coal, but the lower holds, fore and aft, were quite full, there being also from 160 to 170 tons in the after 'tween decks. The coal was the ordinary South Wales steam coal, and was all freshly worked and in a condition to give off large quantities of Over the fore hold and about 10 feet from the forward bulkhead were four ventilating bollards, standing some 2 feet above the deck, with orifices about 4 inches in diameter, capable of being closed at pleasure with brass screws. There were four similar bollards over the after hold about 10 feet from the after bulkhead. These were the only means which existed, apart from the hatches, of ventilating the holds, and whenever the hatches could not be kept open on account of the weather, it was necessary also to close the bollards.

On leaving port, portions of all three hatches were left open, but about 4 p.m. of the 27th, it became necessary to close and batten them down until immediately previous to the explosion. Between 6 and 7 p.m. of the 28th, the chief engineer went into the screw tunnel to examine the bearings, and on reaching the third bearing he observed a blue flame playing about the lamp which he carried in his hand. He at once came out, leaving the lamp some 2 or 3 feet from the mouth of the tunnel. The captain, who came down, at once called the engineer's attention to this, but the latter replied that there was no danger. The captain then went on deck and ordered the hatches to be removed from the after hatchway. When the two forward hatches were off, the captain ordered the sluice communicating with the well at the further end of the tunnel to be opened, so as to allow the gas which was in the tunnel to escape that way. The carpenter went forward to get the key, and the captain proceeded to take off the two after hatches when an explosion took place, lifting the deck abaft the hatchway and injuring the captain and second mate. Ultimately the damages were repaired and the vessel arrived safely at Malta, where it was found, on examination, that there had been a slight explosion of gas in the tunnel, and a much more serious one in the 'tween decks abaft the after hatchway.

The Court considered that the explosion was due to the gas in the after hold having been allowed to accumulate until it had filled the hold, thence passed into the screw tunnel, and come in contact with the light ineautiously left there by the chief engineer. They blamed the master for having proceeded to sea without seeing that the vessel was provided with adequate means of ventilation, and considered that the owners were not justified in having neglected to provide better means of ventilation.

www.libtoSpontaneous Combustion.

"J. E. WOODWORTH."

Inquiry held 24th January, 1879.

Assessors: H. D. GRANT, R.N.; H. JONES.

The J. E. Woodworth was a barque of 429 tons register. She left Kingsport in Nova Scotia on the 7th of September, 1878, with a cargo of 134 tons of coal, and a quantity of lumber and shingles, bound for Port Stanley in the Falkland Islands, having a crew of 10 hands all told, in fair condition for a vessel of her class, and for such a voyage as she was about to undertake.

She had two decks, a cabin aft, and a forecastle forward, both resting upon the lower deck and rising about 3 feet above the upper deck. Abaft the cabin was the lazarette, also resting on the lower deck, with a hatchway in the floor opening into the lower hold. Quite at the bottom of the vessel were laid the coals, running the whole length fore and aft and rising about 6 feet amidships, 4 feet forward and 8 feet astern; above them were the lumber and shingles, which completely filled up the remainder of the lower hold under the lazarette, cabin and forecastle, as well as the 'tween decks between the cabin and forecastle.

The vessel met with very bad weather, losing her deck load of timber on the 24th of September; and on the 11th of October, being thrown on her beam ends, she took in a considerable quantity of water. At about 10 p.m. of the 10th of November, the cabin and forecastle were found to be full of smoke: every endeavour was made to discover the cause, but without avail. In a few minutes it passed off; hot air however continued to come up through the hatchway in the bottom of the lazarette communicating with the lower hold, and also through some holes in the floor of the forecastle. On the 12th, the master finding this state of things continuing, determined, after consulting the chief officer, to stop up all openings in the hold, in order to smother the fire. This was done, after which no heat or smoke was perceived until about 8.30 p.m. of the 16th, when the cabin and forecastle were again suddenly filled with smoke, which also issued from the main hatchway and from every place where it could find an outlet. The captain then ordered the cabin and forecastle to be closely shut up, in order to prevent the air from getting below. He also ordered the deck to be flooded, but as, unfortunately, the vessel had no bulwarks, the water could not be retained there, and the heat became so great that the pitch melted, and the oakum fell out in several places.

On the night of the 16th a steamer approached, but passed on without offering any assistance. The next day they saw the Napoleon to leeward, and bore down towards her. On nearing her, the Napoleon lowered her boats, her master and mate came on board, and by their advice the crew of the J. E. Woodworth left their vessel, being then about 300 miles from Rio. Soon afterwards the mizenmast went overboard, and at 6 p.m., when they saw her for the last time, she was entirely enveloped in flames.

Upon landing at Rio, the consul arranged to send the master home, but

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said that the rest of the officers and men must take service. Very shortly after this, McNamara, the chief mate, William Scott, the second officer, and a seaman named Joseph Wallace, signed a paper declaring that on their arrival in England they would tender evidence which, as they alleged, would show that there had been unfair play in the matter; upon which the consul determined to send them home.

The principal questions for the Court were as to the cause of the fire, and the conduct of the master. With regard to the first, it appeared that when the vessel sailed on her last voyage the coals had already been on board for nearly two months. On the 24th of September and the 11th of October she made large quantities of water, and had to be pumped out twice every watch, except when the weather was very fine. The conditions could hardly have been more favourable to the development of spontaneous combustion. When the coal was shipped the weather was very foggy and wet; in the course of the voyage the coal had been very frequently wet; and when the fire broke out it had been on board nearly four months. Upon the whole the Court had no doubt that it was to spontaneous combustion that the ignition of the cargo was due.

They also considered that the captain had acted rightly in not taking off the hatches. Had he done so, and thus admitted the air, the vessel would have probably been in a blaze in a few minutes.

They thought that it could have been better if, after battening down the hatches, and stopping up all the holes, he had flooded the lower part of the cargo, which he could have done without difficulty, either by discontinuing pumping, or by taking out the pump boxes and pouring water into the wells, or by cutting holes in the deck, and so letting the water down into the hold. They held that there is no greater danger to a ship at sea than fire in the hold, and that it is far better to flood the hold than to allow the fire to smoulder till it is ready to burst into flame. The Court expressed their deep disgust at the conduct of the chief and second mates and the seaman, who had invented a story which might have deprived the master of his character, and even put him on his trial on a criminal charge, simply in order that they might be sent to this country free of expense to themselves. In conclusion, they stated that in their opinion the captain was fully justified in abandoning the vessel when he did.

Abandonment-Misconduct of Master and Mate.

"JAMES H. MYRICK."

Inquiry held 27th, 28th and 30th January, 1879.

Assessors: G. H. FORSTER, R.N.; J. P. WILSON.

The James H. Myrick was a barque of 399 tons register. She left Tignish, in Prince Edward Island, on the 28th of November, 1878, with a cargo of 1,200 deals, 46 casks of fish, and 30,000 bushels of oats, bound to Queenstown for orders. Her crew consisted of 10 hands all told.

On the 26th of December she was overtaken by a squall, which struck

her nearly right astern, and the sea coming in cn both sides, filled the decks so that the vessel would not answer her helm, but becoming unmanageable, broached to and fell over on her beam ends. The weather maintopsail sheet was let go, and immediately the main and mizentopmasts and the main yard were carried away; the water was nearly up to the main hatch, and the captain, George Dowell, therefore considered it necessary to cut away the fore and main masts. The vessel then righted, but continued to have a list to port.

On the 28th the captain rigged up a small spar as a main jurymast. At daylight of the 1st January, a steamer named the *Imbros* bore down towards them, and the crew of the *James H. Myrick* were transferred to her and taken to Liverpool.

The Court were asked to say whether the abandonment was justifiable. and to inquire into certain charges of misconduct against the captain and chief mate, John Le Bosquet. In the course of their judgment they expressed their opinion, that when the vessel sailed from Tignish she was probably in a tolerably fair condition for a vessel of her class, and that the captain was perfectly justified in running her before the wind on the 26th December, instead of allowing her to remain to: but that there was no reason why she should not have had some more sails on her foremast, which would have given her greater speed through the water and probably have kept her shead of the sea. On the whole, they thought that he took proper measures when the vessel was struck by the squall, it having been undoubtedly his duty to cut away the masts when she was on her beam ends. They held that it had been clearly proved that she did not make so much water as the master and mate said, and in their opinion the master did not make every possible effort to take her into port. Instead of rigging the jurymast in place of the mainmast, he should have placed it in the position of the foremast, if he had spars sufficient for only one jurymast, but it seemed that he had had sufficient for two.

The Board of Trade had charged the master with having, before the abandonment, ordered some of the crew to cut holes in the deck and break open the main hatch, and the mate with having assisted in doing so. Upon this point there was a direct contradiction between the master and mate and the crew. The Court came to the conclusion, from the evidence given by one of the crew (who had given it in such a way as to convince them that he was telling the truth), and also from that of the boatswain of the *Imbros*, that the crew were to be believed in preference to the master and mate, and they accordingly concluded that holes were cut end the hatches broken open.

In their opinion the abandonment was wholly unjustifiable, and they therefore suspended the master's certificate for twelve months, and that of the mate for six months.

Stranding.

"KINGVARTHUR, com.cn

Inquiry held 29th and 30th January, 1879.

Assessors: G. H. FORSTER, R.N.; J. P. WILSON.

The King Arthur was a sailing vessel of 1,211 tons net register. She left Charleston on the 26th of November, 1878, bound to Liverpool with a cargo of cotton amounting to 850 tons, and about 100 tons of kentledge. She had a crew of 20 hands all told, and was efficiently equipped in every respect.

At 10 a.m. of the 30th of December the Old Head of Kinsale bore N. by E. & E., distant three miles, upon which, as the master, William Nelson, stated, the vessel was laid on an E. & S. course till noon, when it was altered to E. by S. & S. At 2 p.m. it was again altered to E.S.E., and at 4.20 p.m. Hook Tower bore N.W. by N. 1 N., distant five miles. The captain. thereupon ordered the vessel to be hauled to the wind, and said that she was laid on a S.S.E. course, the wind being from the S.W. After some time they sighted the Coningbeg Lightship, bearing S. by E., upon which, knowing that his vessel would not stay in such weather, the captain wore her round on to the port tack. They again sighted Hook Point, and she was again wore round on to the starboard tack, but on sighting Coningbeg Light this time, it was found to bear S. 1 E., showing that they had already lost ground. From that time they continued to beat backwards and forwards between Coningbeg Light and Hook Point, each time drifting further up the bay. At 8 p.m. the wind freshened considerably, and about 1 a.m. of the 31st. the upper and lower foretopsails were blown away. At this time Hook Point bore W. 1 N., distant from seven to eight miles, when finding from the lead that the water was rapidly shoaling, the captain ordered the starboard anchor to be let go, and 45 fathoms of chain to be paid out. Half-an-hour afterwards the port anchor was also let go, and 80 fathoms were paid out on each. At 7 a.m. she was still going to leeward, when a stream anchor was let go, but at 9 a.m. she struck the ground, the crew being landed in safety, but the vessel going ultimately to pieces.

The place where she grounded was quite in the upper part of Bannow Bay.

The Court came to the conclusion that the course steered by the master after leaving the Old Head of Kinsale was E. ½ S., in the belief that it would take him clear of Coningbeg, and added that there was no reliable evidence to prove that that course had been altered, as stated by the master, to E. by S. ½ S., and then to E.S.E. On the contrary, the Court considered it proved that for two hours it was altered half a point to the N., and this, coupled with the leeway which the vessel, being light, would certainly have made, would fully account for her being, soon after 4 p.m., at the entrance to Bannow Bay.

The Court held that; after she had become embayed, the master took all such measures as were in his power to save his ship, but for his wrongful acts in steering too near the shore they suspended his certificate for six months.

www.libtenbaymentl Damage to Ship.

"SARAH AND EMMA."

Inquiry held 31st January, 1879.

Assessors: G. H. FORSTER, R.N.; J. P. WILSON.

The Sarah and Emma was a barque of 1,097 tons. She left Rangoon on the 12th July, 1878, with a cargo of 1,547 tons of rice, cotton, cutch and indiarubber, having a crew of 20 hands all told. At noon, on the 30th of December, they were nearing the Irish coast. In the afternoon of that day they were steering E.N.E. At 8 a.m. of the 31st, soundings of 47 fathoms in coarse sand and stone were obtained, whereupon the course was altered to N.E. and by E. At 11.30 a.m. Hook Tower was sighted, bearing N. five or six miles distant, the course being then altered to N.E. and by E., or, according to the mate, to E.N.E. The master then went below to consult his chart, and on coming on deck in a quarter of an hour, the course was altered to N.E., the vessel being at the time under two lower topsails, reefed foresail, and reefed upper maintopsail. According to the master she was then kept on a N.E. course, till the mate reported land on the port bow, when the yards were at once braced sharp up, so as to lay her upon a N.N.E. course. The mate, however, said that after she had been on an E.N.E. course for about 10 minutes, he, by the master's orders, went aloft to look for land, that he saw land broad on the port bow, and came down and reported it to the captain, that the vessel was then upon a N.E. course, and was so kept until Coningbeg Lightship was sighted, when the yards were braced sharp up. It was found, however, whenever this may have been done, that she drifted rapidly to leeward, and on nearing the lightship they observed the signal "J.D." hoisted, which signifies "You are standing into danger." Knowing that his ship would not stay, the captain wore her round on to the port tack, when she was brought as close as she could lie to the wind, which was from the W.S.W. As she still drifted rapidly to leeward, the master determined to cut away the masts, finding it impossible to get out of the bay. The lee rigging was accordingly first cut, then the weather rigging, when the masts, which were iron, went over the side. Having cleared away the wreck, the master let go both anchors, and at 9 a.m. the following morning, the Sarah and Emma was taken in tow to Waterford Harbour.

The Court held, that with the wind from the southward and westward, and the weather hazy, Hook Point was a very bad place to make, as it was so far inside Coningbeg Lightship; further, they considered that in laying her on the course he did after sighting Hook Tower, the captain did not take a proper course to clear Coningbeg Lightship, having regard to the indraught, and to the fact that the wind was blowing strong from the southward and westward. They added that, after sighting the Coningbeg Lightship, the vessel was navigated in a seamanlike way, the master having shown considerable skill in the measures which he took to prevent the ship from going ashore. Therefore, after careful deliberation, they

came to the conclusion that the master had committed only an error of judgment, and accordingly returned his certificate, with a caution to be more careful in the future.

Stranding-Failing to use Lead.

"SCHIEHALLION."

Inquiry held 4th and 5th February, 1879.

Assessors: E. Aplin, R.N.; W. Curling.

The Schiehallion was a barque of 602 tons register. She left Auckland on the 21st of September, 1878, for London, with a crew of 16 hands, 13 passengers, and a full cargo.

On the evening of Saturday, the 11th of January, they sighted the lights of the Isle de Vierge, about 25 miles to the N. and E. of Ushant, at which time she was close-hauled on the port tack, heading for the French coast, and steering about E.S.E. At 7.30 p.m. she was put on the starboard tack, with her head to the northward and westward, on which course she continued till 2.30 a.m. of the 12th, when it fell calm. At 6 a.m., a breeze having sprung up, her head was laid E. by the standard compass. She remained so until 2 p.m., when the course was altered to E. by S., and at 10 p.m. to E.S.E., till about 5.30 a.m. of the 13th, when she ran stem on to the shore about a quarter of a mile to the east of Blackgang Chine. Two lives were lost, and the vessel became a total wreck.

According to the statements of the master, John Levack, during the inquiry, there appeared to be no doubt that he must have made an error in his estimation of the deviation of the compass. The vessel was, when she struck the rocks, about 24 miles to the northward of her supposed course. Allowing four miles for the drift of the vessel when she was becalmed, from 2.30 to 6 a.m., of which the master took no account, and supposing him to have made an error of about half a point in the deviation (which would have given him about another 20 miles to the north), the situation of the vessel might be accounted for. Whether or not these were the true causes of the vessel's having got so far out of her proper course, the Court was unable to say positively. In any case, it appeared to them that the casualty was due mainly to the neglect of the master to take a cast of the lead, and to his having failed to determine his position accurately before he attempted to run up the channel. They accordingly suspended his certificate for six months.

Stranding-Iron Cargo.

"MESOPOTAMIA," 8.8.

Inquiry held 6th and 7th February, 1879.

Assessors: E. APLIN, R.N.; E. HIGHT.

The Mesopotamia was an iron screw steamer of 1,217 tons gross and 765 tons net register. She left London on the 11th of December, 1878, for

Bussorah, in the Persian Gulf, with a crew of 33 hands all told and about 500 tons of cargo, of which from 150 to 200 consisted of iron. She had three compasses in use: one before the after wheel, another before the midship wheel, and the third—the standard compass—on the bridge. The iron was stowed in the main hold, two iron boilers being in the main hatch. The steering compass amidships stood on the main deck some 3 or 4 feet from the after part of the main hatch, and, therefore, in close proximity to the boilers. Again, the standard compass was about 6 or 7 feet abaft the steering compass, but on the bridge, which was about 10 feet above the main deck, so that both these compasses were in such a position as possibly to be affected by the large quantity of iron which the vessel had on board.

At 11 a.m. of the 17th Cape Finisterre bore E.S.E., true, and the course was thereupon altered to S. and by W., by the standard compass. This course was continued till 4.15 p.m. of the 18th, at which time the weather was thick, when it was altered to S. \(\frac{3}{4}\) W., by the standard compass, according to the captain, who went below at 5.30, remaining there for 20 minutes, and then returning on deck. Immediately after getting on the bridge he saw something on the port side indistinctly, but immediately afterwards saw breakers, upon which the helm was ported, and the engines were stopped; the vessel, however, took the ground directly. The engines were then kept going full speed astern for one hour, when the shaft broke. Within 10 minutes the vessel floated: sail was immediately set, but the wind was so strong from the S.W. that her head was canted round to the N., and she went broadside on to the beach. The ship went to pieces, and seven men were drowned, the rest having reached the shore in safety.

The only evidence before the Court as to the course steered from Cape Finisterre was that of the master, George Phillips, who said that it was S. by W., by standard compass, but there was a contradiction as to what the variation of that compass was. It was found, on examining log books of former voyages, that the courses steered were somewhat more westerly than on the voyage in question.

The Court accordingly blamed the master for not having taken any means to verify his compasses and to ascertain whether they were affected by the cargo of iron, and also for having gone at too high a rate of speed in thick and foggy weather on the 18th of December, and for having neglected to take a cast of the lead. They therefore suspended his certificate for three months.

The Court also blamed the owners for having sent the ship to sea with so large a quantity of iron on board without having taken any precautions to see that her compasses were correct.

Stranding-Salvage by Lifeboats.

"CLEOPAS."

Inquiry held 14th and 15th February, 1879.

Assessors: R. A. POWELL, C.B., R.N.; B. G. W. NICOLAS.

The Cleopas was a barque of 345 tons net register. She left Liverpool on the 26th of December, 1878, for the Tyne, having a crew of 10 hands

and a cargo of salt. On the evening of the 12th of January, 1879, they sighted the Kentish Knock lightship, bearing N. by E. 1 E., the wind at the time being W.N.W., weather clear and bright, and the vessel heading N.E. by N. The captain, who had been up for two days and a night continuously, then went below, ordering the mate to continue the course until the lightship bore W., when it was to be altered to N.N.E., and to call him at 12 o'clock. At 9 p.m. the master came on deck again, but only for a few minutes, and told the mate to be careful to give the lightship a wide berth, and he then went down below and turned in. The vessel passed the Kentish Knock light vessel at about 9.30, and her course was then altered to N.N.E. At 11 o'clock two lights were seen on the port bow, which were reported by the look-out man. The chief mate went forward, and on looking at them, came to the conclusion that they were fishermen's lights. At 12 o'clock the boatswain, who was acting as second mate, took charge of the deck, and the first mate thereupon went below, leaving orders with the boatswain to continue on a N.N.E. course, and telling him also that, in his opinion, the two lights on the port bow were the lights of fishing boats. The wind at this time was still blowing a moderate breeze from about W.N.W., and the weather was clear and bright. At 2.30, according to the second mate, the weather became hazy, and the wind began to blow strong from the southward and westward, and at 3 o'clock they lost sight of the two lights. A few minutes after 4 o'clock the chief mate came up on deck to relieve the watch. An A.B. then went to the wheel, and soon found that the vessel would not keep her course by about half a point, but was griping to windward, and making a weatherly course. On calling the chief mate's attention to it, the latter ordered the mizen and the gaff topsail to be taken in, and the fore-andaft staysails to be hauled down. This was accordingly done, and they were in the act of squaring the yards forward when the vessel struck. In the meantime, and shortly before she took the ground, the master, who had been below since 9 p.m., awoke, and finding that it was after 4 o'clock. asked the second mate, who had then come down into the cabin, why he had not been called. Before, however, he had had time to dress or to take a look at his charts, the vessel struck on the Barnard Sand. The captain immediately rushed on deck, and at once ordered the helm to be put hard-a-port, and the yards to be backed, but they could not move her. The master then ordered signals of distress to be exhibited, which was done by burning a flare-up, and they were answered in about an hour by a rocket from the shore.

As to the cause of the stranding, the Court had no difficulty in coming to the conclusion that it was owing to the second mate's not having kept her on the N.N.E. course, as indicated by the master, but having allowed her from about 2.30 to come half a point to windward of her course, and so caused her to run aground. The Court blamed the chief mate for not having called the master at 12, and again at 4 c'clock, and the second mate also for not having called him when the weather changed; but they could not help thinking that they both acted as they did through feelings of kindness and consideration towards the master, knowing that he had

been up and on deck continuously for two days and a night. No doubt, however, their omission in great part caused the loss of the vessel, and they were therefore so far to blame.

The Court added that, in their opinion, no blame whatever attached to the master.

Some question arose in the course of the case as to the conduct of the lifeboats.

When the vessel got aground, an answering rocket came from Kessingland, on the coast of Suffolk, and at daylight the smaller of the two lifeboats stationed there put off, and having anchored to windward (it being impossible to go alongside the ship) succeeded, by paying out cable, in getting so near that the master and crew were able to jump into her. About three-quarters of an hour after the crew were landed, the vessel appeared to those on shore to float, and the two lifeboats immediately put to sea with the view, if possible, of saving her. Neither of them, however, succeeded in saving anything.

The Court expressed their opinion that, having saved the master and crew, the two lifeboats were justified, by the regulations of the National Lifeboat Institution, in proceeding to the wreck with boats belonging to the institution for the purpose of salving the vessel.

Stranding-Defective Charts.

"SAVANNAH."

Inquiry held 15th and 17th February, 1879.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The Savannah was a barque of 786 tons net register. She left Shields on the 6th December, 1878, bound to Marseilles with a cargo of coals, and a crew of 16 hands all told. Shortly before 1 a.m. of the the 4th of January, 1879, a light was seen a little on the port bow, upon which the mate altered the course, so as to bring it a little on the starboard bow. When the master, William Knill, saw it, he at once jumped to the conclusion that it must be the Planier Light, and accordingly the vessel was kept with the light ahout a point on the starboard bow, heading about N. or N. ½ E. until 5 a.m., when she ran aground on the French coast, some two or three miles to the west of the Faraman Light, which lies some 25 miles to the west of the Planier Light. The vessel ultimately went to pieces, but the crew were saved.

The Planier Light is, or was at this time, a revolving one, while the Faraman was a fixed light, and the Court accordingly considered that the master was guilty of great negligence in having mistaken the one for the other, and in having omitted, after sighting it, to verify his position, either by a careful examination of his chart, or by a cast of the lead. It appeared that the chart which he had on board was dated 1865, with additions down to 1867, while his book of instructions was also dated 1865. In neither of these was there any mention of a red light which was seen

below the white light in the Faraman Lighthouse by two of the men and the chief mate.

The Court considered that it was great carelessness on the part of the master to have put to sea with such a chart and sailing directions.

They suspended his certificate for six months, and reprimanded the first officer for not having reported the red light to the master.

Stranding.

"DAVID MALCOLM."

Inquiry held 17th, 18th, and 19th February, 1879.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The David Malcolm was a barque of 509 tons register. On the 16th o January, 1879, she left the Tyne for Motril, in Spain, with a cargo of coal and a crew of 13 hands all told. Having crossed the bar, she took her departure at noon, Tynemouth Castle bearing W. by N., distant from two and a-half to three miles. The evidence of the captain, Alexander Rogers, went to show that the vessel was first put upon a S. by E. course until 1.30 p.m., when it was altered to S.S.E. till about 10 p.m. He then ordered the boatswain to steer S.E. by S., but did not go on to the poop to see that it was done, depending upon a box compass in the after cabin. Having left orders that he was to be called before midnight, he fell asleep, and knew nothing further of what occurred. At 3 a.m. of the 17th the vessel was aground on Whitby Scar, within about 200 yards of the pier head. She was ultimately got off, and arrived in the Tyne the same evening in tow.

The courses alleged to have been steered by the master, if made good, would have taken the vessel about six and a-half miles clear of Whitby, but there was abundant evidence in the opinion of the Court to show that the course was not, as he had stated, altered at 10 p.m., but was continued at S.S.E. At the same time there was a N.E. sea setting her, from the time she left the Tyne, more and more inshore, added to which, the man at the wheel kept letting her come up towards the wind, which was blowing from N.N.W. to N.W. by N. These three causes were quite sufficient to account for the stranding.

The Court blamed the master for not having seen that his order to alter the course at 10 p.m. was obeyed, but they further observed that the fact of the order having been given at all was entirely unsupported by the evidence, and was in direct contradiction to the acts of the seamen. They considered that he had remained below much longer than he ought to have done, and that to have lain down at 10.40 p.m. and gone to sleep as he did, was, under the circumstances, a gross dereliction of duty. The Court were further of opinion that the master was under the influence of liquor on the evening of the 16th of January, and they accordingly suspended his certificate for twelve months.

With regard to the mate, John Steel, they held him to blame for having neglected to have the lead at hand and ready for use, and for having failed, through being under the influence of liquor, to remain on deck during his watch. His certificate was accordingly suspended for the same period.

Gas Explosion—Defective Ventilation.

Inquiry held 20th February, 1879.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The Union was an iron sailing ship of 188 tons net register. On the 9th of January, 1879, she took in at Sunderland 20 tons of Tunstall Wallsend house coal, and on the 10th completed her cargo by shipping 268 tons more. The vessel had three iron bulkheads, the two forward ones being quite tight, but the third one having three openings, one near the bottom and two near the top. There were also in the after hold two temporary wooden bulkheads, formed of rough planks, set on end. The first of these was a little abaft the after hatch, and some 20 feet from the iron bulkhead, and in this compartment coals were stowed. Between the two wooden bulkheads was a space of 10 or 12 feet, which was left empty, and abaft the second wooder bulkhead was the lazarette. Quite in the stern of the vessel were two ventilators, 4 inches in diameter, rising about 2 feet 6 inches above the deck, and terminating about half an inch below it. There was a plug to each ventilator, and the evidence showed that the plug of the port one was stiff and not easily removeable, while that of the starboard one was loose and came out readily. When the loading was finished the main hatch was put on, and the tarpaulin put over it, the fore and aft hatches being left off. On the 11th the main hatch was battened down, and at 3 p.m. the after hatch also, and the two ventilators were plugged. Owing to the weather she was unable to sail, and at 9 a.m. of the 12th the master, who held no certificate, took out the plug from the port ventilator. At 11 a.m. he ordered the cook to get the side lights ready, as it would probably be dark by the time they got to sea. The cook accordingly went into the lazarette, where the lights were kept, and had no sooner struck a match than an explosion took place, severely injuring him and the master, besides seriously damaging the ship.

The Court held that the explosion was due to the main and after hatches having been improperly battened down, and to the striking of the match in an atmosphere dangerously charged with gas, the only escape for which was quite insufficient for the purpose.

Stranding.

"COMMISSARIAT," S.S.

Inquiry held 21st February, 1879.

Assessors: R. A. POWELL, C.B., R.N.; B. G. W. NICOLAS.

The Commissariat was an iron screw steamer of 1,002 tons gross and 631 tons net register. She left Shields on the 4th of December, 1878, bound to Swinemund with a cargo of coals and 21 hands all told. At 5 p.m. of the 6th, the vessel being on an E. by N. \(\frac{1}{3}\) N. course, Hirtshall Light was sighted, bearing S.E. \(\frac{1}{3}\) E., distant, as was supposed, from six to seven miles

At 6.15 the patent log gave 32 miles run since noon, or at the rate of five knots an hour of At 7 p.m. the Light bore S., when the course was altered to E. ½ N., which was continued till 10 p.m., when the log gave 27 miles as the distance run since 6.15, or a rate of a little over seven knots an hour. Soon after 10 p.m., soundings were taken, giving 55 fathoms, when the course was altered to E.S.E. till 10.45, when it was S.E. for a quarter of an hour, for the purpose, as the master said, of sighting the floating light off the Skaw. Another cast gave 55 fathoms. At 11.10 the engines were put at full speed, and a course steered S. by E. ½ E. Half-an-hour afterwards breakers were seen ahead, upon which the second mate ordered the helm hard-a-starboard, and telegraphed full speed astern to the engine room, but the vessel immediately struck, a little to the westward of the Skaw Lighthouse. The crew were all saved, but the vessel became a total wreck.

The Court came to the conclusion that the stranding was due to an error committed by the master in having too hastily accepted the report of the second mate as to the distance appearing by the log to have been run between 7 and 10 p.m. of the 6th. Between 12 o'clock and 6.15 she had gone at a rate as mentioned already of five knots an hour, and the fact that, under exactly similar conditions as to wind, weather and currents, she should have been reported to have gone, between 7 and 10 p.m., at the rate of seven knots, ought to have aroused the master's suspicions.

The result of the mistake was, that when he laid the vessel's head to the southward and eastward, instead of being, as he had supposed, round the Skaw Point, he had not reached it. The Court accordingly warned the master to be more careful in future.

Stranding-Pole Compass.

"URBINO," S.S.

Inquiry held 26th February, 1879.

Assessors: E. G. F. G. VISCONTI, R.N.; J. S. CASTLE.

The Urbino was an iron screw ship of 1,535 tons gross and 1,229 tons net register. On the 30th of December, 1878, she left Hamburgh, bound for Cadiz, with a general cargo of about 1,500 tons, and a crew of 27 hands all told. At 4 a.m. of the 9th of January, St. Sebastian Light, at the entrance to Cadiz Bay, was sighted, bearing E. by S., distant about 16 miles; upon which the vessel's course, which until then had been S.E. by E., was altered to E. by S., and the engines were put first at half speed, and then at slow. At 5.30 the lights of Chipiona bore N.N.E., St. Sebastian Light bearing E. by S., upon which the vessel's head was laid off shore, on a N.W. by W. course, to wait for daylight. All this time the engines had been going easy, and at 6.30 she was again put about and stood in for the land, heading, according to the captain, as nearly as possible for the centre of the entrance to the bay. At first she went easy, as before, but finding that she would not steer, the master ordered the engines to go on first at half-speed and afterwards at full speed, until she had got

into smoother water, when she was again put own to slow. At 6.45, it then being daylight, a signal was hoisted for a pilot, and at 7.30 the second mate was set to heave the lead. The first cast gave no bottom at 10 fathoms, the next nine fathoms; they then got several soundings at nine fathoms, and after that, according to the master, several at eight fathons, but, according to the mate, only two were obtained at that depth. The vessel continued to stand in for the shore, the master from time to time taking bearings, until about 8.15 or 8.20, when five fathoms were reported. At this moment the master said that St. Sebastian bore S.S.W. by the pole compass, whilst Rota Town bore N.W. by N. On five fathoms being reported, the master immediately ordered the engines to be put full speed astern, which was done, and as soon as the vessel had lost her headway he ordered the helm hard-a-port, and the engines to be put full speed ahead, but this had hardly been done when the ship struck. The engines were thereupon put full speed astern, but as there was a strong N.W. wind, and a heavy sea setting her on the reef, it was found impossible to move her, and after bumping heavily for a short time, her bottom was stove in, and she filled. In the meantime two of the boats had been put over the side, into which the crew got, and in about a quarter of an hour, or 20 minutes after striking, they were compelled to abandon her, the sea making a complete breach over her. They were soon afterwards picked up by one of the pilot boats, which took them in tow, and conducted them in safety to Cadiz. The vessel herself became a complete wreck, and was lost, together with everything on board.

The Court held that there was no doubt that the stranding of the vessel was due to the master's having continued to stand on, for so long a time, towards the entrance to the bay. He excused himself, however, for this by saying that he was looking out for the buoys which marked the entrance. These buoys were laid down upon the chart which he had on board, but unfortunately, for some reason or other, they had both been removed on the morning in question, and he had not a copy of the "Sailing Directions for the west coasts of France, Spain and Portugal," in which there is a note to the effect that "the position of the buoys at the entrance to Cadiz cannot always be relied upon." It appeared, moreover, that as the Cadiz pilots do not ordinarily go beyond the reefs, it would have been necessary for him to stand well in towards the entrance in order to get a pilot at all.

It appeared to the Court that the bearings taken from the pole compass were incorrect, and that if the master had obtained correct bearings of the St. Sebastian Lighthouse, as he neared the entrance to the bay, the casualty would probably not have occurred, as he would then have known that he was much further to the E. than he thought. Upon this matter the Court referred to the following passage in Mr. Rosser's book on the deviation of the compass in iron ships, published in 1872: "Pole compasses are much more in vogue now than they used to be, but they cannot be approved of. The writer never saw one correct within three-quarters of a point to a point. Placed at a considerable height above the observer, they cannot be read with accuracy within a quarter or a third of a point in still water; at

seathey must be unsteady, and no amount of stays will make them steady. Further, no correct bearings can be taken by them. A good steering compass, well placed, with a proper set of vanes for taking observations, is incomparably superior to such an article." In these observations the assessors entirely concurred.

The Court held that, except in relying too much upon the bearings given by the pole compass, the captain of the *Urbino* had done everything which a good seaman should have done, and therefore did not deal with his certificate.

Stranding.

"CALDERA."

Inquiry held 3rd and 4th March, 1879.

Assessors: G. T. HOLT, I.N.; W. PARFITT.

The ('aldera was a barque of 714 tons net register. She left South Shields on the 8th February, 1879, bound to Leghorn, with a cargo of coal and a crew of 16 hands all told. At 6.30 p.m. of the 13th, Cape Grisnez was sighted, nearly right ahead, or a little on the port bow, bearing S.W. by W., distant from six to seven miles. Soundings were then taken, which gave 15 fathoms; upon which she was kept away a couple of points to clear the cape. Between 7 and 8 o'clock, the wind having freshened, the topgallant sails, mainsail, and outer jib were taken in. At 8 p.m., Cape Grisnez, as the master stated, was abeam, bearing S.E., distant about five miles, upon which the vessel was put on her original course, and was so continued till she struck. Half-an-hour, however, before striking, 29 fathoms were got, from which the master concluded that she was in midchannel, and very shortly afterwards Cape Grisnez Light came suddenly into view again, when the captain and mate went into the cabin to consult the chart. While there she struck on the S.W. extremity of the Ridge Sand, but soon came off and was ultimately beached at Kingsdown.

The Court came to the conclusion that this casualty was caused by the master, William Armstrong, having, after Cape Grisnez Light had been observed, bearing S.E. distant five miles, kept the vessel too long on a course, which, if continued, would, as he ought to have seen from his chart, inevitably have landed her on the Ridge.

The Court accordingly suspended his certificate for three months.

Fire.

"NORTHAM."

Inquiry held 6th March and 27th May, 1879.

Assessors: B. S. PICKARD, R.N.; H. JONES.

The Northam, which was built in 1858, as an iron screw steamship, was, in the year 1876, converted into a sailing vessel, her tonnage after conversion being 1,492 tons net. She left London on the 11th November, 1878,

with a general cargo, bound to Sydney, in New South Wales, having a crew of 39 hands all told, and 20 passengers. According to the master she was well equipped, and was one of the finest ships he had ever been in. She had six boats, all of which, as the result proved, were in excellent condition. She had also three pumps on the main deck, and two force pumps, all in good working order.

Nothing material occurred until about 11 a.m. of the 21st of December, when she had arrived in about latitude 9° 30' south, and longitude 31° 45' west; the wind was blowing a strong breeze from about E.S.E., and the weather was very hot. At this time smoke was observed to be issuing from the forward booby or scuttle hatch, which was situated just abaft the foremast, and about 20 feet forward of the fore hatch; immediately under it were stowed fodder for the cattle, salt provisions, coals for the ship's use, and some warps. On the smoke being reported, the captain ordered the two force pumps to be carried forward, and having caused the hatch to be opened, directed water to be pumped down into the 'tween decks. The smoke increasing, the captain thought that the compressed hay might have become ignited, and accordingly ordered it all to be brought up on deck, but no part was found burnt or even singed. The warps, which were under the hay were then got up, and on this being done the smoke was seen to be coming through the deck from just forward of the lower fore hatch. After pumping for some time the men were obliged to come up on deck, and two holes were then cut near the fore hatch, through which the hoses having been passed they continued to pour water down into the 'tween decks. The staysails were then hauled down, the courses hauled up, and the ship laid as close to the wind as she would go: the boats also were got out. The fire, continuing to gain, at length burnt through the fore hatch and destroyed the hoses, and it then became necessary to abandon the ship. Accordingly, at about 4 p.m., the whole of the crew and the passengers got into the boats, the captain being the last to leave her. In about half-an-hour the mainmast went over the side, carrying with it the mizen and foretopmast, and about half-an-hour afterwards the foremast also went. The captain's and two of the other boats remained by the ship, and about 14 or 15 hours afterwards were picked up by an English vessel called the Albion, and carried to and landed at Bahia. the vessel when they left her being in flames from stem to stern. The other three boats stood away for the land, which was about 220 miles off, bearing W. by N. or W. 1 N. from them. They were, however, picked up by an Italian vessel on the way, and were landed at Pernambuco. All were consequently saved.

The principal questions for the Court were: Whether the cargo was properly stowed? and What was the cause of the casualty?

As to the latter, it appeared that the smoke and heat were first observed in the immediate neighbourhood of the lower fore hatch, and it was there too that the fire first broke through. There were in the lower fore hold a number of crates of earthenware, and casks of iron and tin ware packed in straw, which, when wetted, is very liable to spontaneous combustion. There was no evidence to show that this straw was ever wetted, beyond the

fact that the vessel made very bad weather for some time after leaving port.\\But.so\far(as the Court were aware, there was nothing else in the cargo which would be liable to become ignited, and the only conclusion to which they could come was that the fire might have originated by the spontaneous combustion of this straw, whence it would readily spread. There was nothing to lead the Court to suppose that the cargo was not properly stowed; and they added that there was nothing to show that the casualty was due to any act or default of any person on board.

Collision-Position of Side Lights.

"ABERFOYLE," S.S. AND "KEWADIN."

Inquiry held 10th, 11th and 12th March, 1879.

Assessors: H. D. GRANT, C.B., R.N.; T. BEASLEY.

The Aberfoyle was an iron screw steamer of 1,036 tons gross and 738 tons net register. On the evening of the 22nd of February, 1879, during a voyage from Almeria, in Spain, to Leith, she passed to the E. of the Dudgeon, when a course was steered N. by W. At 4 a.m. of the 23rd the first mate's watch commenced, consisting of himself, the boatswain and three A.B.s. The mate went to the upper bridge, one of the A.B.s to the wheel amidships, the boatswain standing by to help him in case of need; another A.B. was forward on the look-out, and the third was about the decks. Shortly before 5 a.m. they ported to avoid a vessel, and the mate had just given the order to bring her back again to her course, when the look-out man reported a vessel with no lights on the starboard bow. The mate, thinking that she was on the port tack, and heading to the N. and E., ordered the helm to be starboarded. Almost immediately, however, she was reported to be showing her red light, when the mate, finding that he could not clear her by porting, ordered the helm hard-a-starboard, and stopped and reversed the engines full speed. She struck the Kewadin, however, on the port bow, just forward of the fore rigging, cutting right

The Kewadin was a brig of 266 tons net register. She left Shields on the evening of the 22nd of February, bound to Torquay, with a crew of eight hands all told. At 4 a.m. of the 23rd the chief mate was called, and the captain went below, leaving the deck in charge of the boatswain. The wind at that time was from the N.N.W., nearly dead aft, and the vessel was running under all plain sail at the rate of from six to seven knots an hour. About . 4.20 a.m. the mate came on deck and relieved the boatswain, and in about five minutes afterwards he observed the masthead light of a steamer about a point on his port bow. A quarter of an hour later her red light was seen, upon which the mate ordered the man at the wheel to keep her off a point, so as to show his red light to the approaching steamer. In about five minutes he brought her back again to S. by E., when the steamer's red light bore about a point and a-half on his port bow. She continued to approach until her red light was two and a-half points on the Kewadin's port bow, when her green

light suddenly appeared. The crew immediately shouted to the steamer to port her helm, but the continued her course till just before they came together, when the Kewadin's helm was ordered hard-a-port, but before it had time to take any effect, the steamer struck her on the port bow, just forward of the fore rigging, cutting into her as far as the fore hatch. In about three minutes the Kewadin foundered, but the whole of the crew, with the exception of one man, had in the meantime succeeded in clambering over the steamer's bows to her deck.

A question arose in the course of the inquiry as to whether the red light of the *Kewadin* was in any way obscured, and it accordingly became necessary to inquire how the side lights on board the vessel were fixed.

The screens in which the lamps were fixed were supported on stanchions rising from the deck, and passing through the rail abreast of and outside the fore rigging. The foremost stanchion was about abreast of the foremost shroud, the after stanchion between the second and third shroud, the lamp itself being about abreast of the third shroud. The height of the lamp above the deck was about 8 feet.

The vessel, at the time of the collision, had her foresail set, which was a square one, and had a roach in it. The wind being nearly aft, but a little on the starboard quarter, the yards were nearly squared, the port clew being hauled a little further aft. The clews of the foresail came down abaft the screens and a little below the level of the lights. So long as the sail was full it would stand well above the light, but if from any cause the wind was taken out of the sail, it would, in the opinion of the assessors, have been very liable to fall before the lamp and obscure it; when it filled again it would of course rise and show the light. At the time of the collision the Kewadin had a large square mainsail set, one of the clews being hauled up for the purpose of letting the wind get to the foresail, but notwithstanding this, the portion of the mainsail which remained set would take away a large portion of wind from the foresail, so that the latter would be very likely from time to time to fall down and obscure the lamp. Whether this actually happened or not there was no direct evidence to show, but the Court were clearly of opinion that the position of the lamps described above was not a proper one. They should have been placed forward of the fore rigging and quite clear of the foresail.

The question then arose whether there was a good look-out on board the Aberfoyle, and the Court came to the conclusion that there might have been a better one, and that, possibly, if the Aberfoyle had been stopped and reversed as soon as the Kewadin was first seen, the collision would have been avoided.

There was also some question about the boats of the Aberjayle, upon which the Court thought that the chief mate was wanting in one of the most important of an officer's duties, viz., in not going in the boat, more especially when he saw, as was the fact, that there was an unwillingness on the part of the men to get into her.

The Court accordingly came to the conclusion that the collision was due to the Aberfoyle not having seen the Kewadin till she was close upon her, and to the helm of the Aberfoyle having been starboarded instead of

ported; and further thought that the failure to see the Kewadin might have been due partly to the position of the Kewadin's lights, as described above, and partly to there not having been a good and efficient look-out on board the Aberfoyle.

Stranding.

"MARY," S.S.

Inquiry held 13th, 14th and 15th March, 1879.

Assessors: H. D. GRANT, C.B., R.N.; T. BEASLEY.

The Mary was an iron screw steamer of 893 tons gross and 566 tons net register. She left Carthagena on the 5th of February, 1879, with a cargo of iron ore, bound to the Tyne, and having a crew of 19 hands all told.

At 6.30 p.m. of the 16th she was off Souter Point, which bore W.S.W., distant about two miles, when a course was steered for the entrance to the Tyne, keeping Tynemouth Light a little on the port bow, and a blue light was burnt as a signal for a pilot. As she neared the entrance the helm was slightly ported, in order to clear the rubble at the end of the South Pier, and when the Tyne Lights were nearly in one, the helm was starboarded to enter between the piers, and a course was steered up the harbour, having, according to the master, the high light slightly open to the southward of the low light. A minute or two afterwards the helm was starboarded till the lights were brought a little more open, when the course was resumed up the river, and about five minutes after entering between the piers, the Fish Pier was observed broad on the port bow, when orders were at once given to hard-a-starboard the helm. Before the vessel could answer she struck and became fast, her head paying off to the N.W. The whole of the crew were rescued by the lifeboat, but the vessel ultimately became a total wreck.

The Court found that the loss of this vessel was due to the master having kept the leading lights nearly in one for too long a time after entering between the piers, and not having then opened the high light sufficiently to the south of the low light, having regard to the depth of water the vessel was drawing and the state of the tide.

They also found that the leading lights into the Tyne were misleading, but that there was no evidence to show that the pilotage service at the Tyne ports was not effective.

They considered that, though the master was not bound to remain outside the harbour until he had secured a pilot, it would certainly have been more prudent if he had stopped outside until the flood tide had made, but, looking at all the circumstances, they found him guilty only of an error of judgment.

Stranding—Duty of Vessel in Tow.

"AUGUSTA," S.S. AND "FLYING HURRICANE," S.

Inquiry held 17th and 18th March, 1879.

Assessors: H. D. GRANT, R.N.; T. BEASLEY.

The Augusta was an iron screw steamship of 277 tons gross and 188 tons net register. In the month of February, 1879, she was lying at Sligo, where she had been detained by order of the Board of Trade on account of the condition of her boilers, and it was determined to have her towed to Glasgow for the purpose of having new engines and boilers put into her. Accordingly, the steam tug Flying Hurricane, a vessel of 121 tons gross and 17 net register, fitted with engines of 60 h.p., was sent to Sligo to bring her round. The two vessels left on the morning of the 14th of February, the Augusta, although in tow, having her steam up and using her own engines. When they left the wind was moderate, but there was a heavy sea running. At 6.30 p.m. they were off the N.W. point of Aramore. The course steered from this point will be mentioned hereafter, but about 9 p.m. both vessels ran, nearly at the same moment, on Tory Island, and, although the crews succeeded in reaching the shore in safety, shortly afterwards went to pieces.

The evidence from the Augusta was practically to the effect that, after passing Aranmore, the course steered until about 8.30 was E.N.E., and that at that time the vessel was hauled up half a point to the E.

The Flying Hurricane said very much the same thing; but whether the alteration of half a point to the E. was made at 7.30 p.m., when the Tory Island light was first sighted, or not until 8.30, as the master of the Augusta stated, was, in the opinion of the Court, open to some doubt; but, assuming the latter to have been the fact (and the master's statement was supported by the mate of the Augusta), and taking into consideration the leeway from the wind being on the starboard side, the Court considered it quite sufficient to account for the vessels having grounded where they did.

The question then arose as to who was responsible for the navigation. It appeared that, before leaving Sligo, it was agreed between the two masters that the tug should lay the course, and that the Augusta should simply follow in her wake. The master of the tug, however, stated that he had expected that if he made any mistake, the Augusta would have signalled to him and put him right. It has been laid down on very high authority that, when a vessel is being towed, the responsibility for the navigation must rest with the vessel towed, and that a steam tug is to be regarded simply as the servant of the vessel which she is towing. The Court, therefore, held that the master of the Augusta could not shift from himself the responsibility for the proper navigation of his vessel, and that it was his duty to have seen that she was being kept on a safe and proper course.

For his default in this respect the Court considered that the master of the Augusta was very greatly to blame.

They also expressed the same opinion with reference to the master of

the Flying Hurricane, for his having volunteered to navigate the vessels through a difficult and dangerous channel with which he was not thoroughly acquainted; but as neither of them held any certificate, the Court were unable to deal with them as, had it been otherwise, they would have felt bound to do.

Stranding.

"WYCLIFFE," S.S.

Inquiry held 18th, 19th and 20th March, 1879.

Assessors: H. D. GRANT, C.B., R.N.; T. BEASLEY.

The Wucliffe was an iron screw steamship of 1,357 tons gross and 878 tons net register. She left Philadelphia on the 30th of January, 1879, bound to St. Nazaire, at the entrance to the Loire, with a cargo of wheat. At noon of the 14th of February, according to the master, Thomas Jones Elliott, he obtained an observation, which placed him 70 miles further south than he expected, upon which he altered his course to E. & S., and at 6 p.m. to E. At 10 a.m. of the 16th they were near the S.E. end of the Isle d'Yeu, whereupon the course was altered to the northward and westward, and they ran down along the south side of the island, at a distance of two or three miles from it. Although the island is only about five miles long, it was stated that the vessel did not get off the western end of it till about 1.10 p.m., when she was laid on a N.W. course, which was continued at full speed till about 5.45, during which time she made about 11 knots. She was then stopped till after dark, when a red light was observed on the port bow, bearing N.E. by N. 1 N., and two bright lights on the starboard bow, bearing N.E. by E., the vessel heading N.E. The master, thinking that the red light must be that of La Banche, went on easy ahead; but soon afterwards, having found from his chart that La Banche was a fixed red light, whereas this one was a flashing or revolving one, he ordered a cast of the lead to be taken, which at first gave no bottom at 10 fathoms, but after a time another cast gave seven fathoms. The master then ordered full speed astern. The vessel, however, almost immediately struck heavily aft; but the engines, having been put full speed ahead, and the helm hard-a-port, she came round and stood away with her head to the S.W. or S.S.W. It was then found that the after tank was full of water. The master, during the inquiry, stated that the place where she struck was at the south edge of the Chaussée des Bœufs, a ledge of rocks to the westward of Isle de Noirmoutier. At 7.25 p.m. the vessel was stopped in 17 fathoms of water, and soon afterwards the master went below. At 9 p.m. he ordered the second mate to call him at 5 a.m. or sooner if the water shoaled to 10 fathoms. At 11 p.m. the chief engineer told the master, whom he found asleep or dozing on the sofa, that the water was coming into the engine room.

At 11.30 p.m. the second officer set the engines on in order to bring the vessel again into 17 fathoms, the water having shoaled to 15 fathoms; but upon reporting this, the master ordered him to stop them, and not move them

again without orders. At 4 a.m. the second officer reported to the master that she was in 13 fathoms. At 5 a.m. the master was called, but gave orders that he should be called again at daylight; but he did not come up till 6.30, when the water had shoaled to less than seven fathoms, and the vessel struck. The engines were put full speed ahead, but she again struck, carrying away her rudder, and being quite disabled, she began to beat over the rocks. At 10 a.m. all the crew had left her, and she subsequently became a total wreck on the S.W. point of the Chaussée des Bœufs.

It appeared clear to the Court that on the evening of the 16th, when the lights were seen, the vessel was midway between Isle d'Yeu and the Chaussée des Bœufs. The vessel was then steered to the northward and eastward, with the inevitable result that she grounded on the shoals somewhere off the west coast of the Isle of Noirmoutier, and being then allowed to drift, as described, and shoal her water, took the ground again. The Court held the master to blame for not having taken a safe and proper course after leaving the Isle d'Yeu, for having neglected to take proper measures to secure the assistance of a pilot, and for having neglected to verify the position of his vessel. But more especially they censured him for having neglected to remain on deck at a time when the safety of his vessel required his personal supervision. No charge of drunkenness was made against the master, but the Court expressed an opinion that it was very difficult to explain his conduct on that night, except upon the supposition that he was more or less under the influence of drink.

His certificate was accordingly suspended for 18 months.

Collision.

"JOHN & EMMA," AND "HEWETT," S.S.

Inquiry held 21st March, 1879.

Assessors: G. T. HOLT, I.N.; J. S. CASTLE.

The John and Emma was a sailing vessel of 53 tons net register. After fishing in the North Sea, she was returning to Lowestoft, with a crew of five hands all told, and at 9 p.m. of the 4th of March, 1879, was off Smith's Knoll, on the port tack, heading W. by N., the wind being from the S.S.W., under all plain sail, going about five or six knots an hour. The only persons on deck were the master and an A.B. The master, who was at the wheel, ordered the seaman to take soundings, and, on getting 22 fathoms, went below, although his attention had been called to a white light visible at the time on the port bow. The man then went to the wheel, keeping the vessel heading W. by N., the bright light bearing a point or a point and a-half on the port bow. After a time a green light appeared, and on seeing it getting near, the man called the master, who told him to keep her on her course, which was done until the steamer had approached within about seven ships' lengths. The master then ordered the helm hard down, which brought the John and Emma round on to the starboard tack, and when she had got about S.S.E., the steamer struck her on the starboard bow, sinking her in

about five minutes, but not until all the crew, except the master, had succeeded in getting on board the Hewett.

The Hewett was a steam fishing trawl boat, of 206 tons gross and 115 tons net register. She left London on the 3rd of March, bound to her fishing ground, having a crew of 12 hands all told, and at about 9 p.m. on the 4th arrived off Smith's Knoll, going at from eight to nine knots The watch consisted of the master and 2 A.Bs, but the master had gone below for the purpose of looking up some letters which he had to deliver. At this time the vessel was heading N.E. 2 E. magnetic. She was under reefed mainsail and seven-cloth jib, and had her sails over to port, the two A.Bs standing on the windward or starboard side. The red light of the John and Emma was observed about two points on the starboard bow, upon which one of the men, going over to the port side, got the glasses, made her out, and ordered the helm to be ported, which was done, the steamer going off to starboard till the red light was brought on the port bow. The man then went on to the port side, when, finding that both lights of the John and Emma were showing, he concluded that she had starboarded, and therefore ordered the helm hard-a-port. At this moment the captain came up and immediately ordered the engines to be stopped, but without avail, as they came into collision.

It appeared to the Court that neither vessel obeyed the regulations. The *Hewett*, inasmuch as she did not at once hard-a-port her helm and stop and reverse her engines, although the red light on the starboard bow ought to have warned her that there was risk of collision; and the *John and Emma*, inasmuch as she clearly did not keep her course. The Court were also of opinion that there was not a good and sufficient look-out kept on board these vessels; but there was no question of dealing with the certificates, for none of the officers of either vessel held any.

Collision-Lights of Pilot Vessels.

"EDINBURGH" AND "SEVERN," S.S.

Inquiry held 25th and 26th March, 1879.

Assessors: E. APLIN, R.N.; J. S. CASTLE.

The Edinburgh, a pilot cutter of 62 tons, belonging to the Cerporation of the Trinity House, left Dover on the 12th of March, 1879, for the purpose of proceeding to her cruising ground, having on board a crew of eight hands all told, and 12 pilots; and after cruising for a time between Sandgate and Folkestone, she came to anchor in the bay, to the west of Dungeness Point. Between 10 and 10.30 p.m. of the 13th she again got under weigh, and was laid with her head off shore on the starboard tack, the wind blowing a nice breeze from the W.N.W., and the night being clear but dark; and, in accordance with the regulations prescribed for pilot cutters, she had a bright light at her masthead. At 11.15 she was tacked with her head inshore. A few minutes after 12 o'clock there were on the Edinburgh's deck the acting mate (the mate having been left on shore ill), who had had the previous watch, and two seamen. Of these three, however, one alone was

saved, who said that when he came up at about 10 minutes after 12 o'clock he found the mate aft on the deck and the apprentice at the helm. The vessel was under a reefed mainsail, foresail and jib, on the port tack, heading for Dungeness Light. Immediately on coming upon deck, he observed the green light of a steamer one point on the starboard bow, at a good distance off. Shortly afterwards the red light appeared, upon which the mate ordered him to go forward and show a flare-up. He accordingly went into the forecastle, and by his own account had time to light the flare-up, go up on deck again, and hold it up for two or three minutes over his head, when both the lights of the steamer suddenly appeared, heading directly for them. He thereupon threw down the torch and ran aft, and almost immediately afterwards the steamer ran into them, striking them nearly stem on, on the starboard bow.

The steamer's boats were lowered with great expedition, but unfortunately the Edinburgh sank so rapidly that out of the 20 hands who were on board only five were saved, namely, three of the crow and two pilots.

The Severn was an iron screw steamship of 1,736 tons gross and 1,119 tons net register. She left Hamburgh on the 12th instant for Southampton, having a crew of 49 hands and five passengers. At about midnight of the 13th she was approaching Dungeness, and was steering S.W. & W., the wind being from W. to W.N.W., and the night dark but clear, so that lights could be seen at a considerable distance. It was the chief mate's watch that night, from 8 o'clock to 12, but at midnight it was the duty of the second mate, Clement James Bateman, to come on deck. He came up about seven minutes after 12 o'clock and immediately went to the upper bridge and relieved the chief mate. The chief mate went below, leaving the second mate and a man who was accustomed to pilot the company's vessels between Hamburgh and Southampton, on the upper bridge; there was a look-out man on the topgallant forecastle; the third mate was on the lower bridge, conning the ship, and there were two men at the wheel (which was amidships), one steering, the other standing by. The captain also was on the quarter-deck aft, taking bearings of Dungeness Light. Owing to the vessel having a very high forecastle deck, the only persons who could see a light ahead would be the second mate and the pilot, who were on the upper bridge, and the man on the look-out forward; the third officer and the two men who were on the lower bridge could not see ahead, nor could the captain. When it was that the Edinburgh's bright light was first seen by the second mate was not known. He stated that the collision occurred at 12.20 a.m., and that he first saw the light some five or six minutes after he came on the bridge. When he did see it, he knew at once, from its brilliancy, that it must be the light of a pilot cutter. He said that he consulted with the pilot as to how she was heading, and that they both, after looking at her for about a minute, came to the conclusion that she was on the starboard tack heading about S.W. & S. He accordingly ordered the helm to be ported, and when he had brought the light on his port bow, he observed that she was closing fast upon them. He then at once ordered the helm to be put hard-a-port and the engines to be stopped, but it was too late to avoid the collision.

"The first question considered by the Court was whether the Edinburgh carried and exhibited proper and sufficient lights. By the 8th Article of the "Regulations for Preventing Collisions at Sea," it is provided that "sailing pilot vessels shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light every 15 minutes. As far as regarded the masthead light, the Court were of opinion that the light carried by the Edinburgh was a good one. It was contended that the part of the article which referred to flare-ups was permissive and not obligatory, but this the Court held not to be so, and came to the conclusion that it was quite clear from the evidence that for a space of about 25 minutes before the collision there was no flare-up exhibited on board the Edinburgh.

As regarded the Severn, the Court had to consider whether or not there was a good look-out being kept on board the vessel. It was clear that the light of the Edinburgh was seen and reported to the chief officer before the second officer came on deck, that it ought to have been seen by the second officer as soon as he got on the upper bridge, but, as a matter of fact, it was not seen by him until a short time before the collision.

The Court therefore came to the conclusion that the second mate could not have been keeping a good look-out, or he must have seen the light which was, as he admitted, an extraordinarily brilliant one, much sooner than he did, and also that he ought to have seen that the light was moving from port to starboard, and not from starboard to port, and therefore ought to have starboarded, not ported his helm. They further blamed him for not having stopped or slackened speed when he saw the light a point on his starboard bow, and still more for not having reversed his engines when he found that she was crossing his bows. They considered him guilty of very great negligence, and suspended his certificate for six months.

Stranding,

"J. H. LORENTZEN," S.S.

Inquiry held 1st April, 1879.

Assessors: E. APLIN, R.N.; T. S. CASTLE.

The J. H. Lorentzen was a screw steamship of 883 tons gross and 567 tons net register. She left Rochester on the 11th of March, 1879, bound to Sunderland, in ballast, and having a crew of 17 hands all told. Shortly before noon of the 12th the vessel was approaching Whitby Rock Buoy, steering by compass N.W. by N., which was equivalent to N.N.W. magnetic, there being one point easterly deviation; and she was going at from eight to eight and a-half knots. At this time the wind, which had been W.N.W., shifted more to the northward, so that it became necessary to take in all the sails, after which the captain and the chief officer went below to dinner, leaving the deck in charge of the second officer. On the master coming up again at about half-past 12 o'clock, he observed that the vessel was not steering very steadily, and accordingly, ordered the first officer to go into the wheel-house and see to it, when the vessel

was brought back again to her course, N.W. by N., by compass. At about a quarter past 1 o'clock Whitby Rock Buoy bore about S. by W., distant rather more than a mile; at this time, the wind having come away still further to the northward, so as to be on the vessel's starboard bow, her head fell off to about W.S.W., or S.W. by W., pointing directly for the shore, and she began to drift bodily towards the Whitby Rock, with her starboard broadside to the wind and sea. The captain immediately ordered the helm to be put hard-a-port, the foreyard to be braced up, and the mizen set, for the purpose of bringing her head round to N; but she continued to drift down towards Whitby Rock. After keeping the engines going full speed ahead for about five minutes, finding that she was getting rather too near the shore, the captain ordered the mizen to be hauled down, and the engines to be put full speed astern; and according to the man at the wheel, the helm was at the same time put hard-a-starboard. The vessel, however, continued to drift down before the wind and sea in the direction of Whitby Rock, and after three or four minutes, finding that she would not clear the Whitby Rock Buoy, the master ordered the engines to be again put full speed ahead. In the meantime he had ordered the starboard anchor to be let go, and at first 30 fathoms and afterwards 15 fathoms more of chain were paid out. By the headway the vessel had on her she brought the anchor on her starboard beam, and the captain finding that the starboard anchor did not hold, shortly afterwards let go the port anchor, which had also been got ready. In the meantime the vessel was again nearing the shore, upon which the master ordered the engines to go half-speed astern; but finding that she was going stern foremost on to the rocks, he again ordered them to go ahead easy, and almost immediately afterwards the vessel struck, about 300 or 400 yards outside the South Pier of Whitby. The sea made a clean breach over her, and in about five hours from the time of striking she went to pieces.

The vessel on the voyage in question drew only 7 feet forward and 11 feet 4 inches aft, and stood some 12 to 14 feet out of the water both forward and aft. On the 12th of March it was low water at Whitby at about noon, therefore at 12.45 she would have met the first quarter flood. At the same time the wind shifting to N. by E., or N.N.E., would have helped to cant her head towards the shore, and once in that position, owing, as the Court considered, either to her light draught, to her height out of the water, or to the small power of her engines, it was impossible for the master to get her head round again.

Having, as she had, a total weight in her of 350 tons, the assessors were not prepared to say that she was insufficiently or improperly ballasted.

The Court were of opinion that the master had acted properly under the circumstances.

Collision-Lights of Fishing Vessel.

"EXPERT" AND "COUNTESS OF DURHAM." S.S.

Inquiry held 4th and 5th April, 1879.

Assessors: E. APLIN, R.N.; C. Y. WARD.

The Expert, which was a fishing cutter, left Stonehaven at 6.30 a.m. of the 24th of January, 1879, for the purpose of proceeding to the fishing grounds, with a crew of five hands all told.

The Countess of Durham was a screw steamer of 539 tons gross and 420 tons net register. She left Sunderland on the evening of the 23rd of January, with a crew of 17 hands all told, bound to Aberdeen. The collision occurred about 7 a.m. of the 24th, the weather at the time being clear at sea.

According to the Expert, she was on the starboard tack, heading about S.S.W., when she observed the Countess of Durham away on her port bow, distant one to one and a-half miles, and heading so as to pass clear away to seaward, port side to port side. The Expert continued her course, bringing her head about two points nearer to the land, so as to give the steamer a wider berth, but all of a sudden the steamer starboarded, and seemed as if intending to pass ahead of her, and to go between her and the land. The Expert nevertheless continued her course, as she was bound and ought to have done; but the Countess of Durham, when close to her, suddenly ported her helm and ran into her, striking her on the port side. On the other hand, the story told by the Countess of Durham was that she was steering about N.N.E., when she observed the Expert at a distance of from one and a-half to two miles off on her port bow, and that it was then sufficiently light for her to see that the Expert's starboard side was towards her, and that she was heading about S.S.E., to cross their course from port to starboard; that the Countess of Durham continued her course until she had approached within half-a-mile of her, still having the Expert on her port bow, and that she then starboarded her helm until she brought the Expert right ahead, upon which she steadied, trusting that the Expert, which was then three or four ship's lengths off, would, before she reached the spot, have passed away to starboard: that all of a sudden, when they were only one to two ship's lengths off, the Expert, which had before been upon the starboard tack, going free and heading about S.S.E., put her helm hard down and came round across the steamer's bows, bringing the wind on to her port side, upon which the Countess of Durham put her helm hard-a-port, but too late to avoid a collision. Apart from the statement that the Expert, when the Countess of Durham was within one or two ship's lengths, suddenly put her helm hard down so as to bring herself from the starboard on to the port tack, and across the steamer's course, the two stories were identically the same.

The Court considered that the evidence was conclusive in favour of the Expert; that is to say, that she did continue on the starboard tack, close-hauled to the wind, merely luffing up a couple of points in order to give the steamer more room. In their opinion, the casualty was mainly due to the

Countess of Durham having starboarded her helm so as to pass ahead of the Expert; instead of porting, as she ought to have done, so as to pass under the cutter's stern.

The master of the Expert was held to blame for not having had on board and ready to be used a lantern of the description required by Article 9 of the "Regulations for Preventing Collisions at Sea," the Court observing that fishing boats were as much bound to carry such lanterns as other vessels were to carry the ordinary side lights.

The mate of the Countess of Durham, George Mason, was charged with having, when in charge of the vessel, failed to keep a good look-out, with having neglected to take any steps to get out of the way of the cutter until he had approached very near to her, and then with having taken the wrong course. The Court held these charges proved and suspended him for six months.

The master was charged with having failed to make every possible effort to save life. Within five minutes of the collision a boat was lowered, and pulled at once to the wreck, picking up the men, one of whom was insensible. They were taken at once to the steamer, when the master, seeing that the man remained insensible in spite of all the efforts to restore him, and being told by the master of the Expert that he was quite satisfied all the rest of the crew had gone down with the vessel, seeing also that there were two or three boats about the spot, thought it better to steam away at once for Stonehaven, for which the Court held that he was not to blame, and entirely acquitted him of the charges brought against him.

Stranding and Abandonment.

"DENMORE," S.S.

Inquiry held 7th April, 1879.

Assessors: E. APLIN, R.N.; C. Y. WARD.

The Denmore was an iron screw steamship of 328 tons gross and 212 tons net register. She left Leith on the 19th of March, 1879, bound to Aberdeen, when a course was steered so that, about 12.30 a.m. of the 20th, the light on Inch Keith Island bore S. by E., distant from three-quarters of a mile to one mile. The vessel was thereupon laid on a course E. ? N., by compass, which was equivalent to not quite E. 1 N. magnetic, the compass having a deviation of about 1 of a point on that course. This was continued till 2 a.m., when the patent log showed 12 knots to have been run from Inch Keith Island. The course was then altered to E. by N., by compass, till about 2.23, when it was altered to E. by N. 1 N. for a mile. At 2.32 it was again altered to E.N.E. till 2.50, at which time the log indicated 18 knots. The master then ordered the course to be altered to N.E. by E. \(\frac{1}{2} \) E., but at the same moment a bright light was seen shead, which was left on the port side. This turned out to be a vessel at anchor, and immediately after passing it two other bright lights were seen on the starboard bow, when the helm was again ported in order to pass between them. As soon as they were past, the master observed a sort of glare or haze right ahead, when he immediately ordered the helm hard, a starboard, and the engines to be reversed full speed, but before she could come round she struck with her starboard bow against the rocks, at the N.W. point of May Island. Having backed clear, the master examined the condition of the vessel, and finding that the forehold was fast filling, caused the sluices between it and the main hold to be closed, having determined to try to get her to Leith or Granton. But she gradually got so much down by the head, that it became difficult to steer her, and ultimately fell over on her port side, which compelled the crew to abandon her, and she soon afterwards disappeared.

The Court came to the conclusion that the casualty was due to the master, Robert Crombie, having continued her course from Inch Keith at full speed without making any allowance for the set of the wind and tide, or for the deviation of the vessel's course to leeward, which deviation arose partly from bad steering, on account of there having been no binnacle but only a pole compass to steer from, and partly from avoiding the lights which he saw. They were of opinion that, knowing, as he should have done, that he had nearly run the distance between Inch Keith and May Island and not seen the light, he ought to have put his vessel down to half-speed, so as to have had her more under control.

The Court accordingly suspended his certificate for three months.

Appeal.

"BALMORAL," S.S.

Appeal heard 11th April, 1879.

Assessors: J. R. RAVENHILL, C.E.; R. DUNCAN.

The Balmoral was an iron paddle-wheel steamer of 126 tons gross, and 41 tons net register, fitted with one engine of 70 horse-power. She was built in the year 1842, and was the property of Mr. Hugh Keith, of Glasgow, who was also the managing owner.

On the 5th of March, 1879, the certificates which the vessel held as a passenger steamer being about to expire, the owner, being desirous to have them renewed, forwarded the usual application to the Mercantile Marine Office, Glasgow. A sort of preliminary survey was held on the 7th, and on the 10th an actual survey was made, when it was decided that a certificate should not be granted to her.

Mr. Keith accordingly took the course prescribed by Section 14 of the Merchant Shipping Act, 1876, and on the 20th of March entered an appeal in the Court of Survey for the Port of Glasgow, which was accordingly heard by the Wreck Commissioner, with two assessors.

It appears unnecessary to go at any detail into the technical evidence.

The Court having heard it, and having themselves seen the vessel,
made the following order:—

"(1.) That all the vessel's plates which have been reduced to $\frac{2}{16}$ ths of an inch should be renewed;

- "(2.) That the patches along the garboard strake should be removed, and a narrow garboard strake put on and securely rivetted to the keel and garboard strake, similar to that which they found in existence on the fore part of the vessel;
- "(3.) That the corroded frames, where either flange is gone, should be either doubled or replaced, and all floor plates overhauled, and, where necessary, made good;
- "(4.) That the centre vertical plate bearer under the boiler should be prolonged, as far as it could be, between the engine and boiler bulkheads, and bilge or sister keelsons introduced under the sides of the boiler, and carried from bulkhead to bulkhead, and be attached to the skin of the ship by intercostal angle irons, and with a continuous angle iron running fore and aft along the top of the floor plates and rivetted to the keelson plates and reverse bars, thus distributing the weight of the engine and boiler over a greater number of the floor plates, and at the same time giving additional strength to the bottom; and
- "(5.) That the vertical bracket plates in the wake of the paddle boxes and under the paddle beams which were found to be decayed should be renewed.
- "On these repairs and alterations being effected, they thought that the vessel might properly receive a No. 5 certificate."

They added their opinion that both parties were to blame, the owner for having demanded a passenger certificate when it was clear that he was not entitled to one, and the Board of Trade surveyors for having said that under no circumstances could they feel justified in giving one. Accordingly each party was left to pay its own costs.

Stranding.

"RUBY," S.S.

Inquiry held 23rd April, 1879.

Assessors: E. G. F. G. VISCONTI, R.N.; H. JONES.

The Ruby was an iron screw steamship of 300 tons gross and 187 tons net register. On the 31st of March, 1879, she left Caen, in ballast, with a crew of 11 hands all told, bound to the Mumbles for orders. At 3.15 p.m. of the 2nd of April she came to anchor off the Mumbles, and having received orders to go to Newport, she weighed at about 4.30 p.m., and proceeded on her voyage. By the advice of some person whom he saw at the Mumbles, the captain, although not acquainted with the channel, determined to pass inside the Scarweather and Nash Sands, hoping thereby to save a couple of hours in time; and accordingly the vessel was steered in that direction, the engines going at full speed. At 7 p.m. the vessel was off Porthcawl, distant half-a-mile, and finding himself close to, but a little to the north of the Fairy Buoy, the master, after consulting his chart, laid the vessel on a S.E. by S. § S. course, to make, as he thought, the buoy off the Tuskar Rocks. At this time the weather was tolerably clear, but night was coming

on, the sun having already set half-an-hour. The master was on the bridge, walking from side to side, the mate and boatswain were on the port side looking out; there was a man at the wheel amidships, and the steward was standing aft on the starboard side of the main deck. In about five or ten minutes after passing the buoy, a mist, accompanied with small rain, was observed ahead, coming out of the mouth of the Ogmore River, which soon afterwards enveloped the ship, rendering it impossible to see more than a ship's length ahead. The captain thereupon ordered the steward to take a cast of the lead, which gave six fathoms, and on another cast being taken in about a quarter of an hour afterwards, five fathoms only were obtained. The vessel was nevertheless continued on her course S.E. by S. 1 S., and at about 7.30 she suddenly took the ground, striking with her stern, the vessel drawing 9 feet 4 aft and only 5 feet forward. The vessel remained fast, and it became necessary to abandon her. The place where the vessel grounded, and where she afterwards became a total wreck, was the S.W. point of the Tuskar Rocks, where there was formerly a beacon.

During the inquiry, the master, Samuel Kendrick, laid down on a chart a S.E. by S. § S. course from the Fairy Buoy, which would, as was seen, have taken him right on to the Tuskar Rocks. The Court accordingly held that this was the cause of the stranding, and that in acting as he had done the master showed a want of proper and seamanlike care in the navigation of his vessel.

They considered further that he never ought to have attempted to go inside the Scarweather and Nash Sands at all, and therefore suspended his certificate for six months.

Gas Explosion-Stowage of Coal Cargoes.

"BUTESHIRE," S.S.

Inquiry held 25th and 26th April, 1879.

Assessors: E. G. F. G. VISCONTI, R.N.; H. JONES.

The Buteshire was an iron screw steamship of 1,355 tons gross and 871 tons net regiser. Having discharged a cargo of Indian corn, wheat, and cotton at Rouen, she proceeded to Cardiff, where she arrived early on the morning of the 9th of April, 1879, and at about 10.30 a.m. commenced taking in a cargo of that description of coal known as "colliery small." By about 10 p.m. the following day she had completed her cargo, consisting of about 1,800 tons of cargo coal, besides 250 tons of bunker coal. On the 11th the ship was got ready for sea; and at 10 a.m. of the 12th she left Cardiff in charge of a pilot, with a crew of 23 hands all told, bound to Savona. At noon of the same day she had arrived off Nash Point, distant about eight miles, and was proceeding at full speed down channel, the wind blowing a fresh breeze from the W.S.W. The captain was at this time in the saloon writing letters to send ashore by the pilot; the pilot was on the bridge in charge of the vessel; the chief officer was forward clearing up the decks; and the second mate and boatswain, having battened down the main hatchway, had come aft to do the same to the after hatchway, and had just taken off

two planks which were lying across it, and were going to put on the hatches, when a violent explosion occurred in the after part of the vessel, which completely wrecked the cabin, and so seriously injured the captain that he died the same evening. On discovering the extent of the damage, it was deemed expedient to return at once with the vessel to Cardiff, which was accordingly done.

The vessel was fitted with four water-tight bulkheads, namely, a collision bulkhead forward, an after one in the stern, and one at each end of the engine room, which was amidships.

The after hold was about 80 feet long, extending from the engine room to the after bulkhead. It was divided into an upper and a lower hold, by a solid iron deck; along the latter run the screw tunnel. The total depth of the hold was about 22 feet, the 'tween decks being 6 feet 10 inches, the lower hold about 15 feet. In the after part of the 'tween decks was the cabin. The hatchway, 20 feet by 10, stood about midway between the engine room and cabin bulkheads. Some 725 tons of the coal were placed in the after holds, but as this quantity was not sufficient to fill them both, the coals were sloped away aft, leaving an empty space in the after part both of the lower hold and of the 'tween decks. It was in these empty spaces, one of which was immediately under the cabin floor, and the other just forward of the wooden bulkhead of the cabin in the 'tween decks, that any gas which the coal gave off would naturally have accumulated.

When the vessel left Cardiff, there was no special ventilation provided for the lower hold; for the 'tween decks there was the ventilating cowl on the hatchway, and one scuttle on the port side of the mizenmast just forward of the cabin bulkhead.

The Court came to the conclusion that the explosion was due to gas arising from the coal in the after hold having been allowed to accumulate in the empty spaces left in the after parts of the 'tween decks and lower hold, and to its having become ignited most probably by a live coal or spark from the funnel.

They considered that the accumulations of gas were due to the coal having been trimmed so close to the deck as to prevent a free current of air passing over the surface of the coal; and that no blame attached to the owners of the *Buteshire*, seeing that they sent their superintending engineer to Cardiff, and authorised him to do all that was necessary for the ventilation of the holds of the vessel.

Collision.

"LEADING STAR" AND "CONSTANCE, S.S."

Inquiry held 30th April, 1879.

Assessors: B. S. PICKARD, R.N.; W. PARFITT.

The Leading Star was a small pilot cutter belonging to Cardiff. She left that place on the 1st of April, 1879, with a crew consisting of the master and his son. Having brought up off Portishead, she remained there

until about 1.30 p.m. of the 3rd, when she got under weigh, and about 3 p.m. again came to anchor on the south side of the channel, a little below the entrance to the River Avon and abreast of Wharf Point. The weather was perfectly clear, the wind blowing a light breeze from the west, and the sea quite smooth. At about 4 to half-past 4 o'clock the same afternoon, the cutter was still at anchor in the same place, riding head to wind and sea, the tide being nearly high water, when the Constance was observed coming down the River Avon. On passing Avonmouth, the steamer's helm was starboarded, which brought her with her head to the west, apparently directly for the cutter. Upon this, the master of the Leading Star, who was in the stern sheets, immediately endeavoured, by shouting and holding up his hands, to attract the attention of those on board the steamer, but in vain, for the steamer continued her course and came into the cutter, striking her on the port side, in the wake of the rigging, and knocking the master's son overboard. In the meantime the steamer's engines had been stopped, and a boat having been lowered, they succeeded in taking the master off the cutter before she went down, but they were not able to save the son.

The Constance was an iron screw steam vessel of 880 tons gross and 563 tons net register. She left Bristol at about 3.30 p.m. of the 3rd of April, with a crew of 20 hands all told. At about 4.30 p.m. she entered the Channel, upon which her helm was starboarded for the purpose of bringing her head down the river. At this time the vessel was going at full speed, between seven and eight knots an hour; the captain, Samuel Thomas, was on the upper bridge, the chief mate forward on the look-out, and the second mate at the wheel amidships. After entering the Channel, and when the steamer's head had been brought round to about W., the Leading Star was observed at the distance of about a quarter of a mile, according to the master, ahead; and, according to the mate, shead but a little on the starboard bow. The steamer's course was not altered, as it was thought they would pass clear to the southward of her; but when they had approached to within about 80 to 100 yards, the cutter suddenly slewed with her head to the southward and across the steamer's course; and although orders were at once given to hard-a-port the helm and to stop the engines, it was found impossible to clear her, and she struck the cutter on the port side, with the unfortunate results already related.

The Court considered that the pilot cutter was anchored in a proper and usual place for a vessel of her size, and therefore that there was nothing for which she could be held to blame, the balance of evidence showing that she did not sheer suddenly round to the S. as some of the witnesses from the *Constance* endeavoured to show.

With regard to the Constance, the Court considered that she was to blame for not keeping a good look-out, and for going too near the cutter; and that as this amounted, on the captain's part, to navigating his ship without "proper and seamanlike care," his certificate was suspended for six months.

www.libtool.comstranding.

"QUEEN OF THE SOUTH."

· Inquiry held 7th and 8th May, 1879.

Assessors: G. T. HOLT, I.N.; C. Y. WARD.

The Queen of the South was a barque of 336 tons net register. She was built at Sunderland in the year 1855. On the 15th of March, 1878, having been surveyed by Lloyd's, she received an "A1 in red" certificate. Having discharged a cargo of coals at St. Thomas, she left that place on the 15th of December, 1878, bound to Frontera, in the Bay of Campeachy, for orders, arriving at the mouth of the Tabasco River, up which Frontera is situated. on the 3rd of January. Frontera is about 12 miles up this river, and the master not being able to obtain a clearance for his ship on the 4th, had to stay on shore over the 5th. During that night, and early on the morning of the 6th, the wind came on to blow so strong, that the mate, in accordance with instructions received from the master, dropped the starboard anchor, and then paid out chain upon both anchors; about 8 a.m., however, the port cable parted in the hawse-hole, upon which the whole of the starboard chain was paid out, but after a short time that also parted. The vessel was then adrift, all sail was set, and she stood out to sea, where she beat about until the 12th, when she again came to anchor in the same place, but the wind was still blowing so strongly that the master was unable to get off to her. As the night approached the wind increased, and the mate again put to sea, and ran into Chiltepec, a place about 24 miles to the west, where the master, having in the meantime received orders to load a cargo of timber, proceeded in his boat, and rejoined his vessel. Owing to the shallowness of the bar of the Chiltepec river, a portion of the cargo only could be taken in, it being necessary to go outside to load the remainder. The master, having consulted a pilot, loaded his vessel down to 10 feet forward, and 10 feet 3 inches aft, which was done by the end of January, but owing to the state of the weather it was not until the 14th of February that an anchor and chain, which he had purchased from a recently wrecked vessel, was put on board. In crossing the bar she took the ground, but ultimately passed safely out, and anchored in from four to five fathoms.

On the 20th of February a northerly gale sprang up, which compelled them to put to sea, where they beat about till the 22nd, when they again anchored outside the bar. During the next few days they took in cargo at intervals; but on the 26th, although the weather appeared unsettled, the vessel rode in safety until midnight, with the spare anchor down, and from 20 to 25 fathoms of chain cable out. At this time, however, the chain parted, when the other anchor was let go but did not hold, the vessel continuing to drag towards the shore; as it was impossible to run out to sea, the master, after consulting the crew, slipped the chain and ran the vessel stem on to the beach. On the following morning she was bilged and full of water, when it was determined to abandon her.

Some question arose as to the master's conduct on the occasion of the attempt to cross the bar of the Chiltepec River on the 14th, and as to

whether on that day he was drunk, or under the influence of liquor, both of which matters the Court, as appears in their finding, dealt with. A letter was also written to the Secretary of the Marine Department of the Board of Trade, signed by the mate, steward, and 10 seamen, after their return to England, in which the master was distinctly charged with having wilfully and intentionally tried to throw the vessel away, for which charge the Court considered there was no foundation.

They held that the loss of the vessel was due to the insufficiency of the anchors and chains which she had on board; at the same time they thought that the master, after losing his two bower anchors and chains, had done his best to replace them. They held that the mate had done his duty thoroughly, when left in charge off Frontera, and that the stranding on the 14th of February had been caused by the wind having fallen and come ahead. With regard to the charge of drupkenness, they were unable to say whether the master had or had not been affected with liquor on the 14th of February, but considered that in any case the stranding was not due to any misconduct on his part.

Stranding.

"ROBERT DICKINSON," S.S.

Inquiry held 14th and 15th May, 1879.

Assessors: B. S. PICKARD, R.N.; C. Y. WARD.

The Robert Dickinson was a screw steamship of 1,705 tons gross and 1,109 tons net register. She left the Tyne at about 4.30 p.m. of the 26th of April, 1879, in a good and efficient state in every respect, with a crew of 21 hands all told, bound to Naples.

At about 3.45 a.m. of the 27th the mate observed land about two points on the starboard bow, distant from three-quarters to one mile, which he took to be Filey Brig. He accordingly at once ordered the helm to be starboarded, and having put the vessel on a S.E. course, went to call the master.

According to the master, Robert Fuller, at 4.15, or, according to the mate, at 4.30, land was seen ahead, and although the helm was immediately starboarded, and the engines at first slowed, and afterwards turned full speed astern, they ran nearly stem on to the rocks about a mile and a-half north of Flamborough Head.

The first question upon which the opinion of the Court was asked was as to the cause of the stranding of the vessel; and in order to give an answer to this question, it was necessary to ascertain the courses steered after passing Filey Brig. The account given by the master was that he came up almost immediately on being called by the mate, and finding that the vessel had been put upon a S.E. course by the bridge compass, he told the mate that he should like to take her in a little closer to the shore, his object being to make Flamborough Head, whence he intended to take his departure to the southward. Having then put the vessel on a S.S.E. course by bridge compass, he went below, and on returning on deck again

in about 10 minutes, observed, as soon as he got on the bridge, land on both bows and rocks on the port bow. He immediately ordered the helm to be put hard-a-starboard and the engines to be slowed; but finding that the vessel was not answering her helm, put the engines full speed astern, but before they had had time to act the ship struck. According to the master be had not been on the bridge more than three minutes when the casualty occurred, and it was then about 4.15 a.m. On the other hand, the story told by the mate was that the master did not come on deck until about 10 minutes after he had been called, that there was then no land in sight, and that the master thereupon ordered the vessel to be kept in, observing at the same time that they could go close to the rocks. That the helm having been ported, she was by the master's orders brought back to her original course, namely, S., by bridge compass, upon which the master went below, telling the mate to keep a good lookout for the land. In about 10 minutes afterwards, and whilst the master was still below, the mate again saw land ahead, upon which he ordered the helm to be starboarded, and whilst the ship was paying off the master came on to the bridge and steadied her at S.S.E. The mate said that he then went over to the starboard side of the bridge to look out for the land, and did not know what course was being steered; but that in about 20 minutes afterwards the master gave the order to starboard the helm, the land at that time being distinctly visible on the starboard side; that he accordingly rushed to the wheel to help the man get the helm over, and that almost immediately afterwards the vessel struck.

The Court pointed out that the discrepancies between the two stories might have arisen from some forgetfulness or misapprohension, but even supposing such to have been the case, it appeared to them from the evidence, that the mate was correct in saying that the stranding took place at 4.30, and not at 4.15, as stated by the captain. Everything confirmed the mate's statement that the captain was on deck some considerable time before the accident, and, therefore, if there had been any mistake as to the courses steered, he had the opportunity, and it was his duty, to have reflected it. Instead of doing so, he continued his course at full speed, although the morning was so misty that he ought to have slowed his engines until he had ascertained his true position. They accordingly suspended the captain's certificate for six months.

Abandonment.

"ABRASIA."

Inquiry held 17th May, 1879.

Assessors: B. S. Pickard, R.N.; C. Y. WARD.

The Abrasia was a sailing vessel of 179 tons net register. She left Glasgow on the 9th of April, 1879, bound for Sydney, Cape Breton, with a crew of seven hands all told, and a cargo of between 280 and 290 tons, made up of about 100 tons of bricks, 70 tons of pig iron, 20 tons of iron bars, 18

tons of iron machinery, and the rest casks of tar oil and other goods. She also took in at the powder buoy off Greenock about 20 tons of gunpowder. On the morning of the 16th she left Greenock; all went well until midnight of the 18th, when the wind came on to blow from the S.E., and the ship began to labour, and take in a considerable quantity of water. At 1 a.m. of the 19th the cabin skylight was stove in, the weather continuing very bad until midnight of the 19th, when it fell suddenly calm till about 8 a.m. of the 20th. The wind then freshened again, and a very heavy sea set in both from the S.W. and S.E. At about 9 a.m. it was found that the pumps would not suck, and at 10 a.m, three and a-half feet of water were found in her. At 11 a.m. the water had gained six or eight inches on the pumps, upon which a signal of distress was hoisted, in answer to which a vessel bore down towards them, the master of which consented to take them on board, but said he would not stay for them. Accordingly the Abrasia was at once abandoned, and was not afterwards heard of. It appeared from the evidence, that when the Abrasia left the Clyde she was well found and in good condition. She was, in the opinion of the Court, undoubtedly heavily laden, although they were not prepared to say that it was too heavy a cargo for her to carry. The assessors were also of opinion that she had a sufficient freeboard. Upon the whole, the Court came to the conclusion that, so far from the vessel having been prematurely abandoned, the abandonment was in fact perfectly justifiable.

Stranding.

"GARONNE," S.S.

Inquiry held 27th May, 1879.

Assessors: B. S. PICKARD, R.N.; H. JONES.

The Garonne was an iron screw steamer of 3,876 tons gross and 2,468 tons net register. She left Adelaide, in South Australia, on the 19th of March, 1879, with a crew of 122 hands all told, 312 passengers, and a full cargo, bound to London, in thoroughly good and efficient condition in every respect. She got under weigh about noon of the 19th, in very fine weather. At about 12.30, when the Semaphore bore E., distant about three miles, a course was laid S. 63° W., by the bridge standard compass; the engines being set on at full speed, when the vessel made about 10 or 11 knots an hour. The same course was steered till about 2.15 p.m., when the master altered it to S. 56° W. until 2.45 p.m., when the Troubridge Light bore about a point on the port bow, distant from 10 to 11 miles. The captain ordered the helm to be starboarded, so as to bring the lighthouse three points on the starboard bow, when she was steaded at S. 30° W. At about four minutes after 3 p.m., while the captain was in the chart room, he felt the ship roll, and on coming out found that she had taken the ground, where she remained fast. On the following day, some of the cargo having been discharged, she was got off without having sustained any material damage. The place where the vessel grounded was about the middle of the east side of Tapley Shoal

The Court came to the conclusion that the stranding was due to the vessel's having been laid, on her departure from Adelaide, on too westerly a course by her master, and to his having made no allowance for the tide which was setting her to the N. Although this appeared to the Court to be more than an error of judgment, yet, as the vessel had not sustained any serious or material damage, they were unable to deal with the master's certificate.

Gas Explosion-Ventilation.

"STREONSHALK," S.S.

Inquiry held 4th and 5th June, 1879.

Assessors: G. H. FORSTER, R.N.; J. SCEALES.

The Streonshulk was an iron screw steamship of 1,588 tons gross and 1,022 tons net register. In the beginning of April, 1879, being at Newport, she took in a cargo of coal, from the Newport Abercarne Black Vein Steam Coal Colliery, which is semi-bituminous, giving off a considerable quantity of explosive gas when newly wrought or broken. The coal in question was newly wrought, the loading having commenced on Saturday, the 5th of April, being completed on the 8th and 9th, and the vessel having left on the morning of the 10th. When the colliery is so near, as it was in this case, it is usual to ship the coal on the day it is wrought.

There were three holds, two before the engine room compartment and one abaft it, separated from one another by water-tight bulkheads. In the fore hold were stowed 338 tons of coal, about 600 in the main hold, and 757 in the after hold. In the after hold the coal was sloped away aft, for the purpose of trimming the vessel. So far as regarded the condition of the coal, its stowage and trimming, the Court considered that there was nothing to complain of.

In each hold there were two ventilating pipes or tubes, each about 9 inches in diameter, and fitted with cowls, one in the fore part, the other in the after part of the hold. These tubes pierced the upper deck and stood some 4 or 5 feet above it. There were also in each hold two pairs of ventilating bits, with orifices of from 3 to 4 inches across. This system the Court considered amply sufficient, and therefore could not blame the owners in any way for the explosion which occurred.

She left Newport early on the morning of the 10th of April, 1879, bound to Savona, in the Mediterranean, with a crew of 23 hands all told. For the first three days the hatches were left open, to allow the gas to escape; but at about 6 p.m. of the 12th, owing to the wind, which had been from E.N.E.; having suddenly chopped round to W., and begun to blow hard, they were closed and battened down. The vessel continued her voyage, and at about 7.15 of the following morning had arrived within about 60 miles of Cape Finisterre, when an explosion occurred in the after part of the vessel, which completely destroyed the cabin and carried away the deck above it, at the same time seriously injuring the master and his wife,

as well as the first mate and steward. Finding that the ship had taken fire, and that she had become unmanageable owing to the steering apparatus having been carried away, the second mate, who was in charge, at once ordered the hose to be brought aft, and as soon as the fire had been got under, steering tackles were rigged, and the vessel was laid on a S.E. course to make the land. That course was continued until about 4 p.m., when they fell in with a small vessel called the Lord Mar, and with the assistance of the chief officer of that vessel, they succeeded in getting into Vigo. Having there been temporarily repaired, she was subsequently taken to Whitby.

It appeared from the evidence that at the same time as the hatches were battened down the ventilating bits were closed. The ventilating tubes had been shut from the time of leaving Newport, and the cowls stowed away in the forepeak.

To explain how the explosion occurred, it becomes necessary to describe the construction and arrangement of the cabin, which was in the after part of the vessel, below the deck, and consisted of the saloon in the centre, with officers' and spare berths on each side. Forward of the cabin, and extending from side to side of the vessel, was a store-room, having a small hatchway in the deck above. The bulkhead between the cabin and store-room was formed of 2½ to 3-inch planks, grooved and tongued, and lined on the side of the cabin with felt and inch boarding. The floor of the cabin was of 3-inch planks and caulked. The bulkhead separating the store-room from the after hold was also composed of 2½ to 3-inch planks, but without felt or lining, and the floor was of 3-inch plank, but not caulked. Forward of the store-room bulkhead, and extending as far as to the middle of the after hatchway, was the empty space, caused by the sloping away of the coal aft. This empty space also extended, apparently, under the cabin and store room floors.

To enable the steward to pass from the pantry, which was in the after part of the cabin, to the store room without having to go on deck and down the small hatchway, a door had been cut through the cabin bulkhead from the foremost or spare berth on the port side into the store room. It seemed also that the master of the vessel had, some time after she left Whitby, and unknown to the owners, cut a hole in the floor of the store room, and instead of a close hatch, had fitted it with an open grating. Obviously any gas that there might be in the after part of that hold would, if all other means of exit were stopped up, find its way through the grating into the store-room, and might thence pass through the door into the spare berth, and thence into the cabin.

Under the circumstances stated above, there was no way in which the gas given off from the coal in the after hold could have escaped, except through this grating. It was found that at the time of the explosion the fire in the saloon was burning brightly, and it was in this way that the Court considered it probable that the explosion was caused.

They held therefore that the master was not justified in not shipping the ventilating cowls, and in closing the ventilating bits, when the hatches were battened down. But inasmuch as the mistakes which he had made arose rather from error of judgment than from neglect and want of attention to his duties, the Court ordered that his certificate should be returned to him.

Stranding.

"RIVERSDALE."

Inquiry held 4th and 5th July, 1879.

Assessors: G. H. FORSTER, R.N.; W. PARFITT.

The Riversdale was a sailing ship of 1,490 tons net register. She left the Bute Dock, Cardiff, at about 4 a.m. of the 17th of June, 1879, with a cargo of 2,200 tons of coal, bound to Penang. She remained in Penarth Roads, waiting for some of her crew, till about 4 p.m., when she got under weigh, and proceeded in tow of a steam tug until 9.30 p.m., when the latter, in spite of the protest of the master of the Riversdale, cast off, Nash Point at the time bearing N.E., distant about five miles. It was then near the end of the ebb, and the Riversdale continued on the starboard tack under lower topsails, foretopmast staysail and jib, until she was put about on the port tack, heading N. for the Welsh Coast. At 12 o'clock the first mate's watch commenced, when the second mate went below and called him, Nash Light at the time bearing E. by S. § S. magnetic. The vessel continued on her course about N. by W., direct for the Welsh coast, for half an hour longer, when the mate called the captain, telling him that the lights were nearly in one.

When the captain came on deck he at first attempted to stay the vessel, but finding that she would not come round, he ordered the helm to be put up in order to wear her. In going round, however, she struck the ground at about 12.30 a.m. There she remained till 2 a.m., when, as the tide rose, she came off. At 5 o'clock it was found that she was making water, and she accordingly returned to Cardiff.

The Court held that the master of the tug had no right whatever to cast the Riversdale adrift in opposition to the urgent remonstrances of the master, and knowing that she had no pilot on board.

As to the master and mate of the Riversdale, the Court considered that they were were to blame, the master for having been below when the vessel had been left in a position of great danger, without a pilot, and heading direct for the Nash Sands; the mate for having left the deck in charge of a lad of 19, who had only just obtained his second mate's certificate; also for having, after he came on deck, continued the vessel on such a course as to get to the north of the Nash Light before calling the master, and for not having previously put the vessel about.

The Court therefore suspended the certificate of Robert Owen, the master, for six months, and that of James McCabe, the mate, for three months.

WWW.libtool.com.cll Stranding-Compasses. "ROCKABILL," S.S.

Inquiry held 8th July, 1879.

Assessors: E. G. F. G. VISCONTI, R.N.; C. Y. WARD.

The Rockabill was an iron screw steamship of 277 tons gross and 149 tons net register. She left Glasgow on the 9th June, 1879, with a cargo of 180 tons, bound to Limerick, having a crew of 10 hands all told. At 2.10 a.m. of the 10th she was abreast of Sanda Light, bearing N. 1 E., distant about a mile and a-half. From there a W.N.W. course was steered until about 3.10 a.m., when it was altered to N.W. It was the master's watch that night, from midnight to 4 a.m., and at about 4.10 a.m. the mate came on deck to relieve him, and thereupon the latter went below to look at his chart. About five minutes afterwards, whilst the master was still in the cabin, the mate observed land ahead, and immediately rang the telegraph bell to stop the engines, and an order was also given to starboard the helm. The master on hearing the telegraph bell at once rushed on deck, and ordered the helm to be ported, but they were so close to the shore that it was not possible to clear it, and she grounded on the rocks, one of which pierced her bottom, so that the main hold filled with water. The place where she grounded was about two miles to the north of Cushendun Coastguard Station. There she remained until assistance arrived from Glasgow, when a considerable portion of the cargo having been discharged, and the hole in herbottom stopped, she came off, and was ultimately taken to Glasgow.

It seemed that the vessel had three compasses—a standard compass on the bridge, one in the wheel-house amidships, and a third before the after-The captain stated that it was not possible to rely upon the standard compass, because the forward magnet, which was required to adjust it, was liable to get displaced. Practically, therefore, he had but one by which to navigate the vessel, namely, the one in the wheel-house amidships, so that if this went wrong at any time the master had nothing to show him whether he was on his right course or not. He had known of this defect in the standard compass ever since joining the vessel in January, 1879, but had never called the owner's attention to the fact, for which the Court considered that he was very much to blame. The further question arose whether it was to the wheel-house compass having suddenly become deranged that this casualty was due. The Court considered that there was no evidence to show that the vessel was not steered on the courses mentioned above after passing Sanda Light, and that it was quite impossible to account for her having grounded where she did, except upon the assumption, that from some unexplained cause the wheel-house compass suddenly became deranged. If the standard compass had been in proper working order, such an error could hardly have occurred without its being at once detected by the officer of the watch, and it was on this ground that they held the master specially worthy of blame. As, however, this was not amongst the charges preferred against him by the Board of Trade, it could not form any ground to the suspension of his certificate.

The Court added that, except as aforesaid, and except also that the speed of the vessel was too great after 3 a.m., considering the thick state of the weather, the vessel appeared to have been navigated with proper and seamanlike care.

Stranding.

"OTTERCAPS," S.S.

Inquiry held 11th July, 1879.

Assessors: E. G. F. G. VISCONTI, R.N.; C. Y. WARD.

The Ottercaps was a screw steamship of 977 tons gross and 625 tons net register. She left Bilbao on the 7th June, 1879, with a cargo of about 1,000 tons of iron ore, bound for Sunderland, and having a crew of 18 hands all told. The master being well acquainted with the navigation, and having on many previous occasions made the voyage, determined to pass through the intricate channels lying between Ushant and the coast of Finisterre; and with that view the vessel, on leaving Bilbao, was laid on a N. 1 E. course. That course was continued until about midnight of the 8th, when Tevennec Light was observed about two points on the port bow. The course was thereupon altered to N., the vessel being kept within the white sector of Tevennec Light, until the two lights of Pointe du Raz were in one, when the course was altered to N.E. After running through the red sector of Tevennec Light, the course was again altered to N.N.E., and shortly afterwards St. Mathieu Light was observed bearing right ahead. The vessel was continued on a N.N.E. course until about 2 a.m., when the Capucins Light, which is at the entrance to Brest Harbour, was seen away on the starboard beam, upon which the course was altered a little to the westward so as to bring Kermorvan Light to bear N.N.E. The vessel was kept on a N.N.E. course, heading directly for Kermorvan Light, and at about 2.45 a.m. they were abreast of Pointe St. Mathieu, when, according to the master, the course was altered to N. by E. magnetic, with the view of passing between Pointe Kermorvan and the Grande Vinotière. In a few minutes afterwards a buoy was reported on the port bow, upon which the master, knowing it to be the buoy over the Renards Rocks, immediately ordered the helm to be starboarded. The vessel, which was then going at full speed, about nine knots an hour, passed close to the buoy, and in doing so she struck the rock, but without stopping. The master, who had ordered the engines to be stopped, on perceiving that she had come off, ordered them to be set on again, and rounded to just to the north of Kermorvan Lighthouse. On then examining the vessel it was found that the fore tank was full of water, but that all the other tanks, as well as the holds, were free; upon which the master returned to Brest, where the cargo was discharged, and the vessel having been temporarily repaired, and the hole in the bottom stopped, she proceeded on her voyage, and ultimately arrived in safety at Sunderland.

The Court came to the conclusion that the stranding of the vessel was due to her having, before reaching Pointe St. Mathieu, been laid on

course which would take her inside the Renards Rocks; and to the course not having been altered sufficiently to the westward, after passing that point, having regard to the great speed at which she was going; and thought that George Benson, the master, was to blame for having kept the vessel too near to the shore, and for having gone at full speed through a dangerous channel without knowing the exact position of his vessel. They accordingly suspended his certificate for three months.

Stranding-Use of Lead.

" FOAM."

Inquiry held 15th July, 1879.

Assessors: G. T. HOLT, I.N.; J. SCEALES.

The Foam was a sailing vessel of 211 tons net register. She left Porto Rico on the 3rd of May, 1879, with a cargo of sugar, bound to Plymouth for orders. She arrived at Plymouth on the 9th June following, and was obliged at once to discharge her crew, the time mentioned in the articles There she remained until about the 21st, when she having expired. received orders to proceed with her cargo to Marseilles, and a fresh crew having been engaged, she left Plymouth on the 30th, with a crew of eight hands all told, consisting of a master, a mate, a steward, one able seaman, three ordinary seaman, and an apprentice; well found as to compasses and other equipments. After clearing the breakwater, she was laid on a W. by S. course, close-hauled on the port tack, the wind being from about S.S.W. and the weather fine. As she proceeded, the wind gradually came away more from the southward, so that she was able to keep a W.S.W. course, which was the course that the captain said he intended to make in order to clear the Lizard. At 8 o'clock p.m., the Eddystone Lighthouse bore E.S.E., distant about six miles, the vessel at that time being under all plain sail. At about 8.30 the wind began to freshen, and thereupon all the light sails were taken in. At 10.30 the foresail was blown away, upon which all the hands were called up, and more sail was taken off. She was continued on her course, heading about W.S.W. until about 1 o'clock, when all hands went below to change their clothes and rest, whilst the master and mate alone remained on deck, the master being at the helm, the mate on the quarter deck looking out. At about a quarter to 2 o'clock they suddenly observed land at a short distance off, close under the lee bow, upon which the helm was put hard down for the purpose of going about, and all hands were at once called up. The vessel, however, missed stays, and thereupon an attempt was made to wear her, but when half round she touched the ground and remained fast. It was then blowing a hard gale from the southward, and the vessel having fallen off broadside to the sea, soon began to break up. The mate and two of the hands succeeded in swimming to the shore, and as the tide fell, the master and two more of the hands succeeded in getting on to the rocks; but the other two were unfortunately lost. The vessel went to pieces the place where she struck being a little to the east of the entrance to Falmouth Harbour, between St. Anthony's Point and Killyger and Porthmellin Head.

Upon the evidence, the Court come to the conclusion that the stranding was due to the master, William Furze Ball, having made no allowance for the wind and tide which were setting the vessel to the northward, after passing the Eddystone Lighthouse, and until she grounded.

They added that his conduct in not having taken a cast of the lead was quite unjustifiable, and accordingly suspended his certificate_for six months.

Stranding-Use of Lead.

"CONGOU:"

Inquiry held 25th July, 1879.

Assessors: E. HIGHT; G. H. FORSTER, R.N.

The Congou, a vessel of 324 tons net register, left Hull on the 6th of July, 1879, with a cargo of 502 tons of coal, bound to Buenos Ayres, having a crew of 10 hands all told.

At noon on Tuesday, the 8th, the North Foreland bore W. by N., distant about eight miles, and at 1 p.m., W.S.W., at the same distance. The vessel was thereupon put round with her head to the S., from which time, until 8 a.m. of the following morning, she was kept on that course, close-hauled to the wind on the starboard tack. From 6 p.m. of the 8th until 8 a.m. of the 9th, when 16 fathoms were obtained, no cast of the lead was taken. At 8.30 a.m. she was fairly round with her head to the northward and westward, close-hauled upon the port tack, and in three-quarters of an hour from that time she suddenly struck the ground, came off, but struck a second and third time, ultimately beating over the bank into deep water. When the pumps were sounded she was found to be making a great deal of water, but it was kept under until she reached Lowestoft on the following morning.

It appeared to the Court probable, that some hour or two before 8 a.m. of the 9th, when the vessel was still heading to the southward, she crossed the Sandettié Bank, but there then being plenty of water on it, and no soundings having been taken, the fact was not observed. When however, her head had been laid to the northward and westward, just as she was recrossing the bank, it was dead low water, the result being that she struck upon one of the shallow flats of this sand, upon which the chart showed that at low water there was only about three and a-half fathoms. This explanation was in fact admitted by the captain.

The Court considered that he had been guilty of a very grave offence in not having once taken a cast of the lead between 6 p.m. of the 8th and 8 a.m. of the 9th; but, having regard to his previous good character, they did not suspend his certificate, but warned him to be more careful in the future.

www.libtool.com.Boiler Explosion.

"BLACK SWAN," S.S.

Inquiry held 30th and 31st July, and 1st August, 1879.

Assessors: B. S. PICKARD, R.N.; J. R. RAVENHILL, C.E.

The Black Swan was an iron screw steamship of 650 tons gross and 411 tons net register, and fitted with two engines of 80-horse power. She left Boulogne on the 29th of June, 1879, in ballast, bound to Newcastle, having on board a crew of 16 hands all told, 10 of whom were deck hands, the remaining six belonging to the engine room department. She proceeded at her usual speed, from eight and a-half to nine knots an hour, the weather being fine and the sea smooth, and at about 4 p.m. was off Yarmouth, when an explosion occurred in the engine room, which killed one of the stokers, and so severely injured the first and second engineers, as well as a son of the chief engineer, who happened to be on board, that all three of them subsequently died; the second engineer and the son on the same evening, and the chief engineer about a fortnight afterwards. The captain, who was at the time on the bridge, finding that the engines had been stopped by the explosion, obtained the assistance of a steam tug, by which she was taken into Yarmouth Harbour. The boiler had three furnaces, each with a separate combustion chamber, and it was the lower vertical plate at the back of the combustion chamber on the port side which burst. The fracture was a horizontal one, being about 42 inches long by 71 inches at the widest part, and was in a line with the second row of stays from the bottom, and a little below the line of the fire bars. Originally this plate was 76ths of an inch thick; but in about September, 1875, very shortly before a new superintendent of the line to which this vessel belonged was appointed, the lower part of the plate had become so corroded that it was found necessary to renew it. The lower portion of the plate was accordingly cut out, and in its place a new plate 16ths of an inch in thickness was inserted, which was the plate which gave way. The plate was connected with the back plate of the boiler by a number of stays $\frac{8}{13}$ inches in diameter, placed at an average distance of about 9 inches from centre to centre, and screwed through both the plates, and rivetted over, the water space between the plate and the back of the boiler being from 4 to 6 inches in width. Between the port and centre combustion chambers there were six stays less than in the corresponding position on the starboard side, leaving a space, not of 9, but of 18 inches between the screw stays at this part. To supply the want of these stays a vertical angle iron had been rivetted to the back plate of the boiler, but without any connection being made between it and the combustion chambers. The lowest screw stay in the port combustion chamber was also wanting, and had apparently never been fitted.

The plate, as produced in Court, had been reduced from $\frac{1}{16}$ ths, its original thickness, to between $\frac{3}{16}$ ths and $\frac{4}{16}$ ths; so far, then, as regarded its thickness, the Court considered that it was in an unsafe condition.

At the time of the explosion there were upon the plate five cup patches,

which were over stay heads, two in the line of fracture, and three immediately below. The only object in putting them on was to stop the leaking at the stay heads. They certainly would have given no additional strength or support whatever to the plate, which would have been exposed to a pressure of between 53 and 54 lbs.

Upon the whole, the Court came to the conclusion that the causes of the bursting of this plate were, first, the excessive thinning of the plate, its thickness having been reduced from τ_0 ths to between τ_0 ths and τ_0 ths, thus rendering it, in the opinion of competent witnesses, dangerously weak; secondly, the insecure hold upon the plate of five contiguous stays, over the ends of which were placed the cup patches; and thirdly, the excessive pressure of steam in the boiler, a pressure which, having regard to the form and construction of the boiler, was in excess of that to which it should have been exposed even when new.

They considered that the blame of the casualty rested with the superintending engineer of the vessel. It was his duty to see that this boiler was in a safe and proper condition, and this he neglected to do. They added that, in their opinion, the chief engineer who lost his life by the explosion was also to blame for not having called the superintendent's attention more particularly to the matter.

Stranding.

"ZEPHYRUS."

Inquiry held 6th and 7th August, 1879.

Assessors: R. A. POWELL, R.N.; J. P. WILSON.

The Zephyrus was a sailing vessel of 699 tons net register. She left Savannah on the 16th of June, 1879, bound to Liverpool, with a crew of 14 hands all told, and well found in every respect.

On the 17th of July they made the Calf Lightship, on the west coast of Ireland, distant from eight to ten miles. At 6.30 a.m. of the 19th they passed the Saltees Rock, bearing N. At 10 a.m. the vessel was laid on an E.N.E. course, and at noon the Tuskar Light was computed by dead reckoning to bear N.W. to N.N.W., distant from eight to ten miles, and accordingly she was steered N.E. by E. to clear the South Stack.

At 4.30 p.m., however, they found themselves near Bardsey Island, which bore E. by N. ½ N., distant about two and a-half miles, upon which the vessel's head was altered to N., on which course she was kept till 5.30, when it was altered to N.N.E. till about 7.30.

The master, Hugh Williams, then put her on a N. by E. course, but without taking any cast of the lead, and at about 9 pm. rocks were reported ahead and on the starboard bow. The helm was immediately put hard-a-starboard, but she struck and remained fast. The place was found to be near the entrance to the Cymmeran Inlet, about two miles to the east of Rhoscobyn Head. The master and crew got safely to shore in the boats, but the vessel was lost.

The master attributed the stranding to an error in the compasses, but the court came to the conclusion that it was not due to this cause.

On the day in question it was high water in St. George's Channel at about 11 o'clock. At noon, therefore, the Zephyrus would have been exposed to the full force of the ebb tide, which, as she was heading N.E. by E. across the channel, would have caught her on the port bow. The tides were at spring, when they run from three to four knots in mid-channel. The Court considered that this state of things, which the master ought to have been aware of, was quite sufficient to account for the vessel's having been carried over towards Bardsey Island. When there, he failed to make due allowance for the indraught of the flood tide into Carnarvon Bay. The Court therefore considered him to have been guilty of gross negligence, and they accordingly suspended his certificate for six months.

Stranding.

"HISPANIA," S.S.

Inquiry held 7th and 8th August, 1879.

Assessors: R. A. POWELL, C.B., R.N.; J. P. WILSON.

The Hispania was a screw steamer of 420 tons gross and 263 tons net register. She left Liverpool for Bristol, between which places she was in the habit of trading regularly, on the 15th of July, 1879, having a crew of 16 hands all told, and a general cargo, and She arrived in the Bristol being in good condition and well found. Channel on the morning of the 17th, and at 6 a.m. the master put the vessel, which was then within about one and a-half or two miles from the coast, near Ilfracombe, on the starboard tack, heading E. & S. He then went into his cabin, telling the mate to call him when they made the Scarweather Lightship. The master and the mate differed in their account of the reports made by the latter. According to the mate, the lightship was sighted at about 7 o'clock, and at 8 a.m. it was about two miles off on the port bow. At about 8.10 a.m. the boatswain came on deck, upon which the mate went down to his breakfast, previously telling him that the vessel's head was E. 1 S., and that he was to keep her close to the wind. The boatswain, with the man in his watch, then began to do some work about the ship, leaving the man at the wheel alone on the bridge. Soon afterwards the captain put his head out of the cabin and ordered the fore and aft sails to be taken in. When the foresail was in, the attention of the boatswain was called, by the man at the wheel, to the mast of a wreck right ahead. He gave no orders, however, but having taken in the mainsail, went aft to the mizen. In the meantime the master had gone on the bridge, and ordered the helm to be ported a little; but shortly afterwards observing the mast of the wreck about 200 yards ahead, and on the starboard bow, he at once ordered the helm hard-a-port, but they were then too close to clear the sand, and in coming round the vessel took the ground on the western end of the Scarweather Sand.

As the tide rose she floated, but it was found that she had lost her rudder and rudder post, upon which she was taken by a steam tug into Swanson.

The Court came to the conclusion that the vessel, although at 6 a.m. laid with her head in an E. \(\frac{1}{2} \) S. direction, would have been carried by the strong ebb tide setting on her starboard side in a N.E. direction, which would inevitably land her where she ultimately took the ground.

They blamed the master for not having been on deck after 6 a.m., when the safety of the vessel required his personal supervision, and for having left the deck in the sole charge of the boatswain, who held no certificate.

They also blamed the mate for having, when he knew, as he admitted he did, that the vessel was drifting on the sand, left her in charge of the boatswain, and for having gone below without giving the captain any warning of the danger in which the vessel was.

They therefore suspended the certificates of William Henry Williams Dart, the master, and William Pritchard, the first mate, for three months.

Stranding.

"NORTH BRITISH," 8.8.

Inquiry held 11th August, 1879.

Assessors: R. A. POWELL, R.N.; C. Y. WARD.

The North British was an iron screw steamship of 319 tons net register. She traded regularly between Silloth, in Cumberland, and Dublin, calling at Whitehaven and Douglas on the way. She left Silloth at about 10.20 p.m. of the 19th of July, 1879, having on board a crew of 24 hands all told, and about 200 tons of cargo, and from 30 to 40 passengers. The vessel arrived off Whitehaven at about 12.45 a.m., and having there taken in three or four passengers, she proceeded on her voyage, steering S.W. by W. ½ W. There was a light breeze from the southward, and the weather was somewhat hazy; but the vessel proceeded at full speed, making about 101 knots an hour. At about 5 minutes after 1 o'clock she passed St. Bee's Head, after which neither land nor lights were seen, and the vessel was continued on the same course, at full speed, until about 4 a.m., when the weather had become so thick that the master, believing himself then to be off Douglas, and some three miles from the land, ordered the engines to be slowed, which was done; the number of revolutions having, according to the evidence of the engineers, been reduced from 63 to between 25 and 30. In about a quarter of an hour afterwards, and whilst the engines were still going dead slow, and the vessel was making about three or four knots an hour, the captain and mate, who were on the upper bridge, suddenly observed land ahead, and on the starboard bow, upon which the captain immediately ordered the helm to be put hard-a-starboard, but, finding that she would not clear the rocks by merely starboarding, he ordered the engines to be put full speed astern, and almost immediately afterwards the vessel ran upon the rocks. The boats were got out, and all the passengers landed, but the master and crew remained by her until the tide rose and compelled them to leave. The place where she went ashore was on Clay Head, about four miles to the N.E. of Douglas Harbour.

The course steered from Whitehaven, if made good, would have taken the vessel some six miles clear to the southward of Clay Head. There was a new moon on the 18th, and consequently a spring tide on the night of the 19th; it was also high water that night off St. Bee's Head, at about half-past 11: therefore, when the vessel passed that point, it would have been quarter ebb, and for the next two or three hours would have been running at its greatest strength in a northerly direction, for which the master did not, in the opinion of the Court, make sufficient allowance.

This it was which caused the casualty; but under all the circumstances, and having regard to his high character, the Court considered that it was sufficient to warn him to be more careful in the future.

Boat Lowering-Gear.

"ALBERT EDWARD," S.S.

Inquiry held 14th and 15th August, 1879.

Assessors: H. D. GRANT, R.N.; J. S. CASTLE.

The Albert Edward was a paddle-wheel steamer of 364 tons gross and 221 tons net register. The vessel, which was one of the regular passenger boats running between Folkestone and Boulogne, left the former place at 1 p.m. on the 22nd of July, 1879, with a crew of 21 hands all told and When some miles from land one of the passengers 186 passengers. jumped overboard. The second mate immediately threw one of the lifebuoys into the water and himself jumped overboard; but by that time the vessel had left the man a long way astern. In the meantime, the captain had ordered the engines full speed astern, and as soon as she began to get near the mate, ordered them ahead, and as soon as sternway was off, they were stopped. While this was being done the chief mate and the crew had gone to the starboard lifeboat to clear it away; but on ripping off the canvas cover it was found that there were six inches of water in her, owing to the plug-hole being blocked with dirt. In spite of this, however, the order was given to lower away. It appeared from the evidence, that from some cause or other the bows of this boat descended much more quickly than the stern, and no sooner did her bows touch the water, the boat then being at an angle of 45°, with her stem in the air, than the sea and wash from the paddles rushed into her, breaking her in half, and washing away the fore part; all the men who were in her, except one fireman, who was drowned, were rescued. The port boat was then lowered and the second mate was picked up, but the passenger was drowned. In the course of their judgment the Court stated that, as far as the number and dimensions of the boats were concerned, the provisions of the Merchant Shipping Act had been fully complied with, but they thought it would have been better if instead of two heavy boats, they had had two lighter boats, one on each quarter, and a third, still smaller one, further aft, which could have been lowered at a moment's notice.

The Court also hoped that for the future the boats would be hung outside, and not allowed to remain in a position whence it required some considerable time to launch them.

It appeared that the canvas with which the starboard boat was covered was very old, and had holes in it, and the Court blamed the master for allowing such a state of things.

They thought that the boat was of sufficient strength, but with regard to the lowering gear they came to the conclusion that the after davit was not of a proper construction, having too many leads upon it, in consequence of which the after fall could not be paid out so readily as the fore one, and was liable to become jammed. For this they blamed the superintendent at Folkestone, and also the master of the Albert Edward.

They added, that in their opinion the lowering of the starboard lifeboat was not efficiently managed by those who worked it, the fore tackle having been allowed to run out after the after tackle had become jammed, thus letting the boat down by the bows, and blamed the captain and chief mate for not having stationed a man at each fall.

Collision-Lights.

"BESSIE" AND "JANE."

Inquiry held 19th August, 1879.

Assessors: E. APLIN, R.N.; T. BEASLEY.

The Jane was a small fishing boat of from 8 to 10 tons. She left Plymouth at 7 a.m. on the 10th of July, 1879, for the purpose of fishing, manned with a crew of three hands, including the master. After trying two or three places, she came to anchor between six and seven miles to the eastward of the Eddystone Lighthouse, and commenced fishing. From 6 to 8 p.m. all the three men fished, but at 8 o'clock the master went into the cabin to rest. At 10 o'clock he returned on deck and told the two men to go and get some rest. Before leaving, however, one of them, by the master's directions, lighted the anchor light and set it in its usual place. After they had been in the cabin about three hours, the two men were awakened by hearing the master call out to them to come on deck immediately. They at once rushed on deck, and as they did so they saw the jibboom of a vessel over the boat. They sprang at her bows, one got hold of the anchor, whilst the other seized some part of the jibboom gear, and at the same instant the vessel, which proved to be the Bessie, struck the Jane amidships, cutting her in two, and she sank under them. After hanging for some time, according to their own account for three or four minutes, they were discovered by the master and crew of the Bessie, and with their assistance were hauled up on deck, but the master unfortunately perished. After remaining in the neighbourhood for about a quarter of an hour or 20 minutes, in the hopes of picking up the master, but in vain,

they proceeded to Plymouth, and there landed the two survivors from the Junew, libtool, com. cn

The story told by the Bessie was as follows: -- She was a schooner of 144 tons net register. She left Middlesborough for Britton Ferry, in South Wales, on the 17th June, 1879, with a crew of seven hands all told, and a cargo of pig iron. Meeting with adverse winds, she was compelled to put into Torbay; and after staying there for four days, she left at about 8 a.m. on the morning of the 10th July, the wind at the time blowing a strong breeze from the westward. After rounding Start Point, she proceeded to beat down Channel, and when near the New Stone, to the eastward of the entrance to Plymouth Harbour, she was upon the starboard tack, heading S.W., the wind blowing a strong breeze from W. by N., the vessel being under all plain sail, and making from three and a-half to four knots an hour. From midnight the watch consisted of the master, who had been on deck all night, and two seamen, one of whom was at the helm, the other on the port bow on the look-out forward, and the master was walking the deck from amidships to forward on the starboard side. At about 1 o'clock, when some six or seven miles to the eastward of the Eddystone, a crash was suddenly heard, and on the master going forward he found the jibboom broken, and two men hanging to the bows. Having backed the sails and got the men on deck, he learnt that one of the crew of the Jane was still missing, when some discussion took place as to whether the boat should be lowered, but in the end it was deemed imprudent to do so. The vessel proceeded to Plymouth, where the two survivors from the Jane were landed.

These being the facts of the case, the first question on which the opinion of the Court was asked was—what was the cause of the collision, and of the loss of life which ensued therefrom?

In order to ascertain this, it was necessary to inquire into the lights carried by each vessel. That of the Jane consisted of a composite candle, set in a square lantern with glass sides. This lantern was placed in a kind of cage on the top of an iron stanchion, which was held in an upright position by two sockets, fixed in the port side of the boat, about amidships. The glasses which formed the side of the lantern were set in an iron framework, having a broad iron band at each angle, in addition to which the top of the cage, in which the lantern was placed, consisted of another large broad band, which encircled the lantern horizontally about the middle. There were also other broad bands forming the supports, which passed vertically down the centre of each face of the lantern. All these iron bands together must have obstructed a good deal of the light, and have prevented it from showing "a clear, uniform and unbroken light all round the horizon," which an anchor light should do.

The assessors were of opinion that this was not a sufficient light. They said that a fishing boat, being a very small object, and not so readily seen as a larger vessel, ought to have at least as good a light as is required by the 7th Article of the "Regulations for Preventing Collisions at Sea for Ships at Anchor;" and they came to the conclusion that it was very doubtful whether the lantern exhibited by the Jane could, under the best conditions, have been seen at the distance of a mile; and that certainly it would not

show "a clear, uniform and unbroken light, visible all round the horizon." As to the Bessie, there was no doubt that she had the proper regulation lights exhibited, and that they were burning brightly.

The Court held the look-out was not a good one on either vessel, and that the collision was due partly to the insufficiency of the Jane's light and partly to the bad look-out kept on board both the vessels.

They held also that the master of the Bessie was greatly to blame for not having done everything in his power to save the life of the captain of the Jane, and more especially for not having lowered his boat as he might easily have done.

Foundering-Discharge Pipe-Defective Fittings.

"EAGLE," S.S.

Inquiry held 22nd and 23rd August, 1879.

Assessors: R. C. MAY, C.E.; T. BEASLEY.

The Eagle was an iron screw steamship of 316 tons gross and 193 tons net register, fitted with engines of 85 h.p. She left Swansca at about 1 p.m. of the 28th July, 1879, bound to Dublin, with a crew of 13 hands all told and a cargo of coal? At about 11 p.m. of the same day, the chief engineer, William Cambridge, observing more than the usual quantity of water in the bilges, turned the donkey engine on to clear it, but soon afterwards, seeing that there was a deficiency of water in the boiler, examined the feed pumps. and found that the forward one was not working properly. He accordingly called the second engineer, turned the donkey-engine on to the boiler, and as soon as it was properly filled, directed the second engineer to turn it again on to the bilges whilst he went to examine the air pumps. Finding a drag upon the after one, he went on deck and told the captain that the valve on the air pump had given way, making it necessary to go easy. was then about 11.30, and the ship was 12 miles to the N. of the Bishop's. On returning to the engine room the engineer found the water above the stokehole plates. She was kept going slow till about midnight, when there was a sudden rush of water from the bottom of the port bunker, which carried coal and everything before it. The chief engineer at once stopped the engines, shut down the discharge valve, ordered the second engineer to open the safety valve, and rushed on deck, telling the captain that the vessel was sinking under their feet, upon which the master ordered all hands on deck and the boats to be got out. The jelly boat was first out, and immediately the two engineers, two seamen, and the steward got into her. The other boats followed, the captain, mate, three firemen, and one seaman being the last to leave the vessel. They remained holding on to the ship's stern till about 2 o'clock, when the steam having all blown off they hauled alongside, got on board, and succeeded in saving the ship's papers and some effects, and at about 6.45 the vessel went down. The boats pulled for the land and arrived there in safety.

It appeared that this vessel was built in the year 1858, and had been

bought by her present owner in 1872, when he gave £6,000 for her. Since she had come into his possession, he had spent very large sums upon her to put her into a state of efficiency; and not having himself any practical knowledge of shipbuilding, had in April, 1878, appointed a consulting engineer, at a salary of £40 a year, to superintend the repairs to the ship. If, therefore, the vessel was not in a good and seaworthy condition when she left Swansea on the 28th of July, the Court held that it was certainly not the owner's fault.

She had on board two direct-acting inverted jet condensing engines, which had been put into her when she was originally built.

Close alongside the condenser, which was on the port side of the vessel, were two air pumps, immediately over which was the hot well, and above that the discharge valve. In a direct line from the discharge valve to the ship's side, and passing through the port bunker on its way, was the discharge pipe, which was about 6 feet long. Where the pipe passed through the bunker frame there was an expansion joint, having a horizontal, or lateral movement, but no vertical or up and down play to allow for the working of the ship. The end of the pipe, where it issued from the ship's side, was about 18 inches below the level of the load line. so that when she was loaded, the mouth of the pipe was below the surface of the water; the sea consequently had free access to the pipe as far as the discharge valve; if, therefore, when the vessel was laden and the bunkers full of coal, a fracture occurred in that part of the discharge pipe which was inside the bunker, the water would continue to run into the bunker, and the shutting of the discharge valve would not stop it. The Court came to the conclusion that this was how the casualty occurred, and that Mr. Jacobs, the consulting engineer, had been guilty of neglect as regarded the discharge pipe and the position of the discharge valve. In the instructions issued by the Board of Trade to surveyors, with a view to direct their attention to the weak parts of engines, the following points are more particularly urged: First, that all inlets and outlets in the ship's bottom below the load line should, if possible, have valves or cocks attached to the ship's skin, and that where they cannot be so arranged, as in the case of waterclosets, urinals, &c., the pipe should have an elbow of substantial metal, other than cast iron or lead, above the load water line. Secondly, that pipes, no matter of what material they may be constructed, are never to be fitted in a direct line between the aperture in the ship's side and its connection with the deck, closet, or other fitting, but that they should have a sufficient elbow to allow for expansion and the working of the ship. Thirdly, that pipes between a cock or valve and the ship's side must be always made of brass or gun metal and well bracketed. and that cast iron pipes through which hot brine has to flow must never be passed. On all these points the Eagle's engines were especially defective. The discharge valve, instead of being attached to the skin of the ship, was at a distance of at least 6 feet from it; the discharge pipe, which, when the vessel was laden, was constantly exposed to the action of the salt water and of hot brine, was made of cast iron; and instead of having an elbow of good substantial material extending above the load water line, was a mere

cast iron pipe fitted in a direct line from the bunker framing to the ship's side, allowing no play for expansion or for the working of the ship.

The chief engineer admitted that he had never once examined that part of the discharge pipe passing through the bunker, externally or internally, from the time he had joined the vessel, and gave as his reason, that the bunkers were always full, which was not true. In this the Court held him greatly to blame. After the rush of water at 12 o'clock, nothing whatever was done. The chief engineer stopped the engines, and after he got on deck his whole attention was devoted to getting out of the ship without delay, although he ought to have known that there was no chance of her sinking immediately, as she was fitted with watertight compartments.

The assessors were of opinion that an attempt ought to have been made to stop up the mouth of the discharge pipe with a piece of sacking, when the donkey engine might have been turned on to the bilge, the water pumped out, and sail made; in which way the vessel might have been saved. The Court were of opinion that the chief engineer was greatly to blame for having abandoned the ship so hastily, when his technical knowledge might have been of great use to the master. It was to his neglect and misconduct that the loss of the vessel was mainly due, and they accordingly suspended his certificate for six months. They added that, in their opinion, the consulting engineer had been guilty of grave neglect in passing the pipe in such a state.

Stranding.

"RIVER LUNE."

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Inquiry held 26th August, 1879.

Assessors: T. APLIN, R.N.; J. P. WILSON.

The River Lune was an iron ship of the registered tonnage of 1,163 tons. She left L'Orient on the 24th July, 1879, in ballast, bound to Ardrossan, and having a crew of 20 hands all told. At 3 a.m. of the 27th, Ushant Revolving Light, which bore S. by E. & E. at midnight, was lost sight of, and from that time until noon the vessel was kept close-hauled to the wind on the port tack. At noon, the wind having backed to the southward, she was put on a N.W. by N. course, and was kept on that course until 4 p.m., when, according to the master, George West, the wind having come away from the S.W., she was laid with her head to the N.W., making from five and a-half to six knots, until she struck. At 8 a.m., at noon, and at 4 p.m., observations had been obtained, which gave the vessel's position at noon to be 49° 6' N. and 5° 45' W., and at 4 p.m. 49° 24' N. and 6° 2' W.; and the master said that as this agreed very nearly with his dead reckoning, he had no doubt whatever as to his position. Between 4 and 6 p.m. the weather, which had before been quite clear, began to get thick, and at 8 p.m. it was so foggy that they were not able to see further than a ship's length off. On the fog coming on, orders were given to blow the fog horn, but on trying it they found that it would not act. At 8 p.m. the master ordered the look-out man to keep a bright look-out for a light to

leeward. The vessel was continued on the same course, heading N.W. by standard compass, until about 9.45 p.m., when rocks were suddenly reported on the port bow, upon which the master immediately gave orders to put the helm hard-a-port, but it had hardly been done when rocks were reported on the starboard bow; the helm was at once put hard down, but before the sails had properly filled she struck, and within a quarter of an hour or 20 minutes afterwards the water had risen as high as the 'tween deck beams. There being no hope of saving her, the boats were got out. No lives were lost, but the vessel herself became a total wreck, the place where she grounded being found to be on the St. Agnes Rocks.

The master stated that he was steering with the intention of passing 15 miles clear to the westward of the Scilly Isles, but as he ran his vessel on St. Agnes Rocks, which are some three miles eastward of the Bishop's Bock, it was clear that he must have got about 18 miles to the eastward of his course. At 4 p.m. he found, as above stated, that he was some eight miles to the eastward of his course. From that time till 9.45 he would have had the flood tide, which, as he admitted, would have set him some 10 miles to the eastward. On his own showing, therefore, he had no right to have kept her so long on a N.W. course.

The Court accordingly came to the conclusion that the vessel had not been navigated in a skilful and seamanlike manner, that the neglect to use the lead was unjustifiable, and accordingly they suspended the certificate of the master for three months.

Stranding-Use of the Lead.

" MAIPU."

Inquiry held 27th August, 1879.

Assessors: T. APLIN, R.N.; J. P. WILSON.

The Maipu, which was an iron barque of 593 tons register, left Iquique. in South America, on the 26th of March, 1879, with a cargo of 840 tons of saltpetre and a crew of 17 hands all told, bound to the Channel for orders. At 6 p.m. of the 26th of July following she was off the Irish Coast, the Fastnets bearing N. by W., distant 20 miles, and having received orders through the pilot boat to proceed to Hamburgh, she was laid upon a S.S.E. course, by the standard compass, for the English Channel. Observations were taken at 8 a.m., and again at noon of the 27th, which placed her at noon in latitude 50° 35' north, and longitude 8° 17' west, but as his observations were not very good, the master preferred to rely upon his dead reckoning, which placed him in 7° 49' west, and it was there accordingly that he placed his ship on the chart. At noon they had a good whole-sail breeze. the vessel making about seven knots; the same course was continued, S.S.E. by the standard compass, which had a deviation of 10°, but at 1 p.m. it began to get hazy, and thereupon the course was altered half a point to the south to S. by E. & E. At 4 p.m., the weather becoming thicker, the course was altered half a point more to the south, or to S. by E. by the standard compass. At 6 p.m. they could see about half-a-mile ahead, but at

8 p.m. it was so thick that they could not see more than a ship's length. About 20 minutes before 8 o'clock the ship was hove to for the purpose of taking soundings. According to the master, who took the soundings himself, the first cast gave 60 fathoms, with small stones; the second the same depth, with sand and shells; and the third again gave 60 fathoms, with small stones and gravel. About half-past 8 o'clock, the wind having backed round from N.N.W. to the southward of west, sail was made, and the vessel was laid close-hauled to the wind on the starboard tack, the orders to the helmsman being to keep her full and by, heading to the south, with nothing to the eastward. She continued on this course until about a quarter to 11, when a sound was suddenly heard, which was at first taken to be that of a steamer. Soon afterwards, however, it was found to proceed from surf, upon which orders were at once given by the master to put the helm hard up, to wear the ship; but the helm had hardly been put up when the look-out man reported, "Rocks on the port bow," upon which the helm was ordered to be put hard down, but almost immediately afterwards the ship struck on the north end of Bryher Island, one of the Scilly Isles, at the back of the Shipman Head, just at the entrance to Hell Bay.

The Court held that the stranding of the vessel was due to her having been kept on a course too far to the eastward, and that due allowance was not made for the set of the tide to the eastward. They considered that the master, Thomas Wheeler, ought to have taken a cast of the lead between 8.30 p.m. and the time when the vessel went ashore.

They therefore suspended his certificate for three months.

Stranding.

" NORFOLK."

Inquiry held 4th September, 1879.

Assessors: H. Knox, R.N.; E. HIGHT.

The Norfolk was a wooden vessel of 953 tons register. She left Bathurst on the River Gambia on the 2nd of July, 1879, bound to Marseilles, with a crew of 19 hands all told. On the 4th, while standing on and off the shore waiting for the pilot boat, she touched the ground, but went clear again, having 3 feet of water in her, and from that time till she was lost they had to pump her out every two hours. At 4 p.m. on the 9th, Cape Verde bore N.N.E., distant about 10 miles. At 10 p.m. of the 12th, the master believing that he was well to the north of the Cape de Verde Islands, went below, leaving the deck in charge of the chief officer and boatswain. At midnight the second officer came on duty, and the vessel was kept on her course, close-hauled on the starboard tack, until 1.30 a.m., when all the watch were called, including the look-out man, to work the pumps.

These, however, got choked with ground nuts of which the cargo consisted, and while the carpenter was engaged in clearing the lower box, the vessel struck, and soon became a complete wreck, all the hands ultimately succeeding in landing in safety at Boa Vista. The place where

she grounded was on the Hartwell Reef, lying off the extreme N.E. point of Boa Vista, at a distance of from three to four miles from the shore.

The Court came to the conclusion that proper courses were not set or steered after leaving Cape Verde, and that sufficient allowance was not made for the S.W. current.

They added that the master was not, under the circumstances, justified in leaving the deck and going below at 10 p.m. of the 12th, and in remaining there until the vessel struck; and that, upon the whole, the vessel had not been navigated with proper and seamanlike care.

They therefore suspended the certificate of George Drevar, the master, for six months.

Collision-Pilot.

'KATHLEEN" AND "MAAS," S.S.

Inquiry held 9th and 10th September, 1879.

Assessors: G. H. FORSTER; E. HIGHT.

The Kathleen was a barge of about 43 tons register. She left Sittingbourne on the 19th of August, 1879, bound to London, manned by two hands, a master and a mate, and having on board a cargo of 40,000 bricks. At about 11 a.m. of the following day she was heading to the west, closehauled on the port tack, and making from four to five knots through the water, the wind blowing a fresh breeze from the S.W., and the tide, which was first quarter flood, running at the rate of from two to three knots an hour. After passing within about her own length of Tilbury Ness, she continued her course, intending, when well over towards the south shore, to straighten up Northfleet Hope, with a view of rounding Fiddler's Point or Broadness. At this time, and before she had begun to straighten up the reach, she observed the steamship Maas from four to five points on her starboard bow, coming down the Hope in the slack of the tide, and at the distance of about one-third over from the north shore. The mate of the Kathleen, who was in the bows, on observing the steamer, went aft and reported it to the master, who was at the helm, and the barge was continued on her course, full and by, heading for the south shore. Shortly afterwards the steamer was seen to port her helm, as though intending to cross their bows, but on a sudden her helm was starboarded, and she came straight for the barge. The mate, on seeing the steamer starboard her helm, told the master that he thought they had better get into their boat, which was towing astern, and this they seem to have done; but the mate, seeing that the steamer was heading for their stern, jumped on board the barge again, and ran forward, and very shortly afterwards the collision occurred, the steamer striking the barge at right angles on the starboard quarter, and sinking her almost immediately. The mate, although he was thrown into the water by the collision, recovered himself, and clambered over the steamer's bows on to her deck, and was saved, but the master was, unfortunately, drowned.

The Maas was a paddle steamship of 692 tons gross and 550 tons

net register. She left London at 8.30 a.m. of the 20th August, bound to Harlingen, having a crew of 26 hands all told, and in charge of a dulylicensed Trinity House pilot. On arriving in the Northfleet Hope, she was steered over towards the north shore for the purpose of cheating the tide, and when in Botany Bay, and about one-third over from the north shore, she observed a number of barges coming up the river, some in the lower part of the Hope, and others in Gravesend Reach, approaching Tilbury Ness. Seeing that she would not be able to pass between the up coming barges and the Ness, she determined to go outside and to the southward of them, and for that purpose her helm was ported; and as soon as they were clear to windward of the barges, the helm was steadied. Shortly afterwards, however, the Kathleen was observed to fly up into the wind right across the steamer's bows, upon which the helm of the Maas was starboarded, and, although orders were at once given to stop and reverse full speed, it was not possible to avoid the collision, and the steamer, with the way which she had on her, came into the barge, striking her a right-angled blow on her starboard quarter and sinking her almost immediately.

Article 29, sub-section (f), of the "Rules and Regulations for the Navigation of the Thames" provides that, "If two vessels, one of which is "a sailing vessel and the other a steam vessel, are proceeding in such "directions as to involve risk of collision, the steam vessel shall keep out "of the way of the sailing vessel;" and sub-section (i) says that, "Where by the above rules one of two vessels is to keep out of the way, the other shall keep her course," subject always to any special circumstances rendering a departure from the rule necessary.

The first question then was whether the Kathleen kept her course; and upon this the Court were of opinion that she did so until the master left the tiller just before the collision occurred.

As to the Maas, it was admitted that she first ported and then starboarded her helm; but it was quite clear that she did not port in time, and she ought, upon finding this, to have stopped, and allowed the barge to pass.

Her failure to do so, in the opinion of the Court, caused the collision, and they considered that the pilot, who had charge of the vessel, was solely to blame.

Collison-Pilot.

"CITY OF LONDON," S.S., AND "VESTA," S.S.

Inquiry held 11th, 12th and 13th September, 1879.

Assessors: E. HIGHT: G. H. FORSTER, R.N.

The City of London was an iron screw steamship of 977 tons gross and 564 tons net register. She left Limehouse Wharf at about 8.20 p.m. of the 13th of August, 1879, bound to Aberdeen, with a crew of 42 hands all told, 94 passengers, and about 200 tons of cargo, and in charge of a duly licensed Trinity House pilot. The weather was fine and clear, the wind light from W. to S.W.,

and the tide about two-thirds flood, and the vessel proceeded down the river at half-speed, occasionally slowing and stopping for passing vessels, until she had rounded Blackwall Point; but on entering Bugsby's Hole, she preceded at full speed until they had got about half-way down Galleon's Reach, when the pilot, observing a number of vessels in the lower part of that Reach and in the upper part of Barking Reach, ordered the engines to be put down to half-speed. On leaving, the master and pilot were on the upper bridge, the chief mate, carpenter, and two hands were on the lower bridge attending to the wheel, the vessel being steered from amidships, and the second mate was forward on the look-out; but after passing Blackwall Point the chief mate went below, and the second mate took his place on the lower bridge, an able seaman being stationed on the topgallant forecastle on the look-out. It was then about a quarter-past 9 o'clock, and having passed from 60 to 100 yards outside the floating gunpowder vessel, they rounded Tripcock Point in about mid-channel; owing, however, to there being some barges in the way, which they passed on the starboard hand, they were not able to straighten down the Reach so soon as they would otherwise have done. But on clearing the barges the vessel's helm was ported, and she was brought nearer in towards the south shore. Shortly afterwards the green and masthead lights of a steamer were observed in the lower part of Barking Reach, and about a point on the City of London's port bow. For about a minute nothing was done on board the City of London, the pilot expecting that the approaching steamer as she came up the Reach would open her red light. When, however, they had got about half-way between Tripcock Point and the Government powder magazine on the south shore of Barking Reach, the helm was slightly ported, and three blasts were blown with the steam whistle to attract the approaching steamer's attention. Sceing that she continued to approach, still showing only the green and masthead lights, orders were given, when they were abreast of the gunpowder magazine, to slow the engines, and the helm was again ported, and when they had got within about two ship's lengths of the south shore, the engines were stopped and reversed full speed to prevent the vessel going ashore, and at the same time the whistle was again blown three times. The Vesta, however, continued her course full speed, still showing only her green and masthead lights, and with her stem struck the City of London amidships on the port side, nearly abreast of the funnel, cutting through the coal bunkers into the engine room, and causing her to make water very rapidly. To prevent the vessel sinking in deep water, in which case there would probably have been a great loss of life, the master of the City of London requested the Vesta to stand by them, and to push them gradually in towards the shore. The Vesta's engines, which had been stopped, were accordingly turned slowly ahead, and in a short time the City of London was put ashore. Owing to the skill with which this manœuvre was carried out, and for which, in the opinion of the Court, those on board the Vesta deserved great credit, and to the fact that they were very near the south shore when the collision occurred, no lives were lost, but the vessel and cargo were very seriously damaged.

The story told by the Vesta was as follows: She was a screw steamship

of 1,001 tons gross and 628 tons net register. She left Hamburg at 7 a.m. on the 12th Angust, bound to London, having a crew of 25 hands all told, 15 passengers, and about 600 tons of cargo on board. She arrived off Gravesend at about 8 p.m. of the 13th, and having there landed some passengers and taken on board a Trinity House pilot, proceeded at full speed up the river, the master, mate, and pilot being on the bridge, and a look-out stationed on the topgallant forecastle. At about 9.15 p.m. they were off Halfway House or Crossness Point, and having rounded the Point in about mid-channel, or a little to the north of it, the vessel was continued on her course up Barking Reach, the engines still going at full speed, until the lights of the City of London were observed coming down the Reach. According to the pilot, the lights first seen by him were the green and masthead lights; but, according to all the rest of the witnesses from the Vesta, the only lights of the City of London which were seen up to the time of the collision were the masthead and red lights. In either case it was admitted by all the witnesses from the Vesta that she continued on her course at full speed, without altering her helm, until she neared two sailing barges which were going up the river, upon which her helm was starboarded to pass to the southward of them. No sooner, however, was she clear of the barges than the red light of the City of London was observed ahead, crossing her bows, upon which the engines were stopped and turned full speed astern, but before she lost much way she ran stem on into the City of London's port side.

The course of Barking Reach is not straight, but near the middle is an elbow or knuckle, so that the course of a vessel entering the Reach at the top would be about E.S.E., gradually hauling more to the northward; and before leaving the Reach, her course would be about E. ½ N., provided she kept down mid-channel all the way, and followed a course parallel to the banks. In the same way, a vessel entering at the lower end would first lay her course about W. ½ S., and would gradually haul up more to the northward, until, at the upper part, her head would be about W.N.W., therefore vessels coming up and going down would not be end on to one another but would have a difference of two and a-half points between their respective courses.

When the City of London had rounded Tripcock Point and saw the green light of the Vesta in the lower part of the Reach, she would naturally have expected that as that vessel came up the river, she would gradually, when she had rounded the elbow or knuckle, bring her red light into view. The Court therefore held that the pilot of the City of London was perfectly right to port his helm, and then keep his ship to the south side of midchannel. They were practically meeting vessels, and it was therefore the duty of each to pass port side to port side. The fact of the City of London having seen the green light of the Vesta was, owing to the shape of the Reach, quite consistent with the latter being, as in fact she was, in midchannel. The Court therefore held that she was quite right to port her helm as she did, and thus bring herself nearer to the south shore, and give the Vesta more room to pass; and the Vesta still coming on and showing her green light, the City of London could do nothing else but as she did, namely, slow her engines, keeping her helm to port, then stop and reverse

full speed when she had got to within two ship's length of the bank. In fact, in the opinion of the Court, the City of London did all that she could and was required to do.

As to the Vesta, when she saw the red and masthead lights of a steamer in the upper part of the Reach, she ought to have known that the vessel was coming down the river, and that if she was pursuing the usual course she would be either in mid-channel or a little to the south of it; accordingly the Vesta's proper course would have been to have kept to the north of mid-channel in order to pass port side to port side, instead of which she continued her course, heading for the south shore, until, seeing two barges ahead of her, she starboarded her helm and ran into the City of London. The Court held that it was the bounden duty of the Vesta to have ported her helm long before she came to the barges, and that it was to her omission to do so that the collision was due.

They accordingly came to the conclusion that the pilot in charge of the Vesta was alone to blame.

Stranding-Speed in Fog.

"BREST," \$.8.

Inquiry held 23rd and 24th September, 1879.

Assessors: W. PARFITT; E. A. WHITE, R.N.

The Brest was an iron screw steamship of 1,472 tons gross and 949 tons net register. She left Havre at midnight of the 5th of September, 1879, about the top of high water, bound to Liverpool, having a crew of 34 hands all told, 182 passengers, and about 500 tons of cargo. She was in all respects in a good and efficient condition. The wind at the time was light from the S., the weather being slightly hazy. After clearing the harbour, she went full speed, about nine to ten knots, on a N.W. course, to clear Cape Barfleur, until 5.40 a.m., when it was altered to N.W. by W. \(\frac{1}{2} \) W. until noon, when an observation placed her in latitude 49° 56′ N.

The master, Douglas Edwards Milne Elder, then thinking that she was too far to the northward, altered the course to W.N.W. till 4.50 p.m., and then to N.W. by W. 4 W., in order, as the weather was hazy, to get a sight of something, but nothing being seen, it was altered, at 7 p.m., to W. by N. 4 N. At 8 p.m. the weather was so thick that a second man was put on the topgallant forecastle, and at 8.10 the ship was hauled off to W. by N. At 8.25 they could only see a few yards ahead, but the vessel was, nevertheless, kept at full speed. At this time one of the look-out men saw something white ahead, but before he could turn round to report it, the vessel struck in a small bay called Polberro Cove, about two or three miles from the Lizard and to the northward of it. Ultimately all the passengers and crew were landed, but the vessel went to pieces.

The Court came to the conclusion that a proper course was not steered after 5.40 a.m., when her head was laid down channel, the course steered being too northerly; and also that proper courses were not steered after noon of the 6th, as she ought to have been kept more to the southward:

especially as it had then been ascertained by observation that she was nearly on the latitude of the Lizard.

They also stated that, in their opinion, no proper allowance was made for the northerly set of the flood tide as they neared the Lizard, and that the lead ought to have been used, at all events, after 8 p.m., from which time the speed at which the vessel was going was not consistent with her own safety or that of other vessels.

They considered that the master was solely to blame for the casualty, and his certificate was accordingly suspended for six months.

Stranding-Defective Compasses-Use of Lead,

"MEIRION."

Inquiry held 26th September, 1879.

Assessors : E. A. WHITE, B.N.; W. PARFITT.

The Meirion was an iron sailing ship of 1,372 tons net register. She left Rangoon on the 15th of March, 1879, for London, with a crew of 23 hands all told, and a cargo of rice and cutch. At this time her compasses were out of order, and her bottom was foul, but she was otherwise in good order. On the evening of the 5th of September the Wolf Rock was sighted, bearing N.N.E. 12 miles, upon which she was laid with her head to the southward, and subsequently E. 1 N., until noon of the 6th, when it was altered to E. & S., and at 4 p.m. to S.E. by E. & E. About 9 p.m. a light was seen, which the master, William Williams, discovered at 10 o'clock to be the Eddystone, bearing N.N.E., distant about 11 miles. Upon this the course was altered to S.E., the wind at that time blowing a moderate breeze from the S.W. This course was continued till about 1.30 a.m., when something having been observed ahead and on the port beam, orders were given to brace the yards sharp up. Finding that she was getting too close to the land, and knowing that she would not stay, the master ordered all hands up to wear ship, but when her head had come round to about N. she struck, the weather at the time being so thick that they could not see the land, although it was close to them.

The place was afterwards found to be Rickham Sand, in the upper part of Salcombe Bay. When she struck the tide was about three-quarters ebb. All the sails except the lower topsails were taken in, the after yards were braced up on the port tack, and the spanker set. Nothing else was done. The master left in two hours to look for a tug, and the vessel ultimately went to pieces, the crew having previously left her.

It appeared that this vessel had two compasses, besides a tell-tale, a standard, and a steering compass, but that as the standard was placed only about 6 feet abaft the mizenmast, which was of iron, it was found very soon to be utterly unreliable, and accordingly the ship was navigated by the steering compass alone. The captain stated that this, on a S.E. course, had a westerly deviation of about two points, and that therefore, when, after sighting the Eddystone, he laid the vessel's head S.E., he considered that he

was steering E.S.E. magnetic, which ought to have taken him some 10 or 12 miles to the south of Prawl Point. The Court pointed out, however, that to put her ashore where she was found she must have made about an E. by N. course, to do which the steering compass must have had a westerly deviation of five points. Assuming that the compasses were defective, the Court considered that the master was greatly to blame for not having taken any trouble to put them right. They also censured him for having totally neglected the use of the lead, and added that if he had at once taken steps to wear ship when the land was discovered on the port beam and ahead, the casualty might have been avoided.

They considered also that he had neglected to take proper measures to get the vessel off after the stranding, in having omitted to drop one of the bower anchors; and that it was his imperative duty to have remained by the vessel to take all the necessary measures to get her off when the tide rose.

The Court accordingly suspended the certificate of William Williams for six months.

Stranding.

"HARRIET."

Inquiry held 3rd October, 1879.

Assessors: R. A. POWELL, R.N.; B. G. W. NICOLAS.

The Harriet was a brigantine of 152 tons register. She left London on the 17th of April, 1879, bound to the west coast of Africa, with a crew of eight hands all told, including the captain, William Pape. Before reaching the coast, the chronometer stopped, but she arrived safely at Cape Coast Castle, at which place the mate and an A.B. were arrested for broaching the cargo. On the 1st of August she continued her voyage, and in the forencon of the following day was off Accra, whence she coasted along about four miles from the shore, keeping as nearly as possible in 20 fathoms water, the lead being . used every half-hour. At 6.30 p.m. they inquired from a German barque where they were, and were informed, according to two witnesses, that they were off Addah. Upon this her head was laid off shore, steering, as the master said, S. by E., but according to a lad who was at the wheel, S.E. In half-an-hour they found themselves amongst the rollers, and in another half-hour the vessel struck on breakers at the mouth of the River Volta, where she lay till a surf boat, having come out, landed the crew at Addah. The vessel herself soon broke up and was lost.

The Court held that the stranding was due to the vessel's head having been laid when off Addah on a S.E. course, instead of right off the shore, which would, with the easterly set of the current, inevitably take the vessel amongst the breakers. In this the Court considered the captain to blame, and accordingly suspended his certificate for six months.

WWW.libinan Lights Speed of Steamer.

"MALAKOFF" AND "ERITH," S.S.

Inquiry held 7th and 8th October, 1879.

Assessors: R. A. POWELL, R.N.; E. HIGHT.

The Malakoff was a fishing lugger of about 18 tons register. She left Whitby about 2 p.m. of the 17th of September, 1879, with a crew of seven hands all told, and having arrived off Robin Hood's Bay, began to cast her nets. At the same time the white riding light was exhibited, on a stand some six feet forward of the mizenmast, about 7 feet above the deck. At about 2 a.m., having hauled their nets in, they set their square foresail, and proceeded S. by W. till, having got nearly to the S. of all the other fishing smacks, they were again about to cast their nets, when the Erith, whose red light had been seen on their port bow, was observed to have starboarded her helm, and to be bearing down upon them. The crew of the Malakoff shouted to them to keep away, but the steamer continuing her course, struck the lugger a little abaft the midships on the port side, cutting her in two. Four of the hands were picked up, but unfortunately three of them were drowned. Such was the Malakoff's story.

The case of the Erith was as follows:-

She was an iron screw steamer of 686 tons gross and 430 tons net register. She left London at 2 a.m. of the 17th, bound to Seaham, with a crew of 15 hands all told. About 2 a.m. of the 18th they were off Robin Hood's Bay, nearing a fleet of fishing vessels, the mate being on the bridge, the carpenter on the look-out forward, and a man at the wheel. A white light was reported a little on the starboard bow, but no notice was taken of the first report. When it was reported a second time, the mate ordered the helm to be starboarded a point and then steadied. Shortly afterwards the carpenter reported that the light was drawing ahead of them, saying at the same time, that they were running into her, or words to that effect. Although the helm was put hard-a-starboard, and the engines ordered to be stopped, before this latter order could be carried out, so close were the vessels, that the collision had occurred.

With regard to the *Malakoff*, the Court held that she was to blame for the collision, for having only had her white light exhibited when shifting her position. This naturally led those on board the *Erith* to suppose that she was attached to her nets, and stationary, whereas she was actually drawing ahead.

They considered that the *Erith* was also to blame for not having stopped and reversed her engines in sufficient time, and that she ought, as soon as she made out that the *Malakoff* was a vessel under weigh, to have ported and gone under her stern instead of hard-a-starboarding and attempting to cross her bows.

They added that the mate of the Erith was also to blame for not having reduced the speed of his vessel when approaching the fleet of fishing smacks.

WWW.libtchbandonment-Stowage of Grain Cargo.

"HEIMDALL," S.S.

Inquiry held 12th and 13th January, 1880.

Assessors: J. R. RAVENHILL, C.E.; H. HARRIS; A. RONALDSON.

The Heimdall was an iron screw steamship of 1,520 tons gross and 976 tons not register. She had two decks, with fore and aft holds in each, the depth of the lower hold being from 14 to 15 feet, that of the 'tween decks, 6 feet 10 inches. Both the lower holds and the 'tween decks were fitted with shifting boards, running fore and aft, constructed of planks, each 16 to 18 feet long, 1 foot wide, and 21 inches thick. In the lower holds, which were from 14 to 15 feet deep, there were three of these planks, giving 3 feet of shifting boards only. They were well secured, the planks overlapping, and being firmly fastened to the iron stanchions by lashings, and shored from the ship's sides. She left this country with a cargo of coals bound to the River Bug, in South Russia, where, having discharged, she proceeded to take in a cargo of barley. About 2,000 tons were put into her in bulk, the water ballast tanks in the bottom of the ship being used for cargo, as also the lazarette aft. The loading was done by women, the lower hatchways were left open, and the grain was well pressed down, and thrown up into the wings of the ship. When fully loaded she drew 19 feet 3 inches.

On the 5th of October, 1879, she sailed, bound to Gibraltar for orders, and on the way got a slight list to port, which was adjusted before she reached Malta, by shifting some of the coals from the port to the starboard bunker. Between Malta and Gibraltar she got a slight list to starboard, which was similarly adjusted by shifting coals from starboard to port. She left Gibraltar (after some slight repairs to her engines, and after taking on board about 100 tons of coal) on the 21st of October, with orders to proceed to Bremerhaven. In crossing the Bay of Biscay the vessel again got a list of 12 to 18 inches to starboard, which was remedied by shifting about 10 tons of coal from the starboard to the port bunker. She arrived at Dover on the 31st October, where she took in 20 tons of coal, and as she had still a slight list to starboard, six tons only were put into the starboard bunker, and the remaining 14 into the port bunker. The ship left the same day for Bremerhaven, in charge of a North Sea pilot. At 6 a.m. of Sunday, the 2nd of November, there was a list of about a foot to starboard. At 2 p.m. the list had increased to about 15 inches, the vessel taking a great deal of water on deck. At 4 p.m. she had a list of 18 inches, and shortly afterwards water was reported in the stokehole, but in consequence of the list they could only get a rolling suck at it. Accordingly the captain ordered the helm to be put to starboard, so as to bring the sea on the starboard bow, but the vessel continued to list over more and more to starboard, and a heavy sea striking her at this time, threw her into the trough of the sea, and she gradually listed over until she was nearly on her broadside with her starboard gunwale under water. The vessel being then unmanageable, a consultation was held, and it was decided to put out an anchor to endeavour to bring her head to wind and sea. The anchor having been let

go, she brought up in about 19 fathoms of water; but she still continued to lie over on her broadside, and it was then determined to cut away her foremast. This having been done, but without producing any effect, it was resolved to abandon her, as she was evidently fast settling down. The two lifeboats were got out, and ultimately the whole crew, except two men who died from exposure, were landed in safety. The Heimdall was never seen again, and probably sank soon after they had left her.

The first question upon which the opinion of the Court was asked was, as to what was the cause of the falling over and subsequent abandonment of this vessel. It was suggested that the list and falling over of the vessel was due to the quantity of water which got into her, but the Court considered that it was impossible to say that it could be due to that cause, seeing that she had no more than the usual quantity in the engine room, and only 2 inches in the after hold. All the facts seemed to point to the cargo having shifted to starboard, which prevented her from righting when the sea was brought on the starboard bow, and they considered that there was no doubt that the opinion expressed by the master and officers of the vessel was correct—namely, that the falling over was due to the shifting of the cargo.

This conclusion led to the second question, namely, "Whether the cargo was properly secured from shifting (1) generally, and (2) as required by section 22 of the Merchant Shipping Act, 1876, and, if not, was blame attributable, in the opinion of the Court, to any person, and if any, to whom, as responsible in the matter?"

The shifting boards (previously described) in the lower holds commenced from just below the deck beams, but there were no beam fittings. It was contended that beam fittings were not necessary in an iron ship such as this, as the beams were only 6 inches deep; but in that opinion the Court could not concur, for assuming that 3 feet of shifting boards in a depth of 14 to 15 feet would be sufficient to prevent the cargo from shifting, which they were not prepared to admit, there would yet be a space of 6 inches above the shifting boards and between them and the deck, through which the grain would travel freely from one side to the other. In the 'tween decks there was a depth of 4 feet of shifting boards in a height of 6 feet 10 inches, which might have been sufficient.

The principal defect, however, in the stowing of the cargo, arose from the manner in which the lower hold was fed, when the grain settled down, as it inevitably must have done.

The lower hatches were left off in order that, as the grain settled in the lower hold, it might be fed through the hatches by that in the 'tween decks. Assuming the vessel to have got a slight list to starboard, the result would be that the grain on the starboard side of the shifting boards would fall towards the ship's side, and that on the port side of the shifting boards would fall away from the ship's side towards the centre of the ship. On the starboard side of the shifting boards, therefore, there would be an empty space, which would be immediately filled up, through the open hatchways, by the grain in the 'tween deeks. On the other hand, on the port side the grain would be full up and there would be no grain running

down from the 'tween decks to fill up the blank space on the port side of the hold. The effect then would be merely to fill up the empty space on that side on which the list was, but to leave the empty space on the other side still empty, or in other words, rather to increase than diminish the list.

The proper way would have been to have fed the lower hold in the wings by taking up some few planks on each side of the lower deck, any empty space would then have been at once filled up, and the lower holds kept full. It was to this, and to the want of beam fittings, that the Court believed the shifting of the cargo to have been due, and they therefore came to the conclusion that the arrangements on board this vessel were not well adapted to prevent the cargo from shifting, and that there had been a violation of the 22nd section of the Act of 1876, and that the blame, if any, was attributable to the master.

Stranding-Use of Lead.

"ERATO."

Inquiry held 14th January, 1880.

Assessors: H. HARRIS; A. RONALDSON.

The Erato was an iron sailing ship of 1,205 tons net register. Having left Saramang, in the island of Java, with a cargo of rum and sugar, she arrived in due course at Falmouth for orders. On the 25th of September, 1879, she left Falmouth for Greenock, having on board a crew of 24 hands all told, and a man named Andrews, whom the master, John Dice, had engaged to pilot the vessel through St. George's Channel. At 2 a.m. of the 27th they sighted the Longships, and at noon the vessel was in latitude 51° 3′ N., and longitude 6° 4′ W., whence a course was steered to make the Tuskar. From 6 p.m. a N.N.E. course was steered, making five knots with all plain sail set. At 8 p.m. the second officer, the captain, and Andrews, were on deck. At about 8.45, when the weather was more or less hazy, a Liverpool tug was spoken, which told them that they believed Tuskar to bear about N.E., but that they had not seen it since the previous day.

The course was thereupon altered to N.E. by E., when the master went below, telling Andrews and the second officer to take a cast of the lead. At 10 p.m., the weather having become very thick, sail was shortened, and at about 10.30, whilst the men were still aloft, the second officer saw what he at length made out to be rocks, forward of the beam on the port side. The pilot immediately ordered the helm to be put hard down, but finding that they could not get the yards over, the men being aloft, ordered it hard up. Immediately afterwards the vessel struck, but cleared the rocks without stopping, and shortly afterwards they passed a buoy, which showed them that they must have struck on the Barrel Rock off Carnsore Point. The ship was stove in forward, but only the fore compartments filled, which brought her down by the head. She was taken to Holyhead, whence she proceeded to Greenock and discharged her cargo. The master in his evidence stated that when he spoke the Liverpool tug, he supposed

that they were 10 miles from the Irish coast, between the Saltees and Carnsore Point, and about 15 miles from the Tuskar. From this place she was kept on a N.E. by E. course, until they sighted the Barrel Rock. A line drawn on the chart from the spot where the master placed his vessel in a N.E. by E. direction, would pass a little to the E. of Carnsore Point, between it and Tuskar; but at the time of this casualty the tide was ebbing, and as at that place it runs parallel with the coast, or about W.N.W., it would have set the vessel's head to the westward, causing her to make, not a N.E. by E. course, but a much more northerly one, which would inevitably have taken her on the Barrel Rock. In the opinion of the Court this was the cause of the casualty. They considered that the master was not justified in having acted upon the information given by the tug, without consulting the chart or taking any steps to verify his position, and further, that he ought to have used the lead, the neglect of which precaution undoubtedly contributed to the casualty. They also blamed him for having given up the sole charge of the vessel to Andrews, without having taken any sufficient steps to ascertain that he was properly qualified for the duty, and for having left the deck and turned in when he did, instead of having seen that a cast of the lead was taken in accordance with his orders.

The Court after very carefully investigating a charge of drunkenness against the captain, came to the conclusion that he was not only not sober before and at the time of the casualty, but that it was clearly proved that he had been repeatedly intoxicated during the voyage, and that such intoxication had contributed to the casualty, which the Court found to have been caused by the negligence and misconduct of the captain and of the man Andrews.

They accordingly ordered that his certificate should be cancelled.

Stranding-Use of the Lead.

"ALTON TOWER," S.S.

Inquiry held 15th January, 1880.

Assessors: G. T. HOLT, I.N.; H. HARRIS; A. RONALDSON.

The Alton Tower was an iron screw steamship of 1,964 tons gross and 1,279 tons net register. She sailed from Madras with a general cargo and a crew of 26 hands all told, and having discharged a portion at Havre, left that place on the 18th of October, 1879, bound to London. At 8 p.m. of the same day Beachy Head was sighted, bearing E.N.E., upon which an E. by S. course was steered in order to pass to the southward of the Royal Sovereign lightship. At 9 p.m. the weather began to get thick, and at 11.30 they were abreast of the Royal Sovereign, which bore N. by W., distant, according to the master, James McNab, from four to five miles, the weather at the time being a little clearer, but the wind strong from W.S.W., the vessel making about seven knots. There was some difference in the statements of the witnesses as to what course was steered from this point, the captain and mate stating that

it was E. \(\frac{1}{2}\) N. by the standard compass, while the man at the wheel said that it was \(\frac{1}{2}\) \(\frac{1}{2}\) (N)\). This matter will be referred to later on, but be it as it might, though the weather became thick again, the vessel was still kept at full speed (no cast of the lead being taken) until 1.30 a.m., when the engines were put for a short time at half speed, and afterwards at dead slow. Shortly after 2 a.m. a bright light was seen a little on the starboard bow, upon which the helm was ported, to go to the southward of it; but when the light had been brought a little on the port bow, a red light was observed ahead of it, upon which the helm was starboarded and the vessel's head again paid off to the northward. Soon afterwards land was observed on the port side, and orders were at once given to stop and reverse, but the vessel almost immediately took the ground opposite the coastguard station at Lydd, about three miles to the W. of Dungeness Point. The whole of the crew were ultimately landed by means of the rocket apparatus.

The Court came to the conclusion that the course steered after passing the Royal Sovereign was not, as the master and mate stated, E. \(\frac{1}{2} \) N., but that it was E. \(\frac{1}{2} \) N., and that it was gradually altered more and more to the N., until at last she was on a N.E. by E. course. These were certainly not proper courses, having regard especially to the fact that the tide was ebbing and that she would have had it on her starboard bow, canting her head still further in towards the shore. The master was not justified in omitting to use the lead, for he had no right, on the course on which he was, to have gone within the line of the 10 fathoms soundings, and a cast would have shown him, long before he got aground, that he was in shallow water. He ought not to have mistaken the Dungeness Light, as he did, for those of a sailing vessel.

The Court accordingly suspended the certificate of the master for three months.

Stranding.

"NORA," S.S.

Inquiry held 16th January, 1880.

Assessors: H. HARRIS; A. RONALDSON; R. C. MAY, C.E.

The Nora was an iron screw steamship of 432 tons gross and 294 tons net register. She left Amsterdam for London on the 11th of November, 1879, with a crew of 22 hands all told, a general cargo, and some cattle on deck. By midnight it was blowing a strong gale from W.N.W. to N.N.W. At 3 a.m. of the 12th she was struck by a heavy sea, which carried away a portion of the bulwarks aft, and drowned most of the animals. The wind and sea continued to increase till, at 8 a.m. the main trysail was set, with a view to keeping her head to the wind; between 8 and 9 a.m. water was seen trickling down the sides of the ship in the engine room. About 11 a.m. the wing fires were put out, upon which all hands were set to bale; notwithstanding which, at 2 p.m., the two midship fires were out; but steam having been got up in the donkey boiler, the pumps were not stopped at all. Between 5 and 6 p.m. the master ordered the propeller to be dis-

connected, which was done. After that time the vessel drifted bodily to leeward, till about 1 a.m., when she struck upon the Banjaard Bank, over which she continued to drive for half-an-hour and then became fast. At 8 p.m. the lifeboat and cutter were lowered, and the crew were safely landed at West Schouwen, the vessel becoming a total wreck.

The Court found that the casualty was due to the engine room compartment in the stern of the vessel having become filled with water, and the question arose as to what was the cause of this. The evidence showed clearly that the water had not come in from above nor from the holds which were separated from the engine room by watertight bulkheads. The engineer was positive that none came in by the sea cocks or pipes, and the Court therefore came to the conclusion that it must have found an entrance through some leak or seam started in the vessel's side behind the side bunkers, by the heavy pitching to which she had been subjected for so many hours.

The Court stated that, in their opinion, everything was done to keep the vessel afloat and to avoid stranding.

Stranding.

"R. L. ALSTON," S.S.

Inquiry held 19th January and 13th July, 1880.

Assessors: W. PARFITT; J. P. WILSON.

The R. L. Alston was an iron screw steamer of 620 tons gross and 452 tons net register. She left South Shields on the 25th of July, 1879, bound for the Gulf of Obi, in Siberia; she arrived at Hammerfest, in Norway, on the 2nd August, and there discharged about 70 tons of her coal with the view of lightening her, intending, however, to take it in again on her return, and proceeded on her voyage for the River Nyda, in the Gulf of Obi. All went well until the evening of the 7th, when they were off the N.W. point of Waigalch Island, when, meeting with floating ice, the vessel's head was turned southward to run for the Yugorski Channel. It was the chief officer's watch that night from 8 o'clock to 12, and during his watch the vessel was kept on a S.E. or S.E. by E. course, running down the coast with the island from three to five miles off, the land being distinctly visible, as the sun did not set until between 9 and 10 p.m., and there was consequently light all through the night. During his watch he took soundings every hour, which gave them some 13 or 14 fathoms of water. At midnight the second mate came on deck and the chief officer went below, leaving directions with the second mate to call the master as soon as the S.W. point of Waigalch Island bore two points abaft the beam, and before turning in he went into the master's cabin and told him they were just then opening the Yugorski Straits. The second mate said that when he took charge of the deck the vessel's course by the steering compass was S.E. by E., and that she was continued on that course, making about six and a-half knots an hour, until about 20 minutes to 1 o'clock, when the S.W. point of Waigalch Island bore

two points neaft the beam, upon which he went and called the master, who on coming on deck ordered the helm to be starboarded to round the vessel into the Straits, and she was gradually brought round to about N.E. by E. \(\frac{1}{2}\) E. by the steering compass. She continued on this course till about a quarter past 1 o'clock, when she suddenly struck the ground, Waigalch Island at the time being about a mile and a-half off on the port hand, and the main land about three or four miles away on the starboard hand. As the tide was ebbing, the vessel remained aground until between 8 or 9 o'clock the same morning, when the tide having flowed sufficiently, she came off, but in doing so broke off her rudder post and rudder about 8 feet below the deck. Having rigged up some steering gear, they again left on the 10th of August, arriving at Archangel on the 17th. There she was repaired, and on the 11th of October she left again, arriving in London on the 29th of the same month.

At the first hearing the inquiry was adjourned to allow time for the production of the master, who was unable to attend through illness. He died before the second day of hearing, upon which the counsel for the Board of Trade stated that the only question upon which he should ask the opinion of the Court was as to the cause of the stranding.

The Court accordingly found that it was due to the vessel having been kept too near to the Waigalch Island, instead of in the middle of the Straits, and to the lead not having been kept going as it should have been, the master not being acquainted with the navigation, and not having any reliable chart of the place.

Burning.

"SEA SPRAY."

Inquiry held 20th January, 1880.

Assessors: J. P. Wilson; A. Bonaldson.

The Sea Spray was a wooden sailing vessel of 299 tons net register. She left London on the 2nd of October, 1879, bound to East London, near Algoa Bay, on the south coast of Africa, with a crew of 12 hands all told. and a cargo consisting of about 180 tons of railway iron and 282 tons of creosoted sleepers. Nothing occurred until the 26th of the same month, when they were about 240 miles from the Cape de Verde Islands. At 1.30 p.m. of that day the master was sitting aft on the taffrail, having shortly before finished his dinner, when he observed a puff of smoke come up from the cabin skylight. He immediately rushed down into the cabin. followed by the first and second officers, when they observed fire coming through the seams of the bulkhead, forward of the store room and pantry, which separated them from the cargo space in the 'tween decks; fire was also issuing from a hole in the cabin floor near the bottom of the companion ladder. On the alarm being given, the crew collected aft, and water having been passed down through the skylight, the master and officers began to throw it against the bulkhead, where they saw the fire. Soon afterwards, hearing a noise on deck, the master went up, and was

almost immediately followed by the chief officer; the second officer, who remained below a short time longer, had his retreat cut off by the fire breaking through the bulkhead, and had to be hauled up through the skylight. Not more than two or three minutes elapsed from the first alarm having been given before they were obliged to leave the cabin. For some minutes more they continued to throw water down the skylight upon the fire, but it was soon found that it had got such a firm hold of the ship that there was little hope of saving her. The two boats were accordingly lowered, and in about 40 to 45 minutes from the first alarm, all hands got into the boats and left the ship. By this time the quarter deck had been burnt completely away, the after deck-house was on fire, and the planks of the deck as far forward as the main hatchway were falling in. The lanyards of the main rigging and the sails had also caught fire. In two hours from the time of the fire breaking out, both the masts had gone over the sides, and the ship was on fire from end to end; and between 6 and 7 o'clock the same evening she suddenly disappeared, the two boats being at that time about a mile away to leeward of her. A course was then steered for St. Vincent's in the Cape de Verde Islands, which they reached in about 50 hours, and where they landed in safety.

The only conclusion to which the Court could come was that the fire must have originated from some spark or lighted matter getting to the cargo in the after hold, but how it got there they could not say; but there was nothing to show that it was due to any neglect or default on the part of the captain or any of the crew.

Abandonment.

" VERITY."

Inquiry held 29th January, 1880.

Assessors: J. P. WILSON; W. PARFITT.

The Verity was a three-masted vessel of 1,022 tons net register. She left Waterford on the 18th of December, 1879, bound to Sandy Hook, in ballast, and having a crew of 20 hands all told. The ballast consisted of about 450 to 460 tons, partly shingle, partly sand or mud; and she drew from 12 feet 7 to 12 feet 9, her Plimsoll mark being some 8 feet out of water. From the 21st until the 29th they had a succession of violent gales, commencing in S.W. and going round to N.W. At about 5 or 6 o'clock a.m. of the 29th the ship was lying to under a goose-winged lower maintopsail, and the head of the sail having become detached from the yard, the master sent all hands aloft to furl it. Whilst they were aloft a very heavy squall struck the vessel and threw her on her beam ends; her bowsprit went first, then the foremast within 4 feet of the deck, and then the main and mizenmasts beneath the eyes of the rigging. There were 14 of the crew aloft at the time, 12 of them fell inboard, but two unfortunately went overboard and were drowned. The captain at once gave orders that such of the men as were injured should be carried into the cabin and their wounds attended to, and himself and those who were able to lend a hand proceeded to clear away the wreck. It appeared that in coming down, the mainyard had gone through the deck, and a good deal of water got down that way into the hold; a piece of tarpanlin was accordingly nailed over the hole, and the wreck having been cleared away, they sounded the pumps, and found about 2 feet of water in the hold. From that time until the 4th of January, when she was finally abandoned, various efforts were made to get the vessel before the wind to run for a port; and with this view the foretopmast-staysail was bent on to the mainstay, a temporary jib was set up and the mainsail set; the spanker boom was also thrown overboard, with 120 fathoms of cable attached to the middle of it, to act as a drag, but all in vain, the vessel continuing to drift before the wind and the sea towards the Irish Coast. On the 2nd January an observation was taken, but where exactly it placed the vessel the captain could not remember, and the log-book and all his papers had been lost with the vessel. On the same day, however, the Blaskets were sighted, bearing S.S.E., distant about 25 miles. That afternoon the wind began to moderate, but there was still a very heavy cross-sea running.

It seemed that on the 29th, after the vessel had been dismasted, a steamer of from 1,800 to 2,000 tons passed them, and although signals were made to her, and the Verity's helpless state must have been clearly seen by them, it being broad daylight, she proceeded on her course without stopping or offering to render any assistance. It was no doubt blowing very hard at the time, but the crew of the Verity said that she could, had she been willing to do so, have given them assistance. On the night also of the 2nd January a schooner passed close to them, rockets were sent up, one going right over her, so that the people could be clearly seen on her deck, but she also passed on without offering to render any assistance.

At about 5 p.m. of the 4th they sighted Slyne Head Lights, bearing S.E. by S., distant about seven miles. At this time the wind, which was from the S.W., had moderated considerably, although there was still a heavy cross-sea running, and the vessel was making an E.N.E. course. The master watched the lights for about three hours, to see whether the vessel would clear the shore, but at length thinking that she must inevitably go on the rocks he determined, after consultation with his officers, to abandon her. Orders were accordingly given to get out the boats, and at about 9.30 p.m. they left her, the master and 10 hands getting into one, and the mate and 6 hands into the other boat. At this time Slyne Head Lights bore S. by W. 1 W. On nearing the island on which Slyne Head Lights are erected. they were warned by the lighthouse keeper not to attempt to land, and they thereupon pulled away for the shore, and at about 11 a.m. succeeded in getting into a cove called Stackport, and there landed. The vessel afterwards went ashore not very far from Aughros Point, and became a total wreck.

The Court found that the loss of life on board, and the subsequent abandonment of the vessel, were due to her having been dismasted in a violent squall of wind, whilst the crew were aloft furling the maintopsail, and to her having thereby become unmanageable; that no blame attached to the master or to anyone on board for the said loss of life, and that no

means could have been taken to save the two men who were drowned; that the vessel was properly navigated throughout, and that every effort was made to save her, and that the master and crew were justified in abandoning the vessel as and when they did, and that no blame attached to them for having so done.

Foundering.

"BORUSSIA," S.S.

Inquiry held 4th, 5th and 6th February, 1880.

Assessors: H. Knox, R.N.; J. P. WILSON; E. HIGHT; R. C. MAY, C.E.

The Borussia was an iron screw steamship of 2,075 tons gross and 1,320 tons net register, fitted with engines of 300 horse-power, built in the year 1855. She left Liverpool on the 20th of November, 1879, for New Orleans, vid Corunna and Havana, with a crew of 55 hands, 65 passengers, and a general cargo of 638 tons. She arrived at Corunna on the 23rd, whence, having taken in a small quantity of cargo, and 60 passengers, she sailed on the 25th for Havana. On the morning of the 30th the wind backed round to the E. and blew a hard gale, carrying away the vessel's topsails; but in about six hours it again moderated, although there was still a heavy crosssea, in which the vessel laboured and rolled considerably. At 8 a.m. of the 1st of December the second engineer went off duty, at which time there was no more water than usual in the engine room or stokehole; but the fourth engineer, who relieved the second, stated that soon after going on duty he observed water in the stokehole, and accordingly put on the bilge pumps to clear it; but between 10 and 10.30, finding that it was gaining, he called the first and second engineers, when 3 feet of water was found in the stokehole. They then set on the donkey pump, opening the cock between the stokehole and engine room, to allow the water to run through into the latter, at the same time baling the water out of the stokehole into the bilges of the engine room, whence it ran away through the sluice into the after hold. The pumps choked, and were cleared from time to time without difficulty; but at 3 p.m. the stokehole plates were washed up. An attempt had been previously made to set on the bilge injection, in order to clear the engine room, but from some cause it would not work. Between 7 and 8 p.m. all the fires were put out, and although relighted, were soon put out again, upon which the donkey pump was rigged as a hand pump. Between 10 and 11 p.m. the after deck pumps were rigged, in order to clear the after hold, and the passengers commenced baling. This continued all the night, but at about 11 a.m. of the 2nd of December, finding that the water had gained upon them all the time, the captain ordered the boats to be got ready, provisioned and watered, and at 12.30, there being from 10 to 11 feet of water in the engine room, they were swung out.

It is unnecessary to detail what subsequently occurred, as the Court were of opinion that everything possible was done to save life. Ultimately the vessel foundered, and it was found that out of a crew of 55 hands all told only 16 were saved, and out of 125 passengers only 10.

At the time of her loss this vessel was 21 years old. She had been bought in 1876 by her late owners for £15,000, and although they had spent £5,000 upon her, the Court considered it an extremely low price for a vessel of her size, especially as in 1871 she had had new compound engines put into her. She was not classed at Lloyd's, and at the time of her loss was insured for £20,000. Up to March, 1879, she appeared to have been regularly inspected by the Board of Trade surveyors and others; but two of the former only were able to speak as to the soundness of her bottom in the engine room department. One of these gentlemen reported that in July, 1878, he ordered 76 or 78 rivets to be replaced in the way of the stokehole and under the boilers, and two butt straps to be placed on the garboard strake; and in March, 1879, the other said that the butts were then so much worn, by careless caulking in the way of the stokehole, that he found it necessary to put six butt straps on the bilge strake. Again, a witness, named Gray, stated that in May or June, 1878, he was donkey-man on board the vessel, which was then lying at Havana; that he was in the stokehole when some of the trimmers went down to scrape out the bilges, and that when they had been down about 10 minutes, they ran up, saying that the water was coming in. Gray then went down and saw that this was so, and he swore that there were three holes at least, of from 1 to 11 inches, which had been caused by the rivets having fallen out. These holes were temporarily repaired at New Orleans, and the vessel ultimately reached England in safety.

Under these circumstances the Court considered that very special care should have been taken to see that there was nothing wrong with the bottom of the ship, and they thought that it would have been better had the owners given somewhat more precise instructions to their superintending officers to examine, not the holds only, but all parts of the ship, especially the engine room and stokehole.

At the same time they were prepared to admit that, looking at the reports which the owners received from time to time from their own officers, as well as from the Board of Trade and Admiralty officials, they might have had a reasonable confidence that the vessel was in a seaworthy condition.

In answer to questions put by the Board of Trade, they stated that in their opinion the *Borussia* was not in a good seaworthy condition when she left Liverpool on her last voyage, and added that the leaks were in all probability due to some of the rivets having dropped out, and to one or more of the butts having started or opened in the ship's bottom in the way of the stokehole.

Abandonment.

"TIARA," S.S.

Inquiry held 10th, 11th and 14th February, 1880.
Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Tiara was an iron screw steamship of 1,840 tons gross and 173 tons net register. She was a three-decked ship, having the two

upper decks laid, and with orlop beams below, and an iron stringer running round the ship and projecting some 2 feet from the sides. The upper deck was of wood, the main deck of iron. She was 282.4 feet long, her beam was 33.3 feet, and her depth of hold 24.2 feet. engines were in the centre of the ship, with an iron water-tight bulkhead forward and aft. Forward of the engine were two holds, Nos. 1 and 2, separated by a watertight bulkhead, and there was another hold, No. 3, abaft. There was a collision bulkhead forward and an iron bulkhead abaft No. 3 hold, in the way of the stuffing box. She had 4 water ballast tanks in her bottom, forming where they existed a kind of double bottom to the ship. The floor plates were 231 inches deep, and the top of the tanks was about 15 inches above the floor plates, so that the height of the tanks was about 3 feet 3 inches. Besides the permanent wing and thwartship bunkers, the after part of No. 2 hold adjoining the engine room compartment was divided from the rest of the hold by a wooden bulkhead, with doors opening into the engine room, so that it might be used for cargo or for coal, as might be required. The whole of the 'tween decks, except the part occupied by the engine room and coal bunkers, and a small space forward for the crew, was given up to cargo, the officers being accommodated in a deck-house amidships some 40 to 42 feet long, just forward of the engine room skylight, which was on the upper deck. In the original construction of the ship there was a space in the 'tween decks about 12 feet long, between the fore hatchway and the lower forecastle, which was divided by a fore and aft partition, one side being intended for the petty officers' quarters and the other for a store room; but this space was also devoted to cargo purposes, accommodation having been found for the petty officers in the deck-house amidships. The vessel being chiefly employed in the grain trade, had permanent shifting boards going from the upper deck to the bottom of the ship, except in the square of the hatchways. There were also holes cut in the main deck about 21 feet long by about 15 inches wide, for the purpose of trimming the cargo, and of feeding the lower holds from the 'tween decks in case the cargo should settle. Of these holes there were two in No. 1 hold, one on each side; six in No. 2 hold, three on each side; and six also in No. 3 hold, three on each side; and as the holes were placed about midway between the centre line and the sides of the ship, they would help to keep the lower holds full, even if the cargo should settle down on the voyage.

Thus equipped and furnished, the *Tiara* left England with a cargo of coals, which she discharged at Port Said, and then proceeded to Alexandria for the purpose of taking in a cargo of cotton seed for the return voyage. Previous, however, to taking in the seed, shifting boards were put up in the squares of all the hatchways, in continuation of the permanent shifting boards fore and aft, and were well secured to the stanchions in the centre, and shored off from the sides and in the combings of the hatchways. She then took in her cargo, consisting of 2,293 tons of cotton seed, in bulk, which filled the vessel quite full, not only the lower holds and 'tween decks, but the temporary thwartship bunker in the after part of No. 2 hold as well as the petty officers' quarters and store room just abaft

the lower forecastle. The lower hatchways were left open, as well as the holes in the main deck, so as to allow the cargo to pass from the 'tween decks into the lower holds as it settled down. Hatchway fillings were also put into her, and the seed was piled up to the tops of the combings.

Thus loaded, and with 160 tons of coal in her bunkers and the midship and after tanks full of water, she left Alexandria on the 11th of November, bound to Hull, having a crew of 26 hands all told. Nothing particular occurred before reaching Malta, except that the two midship tanks were pumped out, and the forward tank filled. She arrived at Malta on the 17th, and having there taken in about 90 tons of coal, left the same evening. At midnight of the 26th November she was off Cape Finisterre, the wind blowing strong from the E., and the vessel heading about N., but having no sails set. From midnight to 4 a.m. of the 27th it was the third engineer's watch, and he said that during his watch the vessel was struck by a very heavy sea, and he thought that she then, for the first time, got a slight list to port. Up to this time she had been perfectly upright. Whether, however, the slight list, of which the third engineer spoke, and which the other witnesses said they observed between that time and 10 a.m., was due merely to the increased violence of the wind pressing upon her starboard side, did not appear. The wind and sea, however, continued to increase in force, and at 2 p.m. the captain ordered the engines to be stopped, when she immediately fell off with her starboard broadside to the wind and sea, having a considerable list to At 3 p.m. the third engineer observed water coming into the engine room from No. 2 hold; it was coming in over the top of the door on the port side communicating with the temporary thwartship bunker in the after part of No. 2 hold, and as the top of the door stood about five feet above the top of the tank, it showed that there was at least 5 feet of water in that hold, at all events on the port side. There being no suction pipe from the engine-room to No. 2 hold, but only one to No. 1 hold, the engineer set on the pump to No. 1 hold, but finding that it threw no water, he knew that it must be confined to No. 2 hold, and he thereupon reported it to the captain. The only mode of letting any water out of No. 2 hold, should any get there, was by opening the sluices, which terminated the gutter way on each side of the tanks, and thus letting it into the engine-room, whence it could be pumped out, but the rod to raise the sluice on the port side could only be got at from the second officer's berth; and as the vessel was at that time lying so much over on her port side that that officer's cabin was full of water, it was not possible to get at it. It was accordingly determined to open the sluice communicating between Nos. 1 and 2 holds, so as to allow the water to run from No. 2 into No. 1, and on that being done the engines immediately began to throw water. The vessel, however, still continued to heel over more and more, and by 7 p.m. that day she was gunwale under. They continued pumping during the night, but without being able to clear the holds. They did not dare to lift the bunker doors to allow the water to run freely into the engine-room, for the seed would have come with it, and soon choked the bilges and pumps, but they raised them sufficiently to allow the

water just to run, but not high enough for the seed to pass; and they had no difficulty to the last in keeping the engine room clear of water, none coming into it except from No. 2 hold. At about 7 a.m. of the 28th, some of the bulwarks and stanchions were carried away. The vessel, however, during the day did not fall over any further, but when the engines were stopped at 9 p.m., she again fell off into the trough of the sea; and between 8 and 9 a.m. of the 29th, the top of the rail was nearly on a level with the water. At this time the Hipparchus hove in sight, and the captain of the Tiara having, at the request of the officers and crew, consented to abandon her, they all went on board, there being at the time from 10 to 11 feet of water in the Tiara's holds.

The Court was asked to say whether the steamer was overladen when she left Alexandria. It was admitted that, on leaving that place, the Tiara had on board 2,293 tons of cotton seed, 160 tons of bunker coal, and that the after and two midship tanks, containing together 190 tons of water, were full, so that she had a dead weight in her of 2,643 tons, exclusive of her engines. If the weight of the engines be added, namely, 140 tons, there would be a total of 2,783 tons. It must also be remembered that, between Alexandria and Malta, the two midship tanks were pumped out, and the forward tank was filled, which would give 40 tons more water, making a total deadweight of 2,823 tons, which, in an ordinary ship of ordinary stability, would not have been excessive. On leaving Alexandria, she had a freeboard of 5 feet 5 inches to 5 feet 6 inches, and after the filling of the forward tank, a freeboard of from 5 feet 3 inches to 5 feet 4 inches, or a little more than 21 inches to every foot depth of hold, which would, perhaps, be sufficient. As regards shifting boards, the Court thought the vessel was as well fitted as she could have been; the cargo was properly stowed, and the empty spaces under the deck well filled in. No doubt the cargo did shift, but it was the falling over of the vessel which caused it to do so, and not the shifting of the cargo which caused the vessel to go over. The most important question in the case was, whether, having regard to her construction, the vessel had sufficient stability for the safe carriage of grain cargoes. None of the witnesses who had sailed in her were prepared to say that she was a stiff ship; the utmost that even the master could say was that she was a tolerably stiff ship in comparison with the generality of vessels of her class.

There was one fact in this case which seemed to show that the vessel must have been a very tender ship and very likely to go over, and that was her extreme depth in proportion to her beam. According to the copy register, she had a depth of hold of 24.2 feet to a beam of 33.3 feet, which would give a co-efficient of very nearly '73. No witness, except the general manager of Messrs. Palmer's Shipbuilding Company, was prepared to say that for a cargo-carrying ship this was not a very high co-efficient; and even he did not directly say that it was not a high co-efficient, but said that he knew of other vessels with higher co-efficients.

The conclusion which the Court came to from the evidence, not only of those who sailed in her, but of the skilled witnesses who were produced, was that this vessel was a tender ship, owing mainly to the great depth of her hold in proportion to her beam. As such she was not a safe vessel for the carriage of grain cargoes, and especially of such a light cargo as cotton seed, for the lighter the cargo the higher would be the centre of gravity. When, too, it was remembered that in order to reach this country she had to cross the Bay of Biscay in the month of November, the Court did not hesitate to say that the *Tiara* had not the requisite amount of stability to justify her in undertaking the voyage she did with the cargo which she had on board.

The Court considered that her loss was principally due to her unstable character; and that, taking into consideration the season of the year, and the nature of the intended voyage, she was, on leaving Alexandria, too deeply laden for a vessel of her construction.

They added that the cause of the water getting into the after compartment of the fore hold was due probably to her having sprung a leak whilst labouring and straining after she had been listed over on to her port side; that the system for freeing the steamship from water was not sufficient, more especially as regarded the after compartment of the fore hold; and that the arrangements for working the sluices of such after compartment were not good, for that provision should have been made to get at the sluices from the engine room.

They blamed the captain for having placed additional weight above the mean centre of gravity of the ship, machinery, and cargo, by filling the store room and petty officers' quarters with seed, and for not having replenished his coal bunkers at Gibraltar.

Abandonment-Grain Cargo-Instability.

"EMBLEHOPE," S.S.

Inquiry held 12th and 14th February, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Emblehope was an iron screw steamship of 1,944 tons gross and 1,255 tons net register. She was a spar-decked ship, having two decks laid and orlop beams below. The upper deck was of wood, the main deck of iron. Her engines were amidships; forward of them were two holds, and aft another hold, the former being called Nos. 1 and 2, the latter No. 3. In the 'tween decks, the space between the crew space and the forward engine room bulkhead was also divided into two holds, the fore part of hold No. 1 being parted off by a wooden bulkhead, for a rope locker. The after part of the after 'tween decks, for about 18 feet, was parted off by a bulkhead, and was used as a store-room. The vessel was 302.3 feet long, 34.2 feet broad to outside of plank, 18.8 feet deep in hold from the tonnage deck to the ceiling amidships, and 25.8 feet from the upper deck to the ceiling amidships. Of her gross tonnage, about 1,330 tons were below the tonnage deck, and 614 above it. She had two water ballast tanks, one forward and one abaft the engine room; but there was no information before the Court as to their lengths or capacities. On the upper deck was a raised forecastle forward, and over the fore part of the engine room was the bridge, abatt which was the engine room skylight, about 15 to 18 feet long, and about 4 to 5 feet broad, rising some 3 or 4 feet above the deck.

Having discharged a cargo of coals at Odessa, she proceeded to Sulina, and there took in a cargo of grain consisting of 12,670 quarters, partly barley and partly rye. She was fitted with shifting boards from the upper deck to the bottom of the ship, exactly as the Tiara was described to have been (see p. 183). The whole of the grain was in bulk; the rye, which is within 21 per cent. the weight of wheat, being put in the lower holds in the centre of the ship, while the barley, which is 17th per cent lighter than wheat, was put forward and aft, and in the 'tween decks. When the loading was complete, the vessel was quite full, except the small store room in the fore part of No. 1'tween decks, on the floor of which there was about a foot or 18 inches of barley, with spare hatches, sails and ropes above it. Having taken in 120 or 130 tons of bunker coal, she sailed from Sulina on the 11th of November, 1879, bound to Antwerp, with a crew of 28 hands all told, and drawing 201 feet forward and 211 aft, with a freeboard of 7 feet 3 inches. On her arrival at Malta, the captain found a slight settlement of the cargo in the hatchways, which he filled up with 25 or 26 bags of barley, and having taken in about 264 tons of coal, they sailed again on the following day. On the 26th the vessel was going at half-speed, the wind blowing a fresh breeze from the N.E. At noon of the 27th, the wind and sea having increased very considerably, the engines were put down to dead slow: during that afternoon the wind increased, with terrific squalls and a heavy cross-sea, and the vessel got a slight list to port. At 9 p.m. a very heavy sea broke on board, which stove in the deck-house, galley, and engine room skylight, the iron combings on the port side being forced in about 2 feet at the top and 8 inches below, and letting tons of water down into the engine room. All efforts to stop the hole proved unavailing, and the water continued to pour down into the engine room faster than it could be pumped out; the port fires were put out; the vessel was on her beam ends, and during the night the rails and stanchions on the port side were carried away. At daylight the mate went down the fore hatch and found that the cargo had shifted from the side to the shifting boards in the centre. The men were kept at work all day shifting the barley from the rope locker, to fill up the empty space on the starboard side of No. 1 hold, but without producing any effect. The vessel had by this time fallen off into the trough of the sea; the crew began to bale her out, and continued at it all night. In the morning a ship called the Selina came in sight, and the crew of the Emblehope were taken on board her and landed at Bristol, nothing more being heard of the abandoned vessel.

The Court were of opinion that, the vessel being on her beam ends, the fires out, and there being no chance whatever of preventing her from sinking, it became necessary to abandon her, and that the master and crew were not in any way to blame for doing so. So far as they were able to judge, the shifting of the cargo was, as in the case of the

Tiara (p. 182) due, not to any imperfection in her shifting boards, but to

The most important question in the case was whether the vessel had sufficient stability for the safe carriage of grain cargoes.

She had on board her, as previously stated, 12,670 quarters of grain. Assuming that there were about equal quantities of rye and barley, the whole cargo would be about 10 per cent. lighter than if it had been wheat; consequently, the 12,670 quarters of rye and barley would be about equal in weight to 11,403 quarters of wheat. But 97 quarters of wheat being reckoned equal to 211 tons, on this computation the weight of the cargo would be about 2,492 tons. Added to this was 120 to 130 tons of bunker coal which she had on board after leaving Sulina, making 2,620 tons, which, estimating the engines and boilers at 177 tons, would give a total of about 2,800 tons of deadweight. When again she left Malta, she had nearly 300 tons of bunker coal, which would make the total weight 2,970 tons. Her gross tonnage being 1,944 tons, this would only give a little more than 50 per cent. above her gross tonnage, which would not, in the case of a good stable vessel, be excessive. As to her freeboard, when she left Sulina, she drew 201 feet forward and 211 aft, giving a mean of 21 feet, and with this draught of water she had a freeboard of 71 feet, giving about 3:37 inches to every foot of depth of the vessel's hold. This would be slightly less when she left Malta, but the assessors thought that it would have been amply sufficient for the vessel, assuming her, as before, to have been a good stable ship. There was, therefore, nothing in the weight of her cargo, or the amount of her freeboard, which led the Court to suppose that she was overladen. She had a ratio of depth to breadth of from '75 to '76. Of her gross tonnage of 1,944, only 1,330 tons were under the tonnage deck, having no less than 614 above it, the greater part of which was filled with grain. It was urged that the rye and barley, being lighter than wheat, she probably would not be so tender; but on the contrary, the lighter the cargo the more would its centre of gravity be raised above the keel, and consequently the more tender would the vessel None of the witnesses who had sailed in her could say she was not a tender vessel, and on the whole the Court came to the conclusion that she was not sufficiently stable to carry the cargo which she had on board, having regard to the season of the year and to the fact that she would have to cross the Bay of Biscay. No doubt she encountered an exceptionally violent gale, but had she been a more stable vessel, with less depth and a greater breadth of beam, she would in all probability have weathered the gale, even with the cargo which she had on board. With reference to the engine room skylight, which was formed of four upright iron plates, of a thickness of from \$\frac{1}{4}\ths to \frac{1}{4}\ths, connected by angle irons at the corners, and with an angle iron running along the edge inside, but with no thwartship stays, and no angle irons or vertical stays in the middle to support it, the Court held that, the vessel having no bulwarks, and the sides of the skylight being therefore exposed to the full force of a beam sea, the side plates should have been thicker, or should have been stayed in the middle by stays or angle irons.

Abandonment-Overloading-Stability.

"LUFRAW S. sibtool.com.cn

Inquiry held 13th and 14th February, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Lufra was an iron screw steamship of 1,366 tons gross and 878 tons net register. She was a poop-deck ship, having two decks aft and a raised main deck forward. The poop extended from aft for 142 feet, or nearly two-thirds of her length; there was then a break of 3 feet 9 inches, and then a raised main deck for 71 feet, beyond which was the raised forecastle, 31 feet long. Her engines were amidships. Forward of the engines were two holds, Nos. 1 and 2, or rather one divided into two by a wooden bulkhead, there being no watertight bulkhead between the collision bulkhead forward and the fore bulkhead of the engine room compartment. Abaft the engine room was another hold called No. 3. From the after bulkhead of the engine room compartment was a water ballast tank extending the whole length of No. 3 hold; and under the fore hold, for a distance of 66 feet from the forward bulkhead of the engine room, were two water ballast tanks. The height of the floor plates was 21 inches, and the top of the tanks was 1 foot 9 above the top of the floor plates, so that the depth of the tanks was 3 feet 6 inches. The after tank contained 60 tons of water, the two forward tanks 45 tons each, or 90 together. The after part of the poop was set apart for the captain and officers of the ship; and immediately abaft the engine room bulkhead was a space of 8 feet for the accommodation of the engineers, but between this and the officers' quarters aft for a length of 56 feet was cargo space. From the break of the poop also, and for 30 feet aft of it, were coal bunkers. Of her total gross tonnage of 1,366 tons, 1,015 tons were below the main or tonnage deck and about 350 above it. The total length of the vessel was 235.4 feet, her main breadth to outside of plank 32 feet, her depth in hold from tonnage deck to ceiling at midships 17.8 feet, and her depth from ceiling at midships to the under side of her poop deck 24 feet 9 inches, or 24.75 feet.

Having discharged a cargo of grain at Bremerhaven, she proceeded to the Tyne, and having entered the Howden Dock, there took in a cargo of 1,773 tons of coal, besides 198 tons of bunker coal. With these, and with her after tank full, she drew 19 feet 6 inches forward, and 20 feet 2 inches aft. As, however, there was not then sufficient water to allow her to pass over the sill of the dock, the after ballast tank was pumped out. It was found, however, that the vessel then took a list, some of the witnesses said to port, some to starboard, and as it was not deemed expedient to start with a list, the tank was again filled, which put her upright. Thereupon she took her departure for Genoa, having a crew of 21 hands all told. On the 27th they had very strong gales from E. to E.S.E., the vessel heading about S.W. by W. At 4 a.m. of the 28th the vessel was net making any more water than usual, but at 7 a.m. the chief engineer observed the water coming into the engine room. On reporting it to the captain, the latter ordered the vessel to be hauled up head to wind and sea, and the engines to go easy ahead. Up to that time they had been going

Finding that the water was making rapidly in the engine room, the engineer put on all the pumping power under his control, namely, the main pumps, the donkey, the ballast pump, and the bilge injection, but the water still gained upon them, although slowly. Shortly afterwards a heavy sea struck her astern, carrying away the after wheel, and smashing in the companion and cabin doors. The vessel continued to labour and strain very heavily, and the water to gain upon It appeared that there were no suction pipes to either of the holds, but only sluices at each end of the engine room, and on each side of the ship terminating the gutterways at the sides of the tanks. At 9 a.m. the port after boat was washed overboard; at 10 a.m. the starboard after boat was carried away, and the starboard lifeboat stove. The same afternoon their remaining boat, the port lifeboat, was smashed to pieces. Every effort was made to discover where the water was coming in but without avail; some little came through the engine room skylight, some through the stokehole grating, and some into the cabin aft, but it chiefly came into the chief engineer's cabin, under the poop deck just abaft the engine room compartment on the starboard side, and through the ship's side into the engine room. At what part of the engine room the water was coming in they were not able to ascertain, but the captain believed that it was through the side of the ship behind the wing bunker. The water continued to gain, and at about 5 p.m. the starboard fires were put out (the vessel having at the time a strong list to that side), upon which she fell off into the trough of the sea. The captain, second mate, second engineer, and some of the firemen then went into the stokehole and endeavoured to keep the port fires alight by feeding them with coal, while the first and third engineers were in the engine room attending to the pumps. time to time they got choked, but they had no difficulty in clearing them, and they continued to work as long as the fires could be kept in. When the main fires were put out the donkey fire was lighted, but that also was soon put out, and the vessel then became perfectly helpless, the sails having been blown away in an attempt to set them. On the morning of the 29th the vessel was lying on her beam ends, the scuppers being nearly on a level with the water. Thinking it would not be safe to remain longer in her, they patched up the starboard lifeboat and all got in, but were immediately upset and thrown into the water. Everyone regained the ship, but some not without injury. They then commenced baling, and some of the crew set to work to make a raft. Thus they continued till the 30th, when, at about 10 a.m., an English barque called the Gratitude bore down upon them, and having taken them on board, landed them in due course at Gibraltar.

The principal questions for the consideration of the Court were as to the cause of the abandonment, whether the vessel was overladen, and whether she had sufficient stability.

According to the evidence of the manager to the builders, she was constructed to carry 2,000 tons, which would give her about 3 feet of freeboard with her tanks empty.

On her last voyage she had 1,733 tons of cargo coal, 198 tons of bunker

coal, and 60 tons of water in the after tank, making, altogether, 1,991 tons, or very nearly her total carrying capacity. Added to this the weight of her engines, reckoning at the rate of one ton for each horse power, it would amount to 2,111 tons, which would be very far in excess of her carrying capacity. One witness stated further, that one of the midship or forward tanks was also full; if so, this would have added 45 tons to her weight, making the total dead weight, exclusive of her engines, 2,036 tons.

As to the freeboard, the evidence showed that orders were given to load her down to 19 feet 4 inches or 19 feet 5 inches, which would give her a freeboard of about 3 feet 2 inches. As a fact, however, she drew, when laden, and with her after ballast tank full, 19 feet 6 inches forward and 20 feet 2 inches aft, or a mean of 19 feet 10 inches. That is from 5 to 6 inches more than had been contemplated by the orders; and, if with 19 feet 4 inches to 19 feet 5 inches she would have had a freeboard of about 3 feet 2 inches, it follows that, with 19 feet 10 inches, she would have had a freeboard of only 2 feet 8 inches to 2 feet 9 inches: calculating on a rise, when the vessel got to sea, of from 2 to 3 inches, this, at the outside, would give her a freeboard of 2 feet 10 inches to 2 feet 11 inches. But this vessel was poop decked, and it was from the level of the raised main deck forward of the break that the freeboard was computed, the load line being placed at the break of the poop and just 3 feet below the raised main deck at that point. Therefore the load line was placed on a level with the upper line of the main deck aft, if not above it; so that, with the water up to or above the load line, the vessel was supported for 142 feet. or for nearly two-thirds of her length, merely by the buoyancy of her poop, from which must be deducted 215 tons of cargo coal and 160 tons of bunker coal contained in the deck bunkers, making a weight of nearly 400 tons in the poop.

The Court were, upon these facts, clearly of opinion that the vessel was, when she left Howden Dock, very greatly overladen, and unfit for her intended voyage, having regard to the season of the year.

As to her stability, the same question arose as in the cases of the *Tiara* (p. 182), and the *Emblehope* (p. 186).

According to the Lufra's register, the main breadth to outside of plank was 32 feet, the depth in hold from the under side of the tonnage deck to the ceiling at midships was 17.8 feet; this is, however, from the tonnage deck under the poop, not from the raised main deck forward. Taking the depth from below the poop deck to the ceiling at midships, the Court were told by the manager for the builders that it was 24 feet 9 inches, or 24.75 feet, which would give a ratio to beam of .77, higher even than in the cases of either the Tiara or the Emblehope.

There was nothing which more clearly showed her extreme tenderness than the fact that the pumping out of her after tank, or of only half of it, was sufficient to give her a list to one side; showing that even then she was top heavy. The Court thought, therefore, that this vessel was not qualified to carry a full cargo, or indeed the cargo which she actually had on board, and that they were not justified in sinking her down to the level of, if not above, her main deck aft.

In their opinion, the great weight of the cargo and bunker coal in her poop would cause the vessel to strain in the way of the stringer plate and main covering board; and as she would have the upper line of her main deck on a level with, if not below, the surface of the water for nearly two-thirds of her length, she would naturally make water in that part.

Stranding.

"LADY ANN," S.S.

Inquiry held 16th February, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Lady Ann was an iron screw steamship of 891 tons gross and 579 tons net register. She left Sunderland on the 28th of January, 1880, with a cargo of coal, and a crew of 17 hands all told, for Bordeaux. Having got a sufficient offing, with the white sector of Souter Point Light in view, the captain, Arthur Way, put her upon a S.S.E. course, intending to make a straight course till they had passed Flamborough Head, and went below at 6.40 a.m. About 8 o'clock Whitby Buoy was seen nearly right ahead, upon which the vessel's helm was starboarded so as to clear it. About this time the chief officer, John Hammond, took charge, the vessel being on a S.E. by S. course. So far there was no dispute as to the facts. According to the chief mate's story, he continued a S.E. by S. course till about 9.30, when the vessel would have been off the South Cheek of Robin Hood's Bay; he then altered the course to S.S.E., until just before noon, when, observing what he took to be land upon his starboard beam, he altered the course to S.E., and then went down to his dinner, leaving the boatswain in charge. The mate saw the captain in the cabin, and after some conversation they sat down to dinner; when, in about 10 minutes or a quarter of an hour, the vessel suddenly struck on a scar or ridge of rock lying off North Sea Bay, an inlet about two miles to the northward of Flamborough Head. It should be observed, that from about 10.45 a.m., owing to a thick fog having come on, the engines had been put at half-speed, then at slow, then stopped, and that when the mate went below they were going at half-speed only.

The Court came to the conclusion that the actual course could not have been as it was described by the chief mate; there was some evidence to show that in reality, when it was clear, he steered S. by E. \(\frac{1}{2} \) E., and when foggy, S.S.E.; if this were so, the Court considered that it would go far to account for the vessel's having grounded where she did.

They were also led, by certain facts, to think that the mate was not speaking the truth, and accordingly found that the cause of the stranding was his having kept the vessel on a course too much to the westward. They also thought that he had been guilty of very great negligence in not having called the master when the weather came on thick, in having neglected to keep a man on the look-out forward, and in not having taken a cast of the lead. They accordingly suspended his certificate (which was a master's) for six months.

With regard to the captain, the Court held him to blame for not having gone on dock when he was called at noon, before sitting down to his dinner, especially when he ought to have known that the vessel was only going at half-speed, and they therefore suspended his certificate for three months.

Missing.

."PROMETHEUS." S.S.

Inquiry held 17th and 18th February, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE; J. R. RAVENHILL, C.E.

The Prometheus was an iron screw steamer of 1,621 tons gross and 1,043 tons net register, fitted with engines of 160 horse-power. She left Cardiff on the evening of the 1st of December, 1879, with a cargo of coals, bound to Genoa, having a crew of 23 hands all told, and in charge of a pilot, who left her at midnight, after which nothing more was heard of her. It appeared from the plans of the vessel which were before the Court that she was three-decked, having two decks laid, the uppero ne of wood, the lower of iron, with orlop beams below. She had five watertight bulkheads, and was fitted with water ballast tanks. In the centre of the ship was a bridge house 50 feet long, rising some 6 or 9 feet above the upper deck. The total length was 254.6 feet, mean breadth 34.1 feet, and depth of hold from the tonnage deck to the ceiling amidships 23.5 feet. She was fitted with permanent shifting boards, extending in the 'tween decks from deck to deck, and in the lower hold for five planks down. On her last voyage she took out 1,809 tons of small coal, besides 369 tons of bunker coal, making a total of 2,178 tons, which the Court did not consider too much. She drew, on leaving Cardiff, 20 feet 7 inches forward and 20 feet 9 inches aft, which would give her in salt water a freeboard of from 5 feet 3 inches to 5 feet 4 inches, being 2.7 inches for every foot of hold, which the assessors considered a good margin.

She had a ratio of depth to breadth of '68, which, though large, was compensated to a certain extent by other parts of her construction, so that the Court could not say that she was unstable or unfit to carry a full cargo.

With regard to her ventilation, the Court held that she was not properly ventilated for the safe carriage of coal cargoes. She had one ventilator in No. 1 hold just abaft the hatchway, with a diameter of 14 inches, a similar one in No. 2, just forward of the hatchway. Abaft the bridge there was a small hatchway 4 feet square, which could be left open at almost all times, and which would ventilate No. 3 hold; in addition to which there was, abaft the hatchway, a ventilator 9 inches in diameter. But the evidence went to show that the coal with which the Prometheus was laden did not give off any large quantities of gas; that it was all small coal, which, having been broken up and left for some days to lie at the collieries or shipping wharves, would probably have given off the greater part if not the whole of its gas; and finally that, after loading, the vessel lay with her hatches off for 50 hours. It therefore seemed to the Court highly improbable that she would have been destroyed by an explosion of coal gas.

The only suggestion which appeared at all possible was one given by a gentleman who had been her master ever since she was built, but who, for the voyage in question, had been allowed to stay on shore: namely, that the mate, in his anxiety to make a quick voyage, might have kept her on for too long a time in a beam sea, causing her cargo to shift and thus throwing her over on her beam ends. There was nothing in the vessel, her cargo, or equipments, which would have prevented her weathering any gale she might have encountered had she been skilfully and prudently handled.

Missing.

"JOSEPH FERENS," S.S.

Inquiry held 19th February and 20th September, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE; J. R. RAVENHILL, C.E.

The Joseph Ferens was an iron screw steamship, belonging to the Port of London, of 1,803 tons gross and 1,176 tons net register, and fitted with engines of 170 horse-power. She left the Tyne on the 29th of November, 1879, with a cargo of coals bound to Lisbon, and having a crew of 27 hands all told, and from that time nothing more was heard of her.

She was a vessel of the usual three-decked class, having two decks laid, the upper of wood, the main deck of iron, and with orlop beams below. Forward was a raised forecastle 34 feet long, and aft a poop about 30 feet long, standing some 2 feet above the upper deck. Her total length was 270 feet. She had her engines amidships, with water-tight bulkheads forward and aft. Between the engine room compartment and the collision bulkhead was a large hold, divided in two by a wooden bulkhead, and with two hatches, a fore and a main hatch. Abaft the engine room was another hold, also with two hatches, a large and a small one. She had permanent side and thwartship bunkers, capable of containing about 259 tons of coal. in addition to which 14 feet of the after part of the fore hold immediately forward of the engine room compartment was partitioned off, to be used either as a spare thwartship bunker, or for cargo; this compartment went right up to the upper deck, and would contain about 92 tons of coal in the 'tween decks, and 164 tons in the lower hold, or a total of about 256 tons. According to a plan which was laid before the Court, the cargo space of the lower fore holds contained 48,500 cubic feet, the fore 'tween decks 20,000, the lower after hold 32,500, and the after 'tween decks 15,200, so that the cubical contents of the 'tween decks for the purposes of cargo was a little less than one half of the lower holds. The vessel had also two ballast tanks, one under the engine room extending from the forward bulkhead to within about 4 feet of the after bulkhead, leaving a space aft for a small well; the other extended the whole length of the after hold, except for a space of 4 feet aft, where there was another small well. The top of the tank under the engine room was about 4 feet above the keel, and in the after hold about 5 feet above it, but what quantity of water they severally contained could not be ascertained. She had also holes cut in the main deck half-way between the centre line and the sides of the ship, to serve as trimming hatches; of these there were six in the fore holds, two forward of the fore hatch, two between the fore and main hatches, and two abaft the main hatch; and in the after hold there were four, two before and two abaft the principal hatchway.

She was originally designed to carry 2,550 tons of cargo and bunker coal, upon a draught of 21 feet 6 inches; but the owners having subsequently requested that she should be made to carry 2,650 tons on the same draught of water, this was done by filling out her lines forward and aft. The quantity of coal on board when she last left the Tyne Docks was 1,863 tons of cargo and 810 tons of bunker coal, or a total of 2,673 tons.

The Court found that she had a freeboard, on leaving the Tyne Docks, of 5 feet, that she would rise 2 inches on getting into salt water, making 5 feet 2 inches, and that this on a depth of hold of 24.5 feet would give her a clear side of more than 2½ inches to every foot of hold; seeing also that she had a topgallant forecastle of about 6 feet high, and a raised quarter deck aft of about 2 feet, they had no hesitation in saying that she had an ample freeboard, and that she was not overladen. To what cause her loss was due, whether to a collision, or to any of the other accidents of the sea, or whether it was owing to the very tempestuous weather which prevailed at about that time in the Bay of Biscay, it was not possible to say; but, at any rate, they could safely say that it was not due to her having been overladen.

Note.—This case came before the Court twice. The first time there was no satisfactory information as to the vessel's draught of water or as to her freeboard; but these omissions were supplied at the rehearing, with the result that the Court came to the above conclusion.

Missing.

"MAGIC."

Inquiry held 10th March, 1880.

Assessors: W. PARFITT; J. P. WILSON.

The Magic was a schooner of 152 tons register. She left Newport, in Monmouthshire, at about 12.30 a.m. of the 23rd of November, 1879, with a cargo of coals, bound to Lisbon, and having a crew of six hands all told, and in charge of a pilot. Having brought her to anchor in Penarth Roads the pilot left her, and she remained there until the following day, when she sailed, and from that time nothing more was heard of her.

The Court came to the conclusion that when she left Penarth Roads there was nothing in the evidence before them to show that she was not in good condition and well found, nor was she in their opinion overladen.

The most important question in the case was whether she was provided with good and sufficient ventilation, having regard to the nature of her cargo. The coals with which she was laden came from the Newport Abercarne Black Vein Steam Coal Colliery, Limited, and were sent down on the 20th November, having most probably been worked on the same day. They were shipped on the 21st and 22nd, the vessel leaving early

on the morning of the 23rd. They were consequently newly wrought, and would give off great quantities of explosive gas, for which reason it became necessary that the greatest precautions should be taken, not only whilst they were being shipped, but also for some time afterwards, to prevent an explosion of gas.

The manager of the shippers of the cargo told the Court that they always served on the captains and officers of the vessels which passed through their hands a printed notice, prescribing the terms on which alone they undertook to ship these coals. That notice was in these words: "To the captains and officers of the --, you are hereby cautioned against closing the hatchways and cabins while loading your cargo of coal; and you are requested to keep all hatchways open and the skylights of your cabins while so loading, and not to close them after receiving the cargo until any explosive gas which is given out by the coal may have time to escape. No naked light must be permitted in any part of the ship under deck during the loading, and not until a free circulation of air has been established after the shipment of the coal. Our trimmers are provided with safety lamps, and you are requested not on any account to give them ordinary lamps or candles. Our foreman shipper has strict instructions not to commence the shipment of the coal until the foregoing instructions are complied with, and to stop at once if they are violated."

They also affixed to the captain's copy of the bill of lading the following notice:—

"Caution. Captains and officers of vessels loading coal are particularly requested not to close the hatchways and cabins immediately after receiving the cargo, in order that any explosive gas which is given out by the coal may escape; and it is of paramount importance that no light be permitted in any of the cabins, or in the hold, until the free circulation of air has been established after the shipment of the coal."

The following appeared from the evidence to have been the course-adopted upon this vessel to secure ventilation:—

Besides the large main hatchway, through which the cargo was put into the hold, there was a small hatchway forward and another aft, but whether these two small hatchways opened into the hold, or whether the one led into the forecastle and the other into the cabin, did not very clearly appear. If, indeed, the weather was such that the main hatchway could have been kept open, no doubt, even without these two small hatchways, the hold would have been kept sufficiently ventilated, there being an alley-way or man-hole down the centre from aft as far as the after combings of the main hatchway, whence the coals sloped away forward, leaving a clear space above them for the gases to escape. But if the weather was such as to compel them to close the main hatchway, they would most probably have been obliged to close the other two hatchways also, and in that case there would have been no ventilation at all from the hold. It was stated. that ventilators had been put into the vessel at Leith; but what was then done was to fix a small ventilator on the fore hatchway at a cost of £1 6s.; this, however, would hardly have been sufficient to keep the hold properly ventilated, and to produce a free current of air over the surface of the coal, which is necessary to obviate all risk of explosion. The vessel, therefore, could not, in the opinion of the Court, be said to have been provided with such good and sufficient ventilation as was required by the nature of the cargo which she had on board.

Finally, the Court were of opinion that, though this was so, there was nothing whatever in the evidence before them to show what was actually the cause of the vessel's not having been heard of since she left Penarth Roads.

Boiler Explosion-Default of Owners.

"JONES BROTHERS," S.S.

Inquiry held 11th and 12th March, 1880.

Assessors: W. PARFITT; R. WILSON; J. R. RAVENHILL, C.E.

The Jones Brothers was an iron screw steamship of 744 tons gross and 481 tons net register, fitted with engines of 80 horse-power. She was built in the year 1871, and was the property of Messrs. Jones Brothers, of Newport, and of Mr. Harkiss, the builder, Mr. William Jones, one of the partners in Messrs. Jones Brothers' firm, being the managing owner.

The vessel left Bilbao, in Spain, at about 2 p.m. of the 27th of January, 1880, with a cargo of 800 to 900 tons of iron ore, bound to Newport, and having a crew of 17 hands all told. She proceeded down the river in charge of a pilot, and on nearing the bar, observing that the signal was against her, she dropped anchor. Shortly afterwards the signal was raised, and she proceeded, but a vessel ahead of her having grounded on the bar, she was again obliged to bring up. In the meantime the second engineer having observed water coming out of the port furnace, immediately called the first engineer's attention to it; the latter, however, on the fires being raked out, said that he thought that the leak would take up, and accordingly gave no further directions at that time. On coming to anchor, however, the second time, the steam, which in going down the river had been kept up to 30 lbs., increased to 34 lbs., upon which the second engineer, who was in charge of the engines, opened the safety valve to allow it to escape, when it fell to 33 lbs. On going into the stokehole, he observed that the flow of water from the port furnace had increased considerably, upon which he called the first engineer down, and was directed by him to go on deck and tell the captain that they must not go to sea. The second engineer accordingly went up, and whilst speaking to the captain, an explosion took place in the engine room, by which the chief engineer, the donkeyman, and a fireman were so severely scalded that they died the same evening. After the explosion the vessel was taken back to Bilbao, when it was found that the explosion had been caused by the fracture of the bottom plate of the port combustion chamber. Accordingly the old plate was cut out, and a new one was put in its place; and the corresponding plate in the starboard combustion chamber, which was also found to be very thin, having been doubled, the vessel resumed her voyage, and arrived safely in England.

The first question upon which the opinion of the Court was asked was whether the boilers were properly tested and examined in June, 1879, and whether Lloyd's surveyor for the Bristol Channel district was justified in giving the report he did.

The surveyor said that, at that time, he found her boilers to be in a very There were seven patches screwed on the backs of the combustion chambers, covering cracks in the plates, as well as some screw stays drawn, and exhibiting a leaky appearance. He accordingly ordered the patches to be taken off; the cracked and defective parts to be cut out; 28 screw stays to be taken out and renewed, and four additional stays to be fitted, for the purpose of strengthening the plates of the combustion chambers, which, he said, showed signs of buckling. He also said that he sounded the sides and bottom of the combustion chambers with a hammer; and after the repairs were completed, he tested the boilers with an hydraulic pressure of 50 lbs., and then authorised the safety valves to be weighted to 42 lbs. He further stated that, although the boilers were in a bad state when he made his first survey of them, they were in a thoroughly good and efficient condition when he left them—which appeared to the Court to be quite consistent with the condition in which they were found to be in January, 1880, if they had been neglected in the meantime. The Court considered, however, that the surveyor committed a grave error of judgment in having authorised the safety valves to be weighted to 42 lbs. after a test of only 50 lbs.

The second question was, whether proper measures were taken by the chief engineers to ascertain the thickness of the plates and the condition of the boilers from time to time, between June, 1879 and January, 1880. Owing to the position of the plate in the port combustion chamber which gave way, the only proper mode of testing its condition would have been by tapping it with a hammer; but it did not appear that this was ever done; indeed, the condition of the plate itself, with a thickness of barely one-sixteenth of an inch, was a sufficient proof that it could not have been done for a very considerable time.

The Court said that they did not consider that the owners of the Jones Brothers were justified in having left the charge of the engines and boilers to the men whom they appointed as chief engineers, without having placed any superintendent or consulting engineer over them; and that, consequently, they did not take proper measures to ensure the safety of the vessel and her machinery.

The master was acquitted of all blame in the matter; but the owners were held to blame both for the explosion and the resulting loss of life; and the Court accordingly condemned them to pay the sum of £100.

Overloading—Instability—Default of Owner. "MARLBOROUGH," S.S.

Inquiry held 19th, 20th, 22nd and 23rd March, 1880.

Assessors: A. Ronaldson; C. Y. Ward; C. W. Merrifield.

The Marlborough was an iron screw steamship belonging to the port of
Hull, of 2,808 tons gross and 1,498 tons net register, fitted with engines

of 250 horse-power, and at the time of her loss was the property of and was managed by Mr. David Parkinson Garbutt. She left Cardiff on the 29th of November, 1879, with a cargo of coals, bound to Genoa, having a crew of 25 hands all told, and in charge of a duly licensed pilot. Soon after passing Nash Point the pilot left her, after which she was never

heard of again. She was a three-decked ship, having the two upper decks laid, and orlop or hold beams below. She had four holds—two before the engines, called Nos. 1 and 2, and two abaft, called Nos. 3 and 4. She had six iron watertight bulkheads and two water ballast tanks, one of which, immediately forward of the engine room, was 76 feet long, and extended the whole length of No. 2 hold; the other commenced at the after engine room bulkhead, ran 92 feet aft, and was divided into two by the bulkhead separating Nos. 3 and 4 holds. The top of the forward tank stood about 3 feet 6 inches above the top of the keel; that of the after tank was about 3 feet 9 inches in the fore part, rising to about 4 feet at the after end. All the tanks together contained about 350 tons. She had a short poop aft, a bridge house amidships, containing the officers' and engineers' quarters, and a raised forecastle forward, all of which were above the upper deck, the whole of the space below the deck being available for cargo. In the bridge house amidships there were two alley-ways, with doors at each end opening outwards. She had close bulwarks all round, rising about 3 feet 6 inches above the deck, with eight bulwark ports and six scuppers on each side. The engine room skylight, which was abaft the bridge house, stood on the top of an iron casing rising 7 feet above the upper deck, and was fitted with teak shutters and bull's-eye lights. She had four boats, two lifeboats, a gig and a cutter, and her pumping arrangements seemed to have been good. Her length, according to the register, was 301 feet, her main breadth to outside of plank 36 feet, and her depth in hold from tonnage deck to ceiling at midships was 25.3 feet. The plates along the garboard strake were \text{\frac{1}{6}}ths thick, thence to the shear strake they were \text{\frac{1}{6}}ths, and the shear strake was again \attatathat. She was a strongly-built vessel, having cost £33,000, besides £1,000 for extras, and when completed was classed 100 A 1 at Lloyd's. She was finished and delivered to the owner before the end of 1878, had made three complete voyages, and was outward bound on her fourth voyage when she was lost.

The first question before the Court was as to the position of the disc or load line on the ship's side. As originally contracted for, the *Marlborough* was to have a total deadweight carrying capacity of about 3,200 tons, with a freeboard of 5 feet, and before she left the builder's hands, instructions were given to put the load line at 4 feet 6 inches, which was done; after

the first voyage it was placed at 4 feet, in which position it was when the vessel last left Cardiff, and this gave her only 2 inches of freeboard, on something less, to every foot depth of hold. The Court held, therefore, that the load line was not placed in a proper position, and that 4 feet was not a sufficient freeboard either for a winter or any voyage. With reference to the question of overloading, the evidence showed that when she last left Cardiff she had on board 2,511 tons of cargo and 859 tons of bunker coal. It appeared from the evidence of experts that she ought to have had a freeboard of from 5 feet 6 inches to 6 feet 6 inches, which being so, it was obvious, in the words of the Court, that she was "grievously overladen." Her cargo seemed to have been properly stowed and trimmed, but sufficient clear spaces were not left for the purposes of ventilation over the coals in holds Nos. 2 and 3 'tween decks; and the ventilators themselves were quite insufficient, there having been but one to each hold, certain additional ones put in after the second voyage being quite useless, owing to their having been carried down to the lower holds. But as the coals on board were not liable to spontaneous combustion, and had probably given off almost the whole of their gas before having been put on board, the Court were not disposed to attribute the loss of the vessel either to spontaneous combustion or explosion.

She had a crew of 25 hands all told, which the Court considered was not sufficient for a vessel of her size. As to her stability, she had a coefficient of '70, which appeared to the Court to be a very high one, but in their opinion the main cause of the vessel's instability was the large amount of cargo which she had on board.

Looking at the state in which the vessel left this country, the quantity of cargo which she had on board, especially in her 'tween decks, her low freeboard, her close bulwarks, and narrow margin of stability, the only conclusion to which the Court could come was that she probably fell in with bad weather, and either turned over on her broadside or was swamped. They further added that, in their opinion, the load line was placed at 4 feet below the upper deck by the order and with the knowledge and sanction of the managing owner; that she was overladen with the knowledge and sanction of the managing owner; and they accordingly condemned David Parkinson Garbutt in the sum of £250 nomine expensarum, £50 thereof to be applied towards the expenses of the Court, and £200 towards the expenses of the Board of Trade.

Missing-Ventilation of Coal Cargo.

"KENSINGTON," S.S.

Inquiry held 23rd, 24th and 25th March, 1880.

Assessors: C. Y. WARD; A. RONALDSON; C. W. MERRIFIELD.

The Kensington was an iron screw steamship of 1,400 tons gross and 908 tons net register.

She was a three-decked ship, having two of her decks laid, and orlop beams below. She had four watertight bulkheads, namely, a collision

bulkhead forward, a bulkhead aft in the way of the stuffing-box, and one av each end of the engine room. Forward of the engine room were two holds, a fore and a main, the after part of the main hold, both in the lower hold and in the 'tween decks, being partitioned off by a temporary bulkhead, so as to be available for either coals or cargo, and with slide doors opening into the engine room. Abaft the engine room was the after hold, the lower hold being clear fore and aft, but the after part of the 'tween decks being divided off by a close bulkhead so as to form the lazarette. She had also two water ballast tanks—one in the engine room 40 feet long, and about 3 feet 9 deep; the other, which was in the after hold, was 60 feet long, 3 feet 9 deep in the fore and 4 feet 9 in the after part. Above the upper deck aft were cabins for the master and officers, and amidships was a deck-house for the engineers and petty officers; the forecastle was on the 'tween decks. She had close bulwarks, standing about 31 feet above the deck, with bulwark ports and scuppers. She had also four deck pumps, besides a large ballast donkey, a steam donkey, and two bilge pumps attached to the main engines. There were also four boats. Her length between the perpendiculars was 240 feet, her main breadth to the outside of the vessel was 33 feet, and her depth in hold, from tonnage deck to ceiling amidships, 22.4 feet; she was classed 100 A 1 at Lloyd's.

On the 26th of October, 1879, the vessel arrived at Liverpool, and having discharged a cargo of cotton which she had brought from Savannah, she proceeded up the river to Garston to load coal. She had already, since she was launched, completed three voyages, and the one which she was about to undertake was her fourth. She commenced loading on the 30th of October, and having completed her cargo by the morning of the 3rd of November, proceeded on the same day down the river, and brought up between Seacombe and New Brighton. There some repairs were done to her engines, and some stores were taken in. On the 4th the hatches were battened down, and on the 5th, at about 1 p.m., she left for Havana, with a crew of 22 hands all told, and in charge of a duly licensed pilot. Between 3 and 4 o'clock the pilot left her, the vessel at the time being off the Bar Light, from which time she was never heard of.

The first question upon which the opinion of the Court was asked was, whether the disc or load line was placed in a proper position on the ship's side. According to the evidence it was put at 4 feet from the deck, and the total depth of the vessel being 24 feet, she would, if loaded down to her load line, have been drawing just 20 feet. The disc was placed where it was without any calculation having been made as to the depth to which she might safely have been laden, and simply upon the supposition that 2½ inches per foot of depth of hold was a sufficient allowance. But the Kensington's hold was 22 feet 4 inches, so that the proper place, even upon that basis of calculation, would have been not 4 feet, but 4 feet 2½ inches. Other witnesses of great experience gave it as their opinion that the vessel should have had a freeboard of from 5 feet to 5 feet 9 inches. The Court came to the conclusion then that the load line was not put in a proper position.

Upon the question of overloading, the Court considered that she was

deeper than, in the opinion of competent and experienced persons, she ought to have been, but that, apart from the question of the quantity of cargo which she had on board, and that of ventilation, she seemed to have been properly stowed and trimmed. The coals with which the vessel was laden were the best Arley gas coals, supplied by the Wigan Coal and Iron Company, and gas cannel coal. Both these are very free from pyrites, but are fiery, giving off great quantities of gas. When put on board they were newly wrought, and therefore liable to give off great quantities of gas when shot down into the holds. This would certainly have accumulated in the fore 'tween decks, which were nearly empty, if means were not provided to carry off the gas from that hold as well as from the main 'tween decks, from which it was only separated by a bulkhead, consisting of rough planks, some of which were down and others perforated with holes.

From the plans which were laid before the Court, it seemed that there were four pairs of ventilating bollards on each side, with orifices about 3 inches across, fitted with caps; but as in bad weather they would generally be kept tightly closed down, not much reliance could be placed upon them for ventilating the holds. In addition to these there were two ventilators forward of the engine room, each 13 inches in diameter, one of which was just abaft the foremast, the other between the main hatch and the reserve bunker hatch, and both opening into the main 'tween decks. There were also two similar ventilators, one at each end of the after hold, but there was no ventilation to the fore hold. The ventilators themselves were properly constructed, as they just pierced the upper deck; but in order that they should act, a clear space should have been left over the coals in the main and after 'tween decks, so as to allow a current of air to pass from one ventilator to the other of the same hold, thus carrying away the gas given off by the coal. But, according to the foreman coal trimmer, no such space was left, not even a man hole or alley way down the centre, so that the ventilators in the main and after 'tween decks were practically useless, except to ventilate the coal in the immediate neighbourhood of the ventilators, and there was no ventilator at all to the fore 'tween decks. It was obvious, therefore, that the gas which might be given off, not only from the lower fore hold, but also a great deal of that from the main 'tween decks, would accumulate in the empty space left in the fore 'tween decks, and that from there there would be no escape for it. The Court were unable therefore to say that the means provided for the ventilation of the holds were sufficient.

They then proceeded to deal with the question of stability.

The Kensington had a beam of 33 feet, as against a depth of hold of 22.4 feet, giving a co-efficient of .68. She had a deck house amidships, with cabins at the sides, and without doors to the alley-ways, so that if the cabins on either side got full of water it would have materially affected her stability. The Court accordingly decided that, looking more especially at the proportions between the beam and depth of hold, the vessel had not sufficient stability, loaded as she was and with so small an amount of freeboard, either for a winter or indeed any voyage.

The Court considered that the loss of the vessel was probably due

either to her having been swamped or overturned, owing to insufficient stability, or to an explosion of coal gas on board.

Missing.

"KNOWSLEY HALL."

Inquiry held 6th April and 13th July, 1880.

Assessors: E. APLIN, R.N.; T. BEASLEY.

The Knowsley Hall was an iron ship of 1,773 tons net register. She left London on the 30th of May, 1879, with a general cargo, consisting chiefly of iron rails and agricultural machines, some wine, spirits, cement, and a few explosives, the total being about 2,650 tons; and she had a crew of 35 hands and 54 passengers. From that time nothing more was heard of her. She was a thoroughly good substantial vessel, built in accordance with Lloyd's requirements; and just before she was sold to her late owner she had had put into her two inter-costal kelsons, at a cost of £550. In April, 1879, she was put into Messrs. Green's dry dock, and according to the foreman shipwright in that yard, she then underwent a thorough overhaul. Externally she was scraped up to the load line, and painted with two coats of paint and one of tallow; above the load line she was chipped, and painted with two or three coats. Inside the cement was examined and found to be in perfect order; the whole of the portable ceiling was lifted and replaced, the openings between the frames thoroughly examined, the whole of the cargo and dunnage battens taken down, and the whole surface of the iron exposed. After such evidence it was impossible for the Court to say she was not in good condition and well found, and that she was not a good seaworthy ship when she left on her last voyage.

The iron rails, of which there were about 400 tons on board, were stowed from the after part of the foremast to the fore part of the mizenmast, and were dunnaged with pieces of wood, 1 to 2 inches thick; the wine and spirits were in the after hold, immediately forward of which were casks of cement; and the miscellaneous goods were stowed from the fore part of the fore hatch to the after part of the main hatch, the machinery being in the main hatch, blocked off with deals from the side; the matches were just abaft the foremast; and the percussion caps in the mate's charge, and were placed by him in his cabin.

The Court were unable to say from the evidence before them to what cause her loss was to be attributed.

"TRAVANCORE," S.S. Stranding.

Inquiry held 12th April, 1880.

Assessors: B. S. PICKARD, R.N.; T. BRASLEY; G. H. FORSTER, R.N.

The Travancors was a screw steamship of 1,903 tons gross and 1,172 tons net register. She left Alexandria on the 5th of March, 1880, for Brindisi, having a crew of 108 hands all told, 57 passengers, and about 1,000 tons of cargo. She was in first-rate condition, being amply provided with boats, pumps, and every requisite for the voyage, her compasses, of which she had four, being in good order. At 6.30 a.m. of the 7th, when abreast of Stamphani Island, the master, Robert Scott, laid her on a N. 15° W. course by standard compass, which was equivalent to about N. 33° W. true, there being an error of about 18°, namely 10° W. for variation, and about 8° W. for deviation of the compass on that course. The same course was continued throughout the day, and at 11 p.m. the captain went below, the weather at the time being fine and clear, the sea perfectly smooth, and with little or no wind. At midnight the second officer, Melbourne Denny Blott, came on deck and took charge, and about 40 minutes afterwards, and whilst the vessel was still on the same course, Santa Maria Light was observed, bearing, according to the second officer, about a point and a-half on the port bow, upon which he went below and reported to the captain that the light bore N. 50° W., but without saying whether that was the true or the compass bearing. As a fact, he reported the true bearing; but the master, supposing it to be the compass bearing, ordered the vessel to be kept on the same course as before, until they should make Cape Otranto Light. At 1.50 a.m. Santa Maria Light, we are told, bore four points on the port bow, but at 2.30 a.m. it disappeared, upon which the second mate went below and reported the fact to the master, telling him at the same time that the weather was becoming thick. Shortly afterwards the captain came on deck, and finding that the weather had become foggy, and that no lights could be seen, ordered the helm to be ported a point, and soon afterwards to be ported another point, to take her further off the shore, but the vessel was still kept at full speed, making 11 knots an hour. The master then went below to consult his charts, and on returning on deck at about a minute or two after 3 o'clock, he ordered the helm to be again ported a point; but seeing land almost immediately afterwards on the port beam, he at once directed the helm to be put hard-a-port, and whilst she was answering the vessel struck. It was soon afterwards discovered that she had grounded on a flat rock in the Bight of Castro, inside Point Maccarone, and about nine miles to the south of Cape Otranto, and that her bows were only about 50 yards, and her stern about 100 yards from the shore. Orders were at once given to get out the boats; and at about 4 a.m. the passengers and mails were landed, the master and crew, however, remaining on board to try to get her off. All their efforts proved unavailing, the only result being to cause her to make water more rapidly; and at 5 p.m. the same day, finding that she had then 17 feet of water in the hold, it was determined to abandon her, and by 7 p.m. they had all left her and gone ashore. They returned to her the following day, and although they ultimately succeeded in saving a portion of the cargo, they were unable to get the vessel off, and she became a total wreck, but without any loss of life.

As already stated, when the second officer reported the Santa Maria Light to the captain, he told him that it bore N. 50° W. The captain supposed this to have been the compass bearing, whilst it was in fact the true, and the Court came to the conclusion that to this error the casualty was due. They added that in their opinion the master was not justified in having remained below, and ordered the course he did to be steered after the light was reported. He should have remembered that the second officer was totally unacquainted with the navigation of these waters, having made the voyage from Alexandria to Brindisi only once before. When he came on deck after 2.30, and found that the fog had set in, he ought to have slackened speed and taken a cast of the lead in order to ascertain his true position.

For these omissions the Court concluded that he was very greatly to blame. They also held the second mate to blame for not having told the master whether the bearing of the light was true or by compass; and they accordingly suspended the certificates of the master and the second officer for three months.

Damage-Stowage of Grain Cargo.

"DUNCRAIG."

Inquiry held 14th April, 1880.

Assessors: G. H. FORSTER, R.N.; T. BEASLEY.

The Duncraig was an iron sailing ship of 699 tons net register. She left San Francisco on the 13th of September, 1879, bound to Queenstown for orders, with a crew of 17 hands all told, and having on board a cargo of 1,006 tons of wheat, wholly in bags. On leaving San Francisco she was on an even keel, drawing 16 feet 8 inches or 16 feet 9 inches, and having a freeboard of 3 feet 11 inches or 4 feet, which the captain said would, when she got out to sea, be increased to about 4 feet 1 inch. On the 13th of February she was in latitude 45° N., and longitude 23° W., and was lying-to under her maintopsail, the wind blowing a hard gale from the W.S.W., when she was struck by a heavy sea, which carried away her mainmast within 5 feet of the deck, washed the man at the wheel overboard, swept off all the boats, burst in the skylight and companion, partly filling the cabin, and gave the vessel a list to port. Having got the vessel before the wind, and secured the mizenmast, the captain ordered the well to be sounded, when it was found that she had about 18 inches of water in her, which was pumped out. The weather continued very bad, and on the 15th she was again struck by another very heavy sea, which carried away the wheel and injured one of the crew. On the 17th the weather begun to moderate, and on the 18th they were able to open the hatches, when it was found that a portion of the cargo had slightly settled and had shifted over to the port side, the bags of wheat being close up to the upper deck on the port side, whilst there was room enough on the starboard side for a man to crawl along. The craw were at once set to work to shift some of the bags from the port to the starboard side, and after carrying over about two tiers of bags, the vessel, according to the evidence of the witnesses, was brought nearly upright, and she then continued on her voyage, arriving at Queenstown on the 23rd of the same month. There she remained about a fortnight undergoing repairs, when she received orders to proceed to London, where she arrived on the 13th of March, and went into the Commercial Dock to discharge.

The first question on which the Board of Trade asked the opinion of the Court was—Whether the *Duncraig*, when she left San Francisco, had sufficient freeboard?

According to the evidence of the master, the Duncraig, when she left San Francisco, had a freeboard of 3 feet 11 inches to 4 feet, which, when she got out to sea, would become about 4 feet 1 inch. This was confirmed by the Surveyor to the Board of Trade, who inspected the ship immediately on her arrival in the Commercial Docks, and who said that she had then a freeboard of 3 feet 8 inches to 3 feet 9 inches, which would be increased about 4 inches in salt water. As the hold was 18.5 feet deep, a freeboard of 4 feet to 4 feet 1 inch would give as nearly as possible 2\frac{3}{2} inches to every foot depth of hold, Had she been a wooden vessel, probably 3 inches, or, at all events, 2\frac{3}{2} inches, would have been necessary, but it is generally considered that an iron vessel would do with somewhat less freeboard. The Court thought, therefore, that she had a sufficient freeboard, and that, although fully laden, she was not overladen.

She had two decks, the lower being only partly laid, having a large open space in the centre, which extended from the after part of the after hatchway to within 5 or 6 feet of the foremast, and about 8 feet from each side. Down the centre ran a row of iron stanchions, 3 inches in diameter, and about 5 feet apart; and on each side of these stanchions were placed shifting boards about 18 to 20 feet long by 21 inches thick, which were lashed to the stanchions and were nailed to cross pieces of wood. These shifting boards extended from deck to deck, and ran from the after cabin bulkhead to within about 5 or 6 feet of the foremast. The cargo was packed wholly in bags, and had been stowed by a regular stevedore at San Francisco, by whom, in accordance with the practice which prevails at that port, some of the bags were laid fore and aft, and some of them athwartships. The person who inspected the cargo before it had been touched, and also whilst it was being unladen, said that in the lower tiers some of the bags were placed athwartships, but that in the upper tiers they were more fore and aft, and that at the top they were all fore and aft. He also said that the tiers were built up in steps forward, the fore part of the topmost tier being about 3 feet abaft the foremast, whilst the lowest tier extended to about 5 feet forward of the foremast, leaving an empty space forward.

The Court were of opinion that the cargo was safely and properly stowed, and the Assessors were very strongly of opinion that, apart from any question of expense, a grain cargo stowed wholly in bags would be much safer than one stowed in any other way; but seeing that this whole matter was about to be the subject of an inquiry before a Select Committee of the House of Commons, the Court felt some delicacy in expressing their opinion.

Breaking of Shaft-Injury to Ship's Side.

"AMERICAN," S.S.

Inquiry held 1st and 2nd July, 1880.

Assessors: J. R. RAVENHILL, C.E.; J. S. CASTLE; C. VAUX.

The American was an iron screw steamer of 2,484 tons gross and 1,598 tons net register. She left Southampton on the 8th of April, 1880, for the Cape of Good Hope, with a crew of 76 hands all told, 68 passengers, and a general cargo. About 5 a.m. of the 23rd, when the vessel was about 200 miles S.W. of Cape Palmas, the fourth engineer heard a crash and the engines began to race, upon which he turned off steam. The water was then found to be pouring through the tunnel doorway; attempts were made to discover what was the matter, but without success, and the tunnel doors were then closed. Within an hour of the accident 13 feet of water was found in the after hold, and later it was found that water was coming into the engine room, between the ship's side and the after bulkhead, which all the available pumping power could not keep under. Accordingly, all the boats were put over the side, provisioned for 14 days, and at 7.30 p.m. the ladies and children were put into them. At 11 a.m., the stern being under water, the vessel was abandoned, the captain being the last to leave her. About noon she disappeared, upon which the captain ordered the boats to steer for Cape Palmas, directing them to keep company. This, however, was found impossible, but ultimately they were all picked up.

Upon the evidence, the Court found that the loss was probably due to the shaft having broken in the stern tube, to the ship's side having been thereby pierced, and at the same time the after bulkhead fractured. They considered that, though there was no reason to suppose that it would have averted the loss of the vessel, the aftermost bulkhead might with advantage have been carried up to the spar deck. The Court also expressed their opinion that the conduct of the master, officers and crew in their efforts to save the vessel and the lives of those on board was admirable.

Stranding.

"FRANCIS DRAKE."

Inquiry held 5th July, 1880.

Assessors: W. PARFITT; A. ANDERSON.

The Francis Drake was a brigantine of 205 tons register. She left Trinidad on the 16th March, 1880, with a cargo of 316 tons of sugar, and a

crew of eight hands all told, bound to Falmouth for orders, and on her arrival at that place, received orders to proceed to Abo, in Finland. She left Falmouth on the 1st of May, and meeting with adverse winds, had to anchor, first off Dungeness and again off Folkestone, whence she sailed again on the 9th, and passed the North Hinder Lightship on the 10th. From that time she had the wind ahead from N.E. to E.; but on the 19th it came away from N.W., and at noon of that day an observation was obtained, which placed the vessel in 54° 4' N., longitude by chronometer being 6° 5' E. At noon of the 20th another observation was taken, which put the vessel in 55° 23' N., longitude by chronometer 7° 8' E., and consequently much further away to the E. than she had been on the previous day, and a N.E. 1 N. course was then steered. At 10 p.m. the same day a very brilliant light, which was the Boybierg Light, was observed bearing S.S.E.; the vessel was continued on her course N.E. 1 N., and in about an hour the light disappeared, bearing S.S.W., and at midnight a cast of the lead gave 15 fathoms of water. At 2 a.m. of the 21st, another light was observed abeam, but the captain, Thomas Barter, could not make out what it was; he ordered the flying jib and middle staysail to be set, in addition to all plain sail, under which she was at the time, and endeavoured to go about, but missed stays. At 2.30 a.m. broken water was seen on the lee bow, the vessel being still on the same course N.E. 1 N., and another attempt was made to stay, which again failed, and a cast of the lead was taken, which gave only five fathoms. Five minutes afterwards the ship struck heavily, upon which her head paid off to the E., before the wind and sea, and after striking several times, she finally stranded on the beach. There was a heavy sea running at the time, but with the assistance of the people on shore, and by the help of the rocket apparatus, all the crew were safely landed. The place where the vessel struck was on the coast of Jutland, a little to the northward of the entrance to the Agger Channel. Owing to the crew of the vessel having been all foreigners, the master and mate were the only witnesses before the Court.

As stated above, at noon of the 20th of May the vessel was in 55° 23′ N. and about 7° 8′ E. A line drawn on the chart from that point, in a N.E. ½ N. direction, would very nearly touch the place where the vessel ultimately stranded, and the Court therefore thought that a proper course was not set and steered from that time.

They added that, in their opinion, proper measures were not taken to ascertain the vessel's position after having sighted the Bovbierg Light at 10 p.m. of the 20th, and they accordingly suspended the certificate of the master for twelve months.

Missing-Stability.

"JOSEPH PEASE, OS.S.COM.CIT

Inquiry held 9th July, 1880.

Assessors: E. APLIN, R.N.; T. BEASLEY; C. W. MERRIFIELD.

The Joseph Pease was an iron screw steamship of 1,793 tons gross and 1,170 tons net register.

On the voyage before the last the vessel had come from the East Indies, and in passing through the Suez Canal had taken the ground.

On her arrival at Southampton she was put into dry dock, where some of her plates were renewed, and the old shaft and propeller were taken out, new ones being put in their places. She then proceeded to Newport, whence, having filled up her bunkers with coal, she proceeded to New York in ballast. At New York she took in a cargo of 80,455 bushels of grain, equal to 2,112 tons of deadweight, the whole being in bulk, except about 2,613 bushels, which were contained in about 800 bags. She left New York on the 30th of September, 1879, for Marseilles, and was never heard of again.

The Court were asked to say whether the cargo was properly stowed upon which point three depositions were put in, made respectively by the foreman stevedore, the assistant inspector and the chief inspector of Vining's Bureau of Inspection at New York, who all spoke to the satisfactory way in which the stowage was done, and to their belief that the loss of the vessel could not have arisen from any defect in that respect. The Court accordingly held that there was nothing to show that the cargo was improperly stowed.

With regard to the freeboard of the vessel, it appeared that her total depth amidships at the side from the top of the upper deck to the bottom of the keel was 26 feet 2 inches; when, therefore, she was loaded down to 21 feet 3 inches, she would have had a freeboard of 4 feet 11 inches, and the load line was originally placed there. It was stated, however, by the owner that, on the recommendation of one of her captains, he had afterwards raised the disc 2 inches, thus giving her a freeboard of only 4 feet 9 inches. But the vessel, when she left New York, drew only 20 feet forward and 20 feet 6 inches aft, giving her a mean of 20 feet 3 inches, so that she would have had a freeboard of 5 feet 11 inches; and as her hold was 23 feet 8 inches deep, this would have given her a freeboard of 3 inches to every foot of hold, which, in the opinion of the assessors, would have been quite sufficient, provided that she had had the proper amount of stability.

The Court's opinion was also asked upon the question—Whether, having regard to her construction, and especially to the size, height and construction of her water ballast tanks, she had sufficient stability.

There were two ballast tanks, one in the fore hold, 96 feet long, averaging about 4 feet in height, and one in the afterhold, divided into two, the fore part being 40 feet long, the after part 50 feet, also with an average height of 4 feet, or rather more. In the after hold the cargowould, for the most part, have been stowed above the screw tunnel, the position of which

would have been the same if there had been no tank at all, but the effect of the tank in the fore hold would have been to raise that portion of the cargo from 10 inches to 1 foot 2 inches, higher than it would have been had there been no ballast tank. This would, in the opinion of the Court, have added slightly to the vessel's instability, but not to any very great extent. The question remained whether, having regard to her construction, the vessel, as laden, had or had not sufficient stability for the voyage.

On this point the Court had the evidence of a naval architect, who had carefully examined the plans, and had calculated the vessel's stability on a draft of 20 feet forward and 20 feet 6 inches aft, with a deadweight of 2,112 tons of grain, and found that when she left New York her metacentre must have been only 6 inches above the centre of gravity, and that consequently her margin of stability was extremely small. He also said that he had computed that 50 tons of water on the lee side of the ship would have heeled her over 10°; and that 100 tons of water on the lee side would have capsized her, quite independently of any shifting of her cargo. The Court held that it was clear, therefore, that her margin of stability was much too small, seeing that she was about to cross the Atlantic, with the possibility of encountering rough weather.

It was, of course, impossible for the Court, in the absence of positive evidence upon the point, to give any very decided opinion as to the cause of the loss; looking, however, to the facts stated, they had no hesitation in saying that, had she met with bad weather, which was far from improbable so near the equinox, she would, in all likelihood, have capsized, without its being necessary to suppose that any portion of her cargo had shifted.

Missing.

"TELFORD," S.S.

Inquiry held 10th July, 1880.

Assessors: J. S. CASTLE; R. T. CLARKE; C. W. MERRIFIELD.

The Telford was an iron screw steamer of 1,747 tons gross and 1,130 tons net register, fitted with compound engines of 160 horse-power. On the 20th of August, 1879, she was surveyed and classed 100 A 1. She left New York on the 3rd of October, 1879, bound to Antwerp, having about 307 tons of bunker coal and a cargo of 84,314 bushels of grain, chiefly Indian cora, equal in weight to about 2,104 tons. She had a crew of 22 hands all told. From that time she was never heard of. Except so far as her crankshaft was concerned, she seemed when she left New York to have been in good and seaworthy condition. While there both the forward and after crank pins were found to be cracked, certain repairs were done to enable her to reach Antwerp, and the surveyors recommended that the steam pressure should be reduced from 70 to 65 lbs. per square inch. As to stowage, the evidence showed that all the grain in the lower holds was in bulk, and that in the 'tween decks in bags, an arrangement which the Court considered not a good one. In their opinion, also, the shifting

boards were only carried down to the hold beams and were therefore not sufficient.

Looking at previous cargoes carried, and at her freeboard of 2.75 inches to every foot of hold, the Court could not say that she was overladen. With regard to her stability, the depth of her hold and her breadth gave a co-efficient of '72, which certainly did not indicate a very high degree of stability, though the Court were not prepared to say that it was wholly insufficient for the voyage.

They were only able to conjecture the cause of her loss, but her crank-shaft was undoubtedly in an insecure state and her stowage not satisfactory, so, taking those circumstances into consideration, the Court inclined to the opinion that had the vessel encountered bad weather she might have broken her shaft, when, being disabled, she would have fallen into the trough of the sea and the cargo probably have shifted, and then, with the moderate amount of stability which she had, she would very probably have capsized and gone down.

Missing.

"RATHMORE," S.S.

Inquiry held 16th and 23rd July, 1880.

Assessors: G. H. FORSTER, R.N.; W. CURLING; C. W. MERRIFIELD.

The Rathmore was an iron screw steamship of 2,137 tons gross and 1,382 tons net register, fitted with compound engines of 250 horse-power. She was built in 1878. The vessel left Cardiff on the 3rd of January, 1880, for Bombay, having on board 2,039 tons of coal as cargo, and 762 tons of bunker coal, and a crew of 32 hands all told. The pilot took her down as far as Nash Point, where he left her, and from that time nothing more was seen or heard of her. Her proper course would have been through the Suez Canal, but she never reached it.

Apart from the question of her stability and ventilation, the vessel appeared to have been properly constructed and fitted.

As to her stability, it seemed from the evidence that neither her builders nor owners had ever taken any measures to ascertain it, or to find out to what depth she might safely be loaded, and the Court remarked that these matters appeared to them to be such as ought to engage the serious attention of shipowners.

The cargo was properly stowed, there having been 2,039 tons of coal in the lower holds, about 230 tons in the side bunkers, 252 in the midship bunkers, about 166 in the after part of the forward 'tween decks, and about 113 in the fore part of the after 'tween decks. As to her freeboard, the assessors were of opinion that a vessel of her dimensions, 310 feet long, 35 feet beam, and 23 feet 9 inches depth of hold, should have had a freeboard of 2.8 inches to 3 inches for every foot of hold, or from 67 to 70 inches, instead of only 56 inches, as she actually had.

In the opinion of the Court she was too deeply laden, more especially for a winter voyage across the Bay of Biscay. As regarded ventilation, it appeared that she had five cowl ventilators, of which four went down to the lower holds, one to each hold. She had also 12 ventilating bollards; her masts were hollow, having openings into the lower holds and the 'tween decks; and she had a trunk or shaft ventilator, of considerable size, from the tank forward of the engine room. She also had immediately beneath the upper deck a box ventilator, about 6½ inches square, running the whole length of the 'tween decks, with the two ends closed up, but with openings at every 8 feet, and leading finally into the main funnel at about 10 or 12 feet up. This system of ventilation was specially provided for the conveyance of cattle, of which she had brought two cargoes, one from Baltimore and one from Montreal, and it was well adapted for that purpose; but whether it would be equally good for coal cargoes was a question which the Court answered in the negative.

Several suggestions were offered as to the cause of her loss, but the Court came to the conclusion that there was not sufficient evidence before them to enable them to give any opinion upon the matter.

Rehearing-Stranding-Use of Lead.

"CERWYN," S.S.

Rehearing 19th July, 1880.

Assessors: R. A. POWELL, R.N.; G. H. FOWLER, R.N.; C. VAUX.

This case originally came before the justices at Falmouth, on the 26th and 27th of April, 1880, when it was held that "the casualty was caused by a serious error in the ship's reckoning, which might have arisen either from an extraordinary or unknown current, or from an easterly deviation in the compass, which was not allowed for or discovered by the master, and that, as he steered by the deviation card, and had no means of testing its correctness, the Court did not find him in default." The Board of Trade, being dissatisfied with the finding, ordered it to be re-heard before the Wreck Commissioner, under the provisions of the "Shipping Casualties Investigations Act, 1879," and it was under these circumstances that this inquiry took place.

The Cerwyn was an iron screw steamship of 334 tons gross and 206 tons net register. She left Bilbao on the 24th of March, 1880, bound to Newport, in South Wales, having a cargo of about 350 tons of iron ore, and a crew of 12 hands all told. As soon as she had cleared the port, she was laid on a N. course by the bridge compass, which was equivalent to a N. ½ W. course by the pole compass, the pole having no deviation on that course. The same course was continued, the vessel making about seven and a-half knots an hour, till about 5.30 a.m. of the 26th, when rocks were suddenly observed ahead, upon which the master, believing them to be the rocks off the west end of the Saints, ordered the helm to be starboarded, and kept her on a S.S.W. course for half-an-hour, after which the course was altered to W. by N. ½ N., and she was kept on that course till 8 a.m., when she was again put upon a N. course by the bridge compass, or a N. ½ W. course

by the pole compass. At 9.20 a.m. the master altered the course to N. \(\frac{1}{2}\) E. by the bridge compass, or N. by the pole compass, and then went below. About 20 minutes afterwards, the mate, who had charge of the deck, called him, and on his coming up he observed rocks ahead and upon the starboard bow, upon which he immediately ordered the helm to be starboarded; but before the vessel had paid off further than to about N.W. she struck, and soon became a total wreck. The place where the vessel struck was the easternmost rocks of the Saints, and with the exception of the master and one of the hands, all the crew were drowned.

The Court found that the stranding was due to the master's having mistaken the rocks which he first saw off Penmarche Point for those of the west point of the Saints, and to his having omitted to get sufficiently far to the W. before again resuming his course to the N. They added that it would have been quite possible for him to have ascertained his position, and that his neglect to use the lead after the rocks had been sighted was unjustifiable, and undoubtedly tended to the loss of the vessel; but the Court, not having been asked to do so by the Board of Trade, did not deal with the master's certificate.

Stranding-Fog.

"ILEN," S.S.

Inquiry held 20th July, 1880.

Assessors: W. CURLING; C. VAUX.

The Ilen was an iron screw steamship of 226 tons gross and 138 tons net register. She left Littlehampton for Jersey on the 17th of June, 1880, with water ballast and empties, having a crew of 10 hands all told, and a Jersey pilot, whose duty it would be to take charge of the vessel after they had passed Cape La Hague. On leaving, the course steered was S.W., to pass the Owers Lightship, which they appeared to have done at about 5.30 p.m., leaving it on the starboard hand at the distance of about a quarter of a mile, whence a S.W. by W. course was steered to make Cape La Hague. Nothing particular occurred until about 10 p.m., the vessel all the time going full speed, from eight to nine knots an hour. At about 10 o'clock, according to the chief engineer, the valve of the circulating pump was carried away, upon which the vessel was stopped for from three-quarters of an hour to an hour, a new valve was fixed, and the vessel then again proceeded on her course. In the meantime, however, a fog had set in, and accordingly the engines were not set on at full speed, but, whenever they had an opportunity, they let her go faster. At about 1 a.m. the course was altered to S.W. by W. 1 W., but no other alteration was made after that time, and at 25 minutes to 4 o'clock a cast of the lead was taken, which gave 33 fathoms, and at 10 minutes to 4 o'clock another, which gave 35 fathoms. At this time the patent log, which had been set when they were off the Owers, was hauled in, and they had just had time to see that it registered 65 miles, when the vessel struck. The spot where they took the ground was afterwards discovered to be a little to the

eastward of Cape La Hague, with the lighthouse about two points on the starboard bow, distant about half to three-quarters of a mile. It was the top of high water, and notwithstanding all their efforts, it was impossible to get her off. After a time the people from the shore came off, with whose assistance all the crew were safely landed, but the vessel was totally lost.

The Court considered that the casualty was entirely due to the master, William Pearson Davidson, having continued his course nearly, if not quite, at full speed for longer than he ought to have done, when the weather was so thick that he could not see the land when he was within half-a-mile of it. This they held to be great negligence, and accordingly suspended his certificate for three months.

Missing.

"ROCK LIGHT."

Inquiry held 23rd and 24th July, 1880.

Assessors: B. S. PICKARD, R.N.; D. R. COMYN; C. W. MERRIFIELD.

The Rock Light was a wooden sailing ship of 1,643 tons net register. She left Philadelphia on the 7th November, 1879, with a crew of 24 hands all told, bound to Bristol, and having on board a cargo consisting of 54,220 bushels of Indian corn in bulk, and 14,697 bushels in bags, equal together to about 1,700 tons, in addition to which she had 623 tons of oilcake in bags, making a total of 2,323 tons. The pilot who took her down the river left her on the 10th of November, and saw her again on the following day beating out to sea, but from that time nothing was heard of her. There was no evidence before the Court to show that the vessel was not in a thoroughly good and seaworthy condition when she left Philadelphia. Her cargo was properly stowed, the shifting boards were sufficient, and she was not overladen; for, taking her freeboard at 7 feet 6 inches, this, on a depth of hold of 27 feet 3 inches, would give 3.3 inches to every foot of hold, which, in the opinion of the assessors, was a very full and ample allowance for a vessel of this description.

The Court were disposed to think that, although not actually undermanned, she had barely a sufficient number of hands, especially for a winter voyage across the Atlantic. She had a gross tonnage of 1,760 tons, and 24 hands would give her only 1½ to every 100 tons.

The conclusion to which the Court came was that the loss of the vessel was probably owing to the extremely tempestuous weather which was known to have prevailed in the Atlantic during the months of November and December, 1879.

"WHITTINGTON."

Inquiry held 24th July, 1880.

Assessors: R. A. POWELL, C.B., R.N.; R. HARLAND; C. W. MERRIFIELD.

The Whittington was a three-masted iron sailing vessel of 969 tons register. She left Philadelphia on the 9th of December, 1879, with a cargo of 39,401 bushels of Indian corn in bulk and 15,140 bushels in bags, making a total deadweight of 1,363 tons, besides 16 tons of dunnage. After the pilot left her she proceeded to sea and was never heard of again.

The Court were of opinion that she was in a thoroughly good and seaworthy condition when she left Philadelphia, and that there was nothing in the evidence to show that the cargo was not properly stowed, that she had not a proper amount of stability, or that she had not sufficient freeboard.

They were asked to say whether she was well and sufficiently manned. It appeared that the vessel, which was originally rigged as a ship, had, in 1877, been altered into a barque, which would necessitate fewer hands to navigate her. The general rule appears to be that sailing vessels of 1,000 tons should have an average of about two hands to every 100 tons, half of whom should be able seamen, and according to that principle the Whittington should have had nearly 20 hands, of whom 10 should have been A.Bs. Instead of this, however, she had only 16 hands, of whom eight only were A.Bs, and the Court therefore came to the conclusion that she was not sufficiently manned, though there was nothing to show that that insufficiency had in any way contributed to her loss.

Upon the question of load line, the evidence showed that in 1875 it stood at 4 feet 3 inches, and that it was afterwards altered to 3 feet 6 inches, which was again altered to 3 feet 11½ inches, giving 2½ inches of freeboard for every foot depth of hold, which, in the opinion of the Court, was not sufficient. The only conclusion they were able to arrrive at as to the cause of her loss was that it must have been owing to the very violent and tempestuous weather which was known to have prevailed in the Atlantic during the months of November and December, 1879.

Missing-Rice Cargo-Stowage and Ventilation.

"ESSEX."

Inquiry held 30th and 31st July, 1880.

Assessors: C. H. FORSTER, R.N.; J. S. CASTLE.

The Essex was a wooden sailing ship of 1,255 tons register. On the 28th of April, 1879, she cleared from Bassein, in Burmah, with a cargo of 1,679 tons of rice, and a crew consisting of 24 hands and one apprentice; and proceeded on the 30th on her voyage, bound to Queenstown for orders. On the 10th of May following she was fallen in with by the Amana, a vessel which had also been loading rice at Bassein, and which had sailed on the 2nd of that month. Captain Beckett, of the Amana, said

that on sighting her she had a flag flying, stating that they were in want of immediate assistance; he accordingly went on board her, taking with him his carpenter and four of his hands, and was then informed by the captain of the Essex that his vessel had sprung a leak on the 7th, and that they had since shifted a quantity of the cargo forward, so as to get the leak out of water, and the weather being fine, and the sea perfectly smooth, they had rigged a platform over the stern, and had torn off some of the copper to endeavour to find out where the leak was. On going below the carpenters found the water coming in near the stern post, but where exactly they could not ascertain; they accordingly replaced the copper on the outside, and caulked her as best they could on the inside, so as to prevent the water from coming in. After this Captain Beckett returned with his men to his own ship, but agreed to remain by her during the night. By the following morning at 10 o'clock the captain of the Essex reported that it was all right, and that the whole of the cargo had been replaced; the two vessels, however, remained in company until the 14th, when they parted, and Captain Beckett saw no more of her. She was, however. subsequently fallen in with, on the 22nd of the same month, in latitude 3° south, and longitude 93° east, by the Eastminster, with whom she exchanged signals; but at that time all seemed to be right with her. From that time the Essex was not heard of, and the object of the inquiry was to ascertain, if possible, what was the cause of her disappearance.

The Court were of opinion that the vessel, when she left Bassein, was in a thoroughly good and seaworthy condition. Her draught at that time was 21 feet 4 inches forward and 21 feet 8 inches aft, which gave a mean of 21 feet 6 inches, leaving her a freeboard of 4 feet 61 inches. When she left London the load line was at 4 feet 10 inches below the deck, and assuming, as might fairly be done, that it was not altered during the voyage, with this amount of freeboard she would have had her load line nearly 4 inches below the surface of the water. She would, however, have risen about 4 or 5 inches on getting into salt water, so that her freeboard when she got to sea would have been about 4 feet 11 inches, which, on a depth of hold of 23.4 feet, would give 21 inches to every foot. The Assessors upon these facts, and considering that she had to come round the Cape in midwinter, when very tempestuous weather might have beeen expected, considered that she ought not to have had less than about 2.8 or 3 inches of freeboard for every foot of hold, which would have amounted to 5 feet 6 inches or 5 feet 10 inches. The Court were of opinion that she was too heavily laden when she left Bassein, but acquitted the owner of all blame in connection therewith. (See note.)

The most important question in the case was whether the cargo was properly stowed, and whether the system of forming ventilators, such as was adopted, was a safe and proper one.

Norz.—After the hearing the Court received a letter from the owner, which showed that a mistake had been made of 5 inches in the depth of the vessel, by not allowing for the false keel, which would have given a freeboard of 4 feet 111 inches on leaving Bassein, and of about 5 feet 4 inches when she got out to sea. The Court remarked that had they known this at the time it would have made some difference in the opinion they had formed that the vessel was overladen.

It appeared that from the foremast to the mizenmast a substantial platform was laid from the turn of the bilge to the top of the keelson. On other portions of the ceiling ordinary dunnage wood was laid to a level with the top of the keelson, which at its highest point was from 20 to 24 inches high. From the turn of the bilge to the 'tween decks, and thence to the main deck, the sides were covered with crossed bamboos; dunnage mats were placed over all. There were double rows of shifting boards it inch in thickness, extending from the keelson through the 'tween decks to the upper deck. In the lower holds the shifting boards were nailed securely to each side of the wooden stanchions; but in the 'tween decks, where the stanchions were of iron, the shifting boards were secured to them by strands of rope. So far as these matters were concerned, the Court held that the cargo was properly stowed.

As to ventilation: it appeared that formerly, when rice was more generally hand dried, and consequently much drier, the bags of rice used to be packed quite tight in the hold, trodden down and beaten with mallets, so as to form almost a solid mass; there was then no settlement, no vacant spaces in the hold, and consequently no chance of the cargo shifting on the voyage. When, however, the export from Burmah became so important, it was found necessary, owing to the extreme dampness of the atmosphere, and the uncleaned condition of the rice, to provide means of ventilation to prevent it becoming damp and discoloured on the voyage. With this view two modes seem to have been generally adopted, the box ventilator system, and Heap's, or the space system, as it is called. According to the marine superintendent of a firm in this country, the box ventilator system used to be adopted by them from 1873 to 1877, but from 1877 they had more generally followed the Heap's or space system. In both systems ventilating tunnels are constructed, running fore and aft through the cargo, midway between the shifting boards and the sides of the ship, and terminating either in an open space or in a shaft at each end, so that a free current of air is thus made to pass through the cargo, which carries off the heat and moisture. But the essential distinction between the two is, that in the box ventilator system the sides of the tunnels are formed of two boards held together by pieces of wood nailed to the top and bottom, thus forming a tunnel about 71 inches deep by 81 inches wide; whereas in the Heap's, or space system, the sides of the tunnel are formed of the bags themselves, placed fore and aft, or as bongers, leaving an empty space about a foot wide, which forms the ventilating tunnel, and over which, at intervals of about a foot, are placed battens on which other bags are laid as bongers. It appeared to the Court that the only objection to the box ventilation system was the cost of making the boxes, and the possibility of the cargoes not being loaded quite so quickly; but that this ought not to weigh for one moment against the consideration of safety to human life. They therefore stated their opinion that the system adopted in the Essex was not a safe and proper one, owing to the ventilating tunnels having their sides wholly unsupported; that the box ventilator system was a much better one; and they added that the bags should have been stowed a-burton, which is the mode recommended

by the authorities in the North American ports as that which long experience has shown them to be most conducive to the safety of life and property.

The last point upon which the opinion of the Court was asked was as to the cause of the vessel not having been heard of since she was spoken by the Eastminster. Various circumstances, in their opinion, contributed to this disaster. In the first place, the vessel, although in herself a first-class vessel, and thoroughly well built, was more deeply laden than she should have been. In the next place, the ventilating tunnels were not unlikely to collapse and the cargo to shift, which would have been a source of very great danger to the vessel, loaded as she was. Thirdly, the leak, which had only been temporarily stopped from the inside, might very well have broken out again when the vessel got into heavy weather. Lastly, the cargo appeared to have been loaded with excessive haste. The vessel arrived at Bassein on the 12th of April, and had completed her cargo and cleared out by the 28th, having on two days, the 26th and 27th, loaded 4,100 and 3,350 bags respectively, a quantity which could not have been properly stowed in the time.

Collision - Thames Bye-Laws.

"CATO" S.S. AND "DUKE OF CAMBRIDGE" S.S.

Inquiry held 3rd August, 1880.

Assessors: T. BEASLEY; D. R. COMYN.

The Cato, which was a small steam ferry boat, belonging to the London, Tilbury and Southend Railway Company, of 128 tons gross and 80 tons net register, left Tilbury at noon of the 5th of July, 1880, for Gravesend, having on board a crew of six hands and about 25 passengers. On leaving the pier, her head being down stream, she took a sweep round to the eastward, it being about the first quarter ebb, and then came round with her head about S.W., to make for the town pier. On approaching the S. shore she had to pass under the stern of a large ship, which was lying at one of the buoys, and in doing so the captain, in accordance with his usual practice, eased his engines, lest some boat or craft should be in the way. Having cleared the ship's stern, he observed a steamer, which afterwards proved to be the Duke of Cambridge, near the S. shore, and inside the tiers of vessels on the S. side, and coming down at full speed with the ebb tide in her favour. Believing that he could reach the pier in time, he again set on at full speed, and had got within 40 or 50 yards of the pier, when the Duke of Cambridge ran into his vessel, striking her on the fore part of the fore sponson on the starboard side, and doing her considerable damage. This was the Cato's story.

The story told by the *Duke of Cambridge* was that she was a vessel of 92 tons gross and 49 tons net register. She left London Bridge at 9.30 a.m. of the 5th of July, with a crew of 11 hands all told, and having from 250 to 260 passengers on board, bound to Gravesend, Southend,

and Sheerness. On arriving in Gravesend Reach she took the course along the S. shore inside the line of buoys, that being the course almost invariably taken on an ebb tide by steamers intending to call at Gravesend. It was her intention to land her passengers at the Terrace Pier, some 150 yards lower down the river than the Town Pier. Before reaching the Town Pier she observed the Cato coming round the stern of the ship at anchor, and saw her ease her engines. The Duke of Cambridge thereupon continued her course full speed, past a yacht called the Australian, which was lying at anchor a little above the pier; and just after passing the Australian the Cato was observed crossing her bows, and making for the Town Pier. Orders were at once given to stop and reverse full speed; but it was too late, and almost immediately afterwards she struck the Cato on the fore sponson on the starboard side, driving her by the force of the blow against the pier.

The 24th section of the Rules and Bye-Laws for the Navigation of the Thames, which were passed on the 28th March, 1880, is in these words:-"Steam vessels crossing from one side of the river towards the other side shall keep out of the way of vessels navigating up and down the river." The Cato contended that this rule did not apply to ferry steam boats, and certainly that it did not apply to her, as she was at the time of the collision so near her destination. But in the opinion of the Court the rule did apply to ferry boats, and especially to the Cato in the present instance. When she cleared the ship at anchor, it was admitted that she saw the Duke of Cambridge coming down the river on the S. shore, and it was therefore her duty to have stopped to let her go past, and not to have gone on ahead towards the pier. In these respects, therefore, the Court held that the master of the Cato was to blame. They also considered that the master of the Duke of Cambridge was to blame for not having at once starboarded after she had cleared the Australian. Instead of doing so she slightly ported, and this brought her head round towards the Cato; he was also held to blame for not having stopped and reversed his engines sooner, the reason having been that there was no good look-out at the time, the Cato not having been seen until it was too late to avoid a collision.

Collision-Length of Tow Rope in Fog.

"HYDASPES" AND "CENTURION," S.S.

Inquiry held 10th, \$1th, 12th and 13th August, 1880.

Assessors: W. PARFITT; R. S. CLARKE.

The Hydaspes was an iron sailing ship of 2,092 tons net register. She left Gravesend on the 17th of July, 1880, with a crew of 47 hands all told, 40 passengers, and about 2,000 tons of cargo, bound to Melbourne, and in tow of a steam tug called the Napoleon. At 2.30 p.m., the same day, Dover Pier bore N. magnetic, distant one to one and three-quarter miles. At 2.45 the Trinity House pilot left her, and the vessel proceeded on her course, steering S.W. by W., and making from six to seven

knots an hour. At this time the weather was rather hazy, but vessels could be seen from three to four miles off, the sea was perfectly smooth, the wind very light from the eastward, and the tide the last hour and a-half of the westerly current. At 4.20 the weather began to set in thick, upon which orders were given for the tug to be eased; and at 4.30, on its becoming very thick, they were ordered to go "dead slow," the vessel making one and a-half to two knots an hour. From this time the Napoleon's steam whistle and the Hydaspes' fog horn were kept going alternately. At about 4.50, those on board the tug heard a faint whistle a little on the starboard bow. The vessel, however, kept moving slowly ahead, and soon afterwards another whistle was heard nearer and somewhat broader on the bow. This was followed by a third whistle, and at the same instant a vessel, which afterwards proved to be the Centurion, was observed on the tug's starboard quarter, heading apparently about E. by S., and making directly for the Hydaspes, upon which the captain of the Napoleon at once hailed her to "go astern full speed," telling them that he had a large vessel in tow; and at the same time he hailed the Hydaspes to hard-a-starboard her helm, as there was a steamer inside of them. They were then hailed from the Centurion to cast off the tow line, which they immediately did, and the tug then hard-a-starboarded her helm.

In the meantime those on board the Hydaspes had heard the Centurion's whistle, but only faintly, and on being hailed to cast off the tow rope and starboard the helm, they at once did so; but too late, for almost immediately afterwards the Centurion was observed coming out of the fog and heading directly for them, and she came on and struck the Hydaspes just abaft the fore rigging on the starboard side, cutting her down below the water's edge. The Centurion at first rebounded, but on her engines being put on ahead easy, she was again brought alongside, and all the crew and passengers clambered or were hauled up on board the Centurion, except the master, chief mate, and pilot of the Hydaspes, who remained by their vessel, and then got into the tug boat, which had in the meantime come up on their port quarter; and very shortly afterwards the Hydaspes sank with everything on board. The tug then went alongside the Centurion, took off the passengers and the remainder of the crew, and landed them the same evening at Dover.

The story told by the Centurion was as follows:—She was an iron screw steamship of 1,845 tons gross and 1,178 tons net register. She left Almeria, in Spain, on the 10th of July, 1880, bound to the port of London, having a crew of 27 hands all told and a full cargo. In the afternoon of the 17th she had arrived to the E. of Dungeness Point, and on sighting the pilot cutter she made towards her, upon which the pilot cutter lowered her boat and sent a pilot to take charge of her. At 4.40 p.m., the vessel at the time being from half a mile to three quarters of a mile from the Newcombe Buoy, which bore from them about N.W., finding the ship's head at N.E. by E., the pilot ordered the helm to be ported, and laid her on an E.N.E. course, to make Dover Pier. At this time the weather was hazy, and accordingly the engines were ordered to go half-speed. Five minutes afterwards they entered a thick bank of fog, when the pilot ordered the

engines to be slowed. After about five minutes a faint whistle was heard slightly on the port bow, upon which the pilot ordered the helm of the Centurion to be ported. Shortly afterwards another whistle, as well as a fog horn, were heard somewhat louder, but still on the port bow, and thereupon the helm was hard-a-ported, which brought her head round from E.N.E. to about E. by S. The whistle was then heard for the third time, and the fog horn for the second time, and almost at the same instant the look-out man on board the Centurion observed the tug Napoleon crossing their bows from port to starboard, at a distance of about 50 yards. On his reporting it, the pilot at once ordered the engines to go full speed astern, but too late, for before the vessel, which had been making between two and three knots, could get any stern way, she struck the Hydaspes just abaft the fore rigging on the starboard side in the manner already described, cutting her down to the water's edge and causing her to sink soon afterwards.

There was some question raised as to whether some esparto grass which was carried on the deck of the Centurion had in any way obscured the lookout so as to have caused or contributed to the collision, but the Court were clearly of opinion that it had not, and also that the speed of both vessels was moderate and proper. They also thought that the Hydaspes and the Napoleon could not have taken any better course just previously to the collision than they did; but that the Centurion was to blame in porting her helm as soon as she heard a faint whistle on her port bow, and before she knew in what direction the vessel was approaching her. Had she waited until she heard the second whistle, she would have found that the vessel was drawing ahead of her and passing her to starboard; and the fog horn would have told her that it was probably a ship in tow of a tug, and that it would be dangerous to port her helm and thus run the risk of colliding either with the tug or the ship. As regards the Hydaspes, there was one point in which she appeared not to have been navigated with proper care. She had about 75 fathoms of tow rope out, and there was a distance of something like from 70 to 72 fathoms between the stern of the tug and the stem of the Hydaspes; and the weather was so thick that at that distance the tug could not be seen from the Hydaspes, nor the Hydaspes from the tug. One of the Trinity House pilots gave evidence to the effect that when the weather became so thick that they had to slacken their speed, their practice was to shorten in the tow rope so as to keep the tug in sight, and thus be in a position to regulate the courses of both vessels. This the Court considered to be a proper precaution. Had the tow line been shortened in to 20 fathoms instead of having between 70 and 72 fathoms between the two vessels, this collision might have been avoided. The Court thought that in such thick weather, not only have vessels no right to cover so large a space of water, but that with a shorter tow rope they would be much more under control.

" WEDWO LID TOO Missing Coal Cargo Ventilation.

Inquiry held 17th August, 1880.

Assessors: H. D. GEANT, R.N.; W. CURLING.

The Merton was a schooner of 93 tons net register, built in the year 1825. She left West Hartlepool on the 8th November, 1879, with a crew of five hands all told, and a cargo of 156 tons of coal bound to Ramsgate. The pilot left her just outside the bar, and from that time nothing more was heard of her. Although she was a vessel of considerable age, the Court came to the conclusion from the evidence that there was nothing to show that she was not in thoroughly good condition when she left Hartlepool. She was not overladen and had sufficient freeboard, and there was no question as to her having been properly stowed. There was no means of ventilation except through the hatchways, and the Court considered that it would have been better had there been some independent system; indeed, the Royal Commissioners appointed to inquire into the spontaneous combustion of coal, in their fifth recommendation said: "That with a view to guard against explosion, free and continuous egress to the open air, independently of the hatchways, should be provided for the explosive gases, by means of a system of surface ventilation which would be effective in all circumstances of weather."

In the case of this vessel, however, the coal came from the Auckland Park Colliery, which has two seams, the one kind giving off a somewhat larger amount of gas, whilst the other was more generally used for steam purposes. The cargo of the Merton probably consisted of a mixture of the two, which would give off so small a quantity of gas, that even without ventilation, it would be very unlikely to produce an explosion. Whilst, therefore, the Court were of opinion that all coal-laden vessels should be provided with proper means of ventilation, independently of the hatchways, they thought that having regard to the class of coal carried, the absence of that provision in the present case had probably not been a source of danger. They considered it impossible for them to say, from the evidence before them, what was the cause of her disappearance.

Stranding.

"CRIGHTON," S.S.

Inquiry held 18th August, 1880.

Assessors: G. H. FORSTER, R.N.; D. R. COMYN.

The Crighton was an iron screw steamship of 1,255 tons gross and 807 tons net register. She left the Tyne on the 24th of June, 1880, with a crew of 21 hands all told, and a cargo of 1,430 tons of coal, bound to Stockholm. At noon of the 28th, Oland' South Head bore N., distant eight miles, and at 4 p.m. she was laid on a N. by E. \(\frac{1}{2}\) E. course by the steering compass, the vessel at the time being in 56° 30′ N. and 16° 55′ E. That course was continued until 1 p.m. of the 29th, when Hufvudskär Beacon was sighted,

bearing, as was said, N.W. by N., distant it was thought nine miles, upon which the course was altered to N.N.E. by the steering compass. At five minutes after 2 o'clock the course was again altered a quarter of a point to the eastward, and at 2.15 she struck on Demban Shoal, near the entrance into Stockholm.

The Court came to the conclusion that the course steered after 1 p.m. of the 29th June was not a proper one, and that the bearings of the Hufvudskär Beacon were not what the master stated them to have been. They added, that the stranding was due to the master having kept the vessel too far to the westward and too near the coast, and they accordingly warned him to be more careful in the future.

Collision-Regulations: Article 14.

"ALBERT EDWARD," S., AND "ALEXANDRA," S.

Inquiry held 31st August and 1st September, 1880.

Assessors: E. A. WHITE, R.N.; J. S. CASTLE; T. BEASLEY.

The Albert Edward was a paddle-wheel steamer of 269 tons gross and 163 tons net register. She left Ryde Pier at 8.37 p.m. of the 5th of August, bound to Stokes Bay, having a crew of eight hands all told, and six passengers. As she lay alongside Ryde Pier, the vessel had her head to the westward, and accordingly on leaving, the helm was put to port with the view of bringing her on a course for Stokes Bay, which was about N.N.E. It seemed also that there was a greater number of yachts than usual lying chiefly to the northward and westward of the end of Ryde Pier, it being the regatta week; and accordingly the engines of the Albert Edward were set on slow, which gave a speed of from three to four knots an hour, which speed was not exceeded up to the collision. Shortly after leaving the pier head the red and mast head lights of a steamer, which afterwards proved to be the Alexandra, were observed from two and a-half to three points on the starboard bow, and the helm was kept to port to go astern of her. After passing several yachts, the helm had to be steadied to clear a schooner yacht, which was the outermost of all, the vessel still going at the same speed. After rounding the schooner yacht the helm of the Albert Edward was again put hard-a-port, which brought the red light of the Alexandra on the Albert Edward's port bow. Seeing that the Alexandra continued to approach, the master of the Albert Edward ordered the engines to be stopped and reversed full speed, and the vessel had just begun to get stern way, when the two vessels came into collision, the port fore sponson of the one striking the port fore sponson of the other vessel.

The case of the Alexandra was as follows:—She also was a paddle-wheel steamer of 235 tons gross and 97 tons net register. She left Southsea Pier at 8.20 p.m. on the evening in question, bound to Ryde, having a crew of nine hands all told, and about 39 passengers. After clearing the buoys, the engines were making from 38 to 39 revolutions in the minute, which gave a speed of from nine to ten knots an hour. The

course steered was W. by S., and that course was continued past the N.W. Sturbridge body, it being the master's intention to take a sweep to the westward and to bring his vessel up to the pier, with her head to the eastward, the tide having begun to make to the westward.

Before they had reached the yachts which were lying at anchor to the northward and westward of the pier head, the green and masthead lights of the Albert Edward were observed about three or four points on the port bow, upon which the master of the Alexandra signalled to the engineer to stand by. Shortly afterwards the engines were eased, and the master of the Alexandra, seeing what he believed to be a clear channel which would lead him up to the pier head, ordered the helm to be starboarded, it being his intention to go round the same schooner yacht which the Albert Edward was rounding from the other side. Before, however, the Alexandra had reached the schooner yacht, and whilst still under a starboard helm, the red light of the Albert Edward appeared, upon which the master of the Alexandra immediately ordered the helm to be put hard-a-port, and the engines to be stopped and reversed full speed; but the vessels were already too close, and almost immediately afterwards they came together. The result of the collision was to disable temporarily the Alexandra, a piece of timber having got entangled in the paddle-wheel. Boats, however, from the surrounding yachts speedily came to their assistance, and in a short time all her passengers were landed, and ultimately both the Albert Edward and the Alexandra were got into Ryde Pier.

It was admitted that, until just before the collision, the red light of the Alexandra was seen from the starboard bow of the Albert Edward, and the green light of the Albert Edward from the port bow of the Alexandra. The vessels were therefore crossing and not meeting vessels; and, therefore, by Art. 14 of the "Regulations for preventing Collisions at Sea," it was the duty of the Albert Edward, which had the Alexandra on her starboard side, to get out of her way, which she might have done, either by porting her helm and going under her stern, or by starboarding and going ahead of her. It was the duty of the Alexandra to keep her course. The Albert Edward elected—as she had a right to do—to port her helm in order to go under the stern of the Alexandra; but the Alexandra starboarded, the effect of which was to bring her bows towards the Albert Edward.

The Court also considered that the Alexandra ought to have stopped sooner than she did, for which omission of duty they held that the master was to blame, but that, at the utmost, he was guilty only of an error of judgment.

Appeal-Spare Buoyancy.

"FLOS," S.S.

Appeal heard 16th, 17th and 18th September, 1880.

Assessors: W. PARFITT; M. SAMUELSON.

The Flos was an iron screw steamship of 1,384 tons gross and 1,097 tons net register, fitted with engines of 110 horse-power. She was built in 1870.

On the 24th of August, 1880, the vessel was lying in Great Grimsby Dock, being about to start on a voyage to Alexandria with a cargo of 1,500 tons of coal, 69 of iron, and 258 tons of bunker coal, making a total of 1,827 tons. She was there seen by an engineer surveyor to the Board of Trade at Grimsby, who, on reporting her condition, received orders to detain her provisionally, upon which this appeal was entered.

This steamer belonged to the class of vessels generally known as well-decked ships, having a long poop aft and a raised forecastle forward. She had also an iron main deck, running fore and aft, and six water-tight bulkheads. Her total length was 247.7 feet, main breadth 32.8 feet, and depth of hold 18.95 feet. The poop, which extended from aft to just forward of the engine room, was 132 feet long; there was then as break of 91 feet, and forward of that was the topgallant forecastle, 27 feet long, both the poop and topgallant forecastle being about 7 feet high. In front of the poop was an iron bulkhead; and on the exposed part of the main deck, forming the well, were two hatches, a fore and a main hatch.

The ground originally put forward by the Board of Trade for the detention of this vessel was, that she was overladen; but in the course of the inquiry other charges were preferred, which the counsel for the owners stated that he might, if he had thought fit, have refused to entertain; but he did not take that course, the owners being anxious to meet all charges that might be made against them. These were (1) that the iron bulkhead forward of the poop was not sufficiently solid; (2) that the main hatch was not strong enough; (3) that there were not sufficient outlets for the water which might come into the well; and (4) that the vessel was overladen.

Upon the first question the Court considered that the bulkhead was amply sufficient for the purpose.

As to the second question, the main hatchway was 27 feet long by 11 feet broad. Across it were two solid iron bars, on which rested the fore and afters, and above them were the carlings, supporting the hatches, which were of 1 to 1½ inch plank. The Court came to the conclusion that, although hatchways might sometimes be made of thicker planks, they would not be justified in detaining the vessel on this ground.

With regard to the third question, the only part where freeing ports would be needed was in the space between the poop and forecastle, commonly called the well, which was protected on each side by bulwarks 5 feet high. There were here four spring or mooring pipes, 13 by 7½ inches, giving an area of 306°2 square inches; two freeing ports 1 foot 10½ inches by 1 foot 4½ inches, with an area of 742 square inches; eight freeing scuttles, with an area of 1,430 square inches; and six scuppers of 210 square inches, giving a total of 2,688°6 square inches, or 18°6 square feet, which the Assessors were not prepared to say was insufficient.

Lastly, as to whether the vessel was too deeply laden:

She would have had in salt water a clear side of about 2 feet 5 inches, which, on a depth of hold of 18.95 feet, gives about 1.5 inches of freeboard to every foot of hold. Again, the Court found that the spare buoyancy below the main deck was 19.7 per cent., while one of the appellant's witnesses,

a gentleman of large experience, said that she ought, exclusively of poop and forecastle, to have had a spare buoyancy of from 20 to 25 per cent. as a minimum. There appeared to be no positive rule as to the amount which a vessel of the type of the Flos should have, but the Assessors considered that it ought hardly to be less than 23 per cent.

The Court came to the conclusion, therefore, that she ought to be lightened to the extent of 6 inches, and ordered that when this was done the vessel should be released.

The owners were acquitted of any culpability for having laden her to the extent they had done, as during the 10 years she had been running, she had made 54 voyages, on 20 of which she had carried as large if not larger cargoes, while, with one exception, she had not met with any serious damage. The Court had no power to deal with the question of costs, the parties not having consented to refer that to them.

Stranding-Use of Lead.

"BROOMHAUGH," S.S.

Inquiry held 21st September, 1880.

Assessors: G. H. FORSTER, R.N.; J. S. CASTLE.

The Broomhaugh was an iron screw steamship of 1,352 tons gross and 865 tons net register. She left Taganrog on the 9th of August, 1880, with a crew of 21 hands all told, and a cargo of wool and grain. at Gibraltar, she proceeded on her way to London, and at 7.20 p.m. of the 29th, Cape Finisterre bore E.S.E., distant from four to six miles. She was then put upon a N.N.E. course till 10 p.m., when, it being supposed that she had passed Cape Villano, the course was altered to N.E. 1 E., to clear Ushant. At 5 p.m. of the 30th one of the blades of the propeller was found to be gone, when she was put at three-quarters speed. At about 10 p.m. the course was altered to N.E. 2 E., in consequence of the mate having told the master, William Ferguson Adams, that he thought the vessel was working against her starboard helm. At 2 a.m. of the 1st of September they got 56 fathoms, upon which, finding that she was further to the eastward than she should have been, the master, believing that she was still some 27 miles to the south of Ushant, altered the course to N.N.E. At 3 a.m. the master went below, leaving the deck in charge of the chief officer, with orders to call him at 5 o'clock, or earlier if necessary. At 4 a.m. the second officer took charge, and in about a quarter of an hour saw a schooner becalmed a little on her port bow, and beyond her what appeared to be a thick bank of haze. After passing the schooner, before going down to call the master, he observed something black on the port bow, saw that it was a rock, and having at once ordered the engines to be stopped, and reversed full speed, ran down to call the captain, who immediately came up, followed by the chief mate; but before they had reached the deck the vessel struck. The crew reached the shore in the boats, and it was ultimately found that she had struck on the outside of the promontory which forms the south side of the Bay of Lampaul, Creach Light bearing about three points on the port bow, distant about a mile and three-quarters.

The Court held that the master was greatly to blame for having neglected, when he knew that he had got to the eastward of his position, to take a second sounding, and thus verify his position, especially as his instructions told him that in thick and hazy weather he ought not to be in less than 70 fathoms. Instead of doing this he went below and turned in, and accordingly the Court suspended his certificate for six months. They also blamed the second officer for having neglected to call the master when he saw a thick bank of fog ahead, and for not having sooner reduced the speed of the vessel, and warned him to be more careful for the future.

Foundering-Cattle Cargo.

"AURORA," S.S.

Inquiry held 7th October, 1880.

Assessors: H. D. GRANT, C.B., R.N.; W. PARFITT; R. HARLAND.

The Aurora was an iron screw steamer of 598 tons gross and 377 tons net register. She was specially fitted for the cattle trade between the Spanish Peninsula and Great Britain, and in May, 1880, had been put into dry dock, thoroughly overhauled, and received a passenger certificate. She had two decks, three holds (all forward of the engines), and three watertight bulkheads.

She arrived at Oporto from Glasgow on the 9th of September, and having discharged her outward cargo, at once proceeded to take in about 180 tons of ballast and 2½ tons of provender for cattle.

At 1 a.m. of the 12th, all the ballast being on board and levelled, they proceeded to put up the cattle pens and fittings in the 'tween decks and on the main deck. At 2 a.m. they began to ship the cattle, which were placed partly in the main and after holds and partly in the main deck. In the lower holds, there being no pens, the cattle were arranged in two rows, one on each side of the ship, with an alley-way down the centre, each bullock having a separate head rope, which passed with a bight round one of the horns, and with a half hitch round the other, and was secured to a ring bolt in the ship's side. In the 'tween decks and on the main deck all the bullocks were in pens, two, three, or at the outside four being in one pen; and they were secured in the same way, with head ropes attached either to ring bolts in the ship's side or to the stanchions or planks forming the pens. There were in all 250 taken on board, of which 50 were placed in the lower after hold, 40 in the lower main hold, 45 in the after, and 38 in the main 'tween decks, the remaining 77 being on the main deck. At 7 a.m. the vessel left for Southampton, with a crew of 22 hands.

At 8.15 p.m. they were off Cape Finisterre, upon which the vessel was steered N.N.E. to pass Cape Villano, and at 11 p.m. the course was altered to N.E. & E. for Ushant. On the following morning the wind had gone to the northward, and at 9 p.m. a heavy gale set in, accompanied with very

severe gusts of wind, commencing at W.S.W., and working round in the morning to W.N.W. The vessel was, however, still kept on her course N.E. & E., and between 9 and 10 a.m. a heavy sea struck her, and the head ropes of some 15 of the cattle in the 'tween decks giving way, they were thrown to leeward, giving the vessel a list to starboard. On this the cattle in the lower holds tried to scramble up to windward, and in their struggles shifted the ballast down to leeward. After a time the cattle that had got adrift were hauled up and secured again, but the vessel still had a list to starboard, owing to the ballast having shifted over to that side. The vessel was nevertheless kept on her course N.E. 1 E., and at 2 p.m. another heavy sea struck her, throwing a number of the cattle, both in the 'tween decks and in the lower holds, to leeward. On this the master brought the vessel head to sea, steaming at full speed all the time to prevent her getting to leeward on the French coast, and for about three hours they were employed securing the cattle. At 6 p.m. all was again straight, except that the vessel still had a list to starboard, and she was then put on her course E.N.E., and, according to the second mate, the master said that if he could see anything he would go into Brest with her. Nothing however was seen, but the vessel continued to go more and more over to starboard, and at 7 p.m. orders were given to jettison some of the cattle from the deck, and about 25 were thereupon thrown overboard; but in doing so one of the lee gangways was unfortunately lost overboard, from which time it was found impossible to keep the water off the decks and prevent its getting below. At about 2 a.m. of the following morning, the 15th, the water had risen in the engine room so high as to put out the fires. upon which the vessel became unmanageable. Orders were thereupon given by the captain to get the boats ready, but he very properly would not allow them to leave before daylight. At 4 a.m., the day beginning to break, orders were given to launch the two starboard boats, the port boats being useless owing to the heavy list which the vessel had. About 10 minutes afterwards the Aurora went down; five of the crew and two Portuguese drovers were saved in the cutter; but nothing was heard of any of the others.

The Court were of opinion that the loss of the vessel was due to her having been kept too long on her course with the wind and sea abeam, instead of having been put as she ought, head to sea, as soon as the gale commenced, and kept there while it lasted. They considered that the vessel was properly fitted for carrying the cattle, but that it was a question whether strong hemp ropes would not have been better than the 2½ inch coir ropes which were used for securing the cattle, although the latter were usually employed for that purpose, and on all ordinary occasions would have been sufficient and suitable.

Stranding.

"PAUL BOYTONGOL.com.cn

Inquiry held 8th October, 1880.

Assessors : E. HIGHT; W. CUBLING.

The Paul Boyton was a wooden sailing ship of 1,097 tons net regis-She left Baltimore for Hamburgh on the 22nd of August, 1880, with a crew of 18 hands all told, and a cargo of 7.461 quarters of maize. and on the 19th of September following she arrived in the English Channel. At 10.45 p.m. they passed two or three miles from the South Foreland, and at 11.10 were abreast of the South Sand Head Light, leaving it on the port hand. Up to this time it had been clear and moonlight, but it then appeared to be hazy in the N.E., and as the master, John Killam, thought that the wind might go round to the northward and eastward, he ordered the yards to be braced forward; the vessel, however, was still kept on her course, E. by N., nothing to windward. After they had passed the South Sand Head Light some little time, the captain, not seeing the green light of the East Goodwin light-vessel, went aloft to get a better view, and whilst there observed broken water on the port bow; he immediately came down, at the same time shouting out to them to put the helm hard up; but before he could reach the deck the vessel had struck. Orders were thereupon given to put everything aback, but the tide beginning to fall she remained fast and ultimately went to pieces, the crew being saved.

The Court found that the casualty was due to the master having steered a course too much to the N. after passing the South Sand Head Light, and not having made proper allowance for the tide, which would have been setting her in a N.E. to N.E. by N. direction, at the rate of from two and a-half to three knots an hour at the least. In their opinion the master should, when abreast of the South Sand Head Light, have laid his vessel on an E. by S. course, keeping the South Foreland Lights in one until he had got a sufficient offing, and had ascertained the position of the East Goodwin light-vessel. He was also held to blame for not having provided himself with a pilot, and the Court accordingly suspended his certificate for six months.

Abandonment-Unseaworthiness.

"YANIKALE."

Inquiry held 4th, 5th and 6th November, 1880.

Assessors: G. H. FORSTER, R.N.; R. J. CLARKE.

The Yanikale was a barque of 298 tons net register. She was built in the year 1854, and was the property of Mr. James Clark, sailmaker, of Peterhead, in the county of Aberdeen. In 1865 and 1869 some repairs were done to her; in 1878 she was specially surveyed, and obtained a dipthong class; in 1879 she was again surveyed by Lloyd's surveyor, but no evidence was produced upon it. About the same time a survey was held by the insurance Companies, when the copper was stripped off, and the keel found to be loose. This was refastened, and she was caulked

from keel to gunwale, but the copper was not replaced. At the beginning of 1880 she sailed from Shields to Barcelona, where she discharged, and took on board a cargo of 530 tons of rock salt, with which she sailed for Gefle, in the Gulf of Bothnia, arriving there in July, 1880. At Gefle an endeavour was made to sell her, which failed, and she accordingly sailed for Gloucester with a cargo of iron and deals. On the 7th of September she was about 70 miles S.W. of the Naze; on the 10th there was a gale, during which the chain plate of the maintopmast backstay was carried away. At 2 p.m. of the 12th Coquet Island bore N.W. by N., distant eight miles, upon which a tug was engaged to take the vessel into Shields, the reasons, as stated in the log-book, being that she was short of provisions; that the chain plate had been, as above stated, carried away, and that she was making a quantity of water. She arrived at Shields on the evening of the 12th, and on the 15th the owner arrived from Peterhead. Immediately afterwards the mate and all the crew, except a Spaniard and two Germans, left her, the terms for which they engaged having expired. On the 17th of September, the crew having been made up to nine hands all told, she left for Gloucester with the same master. At midnight of the 26th the vessel was off Beachy Head, and on the following day, provisions beginning to run short, the crew were put upon half allowance of meat. On the 28th they got a few pieces of meat from an American vessel, and at 4 p.m. of the 1st of October following passed the Longships. Up to this time the weather had been moderate and favourable, but it then began to blow hard from N.N.E.

The mainsail was split, and they had to take in the light and topgallant sails, to reef the topsails, and to furl the jib and spanker, and the vessel was laid with her head to the westward. On the same day the vessel was short of provisions and oil. On the following morning the wind veered to the northward, and she was hauled again on her course, heading for the Bristol Channel, although, as it seemed from the log-book, the master had before that made up his mind to run in somewhere to get provisions and oil. At noon of the 3rd St. Ives bore S.W. by S. 1 S., distant three leagues. On this day the last meat was served out, and all the stores were finished. On the 4th the vessel encountered a very heavy gale, and there was no meat and no oil on board. At 3 p.m. of the same day the foretopsail was carried away, and they then furled the foresail; and at 6 p.m. the maintopmast backstay chain plate was again carried away, and during the night the vessel laboured heavily, her decks being completely awash fore and aft. At 8 a.m. the master came on deck, and shaped a course for the Scillys, the sails being all blown away. At noon again St. Ives bore S., distant about 10 miles, and at 4 p.m., the wind having veered to the N.W., the vessel was put about, and a course was shaped up Channel, the crew having consented to work on bread and water. During that day the lower foretopsail, mainsail, maintopsail and mizenstaysail, blew away in rags. From that time the vessel was carried up and down the coast, almost at the mercy of the wind and waves, all hands being at the pumps, and without food of any kind, except a little flour and water, until the morning of the 8th, when it was found that there were 3 feet 6 inches of water in the hold, and that the vessel was making 14 inches per inour. Accordingly, on a schooner coming in sight, the small boat was lowered and sent to her, and the master having stated that he could give them no provisions, but that he should be happy to take them on board, the master and all the crew of the Yanikale left her, and went on board their vessel, having then five feet of water in her hold, and making 14 inches an hour. They were subsequently landed at Swansea. From that time the vessel was never heard of.

The first question upon which the opinion of the Court was asked was, whether the vessel, when she left Gefle, was in good and seaworthy condition. During the voyage from Shields to Barcelona, commenced in January, 1880, it was clear, from entries in the log-book, that with only 475 tons of cargo on board, she made a very considerable amount of water, and that the pump well broke down. From Barcelona to Torrevieja, and while at the latter place taking in cargo, there were similar entries, together with one as follows:—

"We find that the ship is making more water, one inch per hour . . . and that our main rigging has been getting slacker all the time we have been taking cargo, so that the ship's bottom must be very weak, and have sunk down with the weight of the cargo."

On the 31st of May, during the voyage from Torrevieja to Gefle, although the weather was very good, the following appeared in the log:—

"Ship labouring very heavy, also shipping a great quantity of water; men cannot leave the pumps for any length of time." And again:

"To-day found a very bad leak in the sternpost and rudder trunk."

On the 16th of August, when she had her fresh cargo on board, and was lying in the roads, there was this entry:—

"To-day went down into after peak, and found that the old leaks had started again, and that the ship was leaking in the sternpost, and also the port."

Nevertheless she was taken to sea, and the Court therefore held that she was not in a seaworthy condition even when she left Shields for Barcelona, and still less when she left Gefie.

The next question referred to the stowage of the cargo. She took on board at Gefle 250 tons of iron and 110½ standards of deals. The iron was laid on the bottom of the vessel on the ceiling, right fore and aft, rising only a little above the top of the keelson, which the Court observed was about the best means that could be desired for causing her to roll and strain to such an extent as seriously to endanger her safety (see "Stevens on Stowage," par. 542, p. 332). They also considered that she was overladen, having regard to her state and condition, and to the weakness of her bottom, and that a supply of one month's provisions, as the Yanikale had when she left Gefle, was very insufficient for a voyage from that place to Gloucester.

Upon the remaining questions involved in the case, the Court came to the conclusions that the owner, either directly or through his agent, was responsible for having sent the vessel to sea, and that the master, John Tate, was responsible for having taken her to sea from Gefle. They further thought that, having regard to the quantity of water she made, and the damage which she sustained on the voyage from Gefle to Shields, the vessel was not properly repaired at the latter port; that she was not in a good and seaworthy condition when she left Shields; that there was not a sufficient quantity of provisions obtained at Shields for the voyage to Gloucester. That the owner, James Clark, was responsible for sending her to sea from Shields, and the master, John Tate, was responsible for taking her to sea from Shields.

They considered that the master was not justified in neglecting to put or to attempt to put into one of the ports which he passed after entering the Channel, and especially after the 27th of September, and that the loss of the ship was due to her unseaworthy condition, the amount and stowage of her cargo, and to the fact that she was kept out at sea without provisions, and beating about the coast until she was in such a state as to be on the point of sinking, instead of being taken, as she might and ought to have been, into port for repairs and provisions.

. Finally, they held that the abandonment and loss of the vessel was caused by the wrongful acts and defaults of the master, John Tate, but that the owner, James Clark, was also to blame.

The Court accordingly cancelled the certificate of John Tate, the master, and condemned the owner, James Clark, of Peterhead, in the county of Aberdeen, sailmaker, in the sum of one hundred and fifty pounds (£150) nomine expensarum.

Collision-Regulations, September, 1880 (Art. 11).

"HANNAH" AND "SHAMBOCK." S.

Inquiry held 8th November, 1880.

Assessors: B. S. Pickard, R.N.; W. Parfitt; R. Harland.

The Hannah was a schooner of 82 tons register. Early on the morning of the 8th October, 1880, in the course of her voyage from Liverpool to Yarmouth, the Hannah had arrived off Holyhead Bay, the night being dark and stormy but clear, the wind strong from the eastward, and the vessel on the port tack under reefed mainsail, boom foresail, topsail, and standing jib. The master was at the wheel, and the mate and a lad were engaged up to nearly the moment of the collision in furling the topgallant sails and in setting the boom foresail. They had just succeeded in setting the boom foresail, and the lad was hauling in the fore sheet, when the mate, who was standing by the boat amidships, suddenly called out, "My God! here is a ship upon us." The former turned round and observed the masthead and red light of a steamer on their starboard quarter, bearing about three points from right aft, and in an instant the steamer was upon them. They ran to get the boat out but found it smashed; and almost immediately afterwards the vessel went down stern foremost. The boy was thrown into the water, and having first got hold of a cask, and then a plank, succeeded in keeping himself afloat until he heard voices, upon

which he shouted, and was answered, and they then came and took him on board.

The Shamrock was a paddle-wheel steamer of 1,186 tons gross and 524 tons net register. She left Dublin at 8.12 p.m. of the 7th October, 1880, with a crew of 42 hands all told and 83 passengers, and at 1 a.m. of the following morning made the Stack Light. At 1.55 they sighted the Skerries, and very soon afterwards observed the light at the end of Holyhead breakwater. The night was dark and stormy, but clear for seeing lights. The course steered from Dublin had been S.E. by E. & E., but according to the man at the helm, after sighting the light at the end of the breakwater, he steered by the light, keeping it a point on his starboard bow. At this time the master and second officer were upon the bridge, and there were two lookout men upon the bridge, one on the port the other on the starboard side; there was also the quartermaster standing by the wheel, the vessel being steered from amidships. Soon after 2 o'clock the loom of the Hannah was observed a little on their port bow, but close to them; the captain immediately rushed to the telegraph and stopped the engine, but before this could be done, and almost before the order could be given, they were into her. A boat was at once lowered with three men in her, which pulled in the direction of where the schooner was supposed to have disappeared; and after searching for about half-an-hour without finding anything, they returned to the steamer and were hauling up the boat, when the lad's cries were heard, upon which the boat was at once again lowered, and he was picked up.

Upon these facts the Court held that the collision was due entirely to the *Hannah's* not having exhibited a light or flare-up astern to the *Shamrock* which was overtaking her, as she ought to have done, under Article 11 of the "Regulations for Preventing Collisions at Sea," which came into force on the 1st of September, 1880; and that the master of the *Hannah* was therefore to blame for the collision.

Missing.

"COUNTY OF DENBIGH."

Inquiry held 11th November, 1880.

Assessors: C. H. FORSTER, R.N.; J. S. CASTLE.

The County of Denbigh was an iron barque of 1,081 tons net register. She had a raised quarter deck 39 feet long, with an iron bulkhead forward of it rising 3 feet 3 inches above the main deck. She had a sheer of about 6 feet forward, and of about 2 feet 3 inches aft. She had four boats and two main pumps, and so far as appeared, was in all respects a very superior vessel of her class. She left Astoria, Oregon, on the 26th of October, 1879, with a cargo of 1,636 tons of wheat in bags, and a crew of 20 hands all told, bound to Queenstown or Falmouth for orders. On the 18th of January following she was spoken in the North Atlantic in 1° N. latitude by an American ship called the Stirling, with which she

kept company till the 22nd, when, being then in about latitude 5° N., the County of Denbigh drew shead, and from that time was never seen or heard of.

The Court came to the following conclusions upon the evidence:--

That the cargo was properly stowed; that the vessel, although very deeply laden, could not be said to have been dangerously overladen, and that such deep lading appeared not to have been done with either the knowledge or sanction of the managing owner; that there was nothing to show that the vessel had not sufficient stability as loaded for a winter voyage; and, finally: that the loss of the vessel was probably due to her having, when very deeply laden, encountered a very severe gale in the North Atlantic, which she might perhaps have weathered had she not been so deeply laden.

Collision.

"CURLEW" AND "TAUNTON."

Inquiry held 13th and 15th November, 1880.

Assessors: E. Aplin, R.N.; H. C. Kennedy; C. Vaux.

The Curlew was a schooner of 209 tons net register. She left Aberdeen on the 28th of September, 1880, with a cargo of stone and a crew of eight hands all told, bound to London. About 5 a.m. of the 2nd of October she was near the Newarp Lightship, sailing close-hauled on the starboard tack upon a S.S.W. course. At 5.15 they observed the Taunton nearly right ahead, but a little on the weather bow, steering about N. by E. The Curlew continued her course, close-hauled until they were within a quarter-of-amile of one another, when the Taunton, which was then to windward of her, suddenly ported her helm, and came down upon her, striking the Curlew's starboard bow, stem on, and sinking her in two or three minutes. The mate and two of the crew clambered up the Taunton's bows, but the other five were drowned.

The Taunton was a three-masted ship of 687 tons net register. She left Havre on the 24th of September, in ballast, bound for the Tyne, with a crew of 18 hands. At 5.45 a.m. of the 2nd of October, orders were given to haul up the fore and mainsails, and to lay the cross jack yards aback for the purpose of taking a cast of the lead. As soon as a cast had been taken, the vessel was again put on her course N. by W., the wind blowing a fresh breeze from about W. by N., the vessel being under all plain sail except royals, and making about seven knots an hour. The master, Thomas Farnell, whose watch it was, then ordered the foresail to be again set, and whilst the men were engaged in doing this, the look-out man reported two vessels a little on the starboard bow. Orders were thereupon given to keep the sails full, and the helm was ported about a point, which would bring the vessels about right ahead; the helm was then steadied, and the vessel continued her course about N. to N. ½ E. After a time the vessel which was farthest to the westward, and which proved to

be the Curlew, was observed to pass to windward of them, clear of the leach of the fore and mainsails on the port side. The Taunton was still kept on her course until they had got to within a quarter-of-a-mile of one another, when the helm of the Curlew was observed to have been suddenly put hard up, upon which the master of the Taunton ordered the helm of his vessel to be put hard-a-port, but the Curlew came on and with her starboard bow struck the Taunton on the port bow, with the results already stated. The Taunton attributed the collision to the Curlew having improperly starboarded her helm when she was to windward of the Taunton.

It was an admitted fact that, whether the Curlew was on a S.S.W. course, or whether she was on a S.W. by S. course, she was, at all events, close-hauled to the wind on the starboard tack. Accordingly, whether the Taunton was close-hauled on the port tack or going free, it was plainly her duty to have kept clear of the Curlew.

The Court went at considerable length into the evidence, and came to the conclusion that the collision was due to the *Taunton* having kept her course for too long a time, endeavouring to get to windward of the *Curlew*, instead of having ported her helm in due time and gone to leeward of her, as would have been her duty.

They were further of opinion that the *Curlew* was not to blame, as she obeyed the directions of Article 14 (b) of the "Regulations for preventing Collisions at Sea." They accordingly suspended the certificate of the master of the *Taunton* for nine months.

Stranding.

" MARYS."

Inquiry held 15th and 16th November, 1880.

Assessors: H. C. KENNEDY; C. VAUX, R.N.

The Marys was a brig of 150 tons. In January, 1879, she was in dry dock, when her bottom was examined. On the voyage before the last, she had brought a cargo of bottles to Connah's Quay, on the Dec. The master, knowing that he had to take in a cargo of salt, took the opportunity of clearing out the hold, and finding the ceiling open in some places, and holes in it, he wedged them up with pieces of wood. The vessel left Liverpool on the 11th October, 1880, for the Tyne, with a cargo of 255 tons of salt, and a crew of six hands all told. There was some doubt as to whether she was making any water when she left the Mersey, but certainly on the 19th, having encountered a severe gale from the E., she did so to such an extent as to render it necessary to pump her out every half-hour. On the 20th the gale moderated, but on the 21st it recommenced from the eastward, and the vessel was placed under closereefed topsails, when she rolled and laboured considerably. At 8 p.m. both pumps were choked with the salt, and three of the deadeye bands on the starboard side having given way, the master determined to make for Plymouth. On nearing the Breakwater, however, it was found that she

was making so much leeway that she would not fetch the entrance, and accordingly, at about 1 a.m. of the 22nd, the master determined to bear away for Falmouth. At 11 a.m. they neared Falmouth Harbour, the tide at the time being about four hours' ebb, the wind blowing hard from E. to E. by N., and the vessel being under double-reefed maintopsail, lower foretopsail and foretopmast staysail. The master determined to enter by the eastern channel, which is the wider and deeper one; and observing a fullrigged ship lying at the entrance, head to wind and in about mid-channel, he intended, as he has told us, to pass astern of, and between her and the Black Rock, and to anchor inside of her. Accordingly, on nearing the entrance, he took in his maintopsail, then clewed up the lower foretopsail, hauled down the foretopmast staysail, and having rounded her with her head to the E., dropped his port anchor. After paying out about 25 fathoms of chain the starboard anchor was let go, and 30 fathoms were then paid out on the port, and about 10 to 15 fathoms on the starboard anchor. Finding, however, after a time, that this did not bring her up, and that she was drifting toward the Black Rock, the master paid out 40 fathoms on the port, and 25 fathoms on the starboard anchor; and according to him, and to the mate, that at length brought her up. In the meantime the harbour master had seen the vessel approaching, and observing that she was taking in her sail, as he thought, too soon, he steamed down towards her as fast as he could, but only reached her just as she had dropped her second anchor. The vessel was then riding immediately astern of the large full-rigged ship which was in the entrance to the eastern channel, and between her and the Black Rock; and knowing that, as the tide was ebbing, the vessel was in a very dangerous position, being much too near the Black Bock, he warned the captain of his danger, and advised him to signal for a tug, which the master accordingly did. No steam tug, however, coming out, the harbour master became anxious, and he accordingly proceeded with all speed to the harbour to inform them of the danger in which the vessel was; upon which, two steam tugs left the harbour, and proceeded to her assistance. On approaching her, however, it was found that, owing to her proximity to the Black Rock, and to the tide having fallen, it was impossible to get under her stern; and it was equally impossible for them to approach her from ahead, owing to her jibboom and bowsprit, and to the heavy sea that was on.

In a short time the tide had fallen so much that the keel of the vessel touched the rock, and she soon began to strike heavily. The jolly-boat was then got out, and ultimately the crew were rescued with the exception of three men who were drowned.

The Court having referred to the "Channel Pilot," part i., p. 63, and having gone through the evidence, found that the pumps were not properly protected from the cargo, and that, seeing the age of the vessel and that there were holes in the ceiling, it would have been proper to have either caulked or matted the hold, instead of merely wedging up the holes with pieces of wood before the salt was put into her.

They attributed the stranding and loss of the vessel, and the lives of those on board, to the neglect of the master—first, in not having properly secured the hold before putting the cargo in; secondly, in having brought up too near to the entrance and to the Black Rock, instead of going higher up the harbour before dropping his anchors; and thirdly, to his not having paid out a sufficient quantity of chain in the first instance.

The Court accordingly severely reprimanded him, warning him to be more careful in future.

Collision-Lights.

"KESTREL," S.S., AND "ACTIF."

Inquiry held 18th, 19th and 20th November, 1880.

Assessors: B. S. PICKARD, R.N.; H. C. KENNEDY; - COWIE.

The Actif was a French fishing vessel. At about 4.30 a.m of the 15th of October, 1880, she was off Dungeness, the wind, such as there was, being from the eastward, the weather quite fine, and the sea perfectly smooth. Having just finished mending their nets, the crew were proceeding to take another cast, when the green and masthead lights of the Kestrel were seen on the port bow, coming down Channel, with her head to the S.W. Thinking that she would go clear of them, nothing was done, but shortly afterwards the red light appeared, upon which a flare-up was exhibited; but the steamer continued her course, and in about two or three minutes struck the Actif on the port bow, between the stem and foremast, cutting her down to the water's edge. Owing to the speed at which the steamer was going, she passed shead, and in about one or two minutes the Actif sank, carrying with her the whole of the crew, with the exception of one man and a boy, who were saved.

The Kestrel was a screw steamer of 855 tons gross and 554 tons net register. She left Antwerp at noon of the 14th of October, with a general cargo, and a crew of 22 hands all told, bound to Glasgow, and at 4 a,m. was abreast of Dungeness, the weather being clear but dark, with little or no wind, and the sea perfectly smooth; the vessel was heading S.W. by W. & W., and making about 10 knots. There was a look-out forward on the topgallant forecastle, a man at the wheel amidships, a quartermaster standing by, and the chief mate, who was the officer of the watch, was on the monkey-bridge. They had had to alter their course several times between 4 o'clock and 4.15, for passing vessels, but from 4.15 they had kept a straight course, S.W. by W. 1 W. At 4.30 a flare-up was suddenly observed, both by the look-out man and by the officer of the watch, nearly ahead, but a little on the starboard bow, and distant from 25 to 30 yards only. This flare-up was observed to proceed from a fishing vessel, which proved to be the Actif, and which was heading across their course to the southward and eastward. The chief mate at once ordered the helm to be put hard-a-starboard, and telegraphed to the engine-room to stop and reverse full speed; but before the course of the vessel could be altered or her engines stopped, she struck the fishing vessel on the port bow, near the cathead, on the port side, cutting her down below the water's edge. Two buoys and some ropes were at once thrown over the side, but apparently

without reaching those for whom they were intended, and after passing down the steamer's starboard side, and when at a distance of a couple of hundred yards astern, the Actif sank. Orders were at once given to get out a boat, and the port lifeboat having been lowered, the chief officer proceeded in her towards the place where the wreckage was, and there found a man supporting himself by some oars or capstan bars under one arm, and holding up a boy with the other. Having got the man and boy into the boat, they pulled about amongst the wreckage for some time to see if there was any one else afloat, but finding no one, they returned to the steamer, and the boat was thereupon hoisted up. The steamer continued to cruise about the spot until about 20 minutes to 7 o'clock, when all hopes of finding any one else being over, she proceeded on her course to Glasgow.

The first question upon which the opinion of the Court was asked was, whether the *Actif* exhibited a bright white light, as required by the Regulations.

On the 24th of March, 1880, an Order in Council was issued, providing that Article 9 of the Regulations of 1863 should still continue in force.

It was shown in evidence that the Actif had neither the coloured light, nor even a lantern with the coloured slides, on board at the time of the collision; in fact the only light which she had was a composite candle placed in a globular lantern, which hung by an arm projecting from the top of the mizenmast. This the assessors considered could hardly have been seen at a distance of one mile, much less of five. And accordingly the Court found it to be clear that she did not exhibit the lights required by the Regulations. Then came the question as to the look-out kept on board the Kestrel, and upon that the Court held that in any case not only ought the light of the Actif to have been seen at a greater distance than 25 or 30 yards, but also that, assuming for the moment that she carried no light at all, she ought to have been seen by the Kestrel much sooner than she was, and they were therefore not satisfied with the look-out which appeared to have been kept on board her. They added, however, that as soon as the flare-up was seen, prompt and proper measures were taken to avoid the collision. They also thought that it would have been better had the master of the Kestrel sent his boat a second time to search the wreckage for any survivors. They held the mate responsible for not having kept a good look-out, and warned him to be more careful for the future.

Compare the Bessie and Jane, p. 157.

Abandonment-Unseaworthiness.

"SALOPIAN."

Inquiry held 20th November, 1880.

Assessors: H. C. KENNEDY; - COWIE.

The Salopian was a barque of 260 tons net register, built at Maryport in 1841, and was the property of her master, who was the managing owner, and some others. In 1841 she had a 12 years' class; in 1859 she saw

specially surveyed, after which she was classed Red A for eight years; in 1867 she was again classed Red A for the same period. In 1876, as she made a good deal of water, the copper was stripped off, some bolts taken out and replaced, she was caulked from keel to plank sheer, including the deck and waterways, two new sister kelsons were put into her, and a platform was constructed of 3-inch planks for the purpose of carrying heavy cargoes. From that time she had no substantial repairs done to her.

In July, 1880, she left Glasgow in ballast for Troon, at which place, when the cargo of coals had been shipped, the whole crew, except the master and boatswain left her. While she was there, before the coals were in her, the carpenter stated that he went into the hold and found some places near the bolts where the wood was quite rotten. She left Troon, however, for Lisbon, with a fresh crew, and on the way out made a good deal of water, so that it was necessary, even when the weather was fine, to pump her every two hours, and in bad weather oftener. Having discharged her cargo at Lisbon, she took in a cargo of about 400 tons of phosphate of lime, with which she left on the 25th of September, 1880, for Garston, in the Mersey. At first they had very fine weather, nevertheless, they had to pump her out every two hours; but on the 8th of October they encountered a gale, when she began to make more water. On the 9th the mainmast, with all the gear attached, was carried away, and before they could cut it adrift it had struck the vessel under the quarter on the starboard side, causing her to make a great deal more water. On the 17th they were off the coast of Ireland, when a tug came alongside and offered assistance, but by that time they had rigged the vessel as a brigantine, with her fore and mizen masts standing, and, as the wind was favourable, the master refused her services. Shortly afterwards, however, the vessel was blown off the coast, but on the 22nd they were off Crookhaven, when a pilot came on board, and the master thereupon determined to send on shore in the pilot boat his two grandchildren, a boy and a girl, who were on board, and who had become frightened at the state of affairs. Having sent them off, he then again stood on his course for his port of destination, but the crew came aft and requested him to put into Crookhaven, stating that unless he did so they would not pump her any more. The master refused, and in the meantime the vessel had drifted past the entrance to the harbour, upon which the crew, for the safety of their lives, again went to the pumps. The same night the vessel was again blown off the coast, and on the 24th the foretop and foretopgaliant masts were carried away with the foremast head. On the same day an Austrian barque called the Slavia hove in sight, and it was then determined to abandon the vessel, the pumps at that time being choked with the cargo which had got into the well, the men being exhausted and the vessel having at least 3 feet of water in her, but how much more they were not able to say. Finding that the Slavia's boat could not come alongside, the Salopian launched her own boat and in two trips the whole of the crew were transferred to the Slavia, which subsequently landed them at Newport, with the exception of the master, who died on the 28th, four days after they had been taken on board the Slavia.

The Court came to the conclusion that the Salopian, when she left

Lisbon, was not in a good and seaworthy condition, and was not fit to carry with safety, on the voyage in question, the cargo which was stowed in her. They thought that, having regard to the condition of the vessel, the master was not justified in refusing the assistance of a tug off Cape Clear; and that he was not justified in not endeavouring to put into Crookhaven or some other harbour, and that she was not navigated with proper and seamanlike care.

They considered that the chief blame for the loss and abandonment of the vessel and her cargo rested with the master, who was the principal owner, and had the entire management of the ship, but who died before he reached port; and that some share of responsibility rested with the other part owners for having allowed her to go to sea in the state in which she was, although they had but a trifling interest in her, and it was most probable that they knew nothing of her condition.

Missing-Overloading.

"ADINA."

Inquiry held 22nd November, 1880.

Assessors: H. D. GRANT, R.N., C.B.; H. C. KENNEDY.

The Adina was an iron schooner of 92 tons net register, built in 1878, and at the time of her loss was the property of Messrs. Gillies & Reid, Glasgow, and others, Mr. Alexander Gillies being the managing owner. She had three hatches, a fore, main and after hatch; upon the latter was a booby hatch, standing some 4 feet above the deck, with a slide in it, which could be left open in bad weather. This was the only mode of ventilating the hold. The vessel left Glasgow on the 20th of April, 1880, with a cargo of 176 tons of coal, having a crew of five hands all told, bound to Exeter: from the time when the pilot left her off Greenock she was never heard of. The coals with which she was laden had come from the Heywood Collieries, in Lanarkshire, and the hold had been filled quite full. The owner, on being examined, stated that he never had any other ventilation for these vessels than that above described. having been informed by the Board of Trade officials at the port that the regulations as to ventilation applied only to over sea vessels, and not to coasters, which, as the Court remarked, was certainly not the fact. It was proved, however, that this Heywood coal gave off very little gas, and the Court accordingly held that, unsatisfactory as the arrangements for ventilation were on board this vessel, her loss was probably not due to an explosion of gas.

The Court were asked to say whether, in their opinion, the vessel was overladen, and whether she had a sufficient freeboard.

The load line, of the position of which the owners must have been perfectly aware, was 1 foot 5 inches below the top of the deck. It was proved that the 176 tons of coal which she had in her, would have sunk her in salt water to about 10 feet 1 inch, which would have given her a freeboard of about 1 foot 41 inches, when, according to Martell's tables,

the least freeboard which she should have had would be 1 foot 61 inches. The Court then had no hesitation in saying that her freeboard was wholly insufficient, and that the vessel was consequently overladen, which, there could be very little doubt, was the cause of the loss.

Abandonment-Stowage of Grain Cargo.

"KILLEENA."

Inquiry held 23rd and 24th November, 1880.

Assessors: E. APLIN, R.N.; C. Y. WARD; W. PARFITT.

The Killeena was an iron barque of 795 tons net register. She left New York on the 26th of August, 1880, with a cargo of 1,080 tons of Indian corn and about 80 tons of cotton, having a crew of 18 hands all told, including the master, Thomson Ralph, bound to Liverpool. On the 10th of October she was abandoned. It appeared that her hold extended from the collision bulkhead forward right aft as far as the bulkhead of the , cabin and lazarette. At New York this hold was lined completely from the keelson to the top of the bilge fore and aft. Shifting boards were then put in, which were nailed to wooden uprights, or scantlings, placed between the permanent iron stanchions, which ran along the centre of the vessel at a distance of about 3 feet 9 inches from one another. The shifting boards, which consisted of planks one inch in thickness, were doubled on each side of the stanchions, the centre of the outer planks being placed over the seams of the inner planks, thus forming a thickness altogether of four one-inch planks, two on each side of the stanchions. In the lower hold the shifting boards went from the keelson to the lower deck, the wooden uprights to which they were secured being free at the bottom, but cleated at the top. In the 'tween decks the shifting boards, as well as the uprights, commenced at the bottom, but stopped within 3 feet of the upper deck; and the uprights, if secured at the bottom with cleats, which seemed doubtful, were entirely unsupported at the top. The nails by which the shifting boards were secured to the uprights were 3 inch to 31 inch. When the hold had been thus prepared, the Indian corn was shot into it from an elevator, the whole operation taking from 6 p.m. of one day, to 6 a.m. of the following morning. The whole of the corn shipped was in bulk, completely filling the lower hold and coming up to the top of the shifting boards in the 'tween decks. Upon the corn were then laid some planks, and on these bales of cotton, one row deep, completely filling up the 'tween decks.

When she had been four days out from New York the cargo shifted to starboard, but was re-adjusted. This occurred two or three times, alternately to starboard and port, according to the tack which the vessel happened to be on, but each time she was brought upright again by trimming the cargo. On the 6th of October, between 9 and 10 p.m., the vessel being on the starboard tack, she gave a sudden lurch to port, and fell over on her side, with the lee rail below the level of the

water. Every effort was made to get her on the other tack, but she would neither wear nor stay. The mainmast then went overboard, leaving a hole in the deck, through which a good deal of water got down into the hold before they were able to cover it with canvas. On the morning of the 7th, the master cut away the foremast, upon which the vessel righted considerably. On the 8th it was found, on examination, that the cargo had shifted away from the starboard side towards the centre. but in the 'tween decks it had gone bodily over to port, carrying the shifting boards with it. Efforts were made to right the vessel, previously to which, however, the master had determined to abandon her. They continued to work at the cargo, jettisoning some and shifting other portions from port to starboard, till the evening of the 9th, when a vessel hove in sight. Ultimately, on the morning of the 10th, the crew were taken off. When they left her she had about 12 inches of water in her, which she had taken in when the mainmast went overboard, from which time she had made no water.

The Killeena was ultimately picked up and towed into Falmouth, where it was found that she drew 18 feet 2 inches aft and 17 feet forward; that she had a freeboard of 2 feet on her port side and 6 feet on her starboard, and that she had 23 inches of water in her.

Upon the above facts, the Court came to the conclusion that the Killeena, when she left New York, was in good and seaworthy condition; but that the cargo was not properly stowed in accordance with the rules for the Port of New York, and that the shifting boards were not sufficiently or properly secured. They thought that the shifting of the cargo three times, shortly after the commencement of the voyage, was due to the insufficient way in which the shifting boards were secured; and that there was no reason to suppose that the cargo was not on each occasion properly retrimmed, so far as it could be done under the circumstances. They considered that the master was, under the circumstances, justified in having the main and foremasts cut away, and that the damage caused thereby was properly repaired; but that the vessel was prematurely abandoned. For this reason, and also for his default with regard to the stowage of the cargo, the Court considered the master to blame, and accordingly suspended his certificate for six months.

Stranding-Abandonment.

"SWAN," S.S.

Inquiry held 30th November, 1880.

Assessors: E. HIGHT; R. J. CLARKE.

The Swan was an iron screw steamship of 753 tons gross and 482 tons net register. She left Bilbao on the 31st of October, 1880, for the Tyne, with a cargo of 956 tons of iron ore, and a crew of 16 hands all told, and after putting into Portsmouth for coals, she arrived, at about 1 p.m. of the 5th of November, off Aldborough Napes. The vessel had two compasses, a bridge and a standard compass aft, the latter being the more reliable, and the one by which the courses were laid and the vessel steered. From

Aldborough Napes the vessel was laid on a N.E. by N. course by the standard compass until 4 p.m., when the course was altered to N. \(\frac{1}{2}\) E. At 5 p.m. they passed a buoy, which the master supposed to be the North Cross Sand Buoy, and at 5.30 the course was altered to N.N.W.; and soon after a light was observed bearing N.E. by N., distant about five miles, which they made out to proceed from the Leman and Ower lightship. Soundings were thereupon taken, which gave 20 fathoms, upon which the vessel was laid on a W. by N. course, and that course was continued, the vessel going at full speed, and making from seven to eight knots an hour from about 6.30 p.m. to 8.30, when she suddenly took the ground on the east side of Hasborough Sands, about a mile to the northward of the buoy, and about four and a-half miles to the southward of Hasborough Lightship. When the vessel took the ground the weather was thick and hazy, but there was not much wind, and although there was some surf on the sand, the sea was smooth outside. Nothing appears to have been done to get the vessel off until about 10.30, when it was approaching high water, and when the engines were turned ahead for a short time, with the view of forcing the vessel over the sand, there being deeper water ahead than there was astern. Finding, however, that she did not move, the engines were stopped, and nothing more was done. Between 3 and 4 a.m. the chief engineer reported that the engines were disabled, the feed pipe and connections having been broken by the displacement of the engines as she settled down on the sand. During the night they threw up rockets and burnt a tar barrel for assistance, and between 7 and 8 a.m. a fisherman's boat came alongside, but they refused to stay by or to give them any assistance; and, accordingly, at about 10 o'clock, the master. William Jones, ordered the two lifeboats to be got out, and all hands having got into them, they pulled towards a fishing smack, and were taken on board and conveyed in safety to Yarmouth. On the following morning, the 7th, the Swan was in Yarmouth Roads, and in charge of a number of smacksmen, but how she got off the sand did not appear, none of the smacksmen having been produced at the inquiry. At that time the water was a little over the stokehole plates, and the master and chief engineer having returned to their vessel, the donkey engine was repaired temporarily by tying up the feed pipe, and the water having been pumped out, she proceeded in tow of a steam tug to Harwich. There the bottom was examined by divers, and the leaks having been temporarily stopped up, she was towed to London.

In his evidence the master stated that, on a N.E. by N. course, as well as on a N.½ E. course, his compass would show no deviation; but on a N.N.W. course, as upon a W. by N. course, he allowed one and a-half points of easterly deviation; but the deviation card showed that on all those courses there was an easterly deviation of from one to one and a-half points, and it seemed to the Court probable that when the master put the vessel on a N.E. by N. course, and then on a N.½ E. course, there was really an easterly deviation of one to one and a-half points. This was sufficient to account for his having got so far to the eastward as to bring him in sight of the Leman and Ower Lights.

Whe Court considered that the stranding was due to the master having steered from the Aldborough Napes, a course too far to the eastward, and, after sighting the Leman and Ower Light, a course too far to the southward. They also thought that the master was not justified in having kept the ship at full speed after sighting the Leman and Ower Light, considering the state of the atmosphere, and that the omission to use the lead was not justifiable. They blamed him also for having made no proper efforts to get the ship off, and added that he was not justified in having abandoned her when he did. The Court accordingly suspended his certificate for twelve months.

Collision.

"BENALLA," S.S., "ROBINIA," S.S. AND "STAG," S.S.

Inquiry held 3rd and 4th December, 1880.

Assessors: H. D. GRANT, R.N.; W. CUBLING; G. W. WARD.

The Benalla arrived off the entrance to the port of Ponta Delgada about 11 p.m. of the 30th of September, 1879, for the purpose of replenishing her stock of coal. Between 6 and 7 o'clock the next morning a pilot came out to her, under whose directions she was taken into the port, and having dropped her anchor with 60 fathoms of chain, she was brought up in a berth alongside of and near the entrance of the breakwater, with her head towards it. The wind was at the time from S.S.E., and accordingly, by the pilot's directions, a 6-inch hawser was carried out from the vessel's starboard bow, and made fast to the breakwater.

The Robinia arrived off the entrance to Ponta Delgada about 1 a.m. of the 1st of October. At about 7 a.m. the same day a pilot came out, under whose directions she was taken into harbour, and moored with her port anchor, and 60 fathoms of chain, in a berth alongside of and at the distance of from 10 to 15 fathoms from the Benalla, and with her head in the same direction towards the entrance of the harbour. A 6½-inch hawser was then taken from the starboard bow to the breakwater, and a 6-inch hawser from the same bow to a buoy ahead.

The third and last vessel, the Stag, about 7 a.m. of the 1st October, arrived off the entrance to Ponta Delgada. She was also taken charge of by a pilot, and under his directions was moored in a berth alongside of but at a distance of about 20 fathoms or more from the Robinia, with her port anchor and 50 fathoms of chain; and, under the pilot's directions, an 8-inch hawser was carried from the starboard bow to the buoy lying almost immediately ahead of the Robinia.

The three vessels thus lay side by side, with a distance of from 10 to 20 fathoms between one another, parallel and near to the extremity of the breakwater, heading about E.S.E. The wind began to increase, and accordingly a 10-inch hawser was laid out from the *Benallu's* starboard bow, an 8-inch from the *Robinia's* starboard bow, and a 6-inch from the *Stag's* starboard bow, all of which were taken and made fast to the breakwater. By about 5 p.m. the wind had increased so much, that additional

precautions became necessary, so three stern hawsers were carried out from the *Benalla*; the *Robinia* dropped her starboard anchor, with 15 fathoms of chain under foot, and carried a hawser from the starboard quarter to the buoy astern of her, while the *Stag* dropped her starboard anchor, with 30 fathoms of chain, and carried a 6-inch hawser from her starboard quarter to the buoy astern of the *Robinia*.

At about 8 p.m., the chain by which the Robinia's hawser was attached to the buoy astern parted, and the vessel began to sheer from side to side, bringing her starboard quarter into collision with the 'midships and port quarter of the Benalla. The hawser was, however, again passed to the buoy, and lashed; but the lashings soon afterwards gave way, and they were then not able to secure it again. Soon after 12 o'clock the Robinia's starboard quarter and stern were jammed into the 'midships and port quarter of the Benalla, being held there, no doubt, by the out-setting current from the harbour; and it was then determined to back the engines of the Robinia, with the view of getting her alongside the Benalla; and a hawser was at the same time passed from the port bow of the Benalla to the starboard bow of the Robinia, with the object of getting the two vessels alongside of each other, and there lashing them together to prevent their striking against one another; but it could not be done, and the Robinia remained with her stern and starboard quarter jammed into the 'midships of the Benalla. After the Robinia had been going astern for some time, but without effect, the Benalla was suddenly found to be making water fast from a hole on the port side, below the engine-room floor. Whether this was made by the blades of the propeller, or by one of the baulks of timber, there was no evidence to show; but the rush of water was so strong that it was not possible to stop it, and in about halfan-hour the engine room fires were put out. In the meantime the bow and stern hawsers of the Robinia parted, and she thereupon shot ahead, clear of the Benalla, and her bows being held by the anchors, her stern swung round under the influence of the current, until she was caught either by the moorings of the buoy to which she had been attached, or, as the captain thought, by the hawsers becoming entangled with the propeller, and was there hung up with her stern towards the entrance of the harbour, and her bows pointing towards the Stag's fore rigging on the starboard side, which was about 10 to 15 fathoms distant.

In the meantime the master of the Stag, on finding that the gale was increasing, at about 12.30 a.m. carried out with his own boat a hawser from the port quarter to a buoy, which was nearly abreast of his mizen rigging, and distant about ten fathoms from his port quarter. And fearing that this might not hold, he soon afterwards carried out another hawser from the same quarter, and secured it to the same buoy. When, however, the Robinia shot clear of the Benalla, the two bow ropes of the Stag, which connected her with the breakwater and the buoy ahead of the Robinia, parted, no doubt out by the latter's stem. The Stag then canted slightly to the northward, and was held in this position by her anchors. The Benalla sank at about 5.15 a.m.

About the same time the Robinia came across the Stag's bows, and

sank in a few minutes, her crew being rescued by a boat from the Stag; but about 7 a.m. the latter was dragged clear of the Robinia, with whose rigging she had become entangled, and it was found that her fore and main holds had been stove, upon which her engines were put astern; but as soon as her stern grounded the fore part of the vessel sank. Upon these facts the Court came to the following conclusion:—

That the three ships took up safe and proper berths, save that it would have been better, under the circumstances, had they been moored somewhat further apart; that they were all in the first instance securely and sufficiently moored; and that proper measures were thereafter taken on board the *Benalla* and the *Stag* to ensure the safety of those vessels; that it would have been impossible for the *Robinia* to have proceeded out to sea after the failure to carry out a tow-line aft on the parting of the stern hawser.

The Court was, however, of opinion that the master of the Robinia erred in not taking proper measures to secure his vessel by sufficient moorings astern, which he might have done by laying out an anchor on his port quarter. The Court, however, considered that it was a mere error of judgment, and on that account did not deal with his certificate.

Capsizing.

" MACEDONIA."

Inquiry held 6th December, 1880.

Assessors: B. S. PICKARD, R.N.; G. W. WARD.

The Macedonia was a barque of 476 tons register. She left the Tyne in February, 1880, with coal, bound to Bahia, in Brazil, and having there discharged her cargo, proceeded in ballast to Pensacola, where she took in a cargo of pitch pine, a portion of it being placed on the deck, and left on the 21st August for Berwick-on-Tweed, having a crew of 11 hands all told, drawing 17 feet 6 inches forward and 18 feet aft, and with a freeboard of about 4 feet 5 inches, which would have been increased on getting to sea to about 4 feet 8 inches. For the first few days she had fine weather, but on the 25th a gale sprang up from the N.E., and the master, fearing that the deck load would strain his vessel, ordered 27 out of the 45 baulks of timber which she had on her deck to be thrown overboard, retaining the other 18 for the purpose of trimming the vessel by the stern.

On the 28th of September she encountered another gale, when two planks on the port bow were started, the leak being stopped by some canvas being nailed over the place. On the 12th October another gale sprang up, when the ship laboured and strained a good deal. From that time the crew were constantly at the pumps, but the water continued to gain upon them, until, on the 20th, there were 8 feet of water in the hold. On the 21st, a vessel, called the *Hallerda*, bore down to them, but the weather was so bad that it was not possible to send a boat along-

side; the Hallerda, however, stayed by them. On the 22nd, while the crew were engaged taking in the goose-winged lower maintopsail, the Macedonia suddenly capsized, the whole crew, except the boatswain and an A.B., being drowned. In about an hour all the topmasts went, and the vessel righted; and on the following morning, the weather in the meanwhile having prevented a boat being lowered, the Hallerda succeeded in rescuing the two survivors.

The Court came to the conclusion that the cause of the *Macedonia* springing a leak and subsequently becoming waterlogged, was the heavy straining to which she was exposed during the gales encountered by her. In their opinion there was nothing to show that she was not in a sufficiently good and seaworthy condition, and reasonably fit for the trade in which she was employed when she left Pensacola; but they added that they considered that the deck cargo, which she carried when she left that place, was too heavy for her.

Foundering-Want of Stability.

"HARDWICK," S.S.

Inquiry held 8th December, 1880.

Assessors: E. A. WHITE, R.N.; R. HARLAND.

The Hardwick was an iron screw steamship of 978 tons gross and 618 tons net register, and fitted with engines of 99 horse-power. She left Odessa on the 21st of August, 1880, for Bristol, with a full cargo of barley, and a crew of 19 hands all told. Two days afterwards she reached Constantinople, and having there taken in 25 tons of coal, she proceeded on her voyage, reaching Malta on the 27th. After taking in 50 tons more coal, she left, and nothing material occurred until the 1st of September following, when she was nearing Gibraltar. On that day the wind began to blow from the eastward, and at about 1 p.m. the vessel was observed to have a slight list to starboard, which continued to increase until about 3 p.m., when she shipped a very heavy sea on the port quarter, and heeled over with her rail under water. An attempt was thereupon made to set the jib and staysail, but before this could be done another heavy sea struck her on the same quarter, throwing her over on her beam ends. In about half-an-hour afterwards she turned bottom upwards. Some of her crew succeeded in getting upon her keel, but they were washed off, and in about two or three minutes afterwards the vessel sank, one man only being picked up.

The vessel was classed at Lloyd's 90 A 1, and had been well kept up; and, so far as the hull was concerned, she appeared to have been in good and seaworthy condition when she left Odessa. The shifting boards consisted of a double row, composed of three-inch planks, going from the upper deck to the hold beams, secured between double iron stanchions; but, in the opinion of the Assessors, they were not sufficient, as they ought to have gone down below the hold beams, if not to the keelson. The evidence as to the amount of freeboard and the quantity of cargo carried

was very scanty, but the Court had no hesitation in saying that she was very deeply laden. COM. CO

The vessel had two water ballast tanks, one extending from the after engine room bulkhead to within a few feet of the aftermost bulkhead, which was 60 feet long, 3 feet deep forward, and 4 feet 6 inches aft; the other, which extended from the forward engine room bulkhead to within a few feet of the collision bulkhead, was 80 feet long, and about 3 feet 9 inches deep forward, and about 2 feet 5 inches aft. These two tanks contained, when full, about 225 tons of water, but at the time of the casualty they were empty. The effect of this would be to raise the centre of gravity higher than if she had had no ballast tanks, and than if those tanks had been full of water. In addition to this the vessel was laden with barley, which is light for a grain cargo, and as she was as full as she could hold, and as deeply laden as she well could be, this would still further raise her centre of gravity. The vessel, moreover, being a welldecked ship, with her main deck amidships only 1 foot 7 inches above the water, would be very likely to ship heavy seas, and there being only three ports on each side, any water that might be retained there would tend still further to raise the centre of gravity. It was therefore quite possible, in the opinion of the Court, that in bad weather the vessel's centre of gravity might be so raised, by shipping heavy seas, that she would run the chance of capsizing. They could not therefore say that, looking to the construction of the vessel, the height of her ballast tanks, and the depth to which she was laden, she had sufficient stability. In their opinion the casualty was owing partly to the empty water ballast tanks in her bottom, and the light character of her cargo, and partly to the lowness of her freeboard and the well deck, which would have retained any water which she might have shipped, and thus rendered her liable to capsize.

"MAESE."

Burning.

Inquiry held 10th December, 1880.

Assessors: G. W. WARD; R. HARLAND.

The Maese, which was a brig of 206 tons register, left Gefle on the 20th September, 1880, with a crew of six hands all told, bound to Sunderland, and having a cargo of 70 tons of iron and 94½ standards of deals. On the morning of the 28th, at about 10 o'clock, the captain was aft fishing, when the cook observed smoke coming out of the funnel of the cabin stove, and at the same time out of the companion hatchway. Thinking that the smoke was being driven from the stove into the cabin, owing to the way in which the cowl was set, he altered its direction; but the smoke continuing to come out of the companion hatchway, he called the captain's attention to it, upon which the latter went immediately into the cabin, and found fire and smoke coming up from a small hatchway, which they called the lazarette hatchway, in the pantry, just abaft the cabin stove. On calling for assistance, the mate and an apprentice, who

with the cook composed the watch on deck, went to him, and they succeeded as they thought in extinguishing the fire by pouring down water through the hatchway. Thinking that the fire was out, the vessel was continued on her course, close-hauled to the wind on the starboard tack, and at 12 o'clock, when the crew had their dinner in the cabin, there was no appearance of fire or smoke, and only such a smell of burning as might be expected under the circumstances. Thus matters continued until about 2.30 p.m.. when, according to the master, he observed smoke coming up out of the forecastle, but on going forward he could find no trace of any fire, either there or at the little hatchway in the pantry. At about 3 o'clock, the master thinking that he had stood sufficiently long on the starboard tack, ordered her to be put about, and himself took the wheel, sending the helmsman to haul the jib sheet aft. Whilst the vessel was in stays, the master observed smoke issuing from the companion, and on going down into the cabin saw flames coming out of the little hatchway in the pantry. He at once called the mate, who was at the time asleep in his berth, and all hands having come aft, an attempt was made to extinguish the fire by pouring water down the hatchway, but the flames had then got such hold of the ship, that in a very short time they were driven out of the cabin, and the fire increased so rapidly that, in 10 to 15 minutes from the time when the flames were first observed, the sails had caught fire, and they had all to take refuge in the fore part of the vessel. The captain thereupon ordered the boats to be lowered, and by his directions the crew got into them. There was some doubt as to how long he remained on board after the rest had got into the boats, but ultimately he was also compelled to leave her; but before he did so, the vessel, which had all this time been drifting before the wind in an unmanageable state, had grounded about half-a-mile to the northward of Hasle, a small town on the west coast of the Island of Bornholm.

The Court having carefully considered all the evidence, came to the conclusion that there was nothing to show what was the cause of the fire, and that all reasonable efforts were made to extinguish it as well on the first as on the second occasion.

Stranding.

"ARABY MAID."

Inquiry held 14th and 15th December, 1880.

Assessors: E. HIGHT; T. BEASLEY.

The Araby Maid, a vessel of 837 tons register, left London on the 17th November, 1880, with a general cargo, a few passengers, and a crew of 19 hands all told, bound for Port Chalmers, Otago. Off Gravesend she took in a Trinity House pilot, and a Channel pilot, and arrived in the Downs at 4 a.m. of the 18th, where she anchored. At 4 p.m. the wind had worked round to the E., blowing strong and gusty from about S.E. by S., thus making the Downs a lee shore, and accordingly the captain set the

lower topsails and the fore and aft canvas, tripped the anchor at about 5 p.m., and stood away on the starboard tack, heading about N.E. by E., but making about a N.E. by N. course. In about 20 minutes they had succeeded in getting the anchor to the bows, upon which, as there were a number of vessels lying at anchor to the northward and eastward, and it was inexpedient in the then state of the weather and with darkness coming on to get in amongst them, the master determined to put the vessel on the other tack; and as there was not sufficient canvas on to stay her, he gave orders to wear the ship, and in a few minutes she was round on the port tack, close-hauled, and heading about S. \(\frac{1}{2}\) W., the high light of the South Foreland being visible, but the low light being obscured by the land. They then proceeded to get sail on her as quickly as possible; and whilst so employed a red light was observed about three points on the starboard bow.

This light came from the Loch Fyne, a vessel of 1,213 tons register, which had left London on the 12th of November, bound to Glasgow. She had passed through the Downs, and had got down as far as the Royal Sovereign Shoal, when she was compelled, by the stormy character of the weather, to put back, and came to anchor at about 4 p.m. of the 14th of the same month, with the South Sand Head Light bearing S.S.E. true, and the Gull Stream Light Ship N.E. by N., also true.

On the afternoon of the 18th, the wind having gone round to the eastward, the master determined to get under weigh, and go round the South Foreland, and with this view he ordered the lower topsails and main staysail to be set, and at about 5 p.m. she tripped her anchor. At this time there was a small vessel riding at anchor ahead of them, and accordingly the master deemed it advisable to allow his vessel to drift with the tide, intending thus to pass the South Foreland; but the wind being very strong and on the starboard bow, and the tide on the port side, the vessel, instead of making way to the southward, drove nearly stern foremost towards the beach, having all the time her red and green lights exhibited; and when her red light was first seen from the Araby Maid, she had got to within about two cables' length of the 17 foot soundings, and was heading to the N.E., her port side being towards the Araby Maid.

On sighting the red light of the Loch Fyne, the master of the Araby Maid, believing her to be a vessel heading off the shore, ordered the helm to be ported so as to go under her stern, and when they had brought the light about a point on the starboard bow, the helm was steadied in the expectation that before they reached her the vessel would draw ahead and allow them to pass under her stern. Finding, however, that the red light was not closing in upon them, and supposing that it was being shown by some mistake from a vessel at anchor, or that the vessel which was exhibiting it had not sufficient sail to take her off the land, the master of the Araby Maid ordered the helm to be starboarded so as to bring the vessel up again to the wind. On nearing her, however, they made out that she was a vessel heading off the shore, and fearing that they would not be able to clear her by going ahead of her, the master ordered the helm to be put hard down to stay the vessel. On coming up into the wind, the vessel

missed stays and fell off again, and there was then nothing for it but to port the helm and to pass under her stern, which they cleared by about 50 yards, the vessel at the time going at the rate of from three and a-half to four knots over the ground. At this time, owing to some misapprehension, the Araby Maid's anchor was suddenly let go, but it did not bring her up until 45 fathoms of chain had been run out. Owing, however, to the bottom being chalk, it had no hold of the ground, and the vessel then began to drive in towards the beach. In a short time she touched, and then fell broadside to the sea, the sea making a clean breach over her. Being at no great distance from the Kingsdown Coastguard Station, the rocket apparatus was soon got out, and a communication having been established with the ship, the whole of the crew and passengers were landed, with the exception of an infant of about 16 months old, whom the mother insisted upon taking with her, but which was washed out of the breeches buoy on the way to the shore.

Having heard all the evidence, the Court came to the conclusion that with regard to the letting go of the anchor, which, in their opinion, contributed to the disaster, the blame rested with the second mate, who misunderstood the order given by the master, and ought to have ascertained more carefully what the exact order was, especially as he was sent back by the chief officer to inquire.

The Court considered that the stranding of the Araby Maid was due partly to her having been forced inshore by the position of the Loch Fyne, partly to her anchor having, by a mistake of the second mate, been dropped just after they had cleared the Loch Fyne's stern; and that the course pursued by the master of the Araby Maid was rendered necessary by the conduct of those in charge of the Loch Fyne, in allowing that vessel to go stern foremost across the course of vessels entering and leaving the Downs, until she had got within a short distance of the beach.

They held that the Loch Fyne was under weigh when the Araby Maid approached and passed under her stern, and that she was at that time justified in exhibiting her side lights, and that her master, when the Araby Maid was approaching her, was not in a position to take any steps to get out of the way, his vessel not being under proper command; but that he was not justified, under the circumstances, in keeping her under so little sail, driving astern across the track of vessels entering and leaving the Downs, until she had got very near to the shore.

Abandonment.

"STOCKBRIDGE."

Inquiry held 15th and 16th December, 1880.

Assessors: A. Anderson; R. Harland.

The Stockbridge, an iron vessel of 1,499 tons, left the Mersey on the 11th of November, 1880, for Calcutta, with a cargo of 2,200 tons of salt in bulk, and a crew of 25 hands all told, in tow of a steam tug.

Between the 12th and the 14th the wind was blowing very hard from W. to S.W. On the 15th the weather moderated, and they endeavoured to secure the maintopsail yards; but in the evening the weather again became bad, and the ship laboured heavily, shipping large quantities of water. It was now found that the lower maintopsail yard, which was of iron, and was swinging about, it having been found impossible to secure it effectually, had cut from 6 to 8 inches into the topmast, which was of wood, so that there was great danger of its coming down; and at about 7 p.m. all hands came aft to request the captain to put into some port that they might secure the yards and topmast. Accordingly, at about 10 p.m., the weather still continuing very bad, the master ordered the vessel to to be put about, and they bore up for Queenstown, then some 60 or 70 miles to the northward of them. The gale continued to increase, and at about 2.30 a.m. the foremast broke off about 6 feet below the deck, carrying with it the maintopmast and mizen topgallantmast. In falling the foremast ripped up a quantity of the deck, making a large hole in it, and the foreyard pierced the lee side of the deck, where it was covered with water; and at the same time the maintopsail yards fell across and smashed the two lifeboats, disabled the pumps, and started the spare spars, which were on deck. Having stopped up the holes in the deck, they then proceeded to clear away the wreckage, which was beating against the ship's side, but it was found very difficult to do this, owing to its having been fitted with steel lanyards; and the wreckage continuing to beat against the ship's side, at length started some of the plates, causing the vessel to make water; and as the pumps were disabled she began to fill. At break of day they observed a vessel, and, after some trouble, all hands were taken on board her, the Stockbridge going down immediately.

So far as the hull of the vessel was concerned, the Stockbridge seemed to have been in good and seaworthy condition, but there were certain defects which the Court considered might have been detected and remedied before the vessel left.

The Assessors were of opinion that, before commencing a voyage, the bolts which connected the trusses with the mast should have been drawn out and examined, and that the goose necks should have been carefully overhauled. They also thought that, while there was nothing to show that the rigging was not in good and proper order, hemp lanyards would have been preferable to steel ones, as the former would have been more readily cut away, if at any time it became necessary to get rid of the mast.

The Court came to the conclusion that the loss of the vessel was due to the violence of the gale, which caused the foremast to fall, carrying with it the maintopmast and mizen-topgallantmast; and to the wreckage, which they were unable to get rid of, continuing to strike against the ship's side until it had started some of the plates.

They also expressed their opinion that the vessel had not been prematurely abandoned.

www.libtool.comAbandonment. "GALATEA."

Inquiry held 17th December, 1880.

Assessors: B. A. POWELL, C.B., R.N.; D. C. COMYN.

The Galatea was a three-masted iron sailing ship of 1,477 tons register, In the early part of November, 1880, she was lying in the Birkenhead Docks, having recently taken in a cargo of 2,049 tons of coal. The cargo was stowed by a regular stevedore, 1,400 tons of it being placed in the lower hold, and the remaining 649 tons in the 'tween decks; and both in the lower hold and in the 'tween decks the coals were trimmed chock up to the beams amidships and in the wings, but they sloped off both forward and aft, leaving an empty space at each end. Forward, both in the lower hold and in the 'tween decks, the coals abutted against the bulkhead of the chain locker, which was just abaft the foremast, and being also built up in steps, they were secured from shifting in that direction. The after ends of the coals in the lower hold were also secured from shifting by the empty space being filled up with dunnage; but in the 'tween decks no such precautions were taken, the after end of the coals being sloped off, according to the stevedore, at an angle of 60°, the foot of the slope being about 19 feet from the after bulkhead; and in the empty space thus left were stored some potatoes and other ship's provisions, not however nearly sufficient to fill it. The vessel left the Birkenhead Docks on the 8th of November, with a crew of 29 hands all told, bound to Bombay. For the next few days the weather was very boisterous, and at about 1 a.m. of the 16th the vessel was under lower topsails and main trysail, close-hauled on the starboard tack, the wind blowing a gale from the W.S.W., with a heavy cross sea from the N.W., when she was struck by a sudden squall, which threw her over on her port side, with the rail under water. Upon this the master gave orders to take in the fore and mizen topsails; but seeing that this produced no effect, he ordered the mizen topsail to be again set, to bring her head more to the wind. The vessel, however, still continuing with her rail under, the water reaching as far as the combings of the main hatchway, orders were given to cut away the foretopmast, which was done; but as this had no effect, the master then ordered the mizenmast and maintopmast to be cut away. On this being done, the lower maintopsail yard, which was of steel, fell with its end downwards, and striking the lee side of the deck, where it was covered with water, made a hole in it, through which the water poured into the vessel; and as the pumps had been disabled by the falling rigging, it was found impossible to free her, and it therefore became necessary to abandon her. Orders were accordingly given by the master to launch the starboard lifeboat, it being impossible to clear the port lifeboat, which was hampered by the fallen shrouds. With great difficulty eight of the hands succeeded in getting into the boat, which remained alongside till she was half full of water. They were then compelled to cut the painter, and when at a distance of 300 yards the vessel disappeared, carrying the rest of the crew with her. At about 11.30 a.m. of the same day the boat fell in with and was picked

up by a Norwegian yessel which ultimately landed the survivors at Plymouth.

The first question upon which the opinion of the Court was asked was as to the cause of this casualty.

When the vessel was thrown over from the violence of the squall, it was stated by two seamen, who were in the after part of the vessel, that they heard a kind of rumbling noise, as though the cargo had shifted, and as nothing of the sort was heard forward, the Court considered it probable that a portion of the cargo from the starboard side had shifted into the empty space in the after part of the 'tween decks, and falling to port, had kept the vessel down on her beam ends, even after the fore and mizen topsails had been taken in. In this position, with the water up to the combings of the main hatchway, the water poured into the hold, and the pumps being disabled, she filled and went down.

The Court considered that when she left the Mersey she was in thoroughly good and seaworthy condition, but that her freeboard of 4 feet 11 inches was hardly enough for a vessel of her size, and that though not perhaps overladen, she was very full. It further appeared to the Court that a temporary bulkhead should have been placed just abaft the coal in the 'tween decks, so that, however much she might have heeled over, the cargo could not have fallen into the empty space aft. Had this been done the casualty would probably not have occurred.

The Court, in the course of their judgment, expressed in strong terms their admiration of the gallant and self-denying behaviour of the captain and second officer of the Galatea at the time of the abandonment.

Abandonment.

'ENTERPRISE."

Inquiry held 21st, 23rd and 24th December, 1880.

Assessors: H. HARRIS: A. RONALDSON.

The Enterprise was a wooden vessel of 275 tons register. She took on board at Portsmouth 140 tons of ballast, consisting partly of sand and shingle, and partly of mud, shell, shingle and refuse. She left that place on the 11th of October, 1880, with a crew of eight hands all told, and in good and seaworthy condition, bound to East Hartlepool; but the wind being adverse, she came to anchor at Spithead. There she remained until the 18th, when the wind having gone round to N.W. by W., and the weather being moderate, she proceeded on her voyage, and at noon of the 20th brought up in Seaford Roads; but the wind having gone round to the eastward, she put back, and on the 22nd again anchored at Spithead. On the 25th. the wind being light from the N.W., she again proceeded on her voyage, and between 5 and 6 a.m. of the 29th was off the coast of Norfolk, some 12 to 15 miles to the eastward of Winterton Ridge, heading about N.N.E., when a gale sprung up from the northward which increased to a hurricane, and the vessel thereupon paid off dead before the wind. Finding, however, that she was yawing about from side to side, and fearing to come into collision

with some of the numerous fishing boats in the neighbourhood, she was hove to under close-reefed topsails and jib, with her head to the eastward. Between 4 and 5 p.m. the same day the weather moderated, and the master, thinking that she had got sufficiently far to the eastward, wore her with her head to the westward, the wind blowing a stiff breeze from N. to N.W., the vessel, however, still driving fast to leeward. During the gale some water had got into her-how did not clearly appear; and the ballast was heard to be washing about in the hold. As soon as they were able, they took off the after hatch, and saw what they believed to be the ballast in a liquid state washing about from side to side. Some of it was accordingly pumped out, and on the pumps becoming choked, they let down a bucket through the after hatchway and took out some more; but, fearing to lighten her too much, they desisted. Finding that the vessel was fast drifting towards the Belgian coast, they hoisted a signal for assistance; and between 4 and 5 p.m. the Bittern steamship bore down and tendered her services. At this time the North Hinder Lightship bore S.S.W., distant 10 miles, so that the vessel had got some 70 miles to the southward and eastward from where she was when the gale first struck her. From 5 to 11 p.m. the crews of the two vessels were engaged trying to get a hawser from the Enterprise to the Bittern, but owing to the state of the weather and to the unmanageable condition of the former vessel, it was found impossible to do so; and at length the master of the Bittern hailed to say that he could do nothing more for them, and asked what they intended to do. Upon this the master, finding that the crew were anxious to leave her, and seeing that she was still drifting to leeward, and that they were nearing the Belgian coast, the North Hinder Lightship then bearing W. 1 N., distant five miles, consented to abandon the vessel, and go on board the Bittern, which they did, and were subsequently landed in safety in the port of London.

The Enterprise herself was subsequently picked up, and taken into Flushing.

The Court came to the conclusion that the ballast with which the vessel was loaded was not improper ballast, looking at the difficulty of obtaining any other, and at the fact that she was only bound on a coasting voyage. The evidence proved to them that on the 30th of October she was unmanageable, not however on account of the character or condition of the ballast, but because of the violence of the gale, her light draught, the form of her bottom, which was very flat, and her indifferent sailing qualities. As to the abandonment, they considered as the vessel was almost wholly uninjured, as she had only from 1 foot to 15 inches of water in her, and was not making any at the time; as there was always a chance of the gale abating, or of picking up a pilot, who would have taken her into Flushing Roads; or as, for the last resource, she might have dropped her anchors when she got near the shore, and have lain there until assistance came, the abandonment, though not unjustifiable, was still somewhat hastily made.

Nevertheless they did not think that the master or mate were so much to blame as to justify the Court in dealing with their certificates.

"MAGGIE COMMINS."..... Stranding.

Inquiry held 22nd and 23rd December, 1880.

Assessors: E. HIGHT; H. D. GRANT, R.N.; T. BEASLEY.

The Maggie Cummins was a brig of 294 tons register. She arrived at Tupilco in July, 1880, and as there is only an open roadstead at that place, she came to an anchor about two and a-half miles from the shore in five fathoms of water. On the 10th of August the first raft of timber was taken on board. On the 15th another raft arrived; but it being Sunday, the crew refused to take it in, and that night five of the hands left the vessel in the longboat. The vessel was consequently left very shorthanded, with only the master, mate, boatswain and one A.B. on board.

On the 22nd or 23rd of August the master received orders to go some 20 miles down the coast, for the purpose of picking up a raft of timber which had been intended for a ship that had been lost upon the coast; having done so, the vessel returned to Tupilco, coming to anchor as nearly as possible in the same place. From that time the timber came alongside very slowly, owing to the want of water in the river, which prevented the rafts coming down. With a view to expedite the delivery, the master was obliged frequently to go on shore, and was occasionally prevented from returning on board the same night. Up to the 20th of September the vessel had been riding with only the port anchor down, but on that day the wind came on to blow hard from the northward, which obliged them to let go a second anchor, and they rode out that gale with 75 fathoms of chain to the port anchor and 45 to the starboard anchor.

As to what subsequently took place the witnesses differed. According to the master the vessel continued to ride, with both anchors down, until the 5th of October, when, between 10 and 12 o'clock in the morning, a strong gale sprang up from the N.N.W., gradually increasing to a hurricane, upon which he ordered 95 fathoms to be paid out on the port anchor and 65 fathoms on the starboard anchor. He said that there was a strong current setting along the coast to the east, which canted the vessel's stern, and thus brought the wind about two or three points upon the starboard bow. At about 12.30 the port chain parted, on which, finding that the vessel was driving towards the beach, he ordered the jib and foresail to be set, slipped the starboard anchor, and being unable to stay her, he determined to wear, in the hope of clearing the beach. Before, however, she could be got round, and whilst her head was pointing directly for the shore. she struck upon a bank running parallel to and at a little distance from the beach, and with a channel of deeper water inside; and whilst in this position, a Dutch vessel, called the America, which had either slipped or parted from her cables, came along the deep channel between the bank and the beach, and carried away the Maggie Cummins' jibboom and bowsprit. According to the mate the vessel was wilfully cast away by the master, both anchors having been slipped when there was no necessity for doing so. and when, judging from an expression found in a letter from him to the managing owner; the weather was "very moderate." In either case the vessel, as soon as she had taken the ground, began to beat heavily on the bank, and as she was fast breaking up, the master ordered the fore and mainmasts to be cut away, which was accordingly done. Two Manilla men who were on board, and the able seaman, then got ashore by swimming through the breakers; but the master, mate, and boatswain remained by the vessel, and when the gale had abated they were able to wade to the shore, the water, which during the height of the gale had risen several feet on the beach, having again receded, leaving the America high and dry. There were three vessels at the time in the roads, all of which went ashore that same day and were totally lost.

In order to answer the first question asked them as to the cause of the loss of this vessel, the Court had to judge between the evidence of the master and mate.

In the statement of the latter there were grave inconsistencies. On the other hand, the master's statement was consistent throughout, and was strongly supported by the fact that every vessel that happened to be in the roads at that time went ashore and was wrecked. Upon the whole, the Court had no hesitation in believing the evidence of the master. They were further of opinion that on his first arrival at Tupilco, and on his return to that place, he selected the best available anchorages, and that he was in no way responsible for the vessel's having remained there so long. The measures which he adopted when the gale struck the vessel appeared to the Court to have been the best possible under the circumstances. He veered out cable on both his anchors, and when the port cable parted, instead of having been slipped as the mate alleged, he set sail and slipped the other.

Charges of intoxication were brought by the mate against the master, and vice versa, but the Court held that the former were groundless, while the latter were proved.

They further found that the master was not in any way to blame for the disaster, but that the mate was in default, although such default did not, so far as appeared, cause the loss.

For his wrongful acts and defaults, the Court ordered the certificate of William Llewellyn, the first mate of the Maggie Cummins, to be cancelled.

Note.—The Court cancelled the certificate under the powers conferred upon them by sec. 242 of the "Merchant Shipping Act, 1854."

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910a Do. requiring payment of Mortgage-money, and of Sale in default, 3/6

per quire.
911a Notice of Assignment of Policy of Assurance, 3/6 per quire.

Do. to deliver up Goods, 3/6 per qr. Do. to drawer of Dishonoured Bills,

918 2/6 per quire. Notice of Dissolution of Partnership,

955 with Declaration annexed, 5/- per auire.

557 Notice to admit Originals and Copies in Blank for Superior 563 Notice to produce or County Court. 563 Notice to produce or County Court.

LETTERS FOR PAYMENT. &c.—POWERS OF ATTORNEY— TRANSFERS OF SHARES AND BONDS.

*876 Letter for Payment of Debt, *879 Singular and Plural, 2/- per quire, 25/- per ream. do. half-sheets, 1/6 per *****877 Do. *877 { *880 { quire, 20/- per ream. #881 Do. note size, 1/- per quire, 12/- per ream. do. of Rent Charge, note Do. #888 size, 1/- per quire, 12/- per ream.

890 Letter for payment of Dishonoured

Bill, 2/- per quire, 25/- per ream.

891 Do. do. note size, 1/- per quire, 12/- per ream. 891a Letter acknowledging Receipt of money, 2/- per quire, 25/- per ream.

892 Letter to Agent to serve Process, 2/per quire. 924 Power of Attorney to receive pay from

the Secretary of State for India, 6d. ea. 310 Power of Attorney to receive Dividends, 6d. each.

311 do. money from Paymaster-General, 6d. each.

313 General Power of Attorney, 6d. each.

314 Blank Power, 6d. each.

315 Power of Attorney to execute a Deed, 6d. each.

321 Share Transfers, 2/- per quire.
322 Do. Co.'s Act, 1862, 3/6 per quire.
323 Transfer of Co.'s Bonds, 2/- per quire.

* Special forms of Debt, Letters, &c., can be lithographed to order at the same price as the above forms, in quantities not less than five quires each.

PARLIAMENTARY (RAILWAY) FORMS.

951 Railway Reference Books, 4to, 1/6 each.

952 Railway Reference Paper, 4/- per quire. 953 Assent, Dissent, &c., Paper, 5/per quire.

954 Stiff Drab Paper Covers for the same,

with Titles, 2/6 per dozen. 957 Notice Index Paper, 6/– per quire.

958 Receipts for Deposit with Clerk of the Peace.

959 Receipts for Deposit with Parish Clerk. 960 Engineer's Estimate of Expenses.

961 Statement as to Dwellings (Labouring Classes). Persons displaced.

962 List of Notices Posted, &c. 963 Continuation Sheets for close.

PARLIAMENTARY AND MUNICIPAL REGISTRATION FORMS, ACT. 1878.

(41 & 42 Vict. c. 26).

PARLIAMENTARY.m.cn MUNICIPAL. 872 Notice of Claim to Vote. 876 Notice of Claim to be given to Overseers. (Lodger). Do. . do. 877 Do. Objection do. do. Dο. Objection to 878 Do. given to Overseers. do. do. do. Person objected to. 875 Do. Person objected to.

And all other Forms relating to the above Act.

AUCTION AND DISTRESS FORMS.

Foolscap size, 3/- per Dozen, when Printed on one Page only.

754 Authority to sell effects by auction,	760 Particulars and Conditions of Sale, Freehold, in one
755 Distress Warrants, or authority to	Lot. (▶£∄ 2
Distrain, 2/6 per quire. 755aDitto, half-sheets, 2/– per quire.	762 Do. do. in Lots.
757 Distress Notice and Inventory, fly-leaf,	
3/6 per quire. 757aDitto, half-sheets, 2/– per quire.	763aDo. do. Leaseholds. 764 Do. do. Copyhold. 765 Do. do. Freehold, Lease-
759 Particulars and Conditions of Sale of	
Freehold, in one Lot, by Trustees under a Will, 5/- per quire.	766 Conditions of Sale of Goods. 767 Tithe Notice of Distress. 2/-per
, o, por quito.	769 Do. Authority to Distrain. Capire.

ENGROSSMENT OF WILLS ON FOOLSCAP.

6d. each, or 4/- per Dozen, with the Instructions.

- 890 No. 1. Will disposing of the whole of Testator's Estate, Real and Personal, in favour of a single individual.
- 391 No. 2. Disposing of Real and Personal Estate in Trust to be converted into Money, and giving the proceeds between certain parties, or the survivors of them, and Devise of Trust and Mortgage Estates.
- 392 No. 3. Devise of Property to Executors in Trust, and to pay proceeds to Testator's Children, with provision for maintenance during minority, and with Clauses for appointment of new Trustees.
- 393 No. 4. Devise of Property to Wife for Life, and after her death, to Children absolutely.
- 394 No. 5. Devise to Wife absolutely. 395 Instructions for Execution of Wills.

MISCELLANEOUS.

809 Form of Statutory Declaration in blank (foolscap), fly-leaf, 2/6 per quire.	328 Memorandum for registering annuity, paper, 2/- per dozen.				
810 Do. do. half-sheets, 1/6 per quire.	268 Schedule of Deeds on Deposit as				
811 Declaration on Stamping Deed received	Security, 3/6 per quire.				
from Abroad, 6d, each.	925 Proxy Papers, 4/- per 100.				
858 Instructions for executing Deeds, 2/6	925a Do. Companies' Act, 1862, 4/- per 100.				
per 100.	926 Banker's Weekly Returns.				
871 Affidavit for Allowance of Spoiled	927 Do. Monthly do. 5/- per				
Stamps, 5/- per quire.	928 Do. Half-yearly do.) quite.				
312 General Release, 6d. each.	916 Register of Baptisms \ Parchment.				
318 Mine Cost Book, notice, 3/- per dozen.	917 Do. copies on paper / 1/- each,				
319 Notarial Exemplifications, fcap., 6d. ea.	918 Do. of Marriages (10/-perdoz.				
320 Do. do. Foreign, 6d. each.	919 Do. copies on paper				
327 Memorandum for registering annuity,	920 Do. of Burials \ Paper, 7/6				
parchment, 6d. each.	921 Do. copies on paper) per quire.				
Certificates of Baptisms, Marriages and Burials, in Books of 50 and 100.					



