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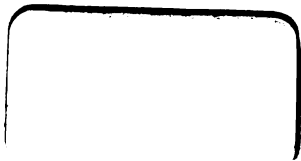
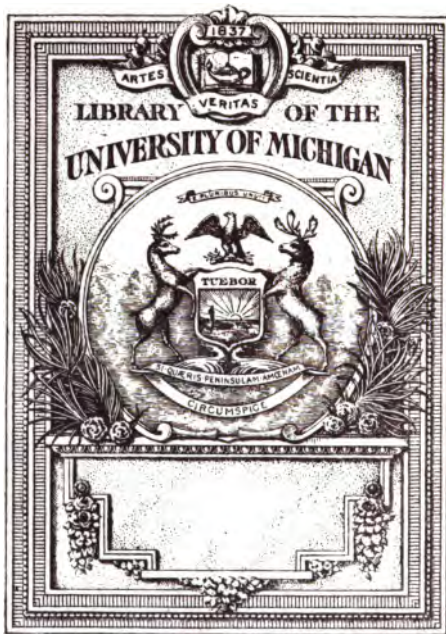
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An Officer's Notes

BY
CAPTAIN RALPH M. PARKER
U. S. CAVALRY

COMPILED BY:
LIEUT. C. C. GRIFFITH, C. A. C.

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(Fourth Edition)

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Captain R. M. Parker

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PREFACE.

The need has long been felt for a small pocket manual collecting in **one volume the essential** parts of military information required by a young officer before he can properly perform his duties. The basic subjects have been outlined by the War Department in the course prescribed for a commission in the Officers Reserve Corps. Endeavor has been made to condense and compile the military information covering all these subjects in the simplest, briefest, and clearest manner possible.

Captain Parker's experience has particularly fitted him for a work of this kind. For the past twenty years he has been constantly with troops, has seen active service, and has gained much valuable information and experience. During the summer of 1916 he was an instructor at the Military Training Camps, and during the winter has been in charge of a correspondence course for officers along the lines prescribed by the War Department. Since the creation of the Officers Reserve Corps he has been conducting a series of lectures on these same subjects.

"An Officers Notes" is a complement of the lectures given by Captain Parker on

Army Regulations (Company administration),
Military Laws,
Small-Arms Firing,
Field Service Regulations,
Military Topography,
Drill Regulations (Infantry and Cavalry),
Hippology.

These lectures are compiled from official publications, emphasizing the important points, and expressing the ideas in simple phraseology. The chapters on Drill Regulations and Hippology have been drawn largely from practical experience, and contain helpful suggestions which Captain Parker had acquired during his long experience in the Army. To these notes have been added some plates and tables of military information which a young officer will find useful to him in active service.

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C. C. GRIFFITH,
1st Lieut., C. A. C.

HEADQUARTERS EASTERN DEPARTMENT,
GOVERNORS ISLAND, N. Y. LW-p

March 23, 1917.

My dear Captain Parker:

I wish to express to you and to Lieut. C. C. Griffith my appreciation of the very excellent work which you have done in "An Officer's Notes". This little book contains in limited space and well arranged a vast amount of most useful information. It will be of great value not only to those who are attending the military training camps but especially to those who are preparing to take the examination for the Officers Reserve Corps. It is extremely compact, useful and a very valuable addition to the list of books now so much in demand.

Sincerely yours,


Major General, U.S.A.

Captain Ralph M. Parker,
Governors Island, N. Y.

COURTS MARTIAL

MILITARY LAW

1. **Source**—The Constitution of the United States.

2. **Kinds**—(a) Military Government, which is military power exercised by a belligerent in occupied territory of the enemy. (Part of International Law.)

(b) Martial Law at Home, which is military power exercised in time of war, insurrection, or rebellion over persons and things not ordinarily subjected to it.

(c) Martial Law as applied to the Army; which is, military power extending in time of war over persons in the military service, as to obligations arising out of such emergency and not falling within the domain of military law, not otherwise regulated by law.

Note. The last two divisions (b) and (c) are applications of the doctrine of necessity to a condition of war, and spring from the right of national self-preservation.

(d) Military law. This is the legal system that regulates the government of the military establishment. Its sources are written military law in the form of the Articles of War; the other statutory enactments pertaining to the military service; the Army regulations; general and special orders and decisions promulgated by the War Department and by law of military commanders. The unwritten military law is the "custom of war," consisting of customs of service in time of peace and war.

3. **Military Tribunals**—(a) Military commissions and provost courts, for the trial of offenders against the laws of war and under martial law.

(b) Courts-martial—general, special and summary—for the trial of offenders against military law.

(c) Courts of inquiry, for the examination of transactions of, or accusations or imputations against, officers or soldiers.

PERSONS SUBJECT TO MILITARY LAW

(a) All officers and soldiers belonging to the regular army of the United States, all volunteers from the dates of their muster or acceptance into the military service of the United States, and all other persons lawfully called, drafted, or ordered into or to duty, or for training in the said service from the dates they are required by the terms of the call, draft, or order to obey the same. That includes the Regular Army, entire; Volunteers when mustered into the United States Service; National Guard, from the date of the order and the draft into the federal service; members of the Officers' Reserve Corps when ordered for duty with the army of the proper authority; Enlisted Reserve Corps when ordered into active service.

(b) Cadets of the United States Military Academy.

(c) Officers and soldiers of the Marine Corps when detached for service with the Army.

(d) Officers and enlisted men of the Medical Department of the Navy, when on duty with marines which have been detached for duty with the Army.

(e) All retainers to the camp and all persons accompanying or serving with the armies of the United States without the territorial jurisdiction of the United States, and in time of war all such retainers and persons accompanying or serving with the armies in the field, both within and without the territorial jurisdiction of the United States.

(f) All persons under sentence of a courts-martial.

(g) Army field and quartermaster field clerks.

CLASSIFICATION OF COURTS-MARTIAL

(a) General courts-martial.

(b) Special courts-martial.

(c) Summary courts-martial.

COMPOSITION

Officers in the military service of the United States, and in the Marine Corps when detached for duty with the army.

Exceptions—No officers shall be eligible to sit as a member of a general or special court when he is the accuser or a witness for the prosecution; when there is only one

officer present with a command, however, he shall be the summary court-martial of that command and shall try cases brought before him. Chaplains, veterinarians, dental surgeons and ~~2nd Lieutenants, Quartermaster Corps~~, are not in practice, detailed as members of courts-martial.

Number of Members—(a) General courts-martial—Any number of officers from 5 to 13, and shall not consist of less than 13 officers when that number can be convened without manifest injury to the service. The decision of the officer appointing the court is final as to the number which can be convened without manifest injury to the service. If a court is reduced to less than 5 members it will direct the Judge Advocate to report the facts to the convening authority and await his orders. Such report will always be made through the commanding officer of the post, command, or station where the court is sitting. The commanding officer in forwarding a report will submit the names of the officers in his command who are available for detail to the court.

(b) Special courts-martial—Any number of officers from 3 to 5 inclusive.

(c) Summary courts-martial, shall consist of one officer. The word "officer" means commissioned officer.

An officer suspended from rank is not eligible for detail upon a court. A retired officer, performing active duty in time of war, is eligible for courts-martial duty. At other times he is not eligible for such duty, except when placed in command of a post, or when assigned to recruiting duty, when he may act as summary court-martial.

Volunteer officers and officers of the Reserve Corps ordered into active service are eligible.

Note. No distinction exists between Regulars and other forces as to eligibility for courts-martial duty.

Unless unavoidable, no officer shall be tried by officers inferior to him in rank. The convening authority decides as to whether or not it is avoidable.

AUTHORITIES FOR APPOINTING GENERAL COURTS-MARTIAL

- (a)** The President of the United States.
- (b)** The Commanding Officer of a territorial division.
- (c)** The Commanding Officer of a territorial department.

Special Courts-Martial

- (d) The Superintendent of the Military Academy.
- (e) The Commanding Officer of an Army.
- (f) The Commanding Officer of an Army Corps.
- (g) The Commanding Officer of a (tactical) division.
- (h) The Commanding Officer of a separate brigade.
- (i) The Commanding Officer of any District, or of any force or body of troops, when empowered by the President to do so.

Exceptions to the Above—That when any of the foregoing Commanders is the accuser or the prosecutor, the court shall be appointed by superior competent authority. The Superintendent of the Military Academy cannot convene a court for the trial of an officer.

SPECIAL COURTS-MARTIAL

Authorities Competent to Appoint—(a) The Commanding Officer of a District.

- (b) The Commanding Officer of a Garrison.
- (c) The Commanding Officer of a Fort.
- (d) The Commanding Officer of a Camp.
- (e) The Commanding Officer of any place where troops are on duty.
- (f) The Commanding Officer of a Brigade.
- (g) The Commanding Officer of a Regiment.
- (h) The Commanding Officer of a Detached Battalion.
- (i) The Commanding Officer of any other detached command.

When any of the foregoing Commanders is the accuser or the prosecutor, the court shall be appointed by a superior authority. The above mentioned authorities may appoint special courts-martial for any portion of their commands.

Rank of Appointing Authority—Authority to appoint courts-martial is entirely independent of any particular rank.

Commanding Officer as a Member—When but two officers, in addition to the Commanding Officer, are available, he will not detail himself as a member. In such a case if superior authority desires to appoint a special court-martial for such command, the Commanding Officer may be detailed as a member of the court.

SUMMARY COURTS-MARTIAL

Authorities Competent to Appoint—(a)—The Commanding Officer of a Garrison.

- (b) The Commanding Officer of a Fort.
- (c) The Commanding Officer of a Camp.
- (d) The Commanding Officer of any other place where troops are on duty.
- (e) The Commanding Officer of a Regiment.
- (f) The Commanding Officer of a Detached Battalion.
- (g) The Commanding Officer of a Detached Company.
- (h) The Commanding Officer of any other detachment.

Superior authority may appoint a summary court in any case where deemed advisable. When more than one officer is present the Commanding Officer will not detail himself as a summary court.

JUDGE ADVOCATE

Power to Appoint—For each general or special court-martial the convening authority shall appoint a judge advocate, and for each general court-martial when necessary, one or more assistant judge advocates.

JURISDICTION IN GENERAL

Jurisdiction Defined—The jurisdiction of a court-martial is its power to try and determine cases legally referred to it and, in case of a finding of guilty, to award a punishment for the offence within the prescribed limits.

NATURE OF COURTS-MARTIAL

Courts-martial form no part of the federal judicial system referred to in the Constitution of the United States. They are established under the constitutional power, however, to make rules for the government and regulation of the land forces, and are recognized in the provisions of the fifth amendment expressly exempting "cases arising in the land and naval forces" from the requirement as to presentment and indictment by grand jury. They are tribunals appointed by military orders issued under authority of law. Their jurisdiction is entirely criminal. They have no power to adjudge

damages for personal injuries or private wrongs, nor to collect private debts. No appeal can be made from them, nor can they be set aside by any other court. The United States Courts, however, may on a writ of habeas corpus inquire into the legality of detention of a person held by military authority and may order him discharged, if military jurisdiction does not exist. Sentences of courts-martial have no legal effect until they have received approval or confirmation of the proper commanding officer.

CONDITIONS NECESSARY TO SHOW JURISDICTION

- (a) That it was convened by competent authority.
- (b) That it was composed of persons legally competent.
- (c) That it was vested with power to try the person and the offence.
- (d) That its sentence was in accordance with law.

PROCEDURE WHEN MILITARY AND CIVIL JURISDICTION ARE CONCURRENT

In accordance with the principle of comity as between the civil and military tribunals in cases of concurrent jurisdiction that which first attaches in a particular case is entitled to proceed to its termination. This is, however, not an inflexible rule.

Cannot be divested by act of accused—A court-martial having assumed jurisdiction of a case, cannot be prevented from discharging its duty by any wrongful act on the part of the accused. For instance, if the accused has escaped from military custody and furnishes no grounds for the court's not proceeding to a finding, the court should find and, in the event of conviction, sentence him as in any other case. In such a case it is proper for the counsel to represent the accused as though he were present.

Jurisdiction Not Territorial—It extends to persons legally subject to it and to offences committed by them in any place whatsoever; i. e. in the case of an attache committing an offence, when on foreign duty.

Jurisdiction When Terminated—Usually military jurisdiction ceases when military persons sever their connection

legally with the military service of the United States. There are exceptions to this, however, as follows:

(a) Persons being guilty of fraud, embezzlement etc., though dismissed or discharged from the service continue to be liable for an act not known at time of discharge.

(b) When an officer in time of war, dismissed by the President, applies in writing for a trial on the grounds that he was wrongfully dismissed, the President shall convene a court-martial to try the officer on the charges for which he was dismissed. If the court-martial is not convened within six months of the making of the application by the officer, or after being tried, the court does not award dismissal or death, the President's order of dismissal shall be void.

(c) All persons undergoing sentence of a court-martial.

(d) Where a soldier obtains a discharge by fraud.

(e) Even though discharged from a term of enlistment, it does not relieve the soldier from the consequence of desertion committed during a former term of enlistment.

JURISDICTION OF GENERAL COURTS-MARTIAL

As to Persons and Offences—(a)—Any person subject to Military Law, for

(b) Any crime or offence punishable under the Articles of War.

(c) Any other person subject to trial by military tribunals for violations of law of war.

Limits of Punishment—Punishment upon conviction is discretionary with a general court-martial, except

(a) When mandatory by law.

(b) When limited by order of the President.

(c) Death punishment can only be imposed when specifically authorized.

JURISDICTION OF SPECIAL COURTS-MARTIAL

As to Persons and Offences—(1)—Any person subject to military law, excepting

(a) Commissioned officers.

(b) Any person subject to military law belonging to a class excepted by the President.

(2) Any crime or offence not capital, punishable by articles of war.

Note.—Cadets and soldiers holding certificates of eligibility for promotion are excepted from the jurisdiction of Special Courts-Martial.

The following are capital crimes and offences under the Articles of War.

- (1) Peace offences:
 - (a) Assaulting or disobeying a superior officer. (A. W. 64)
 - (b) Mutiny or sedition. (A. W. 66)
 - (c) Failure to suppress mutiny or sedition. (A. W. 67)
- (2) War offences:
 - (a) Desertion. (A. W. 58)
 - (b) Advising or aiding another to desert. (A. W. 59,
 - (c) Misbehavior before the enemy. (A. W. 75)
 - (d) Subordinates compelling commander to surrender. (A. W. 76)
 - (e) Improper use of countersign. (A. W. 77)
 - (f) Forcing a safeguard. (A. W. 78)
 - (g) Relieving, corresponding with or aiding the enemy. (A. W. 81)
 - (h) Spies. (A. W. 82)
 - (i) Misbehavior of sentinels. (A. W. 86)

Limits of Punishment—A special courts-martial shall not have power to adjudge,

- (a) Dishonorable discharge, nor
- (b) Confinement in excess of 6 months nor
- (c) Forfeiture of more than 6 months pay.

Note. Reduction to the ranks of non-commissioned officers and reduction in classification of first-class privates may be adjudged by a special courts-martial.

JURISDICTION OF SUMMARY COURTS-MARTIAL

As to Persons and Offences—Same as for Special courts-martial, except that a non-commissioned officer, who objects to trial by a summary court will not be tried by such court, except upon the order of authority competent to bring him before a general courts-martial.

Any crime not capital, made punishable by the articles of war.

Limits of Punishment—A summary court shall not adjudge: www.libtool.com.cn

- (a) Dishonorable discharge.
- (b) Confinement in excess of three months, nor
- (c) Forfeiture of more than three months pay.

Note. When summary court officer is the Commanding Officer, no sentence of such summary court adjudging confinement or forfeiture, or both, for a period in excess of one month, shall be carried into execution until approved by superior authority.

JURISDICTION OF OTHER MILITARY TRIBUNALS.

When Concurrent With Courts-Martial—The provisions of the Articles of War shall not be construed as depriving military commissions, provost courts, or other military tribunals of concurrent jurisdiction in respect to offenders or offences that may be lawfully tried by such tribunals.

ARRESTS AND CONFINEMENTS

(a) An officer charged with crime or serious offence shall be placed in arrest, or may be placed in confinement by the same authority.

(b) A soldier charged with crime or serious offence shall be placed in confinement. When charged with a minor offence, he may be placed under arrest.

(c) Any other person subject to military law, charged with crime or serious offence may be placed under arrest.

Note. Persons under arrest may be confined; may be restricted to barracks, quarters or tents, except when such limits are extended by proper authority. An officer who breaks his arrest or escapes from confinement shall be dismissed, or suffer such other punishment as a court-martial may direct. Other persons who escape from confinement or break arrest shall be punished as the court-martial may direct.

Who May Order Arrests—(a) Only Commanding Officers are empowered to place officers in arrest, except as provided in Article of War 68.

Note. Under A. W. 68, all officers or non-commissioned officers have power to part and quell all quarrels, frays, and disorder among persons subject to military law. They may order officers taking part in such fray or disorder into arrest, and place other persons subject to military law in arrest or confinement, as the case may require, until their proper superior officer is acquainted with the facts. Whoever refuses to obey such an officer or non-commissioned officer, or threatens violence to him, shall be punished as a court-martial may direct.

(b) Judge advocates of courts-martial have no power to place officers or soldiers in arrest, who are about to be tried by a court, or to compel the attendance of the accused before a court. These duties pertain to the convening authority, commanding officer, or officer having custody of the accused.

(c) Courts-martial have no control over the nature of the arrest, or other status of restraint of the prisoner, except in regard to his personal freedom in its presence. The Commanding Officer has entire control in such matters.

Arrest—How Executed—An officer is placed under arrest by his Commanding Officer in person, or through another officer by a verbal or written order advising him that he is under arrest, or will consider himself under arrest, or words to that effect.

Status of Officer in Arrest—A person in arrest cannot exercise command. He will not wear a sword, nor visit officially his Commanding Officer or other superior officer, unless directed to do so. His applications and requests of every nature will be made in writing.

Arrest of Officer Without Preferring Charges—Officers will not be placed in arrest for light offences. Usually the censure of the Commanding Officer will be sufficient. When the Commanding Officer places an officer in arrest without preferring charges, he will make a written report to his Brigade or Coast Artillery District Commander. Such Commander will, if he thinks necessary, call upon the officer arrested for any explanation he may desire to make, will take such other action within his authority as he may think necessary, and forward all the papers with his recommendation to the Department Commander. The Department Commander will decide whether or not trial is advisable and, either con-

vene a court for his trial, or forward the papers to the War Department for file with the officer's record, or for other action. In the case where officers concerned do not belong to a Brigade or Coast Artillery District, the report will be made to the officer having general courts-martial jurisdiction.

Arrest of Medical Officer—In ordinary cases, where inconvenience to the service will result from it, a medical officer will not be placed in arrest until a court-martial for his trial convenes.

Arrest and Confinement of Soldiers—Except under A. W. 68, or when restraint is necessary, no soldier will be confined without the order of an officer who shall previously inquire into his offence. It is proper, however, for a Company Commander to delegate to non-commissioned officers of his Company the power to place enlisted men in arrest as a means of restraint at the instant when restraint is necessary. Such action must be reported to the Company Commander at once.

Status of Non-Commissioned Officer in Arrest—A non-commissioned officer will not be confined in company with privates, if it can be avoided. When in arrest, they cannot exercise authority or control over others. When in confinement they will do no work.

Abuse of Authority to Arrest—No person shall be continued in confinement more than 8 days or until such time as a court-martial can be assembled. The officer by whose order he is arrested will see that he is furnished with a copy of the charges within 8 days after his arrest, and that he is brought to trial within 10 days thereafter unless the necessities of the service prevent; in this event, he shall be brought to trial within 30 days after the expiration of the said ten days. If the charges be not served, or the arrested person be not brought to trial, in accordance with the above, his arrest shall cease, but such persons having been released from arrest, under the provisions of Article 70, should be tried when conditions permit, within twelve months after release from arrest. *Provided*, that in time of peace no person shall, against his objection, be brought to trial before a general court-martial within a period of five days subsequent to the service of the charges upon him.

Refusal to Receive and Keep Prisoners—No provost marshal, or commander of a guard, shall refuse to receive or keep any prisoner committed to his charge by an officer, provided the officer, shall at the time deliver an account in writing, signed by himself, of the offence charged against the prisoner.

Note. Every commander of a guard is required to render a report to his commanding officer within 24 hours, or as soon as he is relieved from his guard, showing the names of prisoners confined, the charges against them, and the name of the officer committing them. The report ordinarily contained in the guard report book is sufficient.

Placing Prisoners in Irons—Prisoners shall not be placed in irons, except when the commanding officer considers the case a desperate and dangerous one. Such action and the circumstances will be reported immediately to the Department or Tactical Division Commander. When a prisoner is removed from irons a similar report is made to the same officers. When necessary to prevent the escape of a prisoner, he may be shackled or handcuffed when being transported from one place of confinement to another.

Releasing Prisoner Without Proper Authority—Any person in the military service who releases a prisoner, without proper authority, or who through neglect or design, suffers a prisoner to escape, shall be punished as the court-martial may direct.

ARREST OF DESERTERS BY CIVIL AUTHORITIES

Authority for Apprehension—Any civil officer having authority under the laws of the United States, of any State, Territory, District or possession of the United States, to arrest offenders, is authorized to arrest a deserter from the military service of the United States, and deliver him into the custody of the military authority.

Authority of Citizens Other Than Peace Officers to Arrest Deserters—The statute authorizing civil officers to apprehend deserters shall not be construed as taking away the authority for their apprehension by any citizen under an order or direction of a military officer. The offer of reward for the apprehension and delivery of a deserter coupled with

the Act of Congress, which provides for the payment of such a reward, is considered sufficient authority for the arrest of the deserter by a citizen.

Minority of Deserter—The right of the United States to arrest and bring to trial a deserter is paramount to any right of control over him by a parent on the ground of his minority.

PREPARATION OF CHARGES

Definitions—A charge corresponds to a civil indictment. It consists of two parts—the technical “charge,” which describes the alleged crime or offence as a violation of a particular Article of War or other statute, and the “specification,” which sets forth the facts constituting the same. The requisite of a charge is that it shall be laid under the proper article of war or other statute; and the requisite of a specification is that it shall set forth in simple and concise language facts sufficient to constitute the particular offence and in such manner as to enable a person of common understanding to know what is intended.

Who May Initiate Charges—Military charges, though commonly originating with military persons, may be initiated by civilians. The charge may likewise originate with enlisted men. The formal preferring of the charge, however, should be authenticated by the signature of a *commissioned* officer. Charges initiated by persons outside the Army, and based upon testimony not in the possession of the military authorities, should be sustained by affidavits or other reliable evidence.

Who May Prefer Charges—Any person may prefer charges. The fact that an officer is himself under charges, or under arrest, does not disqualify him from preferring charges.

Signing Charges—The officer preferring charges will sign his name following the last specification, adding his rank and organization in the Army. The signing of charges, like orders, with the name of an officer, adding “by order of” his commander, is unusual and not to be recommended. The signature forms no part of the charges, but will nevertheless be copied into the record, so that it may appear to the review-

ing authority whether or not the officer preferring the charges sat as a member of the court.

Accumulation of Charges.—The accumulation or saving up of charges through hostile *animus* on the part of the accuser, is discountenanced by the sentiment of the service. It may be expedient, however, where offences are slight in themselves and it is desirable to exhibit a continued course of misconduct to wait, before preferring charges, till a series of similar acts have been committed, provided the period be not unreasonably prolonged. In general, charges should be preferred and brought to trial immediately after the commission of the offence.

Duplication of Charges.—Duplication of charges for the same act will be avoided except when, by reason of lack of definite information as to available evidence, it may be necessary to charge the same act or omission as constituting two or more distinct offences. Even though the court finds the accused guilty in respect to two or more specifications describing the same act, punishment should only be given with reference to the act in its most serious aspect.

Consolidation of Charges.—Ordinarily, all the charges against the accused should be consolidated into one set of charges and trial had upon them as a whole. To avoid taking up unnecessary time of a court with minor offences, they should not be joined with the more serious charges, *unless they serve to explain the circumstances surrounding the more serious charges.* For instance, charges for desertion should not ordinarily be joined with charges for losing property of small value; nor should charges of wilful disobedience of the orders of an officer ordinarily be joined with charges for an absence from a routine duty.

Refusal to Submit to Medical Treatment.—An officer or soldier may be charged for refusing to submit to a surgical operation, or medical treatment, at the hands of military authority, if it is designed to restore or increase his fitness for service, and is without risk of life. If the attending surgeon is in doubt as to whether the proposed operation involves risk of life, the soldier will not be tried, but will be discharged on the surgeon's certificate of disability, under the provisions of Army Regulations.

Joint Charges—When two or more persons jointly and in pursuance of a common intent commit a crime or offence, which can be committed by several persons acting in concert, they may be separately charged and tried for such crime or offence, or may be jointly charged and jointly tried. The actual commission of the offence is not necessary. All those who take part in the enterprise are equally guilty, though they may be absent from the actual place of commission of the offence. The fact that justice may require that different degrees of punishment be awarded to the different parties constitutes no objection to a joint prosecution.

Note. The mere fact of their committing the same offence together and at the same time, although material as going to show concert, does not necessarily establish it. For instance, the fact that several soldiers have absented themselves without leave, together and at the same time, does not necessarily prove any concert of action, but may be the result of their individually availing themselves of the same convenient opportunity of leaving. In the case of joint charges, the right of challenge is exercised by each of the accused persons separately.

Charges Not to be Preferred Upon Uncorroborated Confession—In the case of a confession, charges should not be preferred for an offence, unless there is some evidence other than the confession of the accused that the offence has been committed. This applies particularly in cases of fraudulent enlistment. The mere confession by the accused that he had prior service, or was disqualified for enlistment at the time he enlisted and concealed that fact, should not be made the basis of charges, unless there is something else confirming his confession. The case should be investigated, however.

Charges For Private Indebtedness—Military authorities will not attempt to discipline officers or soldiers for failure to pay disputed private indebtedness or claims; nor will the military authorities attempt to decide upon such disputed indebtedness or claim. If the indebtedness is disputed, the creditor should resort to civil courts. If, however, an officer or soldier reflects discredit upon the service by his failure to pay just indebtedness, he may be brought to trial for violations of A. W. 95, or A. W. 96, as the case may require, but no action will be taken by the military authorities to enforce the payment of the debt. The action of the court in this case

would be purely disciplinary and not the act of a court of equity.

Numbering Charges and Specifications—Where there are several specifications, which are violations of one article of war, the usual procedure is to place them all under one charge, so that they will be known as 1st, 2nd, 3rd, 4th, etc. specification, "such" article of war. Where there are several articles of war violated, a charge will be made for each.

Additional Charges—New and separate charges, which are preferred after others have been preferred, are known as "additional charges." Such charges may relate to acts which were not known by the authorities at the time of the preferring of the original charges; or they may, as is more frequent, arise from acts of the accused subsequent to his arrest or confinement on the original charges. Additional charges must be brought to trial as such, at the same time as the original charges. After the court has been duly sworn to try the original charges, any charges that arise must be the subject of a separate trial.

ACTION UPON CHARGES

Submission of Charges—All charges for trial by court-martial will be prepared in triplicate, using the prescribed charge sheet as the first sheet and such additional sheets of ordinary paper as are required. Charges will be accompanied by the following, except when trial is to be had by summary court.

(a) A brief statement of the substance of the evidence available, both for the prosecution and for the defence, and also any probable evidence.

(b) In the case of a soldier by properly authenticated evidence of previous convictions, if any, of an offence or offences committed by him during his current enlistment and within one year next preceding the date of the alleged commission of the offences set forth in the charges. They will be forwarded by the officer preferring the charges to the commanding officer exercising summary court jurisdiction over the command to which the accused belongs. This officer, and every superior commander into whose hands they come, will either refer them to a court-martial within his jurisdiction, or forward them to the next superior authority exercis-

ing court-martial jurisdiction over the command to which the accused belongs, or otherwise dispose of them as the case may require.

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Investigation of Charges—If the first commanding officer exercising summary court-martial jurisdiction desires to forward the charges to superior authority, he will, before doing so, investigate them himself, or cause them to be investigated by some officer other than he who preferred the charges. The officer investigating the charges will give the accused ample opportunity to make any statement, offer any evidence, or present any matter in connection with the accusation against him. Should the accused desire to submit nothing, the indorsement will so state. The indorsement forwarding the charges to superior authority will include the following:

- (a) Name of officer who investigated the charges;
- (b) Opinion of both such officer and himself as to whether the several charges can be sustained;
- (c) The substance of such material statement, if any, as the accused may have voluntarily made in connection with the case during the investigation thereof;
- (d) A summary of the extenuating circumstances, if any, connected with the case;
- (e) His recommendation of action to be taken.

Prompt Action Required—It is the duty for those charged with court-martial jurisdiction to bring the case to trial as soon as practicably, consistent with the proper administration of the case.

Determination of Proper Trial Court—When an officer who exercises court-martial jurisdiction receives charges against an enlisted man, it is his duty to consider whether they shall be tried by general, special, or summary court-martial. In deciding as to which court shall try the case, due consideration must be given to the seriousness of the offence and the limits of punishment prescribed for the different courts. No fixed rule can be laid down and the matter should be decided in the best judgment of the commander concerned, in accordance with law.

Disposition of Copies of Charges—(a) When trial is to be had by summary court, the charges will be completed

as the record of the trial. A copy of the record thus completed will be sent to the Company Commander and the other copy, likewise completed, will be transmitted with the least practicable delay to the officer exercising general court-martial jurisdiction over the command, in whose office it will be filed and at the end of two years it will be destroyed.

(b) When trial is to be had by special or general court-martial, the charges and one copy thereof will be referred to the trial judge advocate (the judge advocate of the court-martial which tries the case). The trial judge advocate will furnish the accused or his counsel with a copy and the other copy will be retained in the office of the officer appointing the court. The top fold of this copy of the charge sheet, in case of trial by a general court-martial, will be detached at the proper time and forwarded with the record of the trial to the Judge Advocate General of the Army.

Service of Charges Upon Accused—In order that the accused may have time to prepare for his defence, it is provided that, in time of peace no person shall, against his objection, be brought to trial before a general court-martial within a period of five days subsequent to the service of charges upon him if he objects thereto.

THE MEMBERS

Place and Time of Meeting—The authority appointing general or special courts-martial designates the place for holding the court, the hour of meeting, the members of the court, and the judge advocate. A general or special court-martial assembles at its first session at the time and place designated in the order convening it; thereafter, according to adjournment. A member of a court-martial stationed at a place where the court sits is liable to duty with his command during adjournment. Subject to the orders of the convening authority, the court determines the hours of holding this session.

Uniform—It is customary for members of general courts-martial and witnesses to appear in court in dress uniform with side arms. The judge advocate should wear the uniform of the court without side arms. The accused is usually required to appear in dress uniform, if he possesses one, and if the court is so uniformed. The President of the court, however, may decide that it is impracticable for the

court to sit in dress uniform and direct that they appear in service uniform. When practicable a deserter will be tried in the clothing in which he was apprehended.

Call to Order—When the court is ready to proceed, it is called to order by the President.

Sitting of the Court—Members will be seated according to rank, alternately to the right and left of the president. The judge advocate, the accused, and his counsel, are seated so as to be most easily seen and heard by all the members of the court. The reporter should be seated near the judge advocate.

Roll Call—At the beginning of each session the judge advocate verifies the presence or absence of the members of the court by calling each officer's name or by informally noting his presence or absence. This verification is noted in the record.

Introduction of the Accused—When the accused and his counsel appear before the court for the first time, the judge advocate will announce their names to the court.

Absence of a Member—When a member of a court-martial has reason to believe that he will, for a proper reason, be absent from a session of the court, he will inform the judge advocate accordingly. When a member of a court-martial is absent from a session thereof, the judge advocate will cause that fact and the reason for the absence to be shown in the record of the proceedings. If the reason be unknown it will be so stated. In the case of absence, the convening authority will take such action as he deems proper.

Voting—Members of a general or special court-martial, in giving their votes, shall begin with the junior in rank. A tie vote on the *findings* is a vote of "not guilty;" a tie vote on any question is the equivalent of a vote in the negative. When the offence charged includes a minor offence, voting will be first had upon the major offence. All convictions and sentences (other than those involving death), whether by general or special court-martial may be determined by a majority of the members present. Refusal to vote on any question arising during the proceedings constitutes conduct to the prejudice of good order and military discipline, and is punishable under A. W. 96.

Decorum to be Observed—Trials before courts-martial will be conducted with the decorum observed in civil courts. Members should be dignified and attentive. Reading of newspapers or other evidence of inattention on the part of members during session is a neglect of duty to the prejudice of good order and military discipline. The president of the court will admonish against improper conduct on the part of members and prefer charges when necessary.

Punishment of Members—A court-martial cannot punish its own members. Members are liable to charges and trial for improper conduct as for any other offence against military discipline.

The Opening of the Case and Arraignment—During the reading of the order appointing the court and the arraignment of the accused, the judge advocate, the accused and his counsel, will stand. The arraignment consists of reading to the court and to the accused the charges upon which the accused is to be tried. While the court and the judge advocate are being sworn, all persons concerned with the trial, including any spectators present, will stand. When the reporter, an interpreter, or a witness, is being sworn, he and the judge advocate will stand. When the judge advocate, the accused, or his counsel addresses the court, he will rise.

Control of Court Over Accused—A court-martial has no control over the nature of the arrest or other status of restraint of a prisoner, except as regards his personal freedom in its presence.

Note. Prisoners will not be brought before a court-martial in irons, unless it be necessary as a means of restraint to prevent violence or escape. However, the fact that a prisoner has been tried in irons cannot in any case affect the validity of the proceedings.

Duties of the President—The president of the court will not be announced. The officer, senior in rank, present will act as such. The president does not by virtue of being such exercise command of any kind. As the organ of the court he directs the necessary regular and proper conduct of the proceedings. Should a member of the court disobey an order of the president, he is not chargeable under the sixty-fourth Article of War, but may be court-martialed for conduct to the prejudice of good order and military discipline. Neither the court nor the president may place the judge

advocate in arrest. The president has an equal vote with other members in deciding all questions. He speaks and acts for the court in every instance when necessary. He has no authority to open or close the court or make any ruling whatsoever, without the acquiescence of the court, or by custom of the service.

He administers the oath to the judge advocate and authenticates all acts, orders and proceedings of the court, by his signature. It is his duty to insure prompt trial and disposition of all charges referred to the court for trial.

Closed Session—To avoid disclosing the vote or opinion of a member on any question arising, the court will go into closed session. Closing the Court is effected in two ways:

1. The usual method is to cause the judge advocate, the accused, his counsel, the witness, the reporter, and the interpreter, if any, and all spectators, to withdraw from the courtroom, leaving only the members of the court proper in the room.

2. It may be more convenient, however, and is permissible for the court to withdraw to another room.

It is not necessary to close the court in every case requiring the action of the court—

Where action may be had by unanimous consent without disclosing the vote or opinion of a member the President may announce that without objection the so and so—For example should the judge advocate request a recess the President may announce that "If there is no objection the court will take a recess".

Sitting With Closed Doors—While it is customary for courts-martial proceedings to be conducted with doors open to the public, it is nevertheless authorized, in the discretion of the court, to close the doors to the public, when the case being tried is of a scandalous nature.

Change of Membership—While it is undesirable to change the membership of a court during a trial the appointing authority has power to relieve members and to add new members to the court at any time when necessary.

The promotion of a member does not affect his status with the court, except that he will sit according to his new rank. The rule is that no member who has been absent during the taking of evidence in a case shall take part in the trial, but non-observance of this rule shall not invalidate

the proceedings, if no objection has been made to his sitting. The rule will be complied with when practicable. When a member is permitted to resume his seat after an absence during which important testimony has been taken, all proceedings and evidence presented during his absence shall be read to him in open court and the record should so indicate.

THE JUDGE ADVOCATE

Selection—The Judge advocate should be carefully selected for his efficiency in that capacity. Where it can be avoided, a judge advocate will not be selected unless he has had experience as an assistant judge advocate.

General Duties—The judge advocate of courts-martial shall prosecute in the name of the United States and shall under the supervision of the court, prepare the record of its proceedings. He will attend to the following matters:

- (a) Arrange for a suitable room.
- (b) Procure and arrange furniture, stationery, etc.
- (c) Summons witnesses and make preliminary examinations of them.
- (d) Execute the orders of the court.
- (e) Read the orders affecting the personnel of the court.
- (f) Administer oath to members, reporter, interpreter and all witnesses.
- (g) Arraign the accused.
- (h) Examine witnesses in court.
- (i) Keep, or superintend the keeping of, the record.
- (j) Sign each day's proceedings.
- (k) Notify members of subsequent meetings.
- (l) Prepare record and present it to president for signature.
- (m) Will sign record and forward to Reviewing authority.
- (n) Prepare vouchers for payment of reporters, interpreter and witnesses.

Authentication of Record—The record is authenticated by the signature of the president and of the judge advocate.

cate. If, on account of death or other cause, the judge advocate cannot sign the record, it will be signed by the assistant judge advocate if there be one. If there be none, it shall be signed by one other member of the court.

Duty of Judge Advocate Toward the Accused—Should the accused not be represented by counsel, the judge advocate will, from time to time, advise him of his legal rights. He should acquaint the prisoner of

- (a) The accusations against him.
- (b) Right to counsel.
- (c) Right to testify in his own behalf.
- (d) Right to a copy of the charges.

While he may ask a prisoner how he intends to plead, he must not try to induce him to plead guilty by inferring that, if he does so, his sentence will be lighter. If the accused intends to plead guilty, the judge advocate should inform him of his right to introduce evidence in explanation of his offence and should assist him in securing it. During the trial, he will see that the accused has every right to which he is entitled. He will assist the accused in his defence and endeavor to bring out the facts in the case.

Examination of Charges—The judge advocate will carefully examine the charges and report to the convening authority any irregularities which appear to exist. He will himself correct slight errors, but will not without authority of the convening officer, make any substantial changes in the charges or specifications.

Truth to be Presented—The judge advocate will do his best to present the whole truth in the matter in question. He will not distort or suppress facts and will oppose any effort to do so.

As Legal Adviser of the Court—The judge advocate should respectfully call the attention of the court to apparent irregularities in its action or proceedings and will give legal advice when asked for it by the court. If the accused pleads guilty, when necessary, call the attention of the president of the court to the effect of such a plea must be explained.

Conduct of the Case—The judge advocate is left free to conduct the case as he sees fit.

ever, is responsible for the thorough investigation of the case and need not content itself with the evidence presented by the prosecution or defence. It is proper for the court as a body, or for any member, to ask questions of a witness. Such questions, however, are not asked until the prosecution and defence have completed their questioning of the witness. The court may direct the judge advocate to recall any witness at any time, or to take any action whereby the facts in the case may be more clearly presented.

The Judge Advocate Not to be Challenged—The accused has no right to challenge the judge advocate. In case of interest in the case, or personal hostility to the accused, he should apply to be relieved from duty as judge advocate in the case.

Weekly Reports—The judge advocate of a general court-martial will report through the president of the court and commanding officer of the post to the appointing authority on Saturday of each week, a list of charges on hand with the date of receipt of each, and if any case has been in his possession for one week or more, without trial, an explanation will be rendered.

Detail of Orderlies, &c.—The commanding officer will detail, when necessary, suitable soldiers, or clerks, or orderlies, to assist the judge advocate.

ASSISTANT JUDGE ADVOCATE

Appointment—The authority appointing a general court-martial shall appoint one or more assistant judge advocates, when necessary. The assistant shall be competent to perform any duty devolving by law, regulation or custom, upon a judge advocate.

It is usual for the assistant judge advocate to perform routine duties such as the preparation of the court-room, notification of members, summoning of witness, &c., leaving the conduct of the case to the judge advocate.

COUNSEL

Appointment—The accused has the right to be represented by counsel. Civilian counsel will not be provided at government expense. Should the accused request the ap-

pointment of an officer stationed where the court sits and the officer be not a member of the court, he will be detailed as counsel by the commanding officer, if practicable. Should the officer requested be not available to the commanding officer, the accused may appeal to the appointing authority, whose decision is final. It is customary for the commanding officer of the post or camp where the trial is held to detail a suitable officer to act as counsel for the accused. The right to counsel does not exist in case of trials by a summary court.

Duty of Counsel—The officer acting as counsel shall perform the duties which usually devolve upon the counsel for the defence before civil courts, in criminal cases. He shall guard the interests of the accused by all honorable and legitimate means, but shall not obstruct the proceedings by frivolous and useless objections and discussions.

Right of the Accused to Interview—The accused will be permitted to interview his counsel and witnesses for the defence as often as is necessary for the proper preparation of his defence.

QUESTIONING OF WITNESSES

When there is no reporter all questions will be reduced to writing. If the court has a stenographic reporter, all questioning may be done orally.

REPORTER

Employment—Under such regulations as the Secretary of War prescribes, the president of a court-martial or military commission, or a court of inquiry, has power to appoint a reporter, who shall record the proceedings of, and testimony taken before the tribunal.

Reporters are only employed when especially authorized by the appointing authority. This authorization is usually stated in the order appointing the court. Reporters for special courts-martial will not be authorized, except when the appointing authority requires the testimony to be reduced to writing. The reporter of a court-martial is usually a civilian stenographer. A soldier may be detailed to serve as a reporter before the above mentioned military tribunals,

who shall receive a certain pay differing from that paid a civilian reporter.

Completion of Record—The judge advocate or recorder shall require the record of the proceedings for each session to be finished, together with one carbon copy of the same, not later than twenty-four hours after the adjournment of the session. The complete record will be completed and ready for authentication not later than forty-eight hours after the final adjournment in the case.

Extra Compensation For Clerical Duties—No person in the military or civil service can lawfully receive extra compensation for clerical duties performed for a court, except as provided for in a detail of a soldier as reporter.

INTERPRETER

Under such regulations as the Secretary of War may prescribe, the president of a court-martial, military commission, court of inquiry, or summary court, may appoint an interpreter, when necessary. It is not necessary to obtain the authority of the appointing officer as in the case of reporter. They are paid at the same rate as civilian witnesses.

CHALLENGES

When the names of the members of the court-martial who are present, have been read to the accused, upon his introduction to the court, he is asked by the judge advocate whether he objects to being tried by any member present. Should he reply in the negative, the court and judge advocate will be sworn. If he states that he objects to being tried by a member, he will state also the grounds upon which he makes his objection, to which the challenged member is given an opportunity to reply. The challenged member withdraws and the court is closed and decides as to whether or not the objection is to be sustained. When the court is opened the president announces the decision and the member is either excused or permitted to continue to sit in the case. In this matter the accused is given the right to challenge individually any and all members of the court. Neither a summary court officer nor a judge advocate is subject to challenge.

GROUND FOR CHALLENGE:

(a) Principal Challenges.

- (1) That he took part in the investigation of the charges, officially.
- (2) That he personally investigated the charges and had expressed an opinion in the matter as to the guilt or innocence of the accused.
- (3) That he is the accuser.
- (4) That he is a witness for the prosecution.
- (5) That upon a re-hearing of the case, he sat as a member on the former trial.
- (6) That in the case of the trial of an officer, the member will be promoted by the dismissal of the accused.
- (7) That he is related to the accused.
- (8) That he has a declared enmity against the accused.

(b) Challenges For Favor.

Where prejudice, hostility, bias, or intimate personal friendship are alleged, it is for the court, after hearing the grounds of challenge stated and the reply of the challenged member, or any other evidence presented, to determine whether or not the member is disqualified.

Challenge of New Member—When new members join the court, the accused shall be given the opportunity to challenge them. The record in each case must show that the right to challenge has been given the accused, not only at the original session, but at any time that new members join the court.

Challenge By Judge Advocate—By a custom of the service the judge advocate may also challenge, for cause, in the same manner as the accused.

Member Cannot Challenge—There is no authority for a member of a court-martial to challenge another member, but when a member has knowledge of the fact that another member is the accuser or a witness for the prosecution, he will so notify the court in order that proper action may be taken.

Member Disqualified But Not Challenged—In the absence of a challenge, the court cannot excuse a member from

sitting on a case. A member not challenged, who thinks himself disqualified for certain reasons, may announce in open court his supposed disqualification in order that he may be challenged, or he may apply to the appointing authority to be relieved.

Waiver of Objection—The rule is—challenges should be made before the arraignment, but if an objection to the competency of a member was known and not made at that time, it is considered to be waived. If the incompetency, however, was not known at the time of the arraignment, the challenge may be made at any stage of the proceedings.

Liberality in Matters Pertaining to Challenges—The court should be liberal in passing upon challenges, but the objections must be specific, and should not be sustained upon the mere assertion of the accused, except where it is admitted by the challenged member.

Invalidated Cases—In cases which are invalidated because of failure to excuse a member who is the accuser or a witness for the prosecution, a new trial may be ordered.

Member. Witness For the Defence—The fact that a member is a witness for the defence does not necessarily disqualify him.

Member Called As Witness By the Court—Should a member of the court be called as a witness for the prosecution; the character of his testimony should be carefully considered and, in case of doubt as to the justice of his sitting as a member, he should be excused.

OATHS

Oaths of Members—After the challenges have been disposed of, the judge advocate will administer the oath to the court. In cases where members object to taking an oath, the closing sentence of adjuration may be omitted. Members of the court are sworn for each case tried.

Oath of Judge Advocate—The court having been sworn by the judge advocate, the president administers the oath to the judge advocate. During the administering of oaths all persons in the courtroom are required to stand. In taking an oath the head and the right hand will be bare and the right hand raised.

Other Oaths—The judge advocate administers all other oaths in connection with the trial, including witnesses, reporters, interpreters, &c.

Oaths to Test Competency—When a member of a general or special court-martial is challenged and it is desired to question him regarding his eligibility, the judge advocate will administer to him the following oath:

“You swear that you will true answers make to all questions touching your competency as a member of the court in this case. So help you God?”

This is called placing a member upon his *voire dire*.

CONTINUANCE

Continuance—A continuance is a delay granted to the prosecution or defence in proceeding with the trial. It is usually given in order to allow the judge advocate or the counsel to procure evidence, or to otherwise prepare the case.

Authority For—A court-martial may, for reasonable cause, grant a continuance to either party for such time and as often as may appear to be just. If an application for an extended delay appears to be well founded it should be referred to the appointing authority for his decision. If the counsel for the accused has not taken proper advantage of opportunities to prepare his case, the court may decide that the right to a continuance does not exist.

ARRAIGNMENT

The arraignment consists of the reading by the judge advocate to the court and to the accused, of the charges and specifications against the accused.

PLEAS

Procedure—Charges and specifications having been read, the accused is required to plead to each specification of the first charge separately, and then to the first charge. He then pleads to each specification of the second charge separately and then to the second charge, and so on.

Kinds of Pleas—Special Pleas are pleas to the jurisdiction, pleas in abatement, and pleas in bar of trial. Then there is what is known as a plea to the general issue.

A plea to the jurisdiction denies the right of the court to try the case for certain reasons given. Pleas in abatement are based upon some defect in the charge or specification and usually only operate to delay the trial.

Pleas in bar of trial, if sustained, are substantial and conclusive answers to particular charges or specifications. One of the most usual pleas in bar is the Statute of Limitations, which deprives the Government of the power to try and punish an offender after a specified period has elapsed since the offence was committed and under certain conditions.

Another plea in bar often arises by reason of the law prohibiting the trial of a person a second time for the same offence. A pardon may also be the basis of a plea in bar.

Pleas to the General Issue—This term is applied where the accused pleads guilty or not guilty to each charge in the specification, or guilty to a portion of a specification and not guilty of the other portion, etc.

Change of Plea—A court-martial may permit an accused to withdraw a plea of guilty and substitute one of not guilty, or vice versa.

Taking of Testimony on Plea of Guilty—The mere fact that the accused pleads guilty does not necessarily preclude the taking of testimony upon behalf of either the prosecution or the defence. It may be desirable to introduce witnesses to show the extent or degree of guilt of the accused or the seriousness of the offence. The accused may, in making his plea, plead guilty of a lesser kindred offence, that is, guilty of an offence of the same general nature, but less serious. (Statute of limitations, see app.)

ATTENDANCE OF WITNESSES

Process to Obtain Witnesses—Every judge advocate of a general or special court-martial, and every summary court-martial, shall have power to issue process to compel witnesses to appear and testify, as in the case of courts of the United States with criminal jurisdiction. Such process shall

run to any part of the United States, its territories and possessions. The court, in its discretion may also direct the judge advocate to require the presence of a witness.

Subpoena—For the attendance of civilian witnesses a subpoena will be issued in duplicate. It may be legally served by a person in the military service or a civilian. Usually it is served by an officer or a non-commissioned officer. Proof of service is made by indorsing on the remaining copy a sworn statement that the service was made. If the witness cannot be found the judge advocate should be informed. A judge advocate cannot subpoena a civilian witness to appear before himself for preliminary examination.

Summoning of Witnesses—The judge advocate will summon the necessary witnesses for the trial, but will not do so where expense to the Government is involved without the order of the court, unless satisfied that their testimony is material and necessary. The summoning of witnesses for the prosecution and the defence is done by the judge advocate. Where the summoning of a number of witnesses at the request of the defence will result in unreasonable inconvenience or expense to the government, the judge advocate will use his discretion in the matter.

Advance Notice to Witnesses—The judge advocate will endeavor to issue subpoenas to civilian witnesses at such time as to give them at least twenty-four hours notice before starting to attend the court.

Attendance of Military Witnesses—The attendance of military witnesses stationed where the court is sitting, or where no expense will be involved in getting to and from the court, will ordinarily be obtained by informal notice sent by the judge advocate to the person concerned. If for any reason a formal notice is required, the judge advocate will request the proper commanding officer to order the witness to attend.

The attendance of witnesses involving cost for travel must be issued by the department or other proper commander. No fee will be paid to military witnesses. Military witnesses are given only such mileage allowance as is due them under ordinary travel orders. Retired persons (officers or soldiers), not on active duty, appear before courts under the same rules and are entitled to the same fees as civilian witnesses who are not in the government employ.

Procedure to Secure Attendance of Civilian Witnesses

—Ordinarily the judge advocate will endeavor to secure the attendance of a civilian witness by informal means, sending him the duplicate subpoena properly filled out, with a request to accept service thereon and to return it to the judge advocate. A penalty envelope shall be enclosed for the purpose. If such informal methods are ineffective, formal subpoena will be issued, with a view to service by the proper person. Should the person desired as a witness reside elsewhere than at or near the place where the court is sitting, but is near another military post, the subpoena will be sent to the commander of that post with request that he cause it to be served. Should travel be necessary for the service of this subpoena, it will be sent to the authority competent to issue the travel order with request that it be served.

Accused to be Confronted With Witnesses—The accused must be confronted with witnesses in capital cases. Depositions cannot be introduced in capital cases. When the judge advocate believes that the interests of justice demand that the accused be confronted by a witness against him or believes for any reason that a witness should testify in the presence of the court, he will take the necessary steps to secure the attendance of such witness.

Books, Documents or Papers—If a civilian has in his possession a book, document, or paper, desired to be introduced in evidence, what is known as a subpoena duces tecum will be prepared and issued by the judge advocate, directing the person to appear in court and to bring with him such book, document or paper. Should a person in the military service possess such a book, document or paper, he will be directed by proper authority to appear in court with the desired book, document or paper.

Warrants of Attachment—Should a civilian witness fail to comply with the law in regard to obeying a subpoena his attendance may be brought about by means of what is termed a Warrant of Attachment. When it becomes necessary to issue a Warrant of Attachment, the judge advocate or summary court will direct or deliver it for execution to an officer designated by the department commander for the purpose.

As the arrest of a person under a Warrant of Attachment deprives him of his liberty, the authority for such warrant

may be inquired into by a writ of habeas corpus, therefore, the officer executing the Warrant of Attachment should be provided with the following papers:

- (a) Copy of charges properly authenticated.
- (b) Copy of the order appointing the court-martial.
- (c) The original subpoena with proof of service.
- (d) The affidavit of the judge advocate or summary court, that the person is a material witness; that he has failed to appear; that he has offered no valid excuse and that he has received the original Warrant of Attachment.

HABEAS CORPUS

Habeas Corpus and Warrant of Attachment—Should the officer executing the Warrant of Attachment be served with a writ of *habeas corpus* from a United States Court or Judge, for the production of the person attached, the writ will be promptly obeyed and a return made stating the reasons for his restraint. The officer upon whom the writ is served will report by telegraph the facts to the Adjutant General of the Army and the Department Commander. If the writ of *habeas corpus* be issued by a State Court or Judge, the officer shall make a respectful return in writing, informing the court or judge that he holds the person named in writ by authority of the United States, pursuant to a writ of attachment issued by the judge advocate of a court-martial, and that the Supreme Court of the United States has decided that State Courts and Judges have no jurisdiction in such cases. The officer will hold the prisoner in custody under his warrant and refuse obedience to the mandate of any government, except that of the United States.

Punishment For Refusal to Qualify as Witness—There is no power in a court-martial itself to compel a witness to testify or to punish him for not testifying. Procedure in such case will be made by the United States District Attorney, or officer prosecuting for the Government. Upon proper information, the District Attorney or other prosecuting officer for the United States will file an information against and prosecute the person so offending. The punishment shall be a fine not to exceed \$500, or imprisonment not to exceed six months, or both.

Tender of Fees Preliminary to Prosecution—In case of a civilian witness, who has been duly subpoenaed and wil-

fully neglects or refuses to appear or qualify as a witness, he will be tendered or paid by the nearest quartermaster one day's fee and the mileage to and from the court, and again called upon to comply with the requirements of the law. Should he fail to comply with the second time, a report of the case will be made to the officer having general court-martial jurisdiction over the command, with a view to presenting the facts to the Department of Justice for punitive action.

CONTEMPT

(a) **Authority to Punish**—The court-martial may punish at discretion, subject to certain limitations, any person who uses menacing words, signs, or gestures, in its presence, or who disturbs its proceedings by riot or disorder. Power is vested in general, special and summary courts to punish for contempt, while other punishments require the approval of the reviewing authority.

(b) **Persons Who May Be Punished For Contempt**—Any persons, whether they be in the military service or not, may be punished for contempt of a military court.

DEPOSITIONS

When Admissible—Depositions may be read in evidence before a military Court or Commission, in any case not capital. Depositions may be taken when the witness resides beyond the limit of the State, territory or district in which the court is sitting, or is actually unable by reason of age, sickness, etc., to appear before the court.

Before Whom Taken—Depositions may be taken before, and authenticated by any officer, military or civil, authorized by the laws of the United States to administer oaths.

THE EVIDENCE

Requirements of the Oath—The oath taken by the members of general and special courts-martial requires them to try and determine, according to the evidence, the matter before them. A summary court, although it takes no oath, is bound by the same rule. The evidence referred to, upon which the court must decide the case, means all the matters of fact which the court permits to be introduced, of which it takes judicial notice, with a view to proving or disproving

the charges. Any personal information in the possession of individual members, or in fact in the possession of the court itself, unless it has been received in accordance with the law and accepted as evidence, should not be considered in the case whatever.

Burden of Proof—The burden of proof rests entirely with the United States. It is always assumed that the accused is innocent until the proof of his guilt is established.

Protection of Witnesses—It is the duty of the court to protect every witness from irrelevant, insulting or improper questions, or from harsh or insulting treatment, and from unnecessary inquiry into his private affairs. The intimidation of witnesses is also forbidden.

Character of Accused—The question of character can only be raised by the accused. Should the accused bring up the matter of his character the judge advocate or court can then proceed to investigate and bring out by questioning all the facts in the case; but unless the accused has brought up the matter himself, neither the judge advocate nor the court is permitted to question the character of the accused. Where the accused takes the stand as a witness, however, his character for veracity may be attacked in the same manner as that of any other witness. There is one other exception to the rule of inadmissibility of evidence as to character on the part of the prosecution—where proof exists of the accused having committed acts similar to that for which he is being tried, said proof may be admitted to show the motive or the tendency toward the committing of that particular kind of crime.

Interest or Bias—The fact that a person is interested in or hostile to the accused, does not in any way disqualify him as a witness. The weight of his testimony, however, must be decided by the court.

Accused as Witness—The accused shall, at his own request but not otherwise, be a competent witness and his failure to make such request shall not create any presumption against him. The prosecution and the court have a right to examine and cross-examine the accused as in the case of any other witness. He can, however, only be cross-examined upon those matters upon which he has voluntarily testified.

Dying Declarations—While hearsay evidence is not as a rule admissible, there is an exception in the case of dying declarations, and it is permitted that the dying declaration of a person, against whom violence has been committed, be received as evidence before a court. Owing to the mental depreciation of persons giving a dying declaration much caution, however, must be exercised in giving weight to testimony involved.

Incriminating Questions—A witness is privileged to refuse to respond to a question the answer to which may incriminate him. If there is a question, however, as to whether or not the answer would incriminate the witness, the matter is decided by the court and the witness will answer or be excused from answering the question according to its decision. The right to refuse to answer such questions is a personal one and may be waived in the discretion of the court.

Physical Examination—It is not considered a violation of the rule permitting a witness to refuse to answer questions when the answers would incriminate him, for the court to require a physical examination of the accused, though he be a witness in his own defence.

Examination of Witnesses—Witnesses will be examined apart from each other, no witness being allowed to be present during the examination of another who is called before him. This rule, however, is not inflexible.

Number of Witnesses Required—The general rule is that there must be two witnesses to the act.

Order of Examination—The regular sequence in the examination of witnesses is as follows:

- Witness for the prosecution,
- Direct examination by the judge advocate.
- Cross examination by the counsel for the accused,
- Re-direct examination by the judge advocate,
- Re-cross examination by the counsel for the accused.
- Examination by the court.
- Witness for the defence.
- Direct examination by the counsel for the accused.
- Cross examination by the judge advocate, and so on.

When a witness for the defence is called the judge advocate will ask the following questions of a civilian witness: "State your name, business, profession or occupation."

He will ask of all witnesses:

"Do you know the accused, if so, state who he is?"

In the case of a person in the military service as a witness, the judge advocate will announce his name, rank and organization.

Witnesses will only be cross-examined on matters upon which they were questioned in the direct-examination. Should either side desire to bring out any matter which has not been touched upon in the direct-examination, they may recall the witness for their particular side and then by direct-examination bring out the matter desired.

Leading Questions—By the term "leading question" is meant a question which suggests the answer the witness shall make. In the direct examination leading questions will not be asked. They may be asked, however, in the cross-examination.

Swearing of a Recalled Witness—The administering of an oath to a witness a second time in the same case is not necessary. It is customary to require that the judge advocate caution and remind him that he is under oath for the present case.

STATEMENTS AND ARGUMENTS

Statements—After the introduction of evidence has been completed, the accused personally, or his counsel, may make an unsworn or written statement as to the case. It may be a brief summary of the evidence, or it may be a statement of extenuating circumstances or a complete oral statement or story of the whole affair. Such a statement is not subject to cross-examination. While such a statement has not the weight of testimony, it should be taken into consideration by the court.

Arguments—After the accused has made a statement, or waived his right to do so, the judge advocate and the accused, through his counsel, may present arguments. The judge advocate has the right to the opening and the closing argument, but the court may permit the defence to answer any new matter in the closing argument of the judge advocate.

FINDINGS

Voting—Beginning with the youngest in commission, the court will vote upon the specifications of the first charge in order, and then the first charge, followed by the specifications in order and then the second charge, and so on. A two-thirds vote is necessary to conviction in capital cases. A tie vote is equal to a vote of not guilty and, except in capital cases, a majority is necessary to convict.

Reasonable Doubt—A member in voting guilty should be satisfied beyond any reasonable doubt as to the guilt of the accused.

Guilty of a Lesser Included Offence—If the evidence prove the commission of an offence which is included in that with which the accused is charged, the court may except words of the specification and if necessary substitute others instead, pronounce the innocence of the accused of the excepted words and the guilt of the accused of the substituted words.

An example of such a finding would be the case of a charge of desertion. The following might be the finding:

“Of the specification guilty except the words ‘did desert’ and ‘in desertion’ substituting therefor respectively the words ‘absent himself without leave from’ and ‘without leave,’ of the excepted words not guilty, of the substituted words guilty and of the charge, not guilty but guilty of violation of the Sixty-first Article of War.”

Guilty Without Criminality—A finding of “guilty without criminality” is not consistent and should not be made. If the accused is found to have committed the act, but without guilty intent or knowledge sufficient to constitute the offence, the court should, as to the specification, find the accused “not guilty.”

Recording of Finding or Sentence—The judge advocate will himself write in the finding and sentence in every case. The fact that the sentence, or finding, or both, have been made known to a reporter or clerk, however, cannot affect the legality of the proceedings or sentence.

PREVIOUS CONVICTIONS

After the court has come to a finding of “guilty” in a case, the court will open and the judge advocate will be

called upon to state whether or not there is any evidence of previous convictions, and if so, to read them to the court in the presence of the accused. The accused will be called upon to state any legal objection he might have to any of the evidence.

SENTENCE

Voting—After the finding has been determined upon and resulted in a conviction of an offence, the court will close and decide upon a sentence. Those members desiring to propose sentences write them on slips of paper and hand them to the president. The president then reads them commencing with the lightest, and each in turn is voted on, and the first sentence that received the necessary majority becomes the sentence to the accused. Where the sentence is specific and mandatory for a single charge, that sentence is adopted. If, in addition to the finding of "guilty" on a charge where the specification is mandatory, there be other specifications, the mandatory sentence and in addition such other necessary punishment may be awarded as the case may seem to require.

Sentences For Officers—Legal and customary sentences for officers are death, dismissal, confinement at hard labor, loss of rank, suspension from rank, suspension from command, suspension from duty, fine of forfeiture of pay, confinement within certain limits, reprimand and admonition.

Sentences For Soldiers—For soldiers legal and customary sentences are: Death, dishonorable discharge, confinement at hard labor, confinement, forfeiture of pay, detention of pay, reduction, reprimand, deprivation of certificate of eligibility to promotion.

Recommendations to Clemency—When a court-martial, or any member thereof, desires to submit a recommendation to clemency, including a recommendation for the suspension of all or part of the sentence, such recommendation will be signed by each member concurring therein. The communication will contain a statement of the reasons upon which the recommendation is based and will be appended to the record of the trial.

CONFINEMENT IN A PENITENTIARY

When Authorized—Under the Federal Penal Code any offence is a felony which is punishable under the Code or

other Statute of the United States by confinement in excess of one year. But no person may be confined in a penitentiary unless the punishment actually adjudged for an offence of which he has been convicted exceeds one year. A sentence to confinement in a penitentiary will be awarded in those cases only where the act committed is punishable by penal servitude in the State, Territory, or District in which the act was committed. In awarding the punishment the place of confinement will not be mentioned by the court-martial, but will be left to the discretion of the reviewing authority.

ACTION ON PROCEEDINGS

Sentence Not Effective Until Approved—No sentence of court-martial shall be carried into execution until the same shall have been approved by the officer appointing the court or by the officer commanding for the time being.

Effect of Approval and Disapproval—While approval gives life and operation to a sentence, disapproval, on the other hand, nullifies it.

Power to Mitigate Punishment—The reviewing authority has the power to reduce the sentence in quantity or quality, provided that the general nature of the punishment remain the same. He has also power to remit the whole or uninclosed part of the sentence. The power of remission and mitigation extends to all uncollected forfeitures also.

Commutation of Sentences—The power to commute sentences imposed by military tribunals, can be exercised by the President of the United States alone.

Adding to Sentences—There is no authority that exists which can in any way increase a sentence given by a court-martial. The only way in which this can be effected is for the reviewing authority to return the proceedings in the case to the court for reconsideration, with a statement to the effect that the sentence is inadequate. Should the court adhere to its former decision, there is no power which can increase it.

Sentence in Excess of Legal Limit—Where a sentence is in excess of a legal limit, such portion of it as is legal may be approved and executed, the illegal portion of the sentence being disapproved, is without effect.

Suspension of Sentence—Any officer who has authority to carry into execution the sentence of death, or of dismissal of an officer, may suspend the same until the pleasure of the President be known. The authority competent to order the execution of a sentence adjudged by a court-martial may, if the sentence involve neither dismissal or dishonorable discharge, suspend the execution of the sentence in so far as it relates to the forfeiture of pay or to confinement, and the person may be restored to duty during his suspension of confinement. Within one year after suspension, such order of suspension, for sufficient cause, may be vacated and the execution thereof directed by the military authority issuing it. If the order of suspension be not vacated within one year, it shall have the effect of a remission of the sentence. The authority competent to order the execution of a sentence including dishonorable discharge may suspend such dishonorable discharge until the soldier is released from confinement, but the order of suspension may be vacated at any time and the execution of the dishonorable discharge directed by the officer suspending the discharge. In cases of suspended sentences the United States Disciplinary Barracks and penitentiaries are excluded from these rules.

Date of Beginning of Sentence—The order promulgating the proceedings of the court and the action of the reviewing authority will, when practicable, be of the same date. When this is not practicable, the order will give the date of the action of the reviewing authority, which date will be the beginning of the sentence of confinement. A sentence of confinement is continuous until the term expires, except where the prisoner is absent without authority, or on a parole, which proper authority revoked, or is delivered over to the civil authorities. The amount of time spent in confinement prior to the promulgation of a sentence does not form a part of a sentence, but due consideration should be given to such time when the sentence is passed upon by the reviewing authority.

Applications For Clemency will not be made in excess of one in every six months.

COURTS OF INQUIRY

When and By Whom Ordered—A court of inquiry to examine into the nature of any transaction of, or accusation or imputation against any officer or soldier, may be ordered

by the President or by any commanding officer, but a court of inquiry shall not be ordered by any commanding officer except upon the request of the officer or soldier whose conduct is ~~to be inquired into.~~

Neither the President nor a commanding officer is obliged to order a court of inquiry on demand of an officer or soldier. He will use his discretion in the matter and act according to the necessities of the case.

MEMORANDA FOR TRIAL JUDGE ADVOCATES

1. UPON RECEIPT BY AN OFFICER OF AN ORDER APPOINTING HIM JUDGE ADVOCATE OF A COURT-MARTIAL

(a) Examine the order carefully and take appropriate action to cause the correction of any substantial irregularity therein.

(b) Examine and study such portions of the Manual for Courts-Martial, Digest of Opinions of the Judge Advocates General, Army Regulations, and War Department or other orders affecting courts-martial as may appear desirable. He should, in this connection, give particular attention to the duties of trial judge advocates, to the procedure of courts-martial, and to the matter of evidence.

2. UPON RECEIPT OF CHARGES IN A CASE

(a) Prepare an envelope to contain the papers pertaining thereto.

(b) Examine the charges and all papers received to see that none appear to be missing, that the charges appear to be correctly drawn, that the evidence of previous convictions is complete and correct, especially as to dates, authentication, proper signatures, etc.

(c) Make authorized necessary changes in charges and take proper action in connection with defects, if any, found in evidence of previous convictions.

(d) Report to the appointing authority necessary or desirable changes which the judge advocate is not authorized to make.

(e) Furnish the accused, if he so desires, a copy of the charges; and, if he desires to state, ascertain from him how he intends to plead.

(f) Ascertain whether accused desires counsel; and if so, ascertain whether he wishes a particular person; and if so, whom.

(g) Arrange for counsel, if desired to do so.

(h) Prepare case for trial, investigating it thoroughly, and determining upon plan of prosecution.

(i) Arrange with president date and time of meeting of court.

(j) Arrange for court-martial room, see that it is in order, provided with necessary chairs, tables, stationery, and room to be heated, if necessary.

(k) Notify all members of date and time of meeting and arrange for presence of other necessary persons, including the accused and his counsel, reporter, interpreter, if required, and witnesses.

(l) Arrange to have at trial such books, etc., as may be required. The following are frequently found necessary or useful:

Manual for Courts-Martial.

Digest of Opinions, Judge Advocates General.

Standard Text on Military Law.

Ordnance Price List.

Clothing Price List.

(m) Determine maximum punishment, if any, imposable upon conviction of each of the several offences charged, and note same on slip for use of court in the event of a conviction.

3. UPON THE ASSEMBLING OF THE COURT

(a) Note officers present and absent.

(b) When court appears to be ready to proceed, announce the readiness of the prosecution to proceed with trial of ———, who desires to introduce ——— as counsel, or does not desire to introduce counsel.

(c) Swear reporter, if any.

(d) If a general court-martial, ask accused if he desires a copy of the record of his trial. If he does not, do

not have copy made; if he wishes copy, direct reporter to prepare one.

(e) Read aloud to accused the order appointing the court and each modifying order.

(f) Ask accused if he objects to being tried by any member present named in the order or orders.

(g) After action on challenge, if any has been made, again ask the accused whether he objects as above. Continue this until accused has no further objections.

(h) Swear members of court.

(i) Be sworn by president.

(j) Read charges and specifications aloud slowly to the accused, and, having done so, ask him how he pleads to the first specification, first charge—if necessary rereading to him the specification; then how he pleads to the second specification, first charge, etc.; then to the first charge, etc.

(k) If there be a plea of guilty, the president makes to accused the required explanations and asks him the required questions.

(l) Read to court from chapter on punitive articles the gist of each of the several offences charged.

(m) Introduce and swear witnesses for the prosecution. In some cases it may be desirable to acquaint the court with the particular specification with which the testimony of a particular witness is connected.

(n) In all cases attempt to establish by evidence each of the several specifications, except such elements as may be the subjects of judicial notice or as are admitted.

(o) Examine each witness, having careful regard for the rules of evidence.

(p) Offer opportunity to cross-examine.

(q) Re-examine, if desirable.

(r) Ask court if there are any questions by the court.

(s) If any witness is recalled, remind him that he is still under oath.

(t) When the prosecution has nothing further to offer for the time, announce that the prosecution rests.

(u) Swear witnesses for defence, in succession, and cross-examine so far as desirable.

(v) After defence rests, swear and examine witnesses, if any, in rebuttal for prosecution.

(w) If the accused neither testifies nor makes a statement, the president makes to him the required explanation and asks him the required questions.

(x) Offer accused opportunity to make a statement.

(y) Make closing statement, if any.

4. ADJOURNMENT DURING TRIAL

(a) Note time of adjournment.

(b) Arrange, if practicable, to have completed record of proceedings to date ready before next assembling of court.

(c) Subscribe the record of proceedings for the day.

5. FINDINGS

(a) After both prosecution and defence have concluded, the court closes for findings, and in the case of a person not a soldier to award sentence upon conviction.

(b) Upon conviction of a soldier, the court opens for the purpose of receiving evidence of previous convictions, if there be any.

(1) Read aloud duly authenticated evidence of previous convictions referred to the court by the appointing authority.

(2) Invite attention of court to any apparent irregularity in the evidence of previous convictions.

(3) Ask the accused whether the evidence of the several previous convictions and the statement of service as shown on the charge sheet are correct.

(4) Invite the attention of the court to any apparent irregularity in the findings.

6. SENTENCE

(a) The court will then close to determine upon and award the sentence.

(b) After awarding sentence the court notifies the judge advocate of the same.

(c) Invite the attention of the court to any apparent irregularity in the sentence.

7. ADJOURNMENT AT CLOSE OF TRIAL.

(a) After sentence has been awarded the court either proceeds to other business or adjourns.

(b) Note time of proceeding to other business or of adjournment.

8. AFTER TRIAL

(a) Complete vouchers for civilian witnesses and deliver same, if practicable, before the witness leaves.

(b) Take proper measures to insure the security of the findings and sentence, if recorded, and that they are not disclosed to any but the proper authority.

(c) When record is received back from reporter:

(1) Examine carefully to see that it is in proper form, complete, and correct as to both form and substance.

(2) Make proper notation on index sheet as to copy of record.

(3) See that copies of evidence of previous convictions are correct, certify same, and return originals to organization.

(4) If not so attached, attach index sheet and all exhibits.

(5) See that record is securely bound.

(d) Enter findings and sentence.

(e) If findings and sentence are typewritten, add proper certificate.

(f) Authenticate record.

(g) Have president authenticate record.

(h) Certify original voucher and send it to reporter or to a near disbursing quartermaster, and inclose copy with record.

(i) Verify completeness and correctness of record by seeing that, so far as necessary in the particular case, each requirement stated in Chapter XV, Section I, paragraph 357 (b) has been complied with.

(j) Indorse and forward charges, accompanied by record of trial and all other papers received with the case, to the appointing authority.

9. WEEKLY REPORT

Each Saturday report through the president of the court and the commanding officer, all charges which have not been returned to the appointing authority, showing date of receipt of each and reasons for delay in trial.

10. RECORD WHICH MAY BE KEPT

It is suggested that when deemed desirable at least the following record be kept by the trial judge advocate in each case. This record may be conveniently kept on an envelope to be used as a container for the charges and various papers:

Date of receipt by him of charges or other papers.

Date of preliminary consultation by him with the accused.

How accused intends to plead, if stated by him.

Counsel: Desired? If so, name. If so, date on which commanding officer so informed.

Date on which judge advocate informed of appointment of counsel.

Result of examination in preparing for trial, and dates and other necessary facts pertaining to each other incident connected with the case, such as mailing interrogatories, subpoenaing witnesses, etc.

Date of trial.

Date and hour record received back from reporter.

Date and hour record forwarded to appointing authority.

Date of return to commanding officer of evidence of previous convictions, if any, to be so returned.

The Statute of Limitations—(1) Definition—Statutes of limitation in criminal law are statutes of which the accused may take advantage and deprive the Government of the power to try and punish him after the lapse of a specific period since the offence was committed. They are enacted to secure the prompt punishment of criminal offences and with a view to obtain the attendance of the witnesses at the trial while the recollection of the event is still fresh in their minds. In court-martial prosecutions are limited both as to time and as to number. (A. W. 39, 40.)*

(2) Limitations as to time.—(a) In the following cases there is no limitation as to time upon trial by court-martial (A. W. 39) viz:

* *Time, Statute of Limitations. Number.* Constitution: "No person will be tried twice for same offence." This does not prevent the trial of a soldier by the military authorities after trial by civil courts for the same act, which sometimes constitutes two offences, i. e.—disgracing the uniform, a purely military offence, and breach of peace, a civil offence.

- (1) Desertion committed in time of war;
- (2) Mutiny; or
- (3) Murder.

(b) The period of limitation upon trial and punishment by court-martial shall be three (3) years in the following cases (A. W. 39) viz.:

- (1) Desertion in time of peace;
- (2) Any crime or offence punishable under A. W. 93;

or

- (3) Any crime or offence punishable under A. W. 94.

(c) No person subject to military law shall be liable to be tried or punished by a court-martial for any crime or offence not enumerated in paragraph (a) or paragraph (b), supra, committed more than two (2) years before the arraignment of such person (A. W. 39).

(d) Computation of the period of limitation.—The point at and from which the period of limitation is to begin to run is the date of the commission of the offence. The point at which the period of limitation is to terminate and from which said period is to be reckoned back is the date of arraignment of the accused. There must be excluded in computing this period:

(1) The period of any absence of the accused from the jurisdiction of the United States; and

(2) Any period during which by reason of some manifest impediment the accused shall not have been amenable to military justice.

Notes. "Manifest impediment", means only such impediments as to operate to prevent the court-martial from exercising its jurisdiction, and includes such conditions as being held as a prisoner of war in the hands of the enemy, or being imprisoned under the sentence of a civil court upon conviction of crime (In re Davison, 4 Fed. Rep., 510); but any concealment of the evidence of their guilt or other like fraud on their part while they remain within the jurisdiction of the United States, by which the prosecution is delayed until the time the bar has run, did not deprive them of the benefit of the statute. (14 Op. Atty. Gen. 268.)

The thirty-ninth article of war did not have the effect to authorize trial or punishment for any crime or offence barred by the provisions of law existing at the date of its exactment, August 29, 1916.

COMPANY ADMINISTRATION

Discipline—All military persons are required to obey promptly their superiors in the fulfillment of all lawful orders. Orders which are manifestly illegal have no force. Between the easily recognized extremes of legal and illegal orders, where there is doubt as to legality or propriety, the order should be obeyed. In serious cases and cases involving the expenditure of public funds, such doubtful orders should be demanded to be given in writing.

Military Courtesy—Superiors are forbidden to injure those under them or to abuse them in any way. Care should always be taken not to be offensive in tone, speech or manner. Orders should always be made impersonal and those to whom they are given should be coached to understand—especially those new in the service—that personal feeling plays no part in the issue of orders.

It is important always to distinguish between just complaints and useless complaints. Organizations should be kept up through the pride of the men in their organization, which is called "esprit de corps". Respect for and pride in an organization can only be maintained where the organization possesses merit. Military organizations without discipline possesses nothing in which to take pride. Whether discipline be maintained by the Company Commander by firm treatment or whether he maintains it by gaining the zealous cooperation, and self-discipline on the part of his men matters little—results are what count.

Courtesy is indispensable between military persons, and must not be confined to official business, but should be extended at all times and in all places.

RANK

Rank is that character or quality conferred upon military persons which marks their station and confers eligibility to command. It is given usually by virtue of office in an arm, corps or department, but may be conferred without refer-

ence to arm or branch of the service. For example: Retired or brevet officers. These have rank, but not command. Brevet is merely an honor, carrying no increase of pay and is usually conferred for some distinguished service.

ENLISTMENTS

Only those specially designated pursuant to authority of the War Department can bind the Government to the contract of enlistment and if the government is not bound the individual cannot be held. Recruiting Officers are divided (a) for regiments, detachments or posts; designated by the War Department to recruit for their organizations; (b) By special authority of the War Department, officers of such organizations may be detached to recruit for these organizations; (c) Officers constituting the Recruiting Service, who recruit without reference to any particular post or organization.

COMMAND

Command is exercised by virtue of office, and special assignment to duty of officers holding rank who are eligible by law to command.

The designation "company" applies to troops of cavalry, batteries of field artillery, and to companies and bands of all arms and corps. Any officer properly placed in command of any such unit is called the "company commander."

An officer relieved from any office will turn over to his successor all orders, public property, and funds pertaining to his command or duty.

FURLOUGHS

Furlough on the prescribed form may be granted for periods of three months by post commanders, brigade and district commanders of territorial departments, chiefs of War Department bureaus, to enlisted men of their respective departments or corps. Furloughs for one month may be granted by mine planters, or by regimental commanders if the companies to which the men belong are under their control. Soldiers on furlough will not take with them arms or accoutrements, will not leave the country, and will not be paid while actually on furlough except on special authority from the War Department. Enlisted men reporting at their

proper stations before the expiration of their furlough will receive in addition to their pay 30 cents per diem allowance for rations for the period of the furlough.

Passes are given at the discretion of company and post commanders to the men directly under them. No commutation of ration allowance is given to men on pass.

Transfer of Enlisted Men—Transfer of enlisted men will be made as follows:

1. When not involving change of station:

(a) Within a regiment, by the regimental commander.

(b) Within detached battalion, when more than fifteen days are required for exchange of correspondence, by battalion commander.

(c) Within a coast defence command, by the coast defence commander.

2. When change of station is involved:

As in the first instance but with the approval of authority competent to direct the travel.

3. Between organizations of the line of the Army:

(a) Within any post, by the post commander.

(b) Within any department, by department commander.

(c) Within tactical division, by division commander.

Deserters—When a soldier deserts, his immediate commanding officer will:

1. Ascertain whether public property has been lost in consequence; if so, call a survey.

2. Charge the value of such articles against the deserter.

3. Turn over abandoned clothing to the quartermaster, with certificate showing its condition and deserter's name.

4. Turn over personal property to a council of administration for sale. The proceeds of the sale will be turned over to the company commander, who will deposit them with a quartermaster, and in no case give them to relatives or other claimants.

Discharges—An enlisted man will not be discharged before the expiration of his term of service except:

1. By order of the President or Secretary of War.

2. By sentence of a general court-martial or military commission.

3. By direction of commander of department or mobilized division, by purchase; under rules governing such discharge; (These rules are published from time to time by the War Department), on account of disability; on account of imprisonment under sentence of civil court.

4. Through order of a United States court on writ of habeas corpus.

Three blank forms for the discharge of soldiers are used as follows:

1. Honorable discharge for

(a) Expiration of enlistment where service has been honest and faithful.

(b) Certificate of disability, where service has been honest and faithful.

(c) Prior to expiration of enlistment, for the convenience of the Government, when the soldier's conduct has been honest and faithful.

2. Dishonorable discharge, by sentence of court-martial or military commission.

3. Discharge, except as specified under 1 and 2.

If a company commander believes a soldier's re-enlistment should not be recommended, he should notify the soldier at least thirty days prior to his discharge, and the commanding officer will cause a board of officers to be convened to make final decision in the case.

Deceased Soldiers.—Upon the death of a soldier, his immediate company commander will:

1. Secure his effects and make inventory of them.

2. Notify nearest relative.

3. Send duplicates of the inventory with final statement and medical report to the Adjutant General.

4. Deliver effects to legal representatives of the deceased.

5. If effects are not claimed they will be sold by a council of administration appointed by the commanding officer. The proceeds of the sale will be turned over to the quartermaster with statement as to what they are.

Extra and Special Duty—Enlisted men performing duties which remove them from the duty roster will be reported on "extra duty" if receiving extra pay therefor from the *United States*, otherwise on "special duty."

Private work done for officers or in post exchange is not termed, or reported, as extra duty even though the men receive pay from the party employing them.

Non-commissioned officers cannot be detailed without authority from the Department Commander.

Detached Service—When a person in military service is placed on duty which separates him from his proper organization he is said to be upon detached service.

Medals of Honor and Certificates of Merit—Medals of Honor are awarded by Congress to officers and enlisted men for distinguished acts of gallantry in action, beyond that which would be required in line of duty and involving risk of life. Recommendation must be made within one year and should be accompanied by written testimony of at least two witnesses.

Certificates of Merit are granted by the President to enlisted men upon recommendation of commanding officer of regiment or corps to which such man belongs. This recommendation must be made within one year and for distinguished service seen preferably by the immediate commander. The man must be in the military service when the recommendation is made.

Two dollars per month is allowed to men holding certificates of Merit throughout their service, both active and retired.

A Certificate of Merit is forfeited by desertion.

Flags, Colors, and Standards—The "flag" of the United States is used on masts and flag poles.

"Standards" are carried by mounted troops. "Colors" are carried by all other branches of the service.

The difference between standards and colors is in size only.

Duties of the Company Commander—The commanding officer of a company is responsible for its proper instruction and administration.

COMPANY RECORDS

The following reports and records are made: correspondence file and index; sick report; morning report; property cards; company council book; muster rolls; pay rolls; descriptive lists; clothing issue slips and records of sizes; company fund book; duty roster; target reports; field firing reports; monthly returns; delinquency book; property returns; memorandum receipts; statement of clothing issued; rations returns; efficiency reports.

Duties of Squad Leaders—Squad leaders are responsible for: bunks and bedding being overhauled; floors, benches, tables scoured; arms and accoutrements cleaned; leather articles polished; cleanliness of men; everything in order when going on duty; proper dress of men when leaving post on passes; preparation of squads for inspection.

The Company Council of Administration—The council of administration consists of all officers present for duty with the company. The junior officer present will record its proceedings.

Company Funds—The company fund consists of gross amounts from all sources, it is received by the company commander, and with the concurrence of the company council is disbursed by him solely for the benefit of the company.

Route Maps and Journals of March—Every commanding officer of troops on the march will require a suitable officer, preferably a mounted officer, to make a complete sketch of the route of march and to make a report of the march giving all necessary data concerning the country through which the march was made.

Property Accountability and Responsibility—A company commander is responsible for public property pertaining to his company and cannot transfer such responsibility to enlisted men. Responsibility without accountability devolves when the officer is not required to make returns therefor.

An accountable officer is relieved from responsibility for property for which he holds a proper memorandum receipt. A responsible officer is not relieved from responsibility for property for which he has given a memorandum receipt, until he has returned the property to the accountable officer or has secured receipt from his successor.

Serviceable property is classified as follows:

1. That which is worn out by fair wear and tear and is of no salable value.
2. That which is worn out by fair wear and tear and is of salable value.
3. That rendered unserviceable from causes other than fair wear and tear.

Property of the first class may be submitted to a surveying officer or an inspector, and the following classes may be destroyed: (1) clothing infected with contagious disease, (2) deteriorated stores which endanger health or other stores, (3) other property adjudged unsalable by officer as above. His decision is final as to whether property has salable value.

A surveying officer is appointed by the regimental or post commander to inspect and report upon the circumstances of the destruction or loss of property.

Under this authority ordnance stores will be limited to utterly worthless articles constituting soldiers' personal equipment (not arms), horse equipment, and target materials and supplies.

When in the application of this paragraph under (3), to ordnance stores, the value of the stores to be destroyed on any survey shall bring the total for the quarter for any organization in excess of the amounts hereinafter given, the approval of the next higher administrative commander shall first be obtained.

Cavalry troops and engineer and signal corps companies, \$300.00.

Batteries of Field Artillery, \$500.00.

Infantry and coast artillery companies and all other cases, \$150.00.

When the disposition of unserviceable articles is covered by specific instructions of any of the supply departments, they will be disposed of in accordance with such instructions in lieu of being destroyed under the provisions of this paragraph, but requests for specific instructions will not be submitted in individual cases instead of placing the property before a survey officer or inspector.

Before ordering the destruction of property or stores under the provisions of this paragraph the commanding officer will personally inspect the same and will be held responsible that

the conditions justify the action. A certificate of the witnessing officer that the property has been destroyed as authorized will be appended to the report.

Property of the second class will be submitted to an inspector without prior action of a survey officer.

Property of the third class will be submitted to a surveying officer except in the case of public animals and, unless destroyed, will subsequently be submitted to the action of an inspector. In such cases inventory and inspection reports will accompany the report of survey.

Damage to and loss of property is classified as follows:

1. Unavoidable causes in ordinary service, or incident to active campaign.
2. Avoidable causes due to carelessness, willfulness, and neglect.

Indebtedness to Post Exchange—The indebtedness of a soldier to the post exchange is noted on pay roll for next succeeding month, and deducted from his pay by the quartermaster and turned over to the post exchange officer, who receipts therefor to the quartermaster and the soldier.

ISSUE OF RATIONS

Rations, Issue of—Rations are drawn on forms known as Ration Returns (form No. 23 Q. M. C.). The Ration Return is made out, giving the number of rations required for the number of men in the Company for a certain period (multiply number of men present by the number of days in the period). To this number is added the net corrections, which is the difference between the additions and subtractions shown on the morning report for the previous period. The sum of the first number and the number of net corrections is the number of rations to which the Company is entitled. Note: Should the deductions be in excess of the additions, the net corrections would be minus and must be subtracted from the first number. Should the additions exceed the deductions, the net corrections should be added.

The forms are made out in duplicate, blue and white. The white sheet is submitted with the morning report on the first of each month in garrison or on the first day of the specified period when in the field.

The Company commander signs and the Commanding Officer approves the ration return before rations are issued. It is then sent to the Quartermaster. The ration return informs the Quartermaster as to the money credit due the Company. Against this credit the Company draws such articles of subsistence as are considered necessary. Any overdraft made is paid for in cash by the Company commander from the Company funds at the end of the month. Undrawn balance due the Company is paid in cash to the Company commander and becomes a part of the Company funds. This money is available for the mess only.

In the lower part of the Ration Return are spaces to fill in amount of extra issues, which are due the Company, as allowed by the Army Regulations.

Rations—A Description—A ration is the allowance for the subsistence of one person for one day.

The kinds of rations are: garrison, haversack, travel, Filipino, and emergency.

Garrison rations are issued wherever practicable.

Haversack rations are issued beyond the advance depots in campaign.

Travel rations are issued to troops otherwise than by marching, and separated from cooking facilities.

Filipino rations are for Filipino scouts only.

Emergency rations are for troops on active campaign in emergency only, or in the field for instruction.

The cost of the ration is based upon the actual cost to the Government of the articles and quantities which constitute them.

Ration returns are made out giving the number of rations required for the number of men in the company for a certain number of days.

Instructions for changes in strength of company to be made in ration returns will be found in the morning report blank forms.

The following articles are not a part of the ration and are called extra issues: candles, matches, soap, toilet paper, rock salt, vinegar, ice, flour, (for paste during target practice).

Deposits—In amounts not less than five dollars a soldier on active duty may deposit his savings to remain until the end of his enlistment or his furlough to the reserve.

The United States pays four per cent. per annum on such deposits.

Company commanders keep records of deposits on the men's descriptive lists and individual deposit books. Deposits are made at the time of monthly payments.

Deposits and interest are forfeited by desertion, but cannot be ordered forfeited by a court-martial. They are exempt from liability for indebtedness to private individuals, but not so exempt for indebtedness to the United States.

Forfeitures and Deductions—Forfeitures are stoppages of all or part of the pay of officers or soldiers and are the results of court-martial sentences.

Deductions are authorized stoppages against the pay of officers or soldiers by reason of indebtedness to the United States, and other agencies of the Government.

Forfeitures are disciplinary measures, and deductions or stoppages are administrative measures.

Pay of Deserters—Soldiers charged with desertion will not draw pay until restoration to duty with or without trial. If tried and sentenced, payment will depend upon sentence.

Pay and allowance due at date of desertion are forfeited and may be used to satisfy authorized stoppages that were due at date of desertion.

No settlement of the pay account of a soldier will be made until there be sufficient sum for the satisfying of all stoppages, leaving a balance for the soldier.

Reward For Apprehension of Deserters—A reward of fifty dollars will be paid to any civil officer or civilian for the apprehension and delivery of a deserter from the military service or an escaped military prisoner. This reward must cover all expenses and inconveniences incurred in the apprehension and delivery.

Muster Rolls—(Made in duplicate). Muster rolls are made out by company commanders at the end of February and every second month thereafter. They contain the names of members of the organization, data affecting their status, and nature of service performed.

Pay Rolls—(Made out in triplicate). These are rolls of the company upon which payment is made. They are usually

made monthly when circumstances permit monthly payment of troops. The rolls contain all data necessary for the proper payment of the men. All items affecting the pay of the soldier are entered. The amount due the soldier is filled in by the quartermaster who is to make the payment.

Gratuitous Issues—In certain cases articles such as chevrons, recruit's toilet kits, identification tags and tape, etc., are issued to the soldier as are articles of clothing. The value of the articles so gratuitously issued is noted upon the soldier's descriptive list but will not be charged against his clothing allowance.

Other Issues—The more expensive articles such as overcoats, sweaters, blankets, ponchos, slickers and oilskins, etc., which can be returned by the soldier to be cleaned and repaired for further use, are issued to the company commander upon memorandum receipt, who in turn issues them to the men of his company in the same manner as the articles of equipment. No charge is made against the soldier for these articles unless he loses or, through carelessness, damages them.

Giving Information For Claims—Information which could be made the basis of claims against the Government shall be given only to proper officials of Departments, when directed to do so by proper authority.

Information concerning the sick and wounded may be given to their friends. If death is imminent, the immediate commander will notify the nearest relative. The fact of death may be communicated to relatives, but not the attendant circumstances.

Final Statements—Final statements are the final accounts of a soldier at the expiration of his service, and contain name and rank of soldier, place of acceptance for enlistment, date of enlistment, date of discharge, or furlough to reserve, reasons of discharge, enlistment period he is serving in, pay due soldier for various qualifications, reason for any detained pay, clothing undrawn, deposits, date of last payment, pay due the United States for lost articles or stoppages, remarks as to character of service, absences without leave, and other absences which affect his pay. Statement is signed by company commander.

On back of the statement is a list of the deposits made by the soldier.

Statements are made out in duplicate, except in case of death.

The quartermaster settles the final account of the soldier.

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CLOTHING

From time to time the War Department publishes in General Orders (at the beginning of the Fiscal Year) the money allowance to soldiers for clothing.

The latest order on the subject is as follows:

Initial allowance to all soldiers upon enlistment....	\$43.05
The monthly share of this initial allowance is....	7.18
The daily share of the initial allowance is.....	24
The semi-annual allowance is.....	12.44
(This semi-annual allowance is in addition to the initial allowance upon enlistment or re-enlistment.)	
The monthly allowance is	2.07
The daily allowance is .....	.07
Total allowance for three years is.....	117.67

Note: These amounts change somewhat each year.

Every six months the Company office publishes a statement of the account of clothing for each soldier. This shows whether the soldier has overdrawn his account or has money credit due him.

The Company commander is responsible that the soldier does not draw more clothing than he can pay for with money due him either as a clothing allowance undrawn, or as pay due.

When soldiers sell, lose or through neglect spoil their clothing, they should be court-martialed or otherwise punished.

The clothing allowance is based upon the aggregate cost of the articles of clothing found necessary for the proper clothing of the soldier.

ISSUE OF CLOTHING

(1) Normally the issue of clothing is in bulk to the Company commander.

(2) Form 213 Q. M. C. is filled out with the numbers and sizes of the articles required, in triplicate, 2 kept by Q. M., and 1 goes to Company commander.

(3) Company commander then issues to the members of his company on Forms 165 Q. M. C.

(4) Forms 165 are made out in the company office from the slips of clothing needed by the men individually.

(5) After issue, forms 165 are signed by the men, as receipts for the clothing.

(6) Total cost of clothing drawn is then entered on form 165-b, which is then signed by the company commander.

(7) The cost of the articles issued to each man is then entered upon his descriptive list.

(8) For drawing clothing by individuals, when it is necessary to issue to one who for any reason was not able to draw clothing with the company at the last regular issue:

Form 165 is made out in duplicate showing the articles required, the quartermaster who issues the clothing enters the articles in the proper column, numbers the slip, enters date of issue and causes the soldier to sign. The original is kept by the quartermaster and the copy is sent to the Company commander. Both quartermaster and Company commander enter the articles issued on the slip (165) upon an abstract (form 180 Q. M. C.).

(9) At the end of the month the two abstracts will be compared for accuracy.

(10) After each issue the Company commander will be careful to charge the amount or value of the articles issued to the soldier on his descriptive list.

RECORD OF SIZES

A record of the sizes of articles worn by each man is kept on hand in the Company office, on form 165 Q. M. C.

Note. In order that organizations may be kept in readiness for the field or for any duty, at all times, it is necessary that they be kept properly equipped with clothing. The Company commander must therefore keep track of the clothing in the possession of each man, by keeping a record and making frequent inspections.

ISSUE OF ORDNANCE TO COMPANIES

(a) When a company is first formed, an ordnance requisition is made out by entering upon it the numbers and kinds of articles indicated in the unit accountability manual as forming the unit equipment of a company (according to the strength of the company).

Replacing of Ordnance

(b) The regimental supply officer or the ordnance officer (whichever is the issuing officer) will supply such of the articles as he has on hand and give the company commander a credit sheet for the articles he cannot furnish. He will also invoice on the proper form (2 each, invoices and receipts are made out), the articles issued.

(c) The Company commander then enters upon Form 451 A. G. O., (Return of Unit Equipment) the number of men in his organization for which he has a complete unit of equipment. If he lacks certain articles to make the equipment complete or has a surplus of some articles, he will enter these differences in the spaces provided for that purpose.

REPLACING OF ORDNANCE

(a) The Company commander will take the papers upon which he relies to relieve him of responsibility for the property, to the supply officer and exchange them for the articles to replace those lost or damaged. In this case he makes no change in his return of property. The supply officer has to account for the change.

(b) Returns for ordnance are rendered to the Chief of Ordnance semi-annually.

(c) Returns are also rendered when an officer turns over his company to a successor, when the period is of considerable duration. There is a place for the new company commander to sign for all the property, thereby relieving the out going company commander from further responsibility, by sending the return so signed to the Chief of Ordnance.

PUNISHMENTS

(a) Punishments must conform to the law and follow the acts as soon as practicable.

(b) Commanding officers are not required to bring every dereliction of duty before a court-martial, but will endeavor to maintain discipline by admonitions, withholding of privileges and taking such steps as are necessary to enforce their orders. Company commanders are likewise supposed to settle cases of derelictions of duty which may be submitted to a summary court, by giving extra hours of fatigue

unless the soldier demands a trial by a court-martial. This right must always be made known to him.

By Statute—Punishment by flogging or by branding or marking, or tattooing on the body is prohibited. A. W. 41.

By Custom and Regulations—Many punishments formerly sanctioned have now, under more enlightened spirit of penology, become obsolete as to be effectually prohibited by custom without the necessity of regulations; among those are, carrying a loaded knap-sack, wearing irons (both handcuffs and leg irons, these are used only in exceptional cases for the purpose of preventing escape and not as punishment), shaving the head, placarding, pillory, stocks and tying up by the thumbs. To impose *military duty in any form as a punishment* must tend to degrade it, to the prejudice of the best interests of the service; such punishments as imposing extra hours of guard duty or of requiring a soldier to sound all the calls at a post for a certain period are forbidden.

Solitary confinement on bread and water, and placing a prisoner in irons are means of enforcing prison discipline. They are not imposed by sentence of a court martial.

COMPANY COMMANDERS

Commanding Officers Duties—The commanding officer of a company is responsible for the instruction, tactical efficiency, and preparedness for war service of his company; for its appearance and discipline; for the care and preservation of its equipment; and for the proper performance of duties connected with its subsistence, pay, clothing, accounts, reports, and returns.

In the absence of its captain, the command of a company devolves upon the subaltern next in rank who is serving with it, unless otherwise specially directed.

Captains will require their lieutenants to assist in the performance of all company duties, including the keeping of records and the preparation of the necessary reports and returns.

NON-COMMISSIONED OFFICERS

Non-commissioned Officers will be carefully selected and instructed, and always supported by company commanders in the proper performance of their duties. They will not be detailed for any duty nor permitted to engage in any

occupation inconsistent with their rank and position. Officers will be cautious in reproving them in the presence or hearing of private soldiers.

Appointment of N. C. O's—Company non-commissioned officers are appointed by regimental commanders, or temporarily appointed by battalion commanders, under certain conditions, on the recommendation of their company commanders; but in no case will any company organization have an excess of non-commissioned officers above that allowed by law. The non-commissioned officers of Coast Artillery Corps companies, upon the recommendation of the company commanders, will be appointed by coast defence commanders. When a company is serving in a different department from its regimental headquarters and at such a distance therefrom that more than 15 days are required for an exchange of correspondence by mail, company non-commissioned officers and wagoners for the transportation pertaining to the company may be appointed, on recommendation of the company commander, by the order of the battalion commander, if such commander be in the same department as the company. When a company is serving in a different department from its regimental headquarters that more than 15 days are required for an exchange of correspondence by mail, company non-commissioned officers and wagoners for the transportation pertaining to the company may be appointed on recommendation of the company commander, by the order of the senior officer of the regiment on duty in the department in which the company is serving. (C. A. R., No. 46, Oct. 2, 1916.)

Lance Corporals—To test the capacity of privates for the duties of non-commissioned officers, company commanders may appoint lance corporals, who will be obeyed and respected as corporals, but no company shall have more than one lance corporal at a time, unless there are non-commissioned officers absent by authority, during which absences there may be one for each absentee.

Selection of First Quartermaster and Stable Sergeant—The captain will select the first sergeant, quartermaster sergeant, and stable sergeant from the sergeants of his company, and may return them to the grade of sergeant without reference to higher authority.

Certificates and Warrants—Each non-commissioned officer will be furnished with a certificate or warrant of his rank, signed by the regimental commander and countersigned by the regimental adjutant; but a separate warrant as first sergeant, quartermaster sergeant, or stable sergeant will not be given. A warrant issued to a non-commissioned officer is his personal property. Warrants need not be renewed in cases of re-enlistment in the same company, if re-enlistment is made the day following the day of discharge, but, unless otherwise ordered by the regimental or coast defence commander, on the recommendation of the company commander, will remain in force until vacated by promotion or reduction, each re-enlistment and continuance to be noted on the warrant by the company commander. The warrants for non-commissioned officers of the Coast Artillery Corps companies will be signed by the coast defence commander and countersigned by the coast defence adjutant. (C. A. R., No. 36, Dec. 8, 1915.)

Date of Appointments—Appointments of company non-commissioned officers and acting cooks of the Hospital Corps will take effect on the day of appointment by the authorized commander, and of first sergeants, quartermaster sergeants, stable sergeants, chief mechanics, cooks, artificers, farriers, horseshoers, mechanics, saddlers, wagoners, musicians, trumpeters, and first-class privates on the day of appointment by the company commander; but in case of vacancy in a company absent from regimental and battalion headquarters a company commander may make a temporary appointment of a non-commissioned officer, which will carry rank and pay from the date of such appointment. Information of the appointment will be promptly sent to the regimental commander, and if he disapproves it the increased rank and pay will cease upon receipt by the company commander of such disapproval.

Reduction to the Ranks—A non-commissioned officer may be reduced to the ranks by sentence of a court-martial, or, on the recommendation of the company commander, by the order of the commander having final authority to appoint such non-commissioned officer, but a non-commissioned officer will not be reduced because of absence on account of sickness or injury contracted in the line of duty. If reduced to the ranks by sentence of court-martial at a post not the headquarters of his regiment, the company commander will

forward a transcript of the order to the regimental commander. The transfer of a non-commissioned officer from one organization to another carries with it reduction to the ranks unless otherwise specified in the order by authority competent to issue a new warrant. When a company is serving in a different department from its regimental headquarters and at such a distance therefrom that more than 15 days are required for exchange of correspondence by mail, a non-commissioned officer may be reduced to the ranks, on recommendation of the company commander, by the order of the battalion commander, if such commander be in the same department as the company. When a company is serving in a different department from its regimental and battalion headquarters, and at such a distance from its regimental headquarters that more than 15 days are required for exchange of correspondence by mail, a non-commissioned officer may be reduced to the ranks, on the recommendation of the company commander, by the order of the senior officer of the regiment on duty in the department in which the company is serving. (C. A. R., No. 45, Sept. 11, 1916.)

Under Arrest—When a non-commissioned officer, while in arrest or confinement, is reduced by sentence of a court-martial, the date of the order publishing the sentence is the date of reduction. In all other cases reduction takes effect on the date of receipt of the order at the soldier's station. (C. A. R., No. 15, Nov. 19, 1914.)

Chief mechanics, cooks, acting cooks of the Hospital Corps, farriers, horseshoers, mechanics, artificers, saddlers, wagoners, musicians, trumpeters, and first-class privates are enlisted as privates and after joining their organizations are appointed by their respective organization commanders. For inefficiency or misconduct they are subject to reduction by the same authority, and in case of desertion their appointments are vacated from the date of their unauthorized absence. (C. A. R., No. 9, July 14, 1914.)

HONORS AND COURTESIES

The President and the Vice-President will be received with regimental standards or colors dropping, officers and troops saluting, and the band playing "The Star Spangled Banner." Or, in the absence of a band, the field music or bugles sounding "to the color." Officers of the following

grades of rank will be received with regimental standards or colors dropping, officers and troops saluting, and the bands and field music playing, as follows: The General, the General's March; the Lieutenant General, trumpets sounding 3 flourishes or drums beating 3 ruffles; a major general, 3 flourishes or 2 ruffles; a brigadier general, 1 flourish or 1 ruffle.

To the Members of the Cabinet, the Chief Justice, the President pro tempore of the Senate, the Speaker of the House of Representatives, American or foreign ambassadors, and governors within their respective States and Territories the same honors are paid as to the General, except that a foreign ambassador will be received with the national air of his country, and that the number of guns fired as personal salutes will be as prescribed in the army regulations to the Assistant Secretary of War and to American or foreign envoys or ministers the same honors as to the Lieutenant General; to officers of the Navy the honors due to their relative rank; to officers of marines and volunteers, and militia when in the service of the United States, the honors due to their rank.

The national or regimental color or standard, uncased, passing a guard or other armed body, will be saluted, the field music sounding "to the color" or "to the standard." Officers or enlisted men passing the uncased color will render the prescribed salute; with no arms in hand, the salute will be the hand salute, using the right hand, the headdress not to be removed.

"The Star Spangled Banner," whenever played at a military station, or at any place where persons belonging to the military service are present in their official capacity or present unofficially but in uniform, all officers and enlisted men, not in ranks, will stand at salute, facing toward the music, retaining that position until the last note of the air. With no arms in hand the salute will be the hand salute. The same respect will be observed toward the national air of any other country, when it is played as compliment to official representatives of such country. When played under the circumstances contemplated by this paragraph. "The Star Spangled Banner" will be played through without repetition of any part, that is not required to be repeated to make the air complete.

No honors are paid by troops when on the march or in trenches, except that they may be called to attention and no salute is rendered when marching in double time or at the trot or gallop.

The commanding officer is saluted by all commissioned officers in command of troops or detachments. Troops under arms will salute as prescribed in drill regulations.

When making or receiving official report all officers will salute. When under arms, the salute is made with the sword or saber, if drawn, otherwise with the hand. On meeting, all officers salute when covered; when uncovered, they exchange the courtesies observed between gentlemen. Military courtesy requires the junior to salute first, but when the salute is introductory to a report made at a military ceremony or formation to the representative of a common superior—as, for example, to the adjutant, officer of the day, etc.—the officer making the report, whatever his rank, will salute first; the officer to whom the report is made will acknowledge, by saluting, if covered or verbally if uncovered, that he has received and understood the report.

When an enlisted man with no arms in hand passes an officer he salutes with the right hand. Officers are saluted whether in uniform or not.

Armed with the saber and out of ranks, an enlisted man salutes all officers with the saber if drawn; otherwise he salutes with the hand. If on foot and armed with a rifle or carbine, he makes the rifle or carbine salute. A mounted soldier dismounts before addressing an officer not mounted.

A non-commissioned officer or private in command of a detachment without arms salutes all officers with the hand, but if the detachment be on foot and armed with the rifle or carbine, he makes the rifle or carbine salute and if armed with a saber he salutes with it.

An enlisted man, if seated, rises on the approach of an officer, faces toward him, and if covered, salutes; if uncovered, he stands at attention. Standing he faces an officer for the same purpose. If the parties remain in the same place or on the same ground, such compliments need not be

repeated. Soldiers actually at work do not cease work to salute an officer unless addressed by him.

Before addressing an officer, an enlisted man makes the prescribed salute with the weapon with which he is armed, or, if unarmed and covered, with the right hand. He also makes the same salute after receiving a reply.

Indoors, except as provided elsewhere, an unarmed enlisted man uncovers and stands at attention upon the approach of an officer. If armed, he salutes as heretofore prescribed.

When an officer enters a room where there are soldiers, the word "Attention" is given by some one who perceives him, when all rise and remain standing in the position of a soldier until the officer leaves the room. Soldiers at meals do not rise.

Soldiers at all times and in all situations pay the same compliments to officers of the Army, Navy, Marine Corps and volunteers, and to officers of the Organized Militia in uniform as to officers of their own regiment, corps, or arm of service.

Officers acknowledge at all times the courtesies of enlisted men by returning, in the manner prescribed the salute given. When several officers in company are saluted, all return it.

On all occasions outdoors, and also in public places, such as stores, theatres, railway and steamboat stations, and the like, the salute to any person whatever by officers and enlisted men in uniform, with no arms in hand, whether on or off duty, shall be the hand salute, the right hand being used, the headdress not to be removed.

The national salute is 21 guns. It is also the salute to a national flag. The salute to the Union, commemorative of the Declaration of Independence and consisting of 1 gun for each State, is fired at noon on July 4 at every post provided with suitable artillery.

ARMY EMPLOYED AS POSSE COMITATUS

It shall not be lawful to employ any part of the Army of the United States, as a posse comitatus, or otherwise, for

the purpose of executing the laws except in such cases and under such circumstances as such employment of said force may be expressly authorized by the Constitution or by act of Congress; and [no] money appropriated by this act shall be used to pay any of the expenses incurred in the employment of any troops in violation of this section.

Officers of the Army will not permit troops under their command to be used to aid the civil authorities as a posse comitatus, or in execution of the laws, except as provided in the foregoing paragraph.

If time will admit, applications for the use of troops for such purposes must be forwarded, with statements of all material facts, for the consideration and action of the President; but in case of sudden and unexpected invasion, insurrection, or riot, endangering the public property of the United States, or in case of attempted or threatened robbery or interruption of the United States mails, or other equivalent emergency so imminent as to render it dangerous to await instructions requested through the speediest means of communication, an officer of the Army may take such action before the receipt of instructions as the circumstances of the case and the law under which he is acting may justify, and will promptly report his action and the circumstances requiring it to the Adjutant General of the Army, by telegraph, if possible, for the information of the President.

In the enforcement of the laws troops are employed as a part of the military power of the United States and act under the orders of the President as Commander-in-Chief. They cannot be directed to act under the orders of any civil officer. The commanding officers of troops so employed are directly responsible to their military superiors. Any unlawful or unauthorized act on their part will not be excusable on the ground of an order or request received by them from a marshal or any other civil officer.

Troops called into action against a mob forcibly resisting or obstructing the execution of the laws of the United States or attempting to destroy property belonging to or under the protection of the United States are governed by the general regulations of the Army and apply military tactics in respect to the manner in which they shall act to accomplish the desired end. It is purely a tactical question in what manner they shall use the weapons with which they are

armed—whether by fire of musketry and artillery or by the use of the bayonet and saber, or by both, and at what stage of the operations each or either mode of attack shall be employed. This tactical question will be decided by the immediate commander of the troops, according to his judgment of the situation. The fire of troops should be withheld until timely warning has been given to the innocent who may be mingled with the mob. Troops must never fire into a crowd unless ordered by their commanding officer, except that single selected sharpshooters may shoot down individual rioters who have fired upon or thrown missiles at the troops. As a general rule the bayonet alone should be used against mixed crowds in the first stages of a revolt. But as soon as sufficient warning has been given to enable the innocent to separate themselves from the guilty, the action of the troops should be governed solely by the tactical consideration involved in the duty they are ordered to perform. They should make their blows so effective as to promptly suppress all resistance to lawful authority, and should stop the destruction of life the moment lawless resistance has ceased. Punishment belongs, not to the troops, but to the courts of justice.

THE SERVICE RIFLE

In the preparation of these notes on rifle firing, with the service rifle, an effort has been made to answer many questions that present themselves to the inexperienced. A few of the most important questions on the subject are herein asked and answered in such a manner, it is hoped, as to make each point clear to the average mind.

1. What is meant by the "rifling" of a fire arm?
A. The spiral grooving of the bore.
2. What are the lands?
A. The raised portions of the bore between the grooves.
3. What is meant by caliber?
A. The diameter of the bore between the lands.
4. What is the caliber of the U. S. Army rifle?
A. .30 (thirty hundredths of an inch).
5. What is the purpose of rifling?
A. To cause the bullet or projectile to rotate about its longer axis.
6. Why is it desirable that the bullet rotate about its longer axis?
A. So long as the bullet rotates about its longer axis at a high rate of speed, it will not wobble or turn end over end.
7. Why is it necessary that the bullet should not wobble or tumble?
A. Every motion that the bullet makes, not directly in the proper line of flight, increases unnecessarily, the amount of resistance to be overcome in its passage through the air.
8. Why is a bullet elongated and pointed instead of spherical?
A. A bullet of this shape meets with less resistance on account of its smaller cross-section and ease with which

the point penetrates the air, than does a spherical bullet of the same weight.

9. Describe the action of the explosive upon the bullet?
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A. The powder is so made that its combustion is completed as the bullet reaches the muzzle of the rifle. This causes a steadily increasing pressure, upon the bullet, so long as it is confined within the limits of the bore, which reaches its maximum just before the bullet leaves the muzzle. There is a common belief that the powder explodes all at once, but this is not so. Were this the case, a rupture of the rifle barrel would result.

10. Describe the flight of the bullet.

A. The bullet describes a curve which is constantly changing and becoming more pronounced as it approaches the end of its flight. In addition to this curve in a vertical plane the bullet deviates laterally from the line of the axis of the bore.

11. What causes the constant changing of the shape of the curve?

A. This change is due to the decrease in the forward velocity caused by the resistance of the air and the increase of the downward velocity caused by gravity during the flight.

12. What causes lateral or horizontal deviation?

A. The downward deviation of the bullet from the line of the axis of the bore causes a compression of the air under it, and a corresponding rarifying of the air on top. The rapid rotation of the bullet to the right causes it to roll, as it were, on a cushion of compressed air beneath it.

13. How is the effect of gravity offset?

A. By directing the bullet toward a point higher than that to be hit.

14. What is the principle upon which sight elevation is based?

A. The sight elevation is so arranged that when the sights are aligned upon the point of aim, the axis of the bore prolonged will pass through the plane of the target at a point whose distance above the center of the bull's eye is equal to the distance through which the bullet will fall during the time of flight.

15. How is lateral normal deviation corrected?

A. The rifle has a right-hand twist, and the drift proper is therefore to the right. There is, however, a slight lateral jump to the left, and the total horizontal deviation of the bullet, excluding wind, is the algebraic sum of the drift and the lateral jump. The trajectory is found to be very slightly to the left of the central or uncorrected line of sight up to a range of 500 yards, and beyond that range to the right of this line. In order to minimize the deviations at the most important ranges, the drift slot on the sight leaf is so cut as to make the trajectory cross the adjusted line of sight at a range of 500 yards.

16. What is meant by "twist"?

A. The spiral formed by the grooves in the barrel of a rifled firearm. In the United States magazine rifle, model 1903, this twist is uniform, one turn in 10 inches.

17. What is meant by the "normal" sight?

A. The alignment of the top of the front sight between point of aim and the center of the top of the rear sight notch.

18. Describe the peep sight.

A. In using the peep sight the top of the front sight is aligned between the point of aim and the center of aperture.

19. Why are these methods of sighting insisted upon for military shooting?

A. Because the object of the training is to develop in the soldier not only accuracy but endurance. The use of fine sights can not be continued for long, continued and rapid firing, without great strain and fatigue to the eye. As the eye becomes weaker it will become difficult for the firer to measure the tip of the front sight as accurately as before, with the result that more front sight will be taken. This lack of uniformity in sighting is fatal to good shooting.

With the normal sight and the peep sight a large portion of the front sight is in view, and while aiming, any deviation of the top of the front sight from the line joining the center of the peep hole or the center of the top line of the rear sight notch, will be plainly visible, without taxing the eye unduly.

20. What is the battle sight?

A. It is the position of the rear sight with the leaf laid down.

21. What is the idea of the battle sight?

A. During the fighting at ranges under six hundred yards conditions are not favorable to the changing of sight elevation and for this reason the soldiers are taught to use the sight at this elevation for all firing from about 550 yards down to point blank range. By learning where to aim in order to get hits at these ranges, the necessity for changing the sight adjustment is obviated. At 547 yards and under, the trajectory of the bullet is so near the ground that the entire space is covered by a grazing fire, the highest point of which is not above the head of a man in the kneeling position.

22. What is the effect of a bright sight upon shooting?

A. The rays of light reflected from the bright sight make the edges of the sight appear blurred. The front sight will also appear to be slightly higher than it really is which will cause the axis of the bore to be somewhat depressed when the sights are aligned, and have the effect of lowering the elevation.

23. What is done to correct the brightness of the sights?

A. They are blackened by smoking with a candle, or gum camphor or by applying some sight blackening compound which will give the sights a dead or dull back appearance incapable of reflecting rays of light of a nature to interfere with clear vision.

24. When firing from the prone position at 500 yards, what is the height of the top of the curve described by the bullet?

A. About 28 inches.

25. At what distance from the muzzle is the highest point of the curve described by the bullet, when firing at 500 yards?

A. 270.56 yards.

26. What is the maximum range of the rifle?

A. 4891.6 yards, or about 2 and 4-5 miles.

27. What is meant by the "aiming point?"

A. The point upon which the sights are aligned, when aiming.

28. How is the wind direction described on the range?

A. As a 12:00 o'clock, 2:00 o'clock, 3:00 o'clock etc. wind. For this purpose the firer is supposed to be in the center of a great horizontal clock dial with the figure 12 toward the target. The wind is then said to be a (such) o'clock wind according to the imaginary figure on the dial from which it is blowing toward the firer.

29. How is wind velocity determined?

A. By the use of an anemometer and by estimation. Proficiency in estimating wind velocity is attained by much practice in estimating and in comparing the estimates with the readings of the anemometer.

30. What is the rule for making windage correction when the amount of error is known?

A. Number of inches of error divided by the product of the number of hundreds of yards of the range and 4, equal number of points of windage to be taken.

Example: Firing at five hundred yards the bullet strikes a point on the target 24 inches to the right of the center. We have: number of inches of error equals 24, number of hundreds of yards of range equals 5. Divide 24 by (4x5) or 20 and the result is 1 1-5 which is the number points of windage necessary to correct the error.

Each soldier should remember that for each hundred yards of range one point of windage causes a change of 4 inches on the target. At 100 yards 1 point makes a change of four inches, at 200 yards 1 point makes a change of 8 inches and so on for all the ranges.

31. What is the rule or formula for ascertaining the amount of windage necessary for firing the first shot when the wind is considerable?

A. Range in hundreds of yards multiplied by the estimated velocity in miles per hour, divided by 10. This is for 9 and 3 o'clock winds. Winds from 2, 4, 8 and 10 o'clock require very little less windage than the above. Winds from 11, 1, 5 and 7 o'clock require one half the above amount.

32. How is wind direction determined?

A. By noticing the direction of the smoke from neighboring houses, the direction of the clouds, the direction of the mirage, by tossing dust or dead leaves or grass in the air, by holding a handkerchief or strip of cloth for

the action of the wind, or by the feel of the wind against the face. When the wind velocity is very low moisten the finger in the mouth and hold it up. The side from which the wind is coming will be noticeably colder.

33. What is meant by "canting" the piece?

A. Any position of the rifle, when aimed, in which the sights are tipped to one side or the other out of the vertical plane.

34. Describe the effect of canting the piece.

A. Moving the sight to the right or left out of the vertical will have the effect of taking windage. This changed position of the sight will also be somewhat lower than if it were directly above the axis of the bore. To show these two effects of canting the piece let us assume that the piece is canted so that it is lying on its side. In this position it will be seen that there is no longer any elevation since the rear and the front sights are in the same horizontal plane. Also it is very plain that in this position the difference in the distances of the front and rear sights from the axis of the bore has the effect of giving an excessive windage or lateral deviation from the aiming point. In order to illustrate this to a beginner, simply fix the rifle in this position with the sights aligned upon the aiming point. Then remove the bolt and look through the bore of the rifle and see the point in the plane of the target that the line of the axis of the bore will intersect. This point will be to the right or left of the aiming point a distance equal to the amount of elevation given the bullet were the rifle fired without canting it. With no elevation therefore and with excessive windage the bullet will strike to the right or left of and below the aiming point.

35. What is the effect of wind upon the flight of the bullet?

A. The force of the wind acting upon the bullet tends to carry it out of its normal path.

36. How do the winds from the various directions affect the flight of the bullet?

A. Winds directly from the front retard the bullet; from the rear accelerate; from the right or left cause a left or right deviation; from the right or left front cause a lateral deviation to the left or right and also retard

the bullet; from the right or left rear cause a lateral deviation to the left or right and accelerate the bullet.

37. How is lateral deviation caused by the wind corrected?

A. By using the windgauge screw to move the rear sight toward the side from which the wind is coming.

38. How is the retarding and accelerating effect of the wind corrected?

A. By increasing or decreasing the elevation of the rear sight.

39. What makes a rifle shoot higher when it becomes heated?

A. The heated condition of the barrel makes the combustion more complete. The gases expand with just a little more force in the heated barrel. There are other reasons advanced by many for this increase in elevation, such as the slight elongation of the barrel and the effect of the heat upon the diameter of the bore. These also are reasons for very slight changes but not sufficient for the amount of change that takes place in firing when the rifle first becomes warm.

40. What is meant by the zero of a rifle?

A. It is impossible to manufacture at reasonable cost, large number of rifles exactly similar in every respect. The testing of all the rifles made for the army by long and expensive processes is entirely out of the question. Some of the rifles, owing to slight inaccuracies of manufacture, require a slightly different sight setting than is normal for the rifles generally. This sight setting which gives normal results under normal conditions is what is called the "zero" for the particular rifle requiring such sight setting. This applies to both elevation and windage in some cases.

41. What is "mirage"?

A. Heat waves observed on the target range on warm days.

42. What effect has "mirage" upon firing?

A. If there is no wind blowing, the mirage will move straight upward and will give the bull's eye the appearance of being oblong, the longer axis being vertical. The entire target will appear to be elongated vertically which will make the bull's eye appear higher than it really is,

and necessitate a lowering of the elevation. When a wind is blowing gently the mirage in addition to rising, moves with the wind and causes the bull's eye to be elongated upward and to the right or left according to the direction of the wind.

43. What are shot marks?

A. They are pieces of card board or tin, with springs attached to them for fastening them over the shot holes in targets. They are 3, 5, and 10 inches in diameter and are white one side and black on the other. They are used to mark on the bull's eye target the position of the last hit.

44. What are the natural requisites for one to become a good shot?

A. In order for a person to become a good shot he should be in good physical condition particularly as to eye sight. One's nerves should be in excellent control and one should not be easily excited.

45. What training and development should one undergo to become a good shot?

A. First of all it is necessary for one to take considerable physical exercise regularly prior to the practice on the range. The development of the muscles used in firing is of prime importance. The ability to sight correctly must also be developed, and then should follow earnest practice in using the muscles used in firing in conjunction with the practice in aiming. In this way soon develops the ability to hold the rifle properly aimed and to pull the trigger without deranging the true aim. When one has accomplished this considerable progress has been made toward becoming a good shot. The state of one's ability to "hold" well is indicated by the results obtained at gallery practice. During the preliminary work one should study the effects of wind, changes of light, humidity, temperature, mirage, etc., and learn the theory of the use of the sight adjustments both as to windage and elevation. Later on one must develop the ability to estimate wind velocity, and every rifleman should know how to take the very best care of his rifle in order that he may always obtain the best results from it. For detailed instruction as to how best to carry out the practice in sighting and aiming, see "Sighting drills" and

"Position and Aiming drills" on pages 85 and 90.

46. Why should the cleaning rod be inserted at the breech end of the bore?

A. In order that no possible injury shall be done the lands near the muzzle.

47. Describe the removal of fouling from the rifle barrel?

A. Fouling is of two kinds, that caused by the powder and caused by particles of metal from the jacket of the bullet adhering to the bore.

First remove the bolt and from the breech end of the bore remove all powder fouling by means of a cleaning rod and patches of thin flannel or other soft cloth soaked in "Hoppe's Powder Solvent No. 9". The rags should be about 1 1/4 inches square. This cleaning must be continued until all the powder fouling has been removed. The barrel should then be thoroughly wiped out with clean, dry patches. After the powder fouling has been removed use the following solution: Ammonia persulphate 1 ounce; Ammonium carbonate, 200 grams; 28 per cent. ammonia 6 ounces and water 4 ounces. The two powders should be freed from lumps by mashing them separately. Dissolve the persulphate in the ammonia and the carbonate in the water and then both solutions should be placed together in a bottle and corked. In an hour this solution will be ready to use.

Stop the breech end of the bore with a suitable cork and fill the barrel with the solution. This should be left in the barrel not more than ten minutes. Immediately after removing the solution from the barrel pour water into the bore to stop the action of the solution on the metal. The barrel should then be dried and thoroughly wiped out and an oily rag passed through it.

48. Describe cleaning the rifle.

A. After firing, the bore of rifle should be thoroughly cleaned with the No. 9, powder solvent, wiped out again and an oily rag passed through it. The outside of the rifle should be given a thin coating of cosmic or 3 in 1 oil for the metal parts and linseed oil for the stock. The magazine and other working parts should be kept clean and oiled. Every rifle should be cleaned sufficiently often to prevent the formation of rust.

The sling should be kept soft and pliable by the moderate use of neats-foot oil.

49. What is the time of flight for the maximum range?

A. 38.058 seconds.

50. What is the maximum number of aimed shots that have been fired from the rifle in one minute?

A. 25.

51. What is the weight of the bullet? The powder charge?

A. Bullet 150 grains. Powder 50 grains.

52. Describe dismounting the bolt?

A. Place the cut-off at the center notch; cock the arm and turn the safety lock to a vertical position, raise the bolt handle and draw out the bolt.

Hold bolt in left hand, press sleeve lock in with thumb of right hand to unlock sleeve bolt, and unscrew sleeve by turning to the left.

Hold sleeve between fore finger and thumb of the left hand, draw cocking piece back with middle finger and thumb of right hand, turn safety lock down to the left with forefinger of the right hand, in order to allow the cocking piece to move forward in sleeve; thus partially relieving the tension of the main spring; with the cocking piece against breast, draw back the firing pin sleeve with the fore finger and thumb of right hand and hold it in this position while removing the striker with the left hand; pull firing pin out of sleeve; turn the extractor to the right, forcing its tongue out of the groove in the front of the bolt, and force the extractor forward and off the bolt.

53. Describe assembling the bolt.

A. Grasp with the left hand the rear of the bolt, handle up, and turn the extractor collar with the thumb and forefinger of the right hand until its lug is on a line with the safety lug of the bolt; take the extractor in the right hand and insert the lug on the collar in the under-cuts in the extractor by pushing the extractor to the rear until its tongue comes in contact with the rim on the face of the bolt (a slight pressure with the left thumb on the top of the rear part of the extractor assists in this operation); turn the extractor to the right until it is over the right lug; take the bolt in the right hand

and press the hook of the extractor against the butt plate or some rigid object, until the tongue on the extractor enters its groove in the bolt.

With the safety lock turned down to the left to permit the firing pin to enter the sleeve as far as possible, assemble the sleeve and firing pin; place the cocking piece against the breast and put on main spring, firing pin sleeve and striker. Hold the cocking piece between the thumb and forefinger of the left hand, and by pressing the striker point against some substance, not hard enough to injure it, force the cocking piece back until the safety lock can be turned to the vertical position with the right hand; insert the firing pin in the bolt and screw up the sleeve (by turning it to the right) until the sleeve lock enters its notch on the bolt.

See that the cut-off is at the center notch; hold the piece under floor plate in the fingers of the left hand, the thumb extending over the left side of the receiver; take bolt in right hand with safety lock in a vertical position and safety lug up; press rear end of follower down with the left thumb and push bolt into the receiver; lower bolt handle; turn safety lock and cut-off down to the left with the right hand.

54. What considerations should govern in selecting the proper size of aperture for the peep sight?

A. The aperture should be the smallest through which the target and front sight can be seen clearly without straining the eye. Too large an aperture renders it difficult to find the center of it accurately and quickly, while too small an aperture renders the front sight and target indistinct.

**Corrections Corresponding to One Point of the Wind
Gauge or Scale and to a Change in
Elevation of 25 Yards**

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Range	Correction caused by moving the eyepiece one point	Correction corre- sponding to a change in eleva- tion of 25 yards
100.....	4.311	0.72405
200.....	8.622	1.6189
300.....	12.933	2.7701
400.....	17.244	4.328
500.....	21.555	6.182
600.....	25.866	8.542
700.....	30.177	11.674
800.....	34.488	15.620
900.....	38.799	19.769
1,000.....	43.110	24.813
1,100.....	47.421	30.874
1,200.....	51.732	37.097

**Table Showing Number of Points of Deflection or Wind-
age Necessary to Correct for a 10-mile-an-hour
Wind, Drift Not Considered. (Computed.)**

Range (yards)	Direction of wind		
	III,IX	II,IV VIII,X	I,V VII,XI
100	0.23	0.2	0.1
200	.34	.31	.17
300	.61	.53	.30
400	.86	.75	.43
500	1.11	.96	.55
600	1.39	1.2	.69
700	1.68	1.45	.84
800	2.00	1.73	1.00
900	2.34	2.03	1.17
1,000	2.67	2.30	1.33
1,100	3.01	2.61	1.50
1,200	3.32	2.88	1.66

Drift with target rifles, model of 1905 sights graduated for 1906 ammunition.

Range (yards)	Total drift		Drift corrected by sight leaf		Drift uncorrected (right)	Deviation of bullet produced by a 1-mile wind normal to the plane of fire
	(1)	(2)	(3)	(4)			(5)
	Left	Right	Left	Right		
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
100	0.26		0.26		0.0	0.1
200	0.42		0.42		0.0	0.3
300	0.45		0.45		0.0	0.8
400	0.32		0.32	0.0	0.0	1.5
500	0.0				0.0	2.4
600		0.55		0.55	0.0	3.6
700		2.0		1.4	0.6	5.1
800		4.5		2.6	1.9	6.
900		8.2		4.2	4.0	9.1
1,000		13.0		6.3	6.7	11.5
1,100		20.5		9.0	11.5	14.3
1,200		29.3		12.3	17.0	17.2

In rapid fire, using the battle sight, the correct point of aim, under the figure, at the various distances is as follows:

500 Yards 7 inches;	300 Yards 28 inches;
400 Yards 23 inches;	200 Yards 25 inches.
350 Yards 26 inches;	

SMALL ARMS FIRING REGULATIONS

SCHEME OF PRELIMINARY INSTRUCTION

The course herein prescribed has been arranged as follows:

- Nomenclature and care of the rifle.
- Sighting drills.
- Position and aiming drills.
- Deflection and elevation correction drills.
- Gallery practice.

- (f) Estimating distance drill.
- (g) Individual known distance firing, instruction practice.
- (h) Individual known distance, firing, record practice.
- (i) Long-distance practice.
- (j) Practice with telescopic sights.
- (k) Instruction combat practice.
- (l) Combat practice.
- (m) Proficiency test.

The course of pistol firing includes the following:

- (a) Nomenclature and care of the pistol, general facts and principles.
- (b) Position and aiming drills and rapid-fire drills; dismounted and mounted.
- (c) Individual firing, instruction practice.
- (d) Individual firing, record practice.

SIGHTING DRILLS

Value—The value of the sighting drills and the position and aiming drills can not be too strongly emphasized. By means of them the fundamental principles of shooting may be inculcated before the soldier fires a shot.

To Whom Given—The sighting drills will be given to all soldiers who have not qualified as "marksman" or better in the preceding target year.

Purpose:

- (a) To show how to align the sights properly on the mark.
- (b) To discover and demonstrate errors in sighting.
- (c) To teach uniformity in sighting.

Apparatus and its Use—Sighting Bar to consist of:

- (a) A bar of wood about 1 by 2 inches by 4 feet, with a thin slot 1 inch deep cut across the edge about 20 inches from one end.
- (b) A front sight of tin or cardboard $\frac{1}{2}$ by 3 inches tacked to the end nearer the slot and projecting 1 inch above bar.
- (c) An eyepiece of tin or cardboard 1 by 3 inches tacked to the other end of, and projecting 1 inch above, the

bar, with a very small hole (0.03 inch) $\frac{1}{2}$ inch from top of part projecting above the bar.

(d) An open rear sight of tin or cardboard $1\frac{1}{2}$ by 3 inches, with a U-shaped notch $\frac{3}{4}$ inch wide cut in the middle of one of the long edges. This is placed in the slot on the bar. A slight bend of the part of the tin fitting in the slot will give enough friction to hold the sight in any part of slot in which it is placed.

(e) A peep rear sight of tin or cardboard 3 by 3 inches, with a peep hole $\frac{3}{4}$ inch in diameter cut in the center. This replaces the open sight when the peep sight is shown.

Carefully blacken all pieces of tin or cardboard and the top of the bar. Nail the bar to a box about 1 foot high and place on the ground, table, or other suitable place. Then adjust the open or peep rear sight in the slot and direct the bar upon a bull's eye (preferably a Y target) placed about 5 yards from the bar. No other than the sight desired can be seen. Errors, etc., are shown by manipulating the open and peep rear sights.

Sighting Rest for Rifle—Take an empty pistol ammunition box or a similar well-made box, remove the top and cut notches in the ends to fit the rifle closely. Place the rifle in these notches with the trigger guard close to and outside one end. (The stock may be removed from the rifle so as to bring the eye as near the rear sight as in shooting.) Nail a plank (top of box will do) to a stake or wall about 12 inches from the ground. Fasten a blank sheet of paper in the plank. Place the rest firmly on the ground, 20 or 30 feet from the plank, so that the rifle is canted neither to the right nor left—weight the box with sand if necessary—and without touching the rifle or rest; sight the rifle near the center of the blank sheet of paper. Changes in the line of sight are made by changing the elevation and windage. Take the prone position with elbows on the ground, hands supporting the head. A soldier acting as marker is provided with a pencil and a small rod bearing a disk of white cardboard about 3 inches in diameter, with a black bull's-eye (a black paster is best) pierced in the center with a hole just large enough to admit the point of a lead pencil. The soldier sighting directs the marker to move the disk to the right, left, higher, or lower, until the line of aim is established, when he commands "Mark" or "Hold." At the command "Mark," being careful not to move the disk, the marker

records through the hole in its center the position of the disk and then withdraws it. At the command "Hold" the marker holds the disk carefully in place without marking until the position is verified by the instructor, and the disks not withdrawn until so directed.

FIRST SIGHTING EXERCISE

Using illustrations, describe the normal sight and the peep sight.

Using the sighting bar, represent the normal sight and the peep sight and require each man in the squad to look at them.

Using the sighting bar, describe and represent the usual errors of sighting and require each man in the squad to look at them.

SECOND SIGHTING EXERCISE

Using the sighting rest for the rifle, require each man to direct the marker to move the disk until the rifle is directed on the bull's-eye with the normal sight and command "Hold." The instructor will verify this line of sight. Errors, if any, will be explained to the soldier and another trial made. If he is still unable to sight correctly, the first exercise will be repeated.

Soldiers will sometimes be found who do not know how to place the eye in the line of sight; they often look over or along one side of the notch of the rear sight and believe that they are aiming through the notch because they see it at the same time that they do the front sight. This error will probably be made evident by the preceding exercise. Some men in sighting will look at the front sight and not at the object. As this often occasions a blur, which prevents the object from being distinctly seen and increases both the difficulties and inaccuracies of sighting, it should be corrected.

Repeat the above, using the peep sight.

THIRD SIGHTING EXERCISE

Using the sighting rest for the rifle, require each man to direct the marker to move the disk until the rifle is directed on the bull's-eye with the normal sight and command "Mark," then, being careful not to move the rifle or sights, repeat the operation until three marks have been made.

(a) **The Triangle of Sighting**—Join the three points determined as above by straight lines, mark with the soldier's name, and call his attention to the triangle thus formed. The shape and size of this triangle will indicate the nature of the variations made in aiming.

(b) **Abnormal Shape Causes**—If the triangle is obtuse angled, with its sides approaching the vertical, the soldier has not taken a uniform amount of front sight. If the sides of the triangle are more nearly horizontal the errors were probably caused by not looking through the middle of the notch or not over the top of the front sight. If any one of the sides of the triangle is longer than one-half inch, the instructor directs the exercise to be repeated, verifying each sight and calling the soldier's attention to his errors. The instructor will explain that the sighting gains in regularity as the triangle becomes smaller.

(c) **Verifying the Triangle**—If the sides of the triangle are so small as to indicate regularity in sighting, the instructor will mark the center of the triangle and then place the center of the bull's-eye on this mark. The instructor will then examine the position of the bull's-eye with reference to the line of sight. If the bull's-eye is properly placed with reference to the line of sight, the soldier aims correctly and with uniformity. If not so placed, he aims in a regular manner but with a constant error.

(d) **Causes of Errors**—If the bull's-eye is directly above its proper position, the soldier has taken in aiming too little front sight, or if directly below too much front sight. If directly to the right or left, the soldier has not sighted through the center of the rear-sight notch and over the top of the front sight. If to the right, he has probably either sighted along the left of the rear sight notch or the right side of the front sight or has committed both these errors. If the bull's-eye is too far to the left, he has probably sighted along the right of the rear sight notch or to the left of the front sight, or has combined both these errors.

If the bull's-eye is placed with reference to its proper position diagonally above and to the right, the soldier has probably combined the errors which placed it too high and too far to the right. Any other diagonal position would be produced by a similar combination of vertical and horizontal errors.

As the errors thus shown are committed when the rifle is fixed in position, while that of the bull's-eye or target is altered, the effect will be directly opposite to the changes in the location of a hit in actual fire, occasioned by the same errors, when the target will be fixed and the rifle moved in aiming.

After the above instruction has been given to one man, the line of sight will be slightly changed by moving the sighting rest or by changing the elevation and windage, and the exercises similarly repeated with the other men in the squad.

Repeat the third sighting exercises, using the peep sight.

FOURTH SIGHTING EXERCISE

This exercise is a demonstration of the effect of canting the piece. The soldier must be impressed with the necessity of keeping the sights vertical when aiming, and not canting the piece to the right or left. Explain to the soldier that if the piece is canted to the right, the bullet will strike to the right and below the point aimed at, even though the rifle be otherwise correctly aimed and the sights correctly set. Similarly, if the piece is canted to the left, the bullet will strike to the left and low. This can be explained by showing that the elevation fixes the height of the point where the bullet will hit the target, and that the windage fixes the point to the right or left; i. e., the elevation gives vertical effects and the windage horizontal effects. Let a pencil (or rod) held vertical represent the elevation; now if the pencil is turned to the right 90, or horizontal, all of the elevation has been taken off, causing the shot to strike low and changed into windage, causing the shot to strike to the right.

This effect may be demonstrated as follows: Use the sighting rest with the rifle firmly held in the notches, the bolt removed. Paste a black paster near the center of the bottom line of the target. Sight the rifle on this mark, using about 2,000 yards elevation, then, being careful not to move the rifle, look through the bore and direct the marker to move the disk until the bull's-eye is in the center of the field of view and command "Mark." Next turn the rest with the rifle on its side, and with the same elevation sight on the same paster as above, then, being careful not to move the rifle, look through the bore and again direct the marker to move the disk until the bull's-eye is in the center of the field of view and command "Mark." Not considering the

fall of the bullet, the first mark represents the point struck with the sight vertical, the second mark represents the point struck, low and to the right, using the same elevation and the same point of aim when the piece is canted 90° to the right.

POSITION AND AIMING DRILLS.

Purpose—These drills are intended to so educate the muscles of the arm and body that the piece, during the act of aiming, shall be held without restraint, and during the operation of firing shall not be deflected from the target by any convulsive or improper movement of the trigger or of the body, arms, or hands. They also establish between the hand and eye prompt and intimate connection as will insure that the finger shall act upon the trigger, giving the final pressure at the exact moment when the top of the front sight is seen to be directed upon the mark.

The fact, though simple, cannot be too strongly impressed upon the recruit that if, at the moment of discharge, the piece is properly supported and correctly aimed, the mark will surely be hit. Since any intelligent man can be taught to aim correctly and hold the sights aligned upon the mark with a fair amount of steadiness, it follows that bad shooting must necessarily arise from causes other than bad aiming. The chief of these causes is known to be the deflection given to the rifle when it is discharged, due to the fact that the soldier, at the moment of firing, instead of squeezing the trigger, jerks it. This convulsive action is largely due to lack of familiarity with the methods of firing and to a constrained position of the muscles of the body, arm, and hands, which constrained position it is the purpose of the position and aiming drills to correct.

To become a good shot, constant, careful, and patient practice is required. Systematic aiming and squeezing the trigger will do much to make a rifleman. The men will be taught to take advantage of every opportunity for practicing aiming, and squeezing the trigger. For this purpose the barracks and ground in the vicinity of the barracks should be furnished with aiming targets, which the men will be encouraged to use at odd moments, as when waiting for a formation or during a rest. At drill the soldier will be cautioned never to squeeze the trigger without selecting an object and taking careful aim. When on the range waiting

for his turn to fire, the soldier should use part of his time in position and aiming exercises, aiming at the target or at objects outside of the range, and he should be made to understand that this practice, previous to firing will tend to prevent nervousness and will have a marked effect upon his score.

To Whom Given—The position and aiming drills will be given to all soldiers who have not qualified as "marksman" or better in the preceding target year. Some practice in these drills (especially in the trigger squeeze exercise) is recommended for those who have qualified as "marksman" or better. The amount to be given is left to the discretion of the company commander.

Drills: General Instructions—These drills are divided into four progressive exercises. The first exercise teaches the position; the second exercise teaches the position and the aim; the third exercise teaches the aim and the manner of squeezing the trigger; and the fourth exercise teaches the methods of rapid fire. These exercises should be taught by the numbers at first; when fully understood, without numbers.

To correct any tendency to cant the piece, the rear sight will be raised. A black paster at which to aim will be placed on the wall opposite each man. The squad being formed in single rank with an interval of 1 yard between files, the instructor directs the men to take the position of "Ready," except that the position of the feet will be such as to insure the greatest firmness and steadiness of the body. The instructor then cautions "Position and aiming drill."

The exercise which is being taught should be repeated frequently and made continuous. The instructor prefaces the preparatory command by "Continue the motion," or "At will," and gives the command "Halt" at the conclusion of the exercise, when the soldier will return to the position of "Ready." Or the soldier may be made to repeat the first and second motions by the command "One," "Two," the exercise concluding with the command "Halt."

Care should be taken by the instructor not to make the position and aiming drills tedious. Thirty minutes daily should be spent in this practice during the period of preliminary instruction. After gallery practice is taken up, however, five or ten minutes daily should be sufficient for these exercises.

In order that the instructor may readily detect and correct errors, the squads for these drills should not consist of more than eight men.

The instructor should avoid holding the squad in tiresome positions while making explanations or correcting errors.

POSITION EXERCISE

The instructor commands: 1. Position. 2. Exercise. At the last command, without moving the body or eyes, raise the rifle smartly to the front of the right shoulder to the full extent of the left arm, elbow inclined downward, the barrel nearly horizontal, muzzle slightly depressed, heel of the butt on a line with the top of the shoulder.

(Two)—Bring the piece smartly against the hollow of the shoulder, without permitting the shoulder to give way, and press the rifle against it, mainly with the right hand, only slightly with the left, the forefinger of the right hand resting lightly against the trigger, the rifle inclined neither to the right nor left.

(Three) Resume the position of "Ready."

Remarks—The instructor should especially notice the position of each soldier in this exercise, endeavoring to give each man an easy and natural position. He should see that the men avoid drawing in the stomach, raising the breast, or bending the small of the back.

The butt of the piece must be pressed firmly, but not too tightly, into the hollow of the shoulder and not against the muscles of the upper arm. If held too tightly, the pulsations of the body will be communicated to the piece; if too loosely, the recoil will bruise the shoulder. If only the heel or toe touches the hollow of the shoulder, the recoil may throw the muzzle down or up, affecting the position of the hit. While both arms are used to press the piece to the shoulder, the left arm should be used to direct the piece and the sight forefinger must be left free to squeeze the trigger.

AIMING EXERCISE

The instructor will first direct the sights to be adjusted for the lowest elevation and subsequently for the different longer ranges.

The instructor commands: 1. Aiming. 2. Exercise.

At the last command execute the first and second motion of the position exercise.

(Two) Bend the head a little to the right, the cheek resting against the stock, the left eye closed, the right eye looking through the notch of the rear sight at a point slightly below the mark.

(Three) Draw a moderately long breath, let a portion of it escape, then, with the lungs in a state of rest, slowly raise the rifle with the left hand, being careful not to incline the sight to either side, until the line of sight is directly on the mark; hold the rifle steadily directed on the mark for a moment; then, without command and just before the power to hold the rifle steadily is lost, drop the rifle to the position of "Ready" and resume the breathing.

Remarks—Some riflemen prefer to extend the left arm. Such a position gives greater control over the rifle when firing in a strong wind or at a moving object. It also possesses advantages when a rapid as well as accurate delivery of fire is desired. Whatever the position, whether standing, kneeling, sitting, or prone, the piece should rest on the palm of the left hand, never on the tips of the fingers, and should be firmly grasped by all the fingers and the thumb.

The eye may be brought to the line of sight either by lowering the head or by raising the shoulders; it is best to combine somewhat these methods; the shoulder to be well raised by raising the right elbow and holding it well to the front and at right angles to the body.

If the shoulder is not raised, it will be necessary for the soldier to lower the head to the front in order to bring the eye in to the line of sight. Lowering the head too far to the front brings it near the right hand, which grasps the stock. When the piece is discharged, this hand is carried by the recoil to the rear and, when the head is in this position, may strike against the nose or mouth. This often happens in practice, and as a result of this blow often repeated many men become gun-shy, or flinch, or close their eyes at the moment of firing. Much bad shooting, ascribed to other causes, is really due to this fault. Raising the right elbow at right angles to the body elevates the right shoulder, and lifts the piece so that it is no longer necessary to incline the head materially to the front in order to look along the sights.

As the length of the soldier's neck determines greatly the exact method of taking the proper position, the instructor

will be careful to see that the position is taken without restraint.

As changes in the elevation of the rear sight will necessitate a corresponding change in the position of the soldier's head when aiming, the exercise should not be held with the sight adjusted for the longer ranges until the men have been practiced with the sights as the latter would generally be employed for offhand firing.

The soldier must be cautioned that while raising the line of sight to the mark he must fix his eyes on the mark and not on the front sight; the latter can then be readily brought into the line joining the rear-sight notch and mark. If this plan be not followed, when firing is held on the range at long distances the mark will generally appear blurred and indistinct. The front sight will always be plainly seen, even though the eye is not directed particularly upon it.

The rifle must be raised slowly, without jerk, and its motion stopped gradually. In retaining it directed at the mark, care must be taken not to continue the aim after steadiness is lost; this period will probably be found to be short at first, but will quickly lengthen with practice. No effort should be made to prolong it beyond the time that breathing can be easily restrained. Each soldier will determine for himself the proper time for discontinuing the aim.

The man must be cautioned not to hold the breath too long, as a trembling of the body will result in many cases.

Some riflemen prefer, in aiming, to keep both eyes open but, unless the habit is fixed, the soldier should be instructed to close the left eye.

TRIGGER-SQUEEZE EXERCISE

The instructor commands: 1. Trigger squeeze. 2. Exercise. At the command Exercise, the soldier will execute the first motion of the aiming exercise.

(Two) The second motion of the aiming exercise.

(Three) Draw a moderately long breath, let a portion of it escape, hold the breath and slowly raise the rifle with the left hand until the line of sight is on the mark, being careful not to incline the sights to either side. Contract the trigger finger gradually, slowly and steadily increasing the pressure on the trigger, while the aim is being perfected;

continue the gradual increase of pressure required to release the point of the sear, can be given almost insensibly and without causing any deflection of the rifle. Continue the aim a moment after the release of the firing pin, observe if any change has been made in the direction of the line of sight, and then resume the position of "Ready," cocking the piece by raising and lowering the bolt handle.

Remarks—Poor shooting is often the result of lack of proper coordination of holding the breath, the maximum steadiness of aim, and the squeeze of the trigger. By frequent practice in this exercise each man may come to know the exact instant his firing pin will be released. He must be taught to hold the breath, bring the sights to bear upon the mark, and squeeze the trigger all at the same time.

The Trigger Squeeze—The trigger should be squeezed, not pulled, the hand being closed upon itself as a sponge is squeezed, the forefinger sharing in this movement. The forefinger should be placed as far around the trigger as to press it with the second joint. By practice the soldier becomes familiar with the trigger squeeze of his rifle, and knowing this, he is able to judge at any time, within limits, what additional pressure is required for its discharge. By constant repetition of this exercise he should be able finally to squeeze the trigger to a certain point beyond which the slightest movement will release the sear. Having squeezed the trigger to this point, the aim is corrected and, when true, the additional pressure is applied and the discharge follows.

RAPID-FIRE EXERCISE

Object—The object of this exercise is to teach the soldier to aim quickly and at the same time accurately, in all the positions he will be called upon to assume in range practice.

The instructor commands: 1. Rapid-fire exercise. 2. Commence Firing. At the first command the first and second motions of the trigger-squeeze exercise are performed. At the second command the soldier performs the third motion of the trigger-squeeze exercise, squeezing the trigger without disturbing the aim or the position of the piece, but at the same time without undue deliberation. He then, without removing the rifle from the shoulder, holding the piece in position with the left hand, grasps the handle of the bolt

with the right hand, rapidly draws back the bolt, closes the chamber, aims, and again squeezes the trigger. This movement is repeated until the trigger has been squeezed five times, when, without command, the piece is brought back to the position of "Ready."

When the soldier has acquired some facility in this exercise, he will be required to repeat the movement ten times, and finally, by using dummy cartridges he may by degrees, gain the necessary quickness and dexterity for the execution of the rapid fire required in range firing.

Methods—The methods of taking position of aiming, and of squeezing the trigger, taught in the preceding exercise, should be carried out in the rapid-fire exercise, with due attention to all details taught therein; the details being carried out as prescribed except that greater promptness is necessary. In order that any tendency on the part of the recruit to slight the movements of aiming and of trigger squeeze shall be avoided, the rapid-fire exercise will not be taught until the recruit is thoroughly drilled and familiar with the preceding exercise. The recruit will be instructed that with practice in this class of fire the trigger can be squeezed promptly without deranging the piece.

Repetition—If the recruit seems to execute the exercise hurriedly or carelessly, the instructor will require him to repeat it at a slower rate.

Manipulation of the Breech Mechanism—To hold the piece to the shoulder and, at the same time, manipulate the breech mechanism with the proper facility are learned only after much practice. Some riflemen, especially men who shoot from the left shoulder, find it easier, in rapid firing to drop the piece to the position of load after each shot. While at first trial this method may seem easier, it is believed that, with practice, the advantage of the former method will be apparent.

GENERAL REMARKS ON THE PRECEDING DRILLS

The importance of sighting and position and aiming drills can not be too persistently impressed upon the soldier. If these exercises are carefully practiced the soldier, before firing a shot at a target, will have learned to correctly aim his

piece, to hold his rifle steadily, to squeeze the trigger properly, to assume that position best adapted to the particular conformation of his body, and will have acquired the quickness in manual dexterity required for handling the piece in rapid fire. This knowledge can not be successfully acquired upon the target ground. At that place the time that can be given to instruction is limited and should be devoted to the higher branches of the subject. Even, if the desired amount of attention could be given to each soldier, nevertheless, from the circumstances of the firing, his errors can be readily determined. It is more than likely that the soldier would never discover the reasons for his failures and would, therefore, be unable to properly correct them.

Under such conditions the knowledge that he may have of the many other requisites for good marksmanship can not be utilized to full advantage, and, in fact, can but in a limited degree compensate for the neglect of these first principles and for the failure to lay, by assiduously practicing them, the only firm foundation for future proficiency.

If, in the instruction practice on the range, it is found that the soldier makes errors in his position, he should be required to stop firing and to practice the third exercise for 10 or 15 minutes. He should be encouraged to go through these exercises frequently at other than drill hours, care being taken that, in the aiming and trigger-squeeze exercises, he always has some definite object for a mark.

DEFLECTION AND ELEVATION CORRECTION DRILLS

Sight Correction—The soldier may find when firing at a target that the first shot has missed the bull's-eye or figure, and in order to cause the second to hit, two methods may be used: The point of aim may be changed or the sights may be moved and the same point be aimed at. In order to do accurate shooting it is essential to have a well-defined mark at which to aim; consequently, except for very slight corrections, the method of moving the sights, involving changes in elevation and windage, is devised.

Elevation—The instructor will show the men the graduations on the rear-sight leaf, and will explain to them the value of the different divisions. He will explain how to adjust their sights for different distances. He will make it

clear that raising or lowering the slide on the rear-sight leaf has the effect of raising or lowering the point struck. The amount of change which a given amount of elevation will cause in the point struck varies with the range and with the rifle and the ammunition used.

Deflection—The instructor will explain how to move the movable base by use of the windage screw; that the graduations on the rear end of the movable base are for convenience in setting the sights and applying corrections; that each division is called a point of windage; that turning the movable base of the rear sight to the right or left changes the point struck to the right or left; that, to overcome the drifting effect of a wind from the right, the movable base must be moved to the right, and, if the wind be from the left, the movable sight base must be moved to the left.

Adjusting the Sights—Elevation—The graduations on the rear sight will be found correct for but few rifles. This is due to slight variations in the parts of the rifle, especially the barrel, which occur under the most exact methods of fabrications. Not all rifles are tested at the arsenal, and when the graduations for the rear sight have been experimentally determined, they are correct only for the particular conditions existing when they were so determined. The correction necessary for each particular rifle at any range is found by shooting it at that range, and is constant with the same ammunition and when firing under the same conditions. If no correction is necessary, the rifle is said to "shoot on the mark."

Exercise—To give the soldier practice in correcting elevation and windage, a target should be placed on the wall facing the squad and a blank paster attached a foot or more from the bull's-eye, at first directly above or below the bull's-eye, then on a horizontal line with it, and finally in an oblique direction.

For this drill the rifle of each soldier who has not determined by actual firing the "zero" and the correct elevations for the different ranges will be assumed to shoot on the mark and to require no windage.

Announce the range and tell the men that the paster represents the position of an assumed hit and require each man to correct his sight so as to bring the next hit into the bull's-eye. This exercise should be repeated daily during

gallery practice, using the A, B, C, and D targets, until the men have acquired accuracy in making corrections for all ranges up to 1,000 yards.

When the men have learned how to adjust their sights, this exercise should be carried on in connection with gallery practice. The rear sight on each rifle is given an incorrect setting in elevation and windage by the instructor, and the soldier required to find the correct adjustment by firing.

DEFINITIONS

Danger Space: That portion of the terrain which is rendered dangerous by a cone of fire striking it or passing so close to it that men within it are in danger of being hit.

Cone of Fire: A group of trajectories from a group of rifles fired at a common target, with a uniform rear sight elevation.

Note—When the cone is concentrated, greater accuracy in estimating of range is necessary. With accurate estimation however, fire superiority is more quickly gained. When the cone is unduly dispersed the danger space is increased but objects within it are in less danger of being hit. The cone should have little depth and should cover the entire extent of the target. In order to more quickly reach a target to which the range is not known the use of combined sights is employed. (The platoons taking different sight elevations.) When a well trained unit is firing it should be well handled or poor results will follow, due to poor control and direction.

Trajectory: The path which a bullet or projectile follows in its flight.

Fire Discipline: The quality possessed by a well trained fire unit which enables it to respond to the will of its commander under all circumstances.

Fire Control: The actual control exercised by the commander of a fire unit in causing it to commence, cease and change the direction of its cone of fire at his will. This pertains more particularly to the platoon commanders.

Fire Direction: The direction for the employment of fire, consisting of the assignment of sectors, targets, objectives and the arrangement for fire upon dead spaces in adjacent sectors, etc.

Regular Season: A period of two months annually set aside by department commanders for the conduct of target practice.

Supplementary Season: A period of the year midway between regular seasons for conducting rifle practice for those who have joined since the regular season or who were not able to participate therein. It is for the purpose of preventing an accumulation of men in companies who have had no rifle practice.

DUTIES OF COMPANY COMMANDER IN CONNECTION WITH TARGET PRACTICE

The commander is directly responsible for the efficiency of his men in rifle practice—he is the chief instructor for his company.

METHODS OF RANGE FINDING

By Sound: Take number of seconds between actual discharge and the hearing of the sound of discharge and multiply by 366. This method is of little use in battle.

By Trial Volleys: The effect of a sheaf of bullets striking together on dry, bare ground will be easily seen. On unfavorable ground however, its value is doubtful.

By Estimation: Have the most expert estimators make estimates and take their mean. This is an excellent and most commonly used method.

By Instrument: The Weldon range finder gives very good results in the hands of well trained men. Without well trained men however, its use is not recommended. The new range finder is excellent and can be read with little instruction. The troops are not all equipped with them yet. (It is made in Germany.)

USE OF THE SLING

The sling shall be used in connection with the arm only. Neither end shall be passed through a swivel, no knots may be tied in it. It will not be altered in any way.

PRONE POSITION

Only as prescribed. Required that the soldier lie on his front, with piece not touching the ground, no rest permitted except as specified below.

REST FOR RIFLE

The rest is prescribed for use in firing at six hundred yards and is not optional. The rifle or hand supporting it must rest on the sand bag provided. In combat exercises and field firing the men use any available rest.

INSTRUCTION PRACTICE

The use of streamers, anemometers and other devices and also coaching, are necessary to impart instruction

RECORD PRACTICE

In record practice no streamers or other devices are permitted and coaching is absolutely prohibited. No advice or assistance will be given the soldier after he goes to his firing point.

SIGHTING SHOTS

When prescribed, sighting shots will be taken and can not be omitted. When for any reason not the fault of the soldier he is unable or not permitted to complete the firing at a range where sighting shots are prescribed, he will be allowed sighting shots before the completion of the firing at that range.

UNIFORM

For target practice the service uniform will be worn. The commanding officer may direct that the blouse be not worn. The field belt is also worn. One suspender may be slipped from the shoulder when firing.

PREVENTING FRAUD IN MARKING AND SCORING

In record practice there shall be an officer in the pits for each two targets, where the pits are continuous, and in separate pits one officer for each target.

Non-commissioned officers as scorers and in charge of the target details are taken from companies other than those firing on the targets.

When there is but one company present requiring the marking and scoring to be done by members of the same company, the company officers will cause each day's firing to commence with fresh paper targets, and will cause a record to be kept at each firing point of the number of 5's, 4's, 3's and 2's marked on the corresponding target. After the firing is over an officer will count the number of actual hits made in the different divisions of the target and compare the results with the record kept at the firing point. In the event of any considerable discrepancies the firing must be repeated.

MARKING

Hits on the wrong target count as misses.

In rapid fire if there are more than ten hits on one target the firing is repeated for that target.

In slow fire when two hits appear on one target the firer is entitled to that with the higher value.

Glancing or ricochet hits count.

RANGE OFFICER

The range officer must not be confused with the officer in charge of firing. He prepares the range for the firing, and has charge of all range details of men and range material. He places everything in readiness for the firing each day and makes out the schedule of firing and assignments of targets. He has nothing to do with the control of the firing on the range, unless in addition to his status as range officer he happens to be the officer in charge of firing.

OFFICER IN CHARGE OF FIRING

He has charge of the firing; and supervises its conduct. He coordinates the work of the different organizations and prevents as far as possible waste of time and infractions of regulations, etc.

NON-COMMISSIONED OFFICER IN CHARGE OF PITS

A non-commissioned officer is detailed on special duty in charge of the pits, whose duty it is to assign or assist the

range officer in assigning details to targets, instruct them and cause them to prepare their targets for firing. He has personal charge under the range officer, of the range property and material and issues it to the details each day. He causes necessary repairs to be made to targets and material, targets to be pasted, and is otherwise the assistant of the range officer acting under his orders.

TELESCOPIC SIGHTS

Two telescopic sights form part of the equipment of each company. They are assigned to the men best qualified to use them.

Four men from each company are required to have practice with them, on B and C targets; at ranges up to 1,000 yards. Not to exceed 40 rounds per man. At 1,000 yards 20 rounds will be fired for record. The record will show the number of the rifle, the score, the elevation and windage used at the different ranges and the force of the wind when firing.

LONG DISTANCE PRACTICE

All those who qualify as expert riflemen and sharpshooter are required to fire the long distance practice.

This course will be fired twice and on different days.

Having fired the course through once, an officer or soldier may be excused from firing at 800 yards again, at the discretion of the company commander.

It consists of 10 shots fired from prone position, at each 800 and 1,000 yards, and is repeated once.

No report is required, but the record will be kept in the company.

For engineers and cavalry the practice will be conducted at the discretion of the troop or company commanders.

FIELD SERVICE REGULATIONS

INFORMATION

In Peace—Information obtained in time of peace by the general staff includes the following: geography, resources, military methods, arms, strength of various arms, and other equipment and methods, of foreign countries.

In War—Information obtained in time of war by means of reconnaissance, newspapers and other papers, prisoners, deserters, spies, maps, etc., in regard to the strength, composition, disposition and intentions of the hostile forces; also information in regard to the terrain of the theatre of operations.

Reconnaissance—By reconnaissance is meant the procuring of military information in the field. Thorough reconnaissance is kept up from the beginning to the end of hostilities.

By Aero Squadron—At the beginning, aero squadrons operate in front of the cavalry.

By the Cavalry—The cavalry reconnoitres for information in front of the troops to which it is attached, screens its movements, and attempts to destroy the enemy cavalry. Its operations are largely independent and are directed by the supreme commander. On large fronts sometimes two or more bodies of independent cavalry will cooperate.

Divisional Cavalry—This is the cavalry assigned to a division. When the division is separate the cavalry is usually independent cavalry, otherwise it is used as advance cavalry. Advance cavalry is known as outpost, advance guard, flank guard, or rear guard cavalry, according to the nature of its duty.

Supplementary Reconnaissance—Where the cavalry fails in its reconnaissance, protection must be rendered by the other arms.

Independent Cavalry operates at great distances in advance of the force to which it belongs.

Advance Cavalry is more restricted in its operations and goes more into detail.

When there is no independent cavalry in front of it, the advance cavalry will assume its duties.

By Infantry—When infantry is preceded by the aero squadron and the cavalry, its reconnaissance will be restricted to local protection.

When there is no cavalry, distant reconnaissance will be conducted by mounted scouts of the infantry.

When there is little cavalry and the country is difficult, both the cavalry and the infantry will reconnoitre.

Reconnaissance Immediately Preceding Combat—Before deploying for action, thorough reconnaissance is necessary. Certain information is essential before the commander can plan his attack. The composition and action of the reconnoitring forces depend upon the information needed and the strength and action of the enemy's screening detachments. Such reconnaissance may vary from the action of small patrols to the actual attacking by a considerable portion of the command. The advance guard either supplements or supplies this reconnaissance when necessary and should disclose the enemy's strength and position as quickly as possible. Artillery with the advance guard is particularly useful in developing a situation by inflicting heavy losses.

The ordinary sequence of reconnaissance is as follows:

1. By Aero squadron.
2. By independent cavalry.
3. By the advance cavalry.
4. By the advance guard-infantry.
5. By the artillery, or infantry assisted by the artillery.

Meeting Engagement—In a meeting engagement where time is a great factor, much preliminary reconnaissance will have to be dispensed with and action taken upon the information the advance guard has obtained.

Attack on Position—In the attack on a position which the enemy has taken up deliberately and has strengthened, time is often not so important, therefore complete development is essential.

Reconnaissance During Combat is performed by the infantry with regard to the terrain in front and for main-

taining contact with the enemy; by the aero squadron over and around the enemy's position, to learn of any changes in its strength or movements; by the cavalry by means of small detachments around the flanks and rear of the enemy. The main body of the cavalry to be held in readiness at the disposition of the supreme commander.

Reconnaissance Patrols—These are detachments sent out to obtain information. They are usually small and avoid fighting when not absolutely necessary to the success of their mission. The commander determines the number and kinds of patrols to be sent out. Only such patrols as are necessary should be employed. Patrols vary in size from two men to a company or troop. Small patrols have the advantage of being easily concealed and of mobility and are economical of men. Strong patrols have the advantage of possessing greater force. They usually protect themselves by means of small patrols.

Inspection of Patrols—Officers sending out patrols should carefully inspect them to see that the men and equipment are as they should be.

Orders to a Patrol—These should state what is known regarding the enemy, the terrain, etc., and should clearly state the mission the patrol is to accomplish. Instructions to a patrol must be clearly understood.

Patrol Leaders—These are selected for skill in patrolling, for health, physical condition, and general all round suitability, including ability to make and read maps, send clear messages, etc.

Conduct of Patrol—Stealth and caution are essential, particularly in small patrols.

Formation—The formation of a patrol should be such as to give security to the greater part of it. In the case of a small patrol the formation should insure the escape of one man in the event of an ambush.

Patrols will not allow strangers to precede them. They may seize civilians, telegrams, mail, etc.

Signs of the Enemy—Patrols should watch the signs of the enemy at all times and attempt to understand their movements. Abandoned clothing and equipment might give valuable information. Thick low dust clouds indicate infantry

marching; high thin clouds, cavalry marching; a broken cloud, artillery or wagon train.

In order to estimate the strength of a command the following rule should be memorized:

175 infantry, in column or squads, will pass a given point in one minute; 110 cavalry in column of fours, at a walk; 200 cavalry in column of fours, at a trot; 5 guns or caissons, at a walk; troops in columns of twos, one-half the above numbers.

When it is certain that the enemy is discovered, the fact will be reported.

Information Usually Desired—The regulation, formation and strength of the enemy and his various arms. The nature of the forces with which the patrol has come in contact, whether it is a patrol, a portion of the advance guard, a flank guard, the main body, etc.

This information is usually obtained by breaking through troops which are stationary, or remaining in hiding and allowing them to march by.

Ambuscades are often avoided by returning by a different route.

Signals—Enemy in sight in small numbers—holding the rifle over the head horizontally; enemy in force, same as above, but moving the rifle up and down several times; to take cover, a downward motion of the hand.

Signals for different emergencies should be pre-arranged also a place of assembly in the event of becoming dispersed.

Air Craft—The aero squadron is employed under the direction of the commander of the forces to which they belong and act under the orders of their commander.

Balloons are free, captive and dirigible. Free balloons are of little use, except to carry information from a besieged place. Captive balloons, connected with the ground by telephone, are used for reconnaissance and for direction of artillery fire. Dirigible balloons are for distant reconnaissance and for carrying machine guns, explosives, etc.

Aeroplanes are more dependable for field service. They are used for reconnaissance and observation of artillery fire, and also to destroy hostile air craft. Their radius of action is about 150 miles and is increasing. They may be used both in attack and defence. When used for observation of artillery fire, they are under the orders of the artillery

commander. They communicate by radio or by dropping messages.

Messages—Messages are written information sent by messenger or wire. They should be brief and clear, resembling telegrams, with the source of the information given.

Reports—These are more or less formal accounts of conditions or enterprises. They are usually drawn up at leisure and are based upon messages received and sent, and upon actual occurrences.

Field Maps—Those of our own country are prepared by the Geological Survey on a scale of 1:62500 or about 1 inch to the mile, with 20 ft. contours. These maps are supplemented by maps and sketches prepared from day to day. A uniform system of scales and contour intervals is prescribed as follows:

1 inch to 1 mile, V. I. 60 ft.; 3 inches to 1 mile, V. I. 20 ft.; 6 inches to 1 mile, V. I. 10 ft.; 12 inches to 1 mile, V. I. 5 ft.; the 3 inch scale is for road sketches; the 6 inch scale is for position and outpost sketches; the 1 inch scale is for extended operations; the 12 inch scale is for use in war games, or for the discussion of operations at manouvers, and in siege operations. Messages should, when practicable and necessary, be supplemented by sketches.

War Diary—This is a record of events kept in campaign by battalion and higher commanders, also the commanders of the various trains. Entries should be made daily and form a concise history. Each day's record should contain the march table, the operations or location of the organization, the condition of the weather, roads, camp, health of troops, etc., and a statement of the supply of ammunition, rations and forage. It should also give a chronological record of all events, including messages sent and received. Each day's record should be attested by the commander or his adjutant.

Commanders of armies or of separate units will forward their diaries direct to the War Department.

Transmission of Information—Information is transmitted as follows:

(1) By wire; (2) by visual signalling; (3) by radio telegraph; (4) by messenger. For considerable distances wire or radio is used. For short distances a messenger.

Messages sent by wire will be given to the operator in writing.

When telephone is used parties concerned should do the talking. It is the duty of all persons to assist in the transmission of orders and messages. It is often advisable to send information, not only to the proper superior, but to neighboring troops, when this is done the fact should be noted on each.

Information Officers—These are officers assigned to accompany large commands, whose duty it is to keep their commanders informed as to the situation of neighboring troops.

Messages—It is desirable that messages sent by messengers be enclosed in envelopes and properly addressed. Envelopes not marked "confidential" are left unsealed so that commanders along the line may read the contents. Upon the envelope is written the name of the messenger, time of departure, rate of speed. The rate of speed is indicated by the words "ordinary," which means about 5 miles an hour for a mounted man; "rapid," which means 7 or 8 miles an hour; and "urgent," the highest speed consistent with certain delivery. The recipient of the message notes the time of receipt upon the envelope and returns it to the bearer.

When there is danger of a message falling into the hands of the enemy, cipher should be used. Important information is sent by two or more messengers. It may be advisable to send duplicate messages by different routes. Messengers should be informed before starting of the purport of the message and where to report after delivery.

Relay lines of mounted men may be found necessary. When such is the case connecting points are generally placed along the roads at well marked points, such as cross-roads, bridges, etc. The number and distance between posts depends upon the men available and the conditions that necessitate them. The usual distance is from 5 to 10 miles. The strength from 6 men to a half troop. A record of all communications should be kept at each post.

SECURITY

Security consists of measures taken to protect a command from observation, annoyance or surprise. Security is provided at a distance by independent cavalry. In addition to the security furnished by independent cavalry, certain covering detachments nearer the command are employed. On the

march, covering detachments are called advance, flank, or rear guards; in camp or bivouac, outposts.

The object of the advance guard is to facilitate the march and give protection from surprise and observation. The object of the outpost is to secure the camp or bivouac against surprise and to withstand an attack until the troops can prepare. Advance guards drive off small bodies, remove obstacles, prepare roads, bridges, etc. They prevent the enemy from firing into the main body until it is in readiness to receive the attack, or prepare for action; to prevent reconnaissance by the enemy and, in the event of retreat, to gain time for it to escape or reorganize.

Security Formations—First, the cavalry covering the front, next a group or line of groups in observation, then a support or line of supports forming a line of resistance, and fourth, is the reserve.

In the march order is stated the detail of the covering troops and the name of their commander, also the route to be taken and distance from the main body. The commander of the covering detachment should clearly explain the situation to subordinates, assign troops to subdivisions, and prescribe distances and duties of each. The commander of an advance or flank guard marches well to the front directing such changes and dispositions as he may find necessary. In large commands all arms participate in security duty. In detailing troops for security, economy consistent with safety is exercised. The proportion of troops on security duty varies from one-twentieth to one-third of the entire force. The integrity of units is preserved when practical. In mixed commands infantry predominates. Cavalry should be used where its mobility is needed. Artillery is used as occasion demands. Engineer, signal and sanitary troops are detailed when necessary and available.

Field trains of covering detachments generally remain with the train of the command, but may be permitted to join their organization. Covering troops pay no compliments. Individuals salute when they address or reply to superior officers.

ADVANCE GUARDS

Duties—1. To guard against surprise and furnish information.

2. To prevent observation of, firing upon, or delaying the main body.
3. To check the enemy's advance long enough to permit the main body to prepare.
4. When the enemy is encountered, on the defensive, seize a good position and locate his lines. Not to bring on a general engagement unless the commander is empowered to do so.
5. To remove obstacles to repair the roads and favor a steady march.

Strength and Composition—In larger forces the proportion of the advance guard to the main body should be greater, because it takes relatively longer for a large command to prepare for action than a small one. A large command is composed of all arms, the proportion depending upon conditions. In open country it should be strong in cavalry and field artillery. Artillery is seldom assigned to the advance guard of a command not larger than a brigade. When there is artillery with the command the officer of that arm should accompany the advance guard for purposes of artillery reconnaissance. In difficult country infantry might serve alone. When there is no independent cavalry, advance guard should be strong in cavalry. Machine guns should be used with the advance guard to hold bridges, defiles, etc. Engineers are attached to repair roads, bridges, etc. Bridge trains are assigned when necessary and available. The supreme commander controls the signal troops usually, but a portion of them may be attached to the advance guard. An ambulance company usually accompanies large advance guards.

Distance From Main Body—In small commands the distance given in the march order is maintained by the advance guard. In large advance guards, the main body regulates its march on the advance guard. The distance should be sufficient to prevent needless halts to the main body and to give it time to deploy. It should not be so great as to prevent if necessary, the advance guard being supported.

Advance Guard Commander—He will estimate the situation and issue advance guard orders. The order designates the tactical components, i. e., advance cavalry, support, etc., and gives instructions for each. The advance guard

commander is mounted and goes where necessary. His usual station is at the head of the reserve, or the support where there is no reserve. He constantly studies the ground with a view ~~to tactical dispositions.~~

DISTRIBUTION OF TROOPS

ADVANCE CAVALRY, SUPPORT AND RESERVE

Advance Cavalry—It should reconnoitre far enough to the front to guard against artillery fire; when there is independent cavalry it maintains connection therewith. If there is no independent cavalry it does its duty to a limited extent.

Support—Following the advance cavalry is the support, varying in strength from one-quarter to one-half of the advance guard. In mixed commands it consists of infantry. Engineers may be attached. If there is no advance cavalry, some cavalry should be attached to it for reconnoitering. The support sends forward an advance party several hundred yards, the distance varies with the conditions. The advance party supplements the work of the cavalry. It provides for its own local protection and that of the main body. The advance party is preceded by a point, which is a small patrol. With advanced cavalry, reconnoissance by the infantry is minimized. The advance party is about one-eighth to one-third of the support. When there is no cavalry, more patrols are provided by the advance party and, if necessary, more men are sent from the support and reserve. The support commander usually marches with the advance party and goes where necessary. He sees that the proper road is followed; that guides are left in towns and cross-roads, repairs are made to roads, bridges, etc., and that information is verified and transmitted to the advance guard commander.

Reserve—The reserve follows the support at several hundred yards. It consists of the remainder of the advance guard. The artillery is at the head of the reserve. The engineers, bridge train, and special troops are at its rear.

Reconnoissance—This is usually conducted by small patrols. When necessary flank guards will cover a threatened flank. Where the terrain permits patrols may parallel the march of the column. This is usually possible for cavalry patrols. Infantry patrols and sometimes those which are

mounted will best reconnoitre by visiting places along the line of march to examine and guard danger points. They should communicate with the main column when necessary. Deserters, suspicious characters, and bearers of flags of truce (the latter blindfolded) are taken to the advance guard commander. Civilians are not permitted to precede the advance guard. Communication between portions of the advance guard and the main body is maintained by wire, messengers or signals.

Advance Guard of a Small Command—In a small command the foregoing arrangement may be modified to suit the situation. A company or troop usually uses only a point. A battalion or squadron, an advance party. A war strength battalion or squadron should put a company in the advance guard. A regiment should put a battalion or squadron, if the enemy is likely to be encountered. Where the advance guard is less than a battalion there is no reserve.

Advance Guard of Cavalry Command—Cavalry usually adopts the same formation for its advance guard as those described above, but with greater distances.

Security in Retreat—In a retreat a column is preceded by what are termed leading troops, to clear the road and facilitate the retreat. Its strength and composition depend upon conditions and troops available. Engineers are generally necessary. Cavalry is assigned to this duty to protect against guerillas or small hostile parties. If seriously opposed, leading troops would be practically an advance guard.

Flank Guard—The flanks of a column are protected usually by patrols from the advance guard. When a flank is threatened a special detachment called a flank guard protects it. Flank guards vary in size from patrols to detachments of all arms. Their composition and action, like those of the advance guard, depend largely on existing circumstances.

Flank Marches—When the main body marches parallel and near to the enemy, a flank guard is most important. If the flank march is due to a considerable change in the direction of the main body, a new advance guard may be sent out. In long columns the various units will provide their own flank observation.

Rear Guards—A rear guard is charged with the duty of covering a retreat. The rear guard order is issued upon the commander's decision to retreat. During a retreat the outpost for the night becomes a rear guard till next day.

Strength and Composition—This depends upon the nature of the country, strength and character of the pursuing forces. It does not count upon the support from the main body. Machine guns, engineers and ambulance companies are usually assigned to it. Troops that have suffered the least and are in the best condition should be selected for rear guards.

Distribution of Troops—This depends largely upon the conduct of the enemy. When necessary to withdraw while deploying, the greater part of the rear guard marches on the road, taking up a formation like that of advance guard faced to the rear.

From the main body outward the parts are named as follows: Reserve, support, and rear cavalry.

The rear cavalry is between the support and the enemy in the rear. The support drops back. A rear party corresponds to the advance party of an advance guard.

Mounted engineers accompany the support, but may be attached to the rear party. The cavalry and horse artillery, if in sufficient numbers, might furnish the entire rear guard, except the reserve. This is usually composed of infantry and artillery.

Distances—About the same rule applies as in the case of advance guards. If marching at night, the rear guard draws nearer the main body.

Rear Guard of an Advancing Force—If there is a possibility of an attack in the rear, a suitable rear guard is provided. In the event of trouble from guerillas, marauders, etc., the rear guard should be strong in cavalry, generally marches in the rear of the train which follows the troops without distances.

OUTPOSTS

Size and Disposition—These depend upon size of the command, proximity of the enemy, the situation, terrain, etc. The size may vary from a small fraction to one-third of force. For a single company a few sentinels and patrols

should suffice. In large commands an elaborate outpost system is provided. Economy of men is exercised consistent with security. Economical protection is often best afforded by causing the enemy to be watched by small patrols with resisting attachments posted. Complete organizations should be used on outpost duty.

In small forces the outpost is usually formed from the advance guard and is relieved the following day. The outpost is relieved when the new advance guard passes through it. In retreat it is detailed from the main body. The new outpost then becomes the rear guard the following day.

In large forces the outpost is formed of the advance and rear guards and performs its duty for several days before it is relieved. In small commands it is relieved daily.

Sub-divisions of the outpost prepare for defence generally, but this may be unnecessary under certain conditions.

The outpost duty troops should be concealed as much as is consistent with proper performance of duty. Positions on the sky line are to be avoided.

Composition—Outposts are usually composed of the three arms:

The Infantry, which performs local observation, especially at night, and furnishes the necessary resistance.

The Cavalry reconnoitres at a distance in open country and by day. When the infantry is exhausted, the cavalry may relieve it of outpost duty temporarily.

When the advance guard forms the outpost, the advance cavalry continues to reconnoitre until night.

Artillery is used to command approaches and favorable positions for the enemy. The guns are concealed and are usually withdrawn at night. Machine guns should command and check sentinel attacks.

Engineers assist in the preparation for defence.

The supreme commander controls the signal troops and establishes communication to the reserve and from the reserve to each support and detached post.

Usually no sanitary train is attached to the outpost. If necessary, dressing stations may be established conveniently in the rear of the outpost. The field trains of the outpost troops join their organization. If combat is probable, they remain at the rear.

Distribution—The outpost is divided as follows:

From rear to front: Reserve, supports, outguards, advance cavalry.

The distances between these parts and from the main body depend on the object sought, the terrain and the size of the command. No uniformity of distance can be expected. Conditions control positions of troops.

The outpost of a small force should hold the enemy beyond effective rifle range until the main body can deploy. In large forces the enemy should be held beyond artillery range.

The Reserve is the main body of outposts and is located at some central point from which to reinforce supports or form a rallying point.

The reserve may be omitted when the outpost consists of less than two companies.

The reserve comprises from one-fourth to two-thirds the strength of the outpost.

The Supports constitute the line of resistance and vary from one-half of a company to a battalion (usually a company). They furnish the outguard. They are numbered consecutively from right to left and occupy the important points where resistance is to be made. They usually occupy positions on roads and other probable avenues of approach.

The line of outposts should be carefully selected with a view to defence, and accurately defined. A section is assigned to each support and clearly indicated.

The Outguards form the line of observation. Outguards are: Pickets, sentry squads, cossack posts.

They are numbered from right to left in each support.

A picket is from two squads to half a company. They are used at important points. They furnish patrols, sentinels, double sentinels, sentry squads or cossack posts for observation. The strength of the picket depends upon the duty to be performed.

The sentry squad is a squad posted in observation. It posts single or double sentinels by day and night respectively, and sometimes furnishes a patrol.

A cossack post consists of four men posted in observation. It furnishes a single sentinel. At night it may be advisable to change the position of observation groups, particularly of sentinels.

Sentinels are usually single in day time and double at night.

Sentinels of cossack posts are kept very near. Sentinels from pickets may be as far away as one hundred yards.

There should be easy communication between the sentinels and their groups.

Sentinels are numbered from right to left for each outguard. Observation groups are numbered consecutively from right to left for each support regardless of their names.

By day, outpost cavalry reconnoitres in front of the line of observation, and when there is independent cavalry farther to the front it maintains connection therewith.

At night the cavalry is usually withdrawn near the reserve in order to rest their horses and also because the infantry can better perform night reconnaissance.

Small detachments of cavalry are generally assigned to the supports for distant reconnaissance.

With cavalry in front, the work of the infantry is minimized.

Advance cavalry acts under the direction of the outpost commander.

It is advisable at times to replace outguards by patrols at such places where an advance by the enemy would be difficult, and where patrols could afford the necessary protection.

In daylight where the sentinels have sufficient view to afford protection, much local patrolling may be dispensed with. Distant patrolling, however, should be provided for where necessary.

Patrols and sentinels must give sufficient warning to enable the supports to prepare for action.

It is the duty of patrols and outguards to delay the enemy as much as possible without sacrificing themselves, and then retire to their respective supports.

Connection is kept up between parts of the outposts by patrols, except where a clear view renders it unnecessary.

At night, communication between the different groups is essential.

Detached posts will be furnished from the reserve or main body for places not in the general line assigned to the supports.

The outpost is established quickly, in order that the troops may rest as soon as possible.

Until the permanent outpost is established, a temporary or march outpost is posted from the advance guard.

THE HALT ORDER

The halt order includes the following: The commander's decision to halt; assignment of camp sites to units; detail of troops for outpost and a commander thereof; the general outpost line and position of defence in case of attack.

The outpost commander upon receipt of the halt order will issue the outpost order by reference to a map or after suitable reconnaissance.

The outpost order includes the following: Information regarding the enemy, line to be occupied, troops for supports, location and sector for detached posts, any special reconnaissance required; location and disposition of the reserve, disposition of train, if it is with the troops; location of his headquarters.

The outpost commander will usually give his orders to his support commanders from some good point of view.

Orders to support and reserve commanders should be so given as soon as possible. Subordinates not present should be given all general information.

In large outposts, orders are usually written.

After issuing the order, the outpost commander inspects the outpost, orders necessary changes, and makes report to his superior.

The commander of the reserve marches it to its post and sends out necessary detachments, establishes bivouac, posting at least one sentinel on guard. He provides connection with main body, supports and nearby detached posts.

Supports marching to their posts furnish their own protection.

The support commander's order includes: Information as to the situation; detail of outguards; defines their sectors; detail of patrols; provides for sentinels posts; directs the necessary intrenching; establishes connection with adjoining supports and with its outguards.

The support commander must arrange to cover his sector so as to preclude the possibility of the unobserved approach of the enemy, and yet exercise economy in men.

When the support is posted, the commander inspects all dispositions, makes necessary corrections, and renders report and sketch to outpost commander.

The outguards are marched to their posts furnishing their own protection.

The outguard commander explains the situation, forms reliefs for sentinels and patrols. In the case of a picket, he arranges for a sentinel at its post.

He posts the sentinels and points out and explains all topographical features in his sector, giving direction and location of enemy if known, and location of neighboring outguards.

He gives patrols all necessary information and orders, requiring each to cover its ground at least once before dark.

Pickets should maintain connection with outguards upon the right and left, by means of patrols.

Outguards should be concealed and their posts strengthened.

Relieving the Outpost—The new outpost troops should arrive at daybreak, which will give double strength on the outpost line at the most dangerous hour.

In the evening and early morning, the outpost should be particularly vigilant, as these periods are favorable to enterprises by the enemy.

Examining Post—This is a small detachment commanded by an officer or a non-commissioned officer, stationed at some convenient point to examine strangers who approach the outpost line.

Their use is not general, but at times may be important, particularly when the enemy speaks a different tongue or during a siege.

ORDERS

Letters of Instruction—Movements over large areas and for considerable periods of time are regulated by letters of instruction.

Field Orders—Tactical and strategical actions not conveyed in letters of instruction are regulated by field orders.

Field orders for an army or division are written; for a brigade usually written; for a regiment or smaller unit usually verbal.

Object of field order: To make a course of action; to create cooperation between all parts of the forces, to express intention of leader.

They are issued for marches, halts, camps, security, combat, etc.

Field orders are often issued in fragmentary form, consisting of messages written or oral. Whenever they give detailed instructions, they should follow the prescribed form.

Details of administration are usually issued in "orders," but when convenient may be included in field orders.

Orders should be issued in sufficient time only for the recipients to study and understand them.

For divisions it requires one and one-half hours for distribution of orders, and for brigades about one hour.

The hour of issue is the hour of signature

GENERAL ORDERS

These include (1) instructions for carrying out general regulations issued by superior headquarters; (2) all standing instructions, in order to prevent frequent repetition. They are issued by the following commanders: of armies, of field armies, of divisions, brigades, regiments, and separate battalions.

Orders are issued by commanders of divisions and separate brigades, and are for the regulation of matters pertaining to supply, distributing points, use of rations, and hospital service, etc. Also to the line of communication, rendezvous, and evacuation points.

Special Orders refer to movements and assignments of individuals, and are not published to commands generally.

Verbal Orders are given by commanders in person, or sent by staff officers or messengers. When important, they should be recorded at once. They should be sent by messengers only in cases of necessity.

They should contain but one mandate, and that stated as concisely as possible.

The bearer of a verbal message should be required to repeat it before starting.

Composition of Field Orders—The officer issuing a field order must previously estimate the situation and come to a decision, and carefully word his order in the prescribed form.

In estimating the situation, the commander should carefully consider his mission and all existing conditions, surrounding or affecting him.

In making his decision, he should carefully consider every means open to him for accomplishing his mission, and after

duly weighing each, decide which is most promising of success. He then makes his decision.

Orders should be the outcome of logical reasoning. They should as far as practicable preserve the integrity of tactical units. They should be clear and definite. Expressions which leave one in doubt as to their meaning should be avoided. In stating locations or directions, use points of the compass and definite distances. For instance, to indicate a position, "On hilltop 600 yards N. E. of Jones' mill." Avoid using such expressions as "The other side of Elk Creek" or "On the left hand side of the road," as much depends upon the viewpoint of the individual. The right or left flank of a body of troops has a fixed meaning, however, and refers to the right or left of a command when facing the enemy. The right and left do not change when a command is in retreat.

Geographical names should be written in capitals. Where names are not pronounced as they are spelled, their phonetic spelling should appear in brackets immediately after.

When two or more places have the same name, reference should be made to some other point to distinguish between them.

A road is indicated by the naming of two or more points along it.

Use an affirmative expression when possible.

Written orders should be absolutely legible.

They should consist of brief and concise sentences.

Conjectures, expectations and reasons should be avoided.

The commander should accept the entire responsibility and should issue his orders in positive language.

They should leave the details of execution to the officer who is to execute them.

When much time will elapse between the issuing of orders and their execution, letters of guidance are preferable. These should lay stress upon the object to be attained and omit the means to be employed.

Orders should not attempt to arrange matters too far in advance.

Details of time and place should be carefully stated, and subordinate commanders and staff officers should be required to regulate their watches by that of the commander, or other official timepiece.

Orders of subordinates should not merely repeat those of higher commanders. They should go more into detail.

Form For Field Orders—In order to secure quick understanding and prompt cooperation, field orders should follow the prescribed form. The parts of a field order are: The heading, the distribution of troops (where necessary), the body, the ending.

The Heading—This contains the title or name of the issuing officer's command, the place, date, hour of issue, and number of the order.

Titles are expressed as follows: Det. 1st Div.; Outpost, 6th Inf.; Advance Guard, 3rd Div.; 1st Brig. 1st Div.; 3rd Div.

In the above titles "Det. 1st Div." means that the command is composed of troops from the first division; "Advance Guard, 3d Div." means that the command is the advance guard of the third division.

The title may appear in the order creating a command, thus: "The Second Brigade will constitute the advance guard."

The title with place, date, and number thus fully identifies an order.

Whether named in the title or elsewhere in the order, the abbreviated form for the designation of tactical organizations is preferable.

When a fraction of an organization can not be designated by naming one or more of the sub-divisions, it receives the generic title of "detachment."

A detachment is a body of troops separated from a higher command and intrusted with a special mission.

Nearly every command of any size is composed of troops from the different arms or special services, or both, and when not constituting a division, brigade, or other authorized unit, the question arises whether to call such a command a "detachment" or to give it the tactical designation of the predominating arm or special service. If there is a predominating element the title of the command is that of the predominating element, unless the proportion of auxiliary troops or special troops equals or exceeds that prescribed for a division, in which case the command is a detachment. For example: A command consisting of one regiment of infantry and one squadron is a detachment, while the title of a command consisting of one regiment of infantry and a troop is that of the regiment.

Dates in the heading are abbreviated thus. 4 Feb. '08, 2-45 P. M.

The Distribution of Troops—The distribution of troops shows the tactical components into which a command is divided (advance guard, main body, etc.) and the troops assigned to each. ~~If it is generally used~~ in march orders and in the first field order applying to a command newly created or organized. In other cases it is usually more convenient to name the troops in the body of the order, where their duties are prescribed.

When a "distribution" is used it is headed "Troops," and in written or printed orders is placed on the left of the body, occupying about one-third of the page. The tactical components are marked with lettered subheads (a), (b), etc., the troops listed under each performing the task prescribed in the similarly marked paragraph of the body of the order.

When orders are dictated or sent by wire or signals, the distribution of troops (if used) is given immediately after paragraph 2, without number.

The Body—The body contains information and instructions for the command, and is arranged in numbered paragraphs as follows:

Paragraph 1 contains such information of the enemy and of our supporting troops as it is desirable that subordinates should know.

Paragraph 2 contains the general plan of the commander, or so much thereof as will insure cooperation of all parts of the command.

Paragraph 3 contains the detailed tactical disposition adopted by the commander to carry out the plan outlined in paragraph 2, including the tasks assigned to each of the several combatant fractions of the command. These tasks are given under lettered subheads (a), (b), etc., the leading fraction, or the one having the most important duty to perform being generally considered first. For instance: In an attack order it is customary to consider the artillery first; in a march order, troops are considered according to their position in the column.

Instructions applicable to all of these fractions may be embodied in a subparagraph, lettered (x), at the end of paragraph 3.

Paragraph 4 contains instructions for the train, distributing and dressing stations, etc.

Paragraph 5, where the commander can be found, and the location of "lines of information."

Where additional paragraphs are necessary, they are written and properly numbered after paragraph 4.

The location of the commander is always indicated in the last paragraph.

No abbreviations are used in the body of the order except A. M. and P. M., and those authorized for tactical organizations and designation of rank.

In naming a night, both days should be mentioned, thus: Night 4/5 Feb. 08. To designate noon and midnight, these words are written.

The Ending—This contains the authentication of the order and a statement of how it is communicated to the command. Before orders are issued, they should be carefully checked to see that the entire command is accounted for.

MARCHES AND CONVOYS

A march is successful when the troops arrive at their destination at the appointed time, without loss of efficiency. Good marching is obtained by careful preparation, discipline, march sanitation, minimizing hardships, preparation without haste, marching at route order, informing as to duration of halts, and taking advantage of them; not keeping burdens on men longer than necessary, caring for men's feet, and the hoofs and backs of animals, resting one day in seven on long marches, never making forced marches when unnecessary.

Compliments are omitted on the march.

The conduct, formation, start, rate and length of the march, are regulated according to its object.

Conduct of Marches—Preparation—Men and animals to be fit and equipped, wagons properly loaded, arrangements for supplies made, and for care and evacuation of sick and wounded.

FORMING THE COLUMN

Issue March Order—This states the object, distribution of troops, order of troops in main body and provides for formation of the column.

When a command marches in two (2) columns, the two commanders issue additional orders.

Forming the Column—If distant from the road; by the successive arrival of units at an initial point, usually in the direction of the march.

Initial Point—Is fixed by the commander with reference to position of troops and available roads—may fix other initial points for other units.

In large commands units should be incorporated in order of march for following day. The following should be considered; Road space and rate of march, and distance from initial point of different units; approximate road spaces for Infantry in column of squads, Cavalry, in fours, Artillery, wagons and trucks in single column are as follows: Infantry, two men per yard; Cavalry, 1 man per yard; Artillery, (guns, caissons and wagons) 20 yards each, and trucks 12 yards.

Commanders of subordinate units should examine routes, calculate time required, and start accordingly; designate initial points when necessary.

The Commander designates time of start, and subordinate commanders issue orders necessary to comply.

Distribution of Troops—This is controlled by (1) tactical consideration, (2) reduction of hardships.

Order of March—(1) Cavalry and Horse Artillery. (2) Infantry, Field and Mountain Artillery. (3) Engineers. (4) Trains, etc. In retreat this order is reversed.

In mixed commands, large bodies of Cavalry and Horse Artillery should march separately from foot troops.

An engineer detachment should march near the head of each column to repair roads, etc.

The order of units in all commands should be changed from day to day, by placing that which is leading one day, at the rear the next day.

Troops should march on the right of the road when practicable, leaving the left free for passage. When the condition of the roads make it advisable, the column may be split and half march on each side of the road.

Straggling and elongating the column must not be permitted.

Infantry habitually marches in column of squads, and Cavalry in column of fours when practicable. Both march in twos when it is desirable. Artillery marches in column of sections, but when the road permits, may march in double sections. On trails and in difficult country troops march by files or Troopers, or any way that appears most advantageous.

The Start—Marches usually begin in the morning, allowing a reasonable length of time for breakfast, feeding

of animals, preparing for the march, policing the camp, etc. Foot troops do not usually start before broad daylight. Mounted troops start about an hour after daylight. Preparations for the day's march are made pursuant to calls sounded from headquarters, and are supervised by an officer from each organization.

Distances between units or trains will be in accordance with regulations, or else as ordered by the commander. They may be temporarily increased or diminished as may be necessary to prevent checking the column.

Rate and Length of Marches—The rate is regulated by the foot troops. It varies with the size and condition of the command, conditions of the road, weather, topography of the country and the tactical requirements.

Infantry marches at Drill, 100 yards per minute, 3.4 miles per hour. On the road, the rate will be 88 yards per minute, or three (3) miles per hour; which with the required halts of ten (10) minutes every hour, will make it cover about $2\frac{1}{4}$ to $2\frac{1}{2}$ miles per hour. This is average marching. Infantry will march about fifteen (15) miles per day under ordinary circumstances. In large bodies this will often be reduced to about twelve (12) miles per day. Small efficient commands in good weather can average twenty (20) miles per day.

Cavalry marches 4 miles, 8 miles and 12 miles per hour. The average marching at a walk is a mile in 16 minutes, or $3\frac{3}{4}$ miles per hour; and at a trot, 8 minutes to the mile, or $7\frac{1}{2}$ miles per hour. In the field the usual gait is the walk, which with halts reduces the march to $3\frac{1}{2}$ to $3\frac{3}{4}$ miles per hour. The average march of cavalry when seasoned is 25 miles per day.

Field Artillery assumes the rate of march of the body to which it is attached. If alone it will march 15 to 20 miles per day.

Horse Artillery marches at the same rate as the Cavalry—to which it is attached.

The rate of march for the trains depends upon the kind and condition of the animals, condition of roads, the load and the length of the column. Under favorable conditions they may march about 4 miles per hour. This is unusual however. The rate of march varies according to conditions; from $2\frac{1}{4}$ to about 2 miles per hour for an average.

Pack Trains carrying about 250 lbs. per animal will march 20 to 25 miles per day, on ordinary roads, but in rough country, not more than 10 to 15 miles.

Auto Trucks or wagons drawn by tractors vary so in their marching ability that no fair average has been decided upon.

Halts—Commands are halted occasionally to rest. The first halt is made after 45 minutes of marching, and is for about 15 minutes. This halt should not be made in the vicinity of dwellings, as it is for sanitary purposes, and for adjusting clothing and equipment. After the first halt, foot troops halt to rest about 10 minutes in every hour. The men fall out, but remain in the immediate vicinity of their places in column after the first halt.

Cavalry halts only about five minutes per hour, to examine horses' feet, adjust equipment, etc.

Field Artillery will halt for about 5 to 10 minutes per hour, to inspect and make adjustments.

It is desirable to finish the march as soon as practicable. Marches of less than 15 miles for Infantry and 25 miles for Cavalry will not be divided by long halts. On larger marches, which will extend into the afternoon, it is well to rest and feed during the noon hour. Such a halt should be made at a place selected with a view of obtaining good ground, shade, shelter and water. During long rests arms are stacked and equipment removed. Mounted Troops dismount and loosen cinches.

In the tropics, in order to avoid the heat of the day, marches may be commenced earlier in the morning, and a long rest taken during the hotter hours. The march may be resumed later in the afternoon. It is not very satisfactory, however, to arrive at a strange place late in the day. Troops should not be halted near towns, except when necessary to get water and supplies; in which case the men will remain in column.

In small commands units halt and start at command or signal. In large commands, the commanders of units halt and start at the time indicated in orders. All unit commanders will have their watches set with that of the commander.

Crossing Bridges and Ferries—When there is cause for delay, the troops should be informed as to the probable length of the delay, in order that they may take advantage of the time to rest.

When crossing difficult places, every effort should be made to prevent checking the march of the troops in the rear. Units may be required to overlap and seek other passages. When a company is forced to slacken its pace at a crossing, the head of the company should slacken its pace till the rear is past the obstacle. The company resumes its place in the column by quickening its pace.

Fords, bogs, bridges, etc., should be carefully examined before crossing, and when necessary, an officer is detailed to superintend the crossing; whose instructions must be complied with.

When temporary bridges are used there will be a bridge guard, under an engineer officer, for its care. His orders relative to the bridge will be considered as those of the commander.

In quicksands, swamps, treacherous fords, etc., the way will be carefully marked with stakes in the day, and with lanterns at night. A fire will also be built at the exit.

Foot troops will ford deep swift currents, on as wide a front as possible; holding hands or locking arms.

The men should refrain from looking at the water, but watch the landing place.

It is sometimes advantageous to have the mounted troops ford first, above the Infantry, to break the force of the current.

Delay at difficult fords is often lessened by finding several places to cross at once.

Animals and wagons will deepen fords having mud and sand bottoms, necessitating the selecting of other places for crossing.

Persons operating a ferry must not be interfered with.

Men enter pontoons or barges, singly at the bow, and move toward the stern. In larger vessels men may march in by twos. They retain their places. In small boats and in rough weather the men will sit down. When the crossing is dangerous they will remove their equipment.

Horses are loaded singly. In a single row, they are placed head and tail, side by side. In double row, they face inward. If a horse falls overboard he is let loose.

Guns, caissons and wagons are loaded by hand, and teams go on same vessel when possible.

In unloading, the men leave from the bow in order, and do not rise until their turn.

With rafts the center is loaded first, and the load is equally distributed.

The center is the last place to unload.

Cattle will be required to swim if possible. Rafts are dangerous on account of the tendency of cattle to crowd into one place.

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Care of Troops—Commanders must keep themselves informed as to the condition of the troops, and the progress of subordinate units in the rear.

Water supplies must be carefully examined and marked "Good" or "Bad," especially in commands where cholera and other diseases of the stomach or intestines are prevalent.

Guard against excessive eating or drinking. Make canteen last for day's march. Canteens should be replenished when necessary. This should be done in an orderly manner, and under the inspection of a responsible person.

Advance guards may require inhabitants to place water along line of march for troops. It is sometimes necessary to convey a supply of water in wagons.

When the water question for the day is doubtful, the horses should be watered before leaving.

As many troops as possible should be watered at the same time.

Watering animals is a test of the discipline of a command.

Units water in turn, and at a place corresponding to the positions they occupy in the column.

Animals of Artillery and trains are watered in camp, before leaving and upon arrival, except when there is ample time to water from buckets or to unhitch.

In hot weather precautions as to selecting shade and fresh air for resting should be considered. Men should be cautioned not to drink too freely. Green leaves and wet handkerchiefs in the hats, often give relief. When overheated the men must not cool too suddenly.

Stragging—No man should leave the ranks without permission. Officers and non-commissioned officers will report those disobeying this rule.

Enlisted men away from their organizations will be arrested by the Military Police; who will send all men so arrested to their companies, with statements of the circumstances.

Those who pillage and commit other crimes, are arrested and dealt with according to law.

Camp or Bivouac—Upon approaching camp the Commander issues the halt order.

KINDS OF MARCHES

Peace Marches—(1) Marches in change of station.

(2) Practice marches.

Marches in Campaigns—(1) Concentration marches.

(2) Marches in the presence of the enemy.

(3) Forced marches.

(4) Night marches.

Changing Station—The march order may be issued to cover several days, or for each day. It prescribes the following:

(1) The distribution of troops.

(2) Time of starting.

(3) Camping places.

(4) Time for calls.

(5) Any other necessary details.

To lessen the discomfort distances may be increased.

On muddy roads the mounted troops may be made to follow the Infantry. In high vegetation or deep mud they may be made to break the way for Infantry.

Field trains may march with their regiments and supply trains, conveniently placed.

Practice Marches—These are for two (2) purposes.

(1) Hardening the men and animals.

(2) For teaching officers their duties in campaign.

They should conform to the conditions they are meant to simulate, and should always include field service instructions. The issuing of field orders will be required for all tactical exercises.

Concentration Marches—Are for the purpose of assembling troops at a certain point. Time and road spaces are the principal elements to be considered. These are affected by the road and weather conditions, etc.

A column of troops on the march must not be cut by another.

When two commands meet at cross-roads, the senior has the right of way. If near the enemy, the senior decides on which shall precede.

If one column overtakes another, it may pass on if its commander be the senior; otherwise with the senior's consent.

Marches in the Presence of the Enemy—The order in such marches is controlled by tactical considerations and is

determined by the plan for the employment of the troops. When contact with the enemy is probable columns are closed up and march on wide fronts. Communication is kept up between columns on parallel roads, and all impedimenta kept in the rear. If a part of a unit of infantry is assigned to the advance guard, the rest of that unit marches at the head of the main body.

In an advance the artillery is near the head of the main body in order to assure its prompt action. Sufficient infantry should precede it to insure its security. The artillery commander should accompany the commander of the column. If there is danger from the flanks the artillery may be broken into columns not longer than a regiment with detachments of infantry in front, on the flanks, and in the rear of each. This formation is not conducive to quick action. However, to reduce delay the artillery may be marched in double column and its combat trains follow immediately the last infantry unit. When moving into action artillery has the right of way. An example of the march of the main body of a division is as follows:

1 regiment infantry. 1 battalion artillery. Regiment artillery. 2 brigades infantry (less 1 regiment). Engineers. Signal troops. Artillery combat trains. Trains.

In marching through defiles, forests, or at night, it may be advisable for the artillery to be placed at the rear.

Trains—Military trains should be guarded at all times. Field trains are guarded by men on duty with it, by convalescents and other noneffectives, by dismounted men of the cavalry and members of the artillery reserve. Supply, ammunition, and engineer trains are guarded by military police. When marching into action trains should be placed so as not to interfere with movements. Pontoon trains, when needed, should be as far forward as practicable. When wagons break down or stall the load should be transferred to others and the road cleared promptly.

Forced Marches—The conduct of a forced march is controlled by the distance and the time in which it is to be made. They are only made when necessary. With large commands they are more difficult than with small ones. Foot troops make forced marches by increasing the marching time. Halts for cooking and sleeping are arranged to afford the maximum benefit. An increase in the pace is seldom advisable. The maximum day's march for infantry and trains is 28 to 30 miles. Such a march should not be for more than 36

hours. If the march continues for several days, each day's march should be of more than average length. Foot troops should be especially favored with best roads and not intermingled with vehicles and mounted men. If possible their packs should be transported. Mounted troops increase the gait and the time of marching. They may make 50 miles per day for three or four days. The usual hourly halts are made and a two hour halt is made in the middle of each day's march, when horses should be unsaddled and fed. The rate of march should be five miles an hour, excluding halts. Single marches of 100 miles are made in 24 to 30 hours, during which halts are made every hour and two hour halts are made at the end of the first and second thirds of the march. The rate of march should be five and one-half miles an hour. Marches of 30 to 40 miles at six miles per hour can be made under favorable conditions. In small well seasoned commands the rate may be increased. A forced march of 150 miles should be made in about 3 days. Forced marches of 200 miles should be made at the rate of 30 to 40 miles per day. The horses and men should be relieved and assisted by requiring the men to dismount and lead for periods and should be permitted to remove sweaters, coats, etc., if desirable.

Night Marches—These are made to avoid excessively hot day marches or to surprise the enemy or secure a favorable position. Good roads and moonlight are desirable. A few hours rest should be taken and best discipline maintained. The following precautions should be taken: See that proper road is followed; contact is maintained between units; that men are stationed at crossroads and changes of direction; guides are secured; troops kept closed up. When the march is secret additional precautions are taken. Silence is maintained, mouthpieces of bugles are removed, articles of equipment secured to prevent rattling, smoking is prohibited, habitations are avoided and extra time allowed in the event of having to leave the road. Cavalry marches in the rear of infantry and the artillery follows the cavalry and has a special infantry escort.

Convoys by Land—The term convoy applies to any train by which supplies are forwarded to an army. The term also applies to troops guarding such train. There are also convoys of prisoners on land and transports by water.

Wagon Convoys—These consist of not more than 100 wagons usually and occupy about a mile of road space. An officer is in charge of a convoy which is divided into sections of 20 to 30 wagons each, under a noncommissioned officer or wagon master. Military police assist and protect the convoy. Where the transportation is hired or impressed a strong guard is necessary. There should be 25 yards between sections, two yards between wagons, and the rate of march should be two to two and one-half miles an hour, halts included. Halts for breathing on long inclines and for locking wheels on descents are permitted. Long halts should be avoided. The slowest teams are placed in the lead. Loads from broken wagons are transferred to others and the road promptly cleared.

Security—Security is furnished by an escort of infantry and enough cavalry should be provided for scouting and communication, also some engineers for repairing roads and bridges. In open country the proportion of cavalry should be greater. The strength of the escort depends upon: Size of train; risk; nature of the country; length of march; etc. Trains containing explosives require an extra strong escort. The senior line officer with the troops is in command. He should consult and defer to the wishes of the officer in charge of the train. Officers casually with a convoy have no authority over it.

Distribution of Troops—Advance guard. Main body. Flank guard (if necessary). Rear guard.

Advance Guard—The advance cavalry, if any, precedes the train 3 to 5 miles reconnoitering the front and flanks. There should be guides and interpreters. Bridges should be guarded and topography should be carefully examined. The remainder of the advance guard marches about a mile in front of the train. Its commander should examine the country with a view to selecting places for parking in the event of contact with the enemy. The head of a train should not enter a defile until the further end is guarded.

The main body marches at the most important point, either at the head, rear, or center of the train, ordinarily at the center. If it marches at the center it is advisable to place a body of infantry at the head and tail of the convoy.

The rear guard marches a short distance in the rear of the train, in usual rear guard formation. Its strength is usually about one-sixth of the escort.

Camping—The commander selects the place for camping with regard to water supply, fuel, grass, and defence. A field enclosed by wire is desirable. Animals will not be herded if there is danger of attack, or unless otherwise imperative. During halts the train is parked. The shape of the park depends upon the existing conditions. Ordinarily when at a distance from the enemy it is parked in column of sections or half sections with 20 yards between subdivisions and intervals of six or eight yards between wagons. A more compact formation may be secured by placing the wagons axle to axle and tying animals to picket lines in front of the wagons.

Formation for Defence—Two lines facing each other; the diamond; a square; a rectangle; an oval; a circle; with the poles pointing inward. Wire entanglements and trenches should be constructed when necessary. The camp or park is protected by outposts.

Defence of a Convoy—The duty of an escort is to keep the enemy from gaining a position permitting effective fire on the train and to prevent surprise. The flanks are the most vulnerable parts. The escort fights only when necessary and does not pursue when the enemy is repulsed. If the enemy holds a commanding position on the line of march he must be dislodged, or the convoy must take a different road. The advance cavalry should report the presence of the enemy to the commander as soon as possible when it is known, in order that the commander may make preparation or any change that he may deem necessary. If menaced by small parties the convoy should continue; if attacked by a superior force the train is parked in a defensive formation under the protection of a skirmish line. The defence should be made at some distance from the convoy. Couriers should be dispatched to notify the commander of the nearest troops. Should the enemy be repulsed his retreat should be carefully verified before resuming the march. If the train cannot be saved the commander should escape with the most valuable part, destroying the remainder.

Attack of a Convoy—The most favorable times for attacking a convoy are: When passing through woods; defiles; or, over bridges; going around a sharp bend; on steep slopes; on difficult roads; when teams are being watered; or at any time when it is not prepared for immediate defence. The convoy should be forced to halt. It should be thrown

into confusion by an attack from an unexpected quarter. Artillery and machine guns should be employed against it. If captured, portions which cannot be carried off should be destroyed. www.libtool.com.cn

Prisoners—In addition to an escort to repel attempts at rescue there should be a guard of ten foot soldiers and several mounted men for every hundred prisoners. Prisoners are formed in companies and marched in column. Their officers are marched separately. Prisoners should be treated kindly, but warned that an attempt to escape will draw fire. If the convoy is attacked the prisoners are made to lie down. At night they are guarded in well lighted buildings or enclosures.

FIRING

Firing is divided into the following classes:

Volley Firing, which has a very limited use, is used in early stages of action against unusual targets. It may be used also in what is known as "fire of position." When the ground is such that the effect of volleys upon it may be seen, volley firing is an excellent means of finding the range.

Fire of Position is the fire employed by troops which are not taking part in the advance against a position, to assist the troops which are actually making the attack. It is usually directed from some favorable position to a flank, or from some elevated position in the rear of the attackers. Volley firing is executed habitually by platoon.

Firing at Will is the class of fire usually employed in combat. It is delivered with deliberation, slowly at the longer ranges; more quickly and with deliberation consistent with the rapidity required at lesser ranges, and rapidly where the target is so near that great deliberation is not required, to render the fire effective.

Clip Fire has limited application. It is used in early stages of combat, to steady the men, to cause brief pauses in firing and for short heavy bursts of fire.

The operation of firing consists of determining and announcing the range, indicating the target and commencing the fire.

For determination of ranges see notes on Small Arms Manual herein. The usual method used, is estimation by two or more men, selected for their accuracy in this particular

art, and taking the mean of their estimates. This can be done very quickly, when the range finders have been trained to estimate ranges on the first signs of the enemy.

Target Indication—In order to indicate the target to the men it is necessary to do two (2) things:

- (1) Show them the target or its location.
- (2) Show them its extremities.

To show where the target is, call the men's attention to some distinct and conspicuous object near the target, or in line with it; and by using this object as a reference point, endeavor to give the direction and distance from it to the target. For instance, let us imagine that a wind mill or a tree, or a certain house might be so situated that by calling attention to "the wind mill nearest the large red barn," or to "the north end of the white dwelling," or "the right of the five trees on the hillside," the eyes of the command will be directed in the general direction of the target, and fixed on a definite object.

Having indicated the reference point, the next step is to announce what the target is, so that the men will know what to look for. Then the distance and direction of the target from the reference point will be announced. In doing this, the reference point should be considered, as in the center of a clock dial, with 12:00 o'clock directly beyond it and in prolongation of a straight line from the center of the command to the reference point. The imaginary figures on the dial would then be used to indicate direction from the reference point to the target. To show the distance from the reference point to the target, place the hand, back to the front, and fingers extended, twenty inches (20") from the eye, and see how many fingers can be included between the target and the reference point.

The next step to be taken after the location of the target, is to indicate the extremities. The end, usually that nearest the reference point, has been indicated as the location. Hold up the hand as before and see how many fingers it takes to exactly hide the target, then give the direction, right or left, of the first point located—so many fingers. This completes the operation. It takes a good many words to explain such a simple process, but the execution of it requires but a few seconds.

The method explained above is often satisfactory, but will not cover all cases, because frequently there is terrain, in which reference points are difficult to find, or do not exist

at all. When such is the case another simple method is to announce the target as being at such o'clock, which, without having referred to any other point, means that the command is considered as being in the center of an imaginary horizontal clock dial, with 12:00 o'clock straight to the front, and that the target is in the direction corresponding to that of the imaginary number indicated.

There are other and better methods than those indicated above, but they take considerable study and practice, and some of them require more or less special equipment for such training.

SHELTER

To maintain efficiency troops must have shelter. In peace troops are usually under canvas when in the field. For insurrection or riot duty public buildings may be used. Private buildings are not used without the owners' consent. In war, public buildings are used when necessary to care for sick and wounded. This will be avoided when individuals offer shelter or shelter may be had for reasonable rent. Seizure is not resorted to except in emergencies. In enemy territory public and private buildings may be used. For sanitary reasons private buildings are seldom used. In such cases civil authorities should be consulted. Families should not be interfered with when it can be avoided. Troops under canvas are said to be in camp. When on the ground without shelter they are in bivouac. When in buildings, or improvised shelter they are said to be in cantonment. Cantonments are usually developed from improvements and additions to camps. During suspensions of hostilities, and in severe weather, cantonments are advantageous. Billeting is assignment of troops to quarters in private dwellings. The allowance of tentage for the field is provided for in the Table of Organization.

SHELTER IN THE SERVICE OF THE INTERIOR

In mobilization and concentration camps, troops are sheltered under canvas or in temporary barracks. They should fulfill the following conditions:

1. Ground easily drained and sanitary. Sufficiently large for depots, corrals, hospitals, etc., to permit the encampment of troops without crowding and provide ample space for military exercises.

2. The water supply should be excellent, abundant, and not liable to contamination.

3. There should be ample facilities for railroad transportation, places for loading and unloading troops and supplies.

4. Good wagon roads should be accessible, all arrangements should be complete before troops arrive. Units should be camped together, tents pitched and lined, kitchens equipped, water and fuel supplied, sanitary arrangements made, provisions made for mail, telegraph and telephone service, headquarters should be centrally located, and the proper wire communications provided. Storehouse and hospital should be convenient to railroad. Trains should be placed so as not to be a nuisance to the troops. No individuals, troops, or trains of organizations, temporarily present should be attached to the permanent camp personnel if it can be avoided. The permanent camp personnel should operate all depots, hospitals and means of communication. Troops temporarily present should be kept ready to move.

SHELTER IN THEATRE OF OPERATION

Tactical considerations generally control the location of the camp. In field operations the equipment of troops is limited to that carried by the men or on animals or in trains. It is sometimes advantageous to place the men and animals in buildings. During long periods between actual hostilities camp equipment may be sent to the troops, and buildings utilized for shelter. Tactical considerations often prevent the occupation of favorable camp-sites, but when possible, consideration must be given to sanitary conditions. When tactical questions are not involved and camp is to be occupied for some time, great care should be exercised in selecting the site. Greater losses may be caused by lack of discretion in such cases than by actual combat. The selection of camp sites is covered by the following conditions:

1. The camp should not be crowded, ground easily drained, with no stagnant water near.

2. Water supply to be sufficient, pure and accessible.

3. There should be good roads to and within the camp.

4. Wood, grass, forage and supplies must be on hand or obtainable.

\ Closely cropped turf with sandy, gravelly sub-soil is best. High banks of rivers are suitable if no marshes are near.

In hot weather, ground should be high, free from underbrush and shaded by trees. In cold weather the ground should slope to the south with woods to break the north winds. Avoid old camp-grounds, vicinity of cemeteries, marshy ground, stagnant water, etc. Stagnant water breeds mosquitoes. Avoid thick forests, dense vegetation, marshy ground, alluvial soil, depressions, and dry beds of streams. It should not be necessary for troops to pass through each other's camps. To protect against epidemics, camp-sites in the theatre of operations should be changed every two or three weeks. The formation of the camp should be such as to facilitate prompt making and breaking of camp, and to afford the best means of defence. For one night halts in the presence of the enemy, the camp might be more contracted, but where tactical reasons will permit, more comfort and sanitation should be arranged for. Camp is established pursuant to the halt order which provides for the outpost and the encampment of the main body. Usually large commands encamp by brigades. The camp ground may be selected by the Supreme Commander, but in large commands a Staff Officer is usually sent forward for that purpose. This officer should be accompanied by an officer from each brigade and regiment, and also a medical officer. The staff officer preceding the command selects the camp ground, indicates to each of the officers accompanying him the portion assigned to their respective commands. These officers conduct their commands to their camp-sites upon arrival. The staff officer designates the places for obtaining drinking and cooking water, for watering animals, for bathing, for washing clothing in the order named, from upstream, down.

When the troops arrive guards are posted over the water supply. Interior camp guards march to their places, post-sentinels, then pitch their tents. The command pitches tents, cares for animals and equipment, establish kitchens, send details for fuel, water, forage, etc., dig latrines, kitchen pits, and when necessary ditch tents and picket lines. In the presence of the enemy places are designated for assembly in case of attack, and the necessary orders given. Lines of communication are established with the outposts. When troops are to be billeted, a staff officer and a representative from each brigade and regiment precede the column. The staff officer confers with the civil authorities with a view to making proper distribution of troops among available buildings, assigns sections to regiments, the regimental officer provides for distribution of their troops to quarters in their sections.

It may be necessary to billet part of the troops and place others in shelter or bivouac. As villages and farms afford such facilities as water supply, bakeries, blacksmith shops, material for repairs, fuel, and forage, it is desirable to halt near them. In the presence of the enemy, troops are often forced to bivouac for tactical reasons. In good weather it may be preferable to bivouac. For tactical reasons bivouacs are desirable. For sanitary reasons they are only resorted to when necessary. The selection of sites for bivouacs is covered by the same principles as pertain to camp sites. In the artillery the men usually sleep under carriages or paulins on one night halts.

SHELTER DURING BATTLE

When action ceases for the night troops bivouac in line of battle on the ground occupied, with the officers in the rear of the center of their units. Reserves remain in readiness in bivouac in columns with a flank to the front. The commander of the main body decides whether the outpost troops shall use shelter tents or not.

SHELTER DURING SIEGES

Due to the long range of artillery, the main body of the besiegers usually camps not less than five miles from the enemy, except when excellent cover is available nearer. To hold the enemy to his lines a large portion of the command remains on outpost duty. The outpost is relieved from time to time by fresh troops. Great care is exercised to prevent epidemics in the crowded camps or cantonments of the besiegers, especially in the care of the water supply and sanitation.

CARE OF TROOPS

Lack of sufficient rest renders troops unfit for hard work and diminishes their power of resisting disease. Therefore commanders should secure for the troops, whenever possible, their accustomed rest.

The rules of sanitation are enforced.

Men should not lie on damp ground. In temporary camps and in bivouac they raise their beds if suitable material, such as straw, leaves, or boughs can be obtained, or use their ponchos or slickers. In cold weather and when fuel is plenti-

ful the ground may be warmed by fires, the men making their beds after raking away the ashes.

When troops are to remain in camp for sometime all underbrush is cleared away and the camp made as comfortable as possible. Watering troughs, shelter in cold weather, and shade in hot, are provided for the animals, if practicable.

In camps of some duration guard and other routine duties follow closely the custom in garrison. The watering, feeding, and grooming of animals take place at regular hours and under the supervision of officers.

The camp is policed daily after breakfast and all refuse matter burned.

Tent walls are raised and the bedding and clothing aired daily, weather permitting.

Arms and personal equipments are kept in the tents of the men. In the cavalry, horse equipments are also usually kept in the tents, but in camps of some duration they may be placed on racks outside and covered with slickers. In the artillery, horse equipments and harness are placed on the poles of the carriages and covered with paulins.

The water supply is carefully guarded. When several commands are encamped along the same stream this matter is regulated by the senior officer.

If the stream is small, the water supply may be increased by building dams. Small springs may be dug out and lined with stone, brick, or empty barrels. Surface drainage is kept off by a curb of clay.

When sterilized water is not provided, or when there is doubt as to the purity of the water, it is boiled 20 minutes, then cooled and aerated.

Latrines for the men are always located on the opposite side of the camp from the kitchens, generally one for each company unit and one for the officers of a battalion or squadron. They are so placed that the drainage or overflow can not pollute the water supply or camp grounds.

When the camp is for one night only, straddle trenches suffice. In camp of longer duration, and when it is not possible to provide latrine boxes, as for permanent camps, deeper trenches should be dug. These may be used as straddle trenches or a seat improved. When open trenches are used the excrement must be kept covered at all times with a layer of earth. In more permanent camps the trenches are not over 2 feet wide, 6 feet deep, and 12 feet long, and

suitably screened. Seats with lids are provided and covered to the ground to keep flies from reaching the deposits; urinal troughs discharging into the trenches are provided. Each day the latrine boxes are thoroughly cleaned, outside by scrubbing and inside by applying when necessary a coat of oil or whitewash. The pit is burned out daily with approximately 1 gallon oil and 15 pounds straw. When filled to within 2 feet of the surface, such latrines are discarded, filled with earth, and their position marked. All latrines and kitchen pits are filled in before the march is resumed. In permanent camps and cantonments, urine tubs may be placed in the company streets at night and emptied after reveille.

CHAPTER V.

NOTES ON ELEMENTARY INFANTRY INSTRUCTION

COMMANDS

Much in the way of efficiency and in the manner of executing commands depends upon the manner in which commands are given. The giving of commands may be likened to the loading and firing of a rifle; the preparatory command corresponding to the loading, and the command of execution the means, of firing the piece.

When a command consists of more than one syllable or word, the last sound uttered should be the one which causes the execution, and stress should be laid upon it. Commands should not be permitted to trail off downward in tone. They should come up with a somewhat rising inflection with each word and each syllable clearly and distinctly uttered.

A command of execution should be given firmly and sharply, a very slight degree higher than the preparatory command.

Commands should be made what the word "command" indicates. The mere saying of the words prescribed in a text does not suffice. Commands must be given with confidence and firmness and with a feeling and knowledge that they are going to be executed; that there is no doubt about it whatever. This is particularly true when training new men. With a thoroughly trained organization, excellent results are obtained by giving commands in a very ordinary tone of voice.

Before entering upon a period of instruction, the instructor should determine what movements he intends to teach and the proper commands and the proper execution. This is important, in fact, it is absolutely necessary and it is one thing above all that an instructor should remember. Teach a little at a time and teach it thoroughly.

In order to obtain practice in the use of the "tools" which are furnished in the infantry drill regulations, one should assume every formation imaginable and make changes from these formations to every other conceivable formation. The drill regulations permit of any movement that is desirable and which may become necessary. It is for the student

therefore, to practice shifting from one formation to another, keeping in view the importance of economy in movement, time and command. This practice might be conducted with matches or groups of toy soldiers.

One should continually examine himself in infantry drill regulations, setting himself problems to solve. It has been found by experience that most civilian soldiers when confronted with some simple problem which has not been definitely described in the drill regulations is unable to apply principles and methods. For instance: In examining a great many applicants for commissions in the Reserve Corps it has been found that nine out of ten of the candidates were unable to change the front of a line in close order formation from facing North to slightly East of North on the right guide as a pivot. The trouble was this: They would frequently say that there was no command for such a movement or they would give "Platoon Right" or "Platoon, Half-right"; then salute respectfully and say that there was no command for forming at any other angle than 45 degrees and 90 degrees to the original line. When shown the simple method of facing the guide in the desired direction and commanding "Right Dress" and then "Front" the candidate has usually felt like kicking himself thoroughly. And so it is with all the other movements which are desirable, but which are not actually, prescribed in detail.

My idea in writing these notes is to make the student think and do his thinking and mental training beforehand, and not wait to practice on a long suffering detachment of men. Remember this, that the detachment or squad under instruction is there to be instructed and not merely to be practiced upon. Remember this also, that when certain points are not clear and the explanation cannot be found in the drill regulations, go or write to some regular army officer and ask him to explain to you what is written "between the lines" on the subject.

With a view toward economy of time, energy and command, the following are suggestions: Always command "At Trail" for movements involving short distances; making the men come to the right shoulder and to the order again immediately is a waste of energy and should only be done for the purpose of drill and practice; to cause a slight change in the direction in which a line is facing, have the proper guide face in the required direction and command "Right Dress Front:" to move backward short distances, command "About Face, at trail, forward march;" or if the distance to be moved is

only a few paces, command "Backward march;" to move short distances to the right or left, command "Right (or Left) face, at trail, forward march—Company (Platoon or Squad) Halt, left (or right) face;" if the distance to be moved is but a few feet, command "Right step (or left step) march, Company (Platoon or Squad) Halt."

Note: It has been found in practice that best and quickest results can be obtained in halting from this movement by giving the command "Halt" as the feet are brought together. This gives two counts in which to halt and a third count for coming to the order. This is desirable, because, when marching backward or forward at trail, "halt" is executed in two counts and the piece is brought to the order on the third count.

One of the principal mistakes made, which, while fairly unimportant, nevertheless produces a bad impression upon the professional soldier, is the unnecessary prefacing of all commands by "Company," "Platoon" or "Squad." The term "Company," "Platoon" or "Squad" is only given before the commands "Right," "Halt," and "Attention."

Illustration and Demonstration—The instructor should maintain scrupulously the position of a soldier in all its details while his men are "At Attention," and should never assume a "Rest" position except as prescribed for platoon commanders during inspection. It is highly important that the men who are trying to learn have before them the correct picture and example of a soldier. This is exceedingly important. The instructor should consider himself on duty practically all the time, as by his mere deportment and military attitude he is unconsciously instructing those under him. He should set the highest possible standard for himself and then live up to it.

It is important that the instructor not only describe orally movements in the manual of arms, facing, marching, etc., but he should illustrate them all slowly, carefully and in detail, explaining in the simplest words possible, everything so that the student is not left in doubt in regard to any particular point.

Unless the instructor is thoroughly prepared on the matter involved in the day's work, poor results follow. This has been the trouble with most of the amateur military instruction that has been given in this country.

The instructor should be careful not to show disgust for men who find it difficult to "catch on" easily at first. He

should give them his personal attention. For the instruction of men who are more than ordinarily awkward and who appear to be a little dense in the matter of absorbing military ideas, the very best instructor should be detailed. If necessary, the captain should give him much personal attention. The captain is the best instructor in the company. If he is not, he should proceed to make himself so.

Faulty Drill—The instructor, while keeping himself and his men keen on the work in hand, should never lose his temper, or blame the company or squad if the drill is not good. If the results are poor, it is always due to fault on the part of the instructor. I have never seen a detachment of recruits that could not learn to drill well in a very short time. I have had detachments drill poorly and have been exasperated by their performance, but have always had to admit to myself that the fault was my own. When a detachment is drilling poorly and does not seem able to improve, the instructor would better give "Rest" or "Fall out" and give himself an opportunity to think a little. He will soon discover the cause. He has either drilled the men too long or allowed the cadence to become too fast, or has not paid attention to the march of the guide; or else his commands for some reason are not understood. There are always a number of reasons, any one of which will seriously affect drill. If he has overdone the work for the period and unduly fatigued his men, he would do well to dismiss them, and the chances are that the next drill will be thoroughly satisfactory.

There is a tendency on the part of many of us who are keen about drill and other instruction to forget that our men are not so intensely interested or physically prepared as we are. It is, therefore, necessary to hold ourselves in check sometimes and only endeavor to instill into our men the amount of enthusiasm and training that they are capable of accepting at the time.

The instructor's attitude towards military training is important to his men. A command reflects its commander every time. One of the most noticeable mistakes on the part of instructors is their tendency to continue to practice those things in which the Company or detachment is most proficient. While the men should be kept in practice in all the details of drill, the greater amount of time should be spent upon those details which are less understood and worst executed.

The men must be encouraged to feel that the Company is

their Company as well as the captain's. Each man in the Company either tends to raise or lower its efficiency. They should all be reminded of this fact from time to time, in order that those who are below the average will keep constantly trying to increase their efficiency.

Team play in the Company is essential. All the members of a company should bend their efforts to help those who are most backward.

In drill, the instructor should exact snap and precision. He should never be satisfied with mediocre results. He should have fixed in his mind a picture of the manner in which movements were executed by the best drilled company he ever saw and he should feel that he can do at least as well with his. The material in companies is of a more or less uniform average. My rule has been to establish a mark which it is not quite possible to attain, and then to get as near to it as possible.

The question often arises as to whether or not instruction should be given exactly in the words of the book. While the explanations given in the drill regulations are the most concise possible, it sometimes happens that men with keen ability to memorize will give instructions verbatim without knowing their meaning. I hold that if a man can give an explanation which, if complied with will bring about the correct execution and preclude the possibility of any wrong execution, the explanation is satisfactory. If the explanation is not in the same words as the text, I feel sure that the person giving it understands its meaning, or else he could not have interpreted it correctly. Often an explanation which is an attempt at repeating the words of the text, while sounding somewhat like the text, will be rendered impossible of execution due to the wrong substitution of *right for left*. If an instructor knows every detail of the movement he is explaining, the choice of words he uses should not worry him.

In explaining movements to recruits, or new men, it is best to express ideas in the language of the recruit. At first use short, simple, well known words where they can be substituted for the military and technical. One will gain the energy which would otherwise be expended in an effort to understand new terms, and the men will unconsciously become acquainted with military phraseology.

Never present more than two ideas at a time and limit yourself to ten words for each idea. Repeat the idea in different words if necessary, but strive for *clarity* and *brevity*. Let them make mistakes and correct the mistakes. It is

quicker and easier than cautioning against every mistake which might be made.

The Men—Absolute steadiness must be required of the men in ranks. They should never be allowed to assume a rest position without command.

An error frequently noticed by me has been the forgetting on the part of the instructor that he has not given the command "Rest" or "At ease," and allowing the men little by little, to assume positions of rest. When the men are "At attention," they should be at attention continuously and when "At rest" it should be in consequence of a command. Instructors should keep this point in mind.

As to steadiness it might be said that nothing so indicates discipline in a command as the steadiness of its ranks. By steadiness I mean absolute immobility. Not even the eyes should move. Practice in coming from rest or at ease to attention, and in falling in, should be had frequently, and stress laid upon the necessity of the men remaining motionless. This is one of the most difficult parts of the early instruction, but inasmuch as it develops self-control, it is of great importance.

Furthermore, unless men are motionless, some part of their being is engaged in creating motion when the whole individual should be giving his attention to what is being said and done. Motion takes brain energy and muscular energy. It may be a sub-conscious, but it is never an unconscious movement. What the instructor demands is the attention of the whole being.

The Manual of Arms—In executing the manual of arms, the various movements should be executed by quick, snappy motions or jerks, separated by slight pauses.

Each motion of the hands should be in the quickest possible manner. In certain movements where the hands move but a short distance, there is often a tendency on the part of an individual to try to waste the time between the pauses by moving the hand out of a straight line in going from one position to another. This is wrong. If time is to be wasted or used up, it should be used up by increasing the length of the pauses, and every movement should be made as quickly as possible.

Manual—In instructing, results can be more quickly obtained by the instructor taking a rifle himself and actually doing the movement as an example of what is expected. This often effectively takes the place of long winded explanations.

Extended Order—While the student usually manages to understand and execute deployments straight to the front or straight to the flank, it has been found that most of them are unable to handle a situation involving a simple deployment at other angles. No matter from what direction one is fired upon, the commands or signals for deployment which are prescribed in the drill regulations are quite sufficient. It is only necessary for the commander to cause the base squad or platoon to deploy facing, and parallel, to the enemy's line. This base group having quickly deployed in its proper position, the leaders of other groups simply and promptly extend the line thus established.

This is so simple if one knows how, yet nine out of ten of the candidates for Reserve commissions, seem at a loss to know what to do when confronted with a simple problem involving a deployment at an angle. The method used for giving the base squad its position and direction may vary. The Company commander may direct the corporal by signal or words to deploy, as required by the situation, or one of the Company officers or guides may be directed to superintend the placing of it.

Without particular instructions from higher authority, the leader of the squad should be so trained that at the command for deployment he will assume the proper position of formation and direction with his squad or other group. The methods used are businesslike and informal.

In combat exercises of all kinds, involving the deployment of companies and parts of companies, sufficient practice should be held from time to time to cause instant and proper formation to be taken to meet every conceivable emergency. Simple combat principles should be taught and practiced so much that the officers and men execute them instinctively. They should not have to stop to think of what command to give in emergencies.

One of the basic principles to teach and practice is the immediate and prompt taking of cover or deployment, as the case may require. In deploying it is essential that the line face as nearly as possible the direction in which it is to fire. The deployment on a very oblique line is to be avoided as the men interfere with each other in handling their pieces and the muzzles of the rifles are brought near to the ears of the men, causing, upon discharge, great pain and often rupturing the ear drums. When it is necessary to form such an oblique line, each squad should form a straight line, parallel to the enemy's line.

The groups thus formed are said to be in eschelon. This formation permits of each squad's firing directly to its front without interfering with the others and also permits the Company to open fire with less loss of time than would be required were each squad to wait until it formed line on the base squad.

While the following method is not prescribed in the Infantry Drill Regulations, it is permissible and recommended as a proper means of meeting an emergency:

Let us assume that a company has been fired upon at short range by a hostile troop which has surprised or evaded the flanking patrol—two things are necessary immediately, the taking of cover and the employment of fire. If the command "Take cover" be given, the company will be in no formation from which to deliver a fire. If the command to deploy be given, too much time would be required during which there would be no fire delivered. Each company should be trained, therefore, that the signal or command "Squads, right" and "Take cover," the front rank will form line instantly and take cover in the ditch on the right side of the road while the rear rank will take cover in the ditch behind. They should further be trained that in such emergencies pieces should be unlocked and aimed in readiness for the immediate delivery of fire. With such procedure the entire front rank can employ fire without delay. The subsequent deployment, if necessary, would be made by squads from the right or left, each squad rushing forward under cover of the fire of the front rank and deploying on the line of the first advance. The front rank would, necessarily cease firing as it becomes overlapped by the advancing squads. This difficulty could be overcome to some extent by the rushing of the first squad somewhat off to the right or left before halting. This scheme is one for emergency only and should be practiced with that idea in view.

Should there be a stone wall or other suitable cover on the side of the road toward the enemy, the front rank should rush to it and prepare for firing over it immediately while the rear rank should take cover in its proper place with relation to the front rank. From such a position deployment could be made by squads from each end of the company creeping out under cover of the wall to positions approximating their proper positions in the extended line.

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CHAPTER VI
CAVALRY

CARE OF HORSES

GENERAL PROVISIONS

A most important duty of the cavalry officer is keeping his horses in such training and health as will enable them to do their work to the best advantage. The proper performance of this duty requires careful instruction of the men in the treatment, stabling, management, watering, feeding, grooming, and exercising of the horses, and such continuous supervision and inspection by officers as will insure that instructions are understood and are being carried out.

Cavalry officers should make themselves thoroughly acquainted with the natural history and physiology of the horse, and with the effects of different methods of treatment, changes of diet, etc., upon his system and powers of endurance.

They should have a familiar knowledge of the symptoms and methods of treatment of the diseases that are common to horses, what to do in emergencies, and a good knowledge of the effects of the medicines supplied to the squadron. They should also be practically familiar with the principles of horseshoeing.

Sore backs are as a rule, the result of carelessness or neglect; the immediate cause may be faulty adjustment of the saddle or equipment or bad riding.

At each halt officers and noncommissioned officers should inspect the adjustment of saddles and equipment of their men and should at no time tolerate lounging in the saddle.

Horses when received in the regiment are assigned to squadrons according to color, under direction of the commanding officer. They are branded on the hoof of one fore foot with the letter of the squadron and the number of the regiment on the same line; as D7. Their purchase number is found tattooed on the inside of the upper lip.

Captains make permanent assignments of horses; after a horse is so assigned, his rider will not exchange him nor allow him to be used by any other person without permission.

STABLE MANAGEMENT

RULES FOR THE CARE OF HORSES

All troopers must be taught and must thoroughly understand the following rules for the care of horses:

Horses require gentle treatment. Docile but bold horses are apt to retaliate upon those who abuse them, while persistent kindness often reclaims vicious animals.

Before entering a horse's stall and when coming up behind him, speak to him gently, then approach quietly.

Never kick, strike about the head, or otherwise abuse a horse.

Never punish a horse except at the time he commits an offence, and then only in a proper manner.

Give the horse an opportunity to drink before leaving the picket line or stable, and before putting the bit in his mouth. In cold weather warm the bit before putting it in the horse's mouth.

Never take a rapid gait until the horse has been warmed by gentle exercise.

When a horse is brought to the stable or picket line in a heated condition, never allow him to stand uncovered, put a blanket on him and rub his legs, or walk him until he is cool. If he is wet, put him under shelter, not in a draft, and rub him with a wisp until dry.

Never feed grain to a horse when heated. Hay will not hurt a horse however heated he may be.

Never water a horse when heated, unless the exercise or march is to be immediately resumed. Sponging out the mouth and nostrils is refreshing to the heated horse and will not hurt him.

Never throw water on any part of a horse when heated.

Never allow a horse's back to be cooled suddenly. To cool the back gradually, remove the blanket and replace it with the dry side next the horse, and replace the saddle, girthing it loosely.

Never put the horse up for the night until he is thoroughly clean, especially around his legs, pasterns, and feet.

Individual men returning from mounted duty or pass will report their return to the noncommissioned officer in charge of stables, who will inspect each horse and see that he is properly cared for.

STABLES AND STABLE MANAGEMENT

Foul air and dampness are the causes of many diseases of the horse; hence the importance and economy of spacious, clean, dry, and well-ventilated stables.

The picket line should be established in the immediate vicinity of the stable. The floor of the picket line should be raised, and trenches to carry off the rain should be provided, so that the ground upon which the horses stand may be kept dry.

Paddocks with shade and water, should be provided near the stables; if there is no shade, shelter from the sun should be extemporized. The picket line and paddock should be sprinkled to keep down the dust; crude oil may be used to advantage. Bedding racks should be provided near each stable.

The horses are assigned stalls and places on the picket line by platoons, and as nearly as practicable according to their usual place in ranks. The name and hoof number of the horse with the name of his rider is placed over the stall.

The stable sergeant takes immediate charge of the stables, picket line and paddock, forage, and stable property in general.

The stable sergeant is responsible that the stables and their surroundings are kept at all times thoroughly policed and free from smells; he is usually assisted by one or more stable orderlies.

Sufficient men are detailed as stable police to perform the general police and except at night to collect all manure as soon as it is dropped, either in stable, on the picket line, or in the paddocks. The stable police also assist in the feeding, watering, and bedding of the horses.

Manure and foul litter must not be allowed to accumulate in or near the stables, but must be carried to the manure heap daily.

In the morning, stalls are cleaned and the stables policed under direction of the stable sergeant.

The bedding is taken up, carefully shaken out, and sorted. All parts of the bedding which can be used again are taken to the bedding racks and spread thereon for a thorough drying; parts which can not be used again are sent to the manure heap. Special attention is necessary in this matter, as the allowance of straw is insufficient under most favorable conditions. In the evening the dried bedding, mixed with such fresh straw or bedding as may be necessary, is laid

down. The bed must be soft and even, with the thickest part toward the manger.

If practicable, all woodwork within reach of the horses shoulders, back, belly, flanks, loin, and rump. The prim-coat of gas tar; other woodwork and brick should be painted a light shade and then kept clean and free from dust.

Feed boxes must be kept clean; they should be washed from time to time with dilute vinegar and always after feeding bran mash or other soft food.

During the day, except in very cold or stormy weather, the horses, when not being used or fed, should stand at the picket line or in the paddocks. In hot climates, however, if there is not sufficient shade on the picket line or in the paddocks, it is better to keep the horses in the stables during the heat of the day.

Smoking in the stables is prohibited.

One or more covered lights should be provided in the stables at night.

STABLE DUTY

Captains are responsible for the proper performance of stable duty. In addition to the grooming, they will require such other duty as may be necessary to keep the stables, horses, and equipment in proper condition.

Mounted work must be followed immediately by "stables"; the horses are then thoroughly groomed, the saddlery cleaned and put away in perfect order.

All squadron officers will be present at this time, the platoon leaders superintending the work of their platoons.

The horses should also be brushed off before going out to drill or exercise in the morning, and in the evening before being led in.

GROOMING

Grooming is essential to the general health and condition of the domesticated horse. Horses improperly groomed, with ragged manes, unkempt pasterns, and feet improperly looked after, are an indication of an inefficient organization. Clean horses properly equipped and smartly turned out add to the *esprit* of an organization and give a fair indication of its discipline and efficiency.

The grooming is done by platoon, under the supervision of the platoon commander and the platoon sergeant, assisted by the noncommissioned officers of the platoon.

It is not to be done in a formal or routine manner but in such a way as to bring results. Unless it is done in the stable, or where there will be danger of fire, the men will be allowed to smoke, and cheerful but not disorderly conversation will be encouraged. When a trooper has finished his work and it has been inspected, he should be allowed to attend to other duties or be dismissed.

According to circumstances, the platoon or the squadron may be marched to or from the stables or the men may be allowed to go and return individually.

On returning from a drill or exercise, and usually in the field, the horses are unbridled, girths are loosened, and they are watered and fed. The men are then free to put on stable clothes, relieve themselves, and prepare for the work of grooming and to care for their equipments while the horses' backs are being cooled under the pressure of the saddle. The men then begin their stable work comfortably and deliberately.

The captain or the officer in charge supervises generally the grooming and care of saddlery of the platoons, holding the platoon commander responsible and calling his attention to any deficiencies or neglects.

The first sergeant assists the captain or officer in charge in coordinating the work of the platoons and stable force.

The horses of the officers, of the first sergeant, and of the four platoon sergeants are groomed by designated troopers. All other noncommissioned officers and men groom their own mounts. Extra horses and those whose riders are absent are groomed by men assigned to the work by the platoon sergeant.

The principal use of the currycomb is to clean the brush, and for this purpose a piece of hard wood with channels along its surface answers equally well.

The currycomb should never be used on the legs from the knees and hocks downward nor about the head, and when occasionally required to loosen dried mud or matted hair on the fleshy parts of the body it must be applied gently.

To groom the horse proceed as follows:

Take the currycomb in the right hand, fingers over back of comb, and the brush in the left hand; first clean the legs of the near side, then take the currycomb in the left hand and the brush in the right and clean the legs of the off side. The legs will thus have time to dry while the rest of the grooming is being done. Next return to the near side, change the brush and comb into the other hands and begin brushing at the upper part of the neck, the mane being thrown to the

other side out of the way; thence proceed to the chest, shoulders, back, belly, flanks, loins, and rump. The principal working of the brush should follow the direction of the hair, but in places difficult to clean it may be necessary to brush against it, finishing by leaving the hair smooth. After every few strokes clean the brush from dust with the curry-comb.

In using the brush the man should stand well away from the horse, should keep his arm stiff, and should throw the weight of the body against the brush.

Having finished the near side, again take the brush in the right hand and the currycomb in the left hand and begin on the off side.

Having done with the brush, rub or dust off the horse with the grooming cloth, wipe about the face, eyes, and nostrils, arrange the mane and tail, and clean the dock. Finally go over the legs once more and clean out the hoofs. In cleaning the mane and tail begin brushing at the *end* of the hair and gradually work up to the roots, separating the locks with the fingers so as to get out all scurf and dirt. Tails require frequent washing with warm water and soap. The skin under the flank and between the hind quarters must be soft, clean, and free from dust.

Currycombs, cards, or common combs must never be applied to the mane or tail; the brush, fingers, and cloth are freely used on both.

The wisp is used when the horse comes in wet and also for stimulating the coat. It is made by twisting or plaiting straw into a rope. The ends are then bent together, cut off square, and rubbed on a board until they form a soft even straw brush.

The wisp should be worked forward and backward well into the coat, so that full advantage may be obtained from the friction. After finishing with the wisp the coat should be laid flat.

Hand rubbing is beneficial. When a horse has had very hard, exhausting work, his legs should be hand rubbed and afterwards bandaged, taking care that the bandages are not tight. An exhausted horse should also be given stimulants and warm gruel.

The value of grooming is dependent upon the force with which the brush is used and the thoroughness of the other work.

Officers and noncommissioned officers should, by continuous personal supervision, see that the grooming is properly done.

No horse should be considered in order until he is thoroughly clean; his mane and tail brushed out, and laid flat; his eyes and nostrils wiped or washed, and hoofs put in order.

The pasterns and that part of the mane where the crown-piece of the bridle rests should be neatly trimmed, and the mane and tail plucked.

At each "stables" the horses' feet and shoeing are carefully examined. Horses requiring shoeing are reported to the platoon sergeant, who notifies the stable sergeant.

Each horse should be inspected by an officer before the man who has groomed him is permitted to leave.

The sheath will be kept clean by washing, when necessary, with warm water and castile soap.

A good discharge from the cavalry should carry with it the presumption that the holder is a good horse manager and groom.

WATERING

Except when they are heated, it is desirable that horses should have free access to water at all times. As this is usually impossible, it becomes necessary to water at stated times.

Horses should, if possible, be watered before feeding, or not until two hours after feeding. As horses rarely drink in the early morning, the watering must follow the feeding, but after the proper interval, if practicable.

A horse requires from 5 to 15 gallons of water daily, depending upon the temperature and upon the work he is doing. Except in very cold weather, horses should be watered at least three times daily—in the morning, before the noon feeding, and before the evening feeding. In warm weather, water drawn from a cold well or spring should be allowed to stand long enough for the chill to pass off before the horse is allowed to drink.

On the march the oftener the animals are watered the better, especially as it is not usually known when another watering place will be reached. By watering from buckets many watering places not otherwise available may be utilized.

If a mounted command has to march a long distance without water, so that it will be necessary to encamp en route, the animals are fed, but denied water until just before start-

ing, when they are permitted to drink freely. The command marches in the afternoon and does not encamp until it has accomplished at least half of the distance, it moves early the next morning to reach water.

Horses must be watered quietly and without confusion; the manner in which this duty is performed is a good test of the discipline of a mounted command.

The horses are led or ridden at a walk to and from the watering place. No crowding will be allowed, nor will any horse be hurried or have his head jerked up from the water.

The horses are watered under the immediate direction of the senior officer or noncommissioned officer present at stables or at other time of watering; an officer should always be present when the horses of other commands are liable to be met at the watering places.

FEEDING

Horses should be fed three times a day—at reveille, in the middle of the day, and at night. This rule must be rigidly enforced on the march, the noon grain feed being carried on the horse. Ordinarily one-third of the grain ration is fed each time. Hay, as a rule, is not fed in the morning, but about one-third of the ration should be fed at noon, except on the march, and the remainder at night.

The use of bran once or twice a week is important for stabled horses. In spring or early summer they should be grazed. A lump of rock salt should be kept in each manger.

Before feeding hay it should be thoroughly shaken out with a fork, so as to get rid of dust and seed; it is also advisable to moisten the hay before giving it to the horse. The grain, if possible, should be run over wire screens or allowed to fall through the air so as to remove dust.

It is advisable to feed at least a portion of the allowance of hay before feeding the grain.

Grain should never be fed or placed in the manger until it is certain that the horses are thoroughly cool.

In the morning the horses are usually fed at or before reveille. The noon feed of hay is usually placed in the mangers while the organization is at drill, but the grain is not fed until the horses are thoroughly cool. The evening feed is placed in the mangers after the stable has been thoroughly policed for the night.

All horses do not require the same amount of forage; the amount given each horse must be based, therefore, upon his individual requirements.

When forage can not be obtained, grazing should be required at every spare moment, especially early in the morning when dew is on the grass.

All forage received by an organization should be checked for weight and to see that it is up to contract specifications. All officers should be familiar with the characteristics of good forage and the manner in which it is commercially graded for contract specifications. To obtain this knowledge, officers should be encouraged to visit large commercial stables.

The daily allowance of oats, barley, or corn is 12 pounds for each horse; that of hay, 14 pounds. The allowance of straw for bedding is 100 pounds per month for each animal.

Good oats weigh about 40 pounds to the bushel; barley, about 48 pounds; corn, about 56 pounds. Pressed hay weighs about 11 pounds per cubic foot.

The standard bushel in the United States contains 2,150.4 cubic inches. A cubic yard contains 21.69 bushels. A box 16 by 16.8 by 8 inches holds 1 bushel; a box 12 by 11.2 by 8 inches holds half a bushel; a box 8 by 8 by 8.4 inches holds 1 peck; a box 8 by 8 by 4.2 inches holds one-half peck, or 4 quarts.

EXERCISING

To keep a horse in good condition he should have two hours' exercise daily. This exercise should be *under the saddle*, or, if that is impracticable, it should be given by leading beside another horse.

In leading care must be taken to lead as much on the right as on the more convenient left side. This can be automatically regulated by having the leading done on the right side on the odd numbered days of the month and on the left on the even numbered days.

In special cases it may be given on the longe, but this must be done under proper supervision or injury may result.

Turning a horse loose in a paddock does not give him proper exercise, and if the paddock is a large one, where he can get up speed, it results in giving him a taste for freedom which inspires a high-spirited animal to try to get rid of his rider when he feels like having a run.

The horse should associate the control of a rider with the pleasure of all exercise, so that he may accept it naturally as a fixed habit.

It is objectionable for one man to lead more than one extra horse for exercise, as the gaits must then be more restricted, and on ordinary roads the footing for some of the horses will be poor.

If a large space is available for paddock purposes it should be divided into several inclosures, giving space for a part of the animals to move about quietly in each, but not enough to encourage them to gallop.

SICK HORSES

Horses on sick report are under the immediate charge of the stable sergeant, assisted by the farrier.

When a veterinarian is present he should prescribe the treatment to be given to sick horses, and he should inspect all sick horses at least once daily.

The veterinarian should also visit each organization at least once a day at one of the stated "stables," he should be freely consulted as to minor ailments and as to the means of keeping the horses in fit condition.

In the absence of a veterinarian the sick horses are treated by the stable sergeant under the direction of the captain.

Serious disease is best avoided by immediate and constant attention to minor ailments, galls, etc.

If a horse sustains an injury, neglects his food, refuses water, or gives any evidence of sickness, his condition should be reported at once to the stable sergeant. It is the duty of any man observing such conditions to make the necessary report.

SHOEING

Horses will be shod according to the principles outlined in the authorized manual.

All officers must understand the principles of proper shoeing and be able to supervise the work of the horseshoers.

A trooper should know how to put on a shoe in an emergency, the following extracts from the manual are therefore here incorporated:

The Army Horseshoer, 1912.—The foot should be prepared so that it will approximate as nearly as possible to a state of nature, and only such trimming is allowed as is absolutely necessary for the purpose of fitting and securing the shoe.

The knife must never be used on the bars or on the frog. The bars strengthen the hoof and assist in its expansion. Cutting, therefore, weakens them and prevents them from performing their function.

The practice of using the knife to trim the bars or to cut a notch at the junction of the frog and bar at the heel (called opening the heels in civilian shops) always tends to produce contracted feet.

Never use a knife on the hoof of a horse that has been running barefoot nor on flat feet.

Ragged parts of the frog may be cut away by careful use of the nippers.

With a flat foot it is frequently necessary to remove a part of the outer edge of the wall in order that the nails may be driven in the white line where they belong. This is the *only* case where it is permitted to rasp the outside wall. The outer coating of the wall and the layers of dead horn on the sole and frog serve to retain the moisture in the hoof.

The hot shoe must never be applied to the horse's foot under any circumstances.

When shoes are left on the feet for too great a length of time corns and other ailments result. Ordinarily a shoe should be removed once a month. The lightest shoe that will last for this time is the best shoe. It should carefully follow the form of the foot, or if the foot is broken the shoe follows the original shape of the foot. Its length is regulated by the bulb of the frog.

The ground surface of the shoe should be level and smooth, except for use in snow, when the shoe with the ground surface concaved prevents balling. That portion of the upper surface which presses against the bearing surface of the foot must be level, smooth, and accurately shaped to support it, and when the upper shoe surface is wider than the bearing surface the inner edge must be *concaved to avoid excessive sole pressure*. This is one of the most important requisites of correct horseshoeing. Concussion of the sole against the inner edge of the upper shoe surface invariably produces soreness.

One side of the shank of a horse nail is flat. The other side is concave and also has a bevel near the point. This bevel as it enters into the horn forces the point of the nail in the direction of the other side (flat side). Therefore in driving a nail always hold it with the flat side toward outside edge of the shoe.

Nails should come out at a height of not more than 1 inch from the bottom of the hoof.

In garrison, at the discretion of the colonel or of the commanding officer, the horses may be left unshod, but shoes will be kept fitted for each horse ready to be put on.

Inspection of shoeing—The following examination should be made while the horse is standing on a level floor with the foot on the ground:

(c) Are the axes correct when viewed from the front and from the side?

(b) Does the shoe follow the outer line of the wall to the last nail hole and from there extend outward, allowing about one-eighth of an inch at the heel for expansion? Has the rule against rasping the hoof to fit the shoe been violated?

(c) Is the toe clip in the center properly made and properly seated?

(d) Are the nails driven at the proper height and proper distance apart? Have any old stubs been left in the wall?

(e) Are the clutches well turned and set in, of the proper size, and have they been smoothed off but not rasped sufficiently to weaken them?

The foot should then be raised and the examination continued.

(f) Is the shoe of the proper size and weight; the last nail hole back of the bend of the quarter?

(g) Has enough horn been removed; has too much been removed; is the foot level?

(h) Does the shoe rest evenly on the wall, covering the buttresses and showing no air space at any point?

(i) Is the shoe properly concaved so as to avoid pressure on the sole?

(j) Has the knife been used on the bars, sole, or frog?

(k) Are the nails well seated and of the proper size?

(l) Are the heels of the shoe correct in width and thickness and are they properly rounded without sharp edges or points? Is their length even with the bulb of the frog?

CARE OF SADDLERY.

The saddlery and equipment must always be cleaned after use. This duty, like the care of the horse, is to be regarded as part of the mounted duty itself; thus a drill is not over

until horse, saddlery, arms, and equipments have been put again in condition. According to need the leather is simply wiped off with a damp sponge or well soaped and cleaned. In no case must it be soaked with water.

If the soap used does not contain a sufficient amount of free oil the leather must be oiled to keep it pliable. A mixture of one-half neat's-foot oil and one-half mutton tallow, well rubbed in, keeps leather in good condition. Special care is taken to keep the underside of the skirts of the saddle and the parts which do not come in contact with the clothing well oiled. The seat and outside of the skirts will rarely require oil.

Metal parts are kept clean and free from rust; they may require oiling if not regularly used.

The saddle blanket must be kept clean and soft and free from wrinkles. After use it must be dried and then well shaken (unfolded). It must never be folded wet and left thus with the saddle. Provision will be made in the saddle room or stables for hanging it up to dry.

In the field its use as bedding for the men will not be allowed and special care will then be exercised to keep it free from dirt.

When necessary the blanket should be thoroughly cleansed by repeated immersions in tepid soapsuds and hung over a pole or line to dry without wringing or pressing it.

FITTING THE SADDLE.

There are six axioms in saddle fitting:

- (a) The withers must not be pinched nor *pressed* upon.
- (b) The central line of the back must have no pressure put upon it.
- (c) The shoulder blades must have full and unhampered movement.
- (d) The loins must not carry weight.
- (e) The weight must be put upon the ribs through the medium of the muscles covering them.
- (f) The weight must be *evenly distributed* over a surface which extends from the play of the shoulders to the last true rib.

The regulation saddle adjusts itself automatically to the width of the horse's back. This automatic adjustment is brought about by applying all the weight that is to come upon the side bars, through their center of rotation, thus

leaving the side bar of the loaded saddle free to adapt itself to the varying width of the back.

In order to preserve this freedom, no attachments of any kind should be placed on the side bar, other than as issued, and no weight should be permitted to rest on the side bars other than that transmitted to them through the hinges. The cantle roll support and straps have been devised especially to raise the roll and keep all weight off the side bars.

While the side bars adapt themselves automatically to the slope of the horse's back it is necessary to ascertain whether they bear evenly on the back and whether the arch and seat are clear of the spine.

To determine this the saddle is placed first on the naked back, the *front* of the side bar resting in the pit of the shoulder (the hollow back of the shoulder blade). If there is then sufficient clearance of the withers and backbone no trouble will be encountered when the saddle is put on with a blanket.

A new blanket is then folded and placed in proper position on the back and the saddle placed on the blanket so that the front end of the side bar approaches closely the shoulder blade without pressing upon it. The blanket is pushed well up into the pommel arch. The saddle is now girthed and a man placed in the saddle.

It must be kept in mind that the blanket reduces the width of the pommel arch and narrows the saddle across the top of the side bars.

The fit of the saddle can never be determined without seeing a man in it; parts may appear out of harm's way, when no weight is in the saddle, which are brought dangerously close under the pressure of a man's weight.

The first thing to ascertain is the freedom from pressure on the withers; the hand must pass readily between the blanket and the withers, over the top as well as along the side.

In applying this test the man in the saddle should lean forward and the examiner must not be satisfied with anything less than the introduction of the entire hand.

The next thing is to ascertain freedom from pressure on the shoulder blade. This is done by passing the hand underneath the blanket from the front until the play of the shoulder blade can be felt. The foreleg is raised and advanced to its full extent to the front by an assistant while the hand is in this position. If this can be done, while the man in the saddle is leaning forward, without pinching the fingers between the

side bars and the shoulder blade the fit in this respect is satisfactory. The test should be made on both shoulders.

If the fingers are pinched the shoulder blades will be pinched and the saddle must be raised by folding the saddle blanket up on each side, so as to place extra thickness under the bars or by placing extra felt on the side bars.

The rear ends of the bars are next tested for loin pressure with the man in the saddle leaning back. The flat of the hand should find ready admission between the ends of the bars and the loins.

Assuming that the above defects have been remedied the saddle should be ridden in for half an hour or more to ascertain whether the pressure of the side bars is evenly distributed.

On completion of the ride the saddle is carefully ungirthed and lifted from the blanket without disturbing it in any way. The blanket will be found to bear the imprint of the side bars and an examination of this depression will show at a glance whether the bars press evenly from top to bottom and from front to rear.

The examination must be quickly made as the blanket soon loses the impression of the side bars.

Any irregularity in the fit of the side bars may be remedied by the introduction of pieces of felt to fill up the spaces between the side bars and the blanket. With very little practice these pieces of felt may be cut to the required shape and thickness with a very sharp knife. Some edges will need to be as thin as a knife edge; other parts may require the addition of more than one thickness.

After determining where these pieces of felt are to rest on the wooden side bars they are placed in the upper and inner side of the felt coverings of these bars and fastened in the proper place with a few stitches of thread.

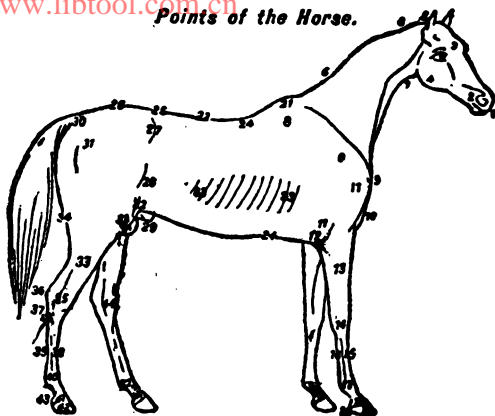
The most radical alterations in the fit of the side bar can be effected with these strips; the method is simple and quick, and does not require a trained workman.

It must not be forgotten that no matter how much care may be taken in fitting a saddle, such fitting is only adapted to the horse in the condition in which he is at the time.

On active service the saddles require daily attention. They should be inspected as regularly as are the feet. Every weak point in the fit of the saddle in the squadron should be known and the remedy arranged for. In no other way is it possible to bring horses through severe work with sound backs.

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Points of the Horse.



Head.

- 1, Muzzle.
- 2, Nostril.
- 3, Forehead.
- 4, Jaw.
- 5, Poll.

Neck.

- 6, 6, Crest.
- 7, Throttle or wind-pipe.

Fore quarter.

- 8, 8, Shoulder blade.
- 9, Point of shoulder.
- 10, Bosom or breast.
- 11, 11, True arm.
- 12, Elbow.
- 13, Forearm (arm).
- 14, Knee.
- 15, Cannon bone.
- 16, Back sinew.

- 17, Fetlock or pastern joint.

- 18, Coronet.
- 19, Hoof or foot.
- 20, Heel.

Body or middle piece.

- 21, Withers.
- 22, Back.
- 23, 23, Ribs (forming together the barrel or chest).
- 24, 24, The circumference of the chest at this point, called the girth.

- 25, The loins.
- 26, The croup.
- 27, The hip.
- 28, The flank.
- 29, Sheath.

- 30, The root of the dock or tail.

Hind quarter.

- 31, The hip joint, round, or whirl-bone.

- 32, The stifle joint.
- 33, 33, Lower thigh or gaskin.

- 34, The quarters.
- 35, The hock.
- 36, The point of the hock.

- 37, The curb place.
- 38, The cannon bone.
- 39, The back sinew.
- 40, Pastern or fetlock joint.

- 41, Coronet.
- 42, Hoof or foot.
- 43, Heel.
- 44, Spavin place.

NOTES ON HIPPOLOGY

CONFORMATION

Forehead—Should be broad and flat, not bulgy.

Eyes—Full, clear and prominent, mild, and no white should show.

Muzzle—Not too large, coarseness denotes bad breathing.

Nostrils—Large and open.

Face—Straight.

Lower Jaw—Ample width between sides for the development and play of larynx. Also to allow head to flex easily and bend on the neck.

Parotid and Sub-maxillary Regions—Should be free from large glands and loose skin at lower part of throat.

Ears—Medium size, set well on head, erect and far apart.

Neck—Moderate length; clean but not too narrow in rear of throat; short and thick prevents pliability; long and thin exaggerates it. Upper border should be convex rather than concave (ewe neck). Jugular channel or furrow should be free from enlargements. Windpipe should have appearance of being free from throat.

Shoulder—Point should be well developed. The shoulder should slope well for cavalry; fairly straight for artillery or draft horses. The sloping shoulder signifies speed, the straight shows hauling power. The front line should be clearly marked with no excess muscular development or irregular surfaces.

Elbow—The point should be straight, parallel to the longitudinal axis of the horse. If it turns out excessively the horse will be "pigeon-toed," if in, the toes will point out ("slew footed").

Forearm—Long and muscular.

Knee—Broad, larger than forearm or cannon bone; flat in front, tapering back to narrow edge. Should be straight; bent back is "calf kneed"; bent forward is "knee sprung."

Cannon Bone—Should be uniform size, much shorter than the forearm. If smaller just below the knee than elsewhere ("tied in") weakness is indicated.

Fetlock Joint—Good size and free from enlargements.

Pasterns—Moderate length, should form an angle with the floor or ground of about 45 to 50 degrees.

Foot—Moderate size; flat foot or narrow heel both bad. Moderate in height and breadth.

Withers—Moderate in height and breadth. If high and thin saddle will bruise top of withers causing a fistula. If too flat low, and broad saddle will slip forward.

Breast and Chest—Moderate width but deep. Narrowness is sure sign of weakness but extreme breadth is good only for draft animals.

Girth—Should be large to indicate lung capacity.

Back Ribs—Should be long to indicate stamina.

Barrel—Should be fairly even in diameter. If too broad, girth will slip forward and chafe behind elbow; if too narrow girth will slip back.

Back—Should be short and well muscled. Last rib should be close to hip for carrying power. Upper lines should bend slightly down behind withers and then rise gently to loins.

Loins—Should be heavily muscled. The curve should be slightly arched for strength without rigidity. "Sway-back" and "Roach-back" are both bad.

Hips—Broad, smooth and muscular.

Croup—Well rounded and slope gently downward. Horizontal or drooping croup is bad. If the croup droops and becomes narrow below tail ("goose-rump") weakness is indicated.

Dock—Large and muscular. Tail firm and carried well away from rump.

Quarters—Thighs, buttocks and gaskin should be broad and well muzzled. Muscles of quarters should come close together. If separated poor constitution is indicated.

Hock—Good size, clean and flat. Point good and clean and clear of joint. Hocks should be well apart. If close together feet are apart and toes too far out "Cow-Hock." If too far apart horse will be "Bow-legged." If hocks stand in, stifles will stand out and vice-versa. "Sickle Hock" is combination of crooked hock, short cannon bone and a too sloping pastern.

Cannon Bone—Short back tendon not "tied in." Line from point of hock to fetlock should be straight. If anything it should be slightly concave. This is an important point as a convex line signifies a badly shaped hock over which the back sinew has to pass and can easily develop on sudden or hard strain into a curb.

Fetlock—Hind fetlocks should correspond to fore but pasterns are generally more upright in hind feet. If pasterns are bent forward, "Cocked-ankle."

DEFECTS AND BLEMISHES.

Some Diseases of the Extremities:

Bone Spavin—Lower and inner part of hock joint. Caused by bruise or sprain.

Splints—Usually on inner side and upper part of front cannon. Occasionally on outer side of upper third of hind cannon.

Sidebones—Ossification of lateral cartilage on sides of foot just above coronet.

Ring Bone—Between coronet and fetlock joint.

Bog Spavin—Front part of hock joint.

Thorough Pin—Sac filled with synovial fluid in upper and back part of hock joint.

Wind Puffs (Wind Galls)—Bursal enlargements on sides of tendons just above fetlock joints.

Navicular Disease—Injury to navicular bone, just behind coffin bone.

Other distended synovial sacs or pouches (bursal enlargements) may be found on different parts of legs but have no special name.

Diseases of Muscles, Tendons, Ligaments and Skin:

Poll Evil—In region of Poll—an abscess or fistula.

Fistulous Withers—~~Deep~~ seated abscess of the withers.

Sweeney—Atrophy or wasting of muscles usually in shoulder or hip.

Broken Knees—Front part of knees damaged, whether serious or not.

Capped Elbow—Point of elbow enlarged.

Capped Hock—Point of hock enlarged.

Sprung Knees—Knees bent forward.

Bowed Tendons—Enlarged sheath of flexor tendon below knee or hock.

Breakdown—Sprain of suspensary ligaments.

Contracted Heels—Caused by atrophy of frog, the result of leaving shoes on too long without resetting, or by destruction of frog by thrush.

Toe Cracks—A crack in the front part of the hoof extending from the toe upward.

Seedy Toe—Unhealthy condition of toe of hoof.

Curb—Inflammation of the tendon which passes over the back of the true-hock joint. This place is called the "curb place," and when prominent renders the animal liable to curb.

Diseases, their Causes and Manifestations:

Flatulent or Wind Colic—Indigestion, formation of gases in the intestines causing distension, a very serious ailment.

Spasmodic Colic—Acute indigestion causing spasmodic contraction of intestines. It is very serious if prompt relief can not be given.

Tetanus or Lockjaw—Caused by infection of wound in the foot with the tetanus germ.

False Tetanus—A contraction of the muscles all over the animal from too sudden cooling or watering when greatly fatigued or overheated. The symptoms appear very quickly and resemble those of lockjaw or tetanus.

Botts—An accumulation of eggs of the gadfly, causing stoppage of the intestines.

Founder or Laminitis—Inflammation of the sensitive laminae due to imperfect circulation. It is caused by over-feeding, or feeding grain or watering before the animal is sufficiently cooled and rested.

Glanders—A deadly, incurable and highly contagious and infectious disease of the respiratory organs and passages and of the glands about the head.

Farcy—The same as glanders except that it is called farcy when it appears in the lymphatic glands and ducts.

Distemper or Cold—Caused by lowering the animal's power to resist disease by chilling, lack of ventilation or contagion.

Scratches or Grease—A chapped and infected condition of the parts in rear of the pastern.

Miscellaneous:

The Pulse—Normal about 40 pulsations per minute. Can best be taken at sub-maxillary artery (at jaw). The horse should be perfectly quiet when his pulse is taken. If the pulse is at first full and throbbing, then small and weak, it is a sure sign of fever. A very slow pulse indicates disease or injury of the brain or spinal cord.

Respiration—Normal, 13 to 15 per minute. Difficult or rapid breathing is symptom of disease of respiratory organs, though sometimes of flatulent colic. Abdominal breathing (ribs fixed), is symptom of pleurisy or hydro-thorax (water in chest). Irregular breathing wherein there is a want of harmony between inspiratory movements is Broken Wind or Heaves. Inspiratory movement, quick and jerky, expiratory movement slow with doubled action, particularly of abdominal muscles is also symptom of heaves. During course of this disease, breathing often becomes spasmodic or convulsive.

Visible mucous membranes, in color and condition are important guides to physical condition.

A horse breathes about 250 cubic inches of air with each inspiration. This equals about 2 cubic feet per minute.

Temperature—Normal is 99 to 101, although slightly higher in younger animals.

CHAPTER VII

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NOTES ON TOPOGRAPHY

Simple Military Sketching—It is essential that every officer know and be able to instruct in the art of making simple military sketches. Sketching consists of representing on suitable material a portion of the earth's surface upon a reduced scale. The following articles are necessary for sketching:

A sketching board, improvised or otherwise, so arranged that it may be used for reading slopes.

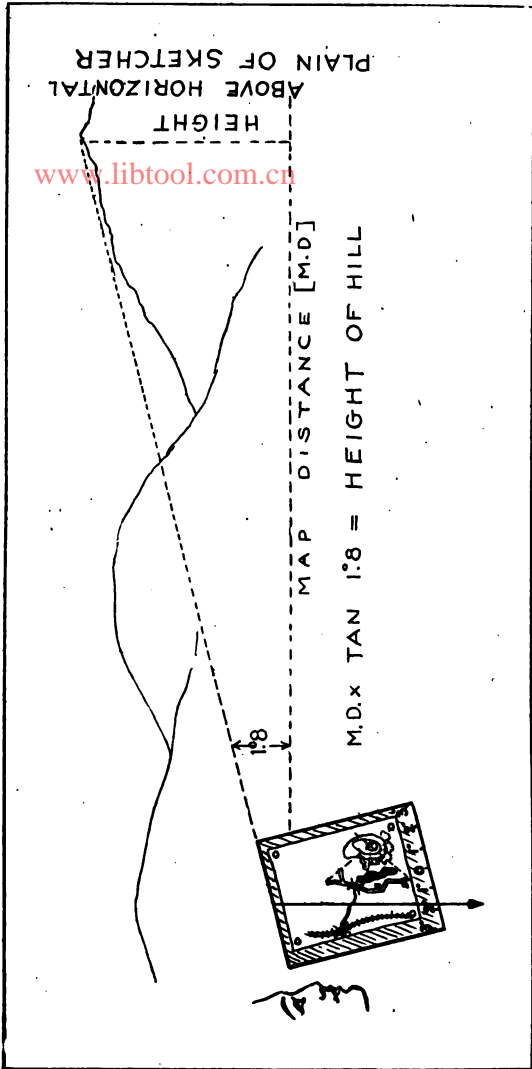
A scale for measuring distances.

A suitable compass, paper and pencils.

Sketching Board—There are regular sketching boards with tripods attached for dismounted work and with wrist loops for mounted work. Some of them have roller attachments for the paper, and are provided with compasses and metallic scales and other refinements. Such sketching boards, however, are not necessary to produce excellent results. A suitable sketching board may be improvised by taking a piece of cardboard or light wood, of convenient dimensions, about 12" by 12" and with straight edges. The material should be such as will permit the use of thumb tacks for holding the paper.

For reading slopes a plumb bob should be suspended from a point midway along one edge. By means of a protractor, the degrees should be marked all around the other three edges of the board. See page 173.

Scales—Scales are represented in the following different ways. Graphically, by drawing a line and dividing it into certain units which correspond to certain distances; by a simple equation that so many map inches equals so many miles; by means of what is known as a representative fraction, the numerator of which represents a certain distance on the map, and the denominator the corresponding distance on the ground. To make a graphic scale, one must know the proportion which the map bears to the surface of the ground represented. A graphical scale is the kind of scale to be used in making and reading maps.



Making Scales—Let us assume that it is necessary to make a scale of say one inch to the mile, to read yards. First, it might be said that a scale, for convenience of use, should be approximately six inches in length. It may be longer or shorter. It is necessary to determine the exact length which the scale should be.

We have the following simple methods: Since one inch on the map represents 1,760 yds. (the number of yards in a mile), 6 inches would equal $6 \times 1,760$, or 10,560 yds. This number of yards is not a convenient length to subdivide; we will take the length of the scale as that which will represent 10,000 yds. In order to find the length of the desired scale, we will resort to the following simple proportion: 10,560 is to 10,000 as 6 is to X (X= the length of the desired scale), from which X will be found to equal approximately 5.6 inches.

Assume that it is necessary to make a scale for a map 3 inches to the mile. Method: 3 inches represents 1,760 yds., 6 inches represents 3,520 yds., and 3,520 yds. not being a convenient distance for the scale to represent, we will take 3,500 yds. To ascertain the length of the scale required to represent 3,500 yds., we will resort to the following proportion: 3,520 is to 3,500 as 6 is to X, from which X is found to be about 5.9 inches in length.

To make a 6 inch scale. Method: 6 inches represents 1,760 yds. 1,760 not being a convenient distance for the scale to represent, we take 2,000 yds. Use the following proportion: 1,760 is to 2,000 as 6 is to X, giving about 6.82 inches as the length of the scale.

Summary—The scale of one inch to the mile 5.6 inches in length (representing 10,000 yds.); for the scale of 3 inches to the mile, 5.9 inches in length (representing 3,500 yds.); for the scale of 6 inches to the mile, we have 6.82 inches (representing 2,000 yds). It is now necessary to divide these scales into parts representing lesser distances for convenience in measuring.

Method—Draw a line the desired length according to the scale and distance to be represented, and from one end of this line, at a convenient acute angle, draw an auxiliary line, and divide it into an even number of inches, $\frac{1}{2}$ inches or $\frac{1}{4}$ inches, the number of divisions to correspond to the number of parts into which it is necessary to divide the scale. Draw a straight line through the separated ends of the scale, and the auxiliary line; and parallel to this new line draw

other lines through the division points on the auxilliary line. These lines will cut the scale into the desired number of equal parts. Each of the parts of the scale should then be marked with the number of yards it represents. (See Diagram.) The scale thus drawn will be transferred to a thin strip of paper and pasted on a strip of wood with a straight edge, of convenient length. For measuring very short distances, one of the end divisions of the scale should be subdivided to represent smaller distances.

To Find the Representative Fraction of a Map Whose Scale is Known:

Take for example a map whose scale is one inch to the mile. We have one inch representing 1,760 yards or $(1,760 \times 36)$ inches, or 63,360 inches, giving a representative fraction of $1/63,360$.

Example 2—For a map whose scale is 3 inches to the mile, we have 3 inches equals 1,760 yds., or $(1,760 \times 36)$ inches, or 63,360 inches, giving the following fraction $3/63,360$, which reduces to $1/21,120$, which is the representative fraction desired.

Example 3—For a map whose scale is 6 inches to the mile. 6 inches representing 1,760 yards or $(1,760 \times 36)$ inches, or 63,360 inches, giving the following fraction $6/63,360$ which reduces to $1/10,560$, the representative fraction desired.

Determining Scales from Representative Fraction:

For maps whose scales do not show the exact number of inches representing an exact number of miles: to determine the scale from the representative fraction given. Take for instance, a map whose representative fraction is $1/62,500$. We have one inch representing 62,500 inches, or one inch represents $\frac{62,500}{36}$ miles which equals .98 miles. (Since there are 63,360 inches in one mile), a little less than one mile to an inch. Simply divide the denominator by the number of inches in a mile, take the numerator as one inch and the result will give the number of miles to an inch. The number of yards represented by an inch in such cases would be determined by dividing the denominator of the representative fraction by the number of inches in a yard. In this case it would be 62,500 divided by 36 or $1,736\frac{1}{9}$ yards, or one inch equals $1,736\frac{1}{9}$ yds. In such cases it would be advisable to construct a new scale with the methods given above, according to the ratio or representative fraction of the map.

MEASURING BY PACES

The usual method of measuring distances in making military sketches is by pacing. A convenient and simple method is to ascertain the number of paces it takes to cover a certain distance, say 100 yds., and on the scale at each 100 yd. division point, mark the number of paces that it takes to cover each of the distances represented.

Another method is to make the scale to read paces instead of yards. In such a case the length of the pace should be ascertained, and substituted for that of the yard in the foregoing methods of making scales; for instance, whenever the number of yards in a mile is used, substitute for it the number of paces in a mile and proceed in the same manner as in making the scale by yards.

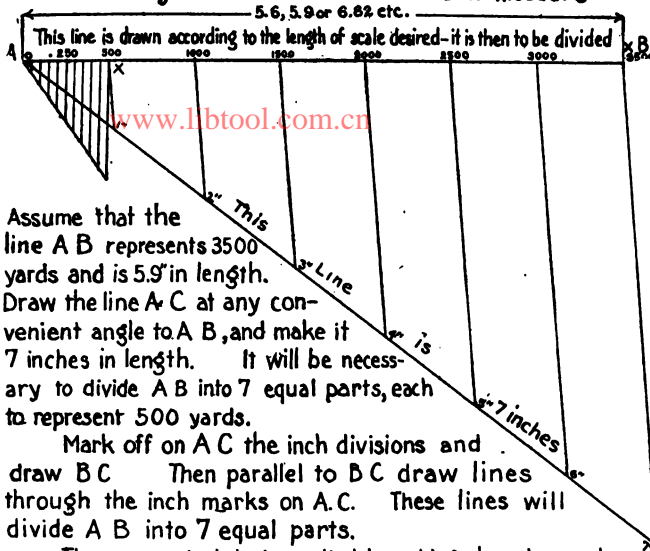
SCALES OF MAP DISTANCES

These are also known as scales of horizontal equivalents, and are used for ascertaining elevations, and for the proper spacing of contour lines on slopes. The following data should always be kept in mind by all military persons who may have to make sketches, read maps, etc.

In moving up or down a slope one gains distance in two ways, horizontally and vertically. The vertical (V) distance divided by the horizontal (H) measures the slope, since it equals the tangent of the angle of the slope. (Tangent of slope in degrees = $\frac{V}{H}$ and therefore $V = H \times \text{tangent of slope in degrees}$.) To express this we say that the vertical rise or descent equals the horizontal or map distance multiplied by the tangent of the angle of slope. In going forward a horizontal distance of 57.3 ft. up an incline of one degree, one will rise 1 ft. This should be carefully remembered. In going forward 573 ft. one will rise 10 ft. on a one degree slope. See diagram page 177.

The steeper the slope, the more sudden the rise will be. In going up a slope of 2 degrees the elevation will be twice that for 1 degree, and for 3 degrees, three times that for 1 degree, etc. As it is necessary to go forward 573 ft. on one degree slope to rise 10 ft., it will only be necessary to go forward one-half that distance, 286½ ft. to rise the same amount, and on a three degree slope, one-third of 573 ft. to rise 10 ft., and so on.

Method of dividing the scale into shorter units of measure



The same principle is applied in making the other scales.

To get a smaller unit of measure take the left subdivision of A B (A x) and in the same manner divide it into 10 (or other convenient number) parts, each to represent 50 yards.

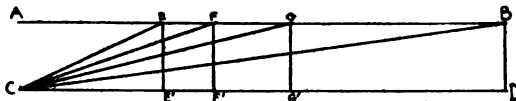


Illustration of principle of making a scale of map distances (horizontal equivalents)

Line A B Represents a contour line 10ft. above contour line C D. Lines C B, C G, C F, and C E indicate slopes of different degrees. From C E', C F', C G' and C D it can be seen that the horizontal distances necessary to attain a given elevation (in this case 10 ft.) at different slopes become proportionately less as the angle of slope increases.

Now to construct a scale of horizontal equivalents. Using the working scale from which the map is to be made, lay off a distance equal to 573 ft., or 191 yds. This distance will represent the map distance between two points on a one degree slope whose difference in elevation is 10 ft. Lay off another distance equal to one-half of 191 yds., or 94 yds., which will represent the distance separating two points on a two degree slope whose difference in elevation is 10 ft., and so on for the different degrees of slope.

CONTOUR LINES.

A contour line is an imaginary line on the earth's surface, all points of which are of the same elevation. In order to understand the meaning of contour lines and what they represent, one should imagine a body of water to rise to a certain elevation. The outline of his body of water on the land will be a true contour. Then imagine the water to rise to another given elevation, say 10 ft. The outline of the water on the land would then be the second higher contour line. By continuing this process until the land is covered the different contour lines will then have been outlined throughout the area whose contours are desired. It is by means of these contour lines that one is able to picture in his mind the actual form of the land in the area represented by the map.

ORIENTATION.

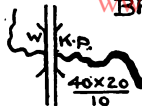
By orientation is meant the placing of the map or the sketching board so that its north will point north. This is done by drawing a line, usually an arrow, indicating the magnetic meridian, or direction taken by the compass needle. When the compass needle and the line indicating the magnetic meridian are parallel, the map is then said to be oriented. In traversing and sighting on objects with a view to getting their proper relative directions from the sketcher, it is necessary to have the board carefully oriented, otherwise the map will be of no value whatever.

CONVENTIONAL SIGNS.

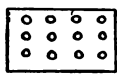
By means of certain characters, the various topographical features are represented on maps. The signs which are most commonly used in military sketching are given on page 179.

-Topographical Conventions-

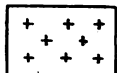
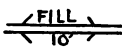
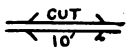
BRIDGEtool.com.cn



W.K.P. = WOODEN KING POST
40ft LONG by 20ft WIDE and 10ft ABOVE WATER



ORCHARD



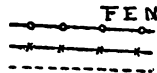
CEMETERY



WIRE ENTANGLEMENT

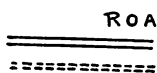


BRUSH, or CORN GRASS



FENCES
SMOOTH-WIRE
BARBED-WIRE
ANY KIND

CULTIVATED LAND



ROADS
IMPROVED
UNIMPROVED

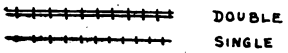


CORN



GRASS

RAILROADS



DOUBLE
SINGLE



CAMP

TELEGRAPH



TRENCH

STREAM



15 ft wide;
5 ft deep;
not fordable



INFANTRY.
CAVALRY.
ARTILLERY.



VILLAGE



HOUSES

PO. POST OFFICE.



CHURCHES



T.O. TELEGRAPH.



W.W. WATER WORKS.

1. MAKING THE SKETCH.

This consists of the following processes: First, locating the starting point; second, traversing; third, locating critical points; [fourth, filling in.](http://www.filling.in.com.cn)

To locate the starting point it is necessary to give its direction and distance from some well known point or location, such as a town, mountain top, junctions of important rivers and roads, etc. This may be performed in two ways: by stating the distance and giving its direction from the well known point; or by what is known as resection. The former method is more commonly used. To locate one's position by resection it is necessary to orient the sketching board and carefully keeping it oriented, sight along the scale to some well known point and draw a line on the paper along the scale. This is done in the direction of some other well known point, and where the two lines cross on the paper is the position of the point. It is necessary that some point on the map have its distance and direction from some other well known point distinctly indicated.

TRAVERSING.

Having marked the starting point, and with the board oriented, place the straight edge of the scale against the starting point and bring it into the direction in which the route is to start, and along this straight edge from the starting point draw a light line to a distance on the scale approximately more than to cover the distance to be paced in that direction. This is the first step in traversing.

The next step is to proceed along the route, carefully counting the paces taken before any change of direction is necessary. At the first change of direction, halt, note the number of paces taken and lay off on the line drawn from the starting point by means of the scale, a distance representing that which has been paced, and mark. This is the relative position of the sketcher on the map. Again orient the map and sight along the straight edge of the scale in the new direction, being careful that the straight edge of the scale is in contact with the point last marked, and draw a line in the new direction like that drawn from the starting point. Avoid taking a large number of short sight shots. When the route to be traversed is crooked and full of bends it is not necessary to take new sightings for each short distance, but the general direction should be given and the bends in the road put in by estimation after the next turning point is reached.

In order to bring about more accuracy in traversing, the portion of the road last traversed should be verified by sighting back to the last turning point and making the necessary corrections. Traversing without the aid of a compass may be effected successfully by orienting the board with reference to the last distance plotted. By giving the direction and the distance of each of the turning points in the route we have what is termed a traverse. This traverse really forms the base-line of the sketch and corresponds to the base line of a survey. From this traverse all elevations and locations of other features may be taken.

LOCATION OF CRITICAL POINTS

From each position with the board properly oriented, the line of sight should be taken towards certain prominent points which lie within the area of the map in order to give their location. By sighting upon an object from one point and drawing a line toward it, and again sighting upon it from another position on the traverse, the position of the object is accurately located by the intersection of the two lines of sight which have been drawn. Several points, according to the nature of the country and the importance of the object, should be carefully located on each side of the traverse by the above method which is known as intersection. A lake, for instance, can be fairly accurately shown by locating by intersection, points at each end and on both sides. Forests, hills, etc., can be located in the same manner.

ELEVATIONS

In addition to locating the position of certain features, it is necessary to ascertain their elevations. This can be done in two ways. Having located the position of a certain point whose elevation is desired; with a slope board or other slope-reading device, read the angle of elevation by sighting upon the object. Then by using the sub-division of the scale of horizontal equivalents corresponding to the number of degrees in the angle of elevation as a measure, find the number of times that it is contained in the distance between the sketcher and the object. This number multiplied by the number of feet of the vertical interval will give the elevation above the position of the sketcher. The other method is without the use of the scale of horizontal equivalents. From any engineer's hand-book a table of tangents reduced to two

or three decimal places should be copied up to and including about 40 degrees. This copy should be pasted on the back of the sketching board. By means of the working scale, the map distance from the sketcher to the object can be read off directly. By means of the slope board read the angle of elevation to the object, then multiply the distance to the object by the tangent corresponding to the angle of elevation, and the result will be the elevation of the object above the sketcher's position. The table need only show tangents for degrees and half degree.

FILLING IN CONTOURS

Contours are sometimes called form-lines, since they show the form of elevations and depressions in the earth's surface. In all military sketches contours are placed according to what is known as the vertical interval. The vertical interval is the difference in elevation between adjacent contour lines. The following vertical intervals are prescribed for military maps.

For maps whose scale is one inch to the mile the vertical interval is 60 feet. For maps 3 inches to the mile, 20 feet; 6 inches to the mile, 10 feet; and 12 inches to the mile, 5 feet. With this uniformity of proportion between scales and vertical intervals, the distances on the scale of horizontal equivalents are the same for all military maps, i. e., .65 inches for a one degree slope, .325 inches for a two degree slope, .216 inches for a three degree slope, .16 inches for a four degree slope, and so on. It is well to remember the figure .65 as being the distance separating contours on military maps for a slope of one degree, as this distance when divided by the number of degrees of the slope, gives the map distance in inches between contours showing the various degrees of slope. Having determined and marked upon the sheet the elevations of the necessary critical or important points, the contours should be sketched in with reference to these points, each line being placed so to show by outline where a sheet of water of the contour elevation would cut the landscape. Small sections of contours may be drawn on various parts of the map on certain slopes, and afterwards these should be connected by estimation from some point from which the landscape can be plainly seen. A small hand level is very valuable for such work. The slope-board, however, is very accurate if carefully used. The upper edge of the slope-board is a very fair leveling instrument when the plumb-bob hangs at zero.

In order to become expert at contouring rapidly, much

practice should be had in contouring small restricted areas, after careful measurement of slopes and distances thereon, which should be checked up by reference to some already well made map. In placing contours it should be noted that on hillsides the country near the bottom and near the top is not so steep as that in between, causing the contours at the top and bottom of the hill to be more widely spaced than those in between. Contours should never cross each other except in the case of an over-hanging cliff, in which case the contours of lower elevation should be shown in dotted lines where they pass under the higher contours. For vertical cliffs, contours will coincide and form but one line, separating on both sides where the country resumes its slope. Contours should not be drawn across roads. They should run to the edge of the road, stop, and commence on the other side of the road exactly opposite. Contours should cross streams at right angles, going up stream somewhat before doing so, according to the nature of the depression down which the stream is flowing.

Remember that for maps the scales of which are 6 inches to the mile, contours represent differences of elevation of 10 feet; those three inches to the mile, 20 feet; one inch to the mile, 60 feet. In contouring the different slopes it is necessary to place the contours by estimation so as to show the different slopes on the hill-side, making sure however that the elevation indicated by the number of contours is at least approximately the actual elevation.

OTHER FEATURES

In representing by means of conventional signs all the necessary features of a map or sketch, it is not necessary or customary to locate them accurately by measurement or by intersection. Having the critical points located with accuracy, the other features should be drawn in by relation to these actually located points. All features which are of military importance, such as trees, bridges, roads, streams, woods, fences, houses, farms, railroad stations, railroads, telegraph and telephone lines, camp-sites, etc., should be indicated by proper signs.

COMPLETION OF MAP

The scale and vertical interval should be shown upon the map, also an arrow indicating the true north and south line, and a line showing the declination of the compass

needle should be drawn thereon. There should also be a notation indicating the area which the map represents, the date on which it was made, and the name, rank, and organization of the person who made it.

REPORT

Every military sketch should be accompanied by a report giving in detail all the military information which might be of possible value to the authorities. This information would consist of: character and condition of roads and bridges, obstacles, camp-sites, water supply, wood, grazing, defensive positions for infantry and artillery, buildings suitable for military use, nature and condition of railroads, telegraph and telephone lines, capacity of railroad stations, water tanks, etc.

POSITION SKETCHES

A position sketch is made by the same means as a route sketch, except that a base line should be traversed accurately between two or more points of observation. From these points, by means of intersection, various critical points should be accurately located, and the intermediate points and features should be sketched with relation to the points whose location have been determined.

METHOD OF USE

Determine distance to the object by intersection. Read angle of elevation with slope board, multiply distance in feet by tangent corresponding to the number of degrees of angle. The result will be the elevation above or below the position of the Topographer.

NATURAL TANGENT OF ANGLES

1 Deg.....	.02	13 Deg.....	.23	25 Deg.....	.47
2 ".....	.035	14 ".....	.25	26 ".....	.49
3 ".....	.05	15 ".....	.27	27 ".....	.51
4 ".....	.07	16 ".....	.29	28 ".....	.53
5 ".....	.09	17 ".....	.30	29 ".....	.55
6 ".....	.10	18 ".....	.32	30 ".....	.58
7 ".....	.12	19 ".....	.34	31 ".....	.60
8 ".....	.14	20 ".....	.36	32 ".....	.62
9 ".....	.16	21 ".....	.38	33 ".....	.65
10 ".....	.18	22 ".....	.40	34 ".....	.67
11 ".....	.19	23 ".....	.42	35 ".....	.70
12 ".....	.20	24 ".....	.45	36 ".....	.73
		37 Deg.....	.75	38 Deg.....	.78

METHOD OF USING THE FOLLOWING TABLE

The following table is used for getting map distances along the route traversed.

www.libtool.com.ch

Read the angle of slope along the route traversed and multiply the distance so traversed by the number opposite the number of degrees of slope. 1 Deg to 7 Deg., no practical difference.

NATURAL COSINES OF ANGLES

8 Deg.....	.99	20 Deg.....	.94	27 Deg.....	.89
10 " .....	.98	22 " .....	.93	28 " .....	.88
13 " .....	.97	23 " .....	.92	29 " .....	.87
16 " .....	.96	24 " .....	.91	31 " .....	.86
18 " .....	.95	25 " .....	.90	33 " .....	.84

APPENDIX

LIST OF FORMS NEEDED FOR COMPANY ADMINISTRATION

BLANK FORMS

3. Notification of Discharge.
17. Certificate of Disability for Discharge.
21. Muster Roll, Detachment.
26. Field Return.
29. Descriptive List.
30. Return of Troop, Battery, Company, or Detachment (with model).
34. Inventory of Effects of a Deceased Soldier.
61. Muster Roll, Troop, Battery, and Company.
- 61-1. Extra sheet to Forms 21 and 61.
66. Furlough.
95. Descriptive List of Deserters.
99. Record of Summary Court.
101. Return of Officers (bureau).
121. Report of Action Taken on Applications for Discharge of Enlisted Men.
196. Report of Survey.
299. Entry Blank, Official—National Individual Match.
304. Record of Known Distance Rifle Firing—Individual.
305. Record of Pistol Firing—Individual.
307. Report of Known Distance Rifle Firing and Classification.
308. Report of Pistol Firing and Classification.
338. Guard Reports.
339. Daily Sick Reports.
342. Duty Roster (with model).
380. Designation of Beneficiary of Officer or Enlisted Man.
383. Requisition for Books and Blank Forms supplied by the Adjutant General's Department.
409. Report of Small-Arms Target Firing under Special Course "A."
410. Record of Known Distance Firing under Special Course "A."
415. Report of Death and Disposal of Remains.
415. Efficiency Report.

Appendix

- 437. Furlough and Transfer to Army Reserve.
- 443. Reservist's Descriptive Card.
- 448. Memorandum Receipt.
- 451. Return of Unit Equipment.
- 468. Request for Retirement (enlisted men).
- 489. Model Remarks for Muster Rolls.
- 525. Honorable Discharge from U. S. Army.
- 526. Discharge from U. S. Army.
- 527. Dishonorable Discharge from U. S. Army.
- 543. Issue of Expendable Articles, Unit Accountability Equipment.
- 544. Replacement of Articles, Unit Accountability Equipment.
- 559. Report of Furlough to Reserve.
Correspondence Model (A. R. 776, 1913).

WAR DEPARTMENT FORM

- 366 Pay roll of enlisted men, first sheet.
- 366a Pay roll of enlisted men, follow sheets.

Q. M. C. FORMS

- 8a Advice of Soldiers' deposits.
- 38 Soldiers' allotment blanks.
- 41 Soldiers' deposit book.
- 69 Model remarks for Army pay rolls.
- 70 Instruction for Army pay rolls.
- 164 Directions for measuring for U. S. clothing of special sizes.
- 165 Individual clothing slip.
- 165b Statement of clothing charged to E. M.
- 166 Requisition for table ware and kitchen utensils.
- 176 Requisition for scrubbing brushes, brooms, etc.
- 180 Abstract of clothing drawn on 165.
- 201 Transfer of Q. M. supplies, invoice and receipts.
- 204 Requisition for issue of stationery.
- 207a Certificate of breakage—china.
- 208 Statement of charge.
- 213 Requisition for clothing (bulk).
- 223 Ration returns.
- 232 Certificate of supplies transferred.
- 402 Application for transfer to the Q. M. Corps of enlisted men.
- 509 Delinquency record (E. M.).

Appendix

EQUIPMENT FOR OFFICERS

ORDNANCE EQUIPMENT

www.lib For each dismounted officer.

New Model Equipment*	Old Model Equipment*
1 can, bacon	1 canteen with strap.
1 can, condiment	1 cup.
1 canteen	1 haversack (except mounted officers).
1 canteen cover, dismounted	1 haversack strap (except mounted officers) or suspenders for belt.
1 pistol belt, with magazine pocket, web, double	1 meat can.
1 cup	1 knife.
1 knife	1 fork.
1 fork	1 spoon.
1 spoon	1 pouch for first-aid packet.
1 meat can	1 pistol belt with magazine pocket, web, double.
1 haversack (except mounted officers) ..	1 pistol holster.
1 pack carrier (except mounted officers)	1 pistol, caliber .45.
1 pouch for first-aid packet	2 extra magazines.
1 pistol holster	
1 pistol, caliber .45	
2 extra magazines	

QUARTERMASTER PROPERTY

1 mosquito bar	1 identification tag with tape
1 bedding roll **	1 shelter tent complete with poles and pins ..
2 blankets	1 poncho or slicker
1 basin, canvas	1 whistle (company officers and battalion commanders of infantry)
1 bed sack	
1 bucket, canvas	
1 lantern.	
1 clothing roll	
1 cot	

*Either model of equipment permissible.

**The bedding roll supplied by the Quartermaster Corps or any other canvas roll may be used as a combination bedding-clothing roll.

Appendix

Clothing	1.81	1 breeches, o. d. cotton	1.07
1 leggins, pair, leather	7.50	1 breeches, o. d., wool	2.31
3 undershirts .....	.69	1 overcoat, o. d., wool	9.04
3 drawers, pairs .....	.66	1 waist belt .....	.10
2 shoe laces, pairs .....	.02	2 shirts, o. d., flannel	4.76
5 stockings, pairs .....	.70	1 shoes, russet leather,	
1 hat, service	5.00	pair	2.81
1 hat cord	1.50	Insignia (collar and	
1 coat, o. d., wool	3.95	shoulders)	3.00
1 coat, o. d., cotton	1.31		

MEDICAL

1 first-aid packet.

MISCELLANEOUS

1 compass	1.00	1 notebook and pencil	.10
1 pair field glasses	35.00	1 watch.	

TOILET ARTICLES

1 comb.	1 package toilet paper.
1 housewife.	3 towels.
1 mirror.	1 cake soap.
1 tooth brush, with paste.	1 shaving outfit.

For each mounted officer in addition to above:

1 set of horse equipment, consisting of:—

1 bridle, cavalry.	1 lariat.
1 watering bridle (not required if Model 1909 bridle is on hand).	1 lariat strap.
1 currycomb.	1 link.
1 nosebag (or feed and grain bag).	1 picket pin.
1 halter headstall.	1 saddle (McClellan or Whitman).
1 halter strap (or halter tie rope).	1 saddle bags, pair.
1 horse brush.	1 saddle cloth with insignia.
	1 saddle blanket.
	1 surcingle.
	trunk locker, 4.03.

2. The unit equipment manuals for the various arms authorize organization commanders to keep on hand such of the following articles authorized by paragraph 1522 A. R. (articles of ordnance furnished by the government for use of officers *servng with troops*) as may be necessary to properly equip the officers on duty with these organizations.

- Appendix

Pistols, caliber .45	\$12.50
Extra magazine . . . . .	.52
Pistol belts	5.54
Pistol holsters	1.50
Dispatch case, web	4.00

3. The horse equipment required by mounted officers below the grade of major are included in the ordnance unit accountability of the organization to which they may be assigned.

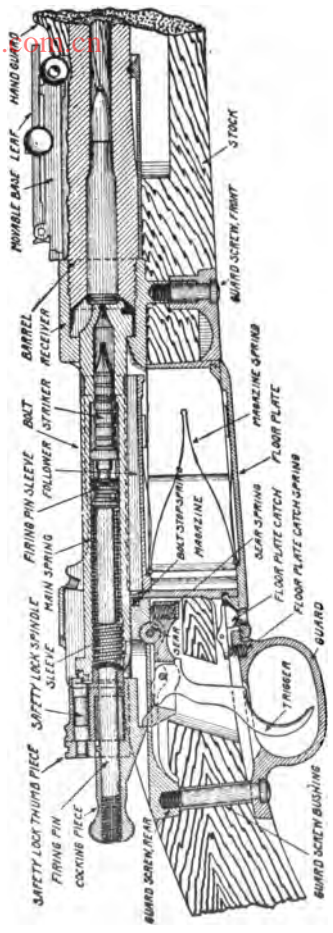
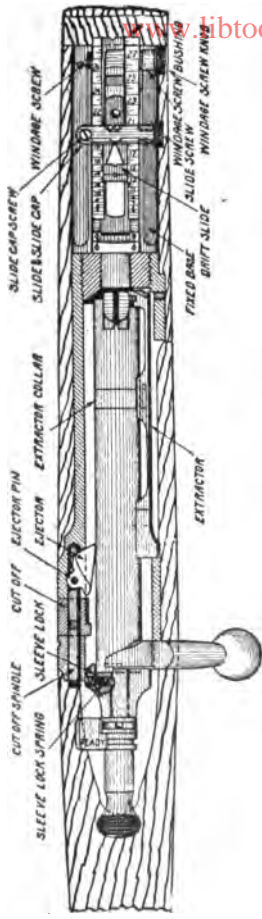
4. It is not necessary for reserve officers to purchase the horse equipment and articles mentioned in paragraph three above, but they may purchase such articles and use them if they so desire.

5. Officers of infantry are not required to have a saber and scabbard when on field service. Cavalry officers are required to have a saber and scabbard and are advised to purchase the new model saber which may be procured from the Ordnance Department.

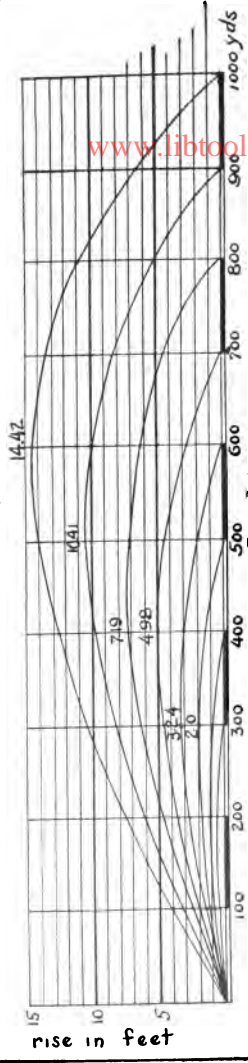
6. Officers of the Reserve Corps may purchase uniforms and equipment from the Supply Departments of the Army. (326.1)

Note. This order is of date 14 Feb., 1917.

Appendix

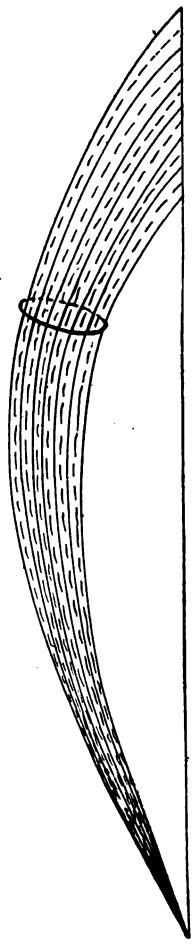


BRECH MECHANISM SHOWN IN DETAIL.



www.libtool.com.cn

Line of Sight
Curves of trajectories of rifle bullets for different ranges.

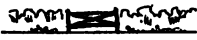



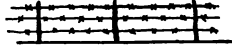




Cone of Fire.

Appendix

• RANGE CARD FOR OFFENCE •

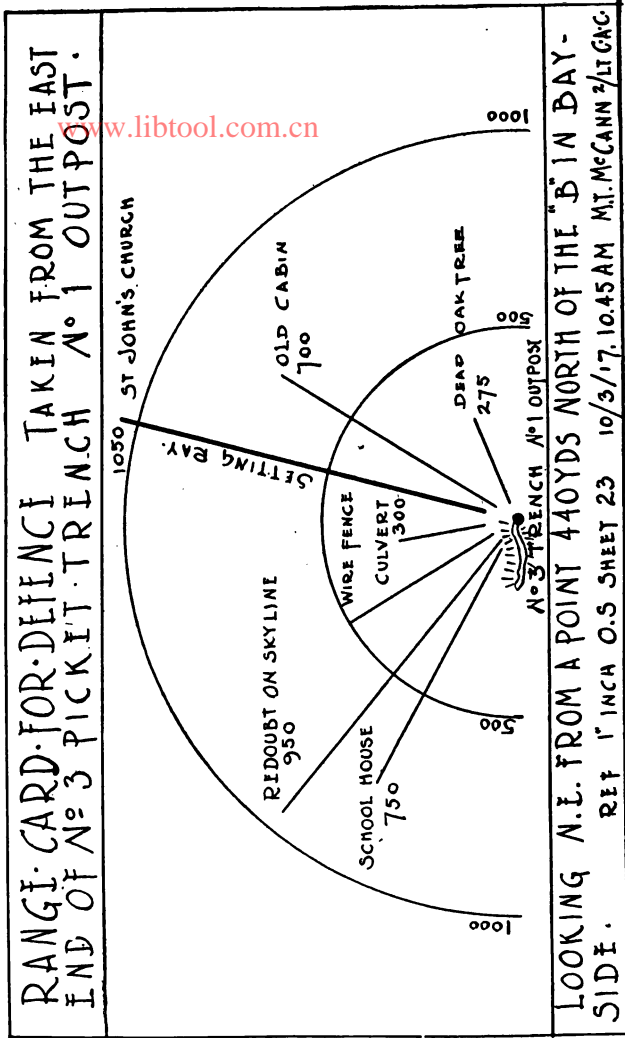
ATTACK ON ENEMY'S POSITION AT
DOUGLSTON FROM A POINT ON HEMPSTED
PLAIN $\frac{1}{4}$ " SOUTH OF 'C' IN COLLEGE
POINT REF 1° 05' SHEET 23 . . .

YARDS	
0	FIRST OBJECTIVE <u>ENEMY</u>
150	WHITE GATE IN HEDGE 
350	BLACK ROOFED BARN 
500	RED COTTAGE 
550	OAK TREE 
650	WIRE FENCE 
700	R. R. CROSSING 
950	HEMPSTED PLAIN 

DIRECTION OF ATTACK W.S.W.

APRIL 1, 1917 12.05 A.M.

M. T. MCCANN 2/LT C.A.C.

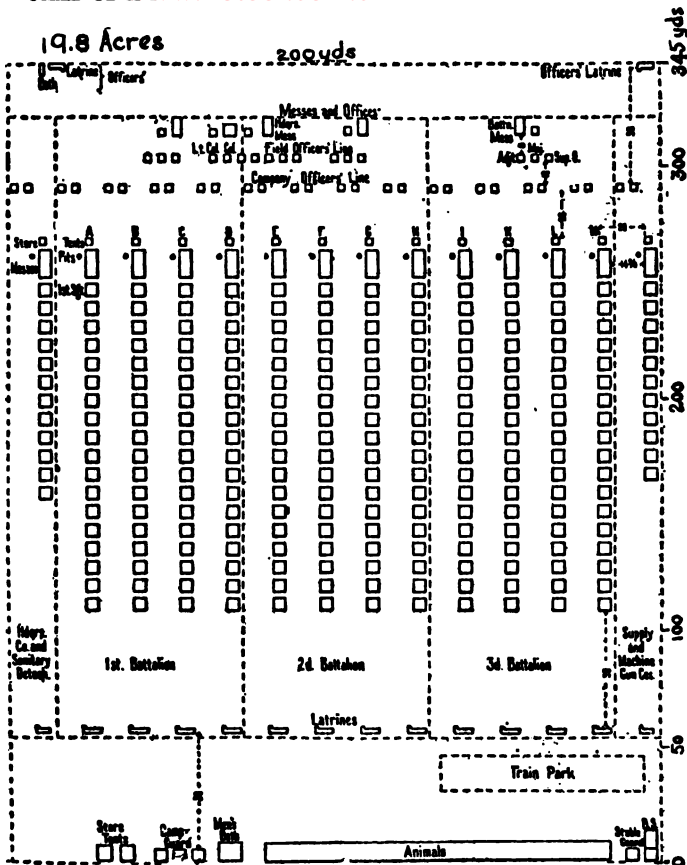


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Appendix

B. SEMIPERMANENT CAMPS.

CAMP OF A REGIMENT OF INFANTRY. WAR STRENGTH.



Appendix

SHOWING HOW RATIONS ARE REPUTED.

Day of month.	REMARKS.	RATIONS.	
		For Mex.	Minus.
(30) 1	No change.		
(29) 3	Corps. X + Y fr. duty to furlough 8 A.M. Pvt Green fr. duty to hospital.		58
(28) 3	Pvt Hoyt fr. duty to confinement. Captain Hass fr. duty to leave - Left 3/1/17 10 recruits assigned to and joined Co.		29
(27) 1	Pts. Jones and Smith fr. duty as privs to duty as mechanics Pvt Thomas fr. duty as priv to S.D. Pvt Green fr. hospital to duty. 10 recruits to duty.		280
(26) 3	no change.		27
			307 116

(2)

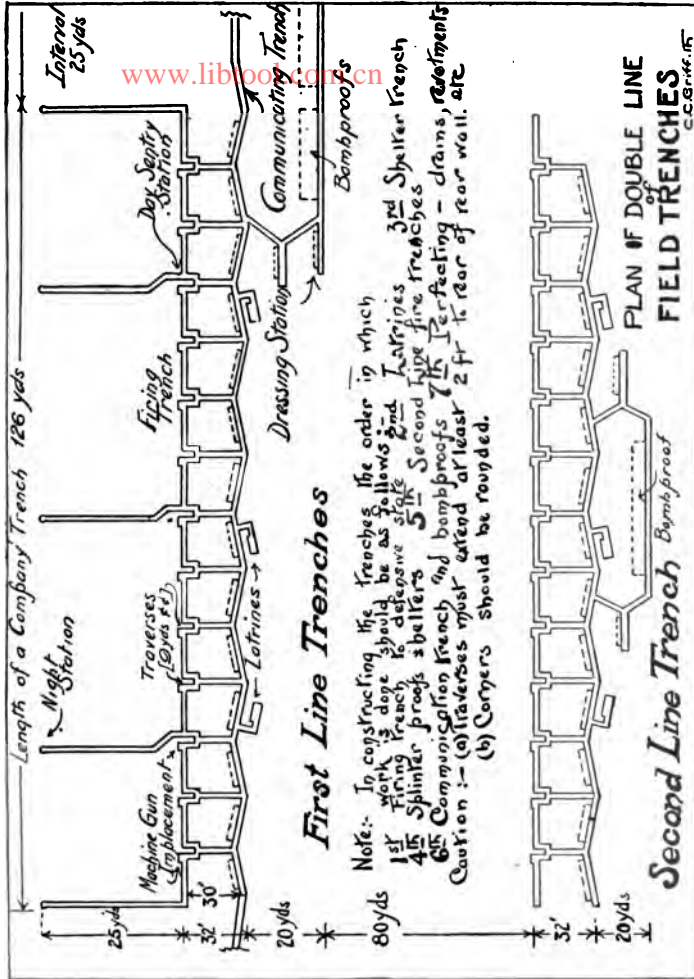
If month has 30 days the (29) represents the number of days left in month - to figure rations deducted $2 \times 29 = 58$
S.D. = Special duty D.S. = Detached Service.

Appendix

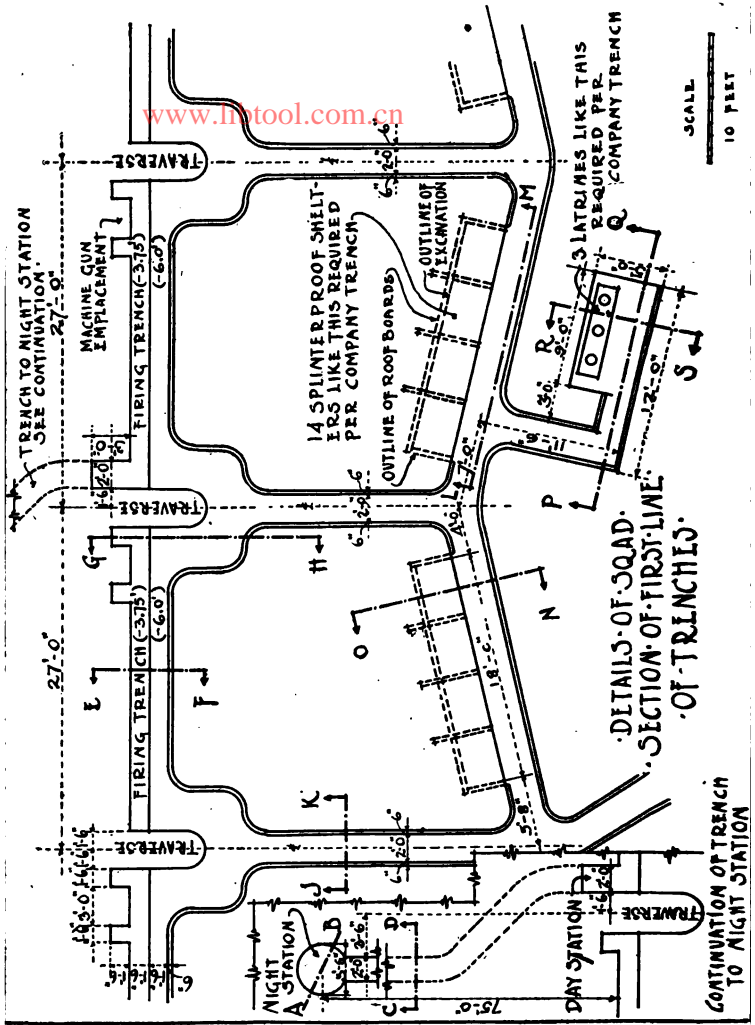
A. WAR STRENGTH, IN ROUND NUMBERS, ROAD SPACE, AND DIMENSIONS OF CAMPS.

Units.	War strength, in round numbers.		Vehicles, including guns.	Length of columns.			Contracted camping space (troops and trains).	
	Men.	Animals (horses and mules).		Organizations, including combat trains.	+ Field trains without distance.	Ammunition supply, sanitary, and engineer trains.	Yards.	Approximate number of acres.
Divisions:								
Infantry.....	22,000	7,500	900	10.3 mls.	11.8 mls.	3.6 mls.	.....	180
Cavalry.....	10,000	12,000	500	8.0 mls.	9.5 mls.	1.5 mls.	.....	130
Brigades:								
Infantry.....	5,500	520	87	1.7 mls.	2.0 mls.	.....	.....	19
Cavalry.....	2,500	2,900	53	1.5 mls.	1.9 mls.	.....	.....	18
Artillery.....	2,500	2,300	257	1.2 mls.	2.9 mls.	.....	.....	30
Smaller units (including attached sanitary troops):								
Infantry regiment.....	1,860	170	22	.....	.....	.....	.....	6.2
Cavalry regiment.....	1,250	1,430	25	.....	.....	.....	.....	8.2
Field artillery, light, regiment.....	1,150	1,150	128	.....	.....	.....	.....	14.7
Field artillery, horse, regiment.....	1,150	1,560	131	.....	.....	.....	.....	19.6
Field artillery, heavy, regiment.....	1,240	1,340	131	.....	.....	.....	.....	16.0
Field artillery, mounted, regiment.....	1,100	1,160	.....	.....	.....	.....	.....	6.2
Engineers, pioneer battalion.....	460	160	12	2.0
Engineers, pioneer battalion (mounted).....	270	370	11	2.6

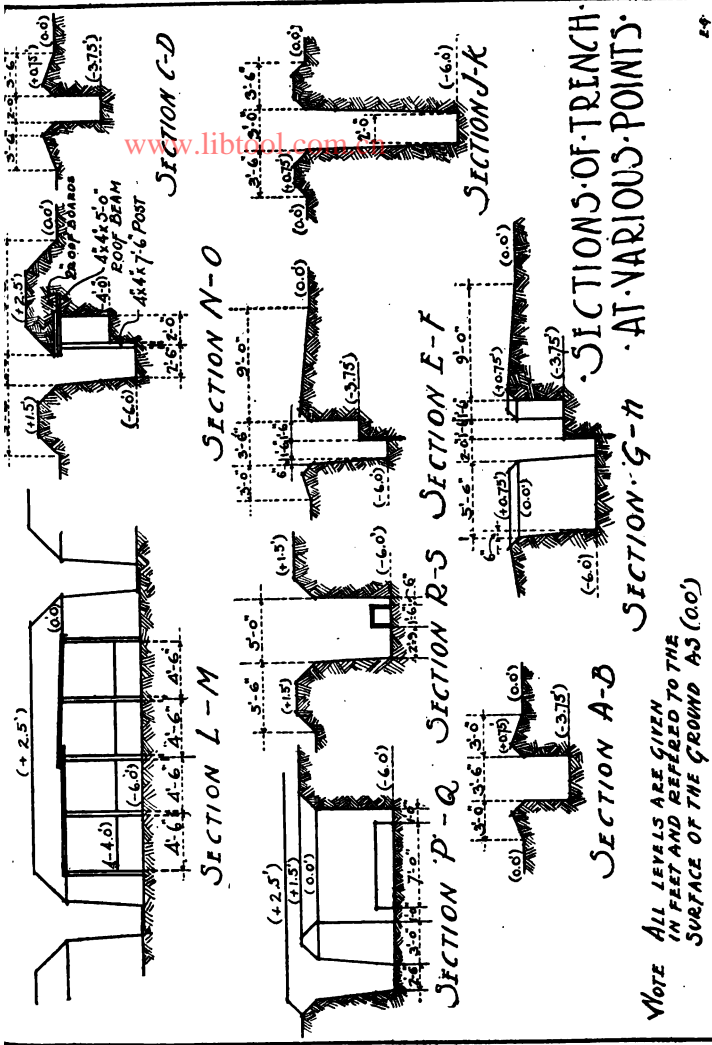
Appendix



Appendix



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SECTIONS OF TRENCH
AT VARIOUS POINTS.

SECTION G-H






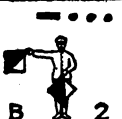









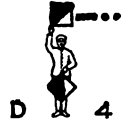








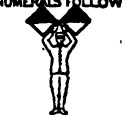










SECTION A-B

NOTE ALL LEVELS ARE GIVEN
IN FEET AND REFERRED TO THE
SURFACE OF THE GROUND AS (0.0')

Appendix

TWO-ARM SEMAPHORE CODE WITH HAND
 FLAGS.

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<p>ERROR  A I</p>	<p> G 7</p>	<p> M</p>	<p> S</p>	<p> Y</p>
<p> B 2</p>	<p> H 8</p>	<p>ANNULING  N</p>	<p> T</p>	<p> Z</p>
<p> C 3</p>	<p> I 9</p>	<p>INTERROGATORY  O</p>	<p> U</p>	<p>ATTENTION </p>
<p> D 4</p>	<p> J O</p>	<p>AFFIRMATIVE  P</p>	<p> V</p>	<p>INTERVAL </p>
<p> E 5</p>	<p>NEGATIVE  K</p>	<p> Q</p>	<p> W</p>	<p>NUMERALS FOLLOW </p>
<p> F 6</p>	<p>PREPARATORY  L</p>	<p>ACKNOWLEDGE  R</p>	<p> X</p>	<p>1.  2.  3.  4.  5.  6. </p>

NOTE.—For special and conventional codes, see Signal Book.

Appendix

CORRESPONDENCE

Fort Niagara, N. Y.

File No. www.libtool.com.cn

March 1, 1917.

From: 1st Lieut. John F. Doe, Co., E, 5th Infantry.
To: Commanding Officer, 5th Infantry.
Subject: Application for leave.
(Letter to contain but one subject and its description to be given
in not more than ten words).

.....

1. Letter should be folded in three equal folds as indicated by dotted lines.
2. Writing to be so placed as to leave a margin of about an inch along left edge of paper.
3. The words "From", "To" and "Subject" to be double-spaced and included in first fold (above dotted line). Single spacing to be used in the paragraph. Paragraphs to be separated by double spaces.
4. Body of the letter should commence on the second fold or middle third of the sheet.
5. When there is but one paragraph in the letter it will not be numbered. When there is more than one paragraph they will be numbered as herein.
6. When the name and rank, etc., of the writer are given above after "From" the signature will be confined to the writer's name only. When only the office title is given above after "From" the officer will sign his name over his rank and organization.....
7. When enclosures accompany the letter the notation (so many) enclosures will be made under the left side of the letter about on the same line with the signature.
8. The signature should be about half an inch below the last line of the letter.

3 Incls.

John F. Doe.

↑
↓
1st ind.

(File No)

1st ind.

RE: FT. NIAGARA, N. Y., March 2, 1917. - To Commanding General, Eastern Department. Forwarded.

Col., 5th Inf., Comdg.

FORMS OF COMPLETE FIELD ORDERS

While the following forms are given for the convenience of officers in the field, and with a view of securing uniformity in the service, it must be remembered that no two military situations are the same. The sequence in paragraph 3 is not obligatory, the commander arranging the details according to his best judgment.

For an advance.

Field Orders		[Title]
No. —		[Place]
[Reference to map used]		[Date and hour]
Troops		1. [Information of enemy and of our supporting troops]
(a) Independent Cavalry:		2. [Plan of commander]
[Commander]		3. (a) [Instructions for independent cavalry—place and time of departure, roads or country to be covered, special mission]
[Troops]		(b) [Instructions for advance guard—place and time of departure, or distance at which it is to precede the main body, route, special mission]
(b) Advance Guard:		(c) [Instructions for main body—distance at which it is to follow the advance guard, or place and time of departure]
[Commander]		(d) [Instructions for flank guard—place and time of departure, route, special mission]
[Troops]		(e) [Instructions for signal troops—lines of information to be established, special mission]
(c) Main Body—in order of march:		(x) [Instructions for outpost—when relieved, subsequent duties]
[Commander]*		4. [Instructions for field train—escort, distance in rear of column, or destination when different from that of main body, if disposition not previously covered in “Orders”]
(d) Right [left] Flank Guard:		
[Commander]		
[Troops]		
(e) Signal Troops:		
[Commander]		
[Troops]		

[Instructions for sanitary, ammunition, supply and engineer trains when necessary]

5. [Place of commander or where messages may be sent.]

[How and to whom issued]

[Authentication.]

*If a commander is designated for the main body, his name is inserted here.

Forms of Complete Field Orders

For advance guards.

Field Orders	[Title]
No. —	[Place]
[Reference to map used]	[Date and hour]
Troops	1. [Information of enemy and of our supporting troops]
(a) Advance Cavalry:	2. [Plan of commander]
[Commander]	3. (a) [Instructions for advance cavalry—place and time of departure, roads or country to be covered, special mission]
[Troops]	(b) [Instructions for support—place and time of departure, route, special mission]
(b) Support:	(c) [Instructions for reserve—distance at which it is to follow support]
[Commander]	(d) [Instructions for flank guard—place and time of departure, route, special mission]
[Troops]	4. [Instructions for field train—generally to join train of column if not previously covered in orders]
(c) Reserve—in order of march:	5. [Place of commander or where messages may be sent, location of lines of information]
[Troops]	
(d) Right [left] Flank Guard:	
[Commander]	
[Troops]	
	[Authentication]
[How and to whom issued]	

A halt for the night—Camp with outpost.

Field Orders	[Title]
No. —	[Place]
[Reference to map used]	[Date and hour]
1. [Information of enemy and of our supporting troops, including independent cavalry]	
2. [Plan of commander—to encamp or bivouac]	
3. (a) [Designation of commander and troops of outpost, * general line to be held, special reconnaissance, connection with other outposts, if any]	
(b) Instructions for troops not detailed for outpost duty—location of camp, designation of camp commander, ** observation of flanks and rear when necessary, line of information, conduct in case of attack]	
4. [Instructions for field train—generally to join troops, though if near enemy, field train of outpost troops may be held in rear]*** [Instructions for sanitary, ammunition, supply, and engineer trains, when necessary]	
5. [Place of commander or where messages may be sent]	
	[Authentication]
[How and to whom issued]	

* Where the advance guard is large the order may direct the advance guard commander to establish the outpost.

** Omitted when the chief exercises immediate command of the camp.

*** May be provided for in "order" issued subsequently.

Forms of Complete Field Orders

For outposts.

Field Orders
No. — [Title]
[Reference to map used] [Place]
[Date and hour]
Troops [Information of enemy and of our supporting troops]
2. [Plan of commander—to establish outpost, approximate line of resistance.]
(a) Advance Cavalry [Commander] 3. (a) [Instructions for advance cavalry—contact with enemy, roads or country to be specially watched, special mission]
[Troops] (b) [Instructions for supports—positions they are to occupy, and sections of line of resistance which they are to hold, intrenching, etc.]
(b) Supports:* [Commander] (c) [Instructions for detached post—position to be occupied, duties, amount of resistance]
No. 1. [Troops] (d) [Instructions for reserve—location, observation of flanks, conduct in case of attack, duties of special troops]
No. 2. [Commander] [Troops] 4. [Instruction for field train if necessary]
No. 3. [Commander] [Troops] 5. [Place of commander or where messages may be sent, location of lines of information]
(c) Detached Post [Commander]
[Troops]
(d) Reserve: [Troops]
[Commander]
[How and to whom issued]** [Authentication]

It is sometimes necessary to issue two outpost orders; the first as above, containing general instructions; the second, issued after an inspection of the line, and containing more definite instructions or involving changes.

For positions in readiness

Field Orders [Title]
No. [Place]
[Reference to map used] [Date and hour]
1. [Information of enemy and of our supporting troops]
2. [Plan of commander to take up a position in readiness at or near]
3. (a) [Instruction for cavalry—to reconnoiter in direction of enemy, special mission]
(b) [Instructions for artillery—position or place of assembly]
(c) [Instructions for infantry—position or place of assembly, points to be especially held, reconnaissance]
(d) [Instructions for engineers—position or place of assembly]
(e) [Instructions to signal troops—lines of information]
4. [Instructions for field trains, sanitary, ammunition, supply and engineer trains if not previously covered in orders—generally to halt designated localities in rear, ready to move in any direction]
5. [Place of commander or where messages may be sent]
[Authentication]
[How and to whom issued]
* No. 1 and 2 may be omitted.
** This order may be more convenient to write this order with a separate list of the names of troops.

Forms of Complete Field Orders

For defensive positions.

- Field Orders [Title]
No. — [Place]
[Reference to map used] [Date and hour]
1. [Information of enemy and of our supporting troops]
 2. [Plan of commander—to take up a defensive position at or along —, for the purpose of —]
 3. (a) [Instructions for artillery—positions, target, intrenching, etc.]
(b) [Instructions for fighting line—division of front into sections and assignment of troops thereto, intrenching, etc.]
(c) [Instructions for reserve—troops and position]
(d) [Instructions for cavalry—usually to cover with its main force the more exposed flank, a detachment being sent to patrol the other; reconnaissance]
(e) [Instructions for engineers—defensive work, clearing field of fire, preparation of obstacles, opening roads, etc.]
(f) [Instructions for signal troops—to establish lines of information]
 4. [Instructions for sanitary train—location of dressing stations and station for slightly wounded]
[Instructions for ammunition train—location of ammunition distributing stations]
[Instructions for field and supply trains, if not previously covered in orders]
 5. [Place of commander or where messages may be sent]
[How and to whom issued] [Authentication]

For an attack.

- Field Orders [Title]
No. — [Place]
[Reference to map used] [Date and hour]
1. [Information of enemy and of our supporting troops]
 2. [Plan of commander—indicating the general plan of attack, usually to envelop a flank]
 3. (a) [Instructions for artillery—position, first target, generally hostile artillery]
(b) [Instructions for holding attack*—commander, troops, direction and objective]
(c) [Instructions for main attack—commander, troops, direction and objective]
(d) [Instructions for reserve—commander, troops, position]
(e) [Instructions for cavalry—generally to operate on one or both flanks, or to execute some special mission]
(f) [Instructions for engineers—any special mission]
(g) [Instructions for signal troops—to establish lines of information between the commander and the main and secondary attacks, artillery, reserves, etc.]
 4. [Instructions for sanitary train—location of dressing stations and stations for slightly wounded when practicable]
[Instructions for ammunition train—location of ammunition distributing stations]
[Instructions for field and supply trains, if not previously covered in orders]
 5. [Place of commander or where messages may be sent]
[How and to whom issued] [Authentication]
- NOTE.—In war it is not always possible to issue a complete attack order like the above, disposing of an entire command. In unexpected encounters, for instance, orders must be given as the situation develops.

* The term "holding attack" as used in this form is for convenience only; it is never used in actual orders, as the vigor of an attack might be lessened if the troops knew it was "holding" only.

Forms of Complete Field Orders

For a retreat

Field Orders [Title]
No. — [Place]
[Reference to map used] [Date and hour]

Troops

(a) Leading Troops: 1. [Information of enemy and of our supporting troops]
[Commander] 2. [Plan of commander—to retire in direction of—]
[Troops] 3. (a) [Instructions for leading troops—place and time of departure, route, special mission]
(b) [Instructions for main body—place and time of departure, route]
(c) [Instructions for rear guard—distance from the main body or place and time of departure, special mission]
(d) [Instructions for flank guard—place and time of departure, special mission]
(e) [Instructions for signal troops—lines of information]

(b) Main Body—in order of march: (x) [Instructions for outposts—when relieved, subsequent duties—usually forming the rear guard]

(c) Rear Guard: 4. [Instructions for field and divisional trains—place and time of departure, route, escort; these trains are generally some distance ahead of the column]
[Commander] 5. [Place of commander or where messages may be sent]
[Troops]

(d) Right (left) Flank Guard: [Commander]
[Troops]

(e) Signal Troops: [Commander]
[Troops]

[How and to whom issued] [Authentication]

For rear guards.

Field Orders [Title]
No. — [Place]
[Reference to map used] [Date and hour]

Troops

(a) Reserve—in order of march: 1. [Information of enemy and of our supporting troops]
[Troops] 2. [Plan of commander—mission of rear guard]

(b) Support: 3. (a) [Instructions for reserve—place and time of departure, or approximate distance from main body, reconnaissance]
[Commander] (b) [Instructions for support—place and time of departure or distance from reserve, any special reconnaissance]
[Troops] (c) [Instructions for rear cavalry—place and time of departure, road or country to be covered, special mission]

(c) Rear Cavalry: [Commander]
[Troops]

(d) Right (left) Flank Guard: (d) [Instructions for flank guard—place and time of departure, route, special mission]
[Commander] 4. [Instructions for field train when necessary—usually to join train of main body]
[Troops]

5. [Place of commander or where messages may be sent—location of lines of information]

[How and to whom issued] [Authentication]

Forms of Complete Field Orders

MARCH TABLE

In movements of large forces on several roads, it is sometimes desirable to prescribe the daily marches of the various columns for two or more days. In such cases the order may often be simplified by appending or incorporating a march table usually in the following form, each column providing its own security.

March Table.

— Army, from ——— [date], to ——— [date].

[Reference to map used.]

Date.	— Division.	— Division.	Army Hq.
	Location of main body or of advance guard at end of each day's march, and line of march, if necessary.	Location of main body or of advance guard at end of each day's march, and line of march, if necessary.	Location at end of each day's march.

SEP 6 1917

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APPENDIX 186

List of Forms Needed for Company Administration; Equipment for Officers; Illustrations on various subjects; Forms of Complete Field Orders, etc.

Notes

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