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Provisional Drill Regulations for Trench Mortar Batteries

(6″ NEWTON AND THE 240mm.)

CHAPTERS II., VI. and VIII.

Compiled at the Army Trench Mortar School, and Edited at Headquarters American Expeditionary Forces, France, December, 1917



[redacted]

Army War College
February, 1918

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The following chapters of the "Provisional Drill Regulations for Trench Mortar Batteries," adopted by the American Expeditionary Forces as standard, are published for the information and guidance of all concerned.

(062.1 A. G. O.)
By order of the Secretary of War.

JOHN BIDDLE,
Major General, Acting Chief of Staff.

Official:
H. P. McCAIN,
The Adjutant General.

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Provisional Drill Regulations for Trench Mortars

CHAPTER II.

THE DISMOUNTED BATTERY.

SECTION I. GENERAL PRINCIPLES AND ORGANIZATION.

1. The Battery comprises the personnel shown in detail in the tables of organization. It is formed in double rank, with the sections arranged from right to left in the order of their designation or permanent numbers.

2. The formations prescribed for the battery are applicable with obvious modifications to the instruction of any number of platoons, groups or sections. When only part of the battery is formed for instruction, the word platoon or group, as the case may be, is substituted in the commands for the battery.

3. By means of the formations here described the personnel of the Trench Mortar Battery can be formed, maneuvered, controlled, and tolled off to their duties. Under war conditions the full personnel will rarely ever be present. The formations at the front will nominally consist of a portion of the Headquarters and Train Section, and one or more mortar sections; the remainder, with the driver sections, being at the station of the horses, the wagons, and reserve personnel, in rear.

FORMATIONS.

For the 58 mm. No. 2 and the 6" Newton.

4. The enlisted personnel of the battery assigned to the 58-2, or the 6" Newton Trench Mortars, is subdivided into platoons, groups and sections as follows:

(a) The Headquarters and train section: consisting of all non-commissioned officers, mechanics, horseshoers, saddlers, wagoners, cooks, buglers and privates, not assigned specially to other sections. When present in formation it is at the right of the battery in line.

(b) The 1st platoon, consisting of (1) two groups, each of two sections, commanded by a sergeant, comprising the 1st to 4th (inclusive) Mortar Sections. (2) The 1st Driver section.

(c) The 2nd Platoon, consisting of (1) two groups, each of two sections commanded by a sergeant, comprising the 5th to 8th (inclusive) Mortar Sections. (2) The 2nd Driver section.

(d) The 3rd Platoon, consisting of (1) two groups, each of two sections, commanded by a sergeant, comprising sections 9th to 12th (inclusive) Mortar Sections. (2) The 3rd Driver section.

5. Each Mortar section consists of a corporal and those privates assigned to the service of one mortar. The corporal is chief of section and gunner, and should be selected for his qualifications without regard to his rank in the station. The privates are cannoneers and are numbered from 1 upwards. Each mortar section is formed in double rank as follows: the gunner and Nos. 2, 4, 6, etc., in the front rank in order from right to left; Nos. 1, 3, 5, 7, etc., in the rear rank in order from right to left, No. 1, covering the gunner thus:

	etc.	6	4	2	G
40 inch.					
	etc.	7	5	3	1

6. The gunner and Nos. 1, 2, 3, and 4 constitute the mortar detachment, the remaining numbers constitute the reserve detachment. A mortor "*group*" consists of the group commander, usually a sergeant, and the sec-

tions, usually two, but may be any number, assigned to the mortars employed in a part of a position.

Each *Driver Section* consists of the non-commissioned officers—usually two, the senior of which commands the section—and other enlisted men assigned as drivers of, and for the care of, the horses of the platoon. They fall in to the left of the last numbered mortar section of the platoon with two yards interval in between. The non-commissioned officer next in rank to the Section Commander is on the right in the front rank, then Nos. 2, 4, 6, etc., in the rear rank No. 1 covers the right file, No. 3 covers No. 2, etc., from right to left.

For the 240 mm., and 9.45 ".

7. The enlisted personnel of a battery assigned to the 240 mm., and the 9.45" trench mortars is subdivided into platoons, and sections as follows:

(a) The Headquarters and Train Section: Comprising all non-commissioned officers, cooks, buglers, mechanics, and privates, etc., not assigned specifically to the other sections.

(b) Three platoons, each comprising: 1. Two mortar sections, each commanded by a sergeant, and consisting of all non-commissioned officers and privates assigned for the service of a single mortar, including the reserve personnel therefor. 2. Driver section.

8. Each mortar section consists of the non-commissioned officers and privates needed for the service of a single mortar, usually one sergeant, who commands the section, one corporal, and such number of privates as may be assigned. The formation is in double rank, the corporal who is the "gunner" is in the front rank on the right. On his left are Nos. 2, 4, 6, etc. Nos. 1, 3, 5, etc., are in the rear rank, No. 1 covering the gunner.

9. The corporal and the cannoneers, numbered 1 to 9 inclusive, constitute the mortar section proper, the remaining numbers, the *reserve.*

10. Each driver section consists of the non-commissioned officers and enlisted men assigned as drivers and to care for the horses of the platoon. They fall into the left of the last numbered mortar section of the platoon,

with two yards interval in between. The non-commissioned officer next in rank to the Section Commander is on the right, in the front rank, then Nos. 2, 4, 6, etc., in order. In the rear rank No. 1 covers the right file, No. 3 covers No. 2, etc., from right to left.

11. The Headquarters and train section is usually not present in formation, but when present its members (except the buglers, who are in the file closers) form in double rank in order of rank given in the tables of organization, from right to left, front rank, and right to left, rear rank. The First Sergeant superintends the formation of the section from his post in front of the battery or he may designate the senior non-commissioned officer in the section as Section Commander.

NOTE. In the formation of batteries assigned to the 240 mm., and the 9.45″ trench mortars, the "group" is omitted, the duties of the group commander being performed by chiefs of section, who also take the posts prescribed for the Group Commander.

SECTION II. POSTS OF OFFICERS, NON-COMMISSIONED OFFICERS, ETC., IN LINE.

12. The Captain—4 yards in front of the center of the battery.

Chiefs of Platoon—2 yards in front of the center of their platoon.

Group Commanders—1 yard in front of the chief of the first section of their group.

First Sergeant—In the front rank, 40 inches to the right of the Right Section.

Chiefs of Section—The right man of the front rank of their section, except with the 240 mm., and 9.45″ when he takes post of the Group Commander.

COLUMN OF SECTIONS.

13. The Captain—4 yards from the flank, opposite the center, on the left (right) when the 1st (last) section is in front.

Chiefs of Platoon—On the same side as the Captain—2 yards from the flank and opposite the center of their platoon.

Group Commanders—On the same side as the Captain and 4 inches from the flank man of the front rank of the front section of their group.

First Sergeant—On the same side as the Captain and 53 inches in front of the left (or right) flank men of the leading section of the battery.

Chiefs of Section—The right hand man of the front rank of their section, except with the 240 mm. and 9.45″ when he takes the post of the Group Commander.

SECTION III. TO FORM AND DISMISS THE BATTERY.

14. At the sounding of the assembly, the first sergeant, facing the battery and 6 yards in front of where the center is to be, commands 1. "Fall in", 2. "Call Rolls", 3. "Report".

15. At the command "Fall in" chiefs of sections place themselves on the line facing to the front in their proper order, at sufficient distance apart for the formation of their sections; each section forms on its chief with one yard interval between sections, two yards between groups and three yards between platoons; the group commanders take their posts facing their groups. The assembly having ceased, the first sergeant causes the groups to close to the right, if necessary.

16. At the command, "Report", the commander of the Headquarters and train section (if there be one) salutes and reports "Headquarters and train section present", or "Headquarters and train section, so many corporals and privates absent". The first sergeant having received and verified the reports, returns the salute. The commander of the first group then reports in like manner and so on. Men who are known to be absent by proper authority are not reported absent by the group commanders. After receiving the reports the first sergeant faces about, salutes the captain, and reports; "Sir, the battery is present or accounted for". The first sergeant then takes his post.

17. The captain places himself 12 yards in front of the center of the battery, superintends the formation, and receives the report of the first sergeant, whose salute he returns.

18. The lieutenants take their posts as soon as the first sergeant has reported.

NOTE. If the battery is to proceed to its emplacements, the Captain on receiving the report of the 1st. sergeant gives such instructions as may be desirable for special details, falls out men having posts of duty other than at the emplacements, and marches the battery (or causes it to be marched) to the desired point.

OPEN RANKS.

19. Being in line at a halt: 1 "*Open ranks*", 2 "*March*", 3 "*Front*". At the command "March", the front rank executes right dress; the rank marches backward (4) steps, halts, and executes right dress; the chiefs of platoon step forward 2 yards, the group commanders 1 yard, and all dress to the right. The Captain goes to the right flank, of the battery and aligns the chiefs of platoon, the group commanders, the front rank and the rear rank.

20. Before giving the command "Front" the Captain places himself in front of the posts of the first sergeant and on a line with the group commanders, and faces to the left. At the command "Front" all the men turn their heads and eyes to the front and those in ranks drop the left arm.

21. After the command "Front" has been executed the Captain places himself 6 yards in front of the center of the battery facing to the front.

TO CLOSE RANKS.

22. Being at open ranks, 1 "*Close ranks*", 2 "*March*". At the command "March", the lieutenants and group commanders face about and resume their posts in line; the rear rank closes to 40 inches, each man covering his file leader, the Captain then takes his post in line.

ALIGNMENTS.

23. The alignments are executed as prescribed for the school of the squad, Infantry Drill Regulations, with the exceptions that the distance between ranks is 40 inches and that when the battery is formed or when the com-

mand *"Extend on Headquarters and Train Section"* is given, each section forms or extends to one yard interval between sections, 2 yards between groups and 3 yards between platoons.

24. In aligning the battery, the Captain places himself in prolongation of the line, 2 yards from and facing the flank toward which the alignment is made. After commanding "Front", he resumes his post.

TO DISMISS THE BATTERY.

25. Being in line at a halt.

The Captain directs the first sergeant *"Dismiss the Battery"* and returns the salute of the first sergeant.

The officers fall out; the first sergeant salutes, steps 3 yards to the front, faces to the left and commands *"Dismissed"*.

SECTION IV. MANEUVERS OF THE BATTERY.

GENERAL PROVISIONS.

26. The maneuvers of the battery are limited to those necessary for its orderly handling. They are also valuable for fixing the attention of the men and for teaching habits of discipline and prompt obedience.

27. The instruction set forth in detail for the soldier is applicable to the battery, the facings, steps, marchings, turnings, rests, all being executed according to the same principles, officers and non-commissioned officers, conforming to the movements.

28. Unless otherwise announced, the guide of a battery or subdivision of a battery is right. To march with the guide other than as prescribed above, or to change the guide—"Guide right (left)". The announcement of the guide, when given in connection with a movement, follows the command of execution for that movement.

29. If the guide is changed while marching in column of sections, the Captains, chiefs of platoon, group commanders and first sergeant, change to the other flank by darting through the column or passing around the ends of the column, as may be most convenient.

30. When Line is formed from column of sections, the Captain, chiefs of platoon, group commanders and the

first sergeant, take their posts in line in the most convenient way without interfering with the movements of the sections.

31. Whenever the battery in line is faced about or marched to the rear, all men in the front rank not covered, step into the new front rank. The chief of platoon and group commanders maintain their relative positions.

TO TURN ON MOVING PIVOT.

32. Being in line: 1. "*Right* (left) *turn*". 2. "*March*". The movement is executed by each rank successively and on the same ground. At the second command, the right flank man faces to the right in marching and takes the half step; the other men of the rank oblique to the right until opposite their places in line, then execute a second right oblique and take the half step on arriving abreast of the pivot man. All glance toward the marching flank while at a half step and take the full step without command as the last man arrives on the line.

"*Right* (left) *half turn*" is executed in a similar manner. The pivot man takes a half change of direction to the right and the other men make quarter changes in obliquing.

TO TURN ON FIXED PIVOT.

33. Being in line, to turn and march: 1. "*Section right* (left)". 2. "*March*".

At the second command the right flank man in the front rank faces to the right in marching and marks time; the other front rank men oblique to the right, place themselves abreast of the pivot and mark time. In the rear rank the fourth man from the right, followed in column by the third, second and first, moves to the front until in rear of his front rank man and at a distance of 40 inches from him, when all face to the right in marching and mark time; each of the other numbers of the rear rank moves straight to the front and places himself abreast of the man on his right. Men on the new line glance toward the marching flank while marking time, and, as the last man arrives on the line, both ranks execute "Forward March" without command.

TO FORM OR MARCH IN COLUMN OF SECTIONS FROM LINE.

34. Being in line:

1. "*Sections right* (left)", 2. "*March*", or 1. "*Sections right* (left)", 2. "*March*", 3. "*Battery*", 4. "*Halt*".

Each section executes the movement on a fixed pivot (Par. 33). The chiefs of platoon, group commanders and first sergeants, take their places in column of sections.

The guide of each rank preserves the trance and step of the preceding guide at a distance equal to its own front plus one yard.

TO CHANGE DIRECTION IN COLUMN OF SECTIONS.

35. Being in column of sections, to change direction: 1. "*Column right* (left)", 2. "*March*".

At the second command the front rank of the leading section turns to the right on a moving pivot. (Par. 32); the other ranks, without command, turns successively on the same ground and in a similar manner.

"Column half right (half left)" is similarly executed.

TO FORM COLUMN OF SECTIONS AND CHANGE DIRECTION.

36. Being in line. 1. "*Sections right* (left) *Column right* (left)". 2. "*March*"; or 1. "*Right* (left) *by sections*". 2. "*March*".

In the first case the right section executes the column right as soon as it has completed the section right.

In the second case, at the command "March" the right section marches forward, the remainder of the battery executes sections right, column left on the same ground as the right section and follows the right section. The right section in moving off takes four short steps and then the full step.

TO FORM LINE FROM COLUMN OF SECTIONS.

37. In all changes of formation from column to line, owing to difference in size of the sections, the guide is announced beforehand as being on that flank towards which line is to be formed.

38. (a) Being in column of sections to form line to the flank:

1. "*Sections right* (left)", 2. "*March*"; or 1. "*Sections right* (left)", 2. "*March*". 3. "*Battery*". 4. "*Halt*".

Executed by each section. The chiefs of platoon, group commanders, etc., take their posts in line, in the most convenient manner.

39. (b) Being in column of sections to form line on right or left, 1. "*On right* (left) *into line*", 2. "*March*", 3. "*Battery*", 4. "*Halt*", 5. "*Front*".

At the first command the Chiefs of the leading section commands: "Right Turn", the Chiefs of the other sections command "Forward", if at a halt. At the second command, the leading section turns to the right on a moving pivot. The command "Halt" is given when the leading section has advanced the desired distance in the next direction; it halts; its chief then commands "Right Dress".

The sections in rear continue to march straight to the front; each, when opposite the right of its place in line on the left of the preceding sections, executes right turn at the command of its chief; each is halted on the line at the command of its chief who then commands "Right Dress". All dress on the first section in line. Chiefs of platoons, and group commanders dress to the right.

If executed in double time, all the sections march in double time until halted.

40. (c) Being in column of sections to form line to the front; 1. "*Right* (left) *front into line*", 2. "*March*", 3. "*Battery*", 4. "*Halt*", 5. "*Front*".

At the first command the chiefs of the sections in rear of the leading one command "Right oblique".

If at the halt the chief of the leading section commands; "Forward" at the second command the leading section moves straight forward; the rear sections oblique as indicated. The command "Halt" is given when the leading section has advanced the desired distance; it halts; its chief then commands "Left dress". Each of the rear sections, when opposite its place in line, resumes the original direction at the command of its chief; each is halted on the line at the command of its chief, who then commands "Left dress". All dress on the first section in line.

If executed in double time the leading section marches in quick time, the other sections take the quick time upon arriving on the line, and the guide is towards the first unit on the line.

TO FORM FLANK COLUMN OF FILES FROM LINE.

41. Movements to flank column have no disciplinary value and their use should be limited to occasions necessitating a narrow front of the column.

42. Being in line at a halt. 1. *"Right* (left)", 2. *"Face"*, 3. *"Forward"*, 4. *"March"*.

At the second command all face to the right, at the fourth command all take the full step. Individuals not in the two ranks move so as to preserve the relative positions they had in line.

ROUTE ORDER AND AT EASE.

43. Marching in column of sections; 1. *"Route order"*, 2. *"March"*, *or* 1. *"At ease"*, 2. *"March"*.

The men retain their positions in ranks but are not required to keep step. If the command be "Route order", the men are permitted to talk; if the command be "at ease", silence is preserved.

44. To resume the cadenced step. 1. *"Battery"*, 2. *"Attention"*.

If the command "Halt" be given, while marching at route order, the men remain at rest in ranks; if while marching at ease, they remain at ease. Route order and at ease are not used while marching in double time.

SERVICE AT THE EMPLACEMENTS.

Section 1. *To Post the Sections.*

45. As the battery approaches the emplacements, the Captain commands *"Sections"*, 2. *"Posts"*, at which each section present proceeds at a double time to the desired point, usually in front or rear of the emplacement it is to man, where each section is halted by its chief.

46. To post the section or the piece, the Captain commands, 1. *"Cannoneers"*, 2. *"Posts"*. At this command, repeated by the chiefs of sections, the reserve detachments fall out; the other cannoneers leave ranks and proceed at double time by the shortest route to their posts in the emplacement.

THE EMPLACED BATTERY, FIRE CONTROL, ETC.

When the mortars of a battery are emplaced for

action, two or more mortars constitute a "group" and two or more groups a "position", one or more of which from a platoon of firing battery. The number of mortars in a group, groups in a position and the number of positions in the battery depends upon the terrain, the character of service to be rendered and various other conditions. It is nominally impracticable for the Battery Commander to exercise command by voice but he controls the fire, assigns objectives and exercises general command by telephone or other means of communication.

The Battery Commander exercises command through the position and group commanders but may give or communicate commands directly to sections. As a rule not all the mortars of a battery are in place at one time and generally several more emplacements are constructed and ready for use within the limits of the terrain occupied by the battery.

Position commanders and group commanders exercise fire control by voice or by telephone or other means of communication depending upon circumstances. The more immediate commanders such as, for example, the Gunner, of a section, exercises close supervision over the details of loading and firing and the service of the ammunition, in addition to the performance of his duties in connection with fire control.

Commanders of positions and groups will frequently check the laying of mortars in their units, particularly when the fire is irregular or inaccurate.

The objectives against which trench mortars are usually employed are wire entanglements (chevaux de frise) and other obstacles, first line trenches, support trenches, communicating trenches, machine gun emplacements, trench mortar positions, shelters, sap heads, fortified houses, barricades, etc.

These objectives are usually designated as "Targets", in instructions and commands. The target will be indicated in a very general way or designated in a precise manner, by artillery brigade commanders, battery commanders or subordinate commanders, depending upon circumstances. These, it may be remarked, as well as the nature of fire effect desired, are so varied it is impossible to lay down specific rules for each person in the chain of command. As a rule the orders of the Artillery Brigade

Commander are very general in character and usually will designate the target to be fired at and the effect it is desired to accomplish, leaving to subordinate commanders questions of detail.

Subordinate commanders must perfect instructions and commands so that instructions may ultimately reach the firing point in definite form. If, for example, the instructions given by a higher commander merely designate a target and rate of fire, the battery commander, or other subordinate commander designated by him, must determine from his map or other means at hand the range from each mortar to the target and add this and other data necessary for the correct laying of the piece, to his command as transmitted to the next lower commander.

Whatever may be the scheme employed in any unit for determining and transmitting firing data, the absolutely necessary thing is that there shall finally be transmitted to the Gunner:

(a) Range to target (or the elevation to be given piece).
(b) Description of target or its direction (or other means of pointing in direction).
(c) Kind of bomb to be used.
(d) Kind of fuse to be used.
(e) Kind of charge.
(f) Time fire is to be opened.
(g) Rate of fire or number of rounds to be fired.

The Gunner is responsible that fire data received is correctly applied to the piece. He repeats back to the group or position commander the firing data as received by him and actually applied.

As regards the kind of ammunition to be used, the character of the target, the object to be accomplished and the kind and quality of ammunition on hand, usually enable the question to be definitely determined. Other things being equal, however, it is good practice to avoid small charges and high angles of elevation. These produce relatively large percentages of abnormal shots. It is advantageous to choose, also, when other conditions permit, a charge which will cover a wide range zone. Thus, if it is contemplated firing at 380 meters with the

58-2 Mortar, we may use a charge 85 gr. with Angle of elevation of 61¾ degrees, or 110 gr. with Angle of elevation of 72 degrees.

In order to avoid firing at 72 degrees, because of the danger from abnormal shots, the 85 gram charge is preferable: this charge also provides a wider range zone than the 110 gram charge.

There are given below typical commands which will be used for directing and controlling the fire of the battery but it will be often necessary to use other means to accomplish the desired end, depending upon circumstances. For the purpose of practice in control, mortars may be mounted upon their platforms, placed on the open ground with a few yards interval and the commands for fire direction and fire control given by the voice.

Instructions from an Artillery Brigade Commander to a Battery Commander might be given thus:

To C. O. "Y", T. M. Battery:

1. X X X
2. X X X
3. 1st platoon Y battery will cut wire from ——— to ——— in front of trench ——— between time ——— and time ——— date ———.
4. The 2nd and 3rd platoons will assist in the assault on trenches x x x x x , as follows:

Platoons	Target	Begin firing at	Cease firing at	Number of bombs.
1st	Trench xxx			
2nd	Trench xxx			

5. Zero time will be indicated later. The program is usually in the form of a written order. Commands of a Battery Commander might be:

To ——— Platoon:
Target ———,
At time ———,
Fire ——— rounds,
Commence firing.

or

——— Platoon:
Cut wire between ——— and ———,
Commence firing at ——— time,
Cease firing at ——— time.

6. Commands of a platoon commander might be:
Section ——— (or group),
Target ———,
Range ——— or (elevation ———),
Direction (or line) ———,
With ——— charge ——— bomb.
Fire one ranging shot.

To complete the ranging:
Section ———,
Elevation ———,
(or range ———),
Direction (or line) ———,
Same ammunition,
Fire one shot.

and

To fire for effect,
Section ———,
Elevation ———,
(or range ———),
Direction (or line)———
——— rounds of (battery, section or salvo),
F re (or fire with ——— interval),
Commence firing.

Commands of Chief of Section (or group):
Range ———,
(or elevation ———),
Direction (or line) ———,
Charge ———,
Bomb ———,
Fuse ———,
Load ———,
Ready ———,
Fire ———.

For firing successive shots of a series, only necessary parts of these commands need be repeated for each round.

Firing may be interrupted by the command (1) Sus-

pend, (2) Firing, at which all cannoneers stand by in readiness to resume fire at any instant.

Firing is stopped by the command: (1) Section (or group, or platoon), (2) Cease, (3) Firing.

The Commands above described are repeated wholly or in part by position, group, and section commanders depending upon circumstances. Appropriate instructions are given observing stations; and when aeroplane observation is being carried on, suitable messages and signals, in connection with firing control, must be sent to the stations or units concerned.

In all firing, position, group and section commanders keep accurate account of ammunition expended so that report of ammunition remaining on hand at any instant may be made, if called for by the battery commander. These commanders must also keep track of casualties and of other events, and of the accidents of firing, and make preparation for and give appropriate orders for correctionary measures.

CHAPTER VI.

SERVICE OF THE PIECE.

(6″ NEWTON TRENCH MORTAR).

1. The detachment consists of one N. C. O., the gunner and four men. The mortar being dismounted, the loads are placed in the following order from front to rear:

(a) the bed;

(b) the mortar, muzzle pointing to the front.

The detachment fall in two deep, one pace between ranks, gunner on the right of the front rank, and when fallen in, two yards in rear of the last load, or if in action, two yards in rear of the bed.

2. "Call Off." The detachment is in double rank, the gunner and Nos. 1 and 3, in the front rank, Nos. 2 and 4 covering the gunner and No. 3.

3. "Details Post." The detachment moves at double time to the following positions: Gunner in front of the bed, Nos. 1, 2, 3, 4, with the bed, even numbers on the left, odd numbers on the right, Nos. 1 and 2 in front, Nos. 3 and 4 in rear. As the bed is a four man load it will be necessary for Nos. 3 and 4 to return and bring up the mortar.

4. "Prepare to advance (or withdraw) in line, column of sections or subsections." The numbers raise their loads and at the command "Forward March", the detachment moves off in the formation ordered. At the command "Halt" the detachment halts and lowers its load.

5. "Prepare For Action." Gunner ascertains the line and elevation from the battery or section commander. The bed is then laid centrally on the target or in the direction of the center of the arc of fire by Nos. 1 and 2, who unhitch and lengthen the guys. Nos. 1 and 2 then mount the mortar, No. 2 holding the mortar while No. 1 hooks the elevating and traversing guys. No. 2 removes the muzzle cover. (The mortar is dismounted in the reverse order to that detailed above).

6. "Examine Gun." The gunner supplies himself with haversack containing the clinometer, and two pieces of Bickford fuse for misfires. No. 1 examines the bed and guide screws and provides himself with the gas ejector and wire brush. No. 2 examines the mortar, and sees that the porter bars and slings are correct. Nos. 3 and 4 examine ammunition, and see that all component parts are correct. The detachment then takes the position "Details Post" as follows:

Gunner one pace in rear of the mortar.

No. 1 one pace on the left of the muzzle of the mortar.

No. 2 one pace on the right of the muzzle of the mortar.

Nos. 3 and 4 in the ammunition recess.

All stores not required at the mortar are placed in the ammunition recess. The gunner then collects reports, and reports to the battery or section commander "No. ——— mortar in order."

7. General duties in action. The gunner commands, repeats all orders of the battery or section commander, and lays the mortar. In the case of a misfire he prepares the misfire plug and lights the Bickford fuse. No. 1 cleans out the bore with the gas ejector after each round and assists the gunner as required. No. 2 brings up the charge, loads and fires. Nos. 3 and 4 prepare the ammunition, No. 3 inserting the charge and primer with firing clip attached, No. 4 removing the fuse hole plug, inserting the exploder, and preparing and inserting in the fuse. All numbers remain under cover when not actually required at the mortar.

8. The battery or group commander orders "Line—— Elevation ——, Charge ——, Fuse ——." The gunner repeats all orders, lays the mortar at the line and elevation ordered, taking care that all guys are absolutely tight (the last motion should be one of elevation), and commands, "Load." No. 3 repeats the charge and 4 the fuse. No. 2 brings up the bomb and places it in such a position that the vanes are about 3 inches inside the bore; he will keep one hand on the bomb to keep it from sliding down the bore before the order "Fire" is given. The gunner then reports:

"No. —— Ready."

9. The gunner gives the command: "Number ——" "*Fire.*" He removes the safety pin and cap and checks the charge. No. 2 raises the bomb with his right hand until it begins sliding down the bore. The gunner and No. 2 then immediately take cover, the gunner reporting "No. —— mortar fired." The gunner then commands "Relay." No. 1 moves up at double time with the gas ejector and rams it rapidly down to the base of the mortar. The gunner relays. In the event of a misfire the gunner reports "No. —— motar misfire." The detachment stays under cover for one minute. The gunner then removes the threaded plug at the base of the mortar, inserts the Bickford fuse, primed end first, in the vent of the misfire plug, screws in the misfire plug, and reports, "No. —— mortar ready." On the command "Fire" he lights the Bickford fuse and takes cover. If the mortar fires, the gunner will replace the solid plug before No. 1 sponges out. If the mortar does not fire, the gunner again reports, "No. —— mortar misfire." After waiting another 2 minutes, he replaces the solid plug and unloads the mortar. The gunner takes position at the muzzle. No. 1 supports the mortar at its center, No. 2 at the breech end. No. 2 raises the breech and slowly, when directed by the gunner, who checks the bomb as it slides toward the muzzle and unscrews the fuse. He then extracts the bomb and causes the mortar to be remounted, No. 1 ramming it out at once with the gas ejector.

10. Suspend Firing. At the command "Suspend Firing," repeated by the gunner, all numbers stand fast until the order "Resume" is given. If the mortar is loaded and ready to fire the gunner gives the command: "Unload." No. 2 then removes the bomb from the mortar, replaces the safety pin, if it has been removed, and unscrews the fuse.

11. Method of fire:

—— rounds of { Battery / Section / Gun / Salvo } fire —— interval.

The ammunition numbers prepare the necessary number of rounds. The gunner sees that the rounds are

fired at the interval ordered. If no interval is ordered, the rounds are fired as rapidly as possible. Laying should, if possible, be checked after each round. In salvo fire the mortars are loaded and reported ready, but are fired by the order of the Battery Commander or Group Commander.

12. Cease Firing. The gunner and No. 1 remove the stores, No. 2 replaces the muzzle cover, Nos. 3 and 4 remove the fuses and exploders from the bombs and replace plugs, remove charges and repack them in their tins.

13. Prepare to Advance (or withdraw) when in action. The mortar is dismounted and the loads replaced as described in paragraph 1, by the same numbers who placed them in position.

ARRANGEMENT IN DETAIL.

6" Newton Trench Mortar.

14. Posts of the cannoneers:

Gunner. One pace in rear of the mortar.

No. 1. One pace on the left of the muzzle of the mortar.

No. 2. One pace on the right of the muzzle of the mortar.

Nos. 3 and 4 in the ammunition recess.

The reserve detachment takes post as directed by the group commander or by the chief of platoon.

DUTIES OF THE GUNNER.

At the command "Details posts."

1. Goes to the front of the mortar, at a double time.

At the command "Prepare to advance (or withdraw)."

1. Supervises the dismounting of the gun.
2. Commands "Raise Loads."
3. Commands "Forward March."
4. Commands "Halt."

At the command "Examine Gun."

1. Supplies himself with haversack containing clinometer and two pieces of Bickford fuse.

At the command "Prepare for Action."

1. Ascertains the line and elevation from the battery or Group Commander.
2. Reports "Number —— in order."

At the command "Fire."

1. Gives the command: "Number ——, Fire."
2. Removes safety pin and cap and examines charge.
3. Reports: "Mortar No. ——, Fired."
4. Relays mortar.

At the command "Suspend Firing."

1. Repeats command.
2. If mortar is loaded he commands "Unload."

At the command "Cease Firing."

1. Assists No. 1 to remove stores.

No. 1. *At the command* "Details Posts."

1. Takes post at right front of bed.

At the command "Prepare to advance (or withdraw)."

1. Lifts load.

At the command "Examine Gun."

1. Examines bed and guy screws.

At the command "Prepare for Action."

1. Helps lay bed.
2. Helps mount mortar.

At the command "Fire."

1. Sponges out gun.

At the command "Cease Firing."

1. Assists gunner to remove stores.

No. 2. *At the command* "Details Posts."

1. Takes post at left front of bed.

At the command "Prepare to advance (or withdraw)."

1. Lifts load.

At the command "Examine Gun."

1. Examines mortar.

At the command "Prepare for Action."

1. Helps lay bed.
2. Helps mount mortar.

At the command "Fire."
1. Places bomb in mortar.

At the command "Suspend Firing."
1. Removes bomb from gun.

At the command "Cease Firing."
1. Replaces muzzle cover.

No. 3. *At the command* "Details Posts."
1. Takes post at right rear of bed.

At the command "Prepare to Advance (or withdraw)."
1. Lifts load.

At the command "Examine Gun."
1. Examines propelling charges and bombs.

At the command "Fire."
1. Prepares ammunition.

At the command "Cease Firing."
1. Removes charges from bombs.

No. 4. *At the command* "Details Posts."
1. Takes post at left rear of bed.

At the command "Prepare to advance."
1. Lifts load.

At the command "Examine Gun."
1. Examines fuses and bombs.

At the command "Fire."
1. Prepares ammunition.

At the command "Cease Firing."
1. Removes fuses.

CHAPTER VIII.

SERVICE OF THE PIECE.

(240 mm. Trench Mortar).

Section II. Posts of the Cannoneers.

The Gunner. One pace in rear of the mortar, facing it. During action the gunner posts himself where most convenient.

No. 1.—One pace to left of breech, facing it.

No. 2.—One pace to right of breech, facing it.

Nos. 3, 4 and 5.—No. 3 takes post at bomb dugout; No. 4 one pace to right of muzzle, facing it; No. 5 one pace to left of muzzle, facing it.

No. 6.—One pace to right of right elevating crank.

No. 7.—Takes post at powder dugout.

No. 8.—Takes post convenient to mortar.

No. 9.—Takes post at telephone set.

The reserve detachment takes post as directed by the Group Commander or by the Chief of Platoon.

Section III. Duties of the Gunner:

At the command "Prepare for Action."

1. To make careful examination of the platform.

2. To make careful inspection of the piece.

3. To report to Chief of Section "No. —— in order," or, "not in order," and give reasons in the latter case.

4. To procure quadrant and goniometer.

5. To place goniometer in its socket and to direct installation of goniometer rest.

At the command "Load."

1. Stands by to elevate piece.

At the command "Lay Piece."

1. Assisted by Nos. 1, 4 and 5, lays piece on data received from chief of detachment.

2. Takes sight on goniometer and removes mirror from mortar.

3. To attach firing device.

4. To report "Ready."

At the command "Fire."

1. To pull lanyard.

DUTIES OF NO. 1.

At the command "Prepare for Action."

1. To examine breech block and firing device.

2. To obtain fuzes and primers.

At the command "Load."

1. Screws in fuze.

2. Obtains charge-cartridges.

3. Inserts charge-cartridge in breech (assisted by No. 5.)

At the command "Lay Piece."

1. To assist Gunner to lay piece by taking post at muzzle during elevation.

2. To assist in traversing mortar when Gunner lays for direction by taking post at right traversing handle.

At the command "Fire."

1. No duties.

DUTIES OF NO. 2.

At the command "Prepare for Action."

1. To assist Gunner to place goniometer rest in position.

At the command "Load."

1. To bring bomb to mortar, taking position at rear of carrying tray.

At the command "Lay Piece."

1. To take tray to ammunition dugout with No. 3.

At the command "Fire."

1. No duty.

DUTIES OF NO. 3.

At the command "Prepare for Action."

1. Assists gunner to place goniometer rest in position.

At the command "Load."

1. To bring bomb to mortar, taking position at rear of carrying tray.

At the command "Lay Piece."

1. To take tray to bomb dugout with No. 2.

At the command "Fire."
1. No duty.

DUTIES OF No. 4.

At the command "Prepare for Action."
1. Oils piece after each shot.

At the command "Load."
1. To bring bomb to mortar, taking position at tray.
2. To examine bomb to insure that it is in condition to be fired.

At the command "Lay Piece."
Takes post at right elevating crank.

At the command "Fire."
1. No duty.

DUTIES OF No. 5.

At the command "Prepare for Action."
1. To assist Gunner in examination of elevating and traversing gear.

At the command "Load."
1. To open breech block for No. 1 to insert charge, cartridge.

At the command "Lay Piece."
1. Assist at the left elevating crank.

At the command "Fire."
1. No duty.

DUTIES OF No. 6.

At the command "Prepare for Action."
1. Removes muzzle cover.
2. Assist No. 4 to clean gun and parts.
3. Sponges bore after firing.

At the command "Load."
1. Tightens anchor bolts and examines platform.

At the command "Lay Piece."
1. Assist at left traversing lever.
2. Drives wedge after laying.

At the command "Fire."
1. No duty.

DUTIES OF No. 7.

At the command "Prepare for Action."

1. To take post at powder dugout and to open fuze cases and powder cases.

At the command "Load."

1. To select complete charge and fuze for No. 1 to carry to piece.

At the command "Lay Piece."

1. No duty.

At the command "Fire."

1. To prepare the next charge for No. 1.

DUTIES OF No. 8.

At the command "Prepare for Action."

1. Procures service box, grease and oil can.

At the command "Load."

1. Assists the bomb detail in loading.

At the command "Lay Piece."

1. Assists in elevating and traversing gun.

At the command "Fire."

1. No. duty.

DUTIES OF No. 9.

At the command "Prepare for Action."

1. To take post at telephone set and test working of the line.

2. To remain until relieved by proper authority.

240 mm. Mortar (Long).

SERIAL ARRANGEMENT OF DUTIES OF CANNONEERS AT DIFFERENT COMMANDS.

The mortar being in position each cannoneer performs his duties in the order given below.

1. "PREPARE FOR ACTION."

The *gunner* makes a careful examination of the platform and piece, reporting to the chief of section "No.—— in order" or "No. —— not in order," (giving reason). He procures quadrant and goniometer, places the gonio-

meter in its socket and directs the installation of the goniometer rest.

No. 1 examines the breechblock and firing device. He obtains fuzes and primers.

No. 2 assists the gunner in placing the goniometer in position.

No. 3 assists the gunner in placing the goniometer in position.

No. 4 oils the piece, if necessary.

No. 5 assists the gunner in examining the elevating and traversing gear.

No. 6 removes the muzzle cover and assists No. 4 in cleaning the gun and parts.

No. 7 takes post at the powder dugout and opens fuse and powder cases.

No. 8 procures service box, grease and oil cans and takes post.

No. 9 takes post at the telephone set, tests the working of the line and remains there until relieved by the proper authority.

2. "LOAD."

The gunner stands by to elevate the piece.

No. 1 screws in the fuse. He obtains the charge, cartridge, and, assisted by No. 5, inserts it in the breech.

No. 2 and No. 3 take position at rear of carrying tray and assist in bringing the bomb to the mortar.

No. 4 takes position at the front of the carrying tray and assists in carrying the bomb to the mortar. He examines the bomb to insure that it is in condition to be fired.

No. 5 opens the breechblock for No. 1 to insert the charge, cartridge.

No. 6 tightens anchor bolts and examines the platform.

No. 7 selects complete charge and fuse for No. 1 to carry to the piece.

No. 8 assists the bomb detail in loading.

3. "LAY PIECE."

The *gunner*, assisted by Nos. 1, 4 and 5, lays the piece on the data received from the Chief of Section. He takes a sight on the goniometer and removes the mirror from the mortar. He attaches the firing device and reports "No. —— Ready."

No. 1 assists the gunner by taking post at the muzzle during elevation. He assists in traversing the mortar when the gunner lays for direction by taking post at the right traversing handle.

Nos. 2 and 3 take back the tray to the bomb shelter.

No. 4 assists at the right elevating crank.

No. 5 assists at the right elevating crank.

No. 6 assists at the left traversing lever, and drives in the wedge.

No. 7 has no duties.

No. 8 assists in elevating and traversing the mortar.

4. "FIRE."

The gunner pulls the lanyard.

Nos. 1, 2 and 3 have no duties.

No. 4 has no duties at the command "*Fire*" but has to oil the piece after each shot.

No. 5 has no duties.

No. 6 has no duties at the command "*Fire*" but sponges the bore after each shot

No. 7 prepares the next charge for No. 1.

No. 8 has no duties.