

150

# HANDBOOK

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FOR

## NORDENFELT GUN.

1-INCH, 2-BARREL, MARK I.

1895.



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*By command of the Lords Commissioners of the Admiralty.*

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LONDON:

PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,  
By DARLING & SON, LTD., 1, 2, 3, & 5, GREAT ST. THOMAS APOSTLE, E.C.

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1895.

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ADMIRALTY,  
GUNNERY BRANCH.

G. 5153/95.

# 1869 HANDBOOK

FOR

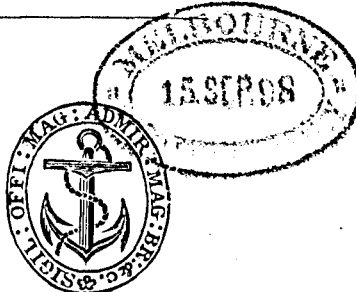
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# GUN NORDENFELT. (2-BARREL, 1.0-INCH, MARK I.)

## NOMENCLATURE.

*(The letters and figures within brackets refer to the drawings at the end of the book.)*

*Figures after letters "Pl." refer to the plates at end of book.*

ACTION BLOCK (A) Pl. 3, 4, 5, 6.	{	Pl. 3, 5, 6 ... Pl. 3, 4, 5, 6 ... Pl. 5, 6 ... Pl. 5, 6 ... Pl. 3, 4, 5, 6 ...	...	Trigger comb (1). Trigger comb spring (2). Hammers (3). Lock springs (4). Spring bar (5).
ACTION LEVER (B) Pl. 4, 5.	...	...	...	Friction roller with stud and fixing pin.
BARRELS (C) Pl. 1, 2, 3, 4, 5.				
BREECH BLOCK (D) Pl. 3, 4, 5, 6.	{	Pl. 4, 5, 6 ... Pl. 5, 6 ...	...	Extractor (6); extractor screws (7). Firing pins (8).
CARTRIDGE CARRIER (E) Pl. 3, 4, 5.	Pl. 3, 4, 5	...	...	Guide pin (9).
COVER (F) Pl. 1, 2.	{	Pl. 1, 2 ... Pl. 1, 2 ...	...	Joint screw (10); hopper catch (11). Cover lock consisting of spindle (12), handle (13), and fixing pin.
FORE SIGHT (G). Pl. 1, 2.	Pl. 1, 2	...	...	Fixing screw (14).
FRONT CROSSPIECE (H) Pl. 1, 2.	...	...	...	
FRAME (I) Pl. 1, 2, 3, 4, 5 ...	{	Pl. 1, 2 ... Pl. 3, 4, 5 ... Pl. 3, 4 ... Pl. 1, 2, 3, 4 ...	...	Cotters (15). Number plate (16) with screws. Chain (17) and stud (18) for fixing hand lever. Drill stop consisting of catch (19), handle (20), milled head (21) with taper pin and spring.

HAND LEVER (J)					
Pl. 1, 2, 3, 4, 5.					
HOPPER (K)	...	...	...	...	Slide; stop screw.
Pl. 1.					
SHIELD (L)					
Pl. 1.					
TANGENT SIGHT (M).	Pl. 1, 2	...	...	...	Pinion (22); fixing screw; split pin (23); spring.
Pl. 1, 2.					

## MOUNTING.

CONE (N)	...	...	...	...	Pivot bolt with nut and set screw.		
Pl. 1, 2.							
CROSSHEAD (O).	Pl. 1, 2...	...	...	...	Cap squares (24); keys (25) with chains and studs; screws (26).		
Pl. 1, 2.							
ELEVATING GEAR	Pl. 1, 2.	}	Pl. 2	...	...	Nut (27); pin (28); brake consisting of strap (29), fixing screw, shoe (30), spiral spring, set screw with milled head (31), and taper pin.	
			Pl. 1	...	...		Inner screw (32), with collar (33) and taper pin.
			Pl. 1, 2	...	...		Outer screw (34), hand wheel (35).
TRAVERSING GEAR.	Pl. 1, 2	...	...	...	Worm (36), worm spindle (37), collar (38) with taper pin, hand wheel (39) with taper pin.		
Pl. 1, 2.							

## GENERAL DESCRIPTION.

These guns have two barrels; their axes lie in a horizontal plane and are parallel to each other. The breech ends are screwed into the centre cross-piece, the muzzles are supported by the front crosspiece (H) which is keyed to the frame by the cotters (15).

The interior of the barrel is in all respects similar to those in Marks II and III Nordenfelt, 4-barrel, 1-inch guns. The same ammunition is used.

The frame (I) extends some distance to the rear of the barrels and forms a casing in which lies the mechanism for loading, firing and extracting; the casing is closed at the top by the cover (F) which is pivoted to the centre cross-piece by the joint screw (10) and fastened by the cover lock (12). The bottom of the casing is closed partly by the underplate and partly by the breech block.

Inside the casing is the action block, breech block, and cartridge carrier.

The breech block (D) carries the firing pins (8) and extractors (G), it is formed of a cam-plate (d) and two breech plugs (d<sup>i</sup>); on the upper surface of the cam-plate are two bevelled studs (d<sup>ii</sup>) which give motion to the cartridge carrier, and two cocking studs (d<sup>iii</sup>), which engage the hammers and cock the gun. The breech block is driven backward and forward by the action lever (B), the friction roller on which runs in a slot in the cam-plate.

The action block (A) carries the hammers (3), lock springs (4), trigger comb (1) and spring bar (5), it lies behind the cartridge carrier and has two channels (a) into which the breech plugs (d<sup>i</sup>) retire when the breech block is drawn backwards; when the breech block is in its most forward position the action block is acted upon by the heel of the action lever, and moved to the right, bringing the solid portions of the block to support the breech plugs, and at the same time bringing the hammers in line with the firing pins.

The cartridge carrier (E) lies immediately behind the centre crosspiece; it has two chambers or recesses, in which it receives the cartridges from the cover; its motion is transverse, being taken to the left, as the breech block retires, to receive a supply of cartridges, and to the right as the breech block again advances, to bring the cartridges in line with the barrel chambers, into which they are pushed by the breech plugs, which fill the recesses in the cartridge carrier.\*

It will be seen that while the breech block is in the cartridge carrier, the cartridge carrier remains stationary, and the action block is moved, whereas when the breech block is in the

---

\* Two safety studs are fitted to the carrier, which engage the recesses in the rear end of barrels on the right, thus preventing the carrier moving over to the left until the empty cylinder or cartridge has been extracted.

Page 8.

Line 33. Delete after "ring" to end of paragraph, and insert:—

- A. "The cone should be released from the holding-down ring with the releasing handspike; a slot is cut in the holding-down ring for this purpose."

action block, this remains stationary and the cartridge carrier is moved.

The gun is fed from a hopper (K), which is attached to the cover by the hopper catch (11).

The hopper contains 20 cartridges in two columns of 10 each; the cartridges are placed in the hopper from the bottom, a slide keeping them in position whilst being carried to the gun. The act of putting the hopper on the gun opens the slide and brings the columns of cartridges over openings in the cover through which they fall to the cartridge carrier.

The hand lever (J) by which the gun is fired has a stem and wing which pass into the socket of the action lever; the wing also rests upon a flange formed on the boss of the underplate, and so keeps the hand lever in position without the aid of pins or keys.

*Sighting.*—The foresight is dovetailed to the front cross-piece. The tangent sight is fitted with a deflecting leaf, and slides in a bracket attached to the cover; it is graduated up to 1,900 yards. A long range sight graduated up to 3,000 yards can also be used. The tangent sights are interchangeable with the left-hand or spare tangent sights supplied with 1.0 inch 4-barrel Nordenfelt guns.

The *drill stop* is so arranged that, when the handle (20) is brought over to the right, the hand lever cannot complete its backward stroke, so that the gun cannot be cocked; neither can the cartridge carrier be moved to the left. The drill stop should always be used unless the gun is being fired, otherwise the hammers and firing pins are likely to become damaged.

The *shield* (L) consists of a  $\frac{1}{4}$  inch steel plate, 30 inches high and 33 inches wide; it slides into grooves cut in the cap squares and crosshead of the cone-mounting.\*

The *cone mounting* consists of the cone, crosshead, elevating gear, and traversing gear.

The cone fits into the service holding down ring; it is *not* to be released from the ring by means of the gun frame, but by blows with the end of a wooden handspike upon the lugs upon the cone.

The crosshead is fitted to receive the trunnions of the gun; it also carries the elevating gear, and the worm and spindle of the traversing gear.

The elevating gear consists of telescopic right and left hand screws, working in a nut pivoted to the gun; it is furnished with a brake.

The crosshead can be removed from the cone without taking out the worm and spindle, by first taking the nut from the pivot

---

\* A later pattern shield has been fitted with lugs, and rests in the holders attached to gun frame and can be raised or lowered.



bolt, then turning the crosshead until a flat upon its edge corresponds with a line upon the top surface of the cone; it may then be lifted off.

*The shoulder-piece.*—The gun is fitted with a shoulder piece. The training and elevating gear is disconnected and removed, the shoulder piece is attached to the left rear end of frame by the elevating nut pin, and a counterweight, to compensate for the weight of the filled hopper, is secured at the muzzle end of the gun. A metal bush is supplied to take the space occupied by the elevating nut.

If preferred, the elevating gear can be left in place, and the shoulder piece used only for training.

The shoulder piece can be used at any time, but is more especially intended for use in torpedo boats or small craft where the motion is quick.

#### ACTION.

Supposing the gun to have been fired and the handle to be at its full extent forward as shown in Plate IV.

The motion of the lever to the rear first carries the action block over to the left, allowing the spring (2) to force the trigger comb to the position in which it is seen in Plate III., the friction roller at the same time passes round the curved part of the slot in the cam-plate; the heel of the action lever having now taken the action block fully over, leaves it stationary while the friction roller upon the forearm of the action lever, coming to the straight part of the slot, draws back the breech block, and with it the empty cartridge cases, which fall through openings in the bottom of the cartridge carrier; the right hand bevelled stud ( $d^{11}$ ) now engages a similarly bevelled surface upon the cartridge carrier and forces it over to the left, where it receives a supply of cartridges from the cover.

During the rearward movement of the breech block the hammers have been carried back by the cocking studs ( $d^{111}$ ) and the lock springs compressed, the hammers have forced the trigger comb to the left and the spring (2) has returned it to position when the hammer heads were behind the studs.

The hand lever is now at its rearmost position, and the action is as shewn in Plate III.

The motion of the hand lever now being reversed, the breech block moves forward leaving the hammers held by the trigger comb. The left-hand stud ( $d^{11}$ ) moves the cartridge carrier over to the right, thus placing the cartridges in line with the barrel chambers, into which they are pushed by the advancing breech plugs. The friction roller now enters the curved part of the slot in cam-plate while the heel of the action lever carries the action block to the right; here the end of the trigger comb comes in contact with the frame and is forced in, releasing the hammers and firing the gun.

Plate V shows a longitudinal section of the gun when the action block is *not* fully over to the right.

#### INSTRUCTIONS FOR ARMOURERS IN STRIPPING AND ASSEMBLING GUNS.

Turn back the cover, draw back the hand lever until the action block is the same distance from each side of the frame, then with the fingers of the left hand inserted in the trigger comb recess, and the thumb and fingers of the right hand grasping the trigger comb, lift the action block straight out. Draw back the breech block fully and lift out the cartridge carrier. Lift out the breech block; lift out the action lever, and the hand lever can be taken from the gun.

*To strip action block.*—Drive out the spring bar with a *piece of hard wood* and hammer, draw out the springs and hammers, push out the trigger comb spring and take out the trigger comb. The firing pins may be pushed out of the breech block with the brass wire drift.

*Assembling.*—Reverse the above operations, taking care to put all the parts in square, and not to use any force.

*The barrels* are not to be taken from the gun unless for the purpose of rebrowning or for some cause rendering their removal absolutely necessary.

*To strip the cone mounting.*—Take the nut from pivot bolt, turn the traversing hand wheel until a flat edge at the rear of the crosshead corresponds with a line upon the top of the cone; the crosshead may now be lifted away from the cone.

In assembling the mounting, see that the arrows on the nut and elevating screws coincide.

*To replace an extractor.*—Take out the breech block, press on the centre of the extractor, and take out the screw. Reverse the operation.

*To replace a firing pin.*—Push out the firing pin with the brass wire drift, and insert a new one; *it is not necessary to remove the extractor to do this.* The lug at the tail end of the extractor should always bear upon the neck of the firing pin so that it requires a pressure of about 2 lbs. on the point of the firing pin to force it back into the breech block. It should require a pull of not less than 8 lbs. to lift the hook end of the extractor off the plunger. A very little practice will enable the Armourer or any of the gun's crew to feel with the thumb that these weights are correct.

*Cleaning gun.*—When cleaning the gun turps or oil is to be used; on no account may emery cloth or any cutting substance be allowed. In oiling before assembling, use Rangoon oil sparingly. Oil the parts all over, but do not put enough to allow it to run into drops or it will clog.

It is a good plan before assembling the gun to try the parts in their places *separately*, to see that they work freely; for instance, try the cartridge carrier without the breech block, the action block without the action lever or breech block, the firing pins without the extractors, the hammers without the springs, &c., &c.

The inside of the barrels must be kept well oiled; this should be done every day. It is *very* important that the barrel chambers are kept clean and bright, they should be oiled immediately after the firing ceases.

*Once a quarter, and, as far as practicable immediately before firing*, the gun should be examined to see that:—

1. The extractors are in working order and not broken. The extractor hook should stand an 8 lbs. pull outwards before it can be moved.

2. The firing pins are not jammed by rust or otherwise. The firing pin should require a push of 2 lbs. before it recedes.

3. The trigger comb works properly.

4. The lock springs and firing pins must be tested as follows:— Turn back the cover and remove the action block; turn the block the reverse way up and press back both hammers until they are retained by the trigger comb; place the forked end of spring test (Plate X.) against the projection on indicator of spring balance, and insert the round end into the spring channel of action block; press the hammers further back until the line on the test is level with the outer edge of action block. The lock springs in this position should weigh from 12 to 14 lbs. Any springs that do not come up to the tests should be removed from the guns, and exchanged on the first opportunity.

Remove breech block, press the firing pins forward with the thumb of the left hand, and at the same time test the heights of firing pins that project through the breech plugs with the gauge that will be found cut in both edges of the forked part of the test. If the firing pins are below this gauge they must be replaced by longer ones; the firing pins should also work free enough in the block to enable the armourer to press them in level with the face of the breech plugs with his thumb nail.

#### FAILURES WHICH MAY OCCUR WITH THE GUN.

1. If an extractor is broken or fails to act, the cartridge will be fired, and the empty case will remain in the chamber; as this, by the action of the safety studs on the front end of the carrier, will prevent the latter moving to the left, the cartridge must be pushed out with the cleaning rod inserted from the muzzle.

When this occurs the gun must cease firing, the hopper be removed, and that column emptied which corresponds to the barrel of the broken extractor. If time permits, shift the extractor.

2. If the firing pin fails to act, the cartridges will pass through the mechanism unfired.

3. If the extractor and firing pin both fail, a loaded cartridge will be left in the chamber, which must be treated as described with the extractor broken in paragraph (1), care being taken that the loaded cartridge is not forced hard to the rear against the breech plug.

4. If the trigger comb spring fails to act, the cocking is effected by the right breech plug being cut away (see Plate VI.), and a cocking cam on the trigger comb bearing against this cut away part of the right breech plug, the trigger comb moves over, and the gun is cocked.

5. Missfires may be caused by a weak lock spring, or by the firing pin, hammers, holes in breech plug, or hammer channels being dirty or clogged with oil.

6. When firing, the lever must be taken fully backward and forward until brought to a stop. At the front end of the stroke a pause of two seconds is to be observed, and a slight pause at the rear end of the stroke.

The following list shows a gun complete with the proportion of spare parts and tools allowed.

Gun, Nordenfelt, 1-inch, 2-barrel, Mk. I. ... ..	1
Hoppers ... ..	7
„ drill (1 issued to each ship; none issued to torpedo boats).	
Mounting, cone ... ..	1
Shield ... ..	1
Sight, tangent, long range ... ..	1

#### SPARE PARTS.

Extractors... ..	4	} per gun.
Hammers ... ..	2	
Pins, firing ... ..	4	
Screws, extractor ... ..	4	
Sight, fore, with fixing screw ... ..	1	
„ tangent, with split pin ... ..	1	
Springs, spiral, for lock... ..	4	
„ „ brake ... ..	2	
„ „ drill stop ... ..	2	
„ sight, tangent ... ..	2	
„ trigger, comb ... ..	2	

Delete all paragraphs headed "*Ammunition*," and insert

A. Note:

For ammunition *see* "*Ammunition Handbook*."

## TOOLS.

Cans, oil ... ..	1	} per gun.
Drifts, brass wire ... ..	1	
Driver, screw ... ..	1	
"    "    for extractor screw ... ..	1	
Punches, pin of traversing spindle ... ..	1	
Rods, cleaning ... ..	1	
Spanners ... ..	1	
Lock spring test, 2-barrel ...	1 to each ship or battery having 1-inch 2-barrel Nordenfelt guns.	
Spring balance ... ..	1 to each ship or battery having 1-inch 4-barrel or 2-barrel Nordenfelt guns.	

## AMMUNITION.

The general dimensions of the cartridge are shown on Plate XI., from which it will also be seen that there is no anvil, but a small boss in the chamber instead.

The powder charge weighs 625 grains, and is pressed into the cartridge case, care being taken that it shall always occupy the same space. The effect of this pressure is to break up the weaker grains, and to form a hard solid mass of dust with grains interspersed. The bullet weighs  $7\frac{1}{4}$  ozs., and is of steel, the point being hardened; round the base is a cannellure into which the envelope is choked, and on the base are several radial cuts into which it is set on firing.

The space between the envelope and the inside of the cartridge case is filled with pure beeswax as a lubricator.

The rotation is given by the envelope, which is made of very thin brass, the base being shaped into the form of a gas check, and the front end carefully turned over the shoulders of the bullet.

The cartridges are packed in bundles containing 12.

The weight of each bundle is about 8 lbs. 9 ozs.

These bundles are stowed in a box, A.S.A., G.S., Mark XI., which contains 8 bundles, that is, 96 rounds.

The weight of the box filled is 82 lbs.

When any Nordenfelt ammunition boxes, from which a portion of the ammunition has been removed, are required to be returned into store, or to be moved for any other purpose, the vacant place should be completely filled with wood, tow, or other substance, to prevent danger of explosion by the cartridges moving about and striking against each other.

The allowance of ball ammunition for the 1-inch 2-barrel Nordenfelt gun is 1,440 rounds (15 boxes), for each gun on board.

- A. Delete paragraph on Ammunition.

CARTRIDGES, MACHINE GUN, BLANK, NORDENFELT, 1 INCH  
(PLATE XI).

The blank is similar to the Service cartridge, but the powder charge is covered by two discs of asbestos, secured by cement.

The mouth of the case is slightly turned in to make it feed properly in the gun.

These cartridges are made up in bundles of 12 wrapped in purple paper. Nine bundles in a S.A.A. box.

They are only issued to ships or torpedo boats taking part in summer manœuvres, at the conclusion of which any remaining on board are to be returned into store.

The proportion allowed is 200 rounds to each 2-barrel gun.

DUMMY CARTRIDGES.

The dummy cartridge Mark II. is made of phosphor bronze lined with wood and is the same weight as the Service cartridge, and of the same dimensions. The base is closed by a screw plug of phosphor bronze, having a conical hole in the centre to receive a piece of indiarubber which serves as a cushion for the striker of the gun; it is faced with a small steel disc to prevent wear. To distinguish it from the Service cartridge it is tinned all over.

The Mark I. dummy cartridge has a hardened lead bullet, a case filled with sawdust, tinned on the outside and an empty percussion cap in the base.

These cartridges are packed in bundles containing 12. The weight of each bundle is about 7 lbs. 12 ozs. These bundles are stowed in a box, A.S.A., G.S., Mark XI., which is painted a light colour the same as the drill hoppers, and contains 8 bundles, that is, 96 rounds. The weight of the box filled is  $75\frac{1}{2}$  lbs. Each ship carrying Nordenfelt guns will be supplied with one box of dummy cartridges, but they will not be supplied to torpedo boats.

ACCURACY.

The mean absolute deviation at 300 yards is about 5.3 inches.

PENETRATION.

When fired at direct the Service ammunition is capable of perforating a  $\frac{3}{4}$ -inch Bessemer steel plate at about 200 yards, and a  $\frac{1}{2}$ -inch plate at 300 yards.



## EXPERIMENTS AT HIGH SPEEDS AGAINST TORPEDO BOATS.

The following is a summary of some experiments carried out at Spithead on 13th July, 1880 :—

A 1-inch gun was mounted in a favourable position on the top-gallant fore-castle of H.M.S. "Iris," and practice was carried out against wooden models of 2nd class torpedo boats, 60 feet long and  $7\frac{1}{2}$  feet extreme breadth.

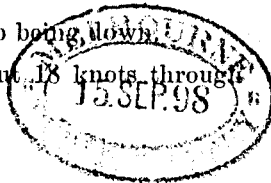
				1st Run.	2nd Run.
No. of rounds	...	...	...	102	111
Time	...	...	...	1m. 9sec.	1m. 10sec.
Total rounds	...	...	...	...	213
No. of hits	...	...	...	...	110
Percentage of hits	...	...	...	...	51.6
Hits per minute	...	...	...	...	47.4

In the third run, fire was opened when the target was four points on the bow, and ceased when it bore the same on the quarter. The range varied from 170 to 250 yards, the distance run while firing being about 350 yards.

No. of rounds	...	...	...	...	58
" hits	...	...	...	...	38
Time	...	...	...	...	22 sec.

Three volleys were lost owing to the drill stop being down.

The speed of the ship in these trials was about 18 knots through the water and about 20 knots over the ground.



RESULT OF EXPERIMENTS CARRIED OUT AGAINST CARTRIDGES  
FOR 1-INCH NORDENFELT GUNS.

26th November 1880.

A box of Nordenfelt ammunition, containing 96 rounds, was experimented with to ascertain the effect of exploding one of the cartridges in the centre of the box.

This was done by a fuze inserted into the cartridge, the cap being removed.

Only the cartridge fired by the fuze exploded, although the box was broken to pieces and all the other cartridges were scattered about, except four packets (48 rounds).

None of the 95 cartridges were injured, and they would all have loaded.

A 1-inch bullet was also fired into a case; it exploded five and jammed six.

The five exploded seem to have been actually hit, either by the bullet fired, or by the point of others forced against them.

TABULATED STATEMENT of the RESULT of an EXPERIMENT with CHARGES of VARIOUS NATURES when fired at by MARTINI RIFLE and NORDENFELT GUN.

The trial took place on Whale Island. The charges were placed about 120 yards from the guns. When the rifle failed to explode a charge the Nordenfelt gun was fired at the same charge.

20th September 1880.

GUN.	CHARGE.													
	80 lbs. Pebble, &			80 lbs. Prismatic.			22 lbs. R.L.G.			44 lbs. Pebble.		8 lbs. L.G.		
	In Zinc Cylinder.	In Clarkson's Case.	Exposed.	In Zinc Cylinder.	In Clarkson's Case.	Exposed.	In Zinc Cylinder.	In Clarkson's Case.	In Leather Case.	Exposed.	In Clarkson's Case.	Exposed.	In Leather Case.	Exposed.
Martini Rifle.	Exploded	Exploded	Exploded	Exploded	Exploded	Exploded	Not exploded.*	Not exploded.*	Not exploded.*	Exploded	Exploded	Exploded	Not exploded.*	Not exploded.*
Nordenfelt.	—	—	—	Exploded	—	—	Exploded	Not exploded.	Not exploded.	—	—	—	Not exploded.	Not exploded.

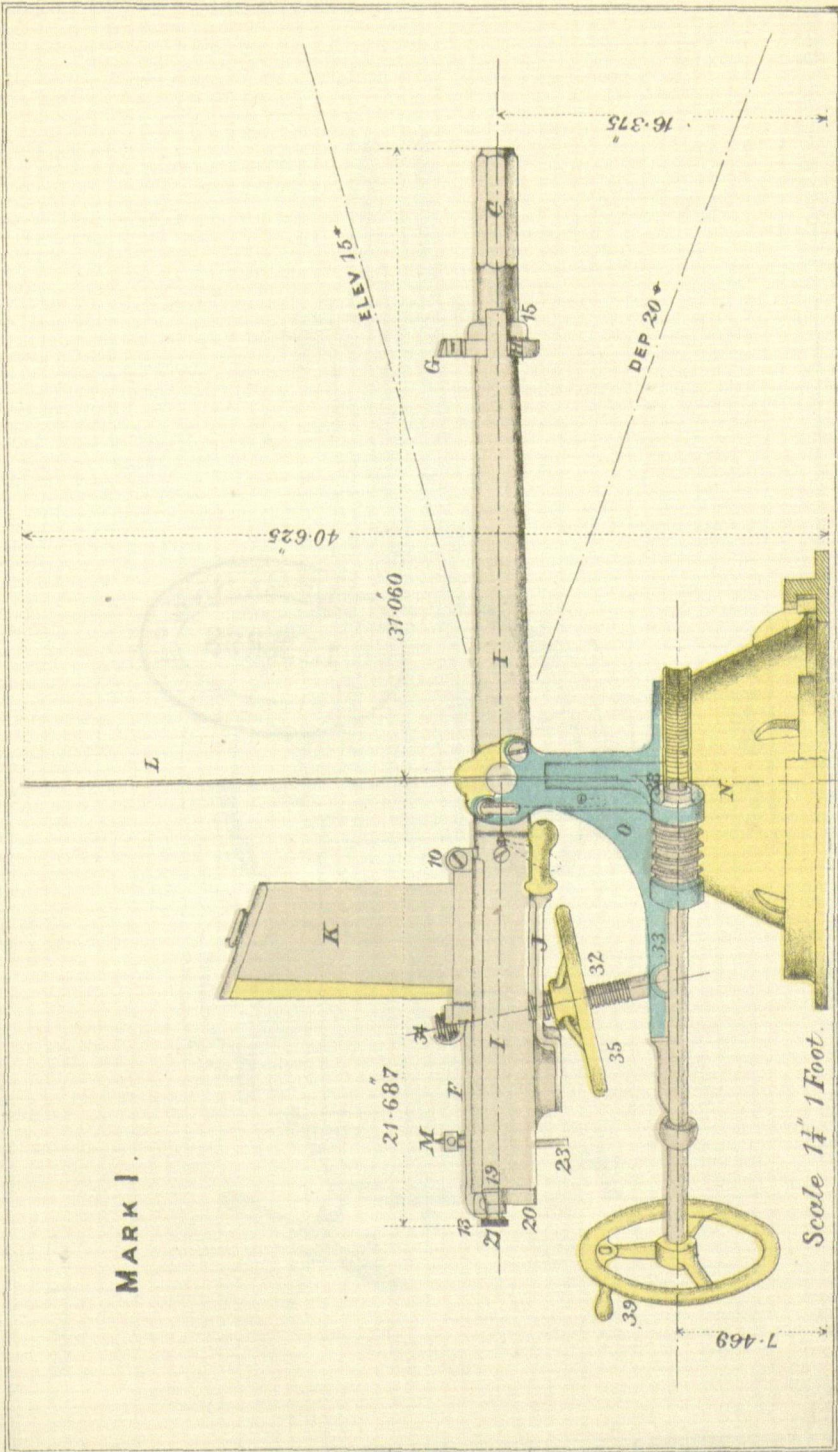
\* Several rounds were fired in each of these cases.

The powder was very much pulverised in those charges which were not exploded, and in several cases the bag split up, and the powder scattered about the ground.

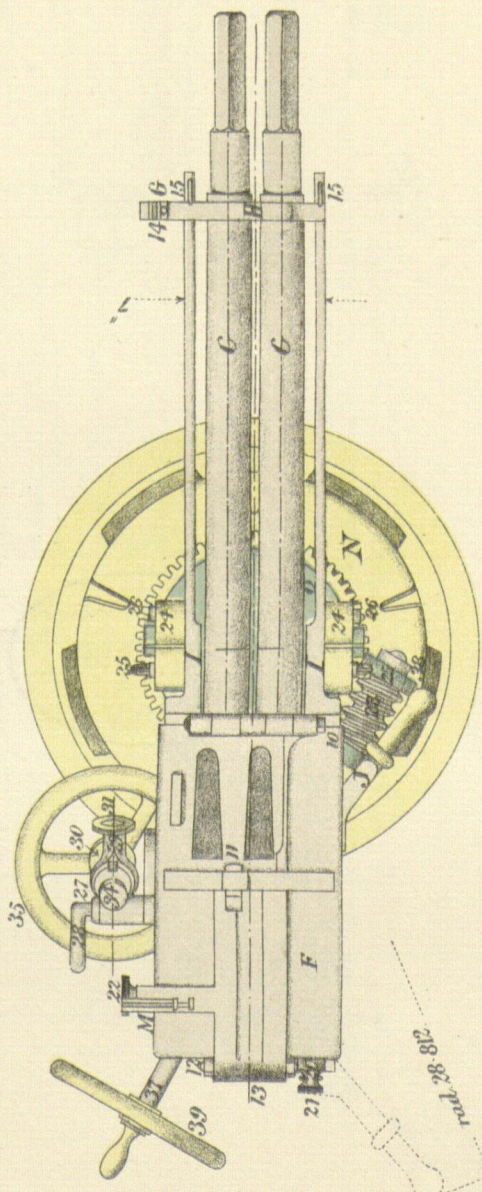
## WEIGHTS AND DIMENSIONS.

Weight of gun	...	...	...	...	...	180 lbs.
"  "  cone mounting	...	...	...	...	...	170 "
"  "  shield	...	...	...	...	...	65 "
"  "  hopper	...	...	...	...	...	13 "
Total weight	...	...	...	...	...	428 "
Weight of hopper containing 20 cartridges	...	...	...	...	...	27 "
Barrels, number	...	...	...	...	...	2 "
"  calibre	...	...	...	...	...	1.0 inch.
"  extreme length	...	...	...	...	...	35.48 inches.
Rifling, description	...	...	...	...	...	" Henry."
"  No. of grooves	...	...	...	...	...	11
"  twist uniform	...	...	...	...	1 turn in 35 inches.	
Length of gun, extreme	...	...	...	...	...	52.75 "
Height from bottom of cone to centre of barrels	...	...	...	...	...	16.375 "
Elevation, extreme	...	...	...	...	...	15°
Depression	...	...	...	...	...	20°
Ammunition—Same as used for 4-barrel 1-inch guns.						

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1895.

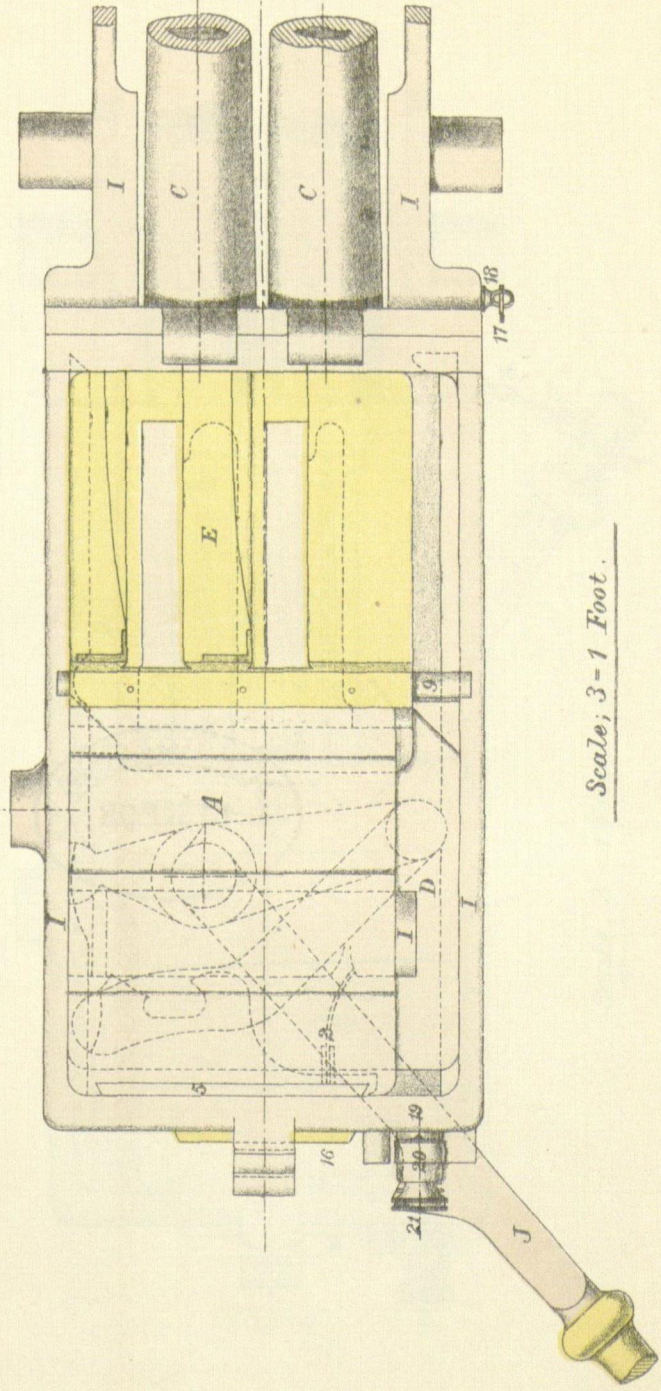


MARK I.



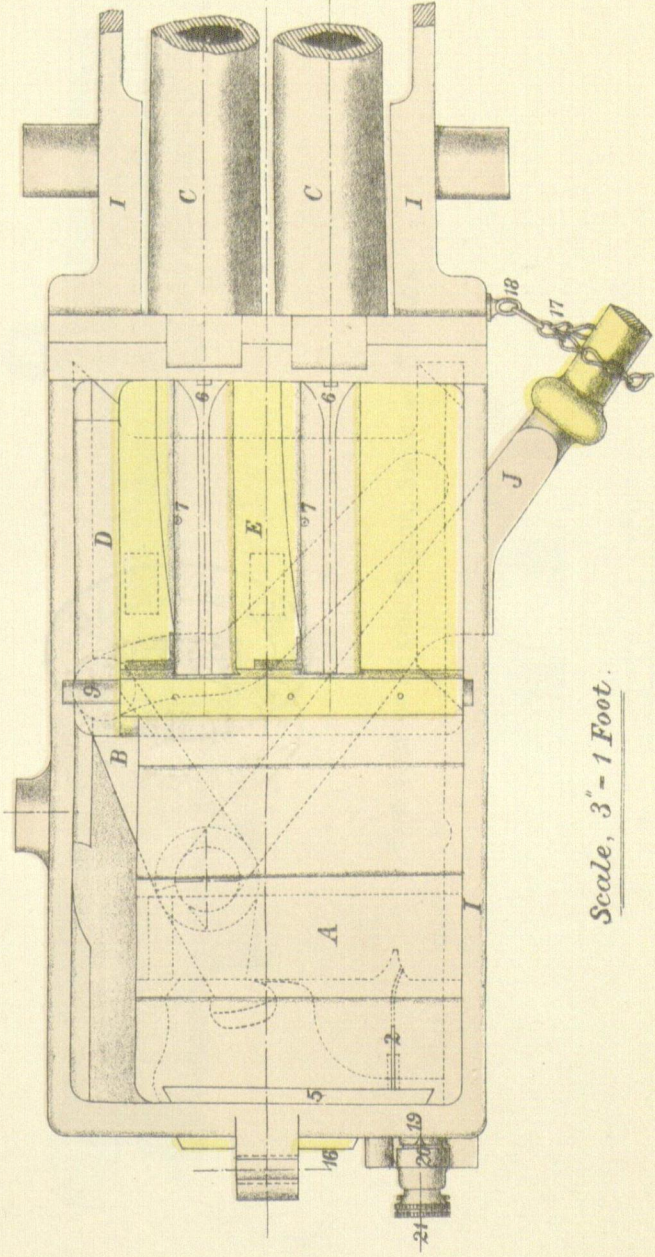
Scale.  $\frac{1}{4}$ " = 1 Foot.

MARK I.  
POSITION OF ACTION FOR LOADING  
COVER REMOVED.



Scale; 3-1 Foot.

MARK I.  
POSITION OF ACTION FOR FIRING AND EXTRACTING  
COVER REMOVED.



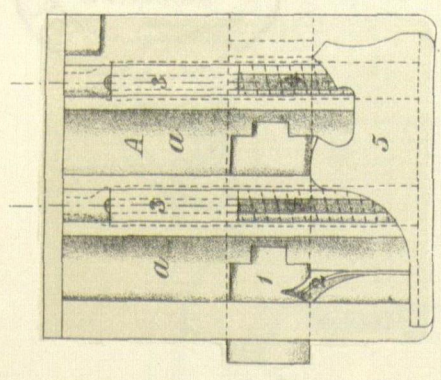
Scale, 3" = 1 Foot.



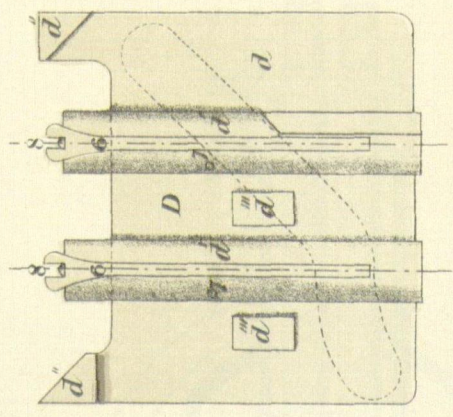


MARK I.

UNDER PLAN OF ACTION BLOCK.



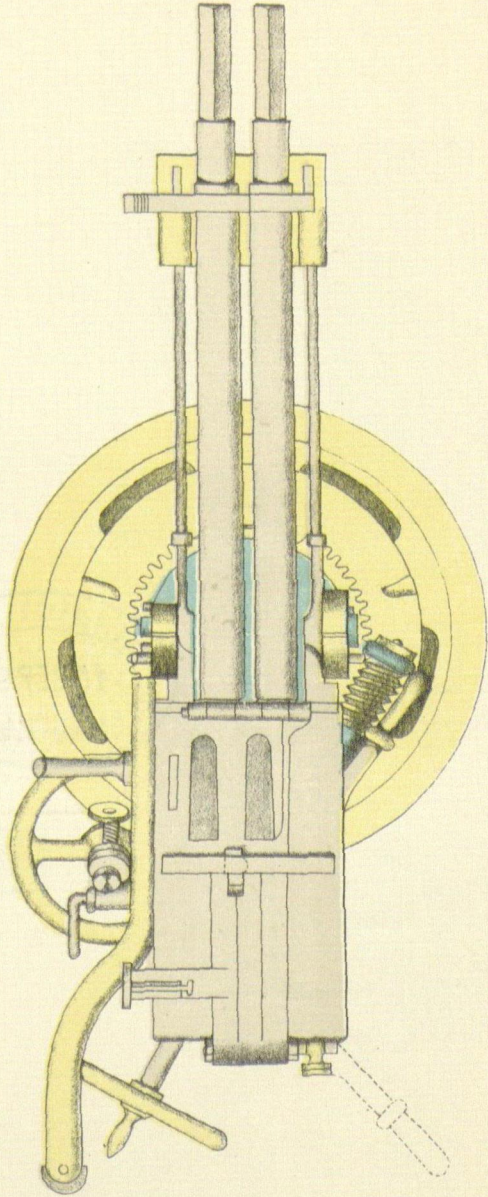
PLAN OF BREECH BLOCK.



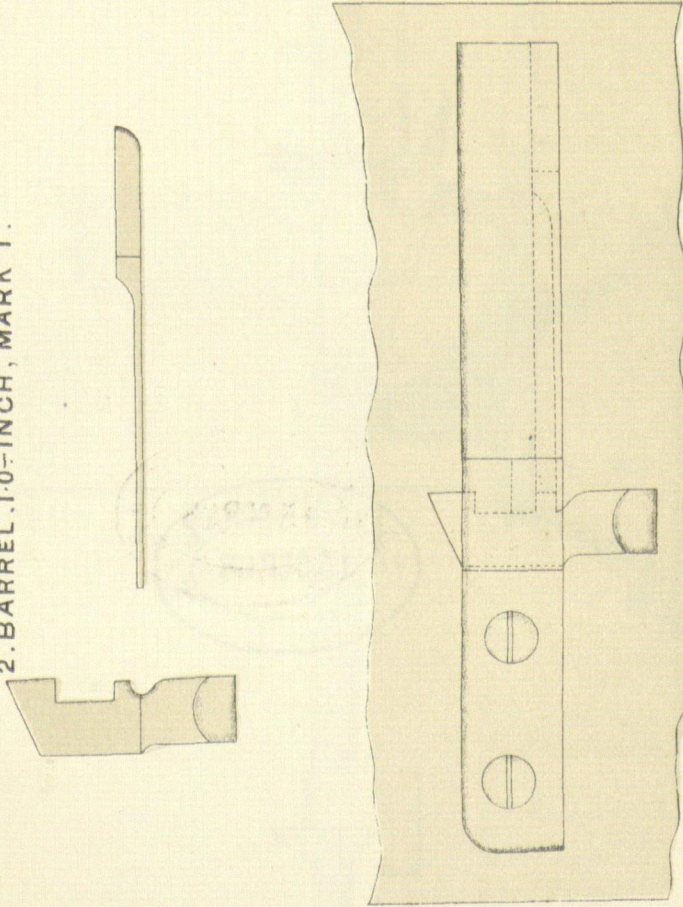
Scale, 3"=1 Foot.

GUN NORDENFELT.  
2. BARREL 1.0-INCH, MARK I. WITH SHOULDER PIECE.

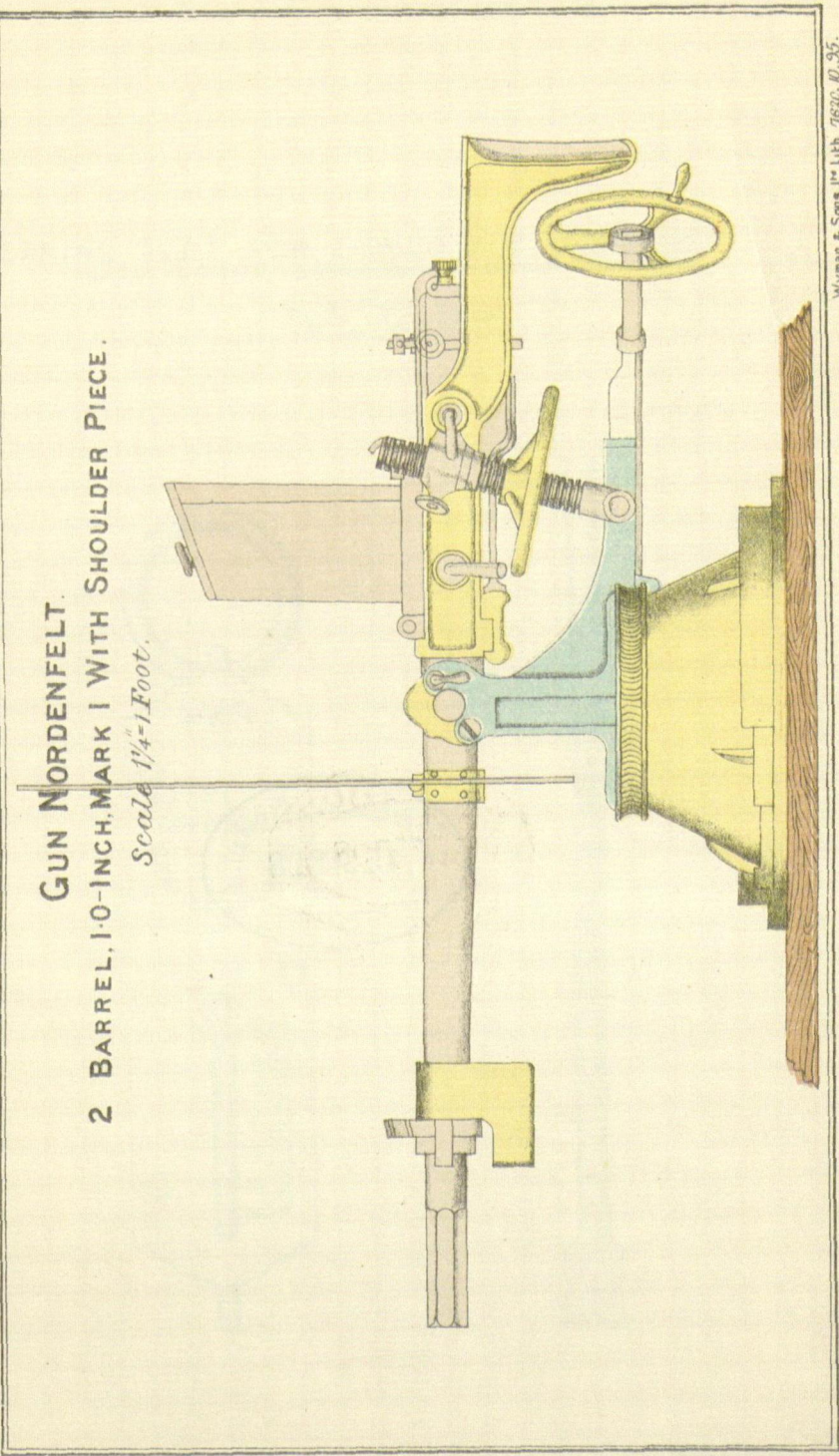
Scale  $\frac{1}{4}$ " = 1 Foot.



GUN NORDENFELT.  
2. BARREL 1.0-INCH, MARK I.

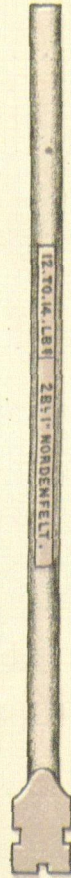
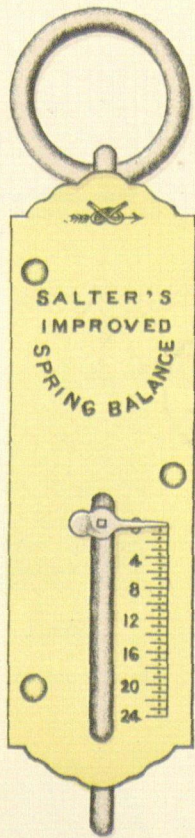


**GUN NORDENFELT.**  
**2 BARREL, 1.0-INCH, MARK I WITH SHOULDER PIECE.**  
*Scale 1/4"-1 Foot.*



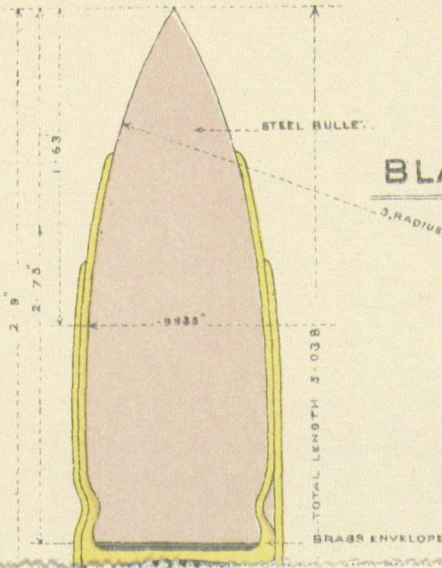
SPRING TEST FOR 1-INCH 2 B $\frac{1}{2}$  NORDENFELT.

Scale  $\frac{1}{2}$  Size.

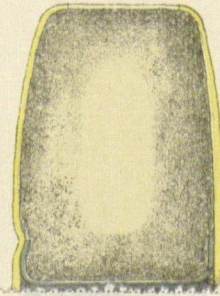


CARTRIDGE  
1/4 INCH STEEL, MARK VI.

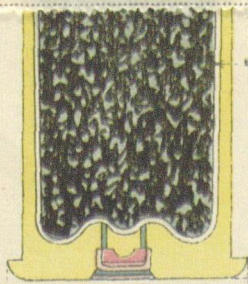
WEIGHT OF BULLET WITH ENVELOPE 3170 G<sup>AS</sup>  
" " POWDER CHARGE 625 "



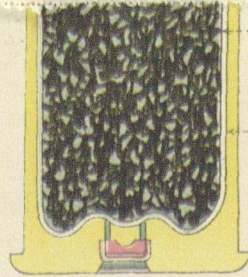
BLANK CARTRIDGE.



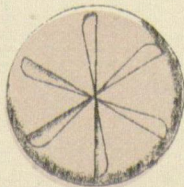
Delete Plate XI.



SECTION



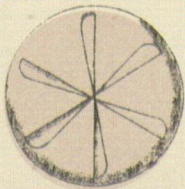
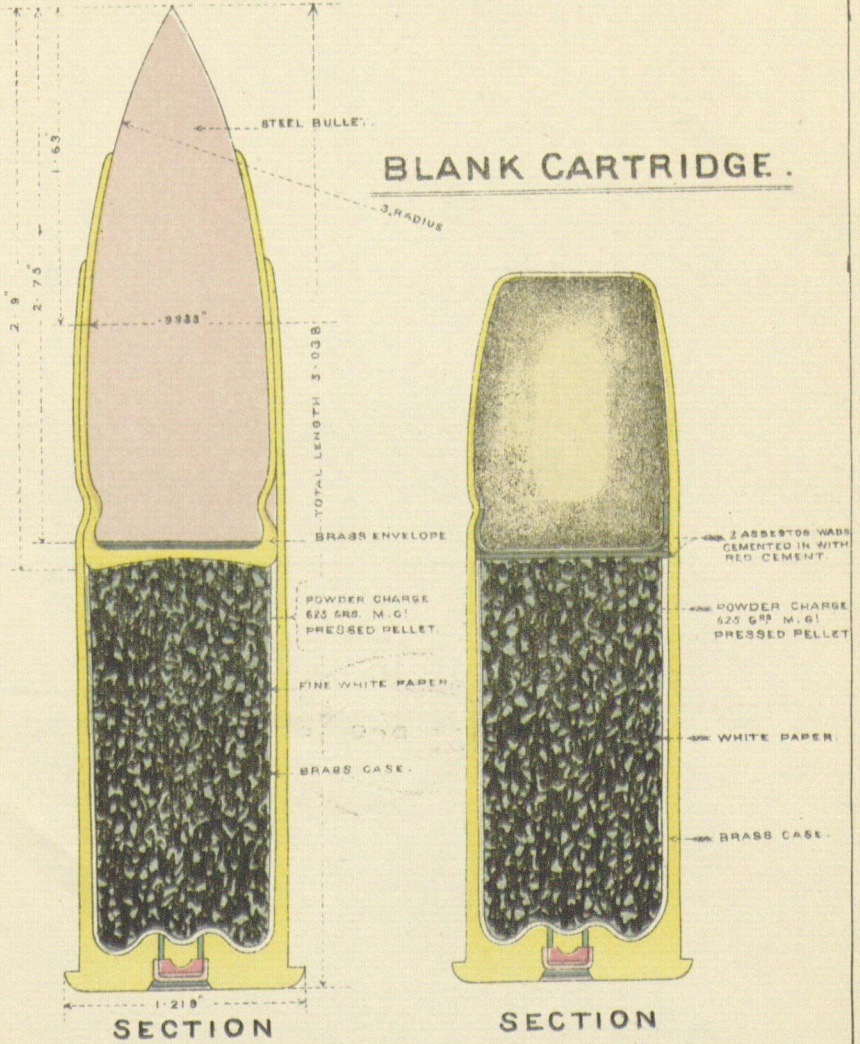
SECTION



PLAN OF BASE OF BULLET.

# CARTRIDGE 1/4 INCH STEEL, MARK VI.

WEIGHT OF BULLET WITH ENVELOPE 3170 G<sup>AS</sup>  
" " POWDER CHARGE 625 "



PLAN OF BASE OF BULLET.