26/G.S./Publications/979

ENEMY EQUIPMENT
PART II.

ITALIAN MINES AND TRAPS

1944

(This pamphlet together with pamphlet GERMAN MINES AND BOOBY TRAPS will supersede Field Engineering Pamphlets Nos. 1, 2 and 6, 1940.)

Printed under the direction of
The Chief of the Imperial General Staff

THE WAR OFFICE,
August, 1943

NOTES ON AMENDMENTS

The pages of the original edition are numbered consecutively

Pages issued subsequently, to replace any such original pages, will bear their original page number, together with a note of the amendment number in which the changes were made.

Should it be necessary to insert *additional* pages (*not substituted pages*) these will bear the page number nearest their sequence plus a letter (e.g., Page 15A would be the first additional page after Page 15. Page 16C would be the third additional page after Page 16).

Amend-ment		Amend-ment		Amend-ment		Amend-ment		Amend-ment		Amend-ment	
No.	Noted	No.	Noted	No.	Noted	No.	Noted	No.	Noted	No.	Noted
1		11		21		31		41		51	
2		12		22		32		42		52	
3		13		23		33		43		53	
4		14		24		34		44		54	
5		15		25		35		45		55	
6		16		26		36		46		56	
7		17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

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NOTE

This pamphlet was prepared for publication before Italy's capitulation, hence its inclusion in the Enemy Equipment series. It has been retained in this series because it is likely that some of the mines described in it will be used by the Germans.

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CHAPTER 1—INTRODUCTION

CHAPTER 2—IGNITERS

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CHAPTER 1—INTRODUCTION

SECTION 1. IGNITERS

1. The Miccia da 40 friction igniter shown is the only known Italian design. Compared with the German types it is very simple in construction.

2. The time delay igniter shown is also of simple design and is made to screw into a demolition charge. This latter feature follows the well-established German practice; there are as yet no details of the H.E. charges for which this igniter is intended.

SECTION 2. MINES

1. Anti-personnel mines

These mines, giving shrapnel effect, operate by pressure or trip-wires. They are often difficult to detect, especially those operated by pressure in which only a portion of the lid or igniter may appear above ground.

The B 4 type described in Sec. 21 is chiefly used as a hindrance against moving targets and has considerable effect within a radius of ten metres. It is easy to carry and manipulate and is quickly put into position. This trip-wire mine may be found in wire obstacles spaced at intervals of about five yards.

Details of improvised types are also given. They are commonly laid as close as one metre apart.

2. Anti-tank mines

There are three types of B 2 mine. The design S.C.G. and the " hinged lid " type have, to a great extent, been abandoned in favour of the more recent design, which has a heavier T.N.T. charge. This mine is used in the gaps of anti-tank obstacles and on detours. The spacing between mines varies considerably but never more than three rows have yet been encountered. Usually they are laid in two rows, sometimes one row.

The V 3 is similar in shape to the B 2 mine, the principal differences being the placing of the charge in the centre of the box instead of at the two ends and the provision of initiators at each end instead of one at the centre. It has, however, proved to be a menace to the enemy owing to its uncertain action. Its use has been stopped.

The V 5 is similar but is intended to be used as an anti-personnel mine.

3. Improvised mines

The Italians seem to specialise in the manufacture of mines in the field. They are laid with their covers about 6 in. below the surface, and generally no identification marks are to be seen on these mines.

The majority of the improvised mines shown have been encountered in Abyssinia, where the supply of standard mines was apparently limited. It is unlikely that a large quantity of any particular type will be found in European theatres: the types described do, however, indicate the kind of improvised mine to be expected from Italian sources.

SECTION 3. PRECAUTIONARY MEASURES

All troops likely to come into contact with mines and traps should understand certain elementary precautionary measures. These fall under three heads:—

(*a*) Movement.

(*b*) Search.

(*c*) Neutralisation of the ignition device.

Whenever it is suspected that mines or traps are about movement should be restricted and a careful search made for disturbed surfaces of the ground and loose boards. Where the presence of loose earth indicates that a mine has been laid, the earth should be carefully removed by hand without exerting any pressure on the suspected area. Loose boards should always be suspected of concealing a mine. When the initiator of the mine has been uncovered, the mine should be neutralised in accordance with the instructions given for the particular type. If neutralisation cannot be carried out immediately, the location of the mine should be clearly marked. In most cases mines can be rendered safe and removed for possible later use against the enemy. If removal is undesirable the mines should be detonated in situ.

When wires or cords are observed, it is usually safe to assume that taut wires should not be cut and slack wires should not be pulled. Each wire should be traced to its source. One end may be attached to a post, peg, or tree stump and the other end will be attached to the mine. Only after neutralizing the initiator should the wires be cut, and then preferably with scissors or cutters so as not to increase the tension in the wire.

In buildings nothing should be removed until a thorough examination has been made. Traps may be operated by the opening of a door or window, by the movement of loose boards, or by any other normal action and the trap may be at some distance from the point of initiation.

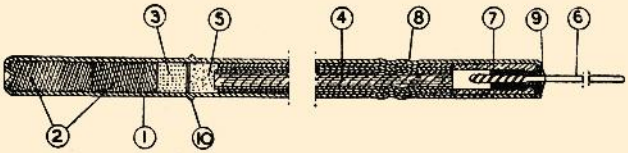
CHAPTER 2—IGNITERS

SECTION 4. FRICTION IGNITER, MICCIA DA 40

Description

The delay in this igniter is 10 secs.

The assembly shown is enclosed in an aluminium tube (1), 3.7 in. long and 0.27 in. diameter. It contains the main detonator filling (2) which consists of two distinct layers and is primed by a topping (3) of mixed lead azide and lead styphnate. The flash from the safety fuze (4) is reinforced by a pellet (5) consisting of a mixture of lead sulphocyanide and potassium chlorate. The safety fuze is retained in position by crimping the aluminium tube at (8).



At the open end of the tube is the igniter, which consists of a length of galvanized iron wire (6) passing through a small block of match composition (7). The open end of the tube is closed round the wire (6) by a plastic seal (9). There are no identification marks.

A sharp pull on the galvanized iron wire ignites the match composition which, in turn, initiates the safety fuze. The flange (10) is provided so as to retain the igniter firmly in the charge when the wire (6) is pulled.

SECTION 5. FRICTION IGNITER MICCIA DA 60

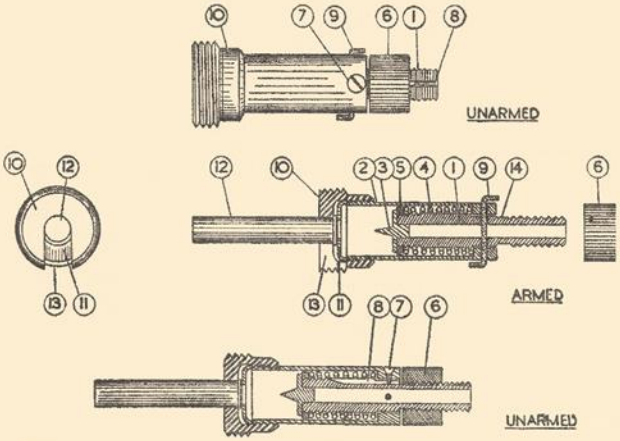
Description

This igniter is similar to the MICCIA DA 40 except that it is 4.45 in. long with a safety fuze delay of 15 seconds.

SECTION 6. TIME DELAY IGNITER

1. Description

The igniter comprises a striker (1), consisting of a hollow steel tube threaded externally at each end, projecting through one end of the igniter casing (2), which is of galvanized mild steel. Pressed into one end of the striker is a steel needle (3). The striker is surrounded by a spring (4), which presses at one end against a screwed flange (5) and at the other against the inside of the casing (2). Rotation of a galvanized mild steel nut (6) retracts the striker (1) and compresses the spring (4), the striker being prevented from turning by a set-screw (7) riding in a groove (8). The striker is provided with a flange which prevents withdrawal beyond a certain point; when this point is reached, a hole through the striker coincides with a hole in the casing, thus permitting insertion of a 2 mm. (5/64 in.) diameter lead shear pin (9).



The flange obviates the possibility of damage to the shear-pin through overscrewing the milled nut (6). The latter is provided with a three-start thread, presumably for greater strength. To the other end of the igniter is screwed an aluminium adaptor (10) which is threaded externally for insertion into the charge. At (11) is a galvanised mild steel washer, which is pressed into a groove above the internally-threaded portion of the adaptor. A detonator (12), with a flanged percussion cap pressed into its open end is fitted into

the adaptor (10), which for this purpose is unscrewed sufficiently to allow the flange of the cap to be inserted from the side via the slot (13), between the washer (11) and the head of the adaptor. The detonator and cap are then secured by screwing up the adaptor.

2. Operation

To arm the igniter the milled nut (6) is unscrewed, leaving the lead shear-pin (9) to retain the spring (4). Under the pressure of the latter the shear-pin eventually fails, allowing the striker (1) to fire the cap and detonator.

3. Time of delay

Four apparently identical specimens were tested in the Middle East and gave the following results :—

No.	*Time*
1	7 hrs. 16 min.
2	7½ min.
3	26 hrs. 7 min.
4	25 hrs. 45 min.

The discrepancy in these results may be due to possible tampering with the igniters before testing.

4. To neutralize

(*a*) Grip the striker at (14) with the cutting edges of a pair of wire-cutting pliers.
(*b*) Wire the plier jaws in position.

5. To disarm

(*a*) Unscrew the igniter from the charge, taking care not to dislodge the pliers.
(*b*) If the adaptor (10) remains in the charge, unscrew this also.
(*c*) Remove the detonator and percussion cap from the igniter.
(*d*) Release the pliers.
(*e*) If available, replace the milled nut (6), thus taking the strain off the lead shear-pin (9).
(*f*) Remove the lead shear-pin.
(*g*) Release the compression in the spring (4) by means of the milled nut (6).

CHAPTER 3—STANDARD MINES

SECTION 11. ANTI-TANK MINE B.2 (HINGED LID TYPE)

1. Dimensions

Length	2 ft. 10½ in.
Breadth	7½ in.
Height (at hinges)	8½ in.
Type of filling	T.N.T. in 200 gm. blocks.

2. Description

This is probably the earliest type of B. 2 anti-tank mine. It consists of a wooden box (1) with a hinged lid (2) resting on two springs (3). The springs hold the lid slightly open. As in other types of B. 2 mine, the method of firing depends upon the severing of a wire holding the striker.

In this model the retaining wire (4) passes over the wood block (5) to the striker (6). The tension of the wire is adjusted by the screw (7). The flange (8) retains the spring (9) in compression. A cap and detonator (10) is mounted in the wooden dividing strip (11). A charge of T.N.T. is held in the space (12). When sufficient pressure is applied to the lid of the mine the knife (13) severs the wire (4) thus releasing the striker (6).

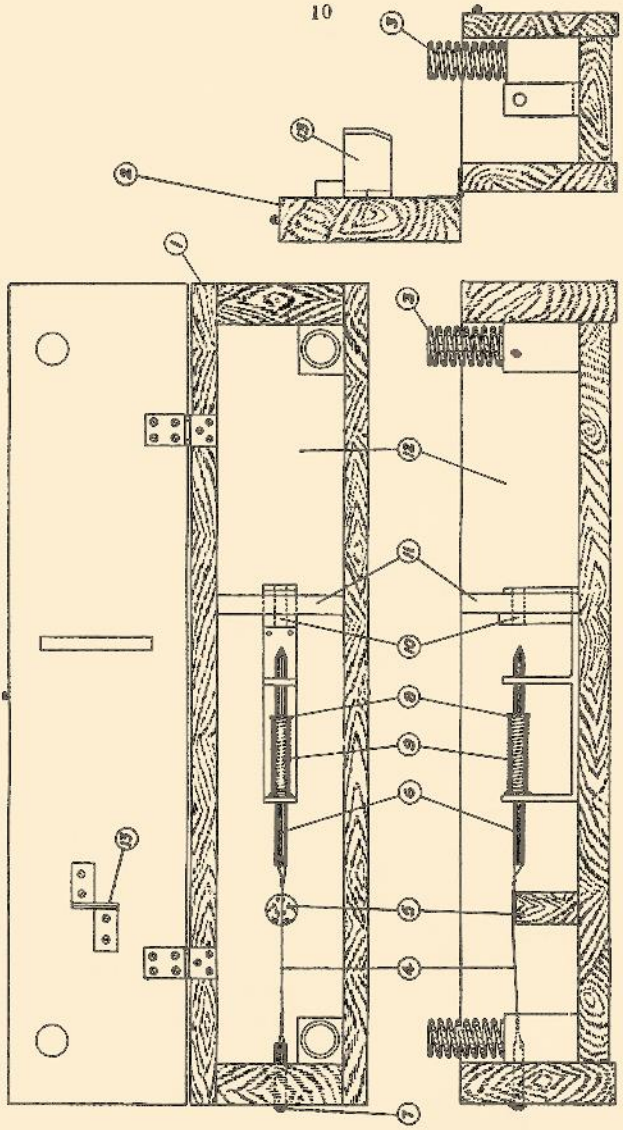
3. To neutralize

(*a*) Carefully open the lid, which should move easily. Do not attempt to force the lid.

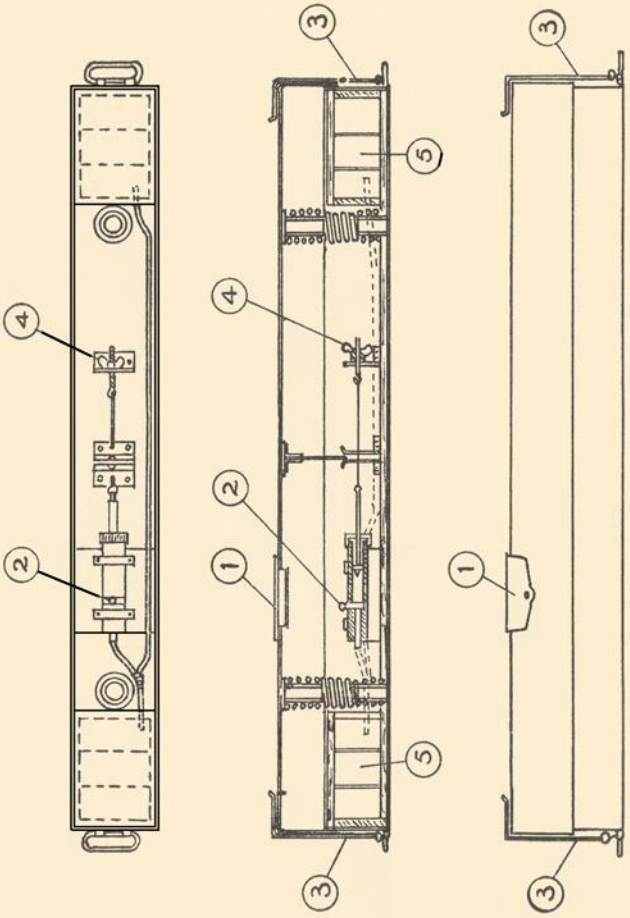
(*b*) Insert a strip of metal between the striker and the cap.

4. To disarm

Remove the cap and detonator (10).



SECTION 12. ANTI-TANK MINE B.2 (S.C.G.)



1. Dimensions

Length	3 ft. 6½ in.
Breadth	4⅜ in.
Height	6¼ in.
Type of charge	T.N.T. in 500 gm. blocks.
Weight of charge	6.6 lb.
Total weight of mine	30.75 lb.

2. Description

This mine is the earliest type of steel-cased B.2 mine and probably has been superseded by the mine described in Sec. 13.

(*a*) Externally, the mine shows the following differences from the later model.

(i) The lid of the mine has only one opening with a cover (1). This opening is located above the percussion cap holder (2).

(ii) The attachment of the lid to the box is by means of two metal L-shaped pieces (3) instead of chains.

(*b*) Internally, the main differences to be noted are :—

(i) The absence of the detent.

(ii) A simpler striker mechanism.

(iii) The use of a butterfly nut (4) instead of the tensioning screw.

(iv) The charge (5) consists of six 500 gram blocks of T.N.T. instead of sixteen 200 gram blocks.

3. To neutralize

The same method as for the B.2 mine described in Section 13, paragraph 3 (*c*).

4. To disarm

As above, para. 3 (*d*).

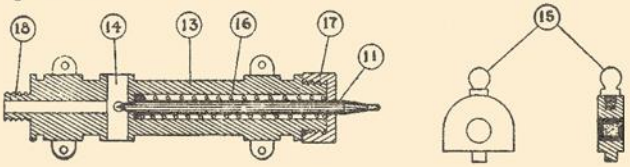
SECTION 13. ANTI-TANK MINE B 2

1. Dimensions

Length	3 ft. 6 in.
Breadth	5 in.
Height	4.7 in.
Type of filling	T.N.T. in 200 gm. blocks.
Weight of filling	7 lb. approx.
Total weight	33 lb.
Firing pressure (on each spring)	220 lb.

2. Description

This mine is the latest development of the older types " S.C.G." and " hinged lid " described in Sections 14 and 15. It consists of a welded sheet metal box (1) with a metal lid (2) resting on two springs (3). The lid has two openings covered by hinged flaps (4) which correspond to the positions of the striker assembly and wire tensioning screw respectively. At the ends of the box are the charges (5), each of eight 200 gram. slabs of T.N.T.



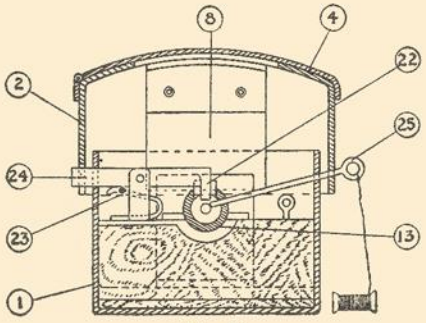


FIG. B

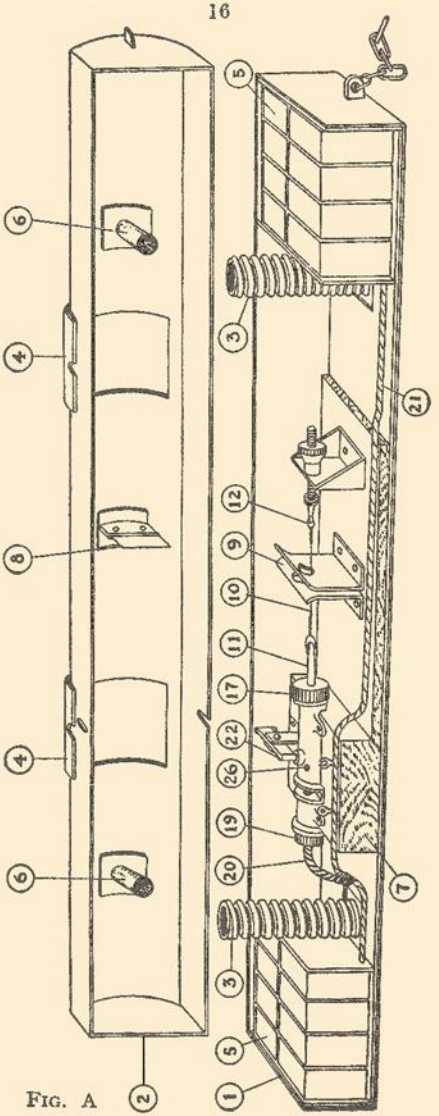


FIG. A

On the underside of the lid are welded two short lengths of steel tube (6) which fit into the springs (3). Two similar lengths of tube are welded on the base of the box and, together with those on the lid, serve to locate the springs.

The explosive components and the foundation of the ignition mechanism are of wood (7). In the centre of the lid is a knife (8) which is located directly above the guides (9). The brass adjustable hook (12) holds back the striker (11) against a spring by means of the tension wire (10) which passes through the guides (9).

The striker mechanism (Fig. B) consists of the body (13), which has a slot (14) for the percussion cap and holder (15), the striker (11) and its spring (16). The nut (17) retains one end of the spring, and the thread (18) takes the nut (19) which retains the detonator (open end towards the percussion cap) and the short length of F.I.D. (20) which is attached to a long length of F.I.D. (21) connecting the detonator with both charges. A detent (22) with spring (23) provides security against premature firing in the event of damage to the tension wire. It also ensures that when the lid is depressed, the mine will function in the normal way by pressure on the lever (24), which releases the detent (22). This additional safety device is not found on all types. The safety pin (25) is placed on the hole (26) in the body of the striker and remains in this position until the mine is fully loaded, the hinged flaps (4) closed, and the mine covered with earth.

The mine functions when pressure on the lid overcomes the resistance of the springs. The cutting blade will then descend and sever the wire holding the striker, the lid at the same time depressing the detent lever (24).

3. To neutralise

(*a*) Open the hinged flaps (4) carefully, dusting away the loose earth.

(*b*) Remove the cap holder (15).

4. To disarm

(*a*) Lift off the lid of the box and remove the cap holder and the cap (15).

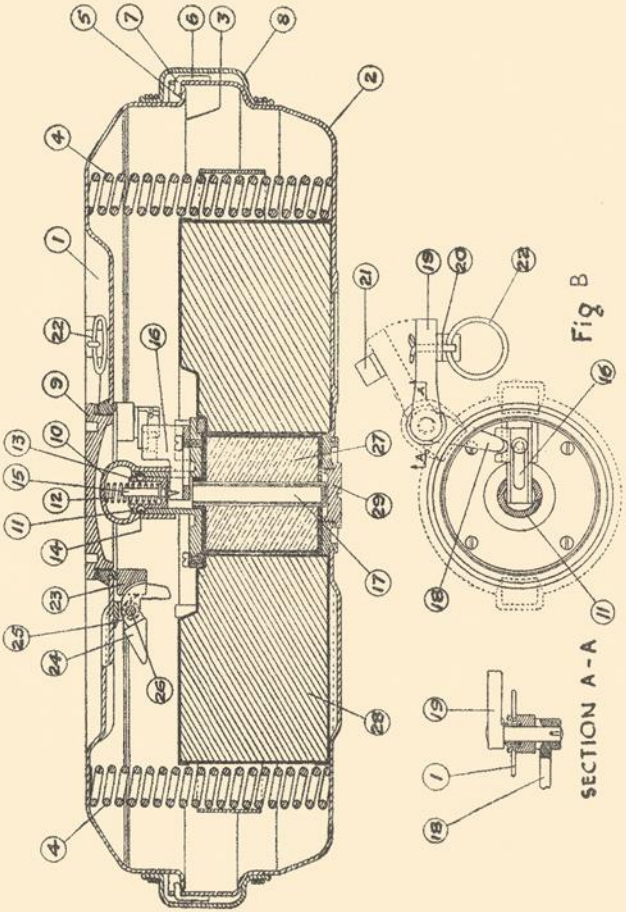
(*b*) Unscrew the nut (19) and remove the detonator from the igniter.

(*c*) Release the tension of the striker spring (16) by turning the adjusting screw holding the hook (12).

SECTION 14. ANTI-TANK MINE, TYPE D

1. Dimensions

Diameter	12 in.
Height	3.6 in.



2. Description

The body of this mine is made of steel and is in two sections, the cover (1) abutting the lower section (2) at (3). The cover is held in position by two strong steel springs (4), a watertight joint being made by the lip of the cover (5) compressing a packing piece (6) which is placed in a slot (7) in the lower section of the mine. A circumferential pressed steel band (8) protects the joint.

In the centre of the lid is the threaded plug (9) below which is the plunger (10). The plunger is a sliding fit on the striker housing (11) and the whole encloses the spring (12), the striker sleeve (13), the two steel balls (14), and the striker (15).

The safety device consists of a channel-shaped piece (16) which masks the detonator (17) from the striker (15). Fig. B shows the channel (16) which is operated by a toggle (18) coupled to an arm (19) which works between two stops (20) and (21).

When the mine is " safe " the arm is against the stop (20) and is fixed to it by a split pin and ring (22). When the arm (19) is moved to the stop (21), the toggle (18) slides back the channel (16) from the face of the detonator thus arming the mine. Coupled with this safety device is the block (23) which engages a tumbler (24). The tumbler under the action of its spring (25) can rotate about its pivot (26) and, when the arm (19) is moved to the stop (21), the block (23) moves towards the centre and the new position of the tumbler (24) prevents the arm from returning to the " safe " position.

When pressure is applied to the cover (1), the plug (9) depresses the plunger (10) which descends until the steel balls (14) escape into the space in the head of the plunger. The striker (15) under the influence of the spring (12) strikes the detonator (17), firing the primary and main charges, (27) and (28) respectively.

3. To disarm

Unscrew the plug (29) and remove the detonator.

SECTION 15. ANTI-TANK MINE V.3

1. Dimensions

Length	3 ft. 8.9 in.
Breadth	2.4 in.
Height	2.7 in.
Type of filling	T.N.T. in 200 gm. blocks.
Weight of filling	6 lb. approx.
Total weight of mine	17 lb.

2. Description

According to an undated Italian document, with drawings, there appear to be two types of this mine, described as " V 3 " and " V 5." The former is the type described here and the latter is similar except that the mine is turned upside-down ; there are no reports of the " V 5 " having been used.

The mine is made of sheet steel, the body (1) being strengthened by two partitions (2). The charge extends between the two firing mechanisms. The cover (3) is secured to the body by means of concave headed nuts (4) engaging on the actuating bolts (5). The actuating bolts are retained in position by springs (6) which rest between the nut on the underside of the cover and the plate (7) covering the firing mechanism.

When the nuts (26) underneath the lid are screwed down, the springs (6) are compressed and the pressure necessary to operate the mine is increased. Unscrewing these nuts makes the mine far more sensitive to pressure and as little as 22 lb. weight can be made to trip the striker. The underside of the cover is provided with two knives (8), which engage in guides (9) which are provided to take copper pins. It is believed that these pins offer resistance until the weight on the mine reaches 264 lb.

At each end of the body are the cocking grips (10) (Fig. A). The grips are pulled to cock the strikers (11), and, when returned to their former positions, a hole (12) in the end of each striker is left visible.

The striker mechanism is shown at Figs. B, C, and D. When the striker spring (13) is compressed, the flange (14) of the striker is held by the cotter (15) on the U-shaped spring clip (16). The percussion cap (17) is accommodated in the holder (18) and the latter is inserted in the hole (19) in the side of the mine. The holder (18) passes into the annular space (20) in the striker body and is held there by a blade retaining spring (21) engaging in the slot (22).

The actuating pin (23), which is also inserted through a hold in the side of the body, is the connection between the

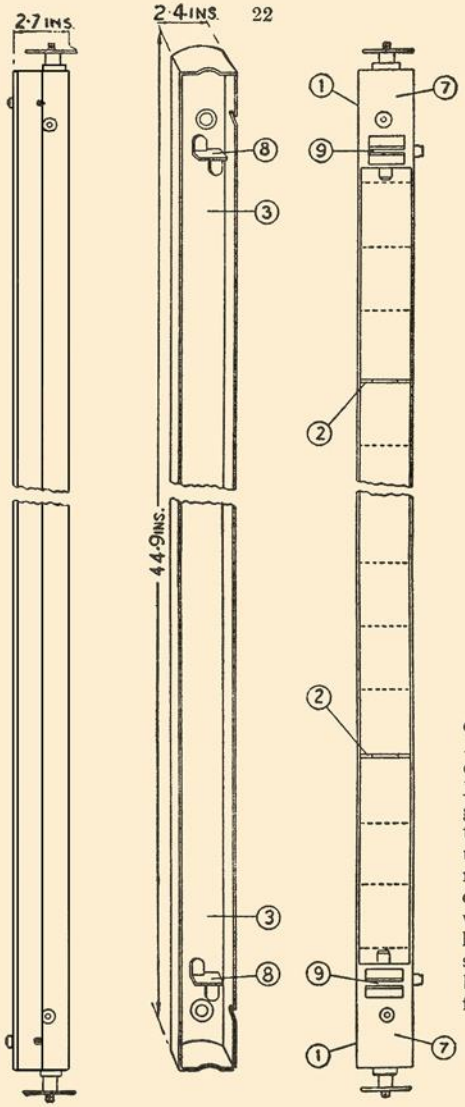


FIG. A

An enemy document dated August, 1942, captured in North Africa, gave instructions that the use of V. 3 mines was to cease, as they were not safe to handle. Existing stocks were to be stacked and fenced off.

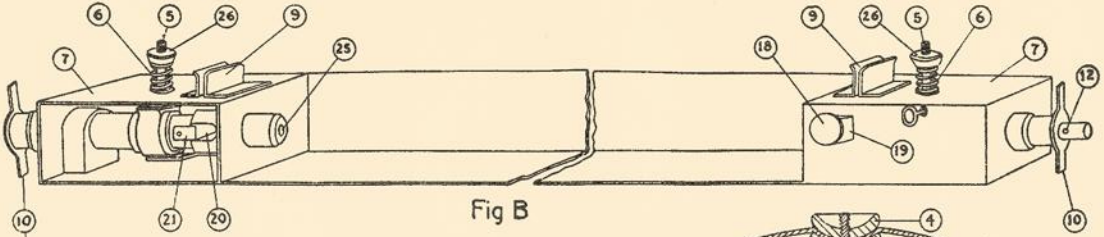


Fig B

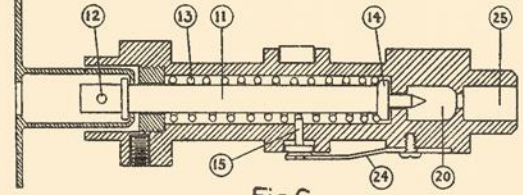


Fig.C

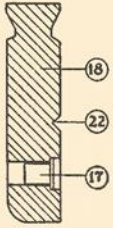


Fig.D

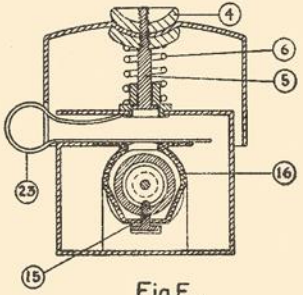


Fig.E .

actuating bolt (5) and the U-shaped spring clip (16) carrying the cotter (15).

When pressure is applied to the cover of the mine, the actuating bolt (5) is forced down against the spring (6) until it comes into contact with the actuating pin (23). This causes the U-shaped spring clip (16) to be depressed against the retaining spring (24). The flange (14) thus freed allows the striker (11) to initiate the percussion cap (17) and fire the detonator at (25).

It is not known to what proportion of mines the copper pipes mentioned above are fitted. As the operating pressure can be varied by manipulating the nuts (26) the use of copper pins may even be ignored in the field.

3. **To neutralise**

(*a*) Carefully raise the lid, taking care to apply no pressure to it.

(*b*) Push a piece of stout wire or a nail through the hole (12) in the ends of each of the strikers (11). It may be necessary to manipulate the grips before these holes become visible.

(*c*) Withdraw *both* actuating pins (23).

(*d*) Remove *both* cap holders (18) and extract the caps. The cap holders may be a little difficult to remove if the springs (21) are very strong.

4. **To disarm**

(*a*) After neutralizing the above, unscrew the nuts (4) and remove the lid of the mine.

(*b*) Remove the detonators from each of the end blocks of H.E.

SECTION 16. FOUR IGNITER MINE

This mine has been used by the enemy in North Africa.

1. Dimensions

Box, length	11.25 in.
,, width..	9.1 in.
,, depth..	3.25 in.
,, thickness of wood, approx.	0.5 in.
Lid, length	12.25 in.
,, width..	10.0 in.
,, thickness	0.55 in.
Type of filling	25 blocks of H.E., each 200 gm. (7 oz.).
Weight of filling	11.0 lb.
Total weight	14.25 lb.

2. Description

The mine is contained in a rectangular wooden box (1) of which the sides are dovetailed and nailed while the bottom is secured by six screws. The lid (2) overlaps the sides, and is secured to them by eight 1½ in. nails. Glued to the upper side of the lid is the piece (3) which locates the false lid (4). The piece (3) is perforated by four holes, which are countersunk to receive the four igniters (5). The holes lie directly over sockets in the H.E. filling which accommodate detonators (7) attached to the igniters. A piece of camouflage-painted canvas (8) is nailed loosely to the edge of the false lid. To the underside of this canvas is nailed a piece of wood (9) which rests on top of the igniters with the canvas fully stretched when the mine is assembled. The false lid (4) is secured in place by four clips (10) attached to the lid (2) and each engaging with a screw on one of the four edges of the false lid. A single rope carrying handle is provided (13). Each igniter (5) consists of a bakelite cone (11) to which a bakelite lid (12) is cemented. A projection below the cone (11) makes a press fit into an ordinary detonator. Inside the cone is a paper cylinder, ¾ in. long by ¾ in. diameter, containing 6.5 gm. (0.25 oz.) of small angular pieces of hard limestone mixed with 0.2 gm. (.007 oz.) of a black mixture of carbon, sulphur and potassium chlorate. The cylinder is coated with the same powder.

3. Method of operation

The mine functions when pressure on the lid crushes the bakelite igniters. Friction between the hard limestone and the firing mixture then produces a flash which fires the detonators and explodes the mine.

4. **Firing pressure**

It was found that an evenly distributed dead load of 260 lbs. failed to crush the bakelite cap, but that a load of 200 lbs.

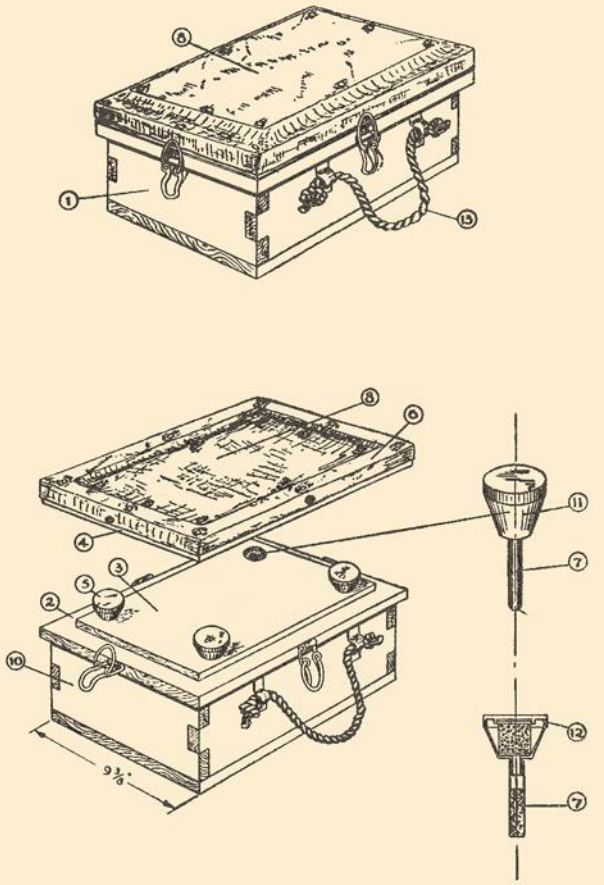
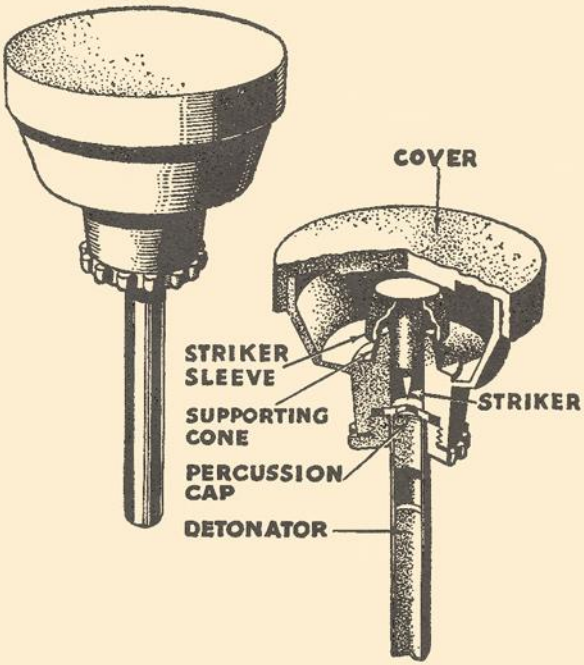


FIG. A



Italian Bakelite Percussion Igniter

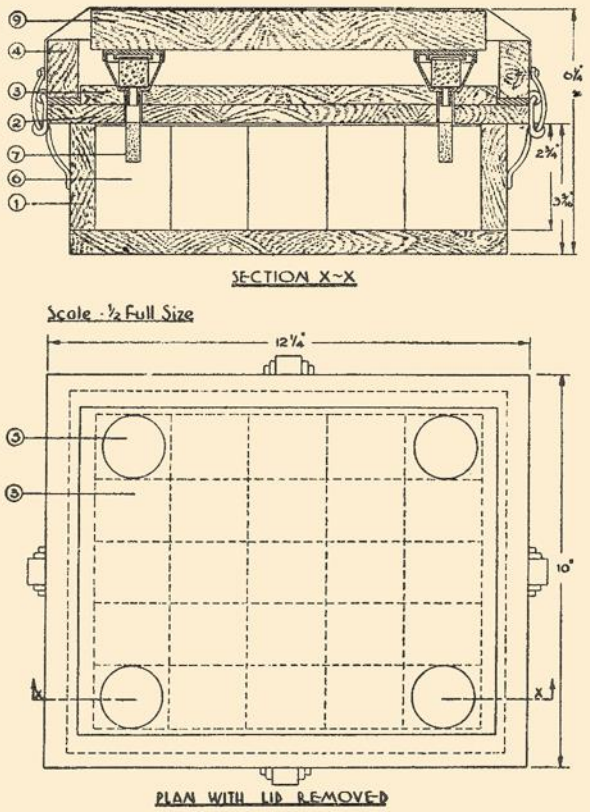


FIG. A

when placed on an igniter would fire it if rocked slightly. It was also found that a man weighing 160 lbs. could walk or run lightly over the mine without setting it off. Jumping on the lid of the mine, however, fired it.

5. **Method of laying**

All mines recovered to date have been buried up to 3 ins below the surface and spaced about 3 ft. apart.

6. Susceptibility to detection

The heights above the ground at which the Polish Detector will react to mines buried at varying depths were determined, and are tabulated below together with equivalent figures for the G.S. A.Tk. Mine, Mk. V :—

Position of Mine	*Max. height for reaction* 4-*igniter Mine*	*G.S. A.Tk. Mine, Mk. V*
Placed on ground	6 in.	2 ft. 0 in.
Lid level with ground ..	6 in.	2 ft. 0 in.
Lid 2 in. below ground level	5 in.	1 ft. 9 in.
Lid 4 in. below ground level	1½ in.	1 ft. 7 in.
Lid 6 in. below ground level	negligible	1 ft. 4 in.

The above figures represent experimental limits. Average figures in practice for the four-igniter mine buried 1 in. below surface are :—

American Detector	6 in. above ground.
Polish Detector	3 in. above ground.

It is, however, emphasized that the detector cannot be relied upon to detect this type of mine.

7. Handling

Care must be taken not to exert any pressure on the lid of the mine.

(*a*) Open the four clips and lift off the lid.
(*b*) Remove the four igniters, with detonators, and store separately.
(*c*) Replace the lid.

8. Middle East's comments

(*a*) The fact that a running man may not detonate the mine suggests that it is not designed primarily for anti-personnel use, a view which is supported by the large weight (11 lb.) of H.E. filling.
(*b*) The small weight of metal present suggests that the mine is an attempt to defeat the detector.
(*c*) Since the canvas is camouflage-painted it is assumed that the mine is intended to be laid on the surface, although specimens recovered to date have been buried.

SECTION 17.—ANTI-TANK FOUR-IGNITER MINE TYPE C.S.2

Amdt. 1 Jan, 1945

(Mina Italiana Anticarro Tipo C.S.2)

1. **General** (*see* sketch)

This mine is merely the Four-Igniter Mine Type C.S.1 (described in Section 16) fitted with a number of improvements to facilitate transport. These improvements are as follows :—

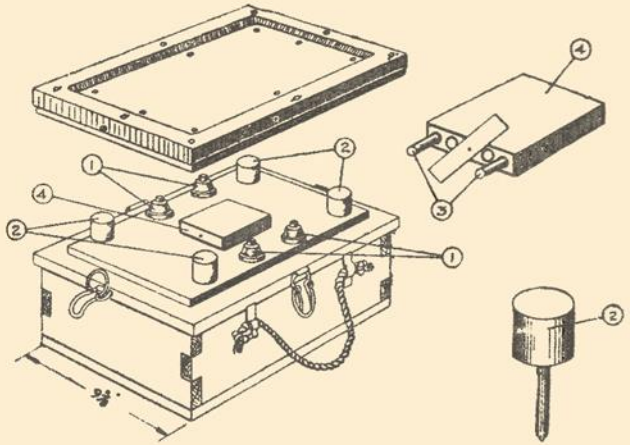
(*a*) The four bakelite igniters (1) are carried in sockets countersunk ¼ in. in the wooden cover.

(*b*) The four igniter and detonator holes are protected by transit plugs (2), on top of which the lid rests.

(*c*) The four detonators (3) are carried in a wooden box (4) which is packed between the igniters.

2. **Handling**

As for the Four-Igniter Mine Type C.S.1, described in Section 16, para. 7.



Anti-tank Four-Igniter Mine 14·25 lb. Type C.S.2.

Amdt. 1 Jan, 1948

SECTION 18.—BAKELITE ANTI-TANK MINES, TYPES I and II

1. General

The mines are constructed of moulded bakelite. Both types are of waterproof design and are fitted with a similar igniter and arming device. They are reported to be designed for shipment with igniters and detonators in place. The metal parts in the mines when armed are :—

(*a*) The case of the detonator.
(*b*) The brass striker pellet and its helical spring.
(*c*) The brass bush which houses the striker pellet, two steel balls and brass shear pins.
(*d*) A perforated steel bar which slides to screen the striker from the detonator in the unarmed position.
(*e*) Brass tumblers in the igniter locking device.
(*f*) 9 steel helical creep springs supporting the pressure plate.
(*g*) In Type I, the steel wires supporting the pressure plate

Type I, having an actuating pressure of 110 lb , might have been intended as a dual purpose beach mine.

2. Data

	Type I	Type II
Diameter (casing)...	11⅞ in.	11⅞ in.
Diameter (overall)	13 in.	13 in.
Height	5½ in.	5½ in.
Weight (casing)	5 lb.	5 lb.
Weight of filling	Stated by makers to be 3 kg., but estimated as approx 8 lb.	
Type of filling	T.N.T.	T.N.T.
Actuating pressure (figures supplied by factory)	110 lb.	300 lb.
Markings	Nil	Nil

3. Construction

(*a*) *Type I* (*Fig.* 1)

The casing (1), containing the main charge is in two halves. the top and bottom being respectively $\frac{5}{32}$ in and $\frac{7}{32}$ in thick. They are moulded to form a central circular chamber for the exploder system. The top is strengthened with ribs The two halves are assembled with an outer circumferential counter-sunk joint (2) and an inner spigoted joint (3). The outer joint has a rubber sealing ring (4) and is secured by hollow plastic rivets passing through 12 pairs of lugs (5). The inner joint is secured by the base plug (7) which is

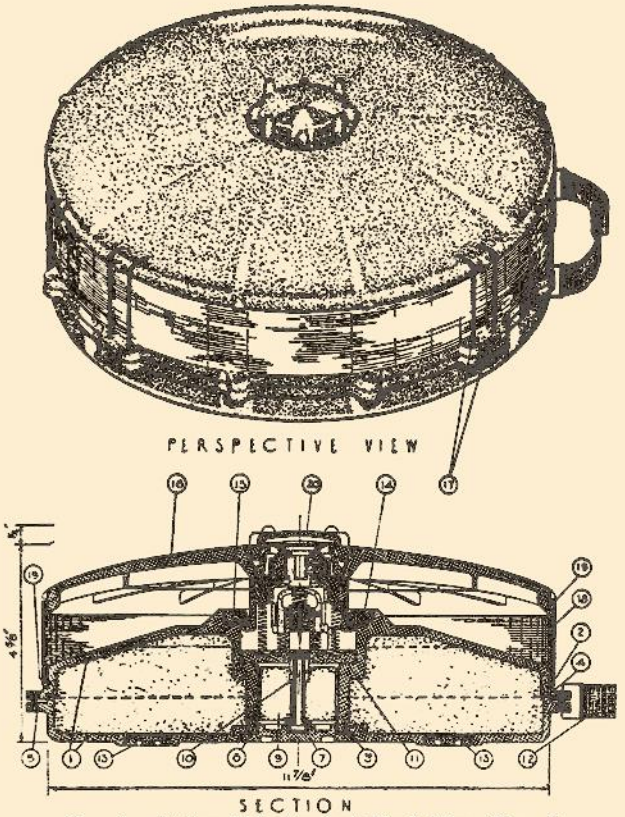


FIG. 1.—Italian Bakelite Anti-Tank Mine, Type I

threaded into the centre tube formed in the top half of the casing; this joint is sealed by a rubber gasket (8) under the flange of the plug. The plug also gives access to the booster charge (9) and detonator (10), placed in the central chamber which is closed at the top by the base (11) of the igniter assembly.

A webbing carrying handle (12) is attached to the casing by wire loops which pass through the hollow rivets in two pairs of lugs.

There are two filler plugs (13) threaded into 1⅛ in. diameter holes in the bottom. These holes might be adapted for anti-lifting igniters; they are diametrically opposite, approximately 2½ in. from the edge, but are not placed in any fixed position relative to the handle.

The igniter assembly slides in the central tube formed in the top half of the casing, and is retained by a locking ring (14). A rubber ring (15) seals this joint.

The pressure plate (16), $\frac{3}{32}$ in. thick, is heavily ribbed underneath, and is the full diameter of the mine casing. It rests on the top of the igniter assembly and is held in position by steel wires (17), which are looped through four lugs, set at 90 degrees around the mine, and fastened with two plastic rivets instead of one. The air space between the pressure plate and the top of the main casing is closed, around the circumference, by a strip of impregnated canvas (18) fixed by two steel wires (19).

The igniter assembly and arming arrangement is closed by the cap (20) screwed into the pressure plate.

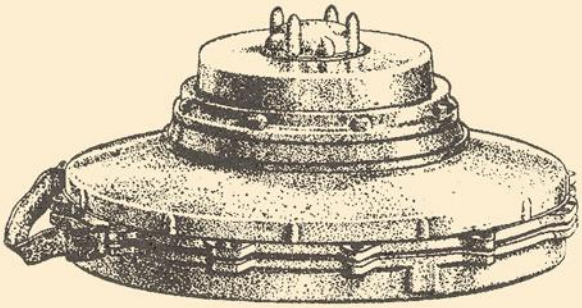
(*b*) *Type II* (Fig. 2)

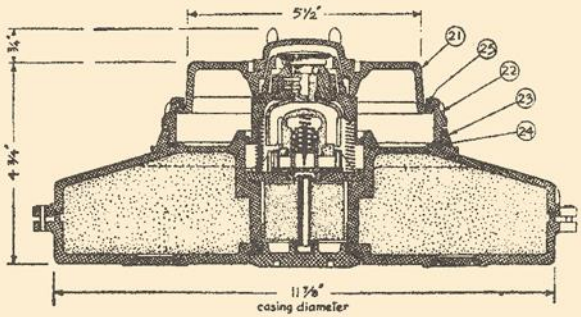
The main casing is similar to that of Type I.

The pressure plate (21), which is ribbed on the underside, is only 5⅛ in. diameter; it is $\frac{3}{16}$ in. thick. It bears on the top of the igniter assembly, as in Type I, but on the outside circumference is held by the ring (22) which screws into a threaded socket (23), formed on the top of the main casing The igniter assembly is sealed by two rubber rings (24) and (25), the latter making a joint due to the upward pressure from the helical creep springs in the igniter.

(*c*) *Igniter* (Fig. 3)

The igniter consists of two main parts, the moulded base (11) and the moulded pressure cap (26). These are pressed apart by nine steel helical creep springs. The springs fit on to projections in the mouldings. A modified design of the igniter, thought to be experimental, has only six helical creep springs.





SECTION (Shown at 'Safe setting)

FIG. 2.—Italian Bakelite Anti-Tank Mine, Type II

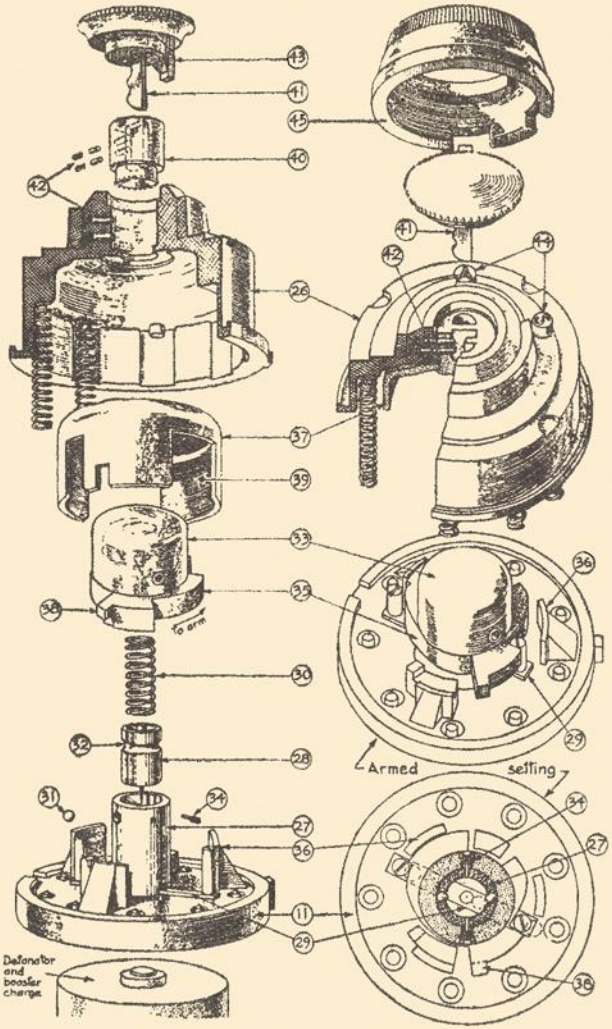


Fig. 3.—Igniter for Italian Bakelite Anti-Tank Mines, Types I and II

From the centre of the base a brass tube (27) projects upwards as a guide to the brass striker pellet (28). A steel bar (29) slides through the tube to act as a safety device by screening the detonator in the unarmed position ; in the armed position a hole in this bar is presented to the striker pin.

The striker, loaded by pressure on the helical spring (30) is cocked against two steel balls (31). The balls sit in the cannelure (32) in the upper half of the striker pellet, and are retained by the sides of the cap (33), of tough plastic material, which slides over the brass tube (27). The cap is located by two brass shear pins (34) set into the tube. It also carries a double cam-shaped collar (35) which is free to swivel, independently, and control the position of the screening bar (29). An added safety device is in the form of moulded projections (36), which support the cam collar in the unarmed position.

The position of the cam collar is controlled by an inverted tough plastic cup (37), slotted to fit over the nib (38) on the cam collar ; it also has three wider slots (39), which will permit it to set down over the moulded projections (36), on the base, when in the armed position.

A tough plastic spindle (40) is keyed into the base of the cup (37) and projects through the centre of the pressure cap (26). It is slotted down the centre to take the arming key (41), of " Yale " pattern, which operates against two spring-loaded double tumblers (42), sliding into the spindle from the side.

The key is of brass, held in a bakelite button, which is knurled at the edge and provided with an indicating nib (43). The nib swings between two projections (44) on the pressure cap (26), marked " S " (Sicuro=Safe) and " A " (Armato=Armed).

A bakelite collar (45) fits over the head of the pressure cap, and is slotted so that it is held by the projections (44) to lock the arming key in the unarmed position.

4. Arming

The top closing cap (20) and the bakelite locking collar (45) are removed. The arming key is turned counter-clockwise from " S " to " A " and the closing cap replaced.

NOTES

(*a*) The key cannot be removed until it is turned to " A ".

(*b*) The assembly is locked and cannot be turned when the key is removed.

5. Operation

When arming, the cam collar (35), is turned, with the plastic cup (37), so that their position, relative to the igniter base, permits the upper part of the assembly to slide down, when sufficient pressure is received ; at the same time the cams move the sliding bar (29) across, bringing the hole in it opposite the striker pin.

With pressure applied, the upper part of the assembly moves down and carries the plastic cap (33) down to shear the pins (34). When this cap has moved down about $\frac{3}{16}$ in. the steel balls escape into the larger part of the cap and the striker is released.

6. Disarming

(*a*) Carefully search for and deal with any anti-handling devices.

(*b*) The igniter cannot be made safe without the proper key. By unscrewing the centre base plug the booster and detonator may be removed.

7. Anti-lifting

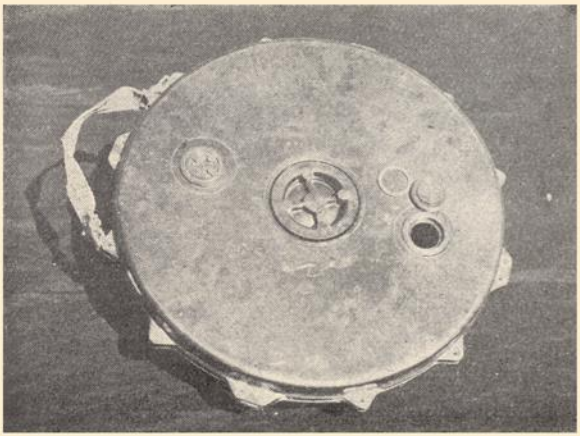
No provision is made for anti-lifting igniters, but the filler holes in the base could easily be adapted. The hollow plastic rivets, used in the outer joint of the main casing, provide a ready means of attaching trip or trap wires.

8. Detection

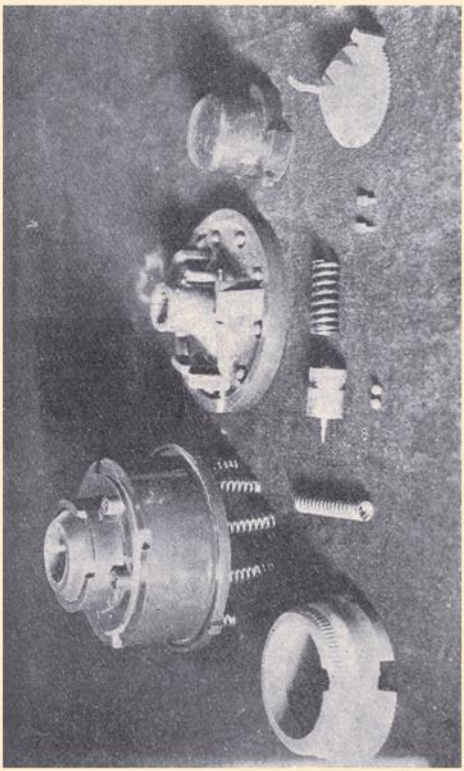
It is reported that tests with detectors have given the following results :—

(*a*)	British Detector (Polish) No. 2.	No reaction.
(*b*)	British Detector (Polish) No. 3	Mine covered by 3 in. of earth picked up with detector 3 in. above ground.
(*c*)	American Detector M.1 (S.C.R.625).	Mine covered by 3 in. of earth picked up by detector up to 10 in. above ground.

Bakelite Mine, Type II—Top view



Bakelite Mine, Type II—Bottom view



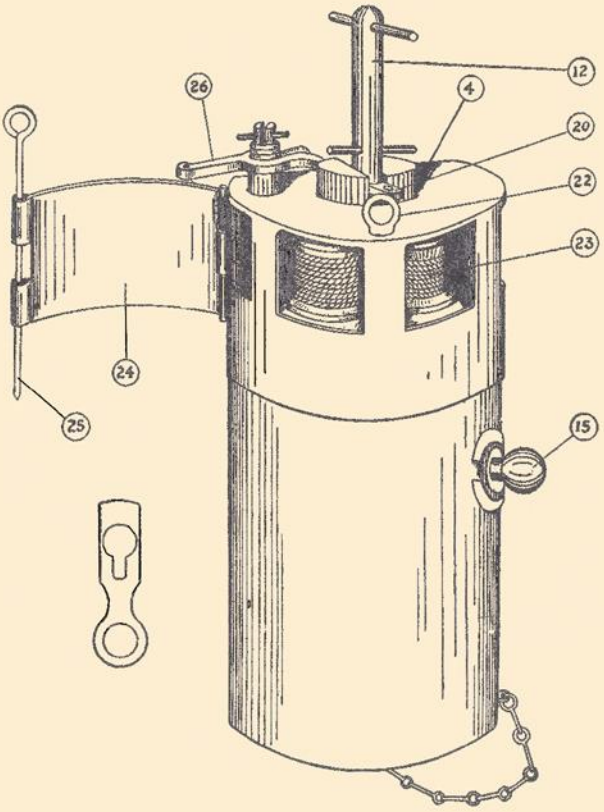
Layout of Igniter Parts of Bakelite Mines

(21738) G.788 27,500. 1/45 K.H.K. Gp. 8 7

SECTION 21. ANTI-PERSONNEL MINE B 4

1. Description

The weight of H.E. charge in the mine is about 0.25 lb. and he total wei˳ht of the mine 3.0 lb.



Italian Anti-Personnel Mine B 4.

FIG. B

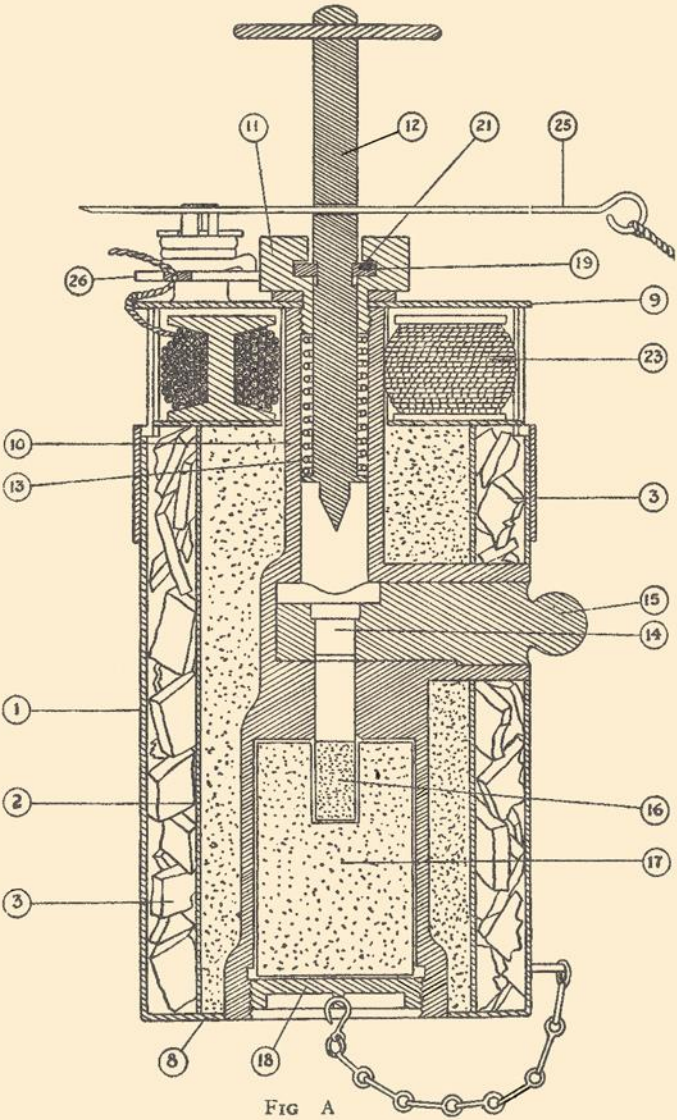


FIG A

The mine consists of two cylinders (1) and (2), one inside the other. The space between the walls is filled with scrap metal (3). The outer cylinder (1) is flattened on one side (4) where there are six sharp projections (5) for attaching the mine to a tree or post. Two clips (6) are provided with fireproof cord for securing the mine by special rings (7).

The cylinders are held together at their common base (8) and by a cover (9) at the top. Inside these cylinders is a brass moulding (10), into one end of which is screwed a brass cap (11), carrying the striker (12) and the spring (13). Below this there is a percussion cap (14) in the holder (15) which is inserted from the side. The lower portion of the moulding takes the detonator (16) and the charge (17). The open end of the moulding is closed by the plug (18). The cavity between the brass moulding and the inner cylinder is filled with powdered T.N.T.

The trip-release system consists of a trip-key (19) having a ring (20) at one end to which the cords are attached. The key is held by the grooves (21) in the brass cap (11) so that it can move slightly in a direction parallel with the end of the mine. This allows the key to fit into the groove on the striker when in the armed position. A ring (22) guides the

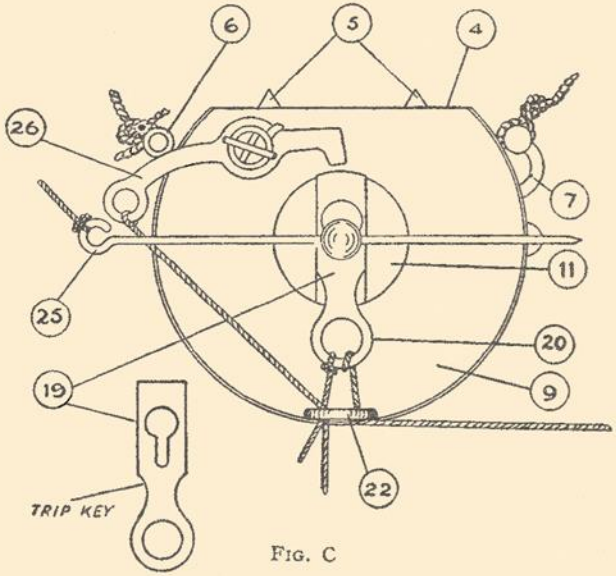


FIG. C

cords which are wound on bobbins (23), the latter being covered by a hinged flap (24) held closed by the pin (25). The pin (25) is used as the safety pin before setting the mine.

A special mechanism for detonating the mine, when a cord attached to the trip-release is cut, is shown at Figs. B and C. It takes the form of a hammer (26) on the cover (9) which is set by attaching the thin cord to the eye and stretching it under sufficient tension to hold the hammer at least 4 mm. from the end of the trip-key (19). When the cord is cut, the hammer (26) drives the trip-key forward and so releases the striker (12). This hammer is not provided on all B 4 mines.

2. **To neutralize**

Insert a wire or nail in the safety pin hole in the striker.

3. **To disarm**

(*a*) After inserting the wire in the striker, withdraw the cap holder (15) and take out the cap.

(*b*) Release the cords, allowing the hammer (26), if set, to return slowly on to the trip-key.

SECTION 22. ANTI-PERSONNEL BOMB 4 A.R. (THERMOS)

1. Dimensions

Overall length	12.3 in.
Length of body	7.3 in.
Diameter of body	2.7 in.
Thickness of body	$\frac{1}{8}$ in.
Weight of filling	1.3 lb.
Total weight	8.5 lb.
Colour	buff or green.

2. Description

This device is included because it is designed to arm AFTER it has come to rest on the ground. It is, therefore, in some respects an anti-personnel mine. It has been given the name "Thermos" because of its general resemblance, when complete, to a thermos flask. The Manzolini fuze in this bomb is an anti-handling and anti-disturbance fuze which is sensitive to a jerk or a jolt.

The safety pin (1) passes through one of the vanes on the vaned cap (2) and into a slot (3) in the aluminium cup (4).

This pin is removed before the bomb is dropped, thus allowing the vanes to rotate. The cup (4) has three projections (5) formed by cutting the metal and bending the tab outwards. These assist the removal of the cup when the vaned cap has become unscrewed and has fallen away during the fall of the bomb. The removal of the aluminium cup releases six clips which form the primary safety devices for the Manzolini fuze and the bomb then has the appearance shown at fig. 2. In this condition the fuze is completely watertight and proof against the entry of grit which might impair its sensitiveness.

When the bomb strikes the ground the secondary safety devices are released and the arming of the fuze is completed after a delay period of a few seconds. This delay period enables the bomb to come to rest before the fuze becomes completely armed. The bomb, when lying on the ground in a dangerous condition, may be recognised by :—

(*a*) The buff (or green) body (6).
(*b*) The black steel collar (7).
(*c*) The heavy steel spring (8).
(*d*) The brass fuze cover (9).

3. Handling

Since this fuze is very sensitive to a jerk or a jolt, the UXBs should, wherever possible, be detonated in situ. This can be done by small-arms fire, a 1-oz. guncotton primer, or a stick of gelignite. Alternatively, a loop at the end of a length of rope placed around the mine can be used to give it

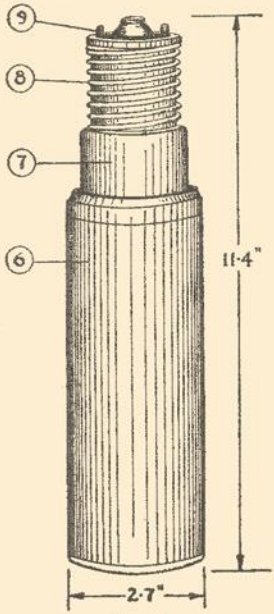


FIG. 2

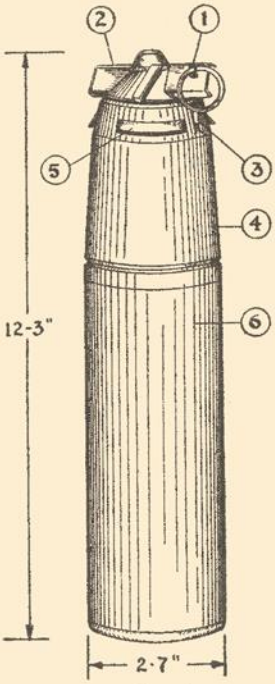


FIG. 1

a sufficient jerk to detonate it. A few sandbags built up close to the bomb will give protection to the operator, who should use a coil of rope not less than 200 ft. in length and be in the prone position when he gives the necessary jerk.

The lethal area in the open with the bomb on the surface is 100 ft. Complete immunity from fragments is obtained at 300 yds. When circumstances demand that the bomb should be moved it must be remembered that the most dangerous position for the fuze is vertical with the nose pointing upwards. Hence when moving the bomb, which will only be done in most exceptional circumstances, it should be carried horizontally and in bringing it to this position the operator must avoid passing the fuze through the vertical. Great care must be exercised in lifting, carrying, and laying down the bomb to ensure that there shall be no jolting or jerking. All movements must be slow and deliberate, and excessive acceleration of the bomb must be avoided.

SECTION 23. ANTI-PERSONNEL MINE V 5

This mine recently made its appearance in the Middle East. It is similar in many respects to the A tk. Mine V 3. The Italians say in a manual that this mine is intended for use against light motor vehicles, motor cycles, quadrupeds and infantry.

1. Dimensions

Length	3 ft. 10 in.
Breadth	2 in.
Height	2.5 in.
Internal diameter of tube ..	1.18 in.
Weight of explosive	2 lb.
Type of explosive	T.N.T. in 9/100 gm. cartridges.
Total weight of mine	11.75 lb.
Firing pressure .. .. .. (Italian documents.)	44 lb.

2. Description

The mine consists of a steel tube (1), containing the explosive charge, having a screw-on sleeve (2) at each end. Each sleeve rests on a spring (3) and the tube is attached to the bottom case (4) by the actuating bolt (5) and the nut (6). A special locking washer (7) secures the actuating bolt to the case and the base plates (8) at each end of the mine provide a foundation against overturning.

The striker mechanism (Fig. B) is very similar to that used in the A tk. mine V 3. The body (9) is a sliding fit in the sleeve (2) and is held in position by the grub-screw (10). The grips (11) are pulled to cock the striker (12) and when these are returned to their former position, a hole (13) in the end of the striker is visible; a safety pin (14) is passed through the hole (13). The action of cocking the striker compresses the spring (15) and a sear (16) drops in front of the striker flange (17). The sear is operated by the strip of spring steel (18) held to the body by the grub-screw (19).

The U-shaped spring clip (20) passes round the body of the mechanism with the open end uppermost. The brass actuating pin (21) is inserted through the sleeve (2) and passes over the top of the U-shaped clip (20). The percussion cap with its holder (22) is inserted through the sleeve into the space (23) and the detonator (24) is held in the space (25) of the striker mechanism.

3. Operation

To arm the mine the safety pin (14) is withdrawn. When pressure is applied to the metal tube, the spring (3) is

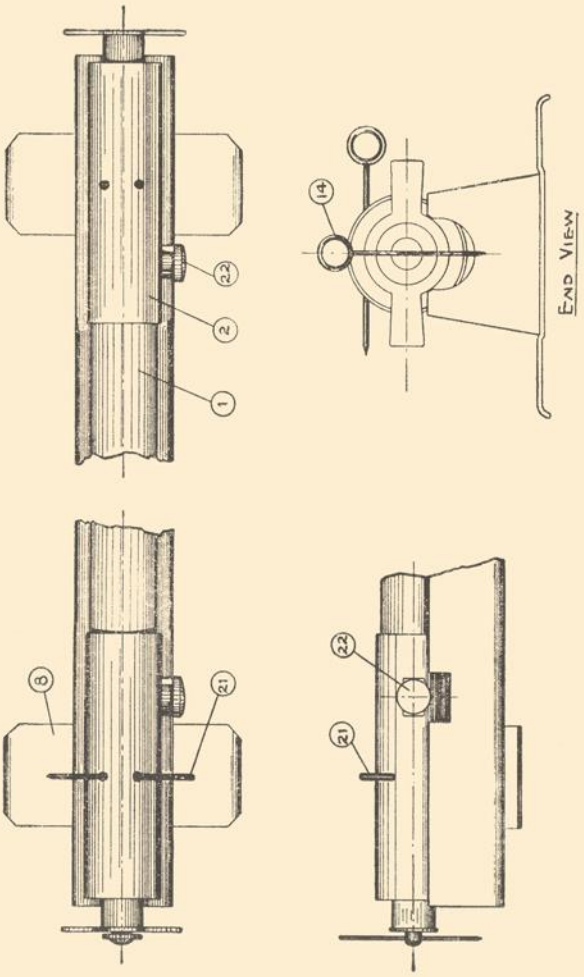


FIG. A

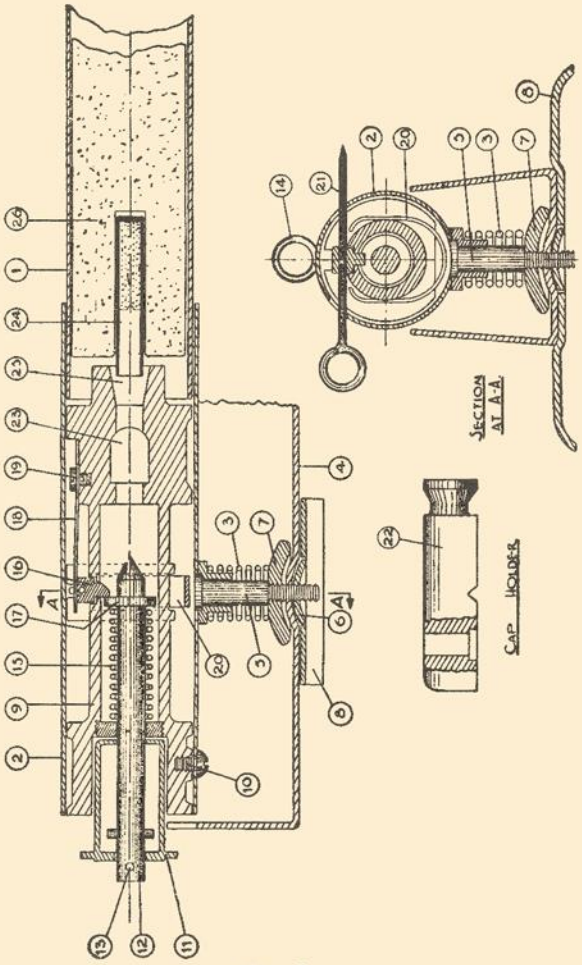


FIG. B

compressed and the actuating bolt (5) is forced upwards on the U-shaped spring clip (20). The splayed ends of the spring clip press up on the actuating pin (21) raising the sear (16) against the strip (18). The striker is thus free and under the influence of the spring (15) strikes the percussion cap (22), thus firing the detonator (24) and explosive filling (26).

4. **To neutralise**

(*a*) Avoid all pressure on the mine.

(*b*) Insert stout wires in the hole (13) of each striker, turning the grips (11) until the groove in the ends of the grips will allow the pins to slide in easily.

(*c*) Withdraw the actuating pins (21).

(*d*) Remove the capholders (22).

3. **To disarm**

(*a*) Unscrew the nuts (6) in the base of the mine and lift out the steel tube (1) complete with sleeves (2) and firing mechanisms.

(*b*) Withdraw the sleeves (2) from the tube (1).

(*c*) Take out the detonators (24) and H.E. filling (26).

(*d*) If (*b*) and (*c*) above are difficult due to deformation of the tube, remove the grub-screws (10) and withdraw the striker mechanisms. The detonators and filling may then be removed.

SECTION 24. ANTI-PERSONNEL PICKET MINE

This mine was encountered between Benghazi and Tripoli.

1. Dimensions

Diameter of mine	1.6 in.
Length of mine	5.75 in.
Diameter of picket	1.25 in.
Length of picket	10.1 in.
Overall length	17.6 in.
Explosive charge	One 100 gm. T.N.T. cartridge
Weight of mine (full)	1.75 lb.

2. Description

The mine consists of a thin sheet metal case (1) 1.16 in. thick, on the outside of which is wound the strip-metal loading (2). The latter consists of 23½ turns of mild steel strip 0.21 in. wide by 0.15 in. thick. The mine is mounted on a wooden picket (3) and secured to it by a single nail (4).

The mine is closed by the screw-on lid (5). The hole in the top of the lid receives the striker holder (6) which houses the striker (7) and the striker spring (8). On the underside of the lid is riveted the stirrup-shaped holder (9) into the centre of which is pressed the detonator locating tube (10). Passing diametrically through slots in the side of the lid is the aluminium percussion cap holder (11) which is held in the armed and unarmed positions by the spring (12). The coiled end of the latter engages in a groove (13) when in the armed position and in a groove (14) when in the unarmed position. The loops (15) enable the capholder to be set by remote control.

The mine is armed by pulling out the striker (7) from the position illustrated at A to the position shown at B and inserting the safety pin (16) in the lower hole (17). The percussion cap is then inserted in the hole (18) and the trap-wire connected to the safety pin (16). Finally the percussion capholder (11) is pulled into the armed position shown at C.

3. To neutralise

(*a*) Pull the capholder (11) into the unarmed position.

(*b*) Cut the trip-wire attached to the pin (16).

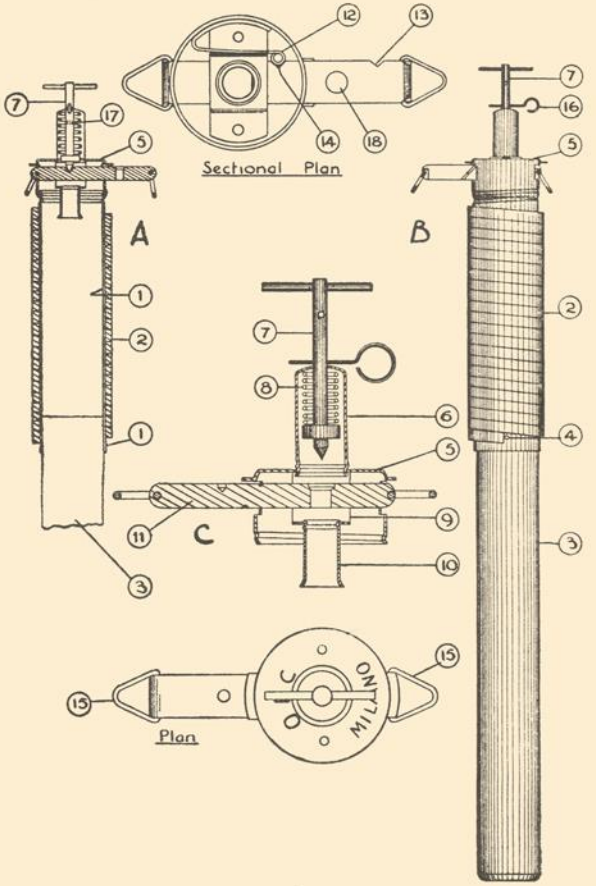
(*c*) Hold the striker and remove the pin (16) from the lower to the upper hole. Lower the striker (7) gently. In this position the striker will engage in the small recess in the capholder (11).

(*d*) Remove the cap from the hole (18).

4. **To disarm**

(*a*) Unscrew the lid (5).

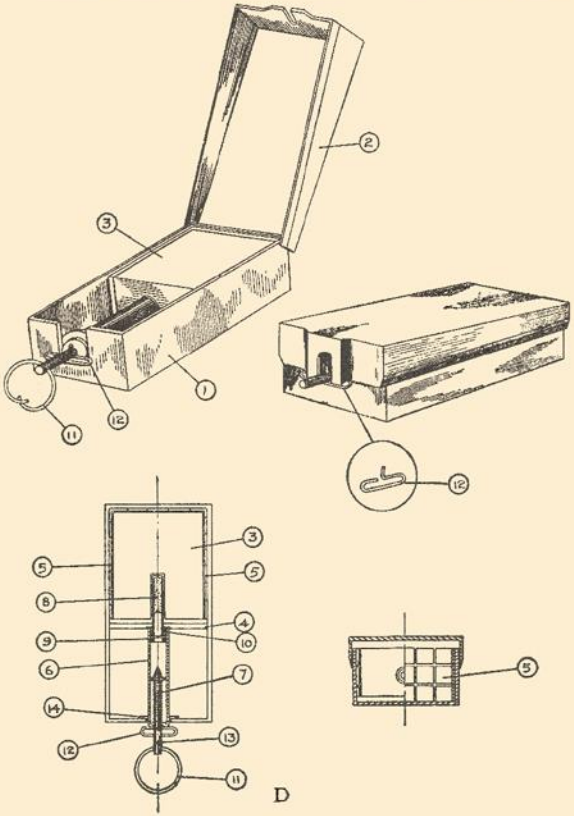
(*b*) Remove the detonator and cartridge from the body and store separately.



SECTION 25. ANTI-PERSONNEL 1 LB. MINE

1. Dimensions

Length of box	5.35 in.
Width of box	2.56 in.
Depth of box (fully closed) ..	1.5 in.
Length of charge	2.6 in.
Width of charge	1.97 in.
Depth of charge	1.18 in.
Weight of charge	150 gm. (5¼ oz.).



D

2. Description

The mine consists of a rectangular bakelite box (1), with a wedge-shaped hinged lid (2), containing a T.N.T. charge (3) held in place by a projection (4) and surrounded on the remaining three sides by deeply grooved fragmentation plates (5) 3 mm. thick. The igniter mechanism consists of a metal tube (6) which contains a spring-loaded striker (7). At (8) is a detonator, which is held in position by a flange at its open end and secured between a perforated plug (9) and a threaded locking ring (10). At the outer end of the striker is a ring (11), while an actuating pin (12) passes through a hole in the striker. An additional hole (13) is used for insertion of a wire or safety pin in disarming the mine. The outer end of the striker tube (6) is secured against the wall of the box by a flange (14). The striker assembly slips easily into the side of the mine in a recess cut out to receive it. A corresponding slot in the lid enables the mine to be completely closed when the igniter is not cocked.

3. Method of Arming

To arm the mine, the igniter is cocked by pulling out the ring (11) and inserting the actuating pin (12). The detonator is then inserted in the striker tube and secured by the locking ring (10). The whole assembly is now inserted in the box, the detonator fitting into a recess in the explosive charge. The flange (14) of the striker assembly is located inside the box while the actuating pin (13) is located outside and inserted upwards as indicated. Finally the lid is gently closed until the edge opposite the hinge rests on the actuating pin.

4. Method of operation

A slight pressure on the lid of the mine will cause the latter to push out the pin (12) and release the striker.

5. Method of neutralising

(*a*) Avoid all pressure on the lid of the mine. Lift the lid clear of the actuating pin (12).

(*b*) Insert a wire in the hole (13) and lift out the striker assembly.

(*c*) Unscrew the locking ring (10) and take out the detonator.

CHAPTER 4—PREPARED CHARGES AND DETONATORS

CHAPTER 5—IMPROVISED MINES

SECTION 33. ANTI-PERSONNEL (2 kg.) PRESSURE MINE

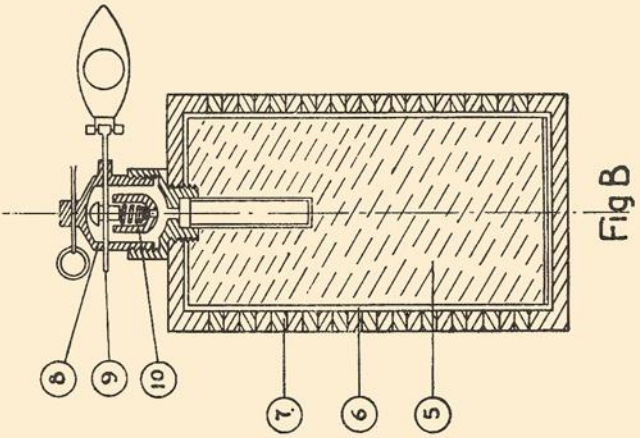


Fig B

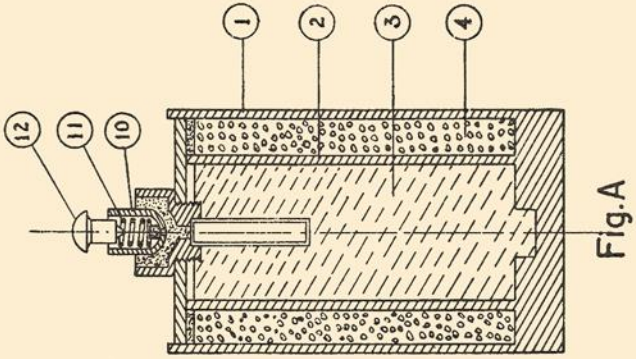


Fig.A

1. **Dimensions**

Height	..	..	..	..	4.5 in.
Diameter	..	..	..	..	2.8 in.

2. Description

This mine is improvised from the 2 kg. anti-personnel bomb dropped from aircraft. There are two types of this bomb, shown at Figs. A and B. The former consists of two concentric cylinders (1) and (2). The explosive charge (3) is contained in the cylinder (2) and the space (4) is filled with steel pellets embedded in concrete. The second type, Fig. B, contains a slightly larger explosive charge (5), and the single container (6) is wound spirally on the outside with strip metal (7).

The complete fuze is shown in Fig. B. For use in the mine, the top of the fuze (8) together with the safety rod (9) is unscrewed and removed. The cap holder (10) is placed centrally and cemented in position. The striker spring (11) and striker (12) are then placed in the cap holder as shown in Fig. A, and the mine is then set.

3. To neutralise

Lift out the striker.

4. To disarm

Unscrew the whole fuze from the lid of the mine and lift out complete with detonator.

SECTION 34. TYPE 9 MINES

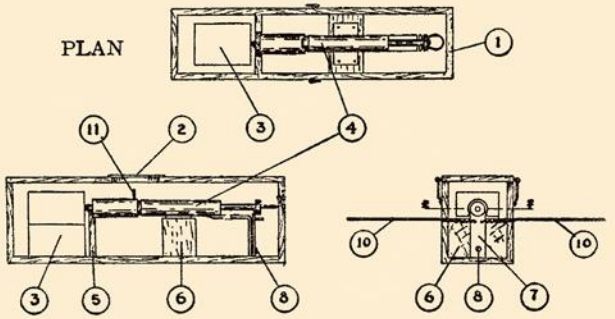
1. Anti-personnel trip-mine, type 9

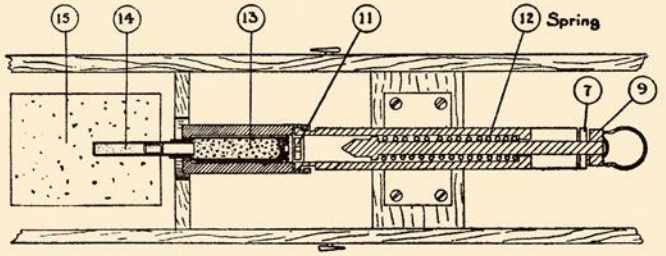
(*a*) *Dimensions*

Length	1 ft. 1.2 in.
Breadth	3.3 in.
Height	4 in.
Type of filling	T.N.T.
Weight of filling	14 oz. approx

(*b*) *Description*

This trip-mine consists of wooden box (1) having an access cover (2), a small charge (3), and a striker mechanism (4) supported on wood blocks (5) and (6). The striker mechanism is the same as that described in Sec. 14 (anti-tank mine D) except the cranked arming lever is not used. The trip-lever (7) is pivoted at (8) and its other end acts as a stop against





the head of the striker (9). Trip wires (10) are run-out from the trip-lever, through the sides of the mine and fastened with very slight tension to pickets. After withdrawal of the safety strip (11) through the access cover (2) the mine is armed.

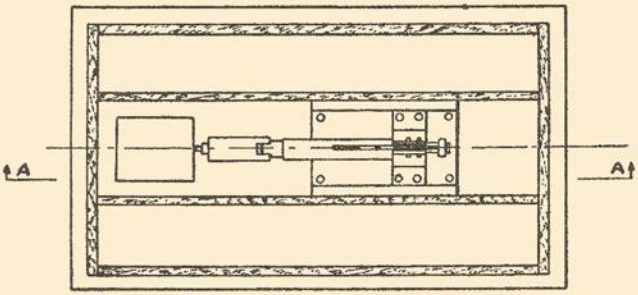
Any pull on one of the trip-wires (10) jerks the trip-lever (7) to one side, and the striker (9) under the influence of its spring (12) then detonates the cartridge (13) and fires the detonator (14) and main charge (15).

(*c*) *To neutralise*

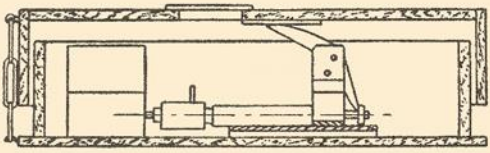
(i) Insert a pen-knife or similar object in the safety slot at (11).
(ii) Cut the trip-wires by scissors close up to the box.
(iii) Carefully release the tension in the spring, holding the ring at the end of the striker whilst the trip-lever is removed.

(*d*) *To disarm*

(i) Unlock the striker tube from the cartridge holder by turning slightly and remove it.
(ii) Carefully extract the cartridge and detonator.
(iii) Replace the empty components.



SECTION A-A



2. **Pressure mine, type 9**

(*a*) *Dimensions*

Length	1 ft. 3.6 in.
Height	4.7 in.
Type of filling	T.N.T. in two blocks.
Weight of filling	14 oz. approx.
Total weight	8 lb. approx.

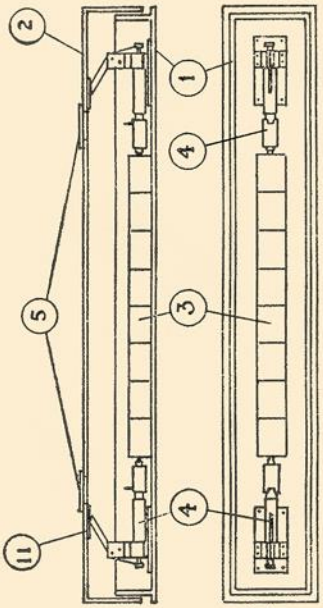


Fig.1

Fig.2

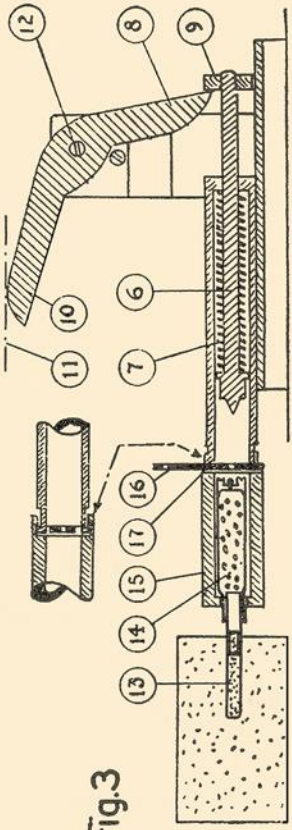


Fig.3

(*b*) *Description*

This is intended as an anti-personnel mine. The initiating mechanism is exactly similar to that described in paragraph 3 (*b*) below. In this mine there is only one initiator.

(*c*) *To neutralise and disarm*

See para. 3 (*c*) and (*d*) below.

3. **Anti-tank mine, type 9**

(*a*) *Dimensions*

Length	3 ft. 4.8 in.
Breadth	6.6 in.
Height	5.0 in.
Type of filling	T.N.T. in 8 blocks.
Weight of filling	9 lb. approx.

(*b*) *Description*

This pressure operated mine consists of a wooden body (1) and lid (2), containing a centrally placed charge (3) having two firing mechanisms (4). The details of each firing mechanism, which is similar in all " type 9 " mines, are shown in the figure. The lid (2) has two pivoted access covers (5).

When the striker (6) is cocked, the spring (7) is held in compression by the lower end of the cranked lever (8) bearing on the adjustable nut (9). The other end of the lever (10) presses against a small metal plate (11) on the underside of the lid. Pressure on the upper arm rotates the lever about its pivot (12) and the lower end of the lever trips the striker (6). The detonating system consists of a No. 8 detonator (13) fitted in the open end of a cartridge (14) contained in the holder (15).

The safety device, which consists of a metal strip (16), is placed in the slot (17) between the striker tube and the end of the cartridge holder, access to it being obtained through the access cover (5).

(*c*) *To neutralise*

(i) Open the access cover (5). If this should be difficult to move, place some rough pieces of wood between the lid (2) and the base of the body (1) so as to prevent the lid moving should undue pressure be exerted.

(ii) Insert a pen-knife blade, or strip of metal of similar size in the safety slot (17).

(*d*) *To disarm*

(i) Unlock the striker tube from the cartridge holder by turning slightly and remove it.

(ii) Replace the empty components.

SECTION 35. ANTI-TANK MINE, TYPE N

1. Dimensions

Length	15.75 in.
Breadth	5.50 in.
Height	5.00 in.
Weight of filling	5 lb.
Type of filling	Gelignite.

2. Dimensions

This anti-tank mine consists of a wooden box (1) bound with iron straps (2) and having a metal cover plate (3). The lid may be painted to blend with the surroundings and the mine is provided with two carrying handles. The underside of the cover plate carries a wooden lining to which are attached the two steel pressure plates (4). The head of each striker (5) is held against the pressure plate by means of an inverted U-shaped piece of steel (6), the limbs of the latter being held together by two strands of piano wire (7). Each striker is positioned in a steel tube (8) which holds detonator (9). Pressure on the metal cover plate (3) forces the limbs of the steel strips (6) outwards, breaking the piano wires (7). The strikers (5) are then free to move downwards under the applied load and initiate the detonators, thus firing the main charge (10).

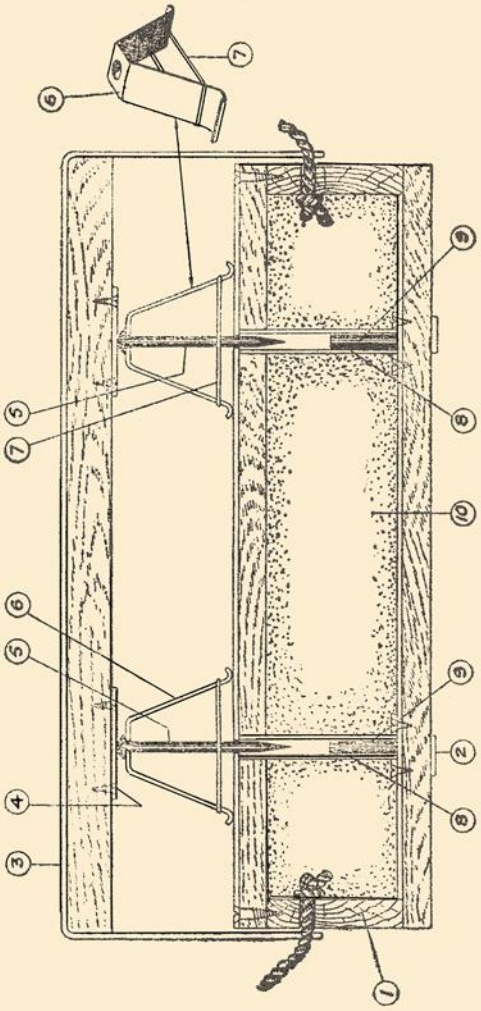
For transport the detonators are carried separately and the U-shaped steel strips are laid flat to make the mine more compact.

3. To neutralise

(*a*) Lift off the lid after cutting any outside fastenings.
(*b*) Remove the U-shaped strips and strikers.
(*c*) Replace the lid.

4. To disarm

(*a*) Take out the detonators.
(*b*) Place the U-shaped steel strips on their side, close down the lid and secure.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SECTION 36. SHELL MINE

1. Dimensions

Length	11½ in.
Breadth	8½ in.
Height	6½ in.
Type of filling	Two H.E. shells and four sticks of gelignite.

2. Description

This mine consists of a wooden box (1) with a thin sheet metal lid (2). The lid is secured to the body by wires passing over the top and fastened to pegs in the side. The firing mechanism consists of a lever (3) pivoted at (4), retaining one end of the spring (5) in the tube (6). The lever is cranked to provide a stop (7) which retains the striker (8) and the lower end of the spring (5). The tube (6) passes through to the base of the mine and contains the cap and detonator (9). The striker mechanism is held in the " safe " position by means of a cam (10) which supports the lever (3) and thus retains the stop (7) in place. The firing mechanism is operated by pressure on the lug (11) via the lid, or by trip-wires (12) and (13) 3 to 5 metres in length.

When the cam (10) is rotated so as to allow free movement of the lever (3) the mine is armed.

On pressure being applied to the lever or tension on the trip-wires, the stop (7) is removed from the flange on the striker (8). The striker under the influence of the spring (5) fires the cap and detonator (9), the gelignite packing (14) and the two shells (15).

3. To neutralise

(*a*) Rotate the cam (10) gently till it engages with the long arm of the lever (3).

(*b*) Cut the trip wires.

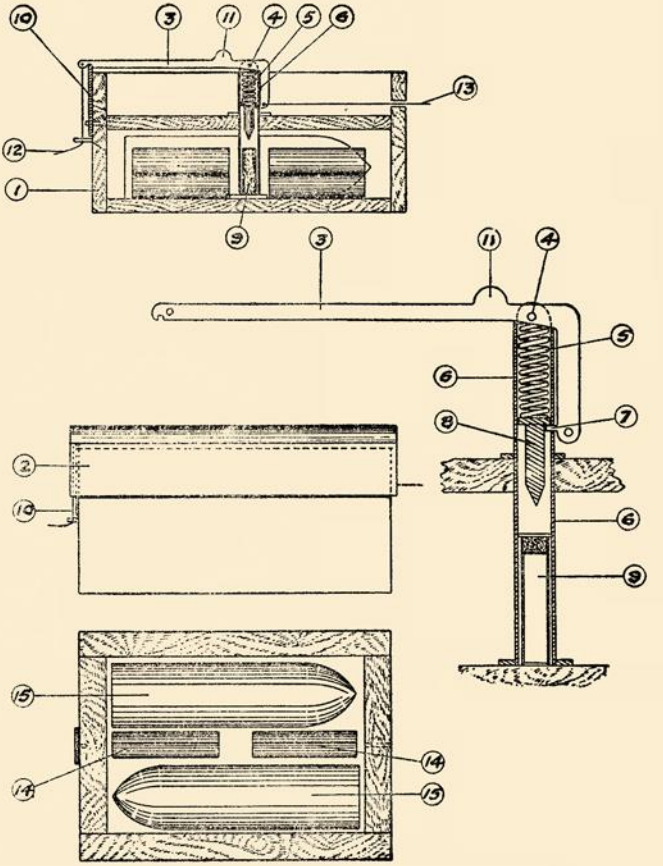
4. To disarm

(*a*) Remove the lid.

(*b*) Remove the screws in the side of the box retaining the lid of the explosive container.

(*c*) Remove the false lid and the striker mechanism together.

(*d*) Withdraw the tube holding the detonator, pulling the rube and at the same time giving it a slight rotating motion.



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ENEMY EQUIPMENT, Part II, 1944

Amendments (No. 1)

1. Page 1. Contents. Section 16.—*Delete* " Four Igniter mine " and *insert* " Anti-tank Four Igniter mine Type C.S.1."

   Section 17.—*Insert* " Anti-tank Four Igniter mine Type C.S.2."

   Section 18.—*Insert* " Bakelite anti-tank mine Type I."

   Section 19.—*Insert* " Bakelite anti-tank mine Type II."

2. Page 2. Contents. Section 24.—*After* " Anti-personnel picket mine " *insert* " Type V1."

   Section 25.—*After* " Anti-personnel 1 lb. mine " *insert* " Type R."

3. Page 9. Section 11, para. 3.—*Insert* new sub-para. (*a*) :—

   " (*a*) Carefully search for and deal with any anti-handling devices."

   Re-letter existing sub-paras. (*a*) and (*b*) to read (*b*) and (*c*) respectively.

4. Page 13. Section 11, para. 3, line 3.—*Delete* " (*c*) "

   Para. 4, line 2.—*Delete* " 3 (*d*) " and *insert* " 4 ".

5. Page 17. Section 13, para. 3.—*Insert* new sub-para. (*a*):—

   " (*a*) Carefully search for and deal with any anti-handling devices."

   Re-letter existing sub-paras. (*a*) and (*b*) to read (*b*) and (*c*) respectively.

6. Page 18. Section 14.—*After* " TYPE D " in title *insert* " 4 ".

7. Page 19. Section 14, para. 3.—*Delete* detail and *insert* :—

" (*a*) Carefully search for and deal with any anti-handling devices.

(*b*) Unscrew the plug (29) and remove the detonator."

8. Page 24. Section 15, para. 2.—*Delete* " pipes " in line 11 and *insert* " pins ".

Para. 3 (*a*).—*Delete* " lid " in line 1 and *insert* " mine ".

Insert new sub-para. (*a*) as below :—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) and (*b*) to read (*b*) and (*c*) respectively.

9. Page 25. Section 16.—*Delete* title and *insert* " Anti-tank Four Igniter Mine Type C.S.1. (Mina Italiana Anticarro Tipo C.S.1)."

10. Page 28. Section 16, para. 7.—*Insert* new sub-para. (*a*).

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) and (*b*) to read (*b*) and (*c*) respectively.

Add new paragraph :—

Amdt. 1 Jan, 1945 **9. New type Bakelite Percussion Igniter used with Four Igniter Mine, Type C.S.1.**

This igniter is similar in appearance to the original type described in para. 2 above, but is slightly larger.

The body is threaded internally at its base to take a plug which holds the detonator. The percussion cap is located on top of the detonator and a bakelite washer is provided to give a clearance for the striker pin and to ensure that the detonator is held securely. The striker pin is held in a holder, at the top of which there is a sleeve which fits over supporting cone ; the supporting cone being part of the main body. A cover, push-fitted, sits on top of the main body and when in position is sealed with a type of cement compound.

Method of functioning

The igniter fires when pressure on the cover causes the body to break down. This pressure is in turn transferred to the head of the striker sleeve, forcing the striker pin downward on to the percussion cap.

Firing pressure—300 lb. approx.

11. Page 32. Section 21, para. 2.—*Delete* detail and *insert* :—

" (*a*) Carefully search for and deal with any anti-handling devices.

(*b*) Insert a wire or nail in the safety pin hole in the striker."

12. Page 38. Section 23. *Re-number* paras. 4 and 3 to read 3 and 4 respectively. Para. 3.—*Insert* new sub-para. (*a*):—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) to (*d*) to read (*b*) to (*e*) respectively.

13. Page 39. Section 24.—*After* title *insert* " TYPE V.1."

Para. 2, line 22.—*Delete* " trap " and *insert* " trip ".

Para. 3.—*Insert* new sub-para. (*a*) :—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) to (*d*) to read (*b*) to (*e*) respectively.

14. Page 41. Section 25.—*After* title *insert* " TYPE R ".

15. Page 42. Section 25, para. 5.—*Insert* new sub-para. (*a*) :—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) to (*c*) to read (*b*) to (*d*) respectively.

16. Page 46. Section 33, para. 3.—*Delete* detail and *insert* :—

" (*a*) Carefully search for and deal with any anti-handling devices.

(*b*) Lift out the striker."

17. Page 47. Section 34, para. 1 (*b*), line 5.—*After* " D " *insert* " 4 ".

18. Page 48. Section 34, para. 1 (*c*).—*Insert* new sub-para. (i) :—

(i) Carefully search for and deal with any anti-handling devices."

Re-number existing sub-paras. (i), (ii) and (iii) to read (ii), (iii) and (iv) respectively.

19. Page 50. Section 34, para. 3 (*b*), line 5.—*Delete* " is " and *insert* " are ".

Para. 3 (*c*).—*Insert* new sub-para. (i) :—

" (i) Carefully search for and deal with any anti-handling devices."

Re-number existing sub-paras. (i) and (ii) to read (ii) and (iii) respectively.

20. Page 51. Section 35, para. 3.—*Insert* new sub-para. (*a*) :—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) to (*c*) to read (*b*) to (*d*) respectively.

21. Page 53. Section 36, para. 3.—*Insert* new sub-para. (*a*) :—

" (*a*) Carefully search for and deal with any anti-handling devices."

Re-letter existing sub-paras. (*a*) and (*b*) to read (*b*) and (*c*) respectively.

Para. 4 (*d*), line 2.—*Delete* " rube " and *insert* " tube ".

22. *Insert* new pages 26A and 28A—28J attached hereto.

Prepared under the direction of
The Chief of the Imperial General Staff

THE WAR OFFICE,
January 1945.