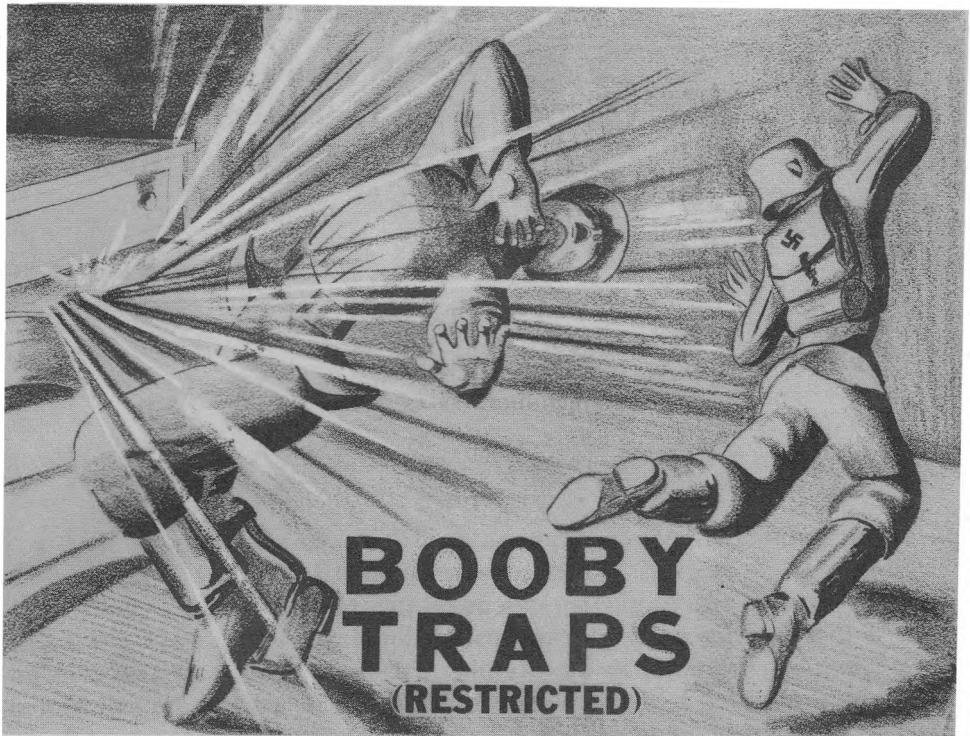


RESTRICTED

CONFERENCE COURSE

Training Bulletin No. GT-16

FEBRUARY 1, 1943



**PREPARED AT THE INFANTRY SCHOOL
UNDER DIRECTION OF THE
COMMANDING GENERAL, ARMY GROUND FORCES**

INDEX

	<i>Page</i>
SECTION I. Introduction	1
II. Standard Firing Devices	2
III. Improvised Firing Devices	15
IV. Standard and Improvised Antipersonnel Mines and Booby Traps	21
V. British Booby Traps	27
VI. Axis Booby Traps	30
VII. Principles of Employment	37
VIII. Detection and Removal	42
IX. Use of Booby Traps in Training	46

NOTE

The following information was issued in a recent training memorandum by Allied Force Headquarters in North Africa:

“Booby traps are being employed extensively by the enemy. Anything left lying about on the ground which has just been gained, which might be considered a good souvenir, should be studiously avoided. Small bombs are frequently dropped from planes and will explode when picked up. These are usually in the form of fountain pens, pencils, attractively colored balls, etc.”

SECTION I INTRODUCTION

1. **DEFINITION.**—A booby trap is a mechanism designed for effect against personnel. It is hidden in buildings or localities abandoned to the enemy to cause him, inadvertently and carelessly, to set off the trap. The antipersonnel mine is laid to perform a definite tactical mission such as to protect barriers and obstacles, to give warning of enemy approach, or to cover a retreat. There is little difference between a booby trap and an antipersonnel mine. The same device that is used for a booby trap may be used for an antipersonnel mine. Hence, the classification is determined by the purpose for which the device is installed.

2. **PARTS OF A BOOBY TRAP.**—Booby traps consist of three main parts—the trip mechanism, the charge, and the firing mechanism. (See fig. 1.)

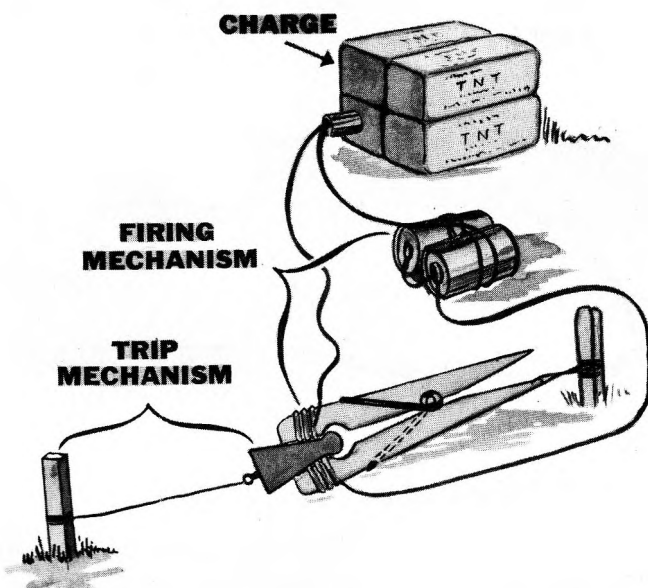


FIGURE 1.—Three Main Parts of a Booby Trap.

a. The trip mechanism is any device which is set, or stretched, so that the enemy will set off the firing mechanism. It may be a trip wire, which, if pulled, moved, or cut, will actuate the trap.

b. The charge may be any explosive, shell, mine, or grenade which is set or wired to explode when the firing mechanism is tripped. A non-electric or electric cap may be used to detonate the charge. The energy for detonation of the cap is furnished by a part of the firing mechanism.

c. The firing mechanism consists of the firing device and the batteries and wires leading to the charge if these are used. The firing device, standard or improvised, is operated by the movement of a trip wire, the application of pressure, the removal of pressure, or the closing of an electrical circuit.

SECTION II

STANDARD FIRING DEVICES

3. GENERAL.—*a.* The following nonelectric firing devices for booby traps have been standardized or are in process of standardization:

- (1) Pull firing device, M1.
- (2) Pressure firing device, M1.
- (3) Release firing device, M1.
- (4) Combination (push and pull) firing device, M1.

b. These standard firing devices afford several advantages over improvisations. They are made available in quantity through normal supply channels, are designed for speedy installation, are virtually proof against failure in mechanical functioning, will resist deterioration under prolonged exposure to weather, *and are safer than improvised types.*

4. PULL FIRING DEVICE, M1.—*a. Description.*—The pull firing device, M1, is designed primarily for use with a trip wire. (See fig. 2.)

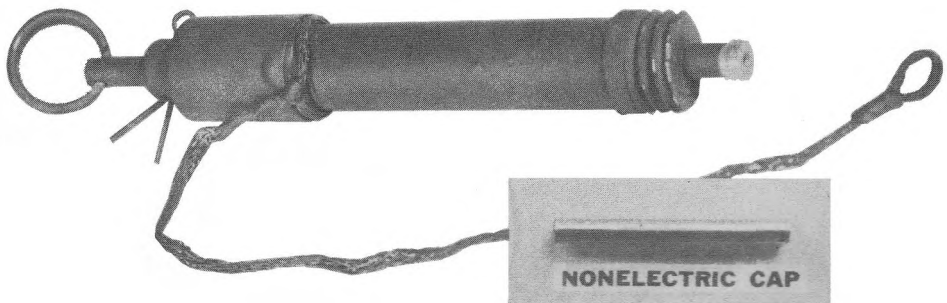


FIGURE 2.—Pull Firing Device, M1.

A direct pull of from three to five pounds applied to the trip wire will actuate the trap. The device is about $4\frac{3}{4}$ inches long and $\frac{5}{8}$ inches in diameter. It consists of a head, a housing tube, and a base. (See fig. 3.) The head contains a release pin, a safety pin, and a loading spring. The housing tube contains the firing pin and the firing pin compression spring. The base contains a recess into which a percussion cap is placed, and a projection to which a nonelectric blasting cap is crimped when the firing device is loaded. The firing mechanism consists of a firing pin, a compression spring, a release pin assembly, and a loading spring. The split head of the firing pin is forced against pressure of the compression spring through a small opening, or well, in the housing. The release pin enters into and expands the split head of the firing pin spindle against the sides of the well, thus preventing its return, although the striker is under pressure from the compression spring. The release pin is held in position by

the loading spring. Holes in the main head and in the release pin allow insertion of a safety pin, thus preventing accidental movement of the release pin to fire the cap. A soldered joint is made between the main head and the housing tube, so that this part of the device cannot be taken apart.

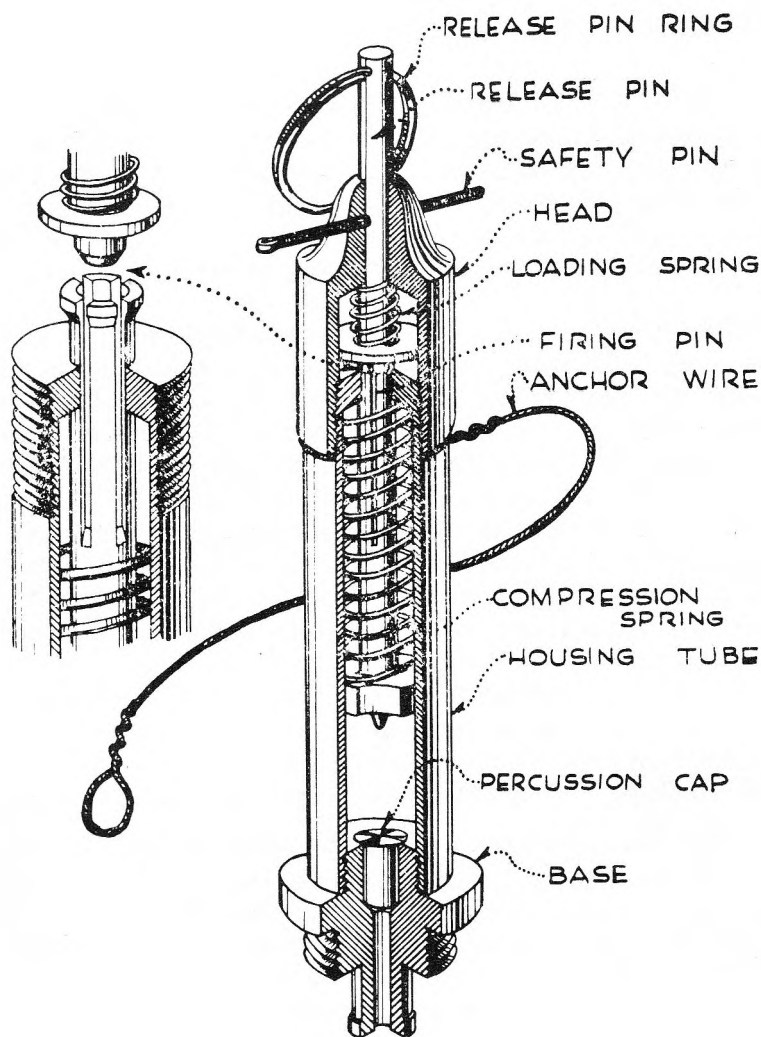


FIGURE 3.—Details of Pull Firing Device, M1.

A short piece of flexible wire terminating in a loop is attached to the housing tube at this joint. This is to be used as an anchorage for the firing device. The ring on the release pin facilitates fastening the trip wire to the device.

b. Functioning.—When the safety pin is removed, a pull of from three to five pounds applied through a distance of about 1/32 inch will overcome the resistance of the loading spring and cause the tapered end of the release pin to be withdrawn from within the split head of the firing pin. The firing pin is driven by the compression spring into the percussion cap contained in the base. The percussion cap is thus fired, detonating a non-electric cap crimped to the base, which in turn detonates the explosive charge.

c. Testing.—(1) To test the pull firing device, M1, first unscrew the base containing the percussion cap. Replace the base, inverting it so that the projection on the base is now inside the housing tube and pointing up toward the firing pin. Hold the housing tube and base together with one hand while removing the safety pin with the other. Then pull the release pin ring. The striker should descend and give the inverted base a sharp blow.

(2) To recock the device, push the striker head back against the compression spring with the unsharpened end of a pencil, screw driver, or similar tool, until the release pin slips into the split head of the striker spindle and locks it. The safety pin can then be inserted through the hole in the head. *Warning: Keep your face away from the device, as the striker, if released, will fly back with sufficient force to cause injury.*

(3) If the device fails to reset, do not force the striker back. Remove it and make sure that the split head has not been damaged. If it is damaged, the unit should be discarded. The device should not be tested by firing the percussion cap; the explosion tends to foul the barrel and may damage the mechanism.

(4) If a firing device has been fired and is to be used again, it should first be inspected for faults, then carefully cleaned and tested. The fired cap then should be removed from the base and a new percussion cap pressed tightly in its place. Firing devices should be inspected before use.

d. Installation.—Prepare and place the mine charge. The mine charge may be a fragmentation hand grenade or any explosive which can be detonated by the army special nonelectric blasting cap. The procedure to be followed is the same as for the placing of any demolition charge where a nonelectric cap is used. (See fig. 4.) Necessary waterproofing should be made where the charge is exposed to the weather. If severe weather conditions are anticipated, or the installation is expected to be subjected to weather for a long period, it is necessary to take additional steps to seal the connection between the firing device base and the blasting cap. A small amount of heavy grease, soap, wax (the wax coating on the fuse lighter container is an excellent source), cap-sealing compound, or any other suitable waterproofing material which is available, should be applied. Keeping the safety pin in position in the pull device, remove the base containing the percussion cap, then:

(1) Slide the open end of a nonelectric cap over the projection on the base and crimp, *using cap crimpers*. *This should be done carefully as only a tight crimp will result in a waterproof joint between the base and the blasting cap.*

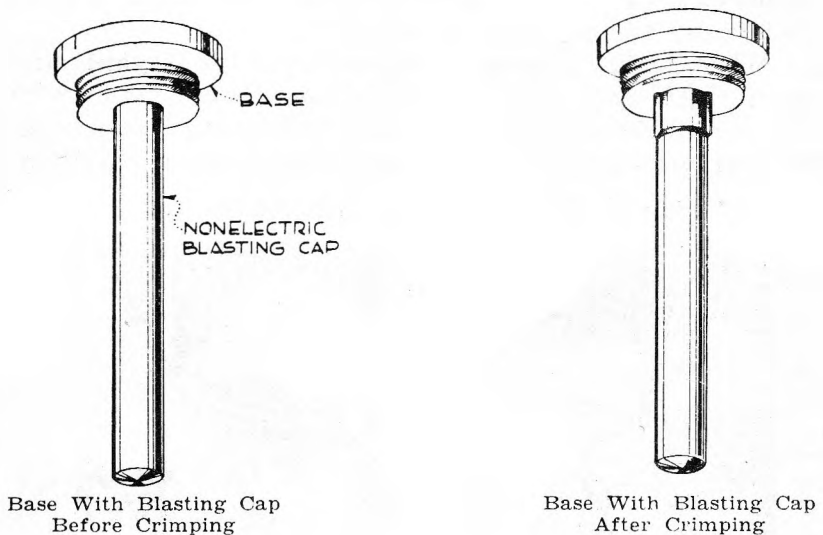


FIGURE 4. Attaching Blasting Cap.

(2) Screw in the base with blasting cap attached to the device.
(3) Insert the blasting cap into the charge.
(4) Anchor the firing device as close to the mine charge as possible. The loop of the anchor wire is wrapped around a bush or small peg driven for the purpose.

(5) Install the trip wire now. *Always start from the far end.* Fasten the trip wire to a peg, bush, or other anchor, and then lay it out *toward* the mine. There should be no tension on the trip wire. Before connecting the trip wire to the firing device, step off to one side and inspect to see whether or not it is visible. Rearrange it if necessary, so that it cannot be seen.

(6) Attach the trip wire to the firing device. *It must place no tension on the device.*

(7) For the final operation, gently remove the safety pin. If it cannot be removed easily, check the trip wire for tension on the release pin. A tight wire will make the safety pin tight. If it still binds, detach the trip wire, unscrew the base, and check the mechanism. If defective, discard the device and use another one.

(8) *Special notes on installation.*—(a) *On no account should a tight safety pin be withdrawn when the device is connected to the charge; this may result in premature firing.* The safety pin should be quite loose when the device is set properly. When primacord is used to detonate the charge, the primacord is doubled to the blasting cap, taped tightly, and

wrapped three times around the charge. (See fig. 16.) Primacord is a flexible, waterproof, fabric tube ($13/64$ inch in diameter) filled with an explosive. It is quite insensitive to shock, flame, or friction, and requires a cap to detonate it. The violence of its explosion is sufficient to detonate high explosives which are in intimate contact with it. It is included in both the infantry and engineer demolition kits.

(b) When the firing device is employed with the fragmentation hand grenade, Mark II, which has the igniting fuze, M10A1, unscrew the fuze assembly without removing the safety pin. Utilize the fiber washer under the fuze head assembly by placing it under the flange of the firing device

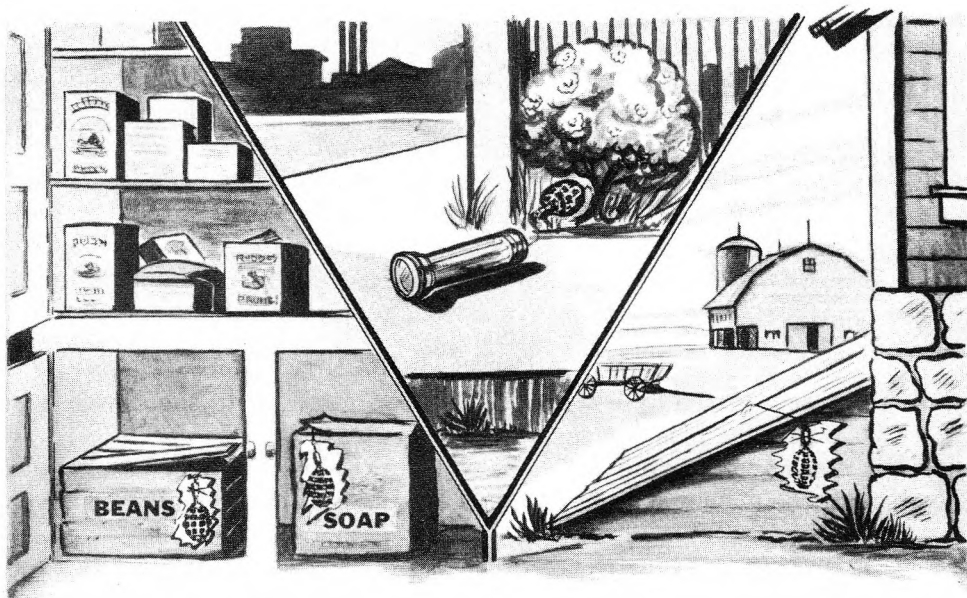


FIGURE 5.—Uses of Pull Firing Device, M1, with Hand Grenade, Mark II.

base. Cut and carefully remove the metal powder cup from the fuze of the fragmentation Mark II hand grenade. Crimp the metal powder cup to the base of the firing device in the same manner as the blasting cap is crimped. Then screw the firing device base, with metal powder cup attached, back into the grenade in place of the fuze assembly. Fasten the installation by using the anchor wire, and attach the trip wire to the fastening ring of the firing device. (See figs. 5 and 6.) Camouflage the installation carefully. Then when all work has been completed, remove the safety pin. (The mine is now dangerous and will fire instantly when a pull of from three to five pounds is applied to the trip wire.)

(c) The number of ways in which this device may be used is limited only by the ingenuity of the user. It is important to remember, however, that the entire installation must be well camouflaged. Force the enemy to suspect everything, causing him to fear to touch or move even the least suspicious objects.

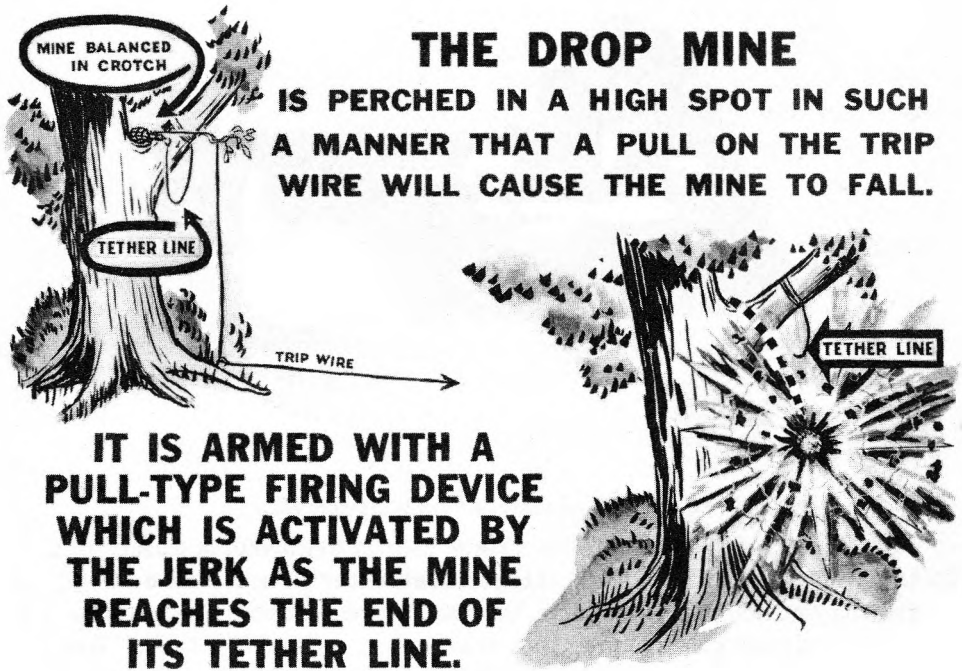


FIGURE 6.—The Drop Mine.

5. PRESSURE FIRING DEVICE, M1.—*a. Description.*—This device is designed to cause the detonation of explosive charges when it is subjected to a pressure of 30 pounds or more. (See fig. 7.) The device is mounted on a rectangular metal base plate, measuring $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inches, and is composed of a barrel, head, and base. The barrel contains the firing mechanism. (See fig. 8.) The head, permanently joined to the barrel, contains the trigger assembly. The base, which screws into the barrel, contains a recess into which a percussion cap fits and a projection over which a nonelectric blasting cap is crimped. (The base and percussion cap are identical with those used on the pull firing device, M1.) The firing mechanism consists of a striker assembly, a striker spring, a trigger assembly, and a trigger spring. The striker assembly consists of a round spindle with a turned-down section of reduced diameter $\frac{3}{8}$ of an inch from the end opposite the striker, the striker head, and a firing pin mounted on the striker head. The trigger unit consists of a large, flat head mounted on a trigger pin extending through the side and down into the barrel. The

trigger pin has a pear-shaped hole in it. The small section of the spindle fits in the small end of the pear-shaped hole so that the striker spring is unable to cause a movement of the striker and firing pin. A safety clip extends around the trigger pin, between the barrel and the trigger head. No appreciable movement of the trigger pin against the action of the trigger spring is possible until the safety clip is removed.

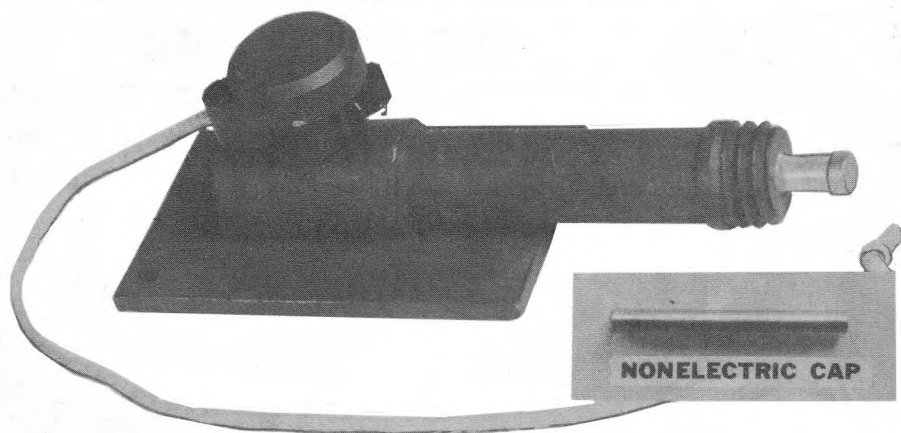


FIGURE 7.—Pressure Firing Device, M1.

b. Functioning.—When the safety clip is removed, a force of from 25 to 35 pounds applied to the trigger head through a distance of $\frac{3}{16}$ of an inch is sufficient to overcome the resistance of the trigger spring and cause the trigger pin to move into the barrel, permitting the striker and firing pin to be driven forward and strike the percussion cap. The percussion cap detonates a nonelectric blasting cap crimped to the projection on the base.

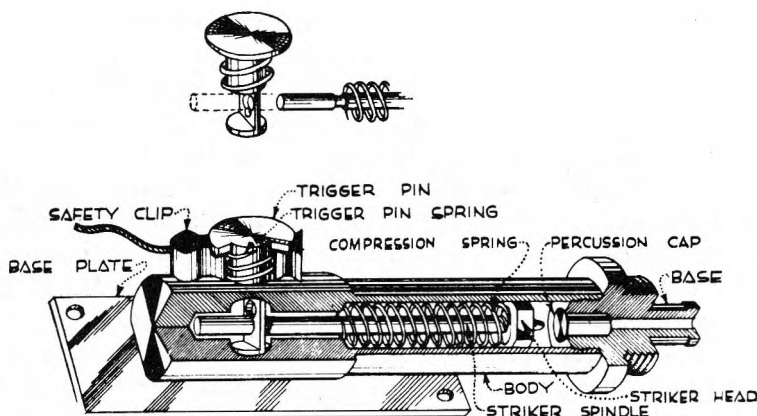


FIGURE 8.—Details of Pressure Firing Device, M1.

c. Testing.—(1) To test the pressure firing device, M1, first unscrew the base containing the percussion cap. Invert the base and hold it securely over the open end of the detonator. Remove the safety clip and apply pressure to the trigger pin head. This results in the release of the striker and a sharp blow by the firing pin upon the inverted base. If the inverted base is not held over the open end of the firing device, the striker assembly will fly out with considerable force.

(2) To recock the device, push back the striker mechanism with the unsharpened end of a pencil, screw driver, or similar tool, at the same time pressing down on the trigger head so that the spindle can pass through the large end of the hole in the trigger pin. Then release the pressure on the trigger head so as to allow the smaller end of the hole to engage the reduced section of the striker spindle. The device is now cocked.

d. Installation.—(1) Prepare and place the mine charge as for the pull firing device.

(2) Keeping the safety clip in position on the firing device, remove the base containing the percussion cap.

(3) Place the firing device in position at the location where it is to be used.

(4) Slide the open end of the nonelectric cap around the projection on the base, and crimp, using the cap crimper.

(5) Screw the base, blasting cap attached, to the device.

(6) Prime the charge. When primacord is used, tape the looped end of the primacord to the blasting cap in the proper manner and run the other end to the charge. If primacord is not used, insert the blasting cap into a block of explosive.

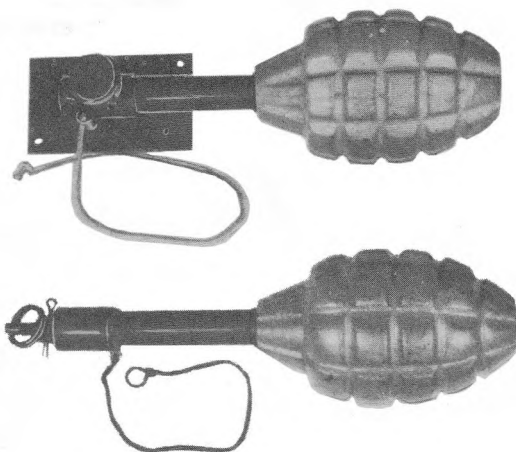
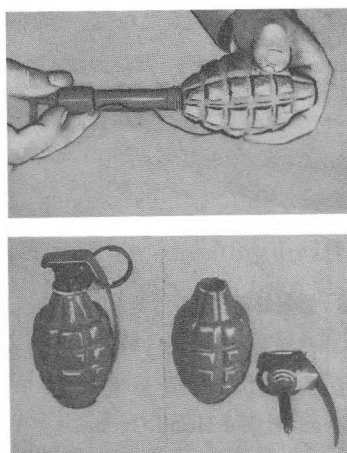
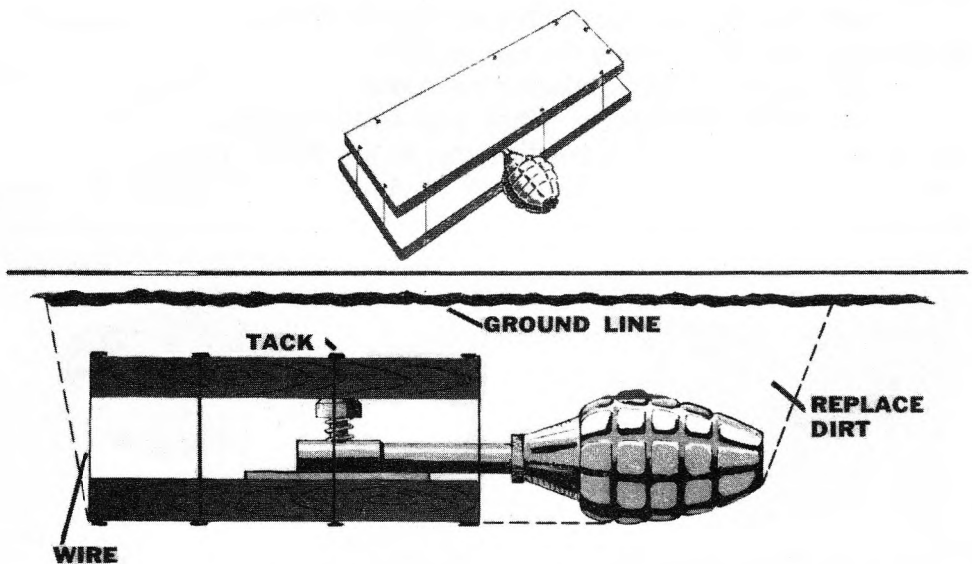


FIGURE 9.—Use of M1 Firing Devices with Hand Grenade, Mark II, After Grenade Fuze Has Been Removed.

(7) *Remove the safety clip gently; a sudden jerk may cause the device to fire prematurely.* If the safety clip does not pull off easily, check the installation to make sure that there is no pressure on the trigger pin. When the device is firmly anchored, remove safety clips from a safe distance, using a string or length of wire for the purpose. When the firing device is employed with the fragmentation hand grenade, Mark II, which has the igniting fuze, M10A1, unscrew the fuze assembly without removing the safety pin. (See fig. 9.) Utilize the fiber washer under the fuze head assembly by placing it under the flange of the firing device base. Cut and carefully remove the metal powder cup from the fuze of the fragmentation Mark II hand grenade. Crimp the metal powder cup to the base of the firing device in the same manner as the blasting cap is crimped. Use the firing device base with the metal powder cup of the hand grenade in place of the fuze assembly. Place the grenade, with firing device attached, and carefully camouflage the installation. Warning: Do not cut off the metal powder cup of the H. E. Mark II grenade, because of the danger of explosion.



THE PRESSURE FIRING DEVICE AS EMPLOYED WITH A GRENADE, MK II.

FIGURE 10.—Pressure Firing Device, M1, as Employed with a Hand Grenade, Mark II.

e. Use.—The pressure firing device, M1, is commonly used with the Mark II hand grenade after the grenade fuze has been removed. (See fig. 10.) Traps of this sort are usually placed under floorboards, stair-

treads, furniture, rugs, seat cushions, or stones in pathways. (See fig. 11.) They also may be used effectively in mine fields. The mine detector will seldom pick up pressure firing devices when they are used with TNT. When buried $1\frac{1}{2}$ inches in the ground, the pressure firing device is difficult to detect by probing.

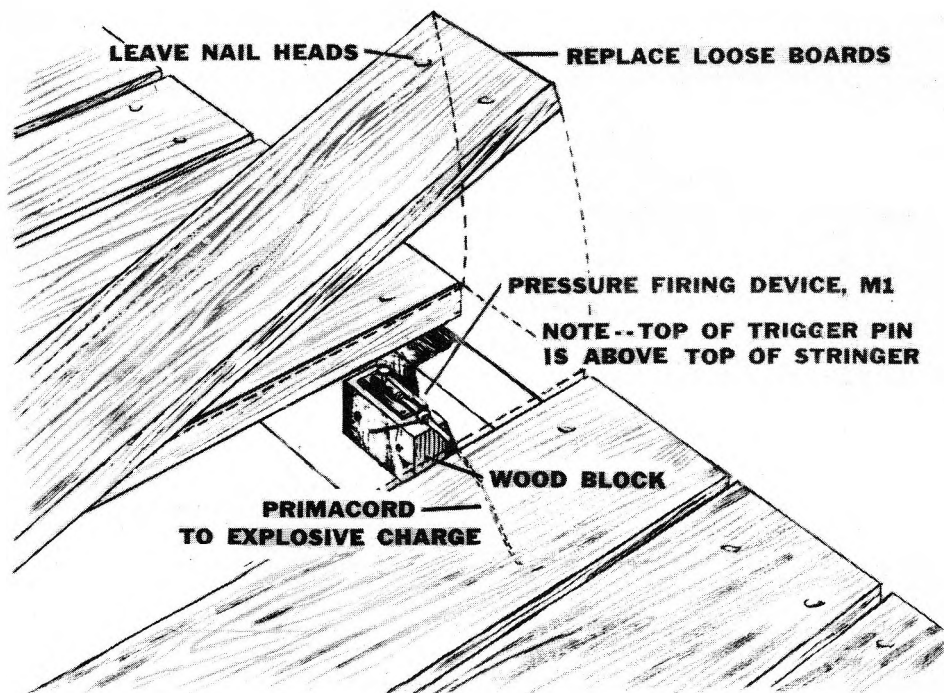


FIGURE 11.—Use of Pressure Firing Device, M1, Under Flooring or Board Walks.

6. THE RELEASE FIRING DEVICE, M1.—a. Description.—This device operates when a restraining load is removed from it. (See fig. 12.) The device measures about $2\frac{7}{8}$ inches by $1\frac{7}{8}$ inches by $1\frac{7}{8}$ inches, and consists of a cube-shaped body containing a lever, spring, and firing pin, mounted on a nailing bracket. The end of the body is provided with a female connection to take the standard firing device base used in the pressure firing device, M1, and the pull firing device, M1. The firing mechanism consists of the latch, spring lever, spring, and firing pin. When cocked, the device is prevented from firing as long as there is at least a two-pound load on the top face of the latch. When the load is removed, the safety pin which holds the latch in position is removed and the latch releases the spring lever which swings down and strikes the firing pin. This fires the percussion cap, detonating a nonelectric cap crimped to the base. A nailing bracket is provided by a thin plate $\frac{3}{4}$ of an inch wide by four inches long,

spot-welded to the bottom of the body. Two holes $\frac{1}{4}$ -inch in diameter, known as disarming holes, are provided on the sides to permit the insertion of a nail or stiff wire to act as an auxiliary safety device by blocking the spring lever from striking the firing pin.

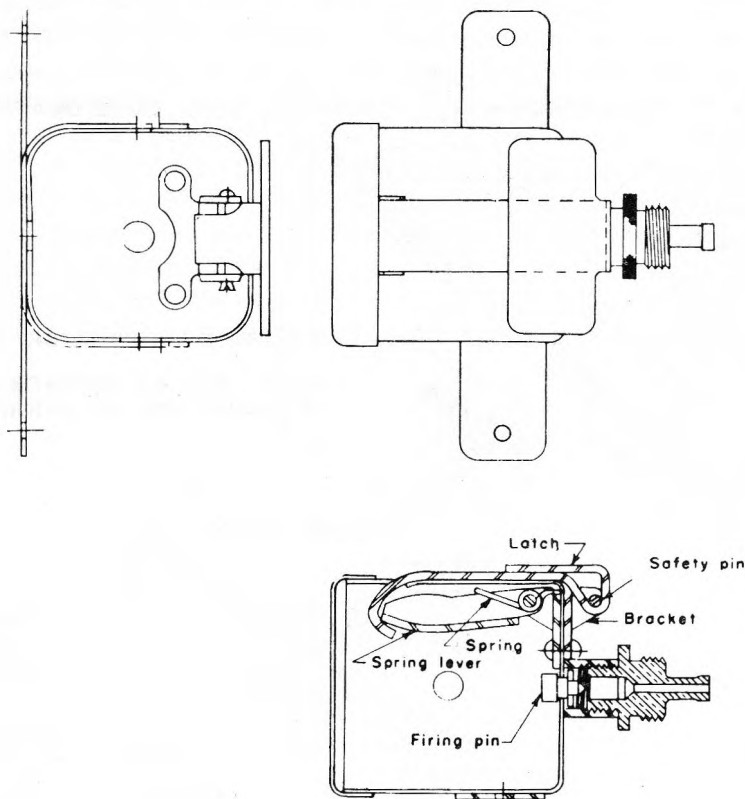


FIGURE 12.—Release Firing Device, M1.

b. Testing.—(1) To test the release firing device, M1, first unscrew the base containing the percussion cap. Hold the device in one hand and press downward on the latch with sufficient force (at least two pounds) and remove the safety pin. Release the pressure on the latch, and the spring lever will strike the firing pin.

(2) To recock the device, remove the lid opposite the firing pin. With the fingers, pull the spring lever back and hold the end of the spring lever with the hook of the latch, at the same time lowering the forward end of the latch into the bracket. When the hole in the latch lines up with the hole in the bracket, insert the safety pin. Replace the lid and screw on the base. The device is now cocked.

(3) If the device fails to reset, do not force the latch into position. A pressure of two pounds should be all that is needed. If the latch is bent or the device is otherwise defective, it should be discarded.

(4) The device should not be tested by firing the percussion cap. In addition to wasting the percussion cap, the explosion tends to foul the firing pin and may damage the mechanism. If a firing device is to be used again after having been fired, it should be inspected for faults, and then carefully cleaned and tested. The used cap should be removed from the base and replaced with a new percussion cap pressed tightly into position.

(5) Contact surfaces of the latch and the body should be scraped until shiny by working one surface against the other, or else the latch may stick.

c. Installation.—Prepare and place the mine charge as for the other firing devices. Keeping the safety pin in position in the pull device, remove the base containing the percussion cap, then:

(1) Slide the open end of a nonelectric cap over the projection on the base and crimp, using cap crimpers. This should be done carefully to insure a tight crimp and a waterproof joint between the base and the blasting cap.

(2) Screw the base, with the blasting cap attached, into the device.

(3) Insert the blasting cap in the charge.

(4) Provide a level, solid foundation on which the device is to rest. If a board is available, utilize it as a foundation and nail the device to it.

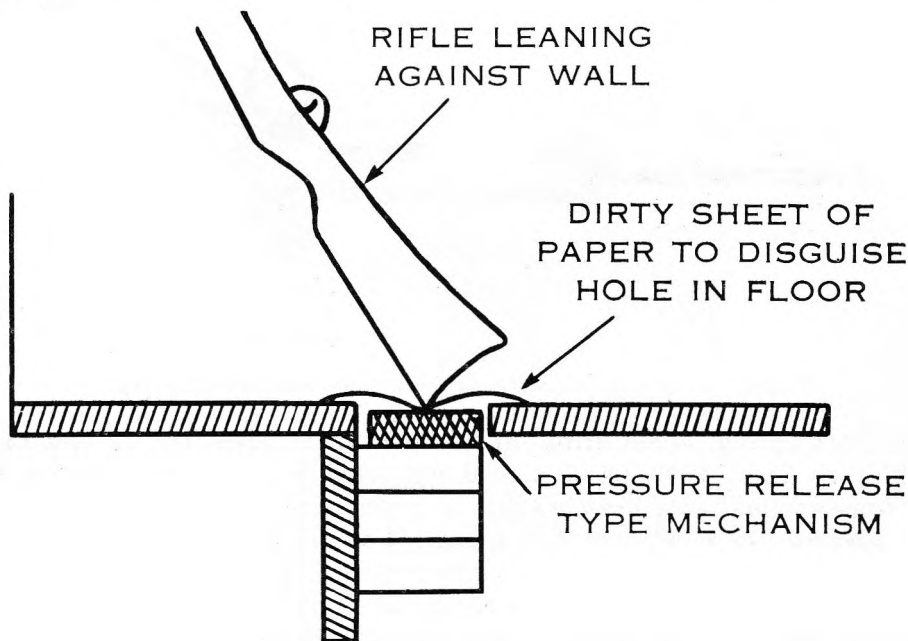


FIGURE 13.—Use of Release Firing Device, M1.

(5) Place the restraining load on the exposed surface of the latch.

(6) Insert a nail through the disarming hole (additional safety device). Remove the safety pin and then the nail. Be careful not to disturb the restraining load.

d. Use.—This device may be used effectively by locating it under an object, such as a heavy book or the rocker of a chair, so as to actuate the booby trap when the object is lifted. (See fig. 13.) It may also be used around doors or drawers which, when moved, actuate the trap.

7. COMBINATION FIRING DEVICE, M1.—This firing mechanism

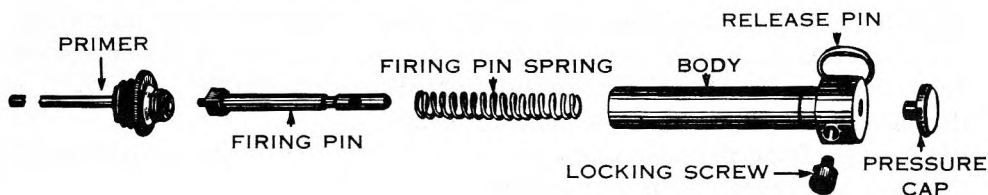


FIGURE 14.—Combination Firing Device, M1.

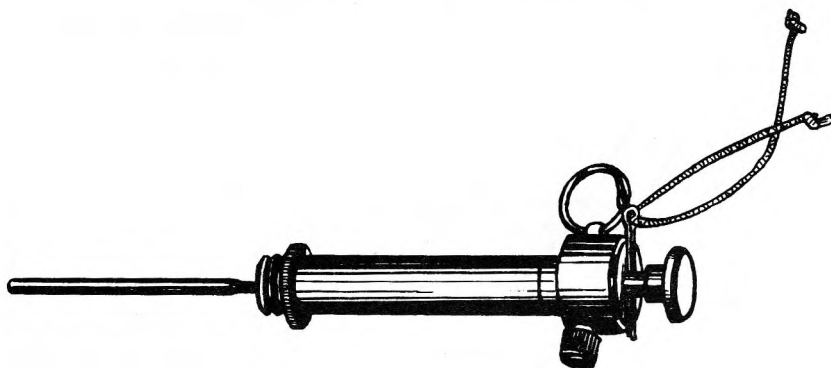


FIGURE 15.—Combination Firing Device, M1, with Blasting Cap.

contains a spring loaded firing pin and a primer. (See figs. 14 and 15.) It may be fired by means of a cord connected to the release pin, or by pressure applied to the pressure cap. A pressure of 20 to 40 pounds on the pressure cap, or tension of 3 to 6 pounds on the release pin, will cause release of the firing pin and detonation of the charge. Lengths of wire packed with the firing devices are for connections to the pull ring and for tripping devices. This device is used mainly with the antipersonnel mine, M2, and antipersonnel mine, M3.

SECTION III

IMPROVISED FIRING DEVICES

8. IMPROVISED FUSE LIGHTER FIRING DEVICE.—*a.* The standard fuse lighter (see fig. 16) is the basis for the most reliable improvised firing device and the only one that is adapted to large-scale employment in the combat zone. It utilizes a standard fuse-lighter, a tetryl nonelectric cap, and a length of primacord. The metal fuse-gripper inside the open end of the fuse lighter must be removed before the nonelectric cap can be inserted. To remove the fuse-gripper, insert the end of a piece of time fuse in fuse lighter, and withdraw forcibly.

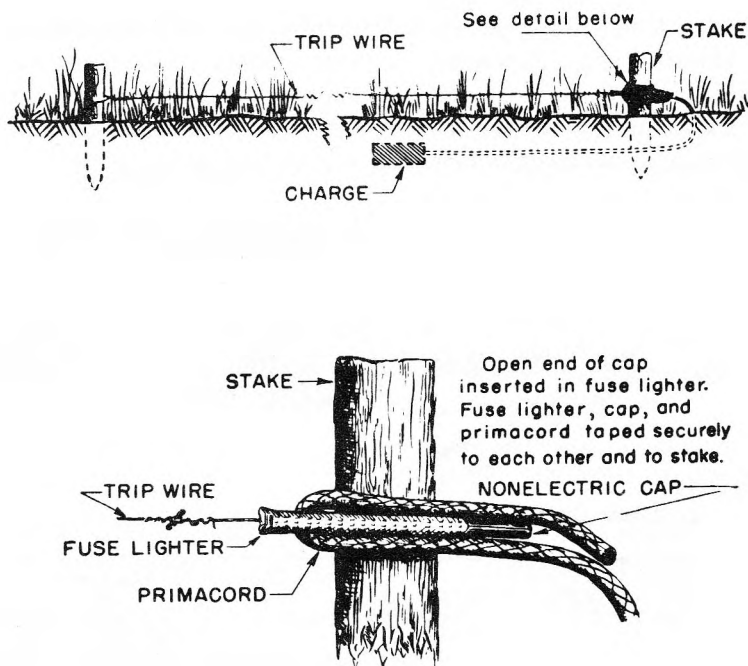


FIGURE 16.—Improvised Fuse Lighter Firing Device.

b. The friction caused by the withdrawal of the trip wire ignites the match mixture inside the fuse lighter, which sends a burst of flame back to the blasting cap. This, in turn, detonates the primacord, thus firing the charge.

9. ELECTRIC CONTACTS.—A great variety of electric contacts for detonating booby traps can be constructed. However, it must be kept in mind that improvised electrical devices have the following disadvantages:

a. They are not reliable and are extremely dangerous to construct and set unless the soldier is very experienced. Infantrymen should resort to them only as a last expedient.

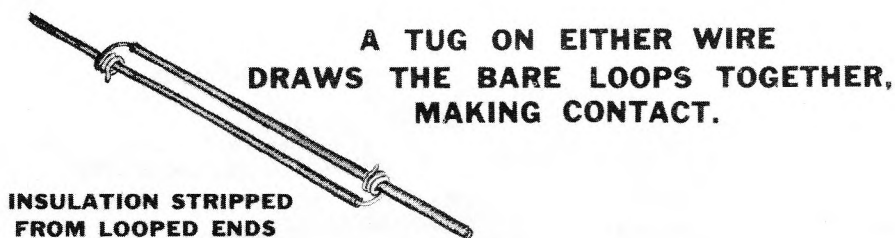
b. They are subject to deterioration under weather. Dew or other moisture will soon make the batteries of electrical devices too weak to set off the caps, because of the leakage of current. They are much more susceptible to mechanical malfunctioning than the standard devices.

c. The length of time in constructing many of the improvised electrical devices is so great that their use often is not practicable.

d. The difficulty of obtaining adequate supply of flashlight or other batteries in the field often prevents the use of these improvised electrical devices.

10. EXAMPLES OF ELECTRIC CONTACTS.—Examples of booby traps utilizing improvised electric contacts are given in subparagraphs a to i, below. One flashlight cell, if fresh and new, will fire one army special electric blasting cap. However, to ensure firing, it is recommended that two flashlight cells be used. Either remove the paper case from the battery or solder one connection to the bottom. In order that the batteries will not be disrupted by damp weather, a waterproof container can be made by

THE FISHERMAN'S KNOT



THE LEVER SWITCH

**THIS SWITCH
DEPENDS ON
THE RAISING
OF THE INCLINED STICK
TO MAKE CONTACT.**

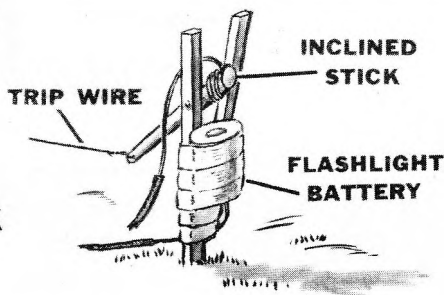


FIGURE 17.—The Fisherman's Knot and the Lever Switch.

soldering connections between the cells and placing the batteries in tin cans with sealing wax to close the joints. *Wire from the electric blasting caps should be used for electric connections. Remember the following safety precaution: Never connect the wire leading to the charge until all*

work on the improvised device has been completed and the device is ready to function. Once the charge has been connected, do not touch any part of the installation.

a. One of the best of the improvised electric contacts is the Fisherman's Knot (see fig. 17) which is simple, reliable, and relatively safe to install. With field tools, a soldier can construct a fisherman's knot in a few minutes. It has the additional advantage of being easily camouflaged. The Lever Switch also is fairly simple, and can be constructed in about 10 minutes. Branches of trees or large twigs supply the wood parts of the lever switch. Care must be taken to insure that a good electric contact is made by the wire connected to the battery case.

b. See Figure 18.—Bent Nail Electric Contact.

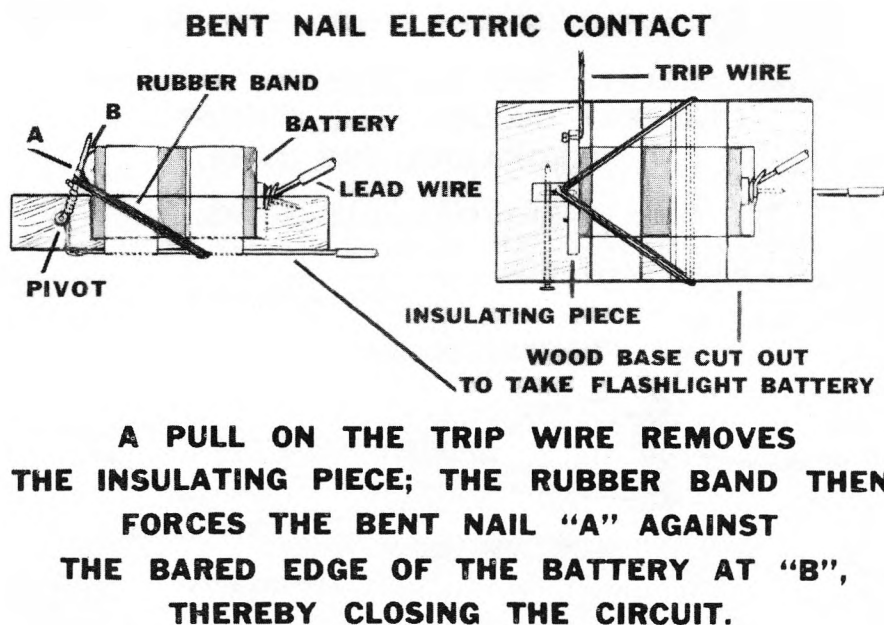
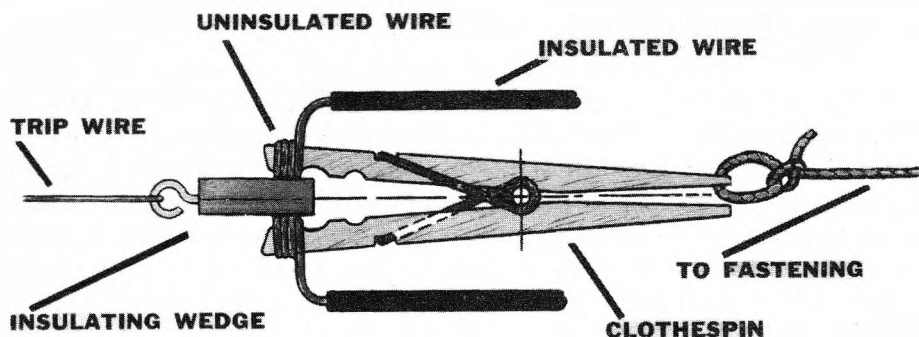


FIGURE 18.—The Bent Nail Electric Contact.

c. See Figure 19.—Spring Clothespin Electric Contact.

d. See Figure 20.—Variation of Spring Clothespin Electric Contact.

e. See Figure 21.—Sliding Bar Electric Contact.

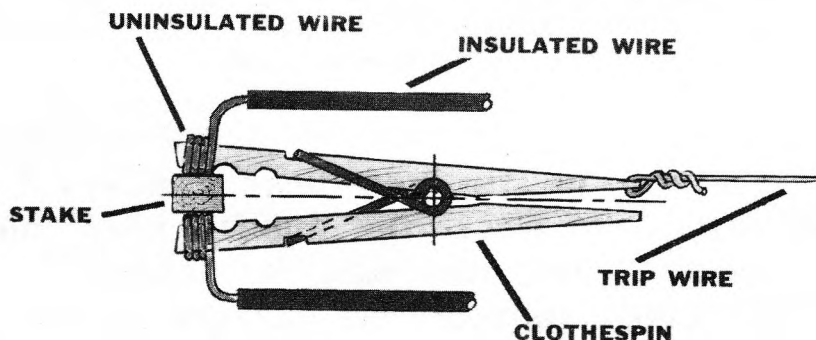


SPRING CLOTHESPIN ELECTRIC CONTACT

A PULL OF THE TRIP WIRE REMOVES THE WEDGE.

**THIS PERMITS THE CLOTHESPIN TO CLOSE,
THEREBY CLOSING THE CIRCUIT
AND DETONATING THE TRAP.**

FIGURE 19.—Spring Clothespin Electric Contact.



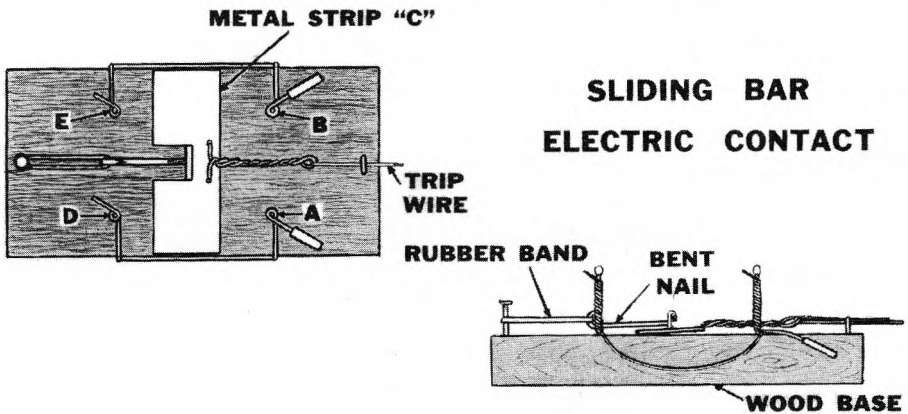
SPRING CLOTHESPIN ELECTRIC CONTACT

**ANOTHER METHOD IS TO SNAP THE CLOTHESPIN
TO A STAKE DRIVEN IN THE GROUND
WITH THE TRIP WIRE
LEADING TO THE CLOTHESPIN ITSELF.**

A PULL CAUSES CONTACT TO BE MADE.

FIGURE 20.—Variation of Spring Clothespin Electric Contact.

f. The Mousetrap (see fig. 22) is easily made from a mousetrap, cap, mine, flashlight batteries, and some friction tape. It is effective because it seldom fails to function. However, it is very sensitive. Any jarring of the switch while making connections is apt to set it off.



A PULL ON THE TRIP WIRE WILL CLOSE THE CIRCUIT WHEN "C" STRIKES "A" AND "B". THE CIRCUIT WILL ALSO BE CLOSED IF THE TRIP WIRE IS RELEASED OR CUT; THE RUBBER BAND PULLING THE METAL STRIP AGAINST "D" AND "E".

FIGURE 21.—Sliding Bar Electric Contact.

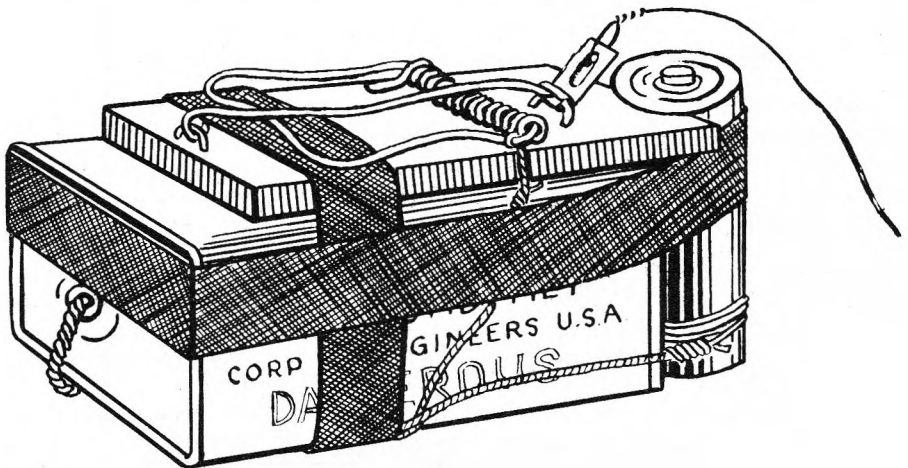


FIGURE 22.—Mousetrap Electric Contact.

g. In connection with the Table Knife electric contact (see fig. 23), a rustproof knife blade is preferable because of its better weathering qualities.

igniter assembly. The primer is protected during handling and shipment by a metal cap. The mine is painted olive drab, lusterless, except for the flange of the mine base, which is painted yellow. Stenciled on the flange is the type and model of the mine, the lot number, manufacturer's symbol, and date of loading.

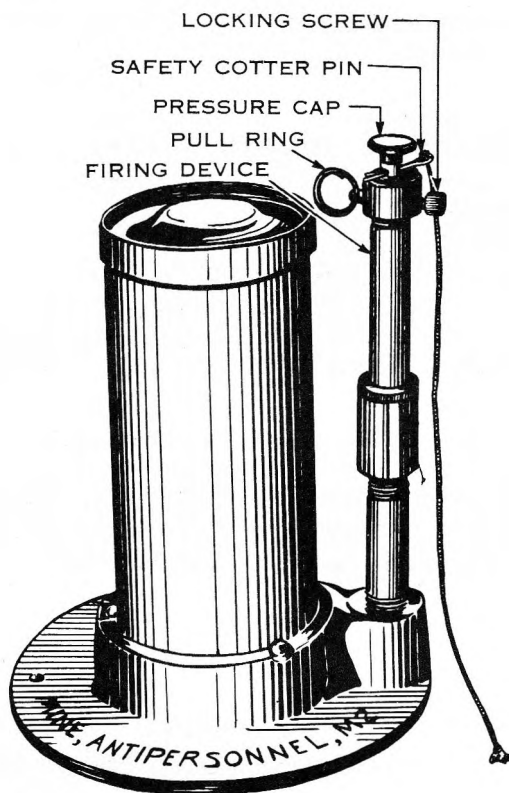


FIGURE 26.—Antipersonnel Mine, M2.

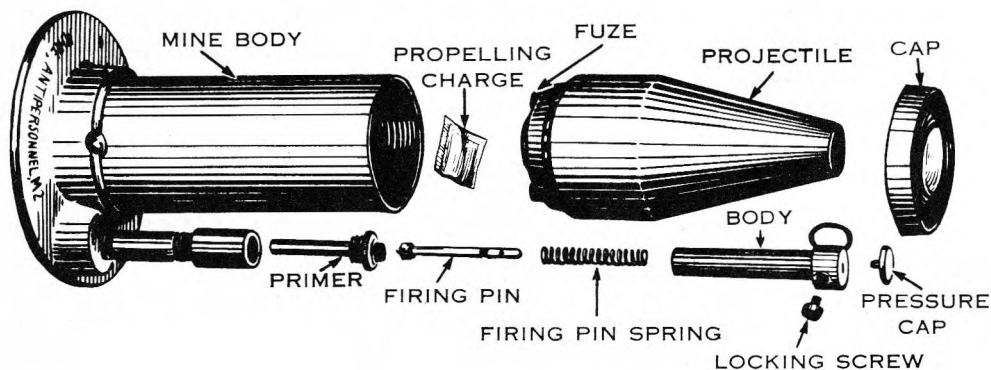


FIGURE 27.—Details of the Antipersonnel Mine, M2.

c. Operation.—(1) To assemble the mine, remove the cap from the primer, and, after making sure that the safety screw and safety cotter pin are in place, screw the firing pin assembly on to the primer.

(2) To plant or prepare for action:

- (a) Place the mine on a firm foundation.
- (b) Remove cover from primer and screw on remainder of the firing device (combination firing device, M1).
- (c) Attach trip wire or install the trip.
- (d) Check to see that the trip wire is not too tight, or that there is not too much weight on the pressure cap.
- (e) Remove safety cotter pin and locking screw.
- (f) Make a record of the installation.

(3) To pick up or recover:

- (a) Screw the locking screw in place and replace safety cotter pin.
- (b) Cut the trip wire or remove the pressure tripping device.
- (c) Remove firing device and return the mine and components to the original packing.

d. Precautions.—(1) No attempt should be made to disassemble the mine except to remove the firing pin assembly when the mine is picked up. Mines with loose caps or primer assemblies should not be used until inspection by ordnance personnel shows that the igniter and propelling charges have not been damaged by moisture, and the mine cap and primer assembly have been resealed.

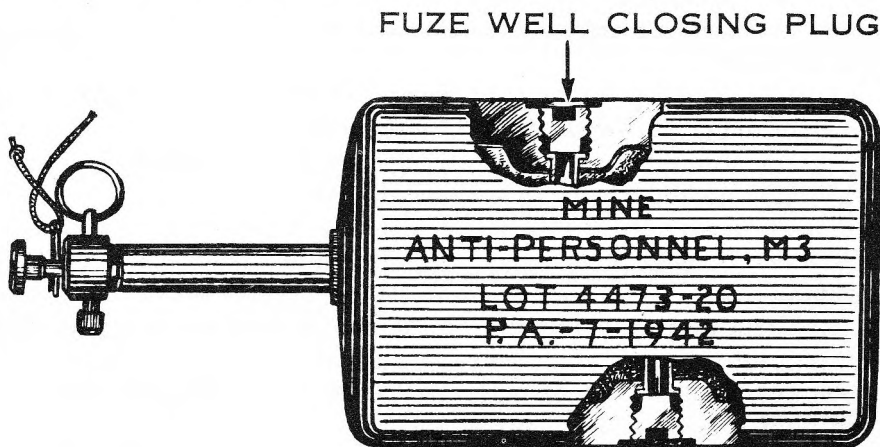


FIGURE 28.—Antipersonnel Mine, M3.

(2) When mines are being planted, place the cap from the primer and the safety cotter pin and locking screw near the body of the mine, in a position where they may be readily found if it is necessary to pick up or recover the mines.

12. ANTIPERSONNEL MINE, M3.—*a. General.*—This mine (see fig. 28) is a fragmentation type which can be used as a booby trap. It consists of a cast iron block containing TNT, and a firing device. It has an effective radius of 10 yards against personnel, when fired at the surface of the ground. The effective radius is slightly increased when the mine is used several feet above the ground level, and is decreased when the mine is buried in the ground. Fragments of the mine may be thrown more than 100 yards and suitable protection should be provided for friendly personnel within this radius.

b. Description.—The cast iron casing is filled with 9/10 pound of flaked TNT. In two opposite sides and one end there are holes below which are fuze wells. Any one of these holes may be used. When the mines are shipped, the holes are closed with plastic plugs. In the end opposite the well is a filling hole which is closed with a disk. The firing mechanism used with this mine is the combination firing device, M1, to which a blasting cap is assembled. A trip wire or pressure firing arrangement is necessary to operate the firing device.

c. Operation.—(1) To assemble the mine, it is only necessary to remove the closing plug from the desired fuze hole and to screw in the firing device firmly. Be sure that the well is clear of foreign material and that the detonator enters freely.

(2) To plant or prepare for action:

(a) Remove the fuze hole closing plug. Use the wrench packed with the mines.

(b) Assemble the firing device to the mine.

(c) Attach a trip wire to the pull ring, or install a pressure trip on the pressure cap.

(d) Examine to see that the trip wire is not too tight, or that there is not too much weight on the pressure cap.

(e) Remove the safety cotter pin and locking screw.

(f) Make a record of the installation.

(3) To pick up or recover:

(a) Screw the locking screw in place and replace the safety cotter pin.

(b) Cut the trip wire or remove the pressure tripping device from the pressure cap.

(c) Remove the firing device from the mine and replace the closing plug.

(d) Repack the components in their original packing. The fiber case in which the firing mechanism is packed should be resealed.

d. Precautions.—(1) No attempt will be made to disassemble the mine or components except to remove or replace the fuze hole closing plug and assemble or remove the firing device.

(2) Do not remove the locking screw or safety cotter pin from the firing device until the mine is placed and the installation is checked to see that there is not too much tension on the pull ring, or too much pressure on the pressure cap.

(3) Protect the firing device from shock, heat, and friction. By shock is meant such shock as is produced by carrying the devices loose in the pocket or dropping them from any height whatever; by heat, such as prolonged exposure to the direct rays of the sun; by friction, any abnormal friction, such as forcing the device into a tight or obstructed well.

(4) Exposure to moisture will not affect the operation of the mine. However, the mine is not waterproof, and should not be planted in positions where it will be immersed in water for more than a few days.

13. TORPEDO, BANGALORE, M1.—Also recently standardized is the Bangalore Torpedo, M1, (see fig. 29) which is used primarily for blasting an opening through wire entanglements or for clearing mine fields. It may also be used as an antitank mine and for booby traps; how-

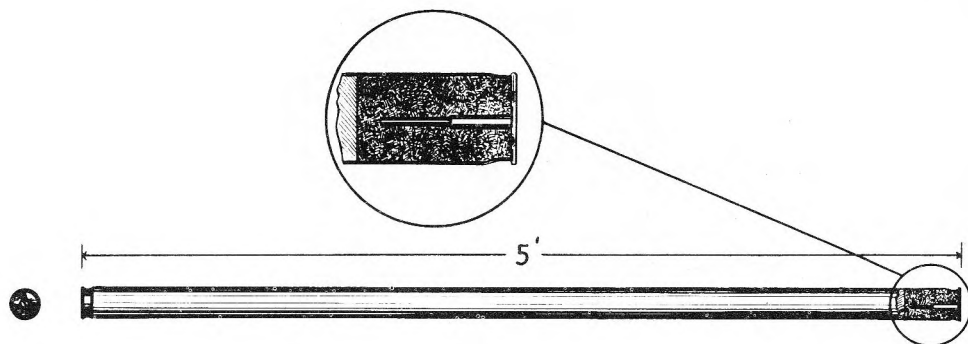


FIGURE 29.—Bangalore Torpedo, M1.

ever, because of its high percentage of explosive charge, its more practical use is that of blasting wire entanglements and mine fields. The Bangalore torpedo consists of a steel tube 5 feet in length and $2\frac{1}{8}$ inches in diameter, which is grooved and capped at each end. The tube is filled with amatol, with about 4 inches of TNT at each end. The weight of explosive charge is about 9 pounds. Each end of the tube is capped and contains a recess or well to accommodate a detonator or blasting cap. Nose sleeves and tail sleeves fit on the ends of the torpedo, and connecting sleeves for assembling the torpedoes in multiple lengths are provided. A blasting cap which is detonated by a force of 15 pounds on the pull wire loop is used with the torpedo. The torpedo may be disarmed by replacing the safety pins in both ends, then cutting the trip wires. The clip on the torpedo cap is pried up and the cap removed.

14. THE MARK II GRENADE AS AN IMPROVISED BOOBY TRAP.—An improvised booby trap using the Mark II hand grenade is easily prepared. Either straighten the grenade safety pin so that it will slide easily, or replace one prong of the pin, winding the other prong around the ring. Then attach a trip wire to the ring so that the safety pin will be pulled out when the wire is tripped. The grenade should be placed in a path far enough ahead in the direction that the enemy is expected to take so that after tripping the wire, the enemy will be well within the danger area of the bursting grenade at the end of the 5-second interval.

15. IMPROVISED SHRAPNEL MINE.—The antipersonnel effect of TNT or other explosives can be increased greatly by encasing the charge together with a quantity of nails, bolts, shell fragments, scrap iron or steel, and even gravel, in a suitable container. Figure 30 is an illustration

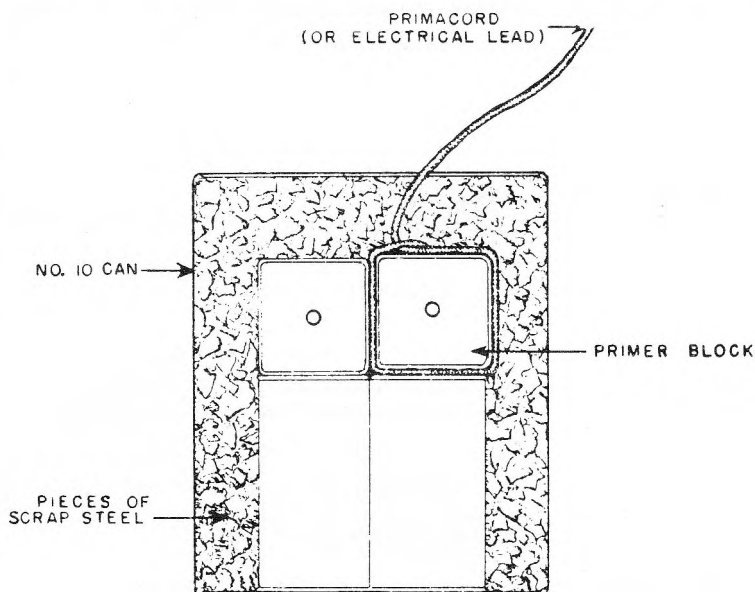


FIGURE 30.—Improvised Shrapnel Mine.

of an efficient type of improvised shrapnel mine, consisting of a No. 10 tin can (about 1-gallon size), 6 blocks of TNT, and a quantity of pieces of steel scrap.

16. SPECIAL EQUIPMENT.—Most of the special equipment used in the construction and laying of booby traps is contained in the Infantry Demolition Kit. All men who may at some time be concerned with the setting of booby traps should be trained in the characteristics and methods of handling different types of explosives, and the use of the blasting caps, cap crimper, detonating cord, and fuzes. For full information on the care and handling of explosives and demolition equipment, see FM 5-25, Explosives and Demolitions.

SECTION V
BRITISH BOOBY TRAPS

17. BRITISH TRIP MECHANISMS.—*a.* The device illustrated in figure 31 operates on the hair trigger principle, and can be operated by a

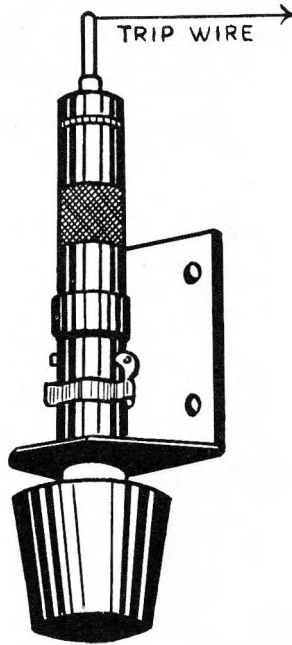


FIGURE 31.—British Trip Mechanism, Hair Trigger Type.

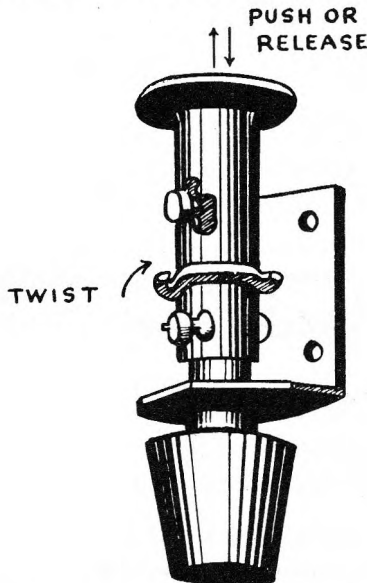


FIGURE 32.—British Trip Mechanism, Ball Release Type.

horizontal pull in any direction by a trip wire attached to the spindle at the head. The mechanism is intended for use with movable objects such as doors, windows, furniture, and souvenirs.

b. The trip mechanism shown in figure 32 functions on the ball release principle, and can be operated either by a direct downward pressure, the release of pressure on the mechanism, or by a twist applied by means of a trip wire. It is intended for use under floorboards, mats, and souvenirs.

c. The trip mechanism shown in figure 33 is actuated when the trip wire is completely withdrawn. It may be used in the same way as the device

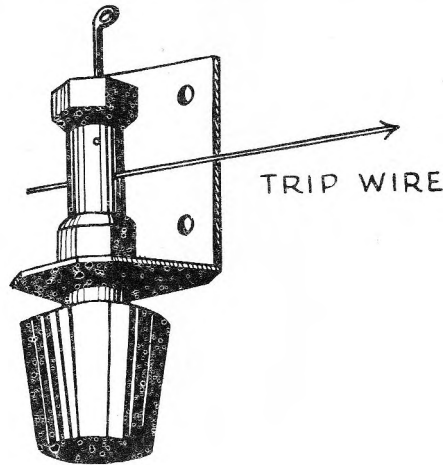


FIGURE 33.—British Trip Mechanism, Wire Withdrawal Type.

shown in figure 31; also, it may be attached to litter and minor obstructions. It is smaller and easier to conceal than the hair trigger type device.

18. BRITISH SWITCHES.—a. The pull switch (see fig. 34) is controlled by a spring-loaded plunger, operated by a trip wire pulled in the direction of the long axis of the mechanism. It is best adapted for use with

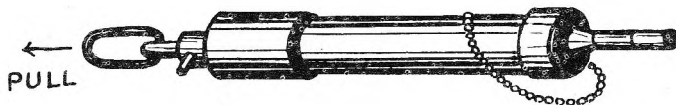


FIGURE 34.—British Pull Switch.

a trip wire stretched across roads, paths, passages, or stretched behind doors. Its functioning is similar to that of our own pull firing device, M1.

b. The press switch, resembling a flat hinge in appearance, (see fig. 35) is fired by a direct downward pressure, and may be used under permanent paths, floorboards, stairtreads, furniture, or stones concealed in roads.

It measures 3 inches by 2 inches by $\frac{3}{8}$ inches. Its functioning is similar to that of our pressure firing device, M1.

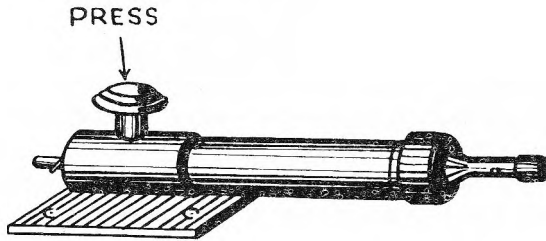


FIGURE 35.—British Press Switch.

c. The release switch (see fig. 36) operates on removal of pressure from the mechanism. It may, therefore, be used under movable objects such as boxes and souvenirs.

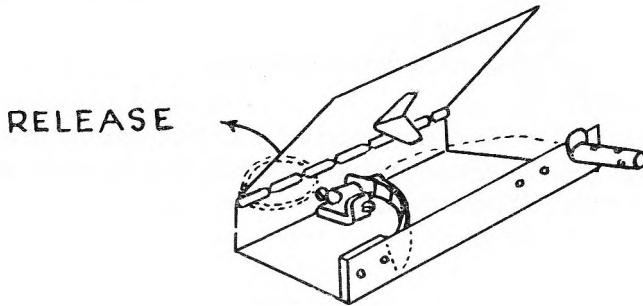


FIGURE 36.—British Release Switch.

19. A BRITISH BOOBY TRAP.—The British make use of a small self-contained trap consisting of a hollow spike, or housing tube, containing the firing mechanism and a rimless cartridge with a bullet, projecting just outside the hollow spike, which can be sunk in roads or paths to damage personnel or pneumatic tires. When the bullet is stepped on, the mechanism is tripped and the bullet fired upward.

20. BRITISH SHRAPNEL MINE.—The Shrapnel Mine, Mark I, often called the “jumping mine” is a ready-made, self-contained booby trap. When the trip wire is actuated, a grenade is thrown into the air, exploding between four and eight feet from the ground. Although the maximum range of projectiles from the trap is about 250 yards, the effective range is about 25 to 30 yards.

SECTION VI

AXIS BOOBY TRAPS

21. GENERAL.—*a.* The Germans first made extensive use of booby traps during the latter days of the first World War. As they abandoned billets and other installations on their move to the rear, they left devices attached to innocent-looking Prussian Guard helmets, Luger pistols, anything which would attract the attention of the souvenir hunter. When these items were touched or moved, a hand grenade or mine was set off.

b. Booby traps and antipersonnel mines have been systematically developed and employed by the Germans since the very beginning of the present World War. During 1939 and 1940 French patrols went out and never returned. Several patrols were annihilated before it was found that the Germans had strung thin wires across trails and paths. The wires, when pulled, set off mines and booby traps. Thereafter, the French patrols drove cattle and pigs ahead of them. Also on the French battlegrounds were discovered fountain pens which when picked up, detonated powerful mines located near-by.

c. Reports of ingenious German booby traps continue to come in from the various fronts. A German plane which landed recently at Malta had a new type of radio. When the British attempted to remove the radio, an explosion resulted in which five men were killed. Similar results have been experienced in connection with the removal of radios from other German planes. A German whistle of a dark brown bone type was found to have a small charge in the body of the whistle, exploded by a striker and cap. When the whistle is blown, the vibrating pea hits the striker, thus causing the explosion.

d. In North Africa, thermos bottles standing upright were found in the desert, seemingly left there by the Italians in retreat; the flask was harmless, but when tilted, a drop of mercury inside made contact between explosive elements of a charge, and explosion resulted. This device is known as the 4 A. R. (Thermos) bomb. Also in North Africa, a single earphone headset was used by the Germans as a booby trap. It exploded when the nickel-plated screw at the back of the earpiece was unscrewed. It may have been intended to explode when the current was applied, as in normal use. On an air raid in Algeria, the Germans dropped "booby bombs" resembling fountain pens, clocks, watches and pocket wallets which exploded when picked up. In one case, one of the booby bombs killed two men, one of them nine feet away. It is believed that these booby bombs become armed and sensitive to a very slight change of position shortly after hitting the ground. This may be accomplished through action of a special fuze similar in general type to that of the Italian Thermos bomb.

e. During the Libyan campaign, the Germans considered the placing of booby traps a routine part of the operations to be undertaken before abandoning a position. They issued elaborate instructions for the laying of Teller mines (par. 23a) and for improvised mines, which contained practical suggestions for the arrangement of booby traps. In many cases, they deliberately left wells and cisterns intact, but artfully prepared booby traps so that when the cistern cover was removed, or the well tampered with, the traps would be actuated. Buildings evacuated by the Germans were found to be infested with booby traps, consisting generally of a Teller mine, connected with a pull igniter either directly on the door or to a trip wire across the door. In some cases, hand grenades were fixed inside the door, indicating that the man who had set the trap had then left by the window.

22. GERMAN MARKINGS.—The Germans, during the fighting in Libya, seldom marked the presence of their booby traps; occasionally, however, a notice board with skull and crossbones painted on it was used to indicate the presence of booby traps. Their booby traps could usually be detected by close scrutiny for anything out of the ordinary such as notice boards facing, or in sight of the enemy, loose strands of wire, sticks with wire wrapped around them, or old explosive wrappings. Stakes with booby traps underneath them were normally dug in, while others were driven in. White wood stakes protruding six inches above the ground and connected by inconspicuous trip wires were sometimes found. These could usually be identified by the presence of near-by small excavations containing explosives.

23. TYPES OF GERMAN TRAPS.—The following traps are typical of those which have been used by the Germans. Variations on them are limited only by the ingenuity of the enemy. Most of the variations noted, however, are based on the push or pull igniter. Consequently, they can be disarmed fairly easily once they are detected and their type determined.

a. *German Teller Mine*.—(1) This is a 19-pound antitank mine containing 11 pounds of explosive (tolite). It is shaped like a disk, 12 inches in diameter and 4 inches high. The firing pressure is about 350 pounds. The Germans frequently fit these mines with a pull igniter and a loop of wire projecting above the top of the mine as a trip wire. Occasionally, booby traps will be attached to the Teller mine.

(2) To disarm the Teller mine, proceed as follows:

(a) Examine the area around the mine for auxiliary trap mines or firing devices, and dig down beside the mine on the side opposite the handle and under the mine between the handle and the center to locate any activating mechanisms.

(b) If any such activating devices are found, neutralize them by inserting small nails or split pins in the safety pin holes of the firing devices; then cut any connecting wires.

(c) Neutralize the principal mine firing device as follows: Unscrew the firing device gently, taking care that the mine is not disturbed, or that undue pressure is not upon it. Hold the firing device well clear of the mine, and to one side of it, with cap pointing away from the operator's body. Turn the red spot on the screw head from the "armed" (Scharf) to the "safe" (Sicher) position. Fix the claw attached to the wire, or a similar device, into the slotted end of the safety belt, and press home the safety bolt. Make sure that the rubber ring in the detonator assembly has not been withdrawn from the igniter cavity, and that the rubber washer around the base of the igniter has not been displaced. Replace the firing device in the mine.

(d) After neutralizing the main firing device, unscrew any additional firing devices and remove the detonators.

(e) The mine is now disarmed. Do not attempt to remove the main detonator below the main igniter, and do not transport the mine until it has been disarmed as shown above.

b. Shaving Stick booby trap.—(1) This is a circular mine (see fig. 37), four inches long and two inches in diameter. It is equipped with a pull-type igniter, and consists of an aluminum cylinder, painted yellow,

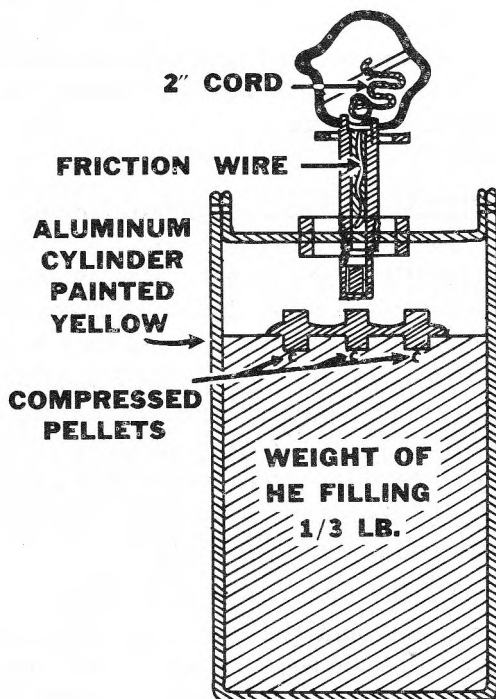


FIGURE 37.—German Shaving Stick, Booby Trap Complete with Cap.

with walls about .039 inches thick. It contains 1/3 pound of HE as a block filling. In the top of the filling are three black powder pellets,

partly embedded in the main filling. The top of the bomb is riveted to the body, and carries the ignition mechanism. A two-inch length of cord is attached at one end to a disk in the cap and at the other end to a loop in the friction wire. If the cap is pulled more than two inches, the friction wire causes the friction composition to ignite a pellet in the ignition mechanism, which in turn fires the compressed pellets, detonating the HE filling.

(2) When the bombs are found complete, they are harmless. If the cap has been left unscrewed, the cord may be cut and the cap replaced to protect the friction wire.

*c. Stick Grenades.—(potato-masher type).—*The German stick grenade, M24, may be made into a booby trap by removing the delaying device. (See fig. 38.) When friendly troops attempt to use the captured grenades, pulling of the friction wire causes the grenades to explode im-

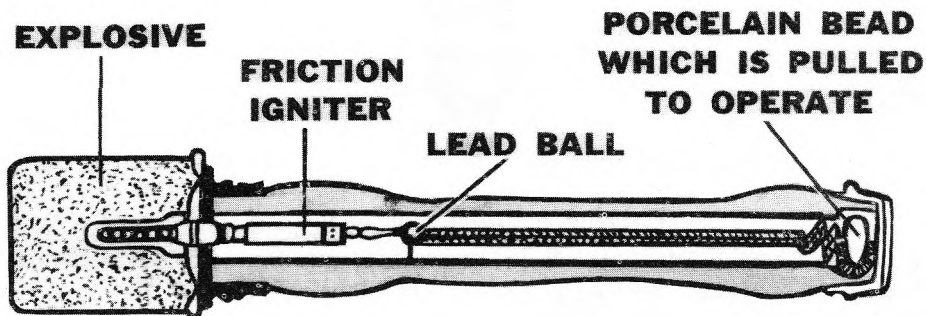


FIGURE 38.—German Stick Grenade, M24.

mediately without the usual $4\frac{1}{2}$ second delay.

(1) To see whether or not the delaying device has been removed from the grenade, it may be tested as follows:

- (a) Unscrew the explosive cylinder from the wooden handle.
- (b) Remove the detonator and the fuze which project from the handle.
- (c) Unscrew the cap at the end of the handle and let the porcelain ring hang down.
- (d) Unscrew the delayed action device in the top of the handle to make sure that the delayed action cylinder actually contains the column of compressed gun powder.

(2) To reassemble the grenades, carry out the above operations in the reverse order.

(3) If time is short, it will be sufficient to take one from each batch of suspected grenades, unscrew the handle from it and operate the fuze by pulling the cord from a distance. It will then be obvious whether the explosion takes place immediately or after an interval of $4\frac{1}{2}$ seconds.

24. GERMAN FIRING DEVICES.—*a.* The German pull igniter (Z.Z. 35) is very similar in external appearance, operation, and employment to the British pull switch and our pull firing device, M1. (See fig. 39.)

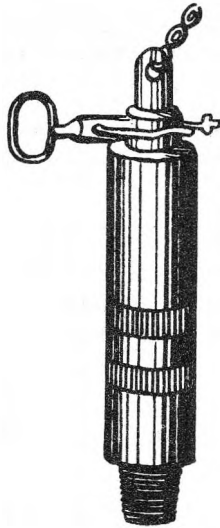


FIGURE 39.—German Pull Igniter.

b. The push igniter (D. Z. 35) resembles our pressure firing device, M1, and its operation and employment are identical, except that it is designed to function by downward pressure only. (See fig. 40.)

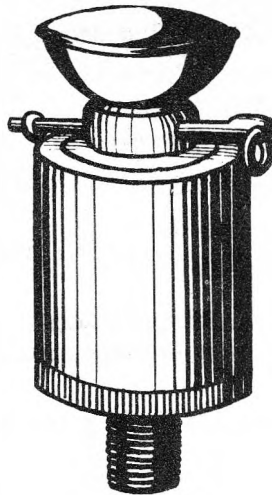


FIGURE 40.—German Push Igniter.

c. The German combination igniter (Z.D.Z. 29) resembles a mushroom in shape, and operates by a direct pull on the pin provided or a down-
(34)

ward pressure on the head which can be set to 45 kilograms or 125 kilograms. It is believed that this mechanism is obsolescent. (See fig. 41.)

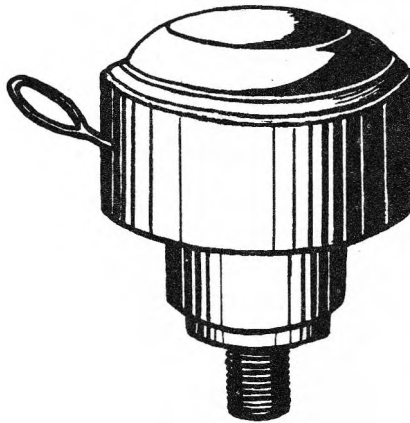


FIGURE 41.—German Combined Igniter.

d. All the above mechanisms can be screwed directly into an explosive petard, a shrapnel mine, or a Teller mine.

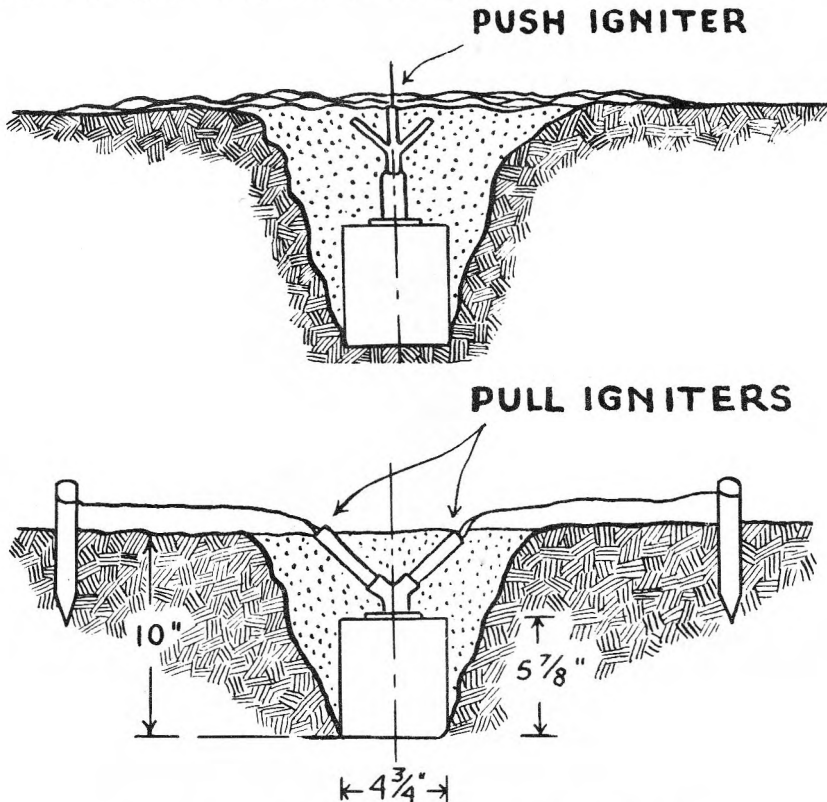


FIGURE 42.—Employment of German Shrapnel Mine.

25. GERMAN SHRAPNEL MINE.—The “S” mine is an antipersonnel weapon containing 1 pound of tolite and 350 steel shrapnel balls. It is cylindrical, 4 inches in diameter, and 5½ inches high. The mine is buried, but when it is fired, it is thrown about 3 feet above the ground before detonating. Its operation and employment closely resemble that of the British shrapnel mine. It can be fired either by a double trip wire or by the downward pressure of a foot, according to whether a standard pull or push firing device is incorporated. (See fig. 42.)

26. GERMAN WOODEN BOX MINE.—A new and unusually effective type of mine has been encountered frequently during the campaign in Libya. The mine consists of a wooden box containing nine blocks of gun-cotton and measuring about 18 inches in length, with inside dimensions of the box given as 11 inches by 8 inches by 2½ inches. The mine is fitted with a sensitive detonator, which is activated by about 35 pounds pressure. Since the mine is made of wood, the British probe for the mine with a bayonet instead of using their regular mine detector. This is done with the bayonet at an angle to the surface of the ground, rather than perpendicular.

27. ITALIAN MINES.—*a.* The Italian Shrapnel mine (B.4 1.5 kilograms) is a cylindrical canister-type mine, about 5 inches high and 3 inches in diameter. (See fig. 43.) In the canister is an explosive charge surrounded by scrap metal to produce a shrapnel effect. A trip wire is

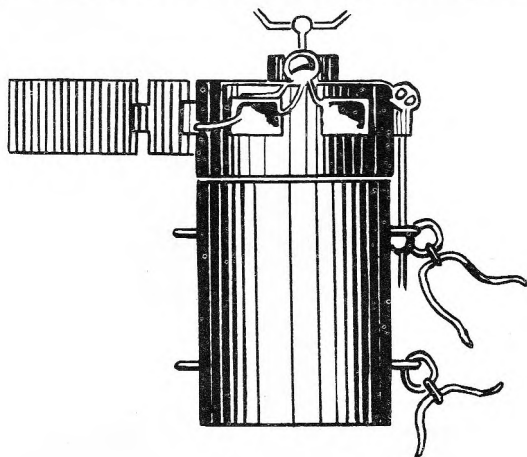


FIGURE 43.—Italian Shrapnel Mine.

attached to the trigger of a B.4; when the wire is tripped, it releases a striker, which fires the mine. This mine normally is strapped to a tree or post above the ground, and is operated by a trip wire. The mine also is spaced in wire obstacles at 5-yard intervals.

b. The antipersonnel mine (2 kilograms) is also cylindrical, is 6 inches high and 3 ¾ inches in diameter. (See fig. 44.) It is operated by downward pressure on the push button striker, and relies for its effect

on the fragmentation of the case. The mine is normally buried with only the push button appearing above the surface. It has been known to damage the bogies of a tank.

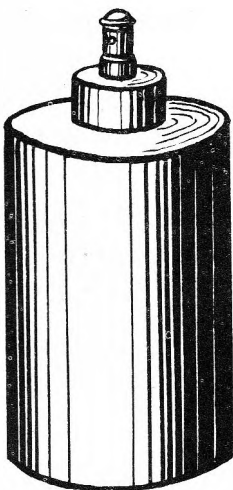


FIGURE 44.—Italian Antipersonnel Mine.

SECTION VII

PRINCIPLES OF EMPLOYMENT

28. GENERAL.—Permission for the employment of booby traps is given by division or higher commanders, the plan being coordinated by the General Staff. The setting of booby traps is carried out only by the engineers or by selected units of other arms specially trained in this role (TC 75, WD 1942). *It is desirable that every infantry unit, down to and including the platoon, have several men specially trained in the setting and removal of these traps.* When traps are set in any territory, full details are recorded and sketches made giving the exact location of each trap, its type, and the date on which it was set. This information is forwarded to higher authority so that it can be conveyed to any units which happen to occupy the same area at a later date.

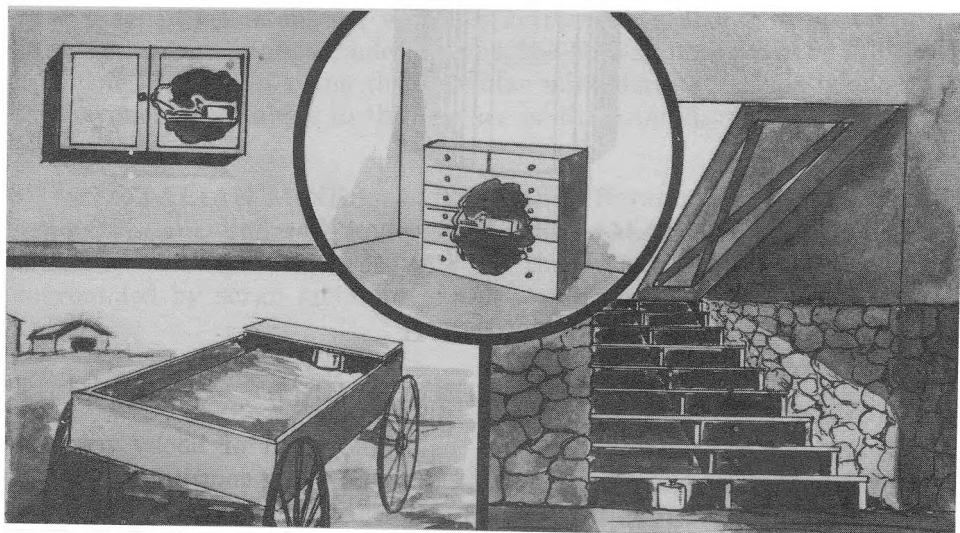
29. OBJECT OF BOOBY TRAPS.—Even more important than the number of casualties which they cause is the demoralizing psychological effect which booby traps have upon the enemy. By striking the enemy unexpectedly when he is relaxed or engrossed with a routine task, they force him to live in uncertainty and dread, and cause him to hesitate to advance into new localities, to undertake new tasks, or to enter buildings or dugouts for shelter and rest. To achieve the greatest effect in their use, booby traps must be planned by an individual with an ingenious mind and a good under-

standing of enemy psychology. Such a person will contrive traps which have an infinite variety of uses and are particularly dangerous to those who attempt to remove them.

30. PRINCIPLES.—When laying traps, the following should be kept in mind:

a. Preserve the normal appearance of the surroundings. Disturb things as little as possible and remove or conceal carefully any signs of preparation after laying the traps.

b. The more constricted the site in which the trap is laid, the greater is the chance that the trap will be sprung. Passages, stairways, dugouts, inclines, and defiles are excellent sites for booby traps.



**TRAPS MAY BE CONCEALED IN SUCH PLACES
AS CELLAR ENTRANCES, CUPBOARDS,
CHESTS OF DRAWERS, AND VEHICLES.**

FIGURE 45.—Concealment of Booby Traps.

c. Inconvenience the enemy. Cause him to move certain objects out of his way. Poorly lighted rooms decrease the chance of detection. Lay the traps in considerable concentration in order to increase the chance of a trap being set off and to deny the use of the area to the enemy for a long time.

d. Sometimes it is effective to lay an obvious trap in order to mask a well-concealed trap near-by. This is known as the Double-Bluff.

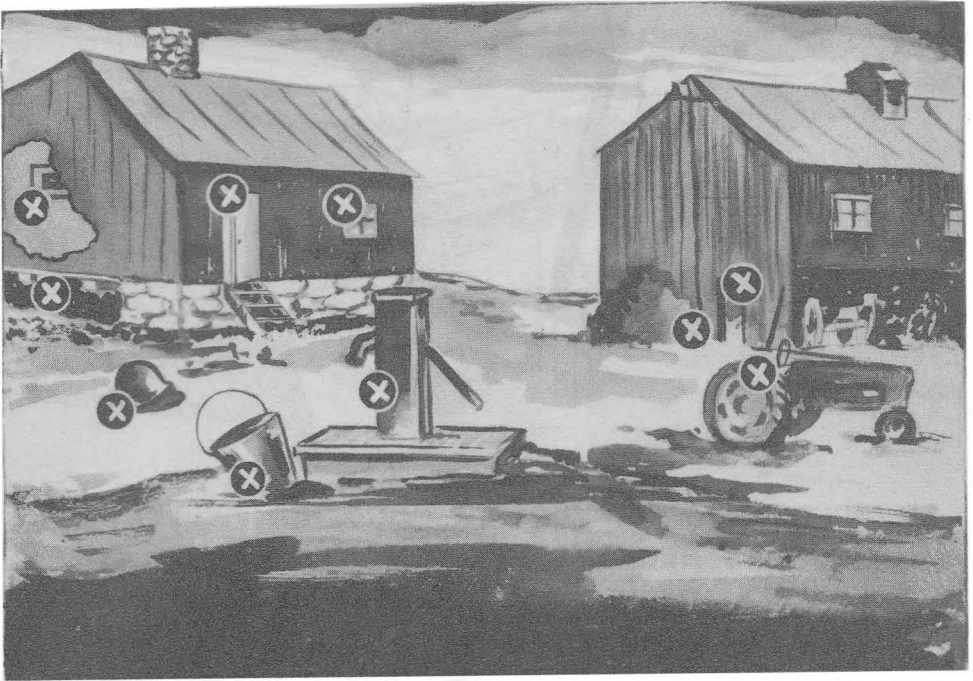


FIGURE 46.—Laying of Traps in Considerable Concentrations.

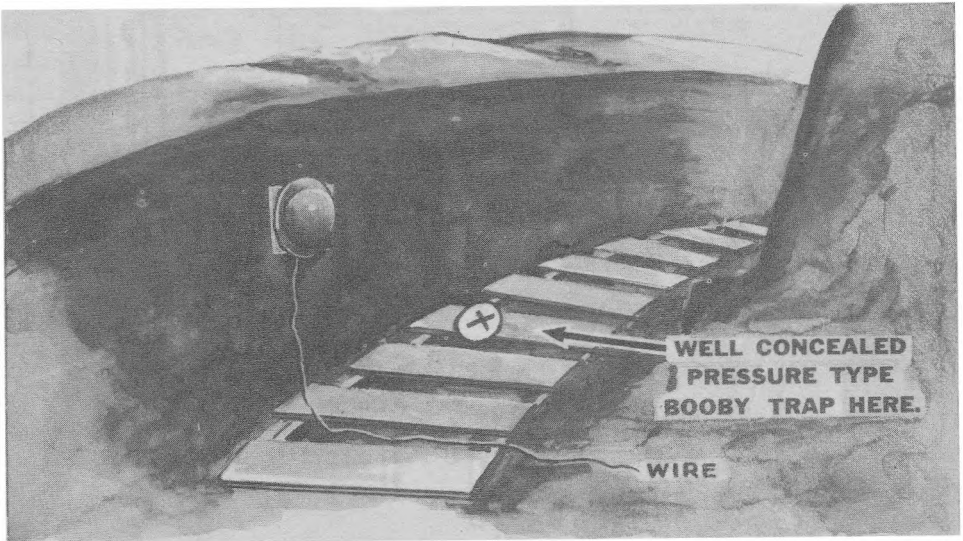


FIGURE 47.—Use of Obvious Trap to Conceal a Hidden Trap.

e. Take advantage of the natural desire to handle souvenirs, pictures, food and drink containers, and musical instruments. Place the traps under articles which the enemy naturally would move.

f. Place the traps so that they will be set off by everyday operations such as the opening or closing of doors or windows, or the use of telephones, light switches, or a radio. (39)



FIGURE 51.—Use of Delayed Action Incendiary Bomb to Attract Personnel to a Booby Trap Site.

h. Set as many different types as possible in one locality.

i. An effective method is to set a booby trap near a delayed mechanism so that when the latter goes off, the enemy will naturally be drawn into the trap.

SECTION VIII

DETECTION AND REMOVAL

31. GENERAL.—*a.* Responsibility for the detection of traps will devolve on all arms. During the attack there will not be sufficient engineer personnel to assist in the detection of traps; the other arms must be prepared to accept the danger arising from the presence of booby traps so that the momentum of attack will be maintained.

b. Detection of booby traps is largely a matter of discipline and training, and every man should receive special training in this subject. Information about the sites of the traps frequently can be obtained from local inhabitants and prisoners, particularly engineer personnel.

32. STUDY OF ENEMY BOOBY TRAP METHODS.—A study of enemy booby trap methods is essential. It is important to know not only what materials the enemy uses in the construction of his traps, but how he employs them, and how he marks them for his own identification. Only by careful observance of the enemy's use of booby traps will we know what to expect from him and be able to outwit him. Any information about the enemy's use of booby traps should be disseminated to the men as soon as possible. (See section VI.)

33. INDICATIONS OF THE PRESENCE OF TRAPS.—When operating in enemy territory, *always be suspicious*. You can make only one mistake. Train yourself to detect signs indicating the presence of enemy booby traps. Here are a few signs which should arouse suspicion:

- a. Disturbed ground.
- b. Explosive wrappings or sawdust on the ground.
- c. Traces of camouflage—withered vegetation, indicating attempted concealment.
- d. Breaks in continuity of vegetation, dust, paintwork, and timbering.
- e. Presence of nails, electric leads, or pieces of wire or cord for which there is no apparent use.
- f. Notice boards or unexplainable marks on trees, on paths, on the ground, or on walls of buildings. Such marks may have been used by enemy to indicate sites selected for booby traps.
- g. Movable objects, such as equipment, souvenirs, food and drink containers, and kitchen utensils.
- h. Minor obstructions of all kinds on roads, in trench systems, and in buildings.
- i. Irregular foot or wheeled traffic tracks for the presence of which there is no apparent reason.
- j. Any indications that an area has been avoided by the enemy.

34. PRECAUTIONS.—a. *Do not attempt to disarm a booby trap unless your mission demands it.*

b. Report the locations of all booby traps, or evidence of booby traps, to your commander without delay.

c. Always suspect the following sites:

(1) *Roads*—Cuttings, blind curves, bridges, culverts, wooded stretches, junctions, crossroads, and litter.

(2) *Open country*—Woods, trees, posts, gates, paths, hedges, obstacles, supply dumps, and litter.

(3) *Buildings, trenches, and dugouts*—Steps, floors, doors, windows, cupboards, passages, furniture, fireplaces, watertraps, closets, supplies, light switches, floor coverings, pictures, documents and litter.

d. Before entering suspected buildings, take the following precautions:

(1) Check approaches and examine ground around buildings, especially under ground floor windows, for trip wires.

(2) Examine inside of doors from ground floor windows before opening.

(3) Inspect door knobs and anything to do with the obvious means of access to any building.



**NEVER OPEN ANY DOOR OR WINDOW
WITHOUT FIRST EXAMINING IT
CAREFULLY FOR TRAPS.**

FIGURE 52.—Detection of Booby Traps.

35. REMOVAL OF TRAPS.—*a. Only personnel specially trained for this task should be charged with the neutralization and removal of booby traps.*

Such a detail should be equipped with:

- (1) A magnetic compass for use in detection.
- (2) Chalk to mark location of booby traps.
- (3) A pair of pliers for neutralization.
- (4) Wire cutters.
- (5) Rope, useful in detonating traps from a distance.
- (6) Probers of heavy wire or a bayonet—useful in detection.
- (7) A thin knife blade—useful in detection.
- (8) A supply of split pins, nails, paper clips, or any wire that size, for use as safety pins.

b. The first thing for a booby trap detail to do is to locate the trap and determine how it is fired. Then, the igniters must be neutralized.

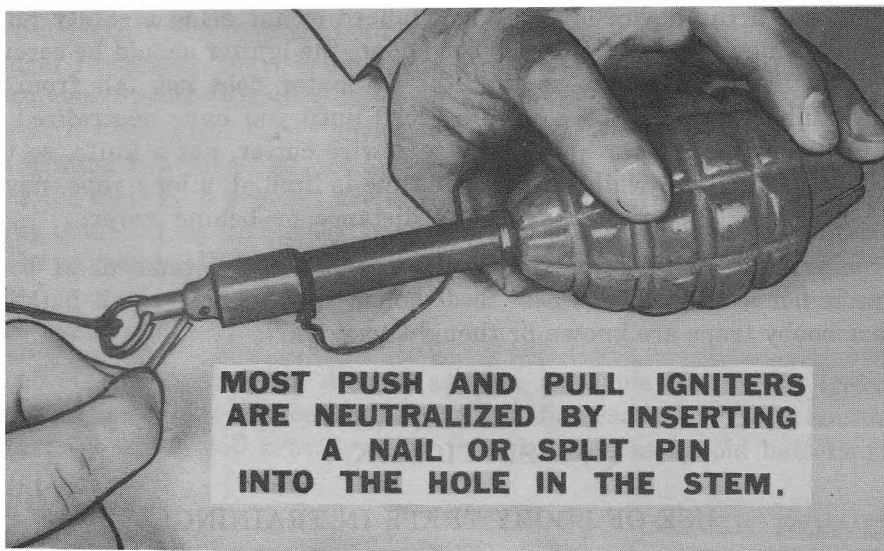


FIGURE 53.—Neutralizing a Booby Trap, Step 1.

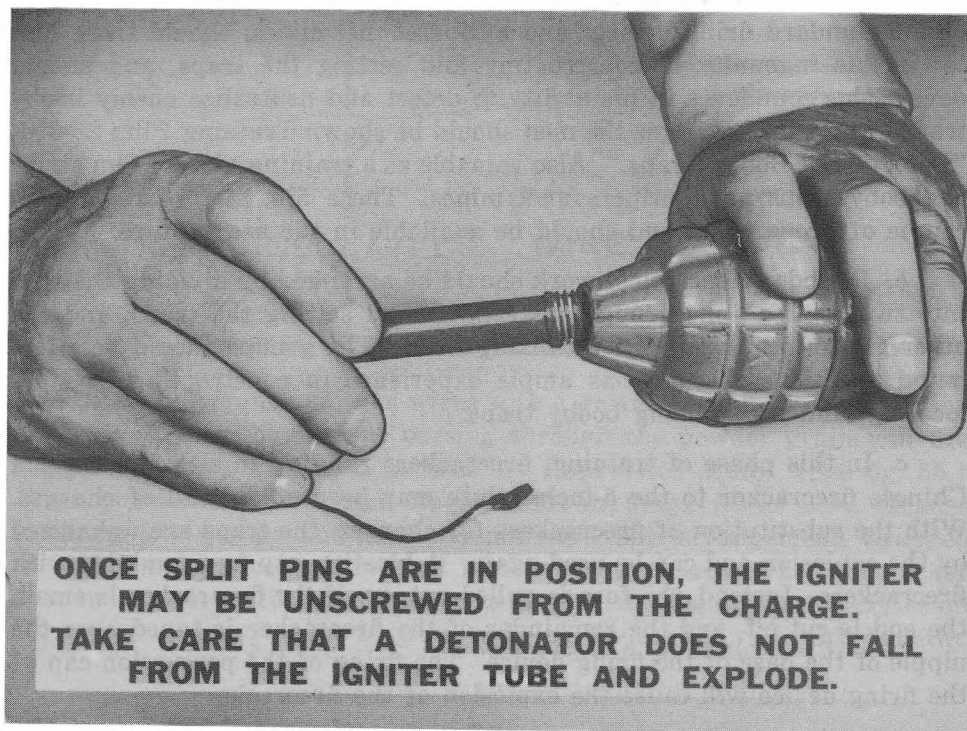


FIGURE 54.—Neutralizing a Booby Trap, Step 2.

Push and pull igniters have a safety device consisting of a metal key which passes through a hole in the stem. When the igniters have been found, they must be neutralized by pushing a split pin or nail in this hole. The release firing device is easily neutralized by inserting a safety pin in the disarming hole. Once this has been done, the igniter should be screwed carefully from the charge so that the detonator does not fall from the igniter tube. Never touch a wire or cord until you have neutralized the igniter. If you cut a cord or wire, use a wire cutter, not a knife, so that there will be no pull while cutting. If time is limited, a long rope may be used to spring the trap from a safe distance or behind cover.

c. When a detail of men specially trained in the removal of booby traps is not available, it is best to demolish with explosives all buildings where booby traps are known or thought to exist.

SECTION IX

USE OF BOOBY TRAPS IN TRAINING

36. GENERAL.—a. Booby traps should be used extensively in training. A course in booby traps should give the soldier experience in the use of the standard firing devices and antipersonnel mines, should train him to use his ingenuity in constructing and setting the traps, and should develop his confidence in his ability to detect and neutralize enemy booby traps. Early in the course the men should be shown Training Film 25-394, "Detection of Booby Traps." Also valuable as a training aid are film strips on booby traps and antipersonnel mines. These film strips are now in course of preparation and should be available in the near future.

b. Periods for practical work should be arranged by dividing the men into two groups—one group constructing and setting the traps, and the other group locating and neutralizing them. The groups should be alternated so that each man has ample experience in constructing, setting, locating, and neutralizing booby traps.

c. In this phase of training, firecrackers ranging in size from 1-inch Chinese firecracker to the 5-inch Salute may be used instead of charges. With the substitution of firecrackers for charges, the traps are unharmed by the explosion and can be used again. A blasting cap is not needed with firecrackers. Instead, the fuse is pulled out, or, if the firecracker is small, the end is cut off, and the remainder of the firecracker is taped over the nipple of the base of the firing device. The firing of the percussion cap of the firing device will cause the explosion of the firecracker.

37. USE OF EXPLOSIVES IN TRAINING.—*a.* It has also been found that amounts of explosives less than one-half pound may be used with comparative safety. One-fourth stick of dynamite or one-twelfth pound block of nitrostarch can be used for training purposes, with the danger from such charges confined to the blast effect and flying particles of copper from the blasting cap, or flying stones and dirt from the ground. In setting electrical firing devices in position, a man must get down on the ground and turn his face away from the charge. An assistant should hold the switch to prevent accidental firing while the final connection is being made. If desired, black smoke may be obtained by adding lampblack to the explosive. White smoke may be obtained by the use of flour. When these charges are used, the booby trap will be destroyed and cannot be used again.

b. If standard firing devices are not available for use in training, improvised devices can be used to set off firecrackers. Use a source of electricity which will provide about 80 volts such as an old battery from

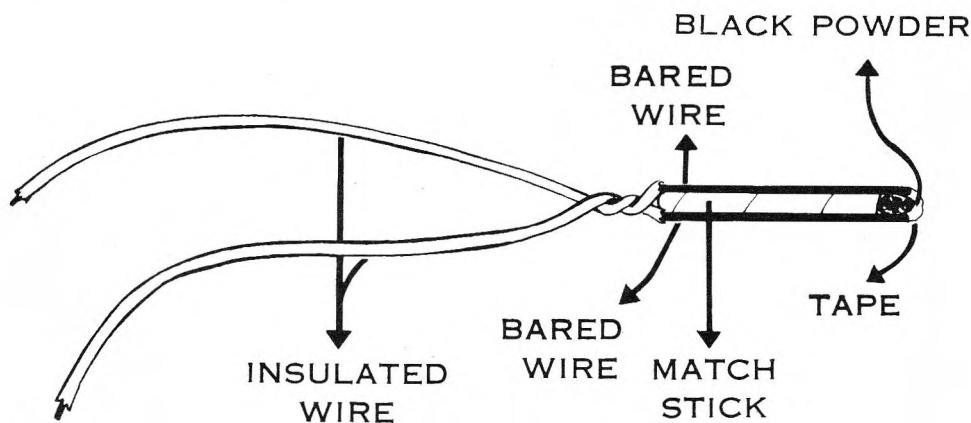


FIGURE 55.—Improvised Squib to Set Off Firecrackers.

an SCR 536. Arrange parallel wires with a grain of black powder between the ends so that the current passing through the powder grain will fire the powder, thus making a satisfactory improvised squib. (See fig. 55.) Black powder obtained from Dago bombs or flares works best, because it has an oily surface and good conductivity. This arrangement, wrapped in Scotch tape or cellophane, and inserted in the place of the firecracker fuse or a nonelectric blasting cap, will give an instantaneous explosion when used with any of the improvised firing devices shown in this bulletin.



FIGURE 56.—Don't Be a Booby!

REFERENCES—The following are the main sources of information on the construction, use, detection, and removal of booby traps:

War Department Training Circular No. 75, Oct. 27, 1942. "Anti-personnel Mines and Booby Traps." *Restricted*.

Engineer School Study No. 4, July 15, 1942. "Antipersonnel Mines and Booby Traps." Engineer School, Fort Belvoir, Virginia. *Restricted*.

Information Bulletin No. 19, Military Intelligence Service, July 1, 1942. "Axis Booby Traps." *Restricted*.

British Military Training Pamphlet No. 30, Part IV, 1941. "Booby Traps." *Restricted*.

"Booby Traps, Homemade Grenades, and Use of Explosives for Instructional Purposes," Field Artillery School, Department of Tactics, August, 1942.

Ordnance Field Service Technical Bulletins Nos. 1900-7, 1940-3, War Department Ordnance Office, Oct. 8, 1942, "Ammunition: Mine, Anti-personnel M3."

Ordnance Field Service Technical Bulletins Nos. 1900-4, 1940-1, War Department Ordnance Office, Sept. 24, 1942, "Ammunition: Mine, Anti-personnel M2."

Ordnance Field Service Technical Bulletins Nos. 1900-5, 1940-2, War Department Ordnance Office, Sept. 24, 1942. "Torpedo, Bangalore, M1." *Restricted*.

Training Film 25-394, "Detection of Booby Traps."

Field Manual 21-45, ch. 8, Protective Measures, Individuals and Small Units, 1942.