JAPANESE LAND MINES

AND

BOOBY TRAPS

RESTRICTED

1 SEPTEMBER 44

JAPANESE LAND MINES

and

BOOBY TRAPS

TRAINING

PREPARED UNDER DIRECTION

OF

MINE SCHOOL,
OFFICE OF THE ENGINEER, CPBC
APO 958

R E S T R I C T E D

1 SEPTEMBER 1944

JAPANESE LAND MINES AND BOOBY TRAPS

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SECTION I

MANUFACTURED MINES

JAPANESE ANTI-TANK MINE, TYPE 93
("Tape-Measure" or "Pancake")

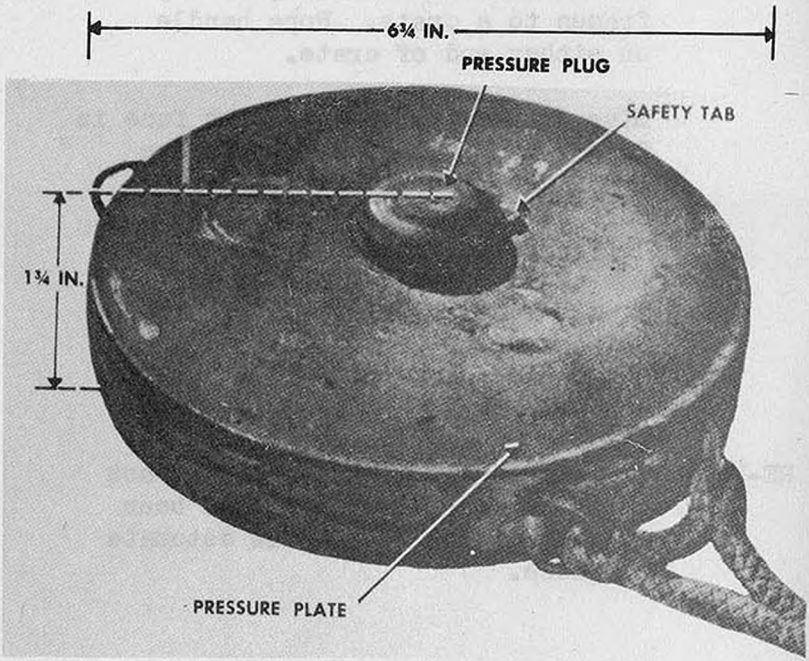


Fig. 1

TYPE. Anti-tank Mine
COLOR. Olive drab
CASE. Tin
WEIGHT. 3 lb.
EXPLOSIVE. 2 lb. picric acid or 2 lb. of 50/50 mixture TNT and cyclonite

JAPANESE ANTI-TANK MINE, TYPE 93 -contd-
("Tape-Measure" or "Pancake")

EFFECT. Disables vehicles. Used in groups of two or three to disable tanks. Anti-personnel if set up with anti-personnel shear wire.

PACKAGING AND TRANSPORTING. Each mine packed in a small wooden frame, twenty frames to a crate. Rope handle on either end of crate.

Mine may be transported with fuze in fuze well provided safety sleeve is first placed over fuze before screwing on pressure cap. It is difficult to screw on pressure cap for transporting with fuze in place if safety cap is in position, unless safety cap is screwed completely down and entire fuze is screwed completely into fuze well.

RE-USE. Can be re-used if shear pin is not cut. If surface of mine has been dented, do not re-use but detonate in place.

JAPANESE ANTI-TANK MINE, TYPE 93 -contd-
("Tape-Measure" or "Pancake")

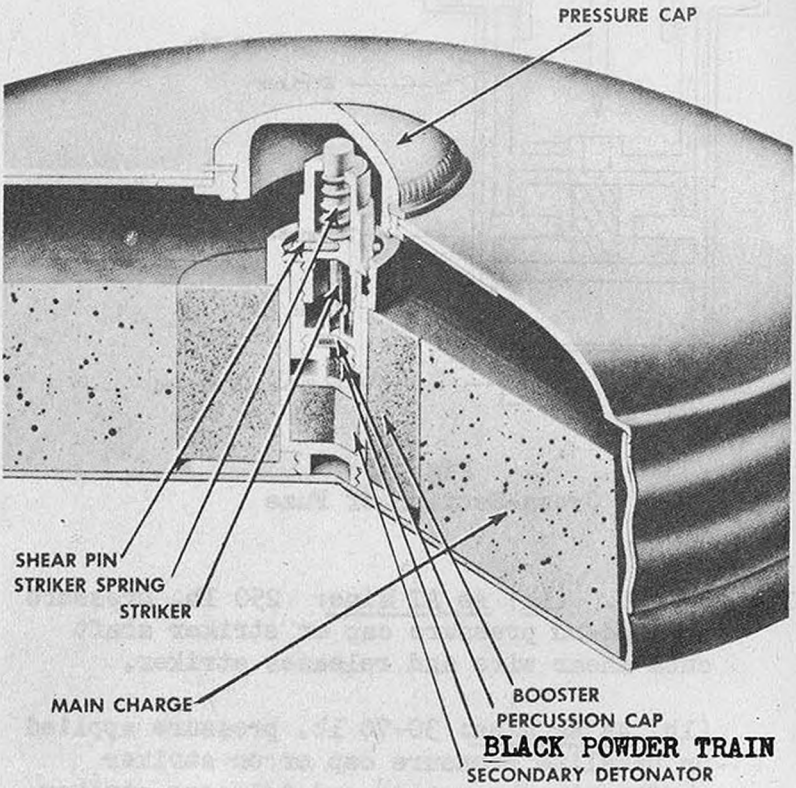


Fig. 2

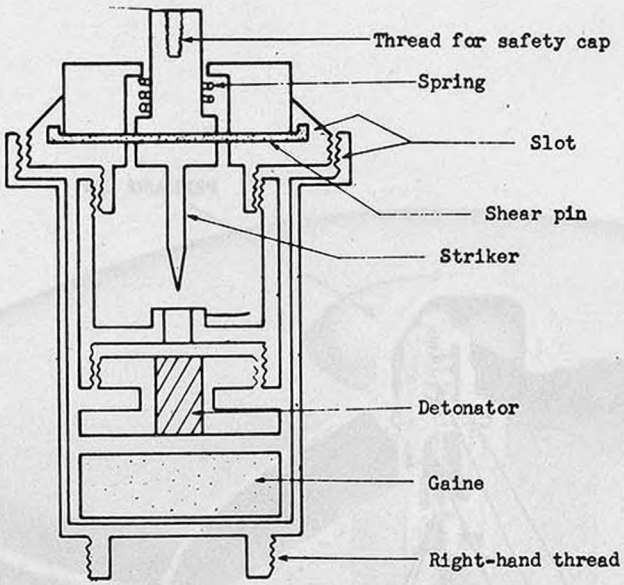


Fig. 3
Cross-Section of Fuze

FUNCTIONING. (1a) As AT Mine: 250 lb. pressure applied on pressure cap or striker shaft cuts shear wire and releases striker.

(1b) As AP Mine: 30-70 lb. pressure applied on bakelite pressure cap or on striker shaft cuts shear wire and releases striker.

2. Spring drives striker downward, firing percussion cap - detonator - booster - and main charge.

DISARMING AND DEFUSING.

1. Examine area around mine for other mines or AP devices, and examine mine itself for possible activation. If activated, neutralize mechanisms.

2. If pressure cap is in place, without moving mine or exerting any pressure on pressure cap, unscrew it.

3. If available, screw brass safety cap firmly onto top of fuze. Unscrew entire fuze.

4. If safety cap is not available, unscrew entire fuze exerting great care not to depress striker shaft in any way.

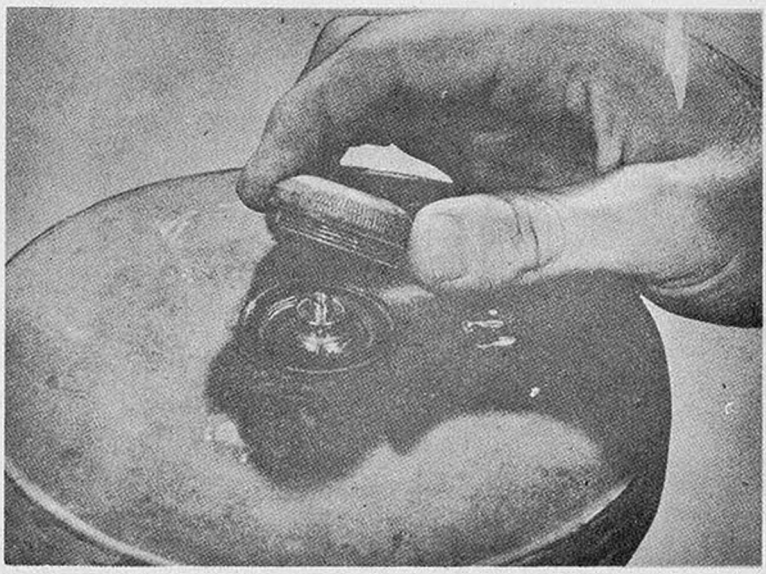


Fig. 4

JAPANESE ANTI-TANK MINE, TYPE 93 -contd-
("Tape-Measure" or "Pancake")

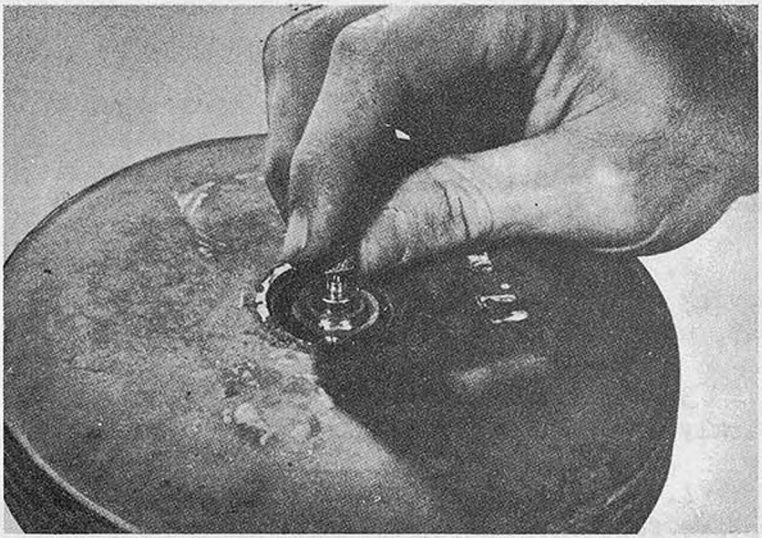


Fig. 5

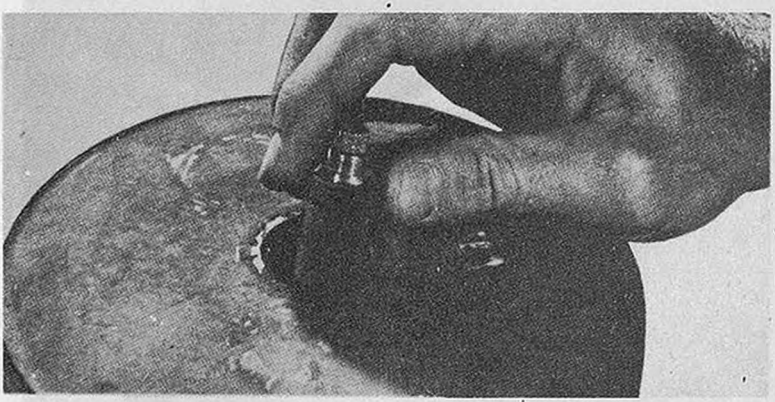


Fig. 6

JAPANESE ANTI-TANK MINE, TYPE 93 -contd-
("Tape-Measure" or "Pancake")

INSTALLING AND ARMING.

1. Unscrew pressure cap and remove leather washer.

2. Lift off safety sleeve.

3. Unscrew safety cap from fuze.

4. Replace leather washer and screw pressure cap into place.

5. Bury mine with pressure cap at ground level.

CAUTION: If fuze has been transported separately from mine, it is good practice to insert fuze AFTER mine has been placed in position to avoid accidental detonation. This is especially true when anti-personnel shear wire is employed in fuze. Safety cap should be removed ONLY after fuze is in position.

Leather washer is necessary to avoid entry of moisture into mine and in order to screw cap in properly.

Mine CANNOT be dropped safely from a height of one foot.

JAPANESE ANTI-TANK MINE, TYPE 93 -contd-
("Tape-Measure" or "Pancake")

EMPLOYMENT. Mine has been found set up in the following ways

1. With brass pressure cap and 250 lb. AT shear wire. Right side up and upside down. Sometimes additional explosive beneath mine to increase effect. 2 or 3 mines together.

2. With bakelite pressure cap and 30 - 70 lb. shear wire for AP effect.

3. With fuze (AP shear wire) raised above top of mine by means of brass extension sleeve (see cut). No pressure cap. Sometimes with pressure board placed over fuze in raised position.

4. Drag ropes attached to handles and mine (or mines) pulled manually in front of tank or vehicle.

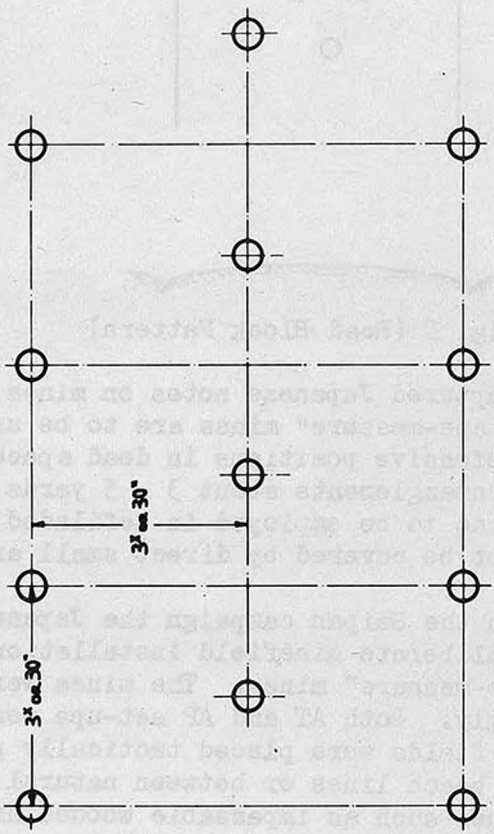
5. By means of light rope attached to one handle mine can be hurled a distance of 15 feet in front of advancing tank or vehicle.

6. Scattered mines; no pattern. Also in AT ditches (Tarawa).

7. In New Guinea mines were rolled down slopes, exploding upon contact with obstructions.

8. Considerable number of these mines found at Eniwetok still cased. None installed.

9. Following patterns observed:



FISH SCALE PATTERN

Fig. 7

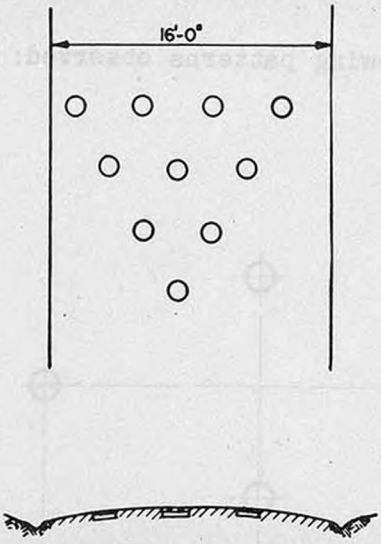


Fig. 8 (Road Block Pattern)

10. Captured Japanese notes on mines state that the "tape-measure" mines are to be used in front of defensive positions in dead spaces and near wire entanglements about 3 - 5 yards apart. They are also to be employed in defiladed areas which cannot be covered by direct small arms fire.

11. In the Saipan campaign the Japanese employed deliberate minefield installations using "tape-measure" mines. The mines were buried singly. Both AT and AP set-ups were used. The fields were placed tactically parallel to the beach lines or between natural barrier lines such as impassable wooded areas. In the beach fields the "fish-scale" pattern was used with 10 foot distance between rows. Between wooded areas the mines were laid in a haphazard fashion (no pattern) with an average distance between mines of about 15 feet.

MODEL 99 ARMOR-PIERCING MINE (Jap Magnetic Mine, Magnetic Antitank Bomb, Magnetic Armor-Piercing Hand Grenade)

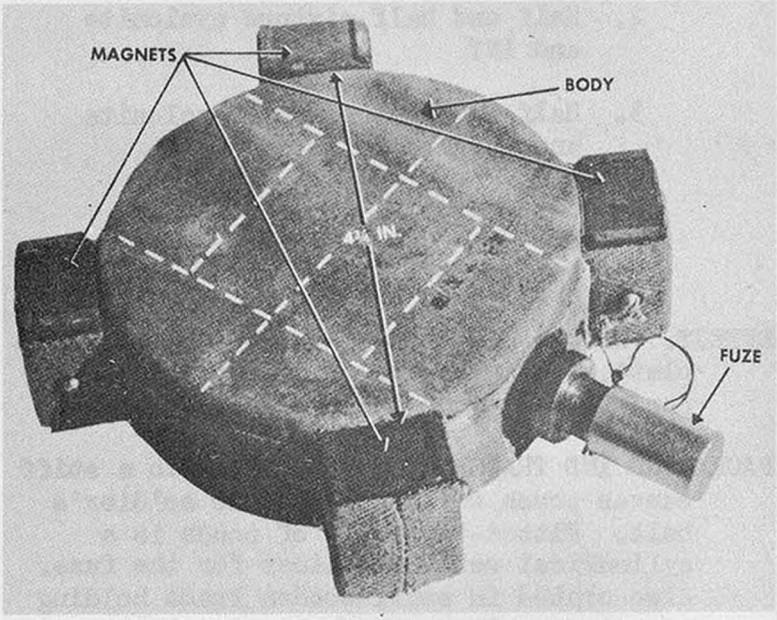


Fig. 9

MODEL 99 ARMOR-PIERCING MINE (Jap Magnetic Mine, Magnetic Antitank Bomb, Magnetic Armor-Piercing Hand Grenade)

TYPE. Magnetic antitank charge
COLOR. Khaki
CASE. Canvas covering with attached magnets
WEIGHT. 2½ pounds
EXPLOSIVE. 1½ pounds; variously reported as:

1. Equal parts trinitroanisole and hexanitro diphenylamine

2. Half and half mixture cyclonite and TNT

3. Half and half mixture cyclonite and trinitroanisole

4. Cast TNT

5. Picric acid

EFFECT. Single mine perforates 3/4 inch armor plate. Two mines used in combination perforate 1¼ inch armor plate.

PACKAGING AND TRANSPORTING. Carried in a stiff canvas pouch which attaches to soldier's belt. Fitted to inside of pouch is a cylindrical metal container for the fuze. Also crated in small wooden frame holding two mines. Fuzes are held in metal containers which also fit into the frame.

RE-USE. Before re-use, check fuze to be certain that there is a delay. Delay pellet may be easily removed and detonator replaced. In this condition, the mine will fire instantaneously.

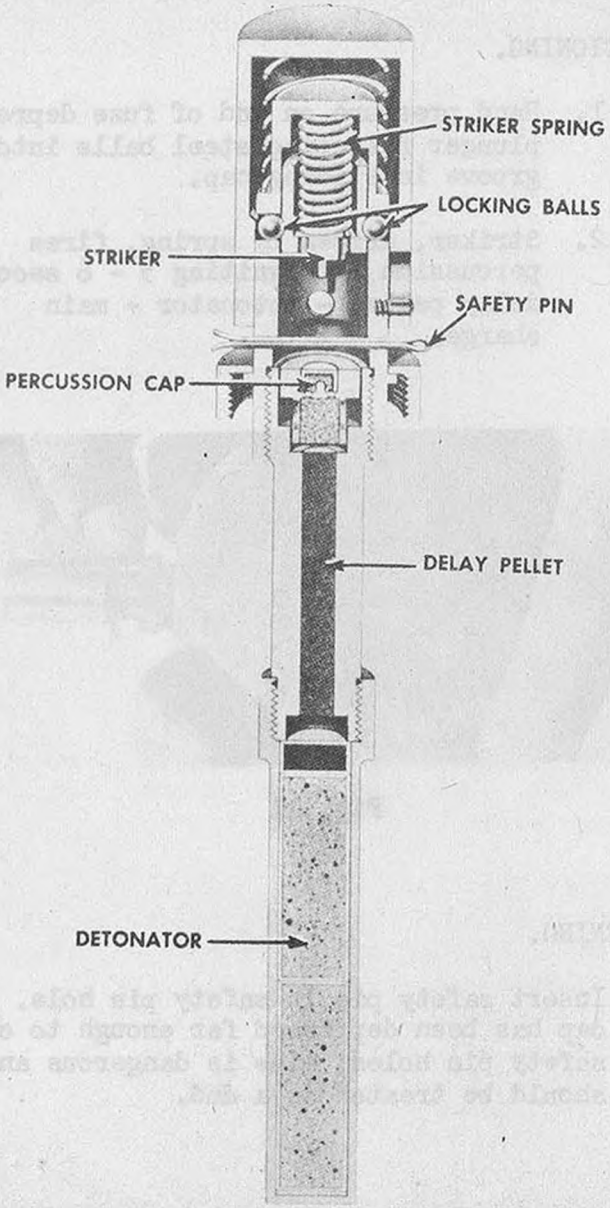


Fig. 10 (Fuze Cross Section)

FUNCTIONING.

1. Hand pressure on end of fuze depresses plunger releasing steel balls into groove in sliding cap.

2. Striker, driven by spring, fires percussion cap igniting 5 - 6 second delay pellet - detonator - main charge.

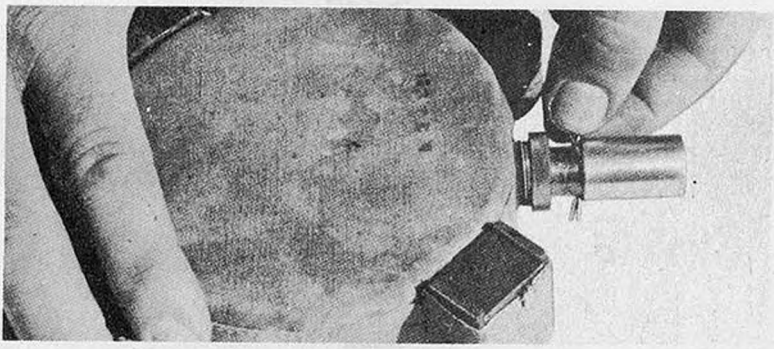


Fig. 11

DISARMING.

Insert safety pin in safety pin hole. If cap has been depressed far enough to cover safety pin holes, mine is dangerous and should be treated as a dud.

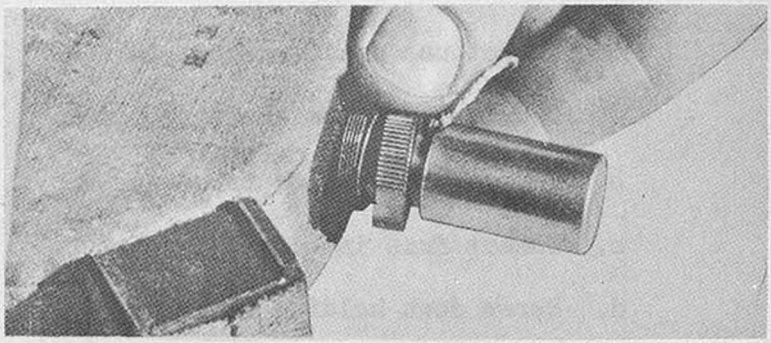


Fig. 12

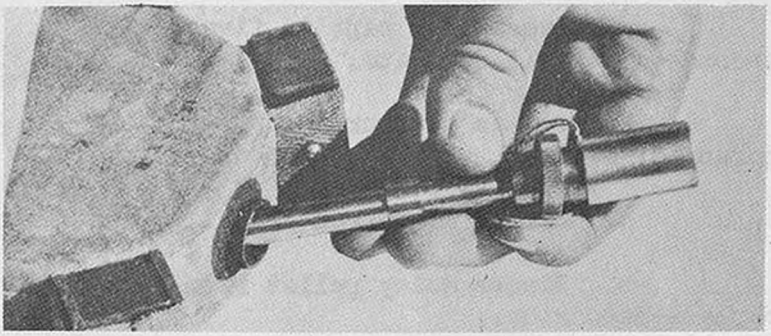


Fig. 13

DEFUZING.

1. Loosen ring holding fuze in place.

2. Remove fuze from main body.

3. Unscrew detonator from fuze to make parts safer to handle.

MODEL 99 ARMOR-PIERCING MINE -contd-

INSTALLING AND ARMING.

1. For direct use against metal surfaces:

a. Remove mine from carrying pouch.

b. Remove wooden plug from mine body.

c. Insert fuze into well in mine body.

d. Screw down holding ring.

e. Pull out safety pin.

f. Place mine against metal surface.

g. Press down cap; in five to six seconds mine will detonate.

2. For use as pressure-operated anti-personnel mine:

a. Remove mine from pouch.

b. Remove delay pellet from fuze and replace detonator.

c. Remove wooden plug from well in mine body.

d. Insert fuze in well in mine body.

e. Screw down holding ring.

f. Bury mine with fuze upright at ground level or under a pressure board at ground level.

g. Remove safety pin; mine will fire instantaneously when pressure is applied to the cap.

NOTE: A variation of this mine is shaped like a bun with a flat magnetized base. This mine can be thrown from a 10 yard range.

EMPLOYMENT.

1. For direct use against armored vehicles, doors of pill-boxes and similar targets. Mine is placed in contact with iron or steel objects and adheres by attraction of four magnets. Safety pin is removed; fuze cap depressed; delay permits taking cover. Usual practice to use two mines together.

2. For use as an anti-personnel pressure-operated mine, it is planted in ground or beneath pressure board with fuze upright and safety pin removed. For this use, mine may be set for instantaneous firing by removing the delay pellet and replacing the detonator.

3. Only occasional use of this mine at Saipan.

DUTCH MUSHROOM TOP MINE (CAPTURED)

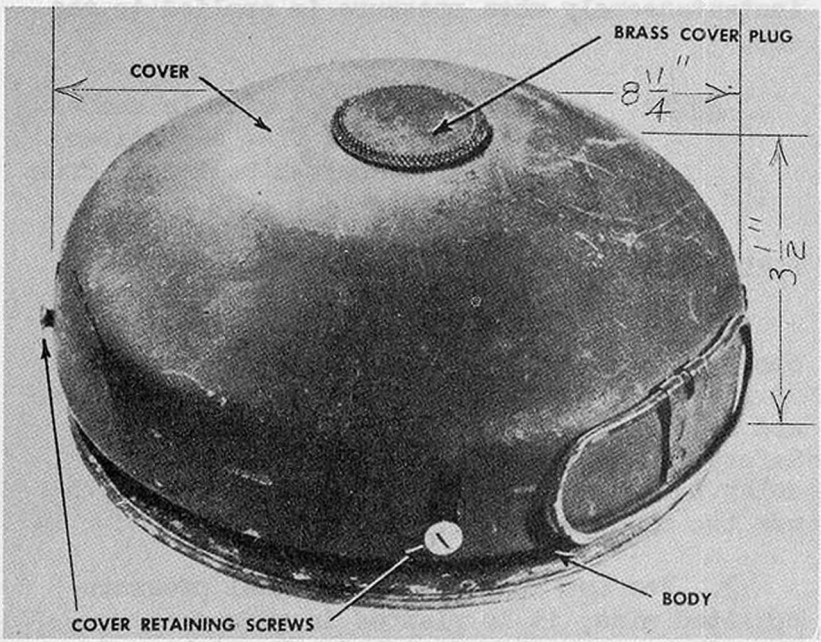


Fig. 14

TYPE. Anti-tank and anti-personnel mine

COLOR. Olive drab

CASE. Sheet steel

WEIGHT. 9½ pounds

EXPLOSIVE. 5¼ pounds cast TNT

EFFECT. Breaks tank tracks; causes casualties to personnel.

PACKAGING AND TRANSPORTING. Wooden packing box holds five mines and five fuzes; each fuze sealed in a tin container.

RE-USE. Remove plug and cover. Check presence of helical spring and make sure waxed cork in fuze cavity is intact before re-use.

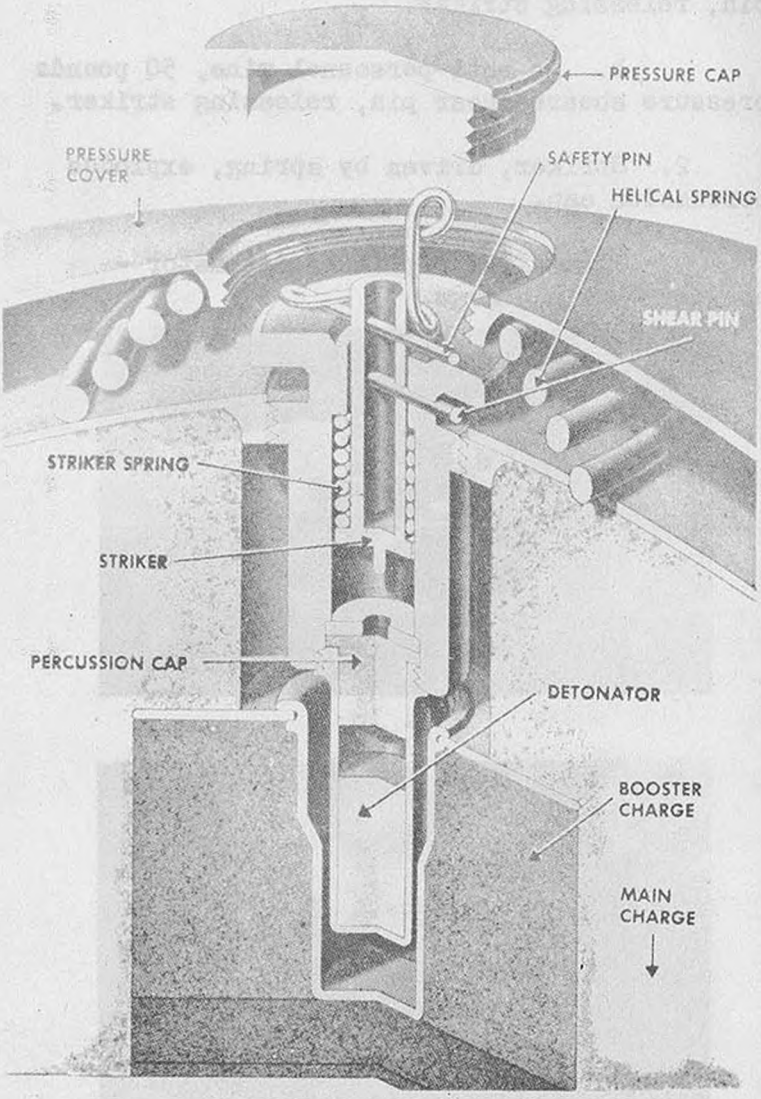


Fig. 15

FUNCTIONING.

1. a. As anti-tank mine, 180 - 240 pounds pressure in any direction on cover shears shear pin, releasing striker.

b. As anti-personnel mine, 50 pounds pressure shears shear pin, releasing striker.

2. Striker, driven by spring, explodes percussion cap.

3. Flame from cap fires detonator - booster - main charge.

Fig. 16

Fig. 17

DISARMING.

1. Unscrew brass cover plug without exerting downward pressure.

2. Insert finishing nail or #16 wire in safety pin hole. (Some models of this mine do not have a safety pin hole).

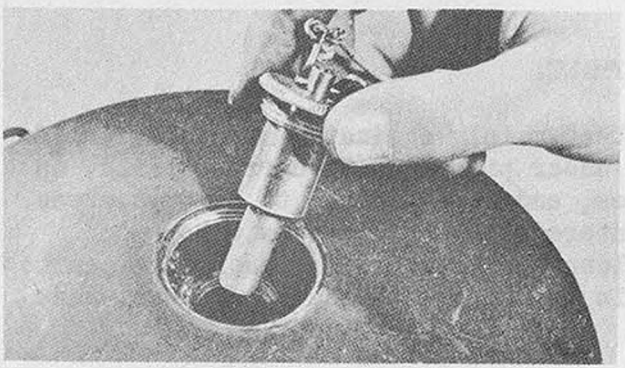


Fig. 18

DEFUZING.

1. Unscrew and remove fuze (after safety pin has been inserted).

2. Replace cover plug.

INSTALLING AND ARMING.

1. Remove brass cover plug and wax cork from fuze cavity.

2. Screw in fuze.

3. Remove safety pin.

4. Replace brass cover plug.

NOTE: Originally manufactured in the United States and sold to the Dutch, these mines were captured by the Japanese. Similar models manufactured in Holland and Java have no safety pin hole but function and are treated in the same way as the American model.

EMPLOYMENT.

Used mainly against personnel with 50 pound shear pin; laid in narrow trails, on beaches, and at entrances to bivouac areas. Encountered by United States troops on Guadalcanal. With either shear wire can be used in any standard location as anti-tank mine.

JAPANESE
"YARDSTICK"
MINE

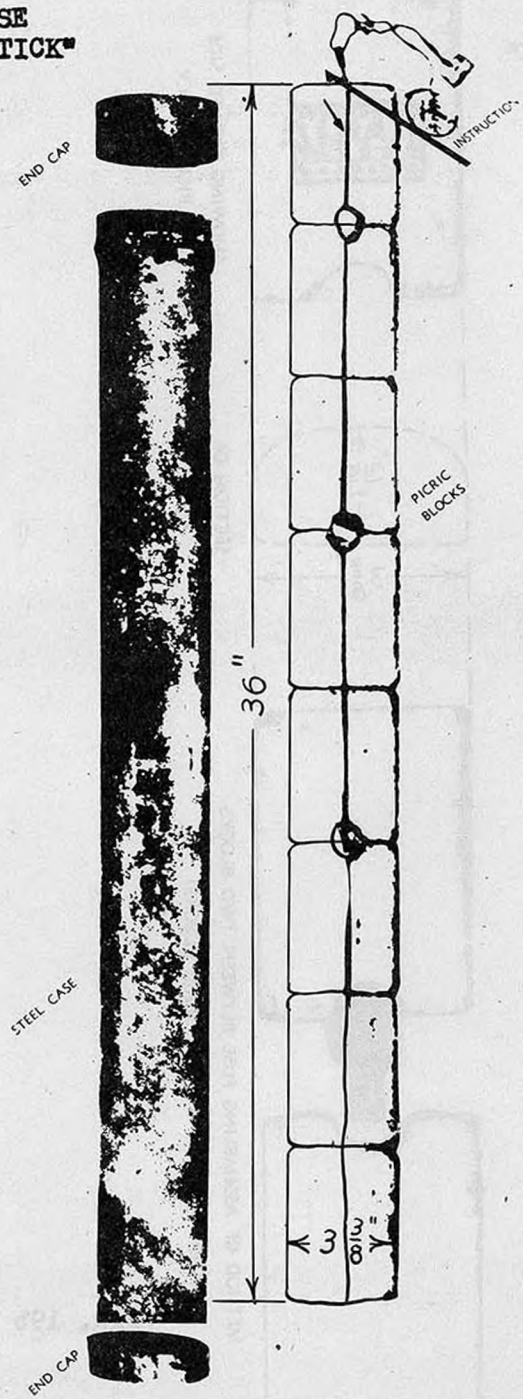


Fig. 19a

JAPANESE
"YARDSTICK"
MINE

METHOD OF ASSEMBLING FUSE BETWEEN TWO BLOCKS
(SHOWING FLAT SIDE OF PICRIC BLOCKS)

SECTION OF
BLOCK

SHOWING CURVED SIDE
OF PICRIC BLOCK

Fig. 19b

TYPE. Anti-vehicle mine

COLOR. Olive drab

CASE. Steel

WEIGHT. 10½ pounds

EXPLOSIVE. 6 pounds picric acid

EFFECT. Anti-vehicle

PACKAGING AND TRANSPORTING. Unknown

RE-USE. Suitable for re-use if shear wires on all four fuzes are undamaged.

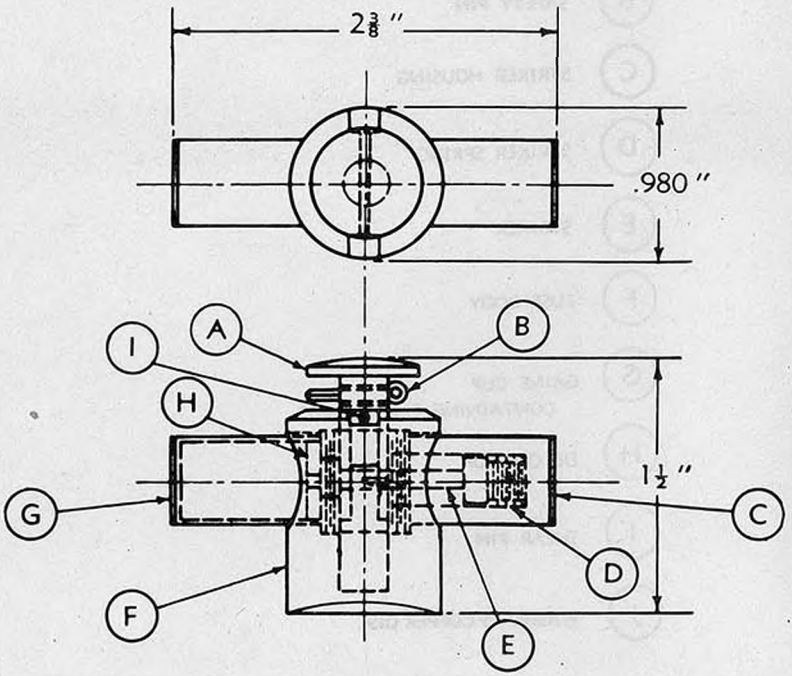


Fig. 20a

KEY TO DIAGRAM

Fig. 20b

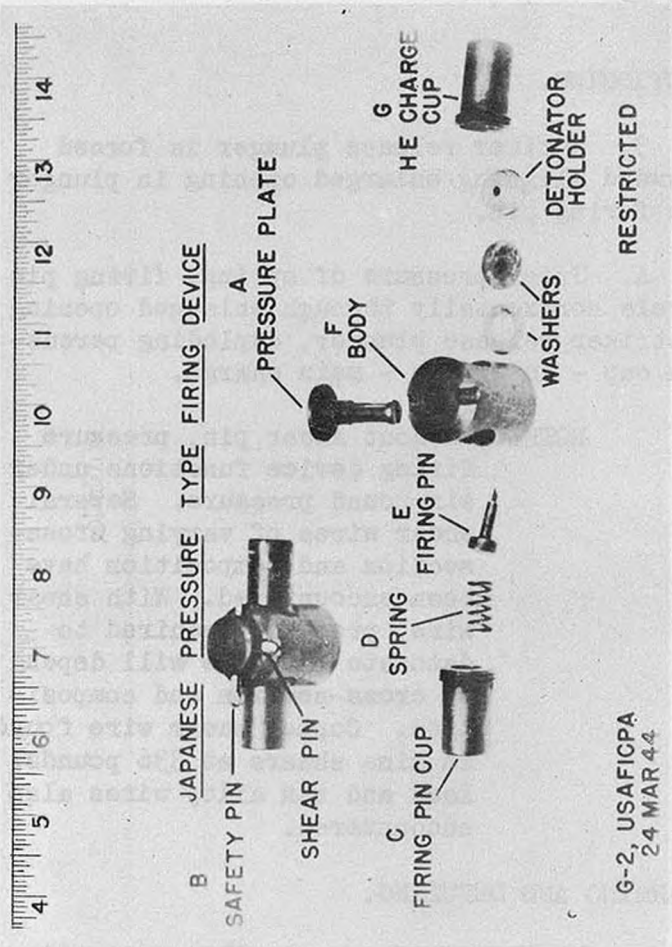


Fig. 21

FUNCTIONING.

1. Pressure applied to top of mine deforms mine case and is transmitted to one or several fuze pressure plates.

2. Continued pressure shears wires.

FUNCTIONING.

3. Striker release plunger is forced downward aligning enlarged opening in plunger with firing pin.

4. Under pressure of spring, firing pin travels horizontally through enlarged opening in striker release plunger, exploding percussion cap - detonator - main charge.

NOTE: Without shear pin, pressure firing device functions under six-pound pressure. Several shear wires of varying cross-section and composition have been encountered. With shear wire, pressure required to detonate the mine will depend on cross-section and composition. Copper shear wire found in mine shears at 336 pounds. Lead and tin alloy wires also encountered.

DISARMING AND DEFUZING.

1. Examine mine for possible activation. If present, neutralize devices and remove mine from hole.

2. Remove both end caps.

3. Gently pushing on explosive block at one end, force charge and fuze through opposite end. Do not allow fuze to drop.

4. Place short piece of #16 wire through safety pin hole of each fuze.

CAUTION: If mine case has been deformed, indicating possibility that shear wires have been partially cut, detonate mine in place.

TESTING DEVICE.

1. Remove HE charge cup with detonator holder by unscrewing from body (RH thread).

2. Remove safety pin and shear wire.

3. Depress pressure plate.

4. If firing pin functions correctly, it is safe for re-use.

5. Unscrew firing pin cup and withdraw firing pin from enlarged opening in striker release plunger.

6. Raise plunger and align shear pin hole with corresponding hole in body.

7. Examine shear wire and replace if damaged.

8. Insert shear pin and safety pin.

9. Replace spring and firing pin in firing pin cup.

10. Screw firing pin cup into body, compressing spring.

11. Screw HE charge cup back into body.

NOTE: Device will not function properly unless both cups are screwed completely in. One safety wire passes through all four fuzes.

INSTALLING AND ARMING.

1. Remove safety wire and insert burying plug after coating with moisture-proof paint or sealing compound.

2. Install mine.

EMPLOYMENT.

1. Strength of metal case prevents use of mine as anti-personnel weapon.

2. In its present design, it could function against almost any vehicle.

3. Mine recently recovered in Southwest Pacific Area by Australian forces.

4. Pressure firing device recovered from ammunition dumps on Kwajalein.

5. Mines may be buried on landing strips in an attempt to deny use of newly captured airfields.

6. Japanese instructions on this mine describe use as anti-personnel mine by removal of explosive and fuzes from mine case and placement beneath a pressure board with no shear wire. Such an installation would be dangerous to set up.

JAPANESE ANTI BOAT MINE (AB)
"SMALL TYPE LAND MINE (MINE #593)
"BEACH MINE"

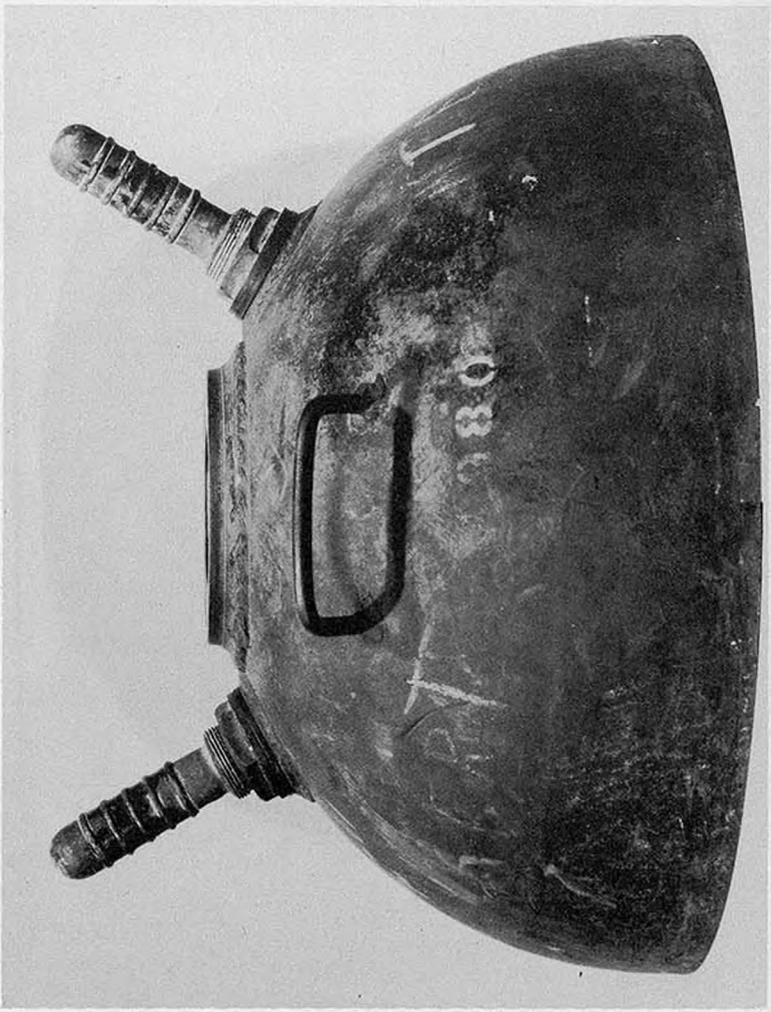


Fig. 22
Side View

JAPANESE ANTI-BOAT MINE (AB)
"SMALL TYPE LAND MINE" (MINE #593)
"BEACH MINE"

Fig. 23
Bottom View

JAPANESE ANTI BOAT MINE (AB)
"SMALL TYPE LAND MINE"(MINE #593)
"BEACH MINE"

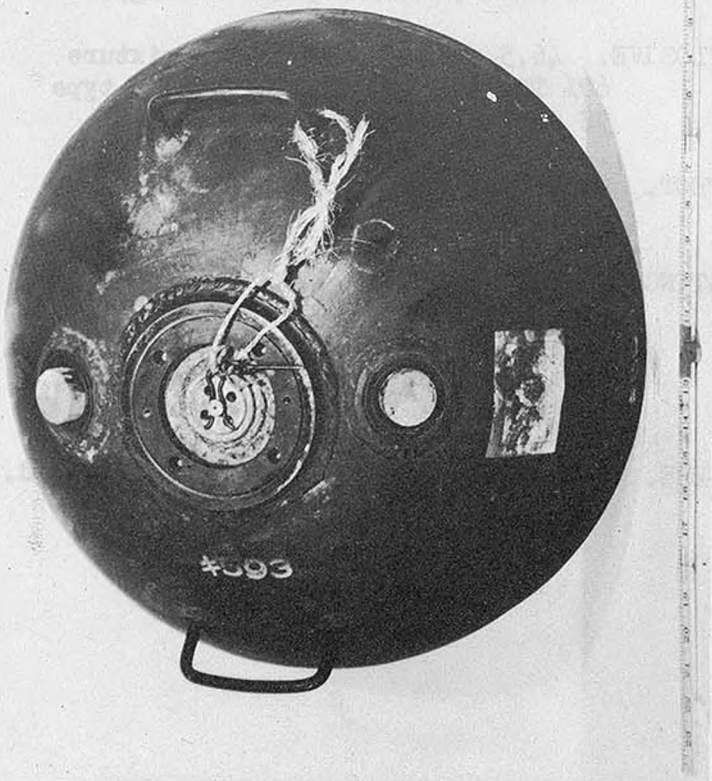


Fig. 24
Top View

JAPANESE ANTI-BOAT MINE (AB) -contd-

TYPE. Anti-boat, anti-vehicle, anti-tank

COLOR. Black

CASE. Mild steel

WEIGHT. 106.5 pounds (less exploder horns, detonator, booster, and wiring).

EXPLOSIVE. 46.5 pounds. Explosive mixture 60% TNT and 40% TNA. Known as type 98 explosive.

EFFECT. Destroys landing craft, tanks and vehicles.

CRATING AND TRANSPORTING. Each mine (less exploder horns, detonator, booster, and wiring) packed in separate wooden crate. Battery cups, horns, and boosters in separate boxes.

RE-USE. Can be re-used if horns are undamaged.

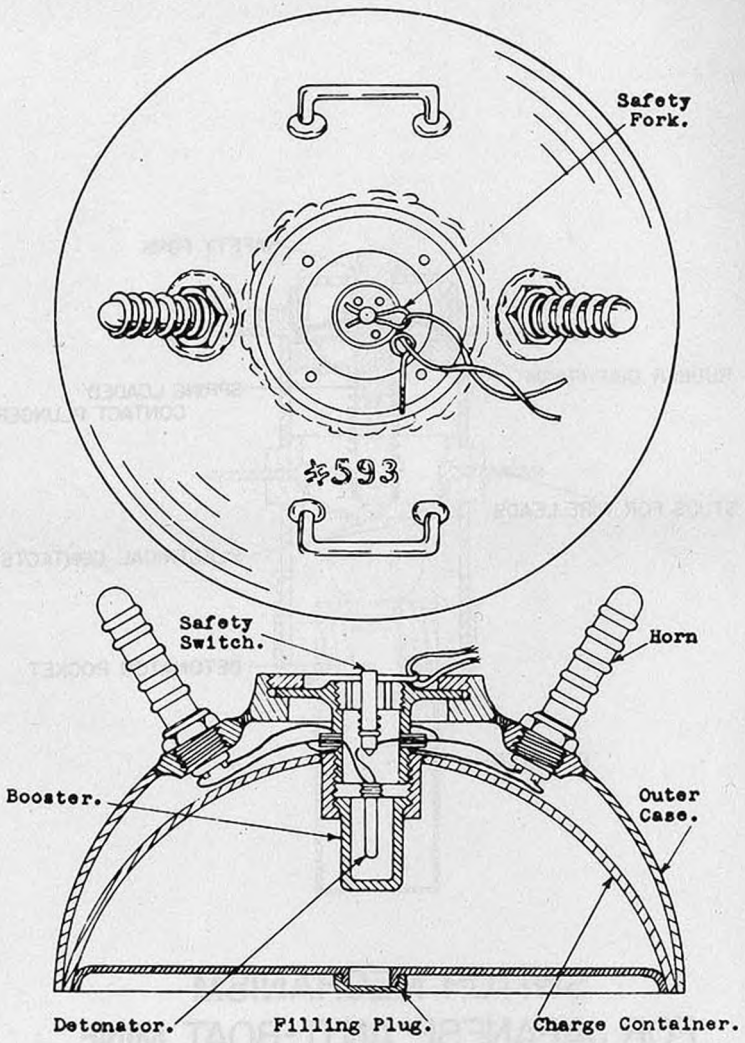
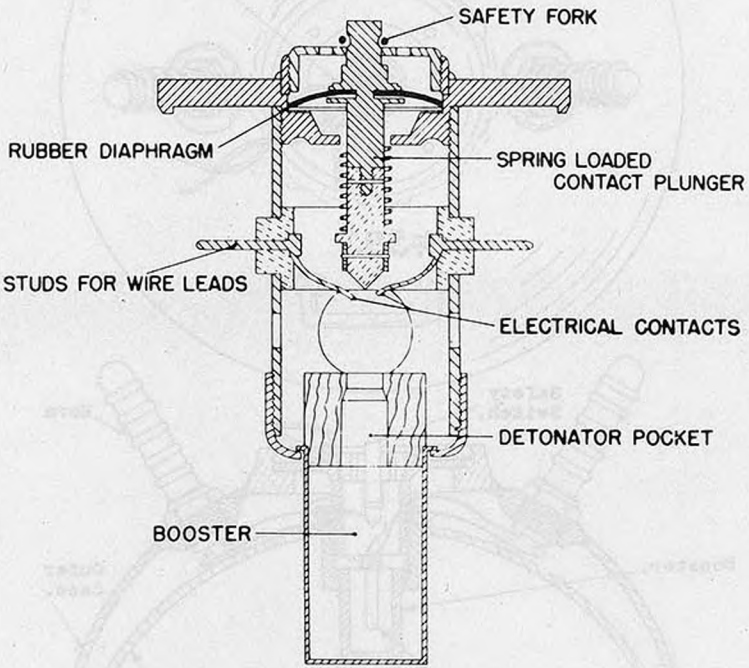


Fig. 25
Sectional View



SWITCH MECHANISM
FOR JAPANESE ANTI-BOAT MINE

Fig. 26

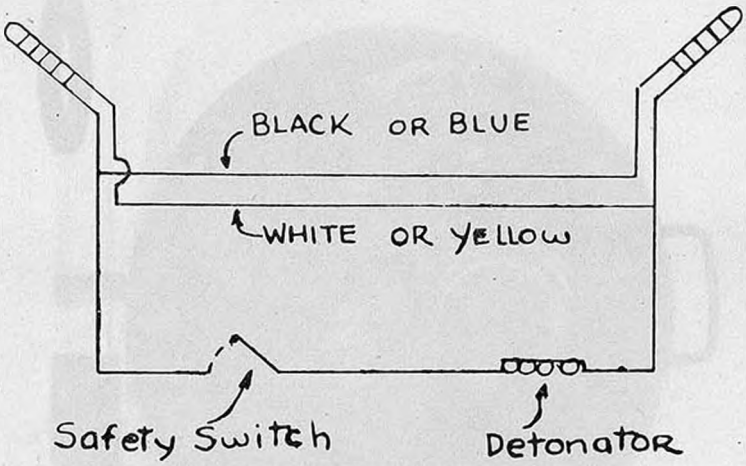


Fig. 27
Diagram of Electrical
Circuit

Fig. 28
Parts of Switch
Mechanism

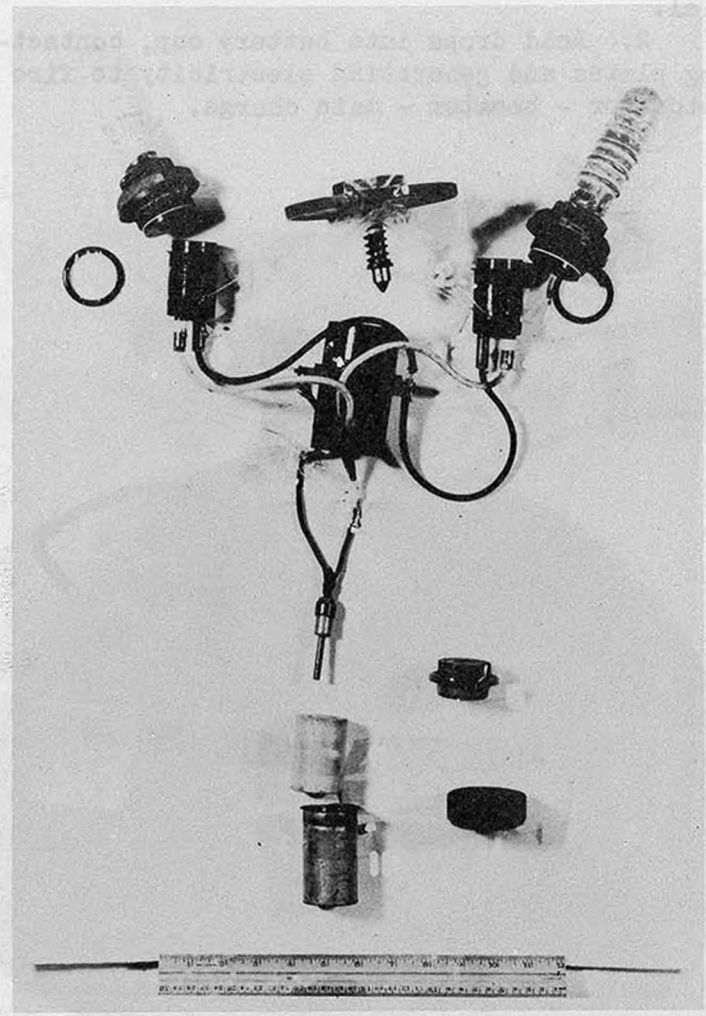


Fig. 29
Complete Firing Circuit

JAPANESE ANTI-BOAT MINE (AB) -contd-

FUNCTIONING.

1. 150 pounds pressure applied at right angles to center of either horn crushes acid vial.

2. Acid drops into battery cup, contacting plates and generating electricity to fire detonator - booster - main charge.

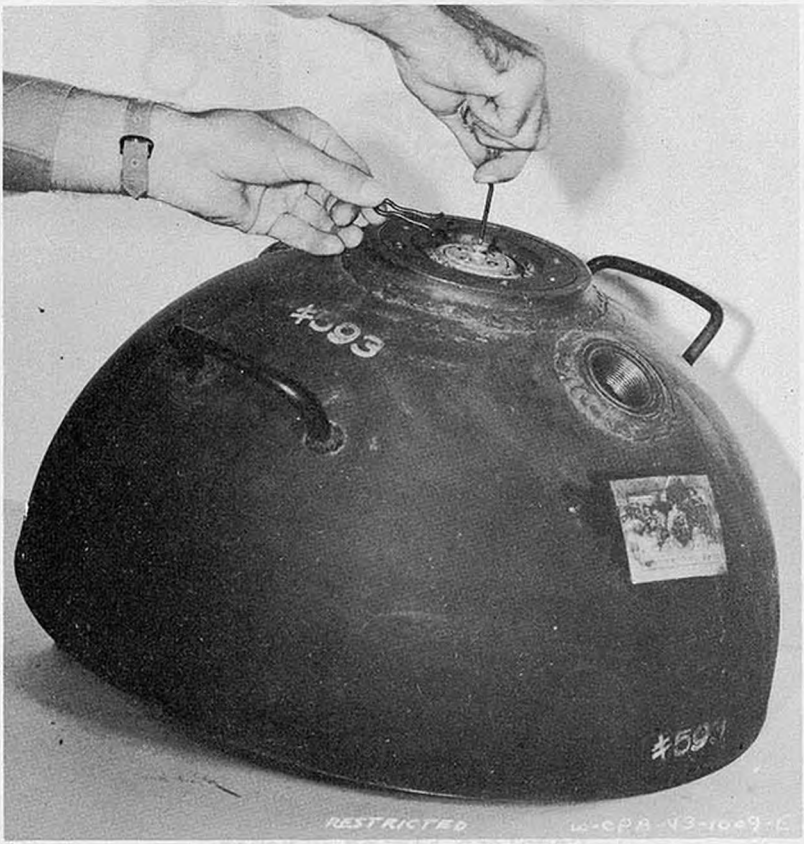


Fig. 30

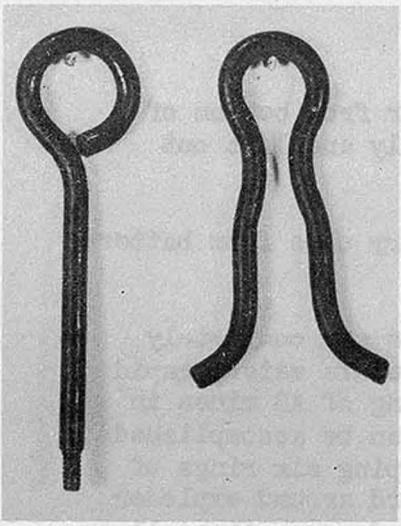


Fig. 31. Disarming tools. (Actual size).

THREADS. American National 5-44 Die (RH) cut to 0.117" dia.

DISARMING.

1. Insert a stiff wire into threaded hole in plunger of circuit breaker and with prying motion, withdraw plunger upward until improvised wire safety fork can be placed around safety groove of plunger.

2. Unscrew exploder horns with 2 3/16" hexagonal wrench (left-hand thread).

NOTE: Circuit breaker cannot be relied upon to break circuit.

DEFUZING.

1. Unscrew keep ring (right-hand thread) in top center of mine.

2. Lift out safety diaphragm with attached wiring, and cut wiring.

DEFUZING.

3. Unscrew booster from bottom of safety diaphragm assembly and lift out electric detonator.

4. Lift out battery cups from battery wells.

NOTE: If mines are completely submerged in water, rapid disarming of AB mines in place can be accomplished by wrapping six rings of primacord around exploder horns and connecting all individual branch lines to a main line of primacord which will detonate all primacord wraps simultaneously. Six wraps of primacord insure that the lead outer covering will be ruptured allowing entry of sea water which dilutes acid and prevents formation of sufficient voltage (1½ volts) to detonate electric cap. A four-pound charge of Composition "C" placed in direct contact with underside of mine and exploded in that position will insure detonation of mine in place.

JAPANESE ANTI-BOAT MINE (AB) -contd-

INSTALLING AND ARMING.

1. Uncrate mine.

2. Remove wooden shipping plugs from wells.

3. Install booster, detonator, battery cups and wiring circuit in safety diaphragm assembly.

4. Place entire safety diaphragm assembly in central well of mine and screw keep ring down tightly.

5. Connect wires to battery cups. Lower cups into battery cup wells.

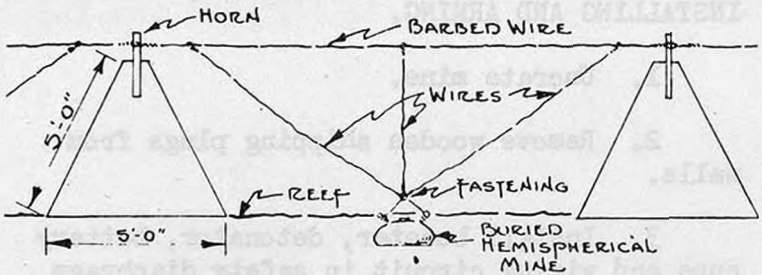
6. Screw horns tightly into place.

7. Place mine in position in water or on land.

8. Remove safety fork (plunger drops and closes circuit).

EMPLOYMENT.

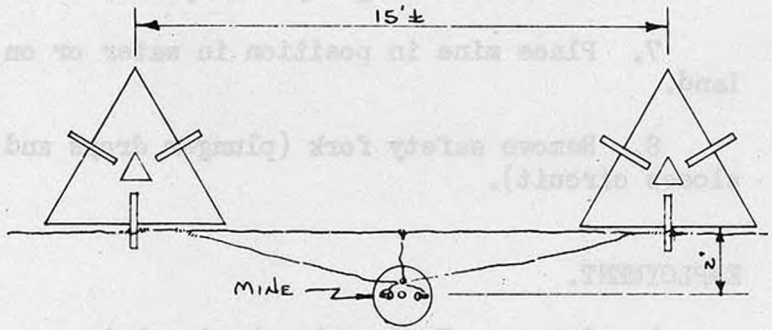
1. Tarawa: Used as beach mine between high and low tide water marks, and in shallow water zone.



• VIEW FROM OCEAN SIDE •

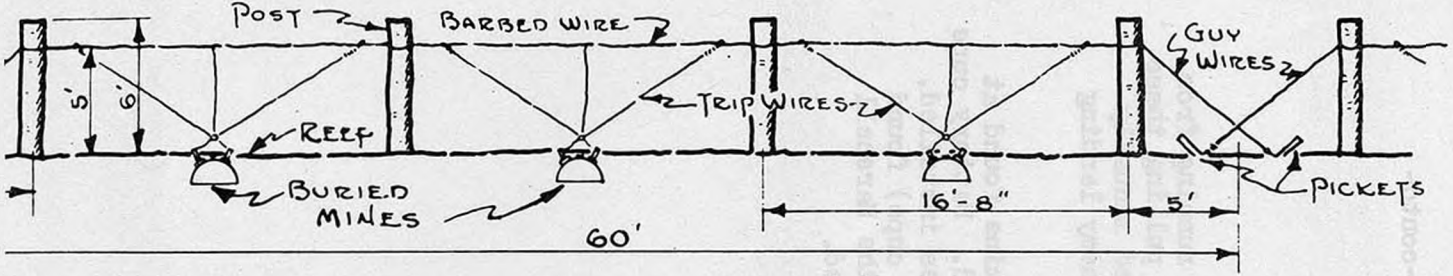
• HORNED SCULLIES •

SHOWING TYPICAL ARRANGEMENT OF MINE AND TRIP WIRES



• PLAN VIEW •

Fig. 32
Tarawa Installation



• FRONT VIEW •

PLAN VIEW

Fig. 33
Tarawa Installation

EMPLOYMENT.

1. Tarawa:

In addition, wires were found running from mines to shore positions. By pulling these wires, mines could be detonated manually from shore upon approach of enemy landing parties.

2. Horns ONLY for this mine found at Kwajalein - no mines installed. Battery cups ONLY found at Engebi - no mines installed. Mines (less horns and battery cups) found crated on several islands of the Marshall group. No mines were installed.

NEW ANTITANK MINE (PIE-PLATE MINE)

This new Japanese mine, whose dimensions have not been reported, has the appearance of two pie plates placed with the concave sides together. It has a muddy brown color and contains from 7 to 10 pounds of TNT.

These mines are usually placed across a road and are very effective against wheeled vehicles and medium tanks.

SECTION II

JAPANESE FUZES

JAPANESE FRICTION FUSE LIGHTER

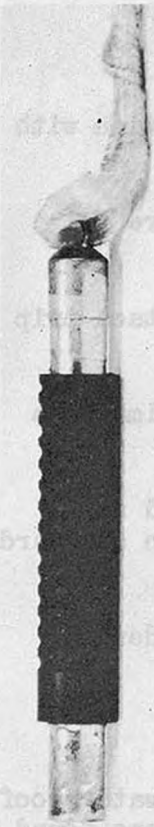


Fig. 34
(Actual size)

TYPE. Pull operated.

CASE. Brass, hard rubber.

PACKAGING AND TRANSPORTING. Outside pull cord fastened to case by small piece Scotch tape.

FUNCTIONING. 1. Pull of approximately 10 lbs on cord detaches brass end cap from end of case.

2. Silk cord attached to end cap is pulled through inverted brass cup containing friction material, igniting match composition on end of cord.

3. Flash lights time fuse or detonates standard Japanese non-electric cap.

DISARMING.

1. Cut silk pull cord.

2. Replace brass end cap. Tape cap securely in place.

INSTALLING.

1. Anchor fuse lighter in position with tape, twine, or wire.

2. Fasten trip cord or trip wire to anchor point.

3. Remove brass end cap and attach trip wire or cord to silk pull cord.

4. Attach cap or short piece time fuse to fuse lighter.

5. Insert cap into hole punched in Japanese dynamite or prepared hole in standard Japanese picric acid block.

6. Surround primer with remainder of explosive. Add shrapnel material.

7. Complete camouflage.

NOTE: Fuse lighter is not waterproof. Many such installations found in the Aleutians failed to function because of moisture.

EMPLOYMENT. Little Kiska: About 10 feet inside tunnel from entrance was a blanket stuffed between a support and tunnel wall. Pull wire securely attached to blanket by knotting it through slits in blanket. Wire ran from blanket to small hole in earth containing friction lighter and charge. Wire attached to loop of friction igniter.

JAPANESE FRICTION FUSE LIGHTER (Small)

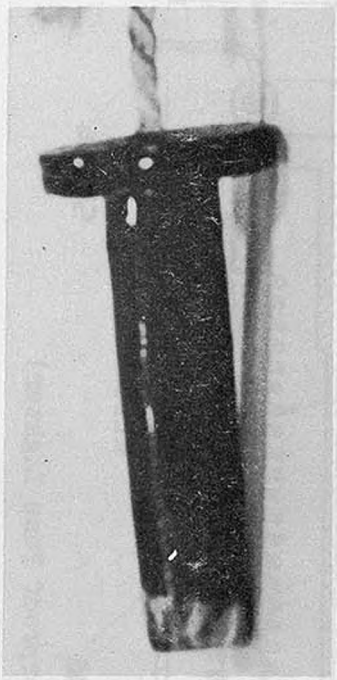


Fig. 35
(Length - 15/16")

TYPE. Pull operated.

CASE. Paper and cardboard.

PACKING AND TRANSPORTING. Unknown.

FUNCTIONING. Pull of approximately 5 lbs on silk cord ignites friction composition causing flash.

EMPLOYMENT. 1. In similar fashion to preceding fuse lighter. Small black powder end should be secured to non-electric cap with tape.

2. Principal employment is as a friction primer attached to lanyard in the Japanese 50-mm mortar. (Model 98)

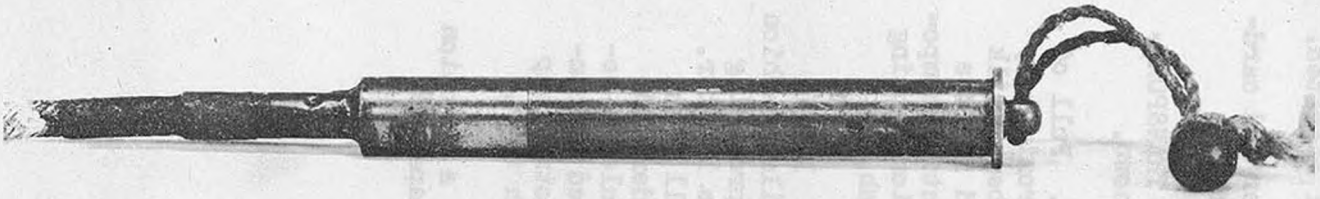


Fig. 36a

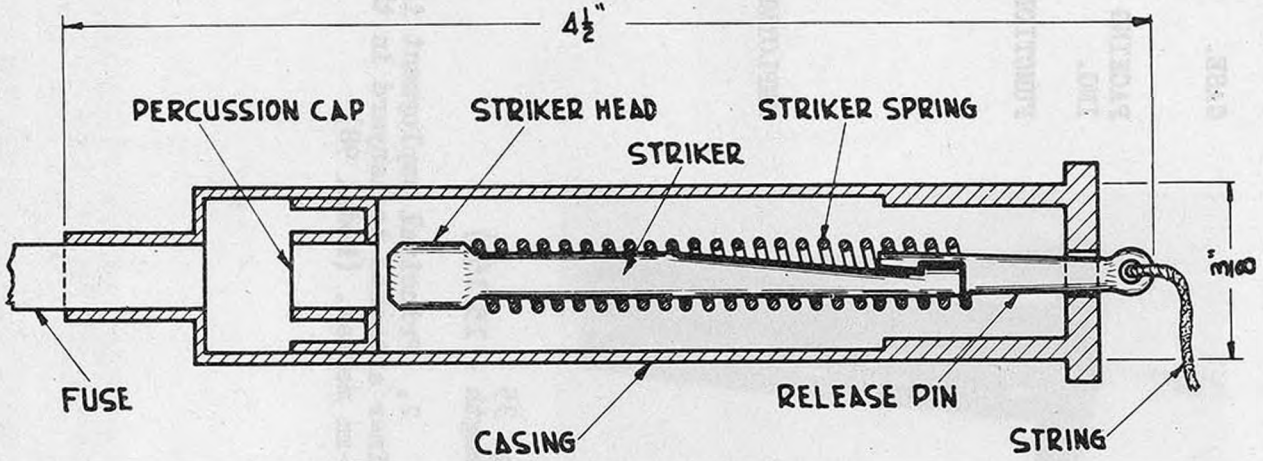


Fig. 36b (Japanese Waterproof Fuse Lighter)

JAPANESE WATERPROOF FUSE LIGHTER -contd-

TYPE. Pull operated.

CASE. Unpainted brass.

PACKAGING AND TRANSPORTING. Unknown.

FUNCTIONING.

1. Pull on string draws release pin and striker outward through release pin hole, compressing striker spring.

2. Notched joint between release pin and striker shaft passes outside of case releasing striker.

3. Striker travels forward firing percussion cap.

4. Flash of percussion cap lights end of short fuse or detonates non-electric cap.

NOTE: Considerable pull required to fire this fuse lighter.

INSTALLING AND ARMING.

1. Set up as any standard pull fuze. In manufacture, no provision made for securing device to an anchor. Device would have to be taped or wired into position.

2. There is no safety pin. Striker spring is not compressed until pull is exerted on release pin.

JAPANESE WATERPROOF FUSE LIGHTER -contd-

EMPLOYMENT.

1. Could be employed in any installation requiring a pull firing device.

2. Primarily used in one of the Japanese signal smoke bombs (Mark IV) as a means of igniting the delay fuse in the bomb before bomb is dropped from plane.

3. Several booby trap installations employing this device were encountered on Saipan. In each case, a non-electric cap was crimped directly over the end and the device and explosive charge consisted of one to two pounds of the standard Japanese picric acid block. In one instance a canteen was booby-trapped with this set-up. Charge and device were anchored securely in the ground in each canteen.

COMBINATION FRICTION IGNITER AND DETONATOR

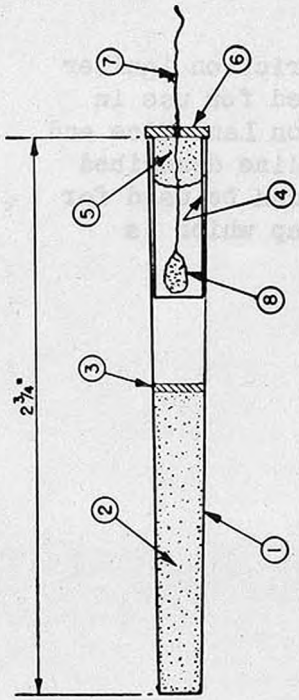


Fig. 37

TYPE. Pull operated igniter and detonator.

CASE. Stiff prepared paper tube.

FUNCTIONING. 1. Pull on wire pulls oval friction ball through igniter composition and friction created ignites the composition.

2. Flame created by igniter fires explosive filling of the detonator.

DISARMING. The combined friction igniter and detonator can not be neutralized by any locking devices, but can be rendered harmless by cutting the wire close to the capping disk. Igniter tube can also be removed from the detonator tube if the two tubes are not glued or cemented together.

INSTALLING. 1. Insert device in charge and anchor firmly.

2. Attach trip or pull wire to pull wire of device.

COMBINATION FRICTION IGNITER AND DETONATOR
-contd

EMPLOYMENT. This combined friction igniter and detonator is designed for use in the Pressure and Traction Land Mine and Friction Ignition Land Mine described in Section IV. Device can be used for any improvised booby trap which is initiated by a pull.

JAPANESE PRESSURE FUZE

(See Japanese Anti-Vehicular
"Yardstick" Mine, Section I)

JAPANESE BULLET PENCIL

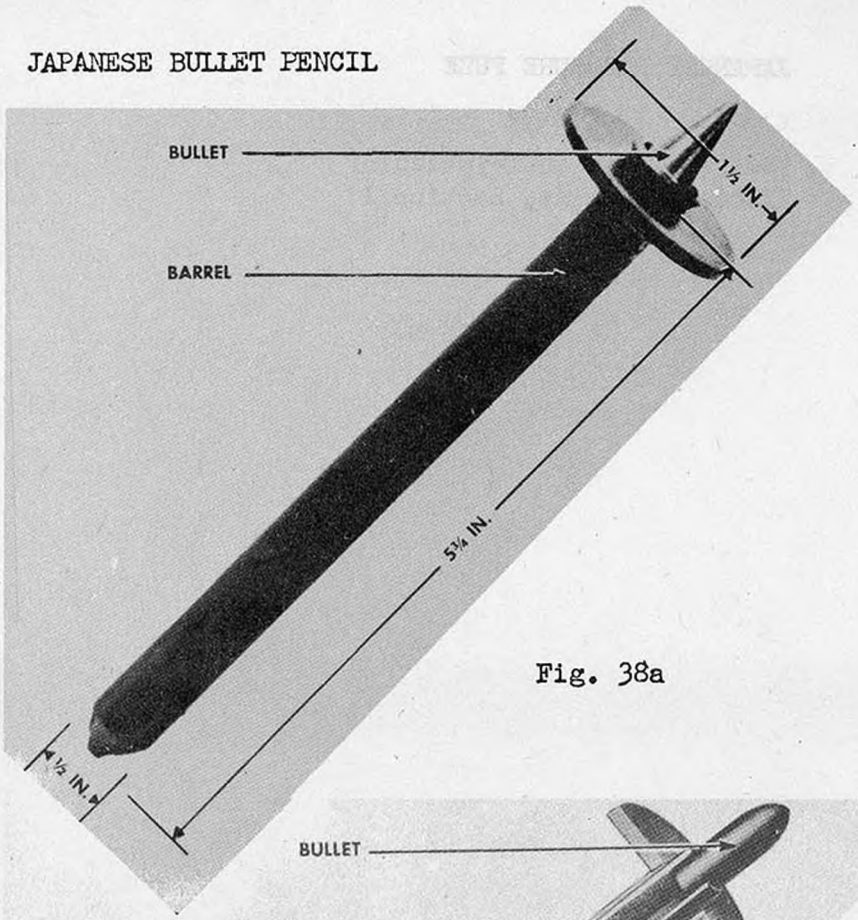


Fig. 38a

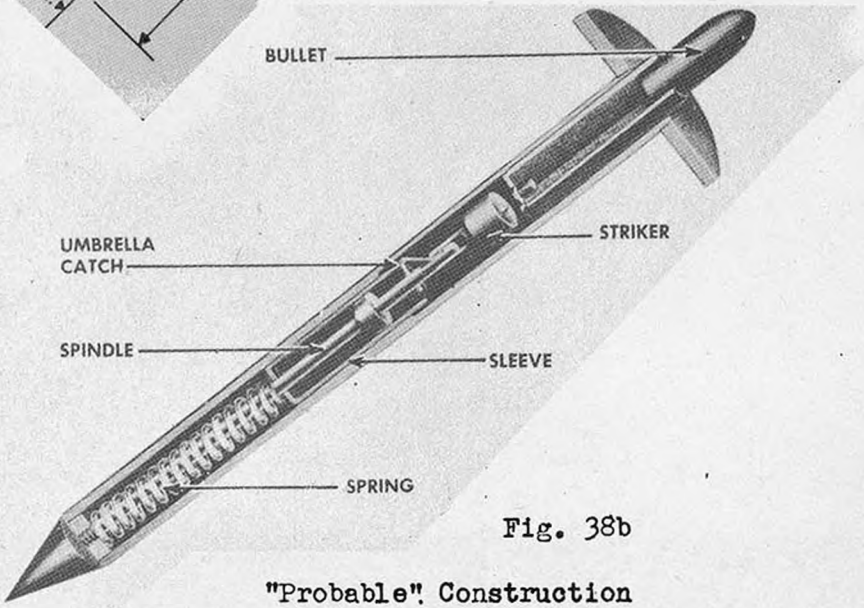


Fig. 38b

"Probable" Construction
Japanese Footshooter -

JAPANESE BULLET PENCIL -contd-

TYPE. Pressure operated anti-personnel device.

COLOR. Unknown.

CASE. Steel.

PACKAGING AND TRANSPORTING. Unknown.

CAUTION: Never transport with cartridge in place.

RE-USE. Can be re-used after firing by recocking and inserting new cartridge.

FUNCTIONING. Similar to British pistol ground spike. Slight pressure on bullet releases a striker, firing bullet out of ground.

DISARMING. Remove cartridge AT ARMS LENGTH.

TESTING. Cock device and test by pressing on striker with a pencil or small stick. Impact of striker will be felt if device functions correctly.

INSTALLING AND ARMING.

1. Push empty barrel into ground to level of flange.

2. Place firing sleeve over spring and depress spring until sleeve catches.

3. Place cocked mechanism into barrel.

4. Lower striker into barrel.

JAPANESE BULLET PENCIL -contd-

INSTALLING AND ARMING.

5. AT ARMS LENGTH lower cartridge gently into barrel, point upward, BETWEEN FINGERS, to prevent injury in the event of accidental discharge.

EMPLOYMENT. Sunk into roadways and pathways. Bullet will penetrate a man's foot or damage a pneumatic tire. Also used to encircle AT or AP mines, usually within a radius of 2 - 3 feet from the mine encircled.

SECTION III

JAPANESE GRENADES

JAPANESE STICK GRENADE

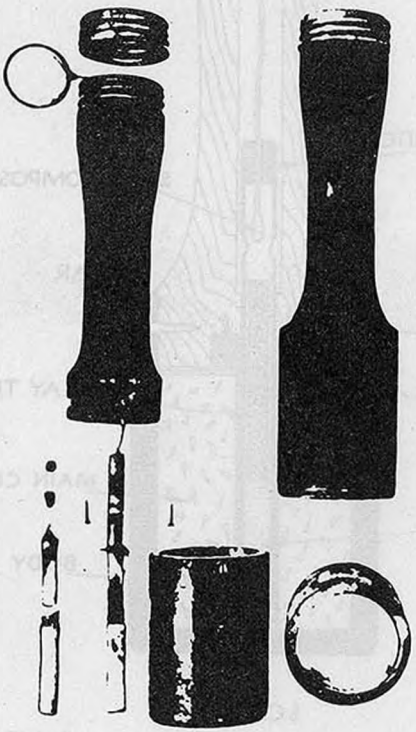


Fig. 39

JAPANESE STICK GRENADE -contd-

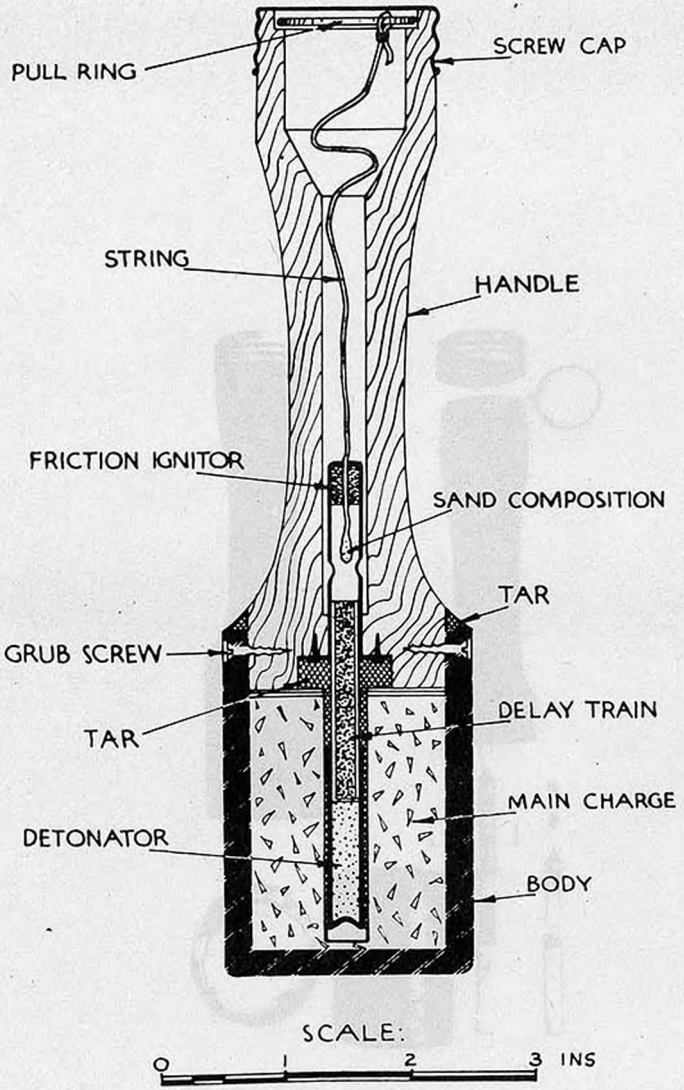


Fig. 40

JAPANESE STICK GRENADE -contd-

TYPE. Pull-operated fragmentation grenade.

COLOR. Handle: lacquered wood. Base: black.

CASE. Cast steel.

WEIGHT. 1¼ lbs.

EXPLOSIVE. 2 3/4 oz. lyddite (a picric acid derivative).

EFFECT. Fragmentation.

PACKAGING AND TRANSPORTING. Unknown

FUNCTIONING.

1. With cap removed, pull on ring draws friction wire through match material.

2. Flame from fuze sets off 4½ second delay train - detonator - main charge.

DISARMING.

1. Cut any wires or cords attached to pull ring.

2. Replace pull cord and ring in top of handle.

3. Screw metal cap over end of handle.

DEFUZING.

1. Remove sealing compound from joint between container and handle.

2. Remove three grub screws from joint between container and handle.

JAPANESE STICK GRENADE -contd-

DEFUZING.

3. Hold grenade by handle and remove base.

4. Unscrew end cap and cut ring from cord at top of handle.

5. Push fuze, delay train and detonator out of handle with a rod inserted through handle from top.

ARMING.

1. Remove metal cap from handle.

2. For AP set-up, anchor grenade firmly, attach trip wire to pull cord.

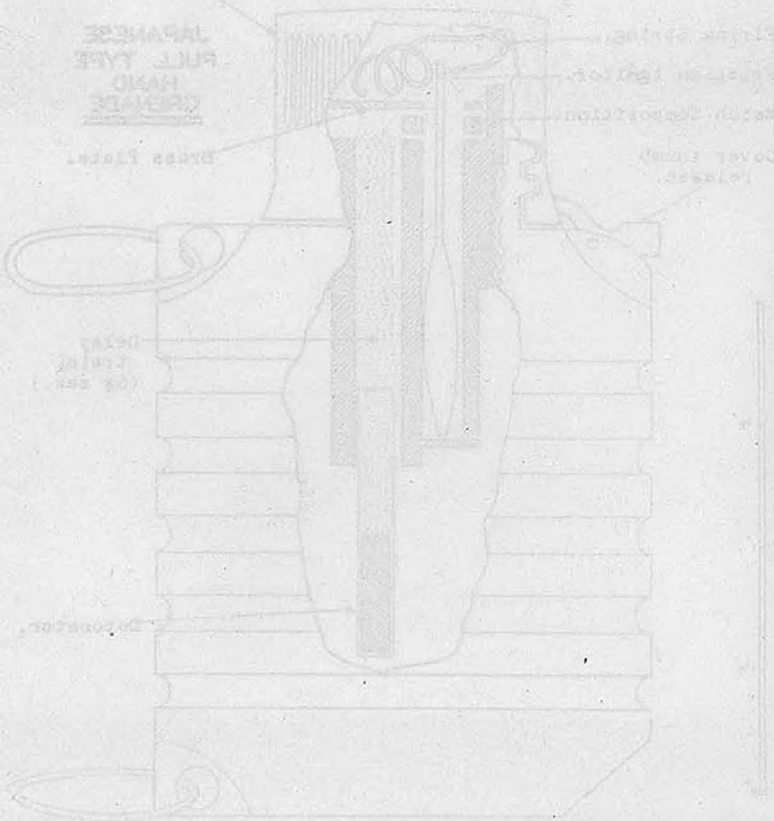
EMPLOYMENT. Adaptable for use as AP device (see Section V). The Japanese stick grenade is not readily converted into a booby trap by removal of delay train, as is the German stick grenade. The tar seal is difficult to remove and would leave obvious signs of tampering.

NOTE: One complete case of these grenades was recovered in September 1943 at Lae, New Guinea. This case of grenades, the only one found, was stowed in a back corner of an underground magazine beneath cases of anti-aircraft ammunition. Although well-packed, the grenades were wet and rusty, and had evidently been laid aside for some time. Because of the fact that this grenade has been encountered only a few times

JAPANESE STICK GRENADE -contd-

EMPLOYMENT.

NOTE: (also at Kiska) it is believed by CPA Ordnance G-2 to be an obsolete item of issue.



JAPANESE PULL-TYPE HAND GRENADE

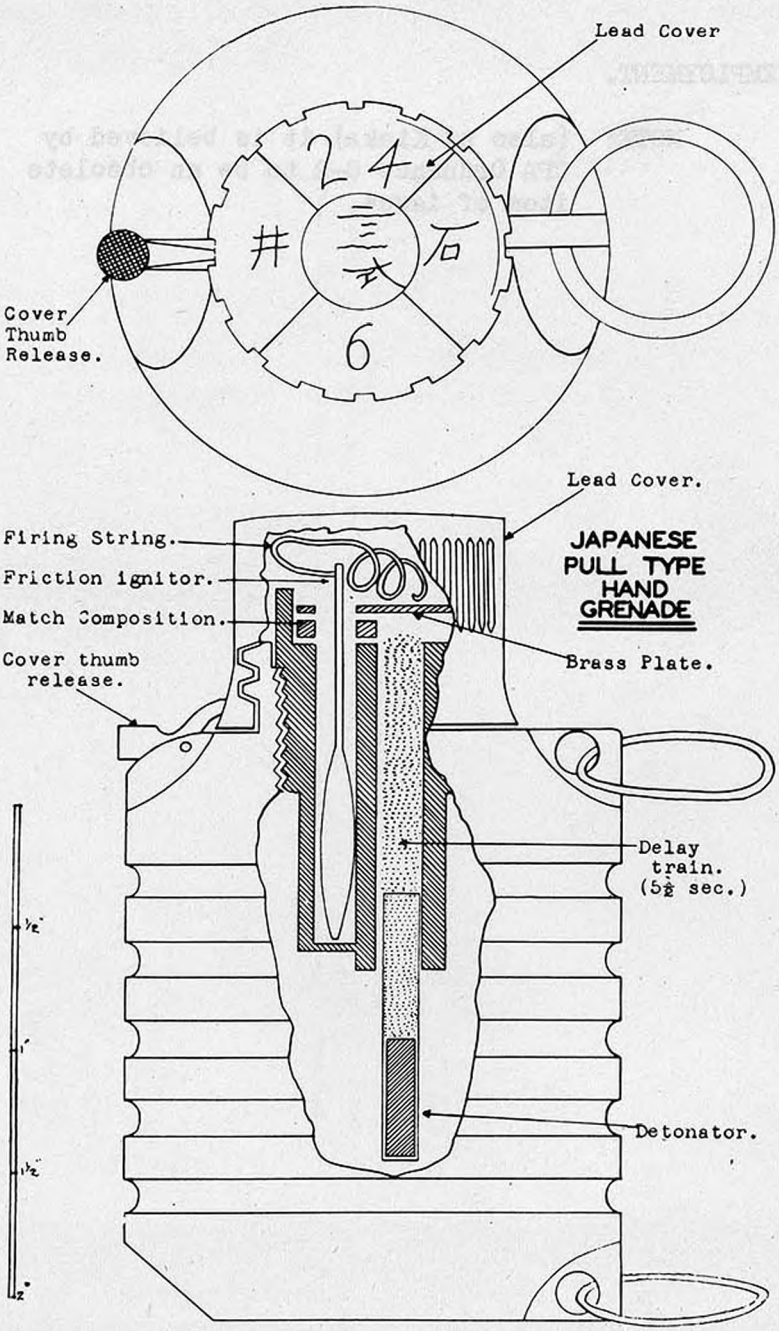


Fig. 41

JAPANESE PULL-TYPE HAND GRENADE

COLOR. Black.

CASE. Grooved cast iron (horizontal grooves only.)

WEIGHT. 1 lb.

EXPLOSIVE. 2 oz. granular TNT.

EFFECT. Less effective than US fragmentation grenade because explosive employed creates smaller fragments. Effective casualty producing range approximately 10 yards.

PACKAGING AND TRANSPORTING. Grenades may be safely carried with lead covers in place. If lead covers are not available, grenades should be defuzed for transporting, or pull cord cut as short as possible and tape placed over opening.

RE-USE. Check to see that delay train has not been removed by enemy.

FUNCTIONING.

1. Pull on firing string pulls friction igniter through match composition.

2. Flame from match composition ignites 4 - 5 second delay train.

3. Delay train sets off detonator, then charge.

JAPANESE PULL-TYPE HAND GRENADE

DISARMING.

1. If available, replace lead cover WITH FIRING STRING INSIDE.

2. If lead cover is missing, cut cord as short as possible without exerting any pull on it. Place tape securely over opening.

DEFUZING. Unscrew fuze exerting no pull on firing string.

ARMING. Remove lead cover. Pull cord. For anti-personnel use anchor grenade securely and attach cord to trip wire.

EMPLOYMENT. Adaptable for use as AP device. See Section III.

JAP 97 HAND GRENADE

Fig. 42

TYPE. Pressure operated fragmentation grenade.

COLOR. Black

CASE. Grooved cast iron (both horizontal and vertical grooves).

WEIGHT. 1 lb.

EXPLOSIVE. 2 oz. granular TNT; earlier models contain granular picric acid.

PACKAGING AND TRANSPORTING. Packed twenty in wooden case. In shipment, the firing pin head is screwed upward so that the point of the firing pin does not protrude below the holder.

RE-USE. Before re-use, check to see that delay has not been removed.

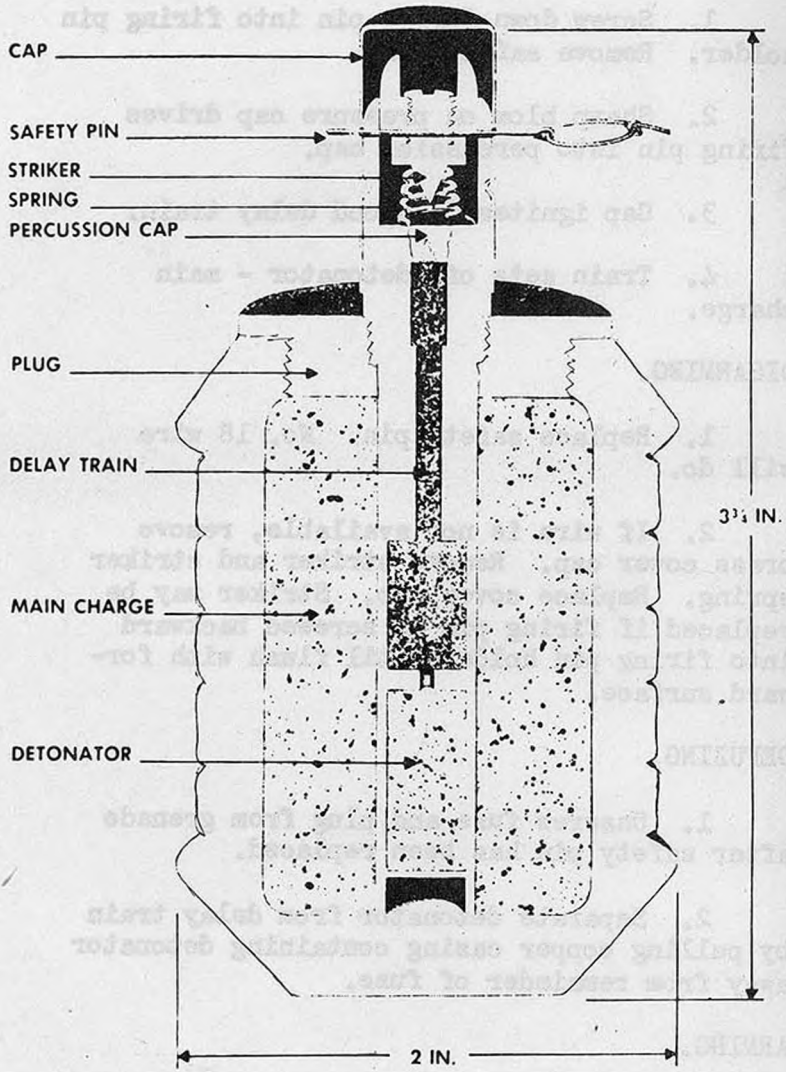

CAP
SAFETY PIN
STRIKER
SPRING
PERCUSSION CAP
PLUG
DELAY TRAIN
MAIN CHARGE
DETONATOR
3¾ IN.
2 IN.

Fig. 43

JAP 97 HAND GRENADE -contd-

FUNCTIONING.

1. Screw down firing pin into firing pin holder. Remove safety pin.

2. Sharp blow on pressure cap drives firing pin into percussion cap.

3. Cap ignites 5-second delay train.

4. Train sets off detonator - main charge.

DISARMING.

1. Replace safety pin. No. 18 wire will do.

2. If wire is not available, remove brass cover cap. Remove striker and striker spring. Replace cover cap. Striker may be replaced if firing pin is screwed backward into firing pin holder until flush with forward surface.

DEFUZING.

1. Unscrew fuze and plug from grenade after safety pin has been replaced.

2. Separate detonator from delay train by pulling copper casing containing detonator away from remainder of fuze.

ARMING.

1. Screw down firing pin into firing pin holder.

JAP 97 HAND GRENADE -contd-

ARMING.

2. Withdraw safety pin.

EMPLOYMENT. Adaptable as AP device. See Section III b.

NOTE: This grenade may be distinguished from the Type "91" grenade by the absence of a propellent chamber on the base and a coating of brown shellac and varnish on the interior and exterior of the fuze cap. There is also a marking IN BLACK on the upper part of the fuze screw stating that the delay is 4- 5- seconds.

JAPANESE 91 HAND GRENADE

NOTE: Grenade is the same as the Jap 97 hand grenade except that it has perforated propellant container which screws into the base allowing the grenade to be fired from the Japanese 50-mm grenade discharger (Knee Mortar) or from the Model 10 50-mm grenade discharger.

CAUTION: The powder delay train for this grenade is intended to give a delay of 6 to 7 seconds, but reports indicate that the delay action is erratic.

Fig. 44

JAPANESE MODEL 89 (1929)
50-MM HIGH EXPLOSIVE SHELL

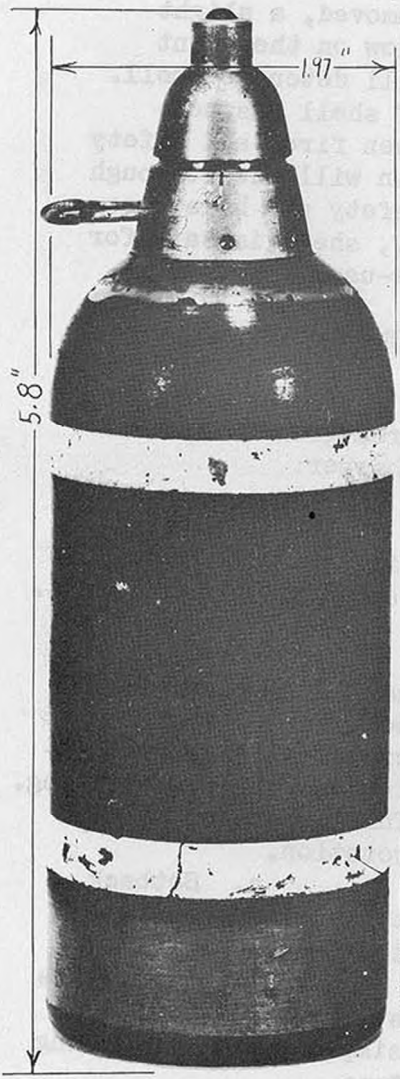


Fig. 45

TYPE. Pressure operated anti-personnel projectile.

COLOR. Black with red and yellow bands.

WEIGHT. 1 3/4 lbs.

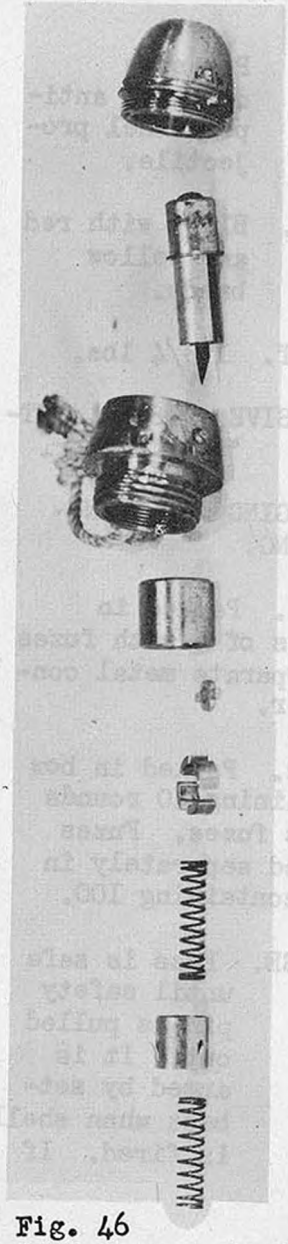
EXPLOSIVE. 4.8 oz. TNT-type filler.

PACKAGING AND TRANSPORTING.

1. Packed in crates of 5 with fuzes in separate metal container.

2. Packed in box containing 40 rounds minus fuzes. Fuzes packed separately in box containing 100.

RE-USE. Fuze is safe until safety pin is pulled out. It is armed by set-back when shell is fired. If



detents have been removed, a slight blow on the point will detonate shell. If shell has not been fired and safety pin will pass through safety pin hole freely, shell is safe for re-use.

FUNCTIONING.

1. When fired from grenade discharger:

a. Firing pin strikes percussion cap igniting propellant.

b. Propellant gases force projectile outward at same time expanding copper rotating band against rifling. This expansion causes rotation.

c. Setback takes place when shell is fired.

d. Projectile strikes ground firing simple point detonating fuze.

Fig. 46
Fuze Parts - 89 Shell

JAPANESE MODEL 89 (1929)
50-MM HIGH EXPLOSIVE SHELL -contd-

FUNCTIONING.

2. When used in AP set-up:

a. Detents must be removed from fuze.

b. Either pressure from pressure board or pressure caused by dropping or explosive action drives striker forward firing percussion cap - detonator - charge.

DISARMING.

1. Examine to see if propellant charge has been fired.

2. If so detonate in place.

3. If propellant undisturbed, insert safety pin.

DEFUZING. Unscrew fuze from body.

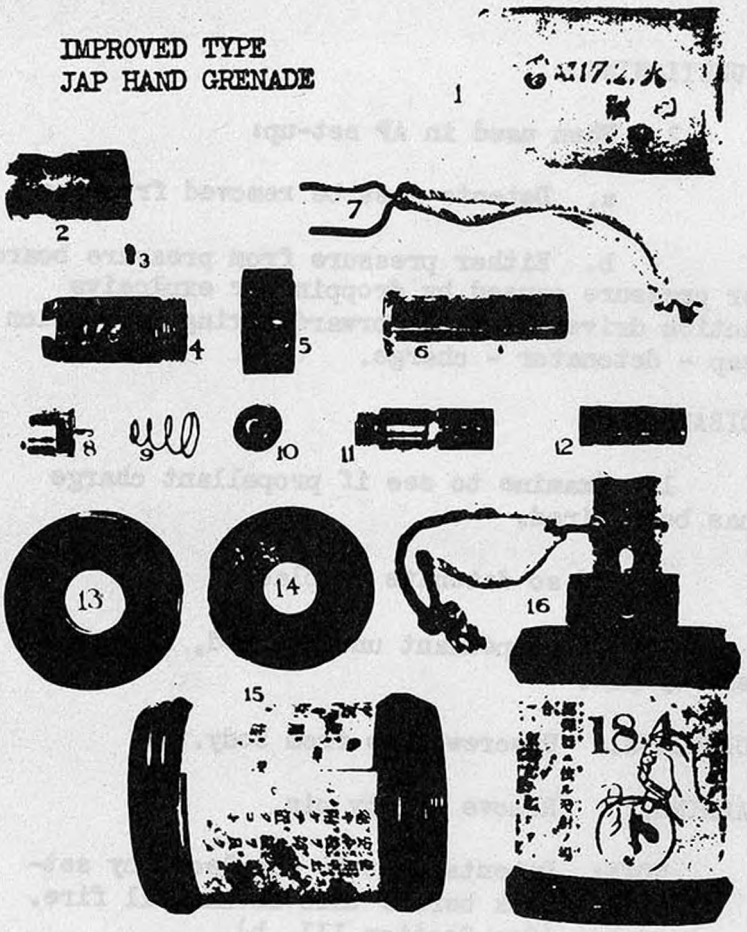
ARMING. Remove safety pin.

NOTE: Detents must be displaced by set-back before this shell will fire. (See Section III, b).

EMPLOYMENT: (See Section III, b).

KISKA GRENADE

IMPROVED TYPE
JAP HAND GRENADE



1. Picric Filler.
2. Fuse Cover.
3. Cover retaining screw.
4. Fuse body.
5. Flash Guard.
6. Delay train & Detonator holder.
7. Safety pull wire.
8. Striker.
9. Striker spring.
10. Firing Cap.
11. Delay train holder.
12. Detonator.
13. Top.
14. Cardboard Washer.
15. Case.
16. Assembled Grenade.

Fig. 47

KISKA GRENADE -contd-

TYPE. Pressure operated concussion grenade.

COLOR. Black with red top and brass fuze.

CASE. Cast iron or steel, smooth surfaces inside and out.

WEIGHT. 10 ounces.

EXPLOSIVE. 1 1/2 ounces cast picric acid.

EFFECT. Offensive, anti-personnel.

PACKAGING AND TRANSPORTING. Same as 97 grenade.

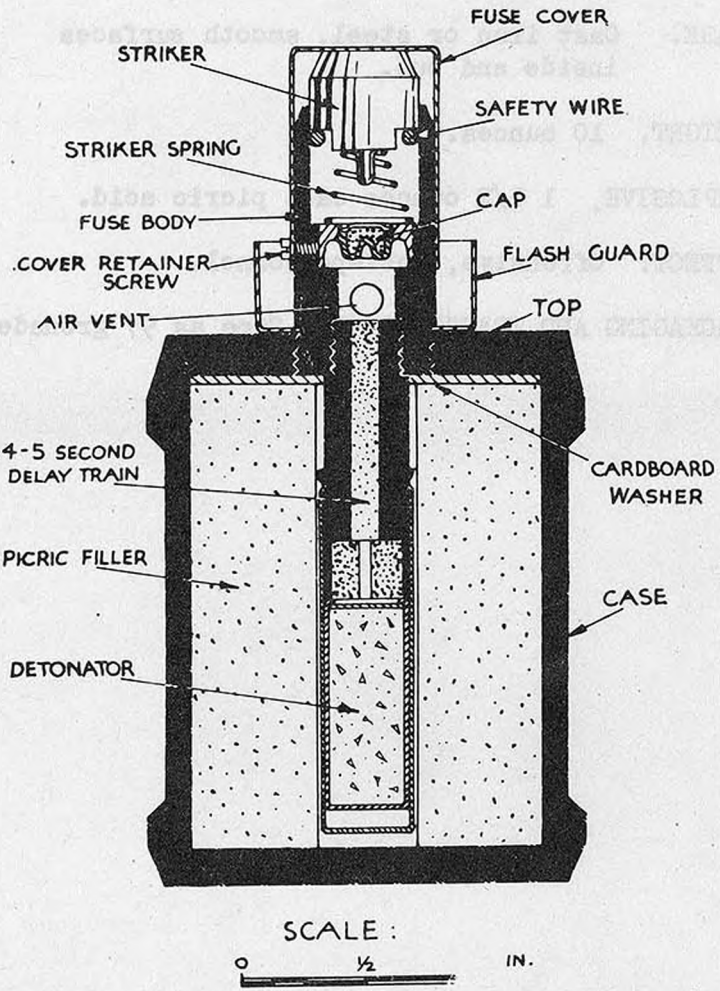

FUSE COVER
STRIKER
SAFETY WIRE
STRIKER SPRING
CAP
FUSE BODY
FLASH GUARD
COVER RETAINER SCREW
AIR VENT
TOP
4-5 SECOND DELAY TRAIN
CARDBOARD WASHER
PICRIC FILLER
CASE
DETONATOR
SCALE :
0
½
IN.

Fig. 48

KISKA GRENADE -contd-

FUNCTIONING.

1. Withdraw safety pin.

2. Strike brass cover sharply, depressing striker.

3. Striker fires percussion cap which initiates a 4 to 5 second delay train.

4. Delay train fires detonator - main charge.

DISARMING.

1. Insert No. 18 wire safety pin into two safety pin holes.

2. If wire not available, withdraw brass cover cap and remove striker. Replace cap.

DEFUZING. Unscrew fuze and plug.

ARMING. With safety pin removed, grenade is armed.

NOTE: Improvements in this grenade are:

1. A new type striker which eliminates the necessity of screwing down firing pin before using.

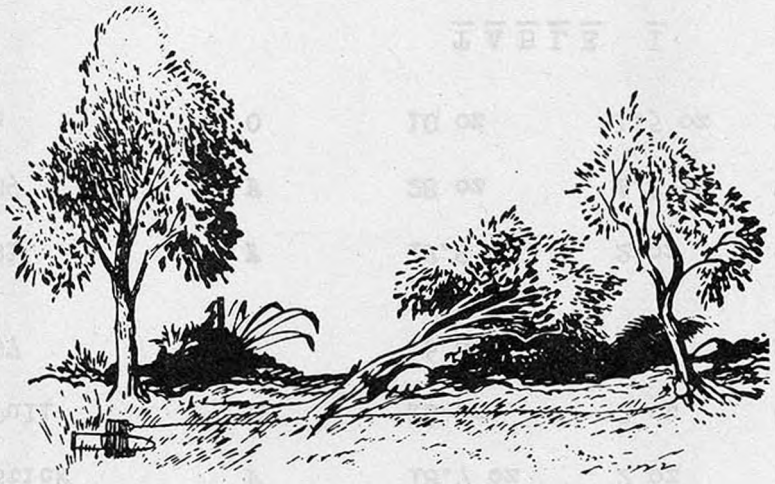
2. A flash deflector around the gas vent to reduce burn to the thrower and observation by opposing forces at night.

KISKA GRENADE -contd-

EMPLOYMENT. Adaptable as pressure AP device. See Section (3).

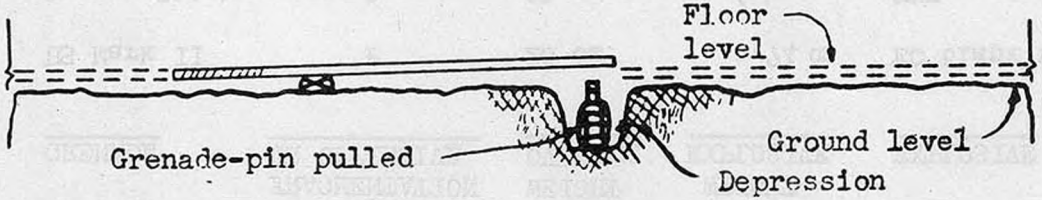
GRENADE	FRAGMENTATION OR OFFENSIVE	WEIGHT OVERALL	WEIGHT EXPLOSIVE	EXPLOSIVE
US Mark II	F	20 oz	.74 oz	EC blank fire powder
German Stick	O	21 oz	6 oz	TNT
Jap Stick	F	18.7 oz	2 oz	Lyddite (picric acid type)
Jap Pull	F	16 oz	2 oz	Granular TNT
97	F	16 oz	2 oz	Granular TNT (Early grenades used picric acid)
91	F	18.8 oz	2 oz	Granular TNT
89	F	28 oz	4.8 oz	TNT type
Kiska	O	10 oz	1.5 oz	Cast picric acid

T A B L E I



1. Japanese pull or stick grenades.

Fig. 49



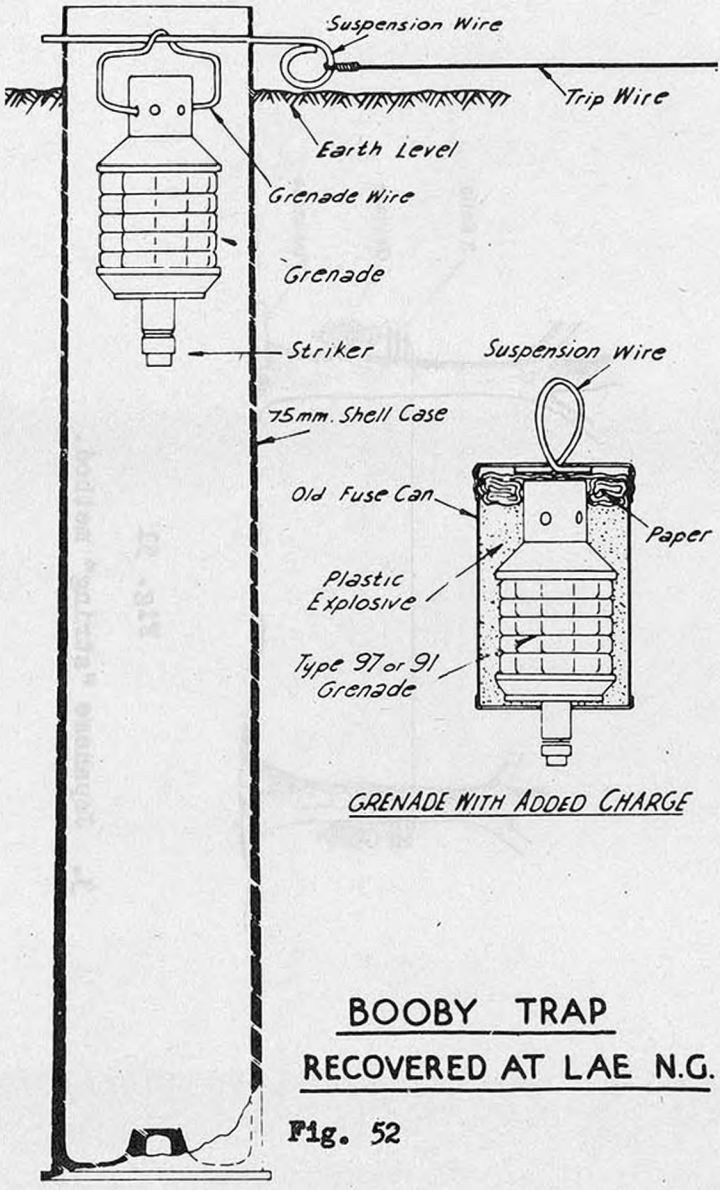
2. Pressure installation (found at Kiska)

Fig. 50

Fig. 51

3. Japanese "string" method.

4. Trip-suspension method (encountered at Lae, New Guinea)



BOOBY TRAP
RECOVERED AT LAE N.G.

Fig. 52

5. Tube type.

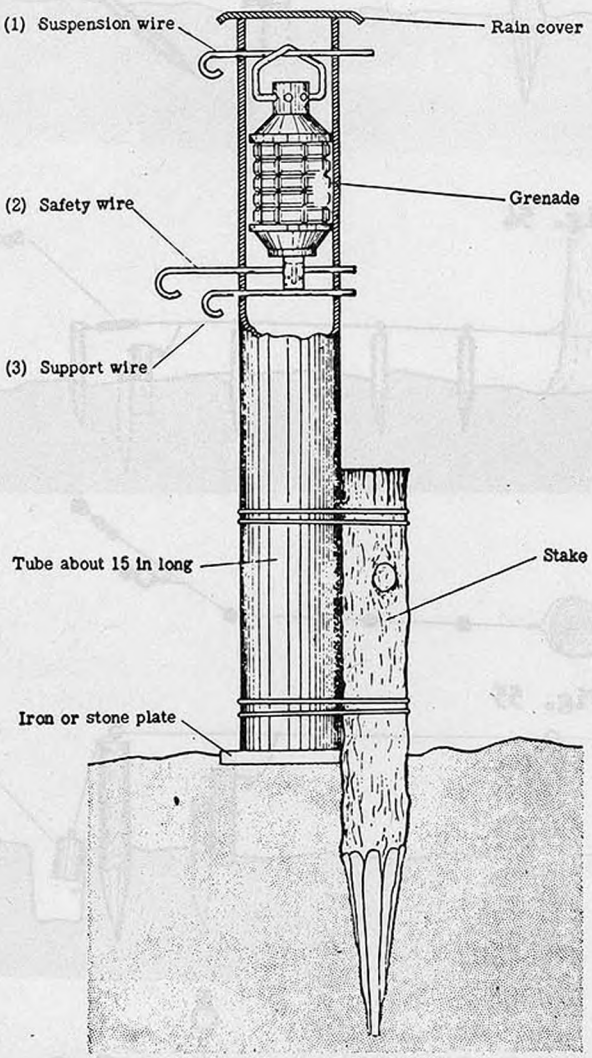


Fig. 53

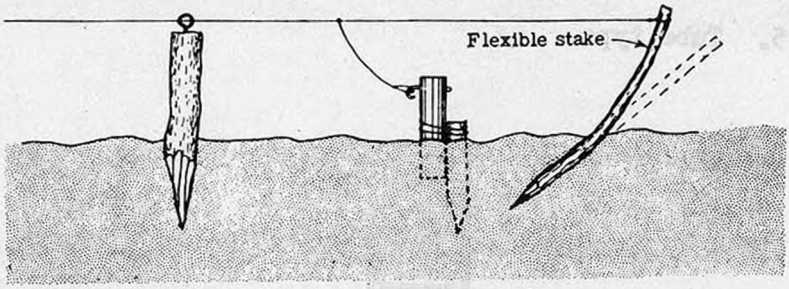
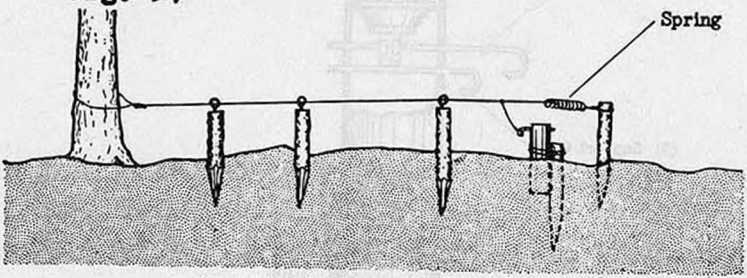


Fig. 54



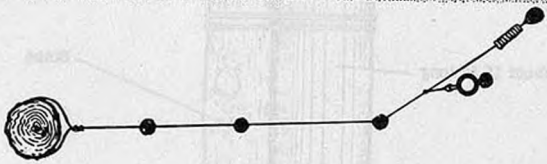
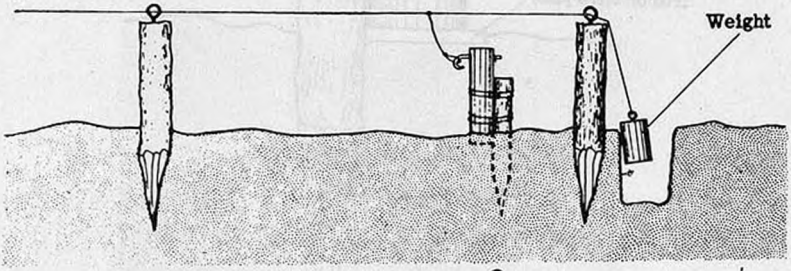


Fig. 55



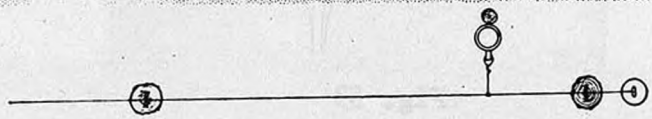
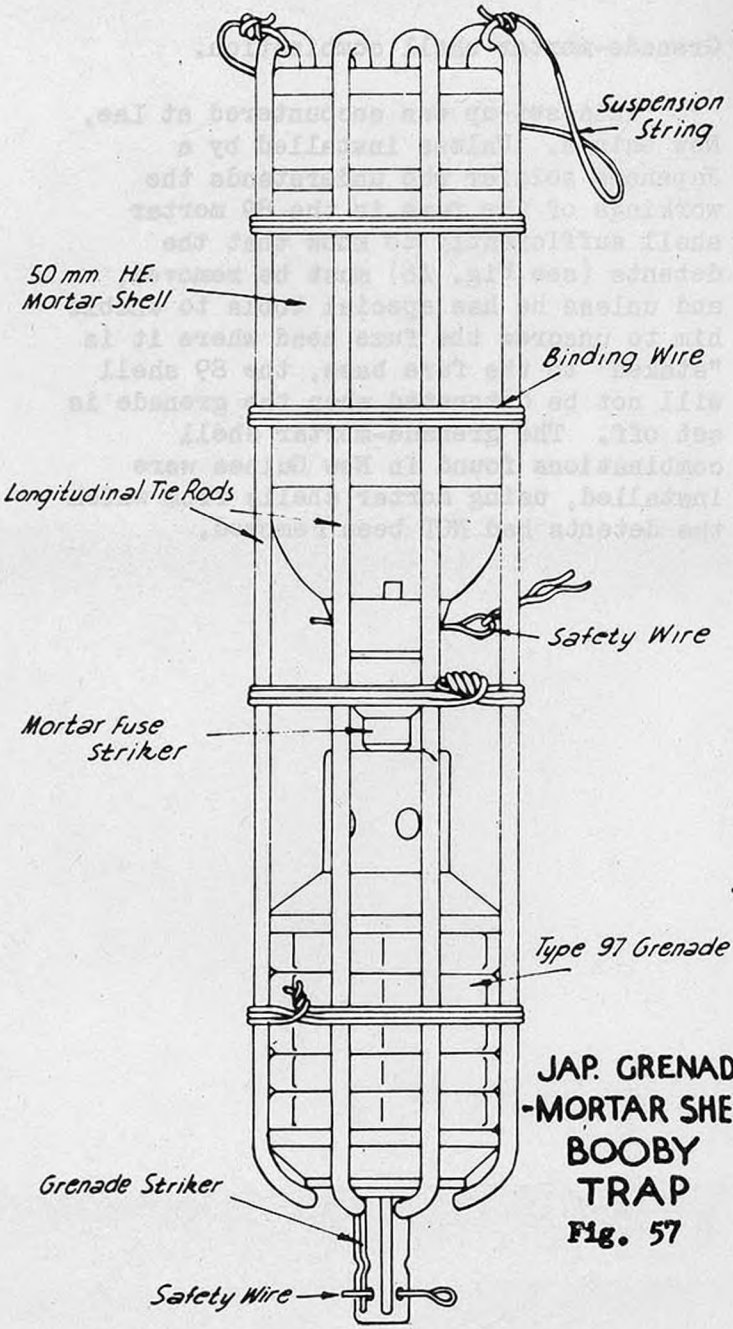


Fig. 56



JAP. GRENADE--MORTAR SHELL BOOBY TRAP

Fig. 57

6. Grenade-mortar shell combination.

This set-up was encountered at Lae, New Guinea. Unless installed by a Japanese soldier who understands the workings of the fuze in the 89 mortar shell sufficiently to know that the detents (see Fig. 46) must be removed, and unless he has special tools to enable him to unscrew the fuze head where it is "staked" to the fuze base, the 89 shell will not be detonated when the grenade is set off. The grenade-mortar shell combinations found in New Guinea were installed, using mortar shells from which the detents had NOT been removed.

7. **British #36 grenade (captured)**

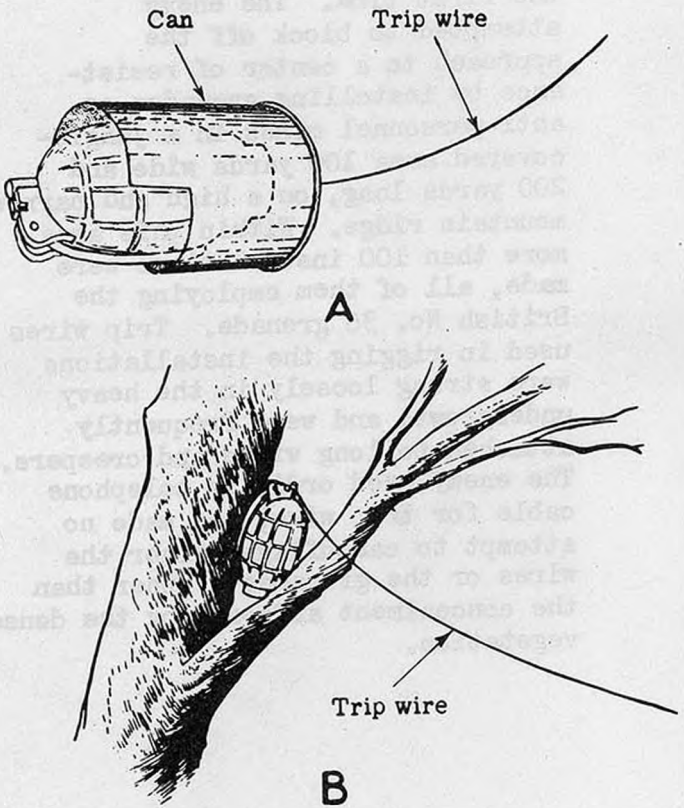


Fig. 58

7. British #36 grenade (captured)

NOTE: In a recent engagement in Burma, the Japanese employed grenades tactically on a large scale for the first time. The enemy attempted to block off the approach to a center of resistance by installing grenades as anti-personnel mines in a jungle-covered area 100 yards wide and 200 yards long, on a high and narrow mountain ridge. Within this area more than 100 installations were made, all of them employing the British No. 36 grenade. Trip wires used in rigging the installations were strung loosely in the heavy undergrowth and were frequently attached to long vines and creepers. The enemy used ordinary telephone cable for trip wire, and made no attempt to camouflage either the wires or the grenades - other than the concealment afforded by the dense vegetation.

SECTION I V

IMPROVISED JAPANESE MINES

JAPANESE PRESSURE AND TRACTION LAND MINE

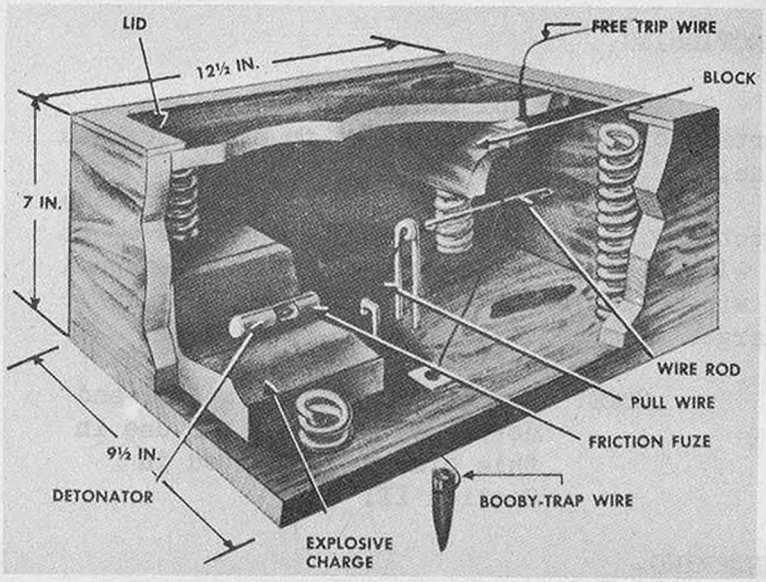


Fig. 59

TYPE. Anti-tank and anti-personnel mine.

CASE. Wooden box.

EXPLOSIVE. 2 pounds "yellow explosive", probably picric acid or TNT.

EFFECT. Anti-personnel and light anti-tank effect.

RE-USE. Check condition of explosive and fuse before re-use.

FUNCTIONING: Can be fired by one or more of three methods:

1. Pulling trip wire, free end of which is attached to stake or tree.

FUNCTIONING.

2. Lifting box and exerting pull on portion of trip wire fastened to stake beneath mine.

3. Pressing on lid, making block depress pivoted wire rod. In all three cases movement of wire rod by either pull or push causes pull in wire which fires fuze - detonator - main charge.

NOTE: Combined friction igniter and detonator designed for use in this mine is described in Section II.

DISARMING.

1. Cut trip wire and wire to stake beneath mine.

2. Remove retaining strips (if any).

3. Cut pull wire of friction igniter.

DEFUSING.

1. Cut pull wire of friction igniter close in to igniter tube.

2. Remove friction igniter and detonator.

3. Separate igniter and detonator tubes, if possible.

INSTALLING AND ARMING.

1. Drive stake into excavated hole. Tie wire to stake.

INSTALLING AND ARMING.

2. Lay mine in hole so stake is just under hole of box.

3. Pass wire from stake through hole of box and tie wire to wire rod.

4. Tie trip wire to wire rod.

5. Insert friction igniter and detonator in hole provided in charge.

6. Pass pull wire under wire hook and through coiled wire, and tie to rod.

7. Thread trip wire through lid.

8. Set lid in place on springs, and fasten retaining strips in place.

9. Cover and camouflage.

10. Make fast end of trip wire. It must be loose.

EMPLOYMENT. Mine has been used on the Malay Peninsula and Kwangsi, China. It is assumed that it may be used as a road mine or placed in trails as an anti-personnel mine. By increasing the size of the box, the amount of explosive can be increased to make the mine effective for anti-tank use.

JAPANESE FRICTION IGNITION LAND MINE

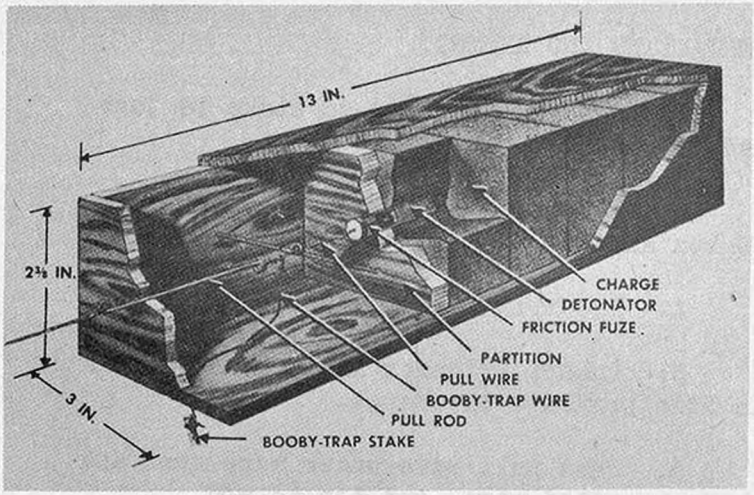


Fig. 60

TYPE. Anti-tank and anti-personnel mine.

CASE. Wooden box.

EXPLOSIVE. 3½ pounds "yellow explosive" (probably picric acid or TNT).

EFFECT. Anti-personnel and slight anti-tank effect.

RE-USE. Check condition of explosive and friction fuse before re-use.

FUNCTIONING. Pull on trip wire or on activation wire underneath causes friction fuse to flash and fire detonator - main charge.

NOTE: Combination friction igniter and detonator used in the mine is described in Section II.

JAPANESE FRICTION-IGNITION LAND MINE -contd-

DISARMING.

1. Cut side trip wire.

2. Carefully remove soil where trip wire enters ground to buried mine.

3. Wedge pull rod firmly into place where it emerges from box.

4. Cut activation wire just below bottom of box.

5. Remove lid and cut pull wire.

DEFUZING.

1. Remove igniter and detonator after cutting pull wire close to fuze.

2. Separate igniter and detonator tubes if possible.

INSTALLING AND ARMING.

1. Drive stake into prepared hole.

2. Tie bottom activating wire to stake.

3. Lay mine in place.

4. Thread activating wire into box.

5. Attach one end of the side trip wire to pull rod and other end to anchor.

6. Insert fuze through hole in partition.

7. Thread pull wire through loop of supporting wire and tie to loop of pull rod.

JAPANESE FRICTION-IGNITION LAND MINE -contd-

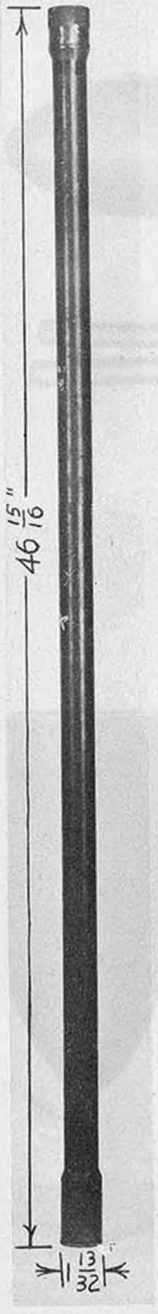
INSTALLING AND ARMING.

8. Fasten activation wire to pull wire.

9. Fill hole and camouflage.

EMPLOYMENT. Used in Kwangsi, China, and on the Malay Peninsula. An increase in the size of the box would allow room for more explosive and make the mine more effective as an anti-tank mine.

JAPANESE BANGALORE TORPEDO (AS ANTI-PERSONNEL MINE)



TYPE. Anti-personnel mine.

COLOR. Olive drab.

CASE. Iron pipe.

WEIGHT. 10 pounds.

EXPLOSIVE. 3 lb 6 oz cast picric acid or explosive mixture of TNT (36.4%) and cyclonite (63.6%).

EFFECT. Anti-personnel.

PACKAGING AND TRANSPORTING. Wooden packing box contains six torpedo sections and three cylindrical metal containers which hold three firing assemblies and three nose fittings. During transportation, the nose fittings are screwed onto the threads of the firing devices.

Fig. 61

JAPANESE BANGALORE TORPEDO (AS ANTI-PERSONNEL MINE).

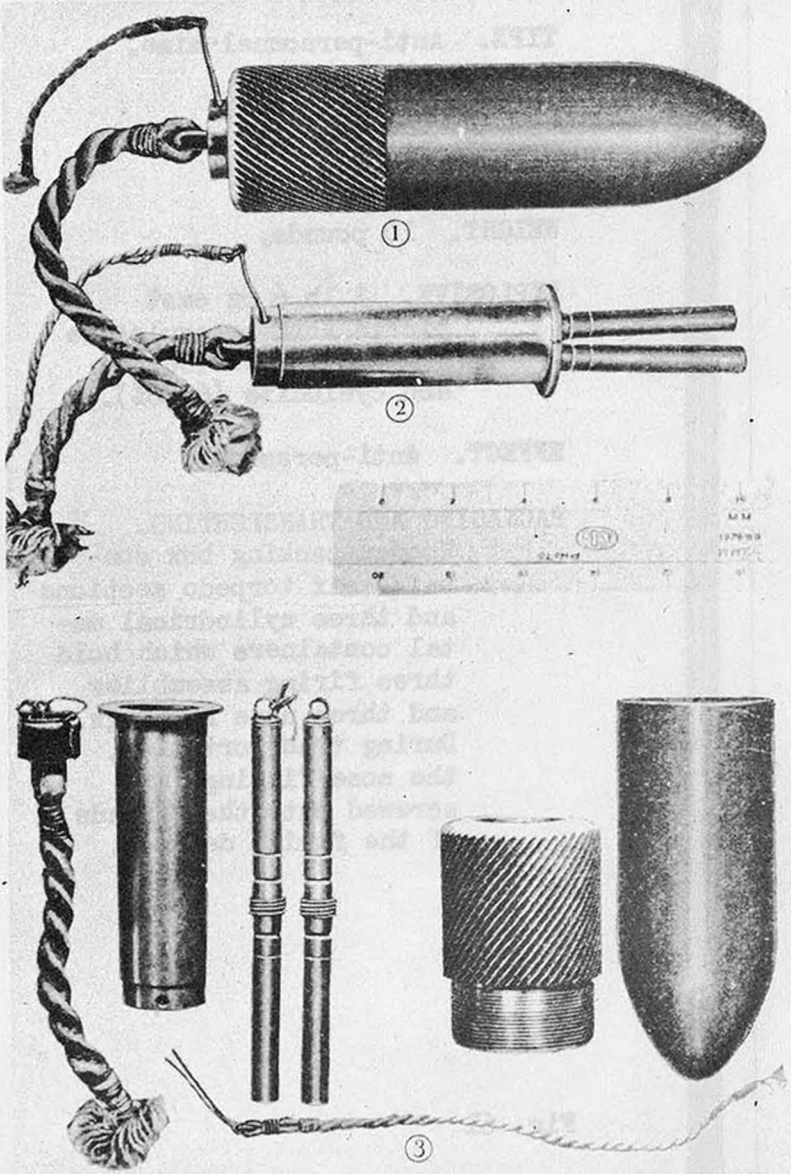


Fig. 62

JAPANESE BANGALORE TORPEDO
(AS ANTI PERSONNEL MINE) -contd

FUNCTIONING. For use as an anti-personnel mine (with retaining clip removed or pull cord plug unscrewed), pull on trip wire pulls directly on two friction cords which are drawn through an ignition compound, flashing and igniting seven-second delay trains - two non-electric caps - main charge.

DISARMING.

1. Insert No. 16 wire or finishing nail in safety pin hole.

2. Cut trip wire.

DEFUZING. With safety pin and trip wires cut, unscrew firing device from torpedo and cover with a nose fitting.

INSTALLING AND ARMING. For use as an anti-personnel mine:

1. Screw firing assembly into torpedo.

2. Install torpedo in concealed position above ground.

3. Attach trip wire to pull cord of firing assembly.

4. Remove safety pin.

5. Unscrew pull cord plug (or remove brass retaining clip GENTLY from well of firing assembly.

6. Complete camouflage.

JAPANESE BANGALORE TORPEDO
(AS ANTI-PERSONNEL MINE) -contd

EMPLOYMENT. No report of such use of the bangalore by the Japanese. Because the torpedo can be so easily converted to use as an anti-personnel mine or booby trap, it is included in this section.

Fig. 63

30, 50, 60 KG GENERAL-PURPOSE BOMBS
USED AS LAND MINES

2 50-KG. GENERAL PURPOSE
HIGH EXPLOSIVE

3 60-KG. GENERAL PURPOSE
HIGH EXPLOSIVE

4 60-KG. GENERAL PURPOSE
HIGH EXPLOSIVE

30, 50, 60 KG GENERAL-PURPOSE BOMBS USED AS LAND MINES

TYPE. Anti-tank and anti-vehicle charge.

COLOR. Black or metallic with red, yellow or green stripes.

CASE. Sheet steel aerial bomb casing.

WEIGHT. 30, 50, or 60 kg.

EXPLOSIVE. Picric acid or other HE charge.

EFFECT. Anti-tank or anti-vehicle.

FUNCTIONING. Pressure on a board forces down fuze striker against pressure of creep spring shearing shear wire and pierces percussion cap which ignites detonator instantly (if the fuze is set for instantaneous firing) or a short delay train which ignites detonator. Detonator sets off booster-main charge, (see description of fuze operation below).

DISARMING.

1. Remove pressure board without exerting any downward pressure on fuze.

2. If no evidence of blast or pressure is present, the fuze may be unscrewed from the bomb.

INSTALLING AND ARMING.

1. Bury bomb (s) upright in the ground with nose up.

2. Screw A2 (a) or A2 (c) bomb fuze into nose of bomb(s).

INSTALLING AND ARMING.

3. Withdraw arming wire(s).

4. Unscrew arming vane(s) with ten revolutions.

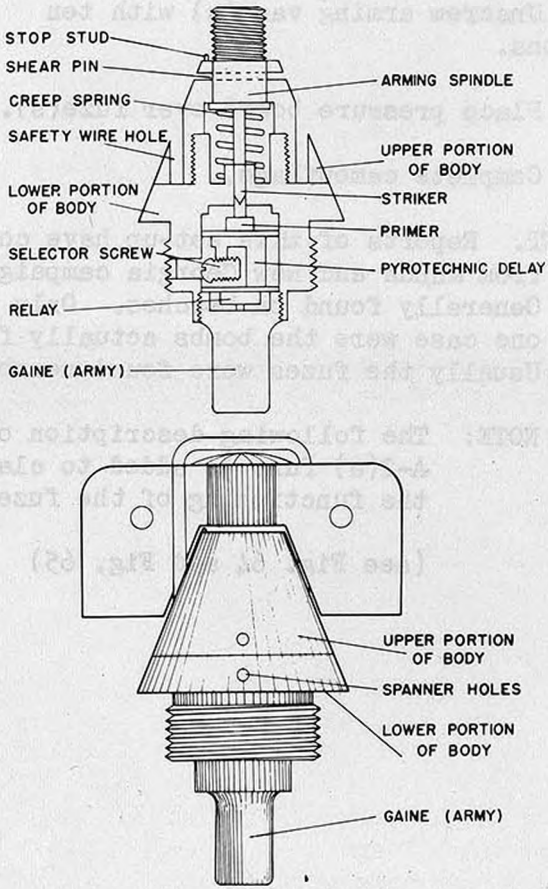
5. Place pressure board over fuze(s).

6. Complete camouflage.

EMPLOYMENT. Reports of this set-up have come from Munda and New Georgia campaigns. Generally found on beaches. Only in one case were the bombs actually fuzed. Usually the fuzes were found nearby.

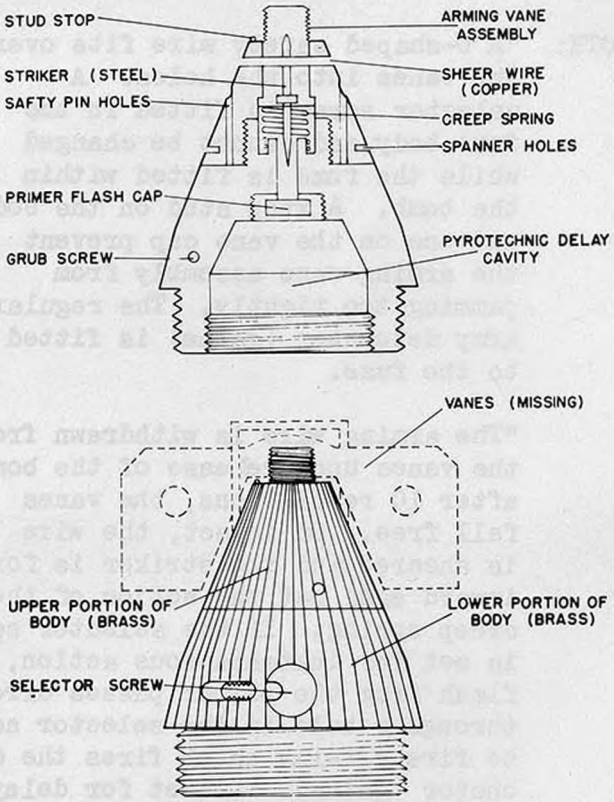
NOTE: The following description of the A-2(a) fuze is added to clarify the functioning of the fuze:

(see Fig. 64 and Fig. 65)



FUZE A-2(a)

Fig. 64



FUZE A-2(c)

Fig. 65

NOTE:

"The upper body portion houses the striker and arming spindle while the lower body portion contains the selector mechansim for instantaneous or short delay. A shear wire and creep spring hold the arming spindle after vanes fall away.

NOTE: "A U-shaped safety wire fits over the vanes into the holes. A selector screw is fitted in the fuze body and cannot be changed while the fuze is fitted within the bomb. A stop stud on the body and one on the vane cap prevent the arming vane assembly from jamming too tightly. The regular Army detonator (gaine) is fitted to the fuze.

"The arming wire is withdrawn from the vanes upon release of the bomb after 10 revolutions, the vanes fall free. On impact, the wire is sheared and the striker is forced inward agai nst the action of the creep spring. If the selector screw is set for instantaneous action, the flash from the primer passes directly through a hole in the selector screw to fire a relay which fires the detonator (gaine). If set for delay action, the flash from the primer ignites the delay in the selector screw and this delay fires a relay which in turn fires the detonator (gaine). The short delay time is not known."

JAPANESE NAVAL SOUND SHELL - (Modified)

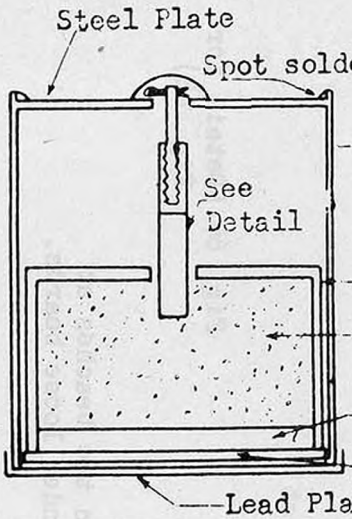


Fig. 66

Jap Naval Type "3" Sound Shell

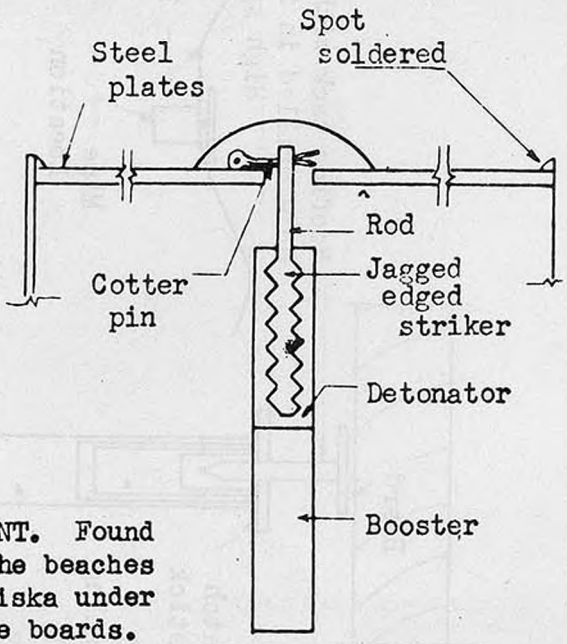
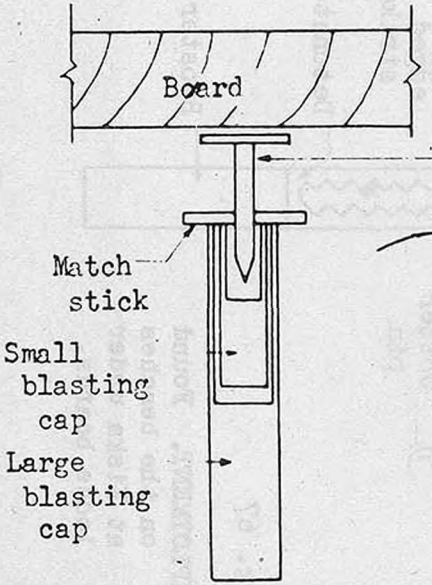
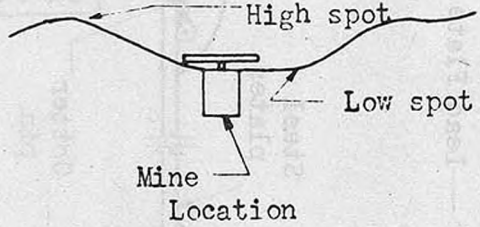


Fig. 67

EMPLOYMENT. Found on the beaches at Kiska under loose boards.





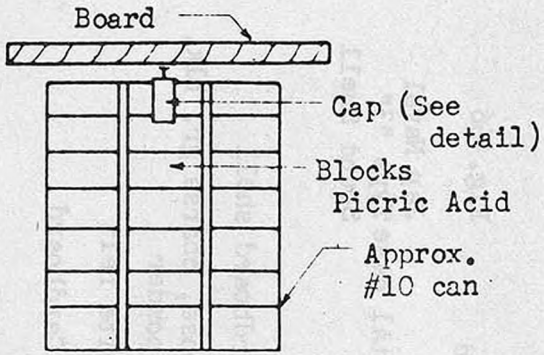


Fig. 68

Fig. 69 (Detail for Fig. 68)

EMPLOYMENT. Found on the beaches at Kiska under loose boards.

JAPANESE WOODEN BOX MINE WITH GRENADE

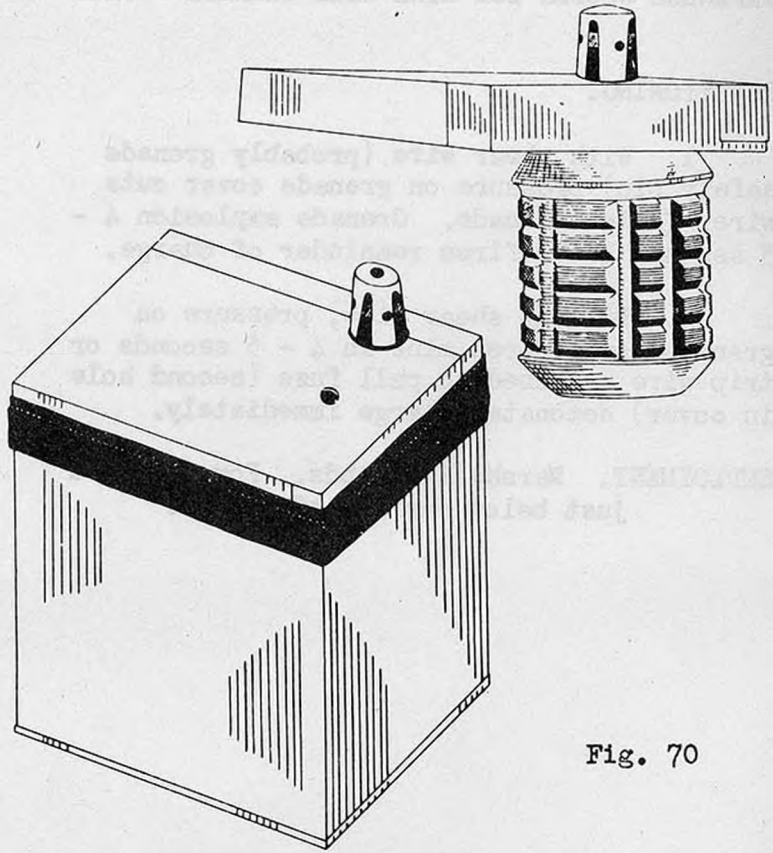


Fig. 70

TYPE. Anti-tank or anti-personnel mine.

COLOR. Silver.

CASE. Tin.

EXPLOSIVE. 12 blocks (3 lb). Explosive mixture of 1/3 aluminum powder and 2/3 RDX. Each block 1 1/2" x 3/4" in wax paper. Black color. Grenade and blocks firmly held in place by waxed paper.

JAPANESE WOODEN BOX MINE WITH GRENADE -contd

FUNCTIONING.

1. With shear wire (probably grenade safety pin) pressure on grenade cover cuts wire, firing grenade. Grenade explosion 4 - 5 seconds later fires remainder of charge.

2. Without shear wire, pressure on grenade cover fires mine in 4 - 5 seconds or trip wire attached to pull fuze (second hole in cover) detonates charge immediately.

EMPLOYMENT. Marshall Islands, Found buried just below surface of ground.

SECTION V

JAPANESE BOOBY TRAPS

SECTION A

JAPANESE BOOBY TRAPS

BOOBY TRAPS

1. There is no doubt that the Japanese have information available on German and Italian booby traps. Also, recently captured documents indicate that the Japanese have their own booby traps. The purpose of this section is to introduce the known Japanese booby traps and the possibilities at the disposal of the Japanese through conversion of their standard ordnance material.

2. Examples.

a. CONVERTED JAPANESE ORDNANCE - Many items of regular Japanese ordnance lend themselves readily to conversion for use as booby traps:

(1) 70-mm Barrage Mortar Shell:

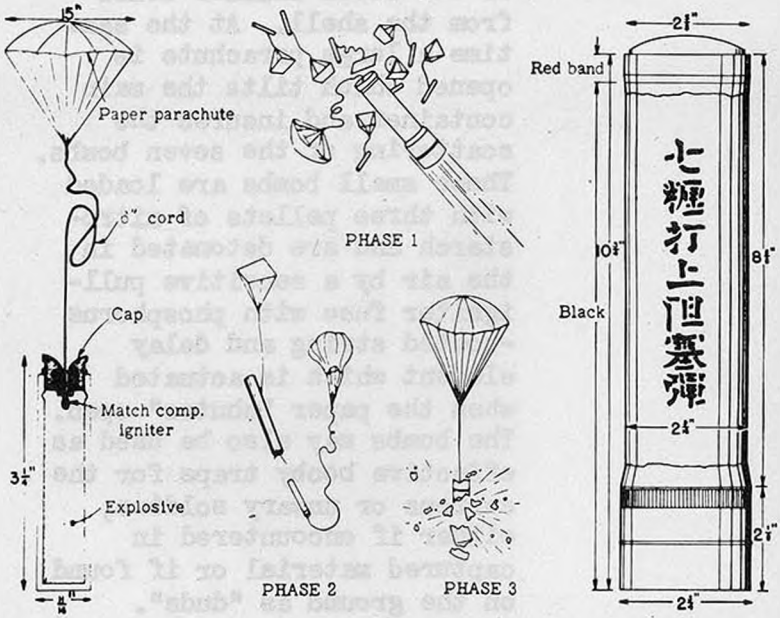


Fig. 71 - Shell used in 70-mm barrage mortar and its method of operating. (The marking on the shell is read, from top to bottom: "Nana Sanchi Uchiage Sosaidan", meaning "7-cm "shooting-up' barrage shell").

(1) 70-mm Barrage Mortar Shell. The shell contains 7 parachute bombs. A steel cylinder encases the whole assembly. The shell is painted black and has the dimension shown in the sketch. The nose is capped with a wooden disk. After the shell is projected from the mortar by a propelling charge in the base, a time train and fixed powder charge cause the projection of the seven smaller bombs from the shell. At the same time a large parachute is opened which tilts the main container and insures the scattering of the seven bombs. These small bombs are loaded with three pellets of nitrostarch and are detonated in the air by a sensitive pull-igniter fuse with phosphorus-coated string and delay element which is actuated when the paper "chutes" open. The bombs may also be used as effective booby traps for the curious or unwary soldier, either if encountered in captured material or if found on the ground as "duds".

(2) Type 97 Fragmentation Grenade. The delay train may easily be removed from this grenade and the detonator put in its place.

In an experiment conducted by M.E.I.U. (SWPA) the detonator and delay train were removed and the detonator was then taped in the position normally occupied by the delay train. When actuated as for normal firing, this grenade exploded instantaneously.

(3) Armor Piercing Bomb (magnetic)

The method for converting this fuse is the same as for the type 97 grenade. Merely remove the delay train and replace it with the detonator.

(4) Bangalore Torpedo (improved type)

As bangalores are already equipped with a pull type it is only necessary to secure them in place and attach pull or trip wires. These wires could be strung across a track or attached to a door or object likely to be souvenired.

(5) Pull-Type Hand Grenade or Japanese Stick Grenade:

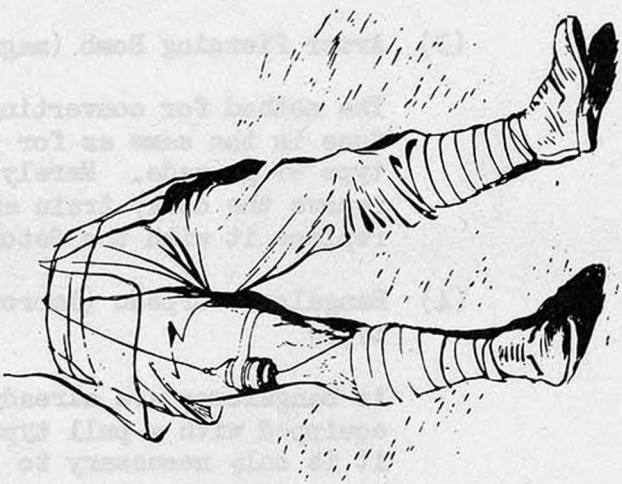


Fig. 72

This may be the object shown attached to the leg of the corpse. At any rate, it is an ideal booby trap. Since these grenades are initiated by pull friction igniters they need no alterations.

(6) Type 93 (tape measure) Land Mine

This mine can be fitted with an anti-personnel shear wire which fails at 30-70 lbs pressure. The mine with this lighter wire could be employed as a booby trap under floors, doorsteps, or trench duckboards. Also, if the shear wire were replaced by a long trip wire, a pull would jerk out the wire and initiate the mine. A third possibility is the complete removal of the shear wire with the safety cap left on. Removal of the small brass cap would then initiate the mine.

Japanese notes on mines say: "Types of these include a remotely controlled land mine which is exploded by an electrical current, an automatic mine (alarm clock type), and contact mines. These latter include a pressure operated mine which is placed 4 to 5 inches underground, and one which is adapted to use with a booby trap".

(7) It has been suggested that the "yellow paper cover" on the match box is impregnated with arsenic trisulphide or some other spontaneous combustible chemical which would be safe when wet but would ignite when dry.(Fig.83).

b. Electrical Set-Ups - Look out for electrically detonated booby traps. Any vehicle, searchlight, generator, light circuit, or other electrical gear can be rigged easily so that the current will detonate an explosive charge. Before any captured equipment is handled, it should be examined for electrical as well as mechanical booby traps.

(1) A radio was successfully used at Kiska by the Japanese. The battery compartment was filled with high explosive and electrical contact was maintained at the switch.

(2) Bamboo Strip:

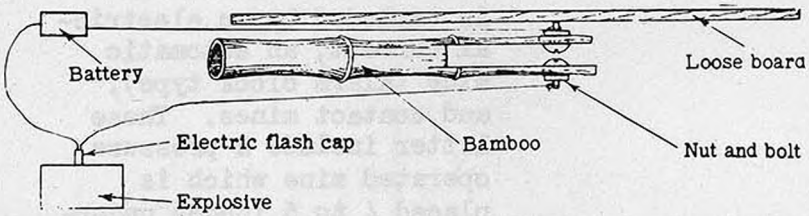


Fig. 73

(3) Phonograph Rig:

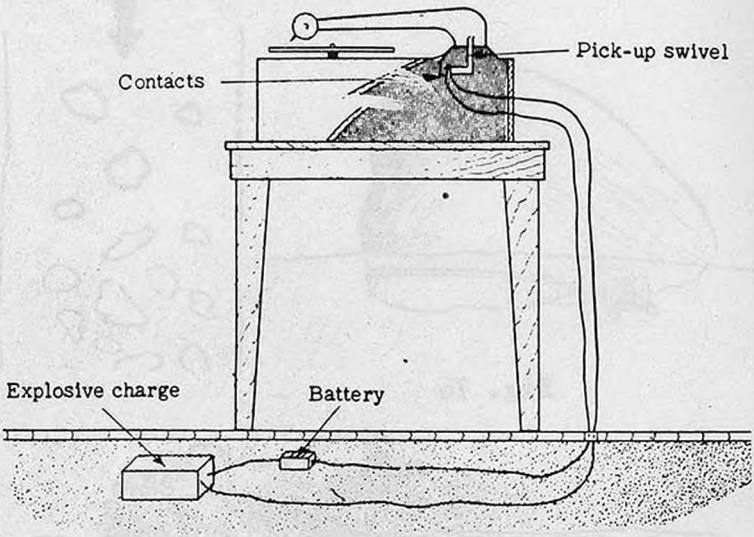


Fig. 74

c. Gun Lanyard - A coast defense gun was successfully booby-trapped by the Japanese at Kwajalein. A pull on the lanyard of the gun set off a charge inside the barrel.

d. Gun Booby-Trapped at Kiska:

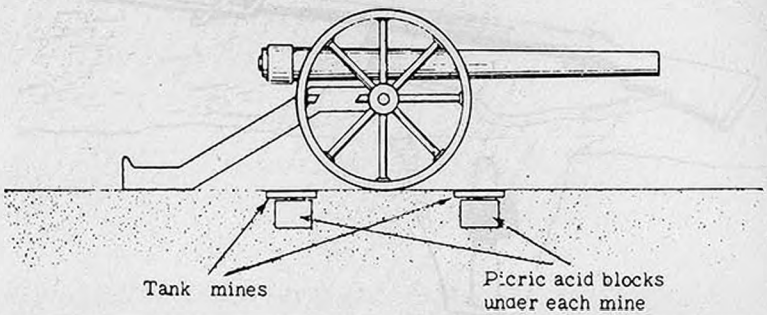


Fig. 75

e. Pull-Grenades as Booby Traps:

Fig. 76

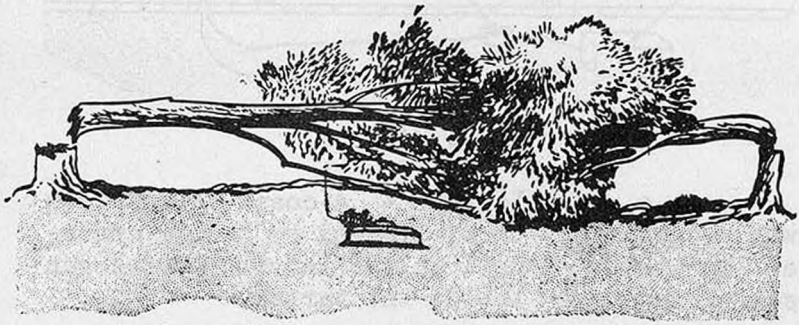


Fig. 77

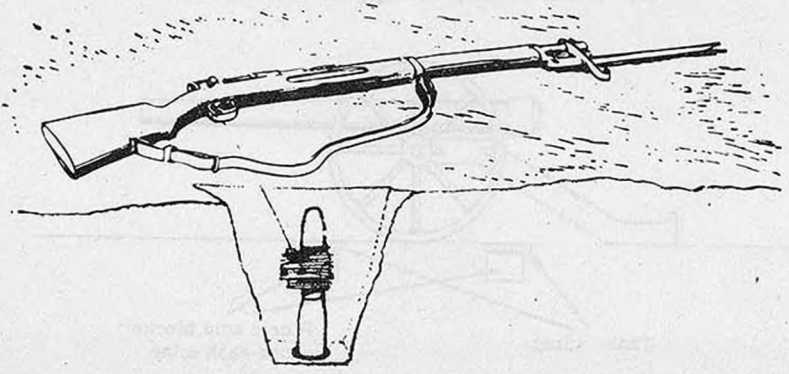


Fig. 78

e. Pull-Grenades as Booby Traps:

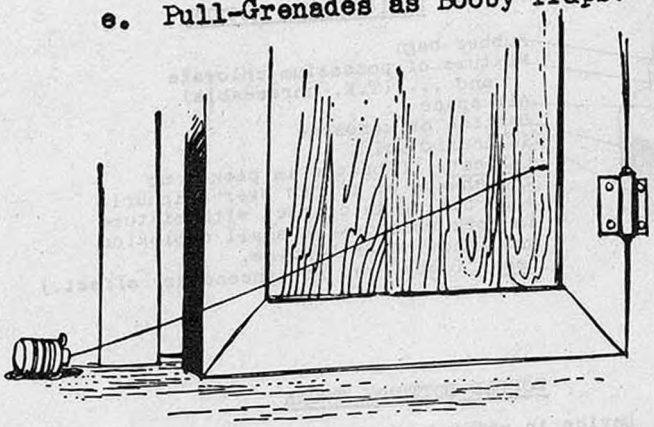
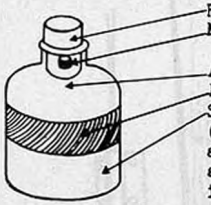


Fig. 79

f. Miscellaneous:

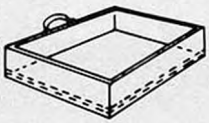
DEVICE USING BOTTLE



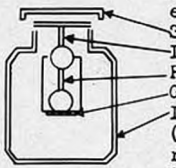
Rubber bag.
Mixture of potassium chlorate and ....(T.N. unreadable)
Air space
Benzine or kerosene
Sulphuric acid.
(Effect- If bottle is picked up and shaken or tipped over sulphuric acid coming in contact with mixture in cork would cause small explosion and ignition of benzine.
Use - Booby trap for incendiary effect.)

DOUBLE BOTTOMED TRUNK

Device in which booby traps can be placed. (Oil cans and other items can be used.)



DEVICE USING STEEL CYLINDER



If the hemp rope ignitor is pulled will explode within 10 to 30 minutes.
Screw cover
Ignitor made of hemp rope
Priming charge
Granulated powder
Iron plate
(Probably factory made device left behind on retreat. Cover screwed and match composition igniter starts delay train burning. Cylinder filled with explosive and fires when enemy has taken up position.)

DEVICE USING EMPTY TOBACCO TIN.

1. The top of the container is filled with nails and scrap iron.
2. Explodes on ignition.

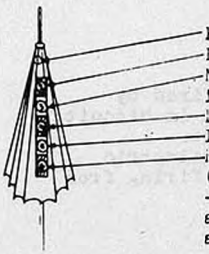
Nails and scrap iron (shrapnel effect)
(Tin filled with explosive and fired by ordinary detonator and fuse.)
Powder train.

Fig. 80

BOOBY TRAPS -contd-

f. Miscellaneous:

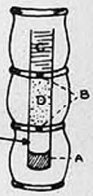
DEVICE USING PARASOL



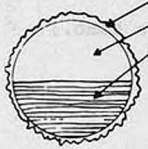
Phial containing sulphuric acid
Detonating fluid
Mixture of detonating and ignition fluid
Detonating fluid
Ignition fluid
Mixture of heat producing acid
(Explosive and incendiary device -when parasol opened probably breaks acid phial which ignites detonating and ignition mixtures)

DEVICE USING BAMBOO CYLINDER

(a) Kerosene
(b) Cotton filler
(c) Glycerine
(d) KAMEREON
Seal after filling with kerosene
(Probably incendiary device which ignites after a certain time.
i.e. When (c) & (d) mix sufficiently)



DEVICE USING PING PONG BALL.



Cotton soaked with KAMEREON.
Seal after filling with Glycerine.
Glycerine.
(Effect - (1) KAMEREON (Nitric acid probably) may attack ball and on contact with glycerine cause a fire.
(2) If device is trodden on or broken glycerine and kamereon will come in contact)

PISTOL DISGUISED AS CANE

Trigger (easily concealed by metallic band)
Mechanism.
Explosive Chamber.
If not looked at closely may be mistaken for a cane.
(1. May be kept by a prisoner and used as a pistol against his captors later to effect his escape.
2. May be ordinary souvenir booby trap.)

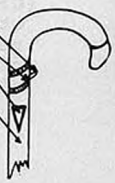
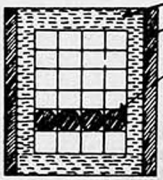


Fig. 81

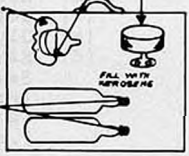
f. Miscellaneous:



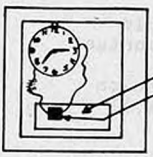
Cylinder shaped dynamite.
Scrap Iron.
Induction detonators.
(Probably ordinary charge fired by electric detonator. Placed in biscuit tin for purposes of disguise. Firing may be by trip wire electric circuit or by plunger type firing from safe distance.)

DEVICE USING TRUNK

Clock.
Glycerine.
Maganese oxide - potassium chlorate.
Explosive.
The bottles will fall and cause ignition from the unwinding of the screw on the clock.
(Incendiary and (explosive) device. Bottles may contain acid and clock used to pull corks at certain time. Acid, glycerine and oxidising agent when mixed would create explosion and fire.)



DEVICE USING DRY CELLS



(Ordinary type of electric time bomb.)
Explosive.
Detonator.

DEVICE USING PISTOL DISGUISED AS FOUNTAIN PEN

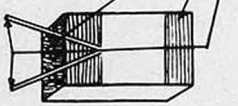
(Ordinary booby trap device - attempt to screw off pen top releases spring loaded firing pin. Body of pen contains detonator and explosive.)

Firing Spring.
Firing Pin.
Explosive.
Threaded joint.
Made of iron.

Fig. 82

f. Miscellaneous:

DEVICE USING MATCHBOX

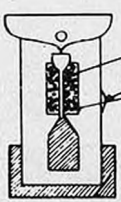


Yellow paper cover.
Match Sticks.
Twisted yellow paper.
(Probably incendiary device which ignites when twisted paper pulled or matchbox opened.)

DEVICE CONCEALED IN FIREWOOD CART

(A) Inductive explosive.
(B) Sympathetic explosive.
(A) Probably primer charge fired by ordinary electric detonator. Wired up so that it can be fired from a distance when enemy capture position.
(B) Main charge.

DEVICE USING FLASH LIGHT



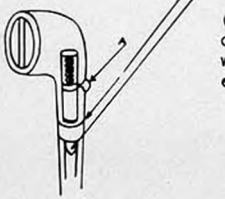
When switch is pressed, explosive is ignited. (Switch completes circuit through electric detonator.)
Explosive.
Switch.
Bicycle ball bearing. (Probably used to give shrapnel.)

Fig. 83

BOOBY TRAPS -contd-

f. Miscellaneous:

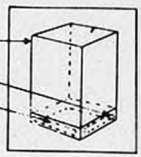
DEVICE USING PIPE



Threaded joint.
Explosive.

(Unscrewing stem of pipe on removal of A probably releases striker pin which fires percussion cap and explosive.)

DEVICE USING A TOFU OR KEROSENE TIN.



Kerosene tin.
Hole for inserting detonator.
Explosive made of cast iron.

Fig. 84

SECTION V I

JAPANESE EXPLOSIVES

EXPLOSIVES EMPLOYED IN JAPANESE MINES AND BOOBY TRAPS

DYNAMITE

DESCRIPTION: Nitroglycerine plus absorbent material, usually ammonium nitrate. Approximately same as 60% US dynamite. Dark brownish-tan, sticky, sweetish-tasting, putty-like substance. Packed usually in 1/4 lb units (cylindrical) and wrapped in treated paper. Affected by moisture.

SENSITIVITY: Sensitive to heat, flame, friction. Can be detonated instantly by bullet impact.

EMPLOYMENT: Demolitions, booby trap charges.

NITROSTARCH

DESCRIPTION: Nitrated cornstarch with oxidizing salts. Steel grey, crystalline material. Affected by moisture.

SENSITIVITY: Less sensitive than dynamite. Frequently detonates when subjected to rifle fire.

EMPLOYMENT: 70-mm barrage mortar shell (booby trap).

TNT "Trinitrotoluene"

DESCRIPTION: Light yellowish solid or granular material. Unaffected by moisture.

SENSITIVITY: Insensitive to rifle fire.

EMPLOYMENT: Jap pull, 91, 97, 89 grenades (granular TNT). Dutch AT mine, magnetic mine, pie-plate mine.

PICRIC ACID, "Trinitrophenol", Shimose", "Lyddite"

DESCRIPTION: Lemon yellow solid (usually encased in waxed paper). Only slightly soluble in water. Sharp offensive odor of mildewed wool. Stains skin on contact.

SENSITIVITY: Same sensitivity as TNT. Forms dangerous compounds with all metals but aluminum and tin. These compounds (especially those of iron and lead) are apt to be extremely sensitive.

EMPLOYMENT: AB mine booster charge, 93 magnetic yard stick mines; Jap stick grenade (granular form); earlier 91, 97 grenades, Kiska grenade (cast); Jap pull grenade (granular); 2 improvised mines, 50 - 60 kg. general purpose bombs.

TNA (Type 98) "Trinitroanisole"

DESCRIPTION: Yellowish colored solid with sharp offensive odor of mildewed wool. Stains skin on contact and produces skin irritation. Affected somewhat by moisture.

SENSITIVITY: Somewhat less sensitive than TNT. Does not react with metals.

EMPLOYMENT: AB mine.

TETRYL "Trinitrophenylmethylnitramine"

DESCRIPTION: Canary yellow solid. Stains everything that it contacts. Irritates skin like poison ivy. Unaffected by moisture.

SENSITIVITY: Intermediate sensitivity. Can be used successfully in small quantities, but in large quantities likely to detonate from moderate mechanical impact. Sensitive to spark.

EMPLOYMENT: Detonator for AB mine.

PETN "Pentaerythritetranitrate"

DESCRIPTION: White solid (same as used in US primacord), insoluble in water.

SENSITIVITY: A little greater than tetryl. Insensitive to spark.

EMPLOYMENT: Detonators in "tape-measure" mine (93), and magnetic mine.

LEAD AZIDE

DESCRIPTION: White to buff-colored solid.

SENSITIVITY: Extremely sensitive to heat, shock, flame, or friction. Must be stored under water for safety. Not sufficiently sensitive to stab action for use as primer unmixed. Intermediate sensitivity of order of tetryl, but sensitivity is in direct proportion to amount of cyclonite.

EMPLOYMENT: Detonator element for nearly all Jap mines. Employed between the percussion cap and detonator in magnetic and 93 mines, for example.

RDX (Cyclonite) "Cyclomethlenetrinitramine"

DESCRIPTION: White solid. Mixed with TNT or TNA it is a pale yellowish material.

SENSITIVITY: Usually cast and wrapped in waxed paper.

EMPLOYMENT: 93, Magnetic, Dutch mines; or bangalore.

MERCURY FULMINATE

DESCRIPTION: Heavy crystalline solid, white when pure, but ordinarily of a faint brownish-yellow or grayish tint. Only slightly soluble in water.

SENSITIVITY: Extreme sensitivity to flame or impact. Used as a primer unmixed.

EMPLOYMENT: Priming charge in detonator of magnetic mine.

NOTE: Japanese are using TNT and TNA in increasing quantities because they now have access to toluene and other petroleum by-products which were formerly unobtainable.

TNA can now be synthesized in comparative safety by a new process of manufacture and will therefore probably be employed in increasingly large quantities by Japan.

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20. Observations, Saipan Campaign, Robert L. Bart, 1st Lieut., CE, Observer.

Addenda

Japanese Land Mines and Booby Traps

ADDENDA

JAPANESE LAND MINES

and

BOOBY TRAPS

TRAINING

PREPARED UNDER DIRECTION

OF

MINE SCHOOL,
OFFICE OF THE ENGINEER, CPBC,
APO 958

R E S T R I C T E D

1 SEPTEMBER 1944

ADDENDUM

SECTION I

SECTION II

SECTION III

SECTION IV

SECTION V

SECTION VI

ADDENDUM

Additional information from the recent operations.

JAPANESE "TAPE MEASURE" MINE, TYPE 93

PACKAGING AND TRANSPORTING.

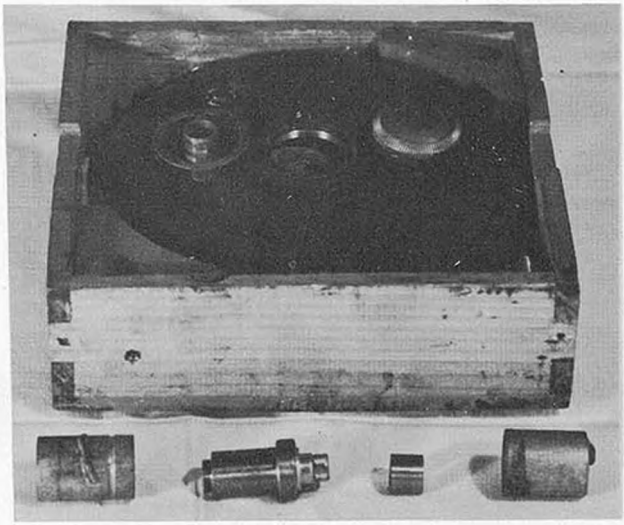


Fig. A
Packaging of 93 Mine

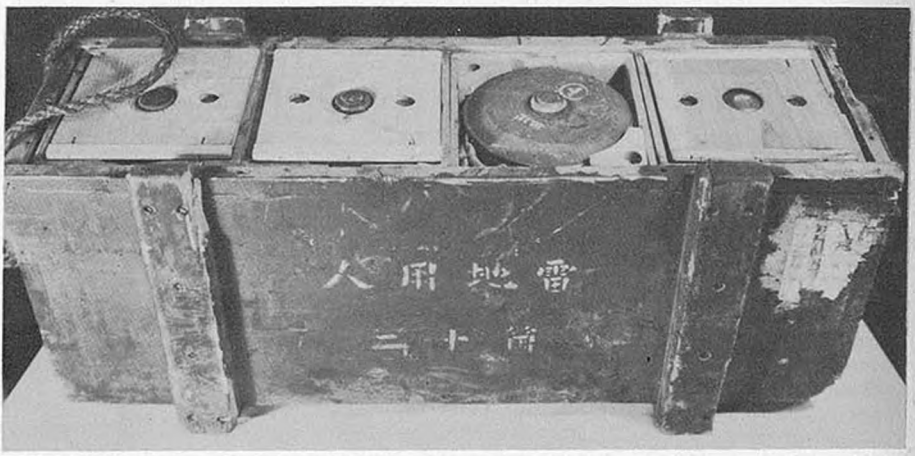


Fig. B
Crating of Type 93 Mine

Fuzes are packed in small tin containers, one fuze per container, 100 containers per wooden box. Total weight of box, approximately 30 lbs. Box is painted black. Each fuze is placed in a tin container; container is wrapped with waxed waterproof paper.

Fig. C
Packaging of Fuzes to Type 93 Mine

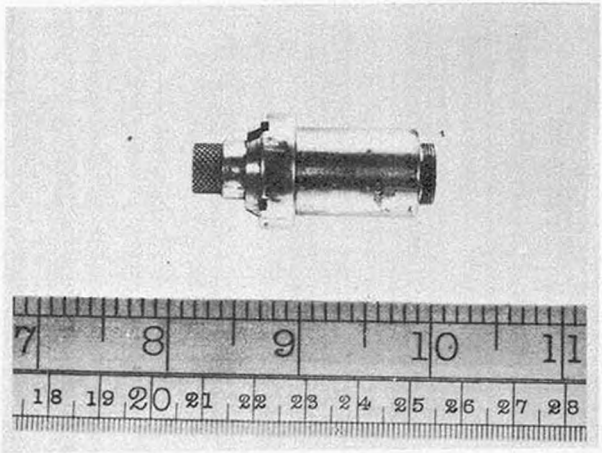
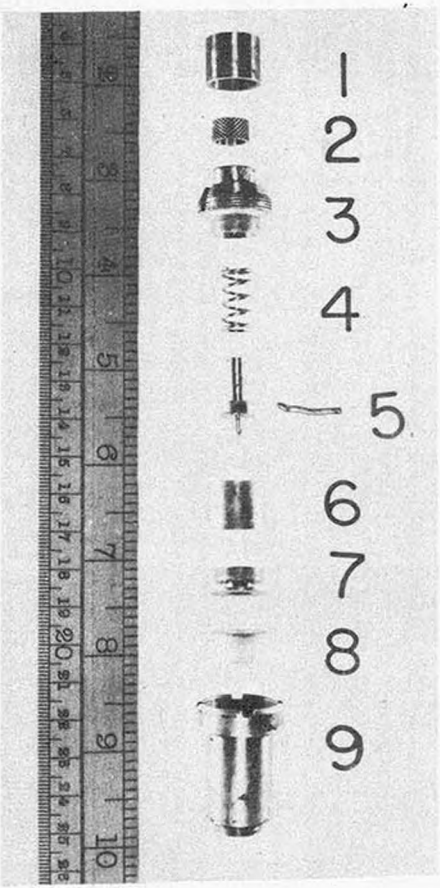


Fig. D
External View of 93 Fuze

JAPANESE "TAPE MEASURE" MINE, TYPE 93



KEY:

1 Coupling
2 Safety clip
3 Striker housing
4 Striker spring
5 Striker and shear wire
6 Striker housing
7 Percussion cap holder
8 Detonator
9 Fuze body

Fig. E
Exploded View of 93 Fuze

FUNCTIONING. A recently captured Japanese document gives the firing pressure with anti-personnel shear wire as 22 to 33 lbs.

ADDENDUM

Additional information from the recent operations in the Marianas.

JAPANESE TAPE MEASURE MINE

EMPLOYMENT.

11. In the first sentence, Par. 11, delete the word "deliberate" and substitute "hasty".

12. One or more of these mines lashed to a bamboo pole and pushed from a foxhole in front of an approaching tank.

Fig. A

13. Saipan installation: Beach field; two-row "fishscale" pattern (10' between mines). 60 mines in field, each one upside down and resting on a 1 x 8 inch board. Mines generally visible. None activated.

14. Largest minefield employing these mines was laid parallel to a beach. Field was 100 yards long. Four rows of mines installed. Mines and rows were spaced 6 yards apart and staggered.

15. A recently captured Japanese manual states that the "tape measure" mine is not to be used against tanks.

16. Found installed in roadway on Saipan with prima-cord running to a second mine beneath a gasoline drum at side of road. Drum placed to throw gasoline on vehicle detonating mine.

17. Found on Manus Island, Admiralty Group.

ADDENDUM

Additional information from recent operations.

MODEL 99 ARMOR-PIERCING MINE

EFFECT. Tests conducted on Saipan with the Model 99 mine indicate that a single mine will generally penetrate $1\frac{1}{4}$" of armor. Two mines together will readily penetrate $1\frac{1}{2}$" armor. The delay period for the detonators of mines tested was approximately ten seconds.

PACKAGING AND TRANSPORTING.

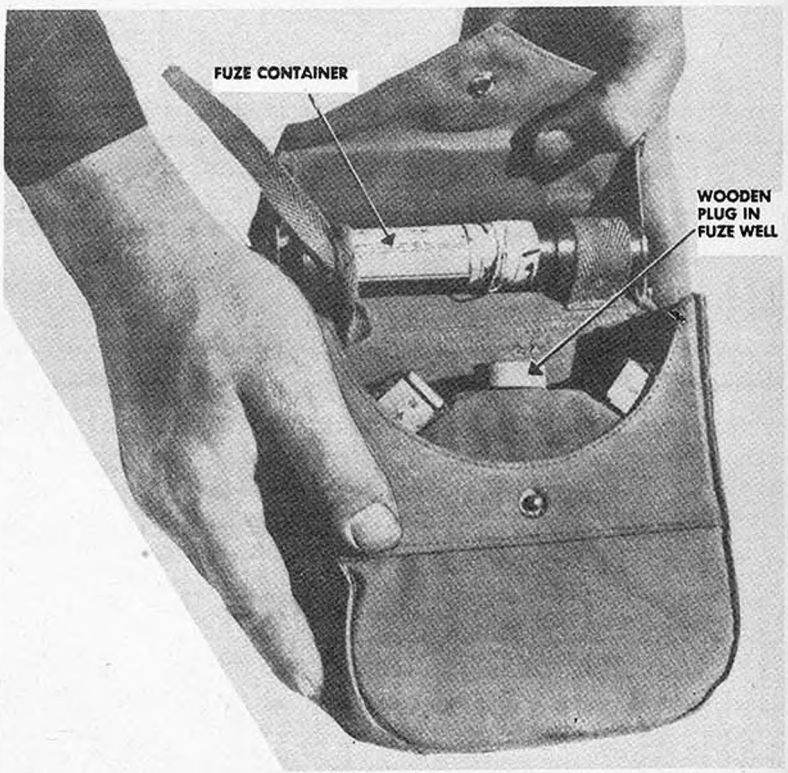


Fig. A
Packaging of Magnetic Mine

Carried in a stiff canvas pouch which attaches to soldier's belt. Fitted to inside of pouch is a cylindrical, metal container for holding fuze.

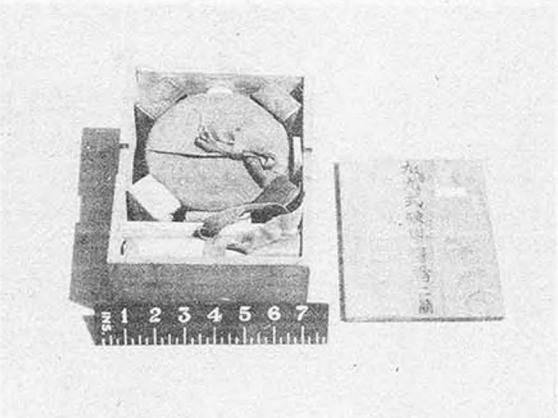


Fig. B
Alternate Packaging of Magnetic Mine

Two mines tied together by a strong ribbon and packed in small wooden crate with cardboard protectors fitted over magnets. Two fuzes packed separately in tin containers and placed in end of box. It is believed these mines are packed in a large carrying box similar to the Type 93 Land Mine.

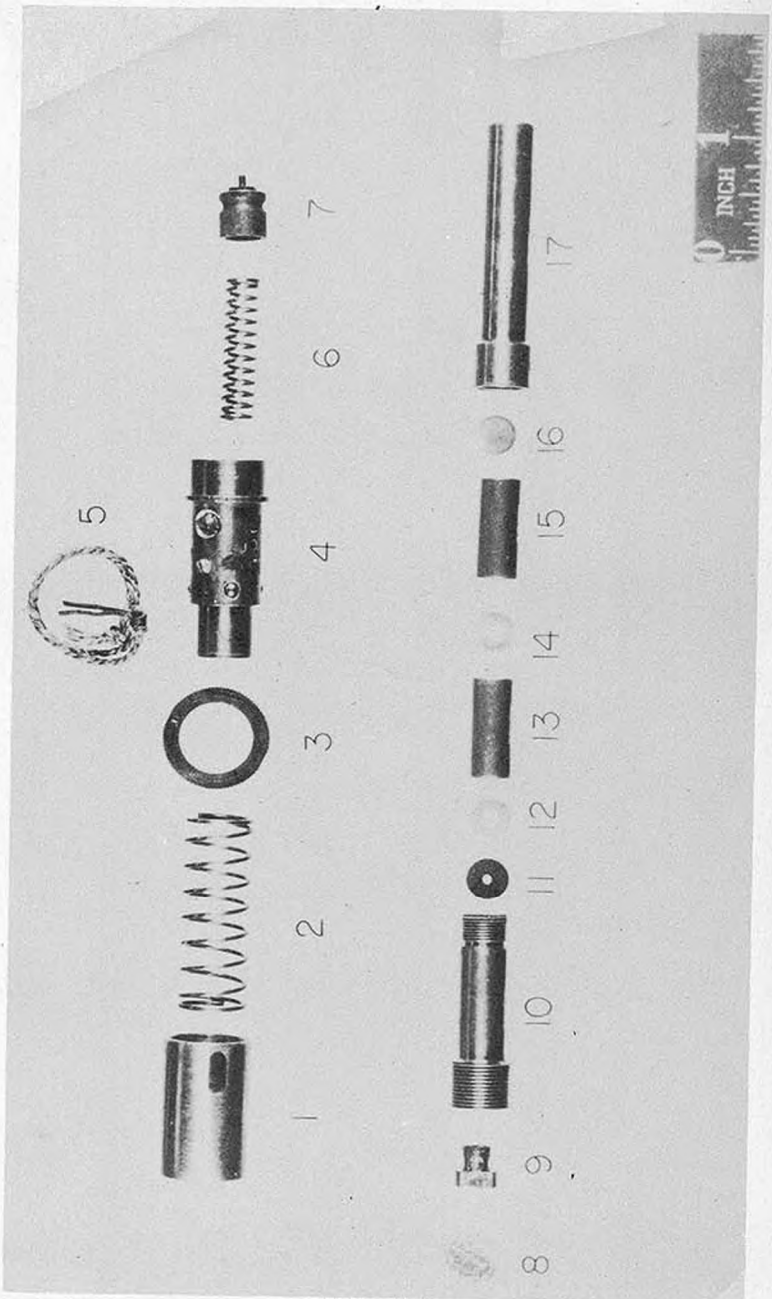


Fig. C
Exploded View of Fuze for Type 99 Mine

Key to Diagram

1 Plunger

2 Plunger spring

3 Fuze retaining collar

4 Fuze body

5 Safety pin

6 Firing pin spring

7 Firing pin

8 Moisture seal

9 Primer

10 Powder train

11 Flash strengthening pellet (Blk. powd.)

12 Cloth washer

13 Detonator

14 Cloth washer

15 Detonator

16 Cloth disc

17 Detonator body

ADDENDUM

Additional information from recent operations.

MAGNETIC ANTI-TANK MINE (FIELD-ASSEMBLED)

Fig. A
Front View

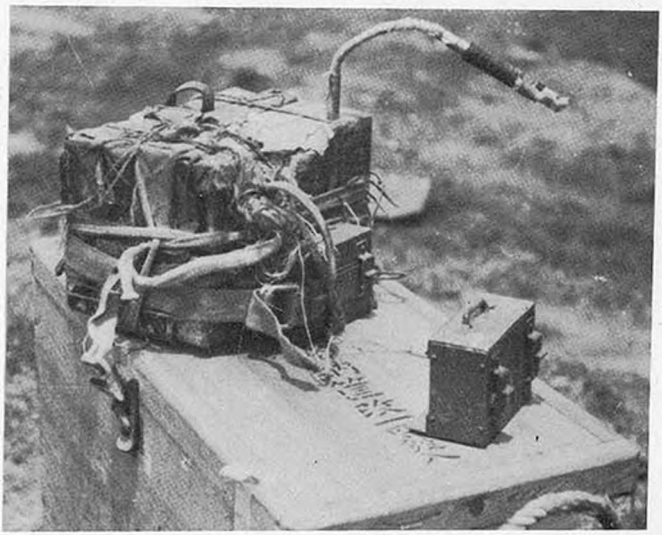


Fig. B
End View

MAGNETIC ANTI-TANK MINE (FIELD ASSEMBLED) -contd-

A larger version of the magnetic anti-tank mine was encountered in the Marianas. It consisted of 5 to 6 lbs. of explosive and 4 magnets held together in a single unit by what was very apparently an arsenal-made unit consisting of 1" wide marking tape (olive drab) with metal friction fasteners. Explosive was the standard ¼ lb. picric acid block, paper-wrapped in units of from 3 to 6 blocks. Magnets were specially designed with loops of strap metal to accomodate the marking tape. Magnets were roughly twice the size of magnets employed in the No. 99 Armor-Piercing Bomb. A fuse lighter assembly consisting of the standard "black type" fuse lighter, 10-second fuse, and standard non-electric cap was used to detonate the charge. Cap was inserted into one of the explosive blocks.

EMPLOYMENT. (Delete Par 3, Page 17)

3. Later reports indicate that the magnetic mine was employed by the Japanese in considerable numbers near the close of the Saipan campaign.

ADDENDUM

Additional information from recent operations.

JAPANESE "YARDSTICK" MINE

WEIGHT. 10 lb. 12 oz.

WEIGHT FUZE 5 oz.

NOTE: There are red Japanese characters on the top and bottom of this mine. The larger characters mean "fuze, top side" and are painted on the side against which the fuze pressure plate fits. The smaller characters mean "fuze, bottom side" and are painted on the side against which the bottom of the fuze body rests when the mine is installed.

Fuzes are packed separately, 18 per box. The booster charge in these fuzes is penthrite. The booster cup can be distinguished from the firing pin cup by a small red paint mark on the end of the booster cup.

EFFECT. A test was conducted with this mine on Saipan. Mine was placed at the rear and 2 feet from the track of a U.S. light tank at right angles to the track when mine was exploded. Tank track was broken completely; idler rim and one spoke were bent and cracked sufficiently to require replacement. (Mine will penetrate bottom of light tank throwing shrapnel inside).

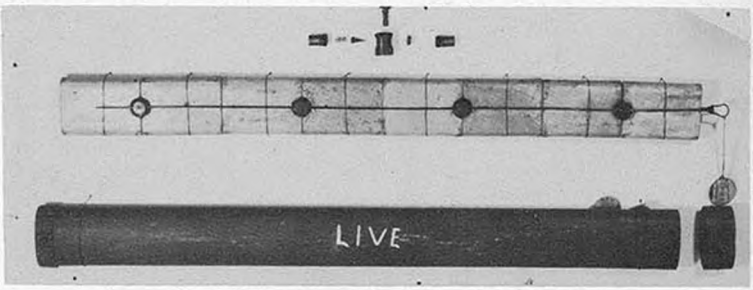


Fig. A
Yardstick Mine, Fuze, Explosive

PACKAGING AND TRANSPORTING. Packed 12 to a box with fuzes in separate containers. Each box of 12 contains a can of sealing compound for safety pin holes and end cap joints.

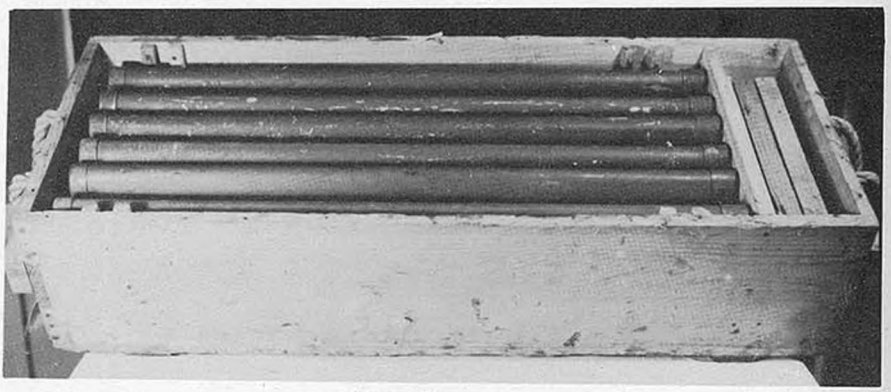


Fig. B
Packing of Yardstick Mine

JAPANESE "YARDSTICK" MINE -contd-

INSTALLING AND ARMING.

NOTE: A captured Japanese document states: "---- a yardstick mine will almost certainly explode if dropped from a height of 1.5 meters" (approx. 5 feet).

EMPLOYMENT.

7. At one point mines were placed in groups of 4 or 5 along the road near an ammunition dump. Hasty installation.

8. At another point 20 yardstick mines were partially buried in the road surface. Concealment was poor.

9. Mine is quite inconspicuous, so much so that concealment is frequently unnecessary. The brownish color blends easily with highway rubbish. One of the mines (properly disarmed) was left on a Saipan highway as an experiment. Scores of jeeps and heavier vehicles passed over it and not a driver noticed it!

10. One large mine field employing yardstick mines was encountered by a light tank company. Field was 100 yards long and contained 2 rows of mines spaced 15 feet apart. Mines were approximately 3 feet apart in last row.

11. One of these mines was installed in conjunction with a conical beach mine. The mine was placed against the horn of the conical mine so that detonation of the yardstick mine would also detonate the beach mine.

EMPLOYMENT.

12. A captured Japanese document shows employment of this mine with only 3 fuzes. Found with only 3 fuzes and 6 explosive blocks on Manus Island, Admiralty Group.

13. The same document (Par. 7 above) states: "In close quarter attacks, waterproof paint and plug are not used. Remove the safety pin just before advancing to attack. Approach the target and place the yardstick mine in such a position that the tank's tracks will have to pass over it; then retreat immediately."

ADDENDUM

Additional information from recent operations.

JAPANESE TWO-HORN BEACH MINE (ANTI-BOAT)

CRATING AND TRANSPORTING.

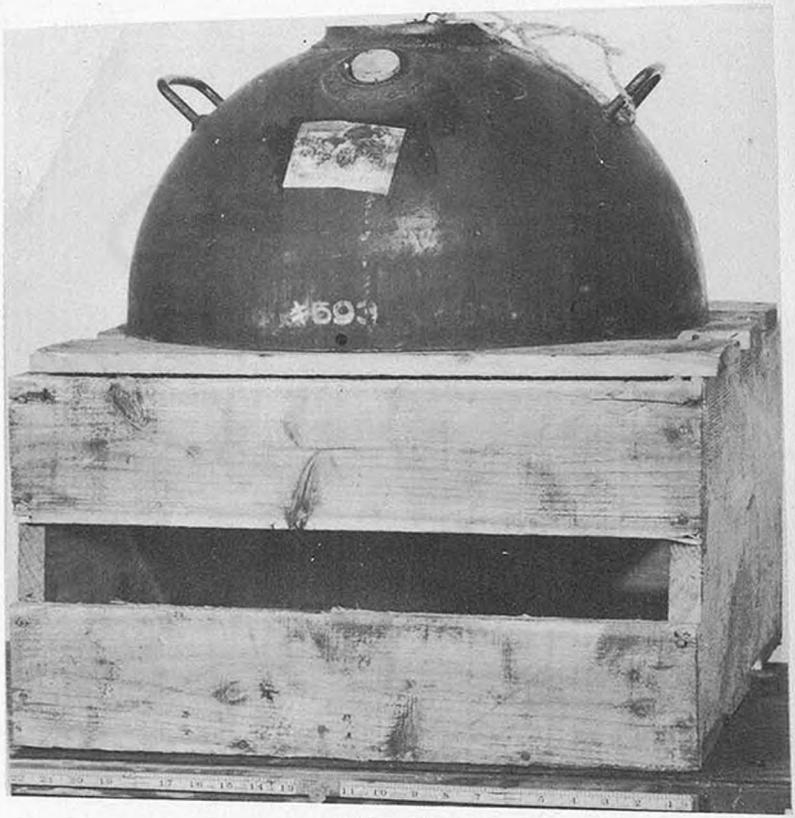


Fig. A
Crating of AB Mine

CRATING AND TRANSPORTING.

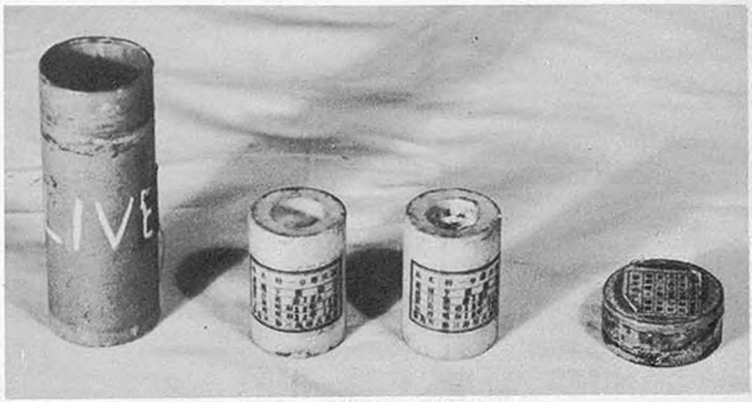


Fig. AA

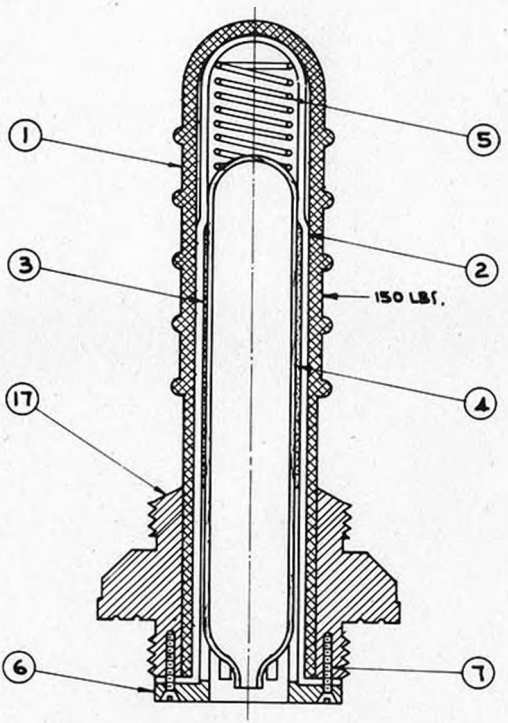
Packaging of Boosters to AB Mine

ADDENDUM

Additional information from the recent operations in the Marianas.

ANTI-BOAT (BEACH) MINE (TWO-HORNED)

EFFECT: Anti-personnel.

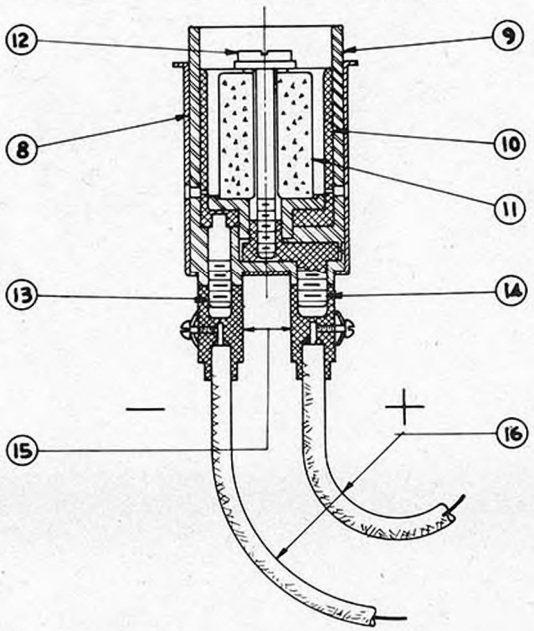


ASSEMBLY I ACID CONTAINER		
NO.	PART	MAT'L
1	JACKET	LEAD
2	CUSHIONING SHEATH	RUBBER
3	CUSHIONING STRIPS (4)	CORK ⅝x2
4	AMPOULE	GLASS
5	SPRING	STEEL
6	RETAINER	PLASTIC
7	RETAINER SCREWS (4)	STEEL
17	COUPLING	STEEL

NOTE: One soldier in the Marianas campaign kicked or stepped on one of the horns of an anti-boat mine and caused detonation of the mine.

Fig. B

DISARMING. Bomb disposal units of CPA have developed a rapid means for disarming this mine. Lengths of iron pipe are threaded on the inside of one end to fit the 1 3/4" RH threads of the top section of the coupling (see Fig. C). These pipe lengths are longer than the lead jacket (overall jacket length 5 3/4") and are screwed on over the lead jacket to prevent accidental crushing of the acid vial during removal. Defuzing operation can thus be postponed without seriously endangering removal crews. By carrying this method a step further, a horn removal tool could be prepared by improvising a handle on top of one of these threaded pipe lengths to increase leverage. A continous turning action would tighten this pipe tool sufficiently to



ASSEMBLY 2 CHROMIC CELL		
NO.	PART	MAT'L
8	SHELL	STEEL
9	INSULATION	PLASTIC
10	NEGATIVE PLATE	ZINC
11	POSITIVE PLATE	CARBON
12	+ POLE RETAINING BOLT	BRASS
13	NEGATIVE TERMINAL	BRASS
14	POSITIVE TERMINAL	BRASS
15	TERMINAL LUGS	BRASS
16	WIRES STRANDED-RUBBER & COTTON COVERED	COPPER

Fig. C

unscrew the horn from the mine since the two sets of threads run in opposite directions.

EMPLOYMENT.

3. A number of beach installations of this mine were encountered on Saipan similar to the type of installations found at Tarawa.

4. In addition there were several instances of employment of this mine as an anti-tank mine well inland in small groups across roads, at intersections, in road centers singly or in pairs, and along the shoulders of roads, some buried, others uncamouflaged.

5. One road block employing 45 anti-boat mines was installed across the shoulders of a street. Mines were in staggered rows. Every other mine was armed with the horns; the remainder were armed by placing electric caps in the booster wells and running wires back to fox holes for electrical detonation.

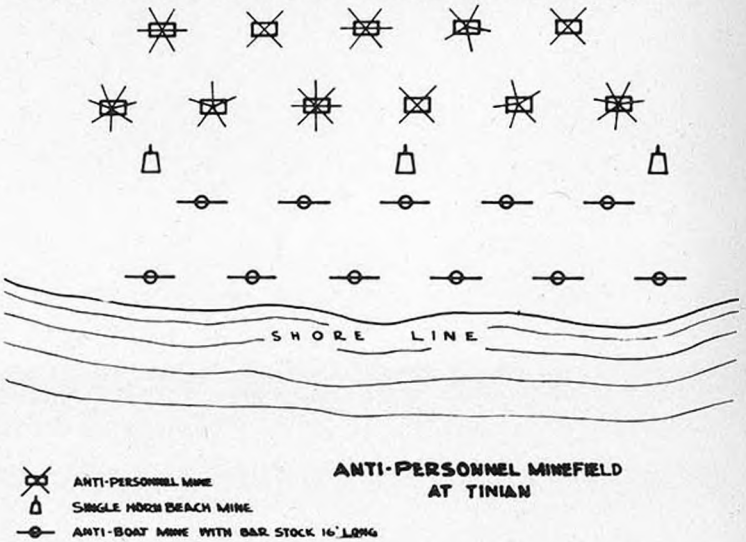


Fig. D

6. On Tinian (see Fig. D) 100 of these mines were installed along a beach with 16 foot pieces of pipe or bar stock lashed to the horns, evidently for greater coverage.

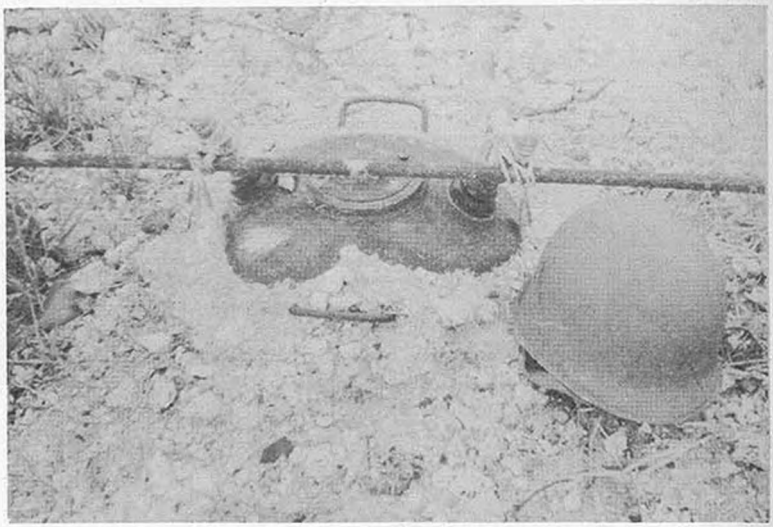


Fig. E
Bar Stock Lashed to Horns of
AB Mine

7. These mines were found on the beaches at Peleliu just above high water mark, installed so as to render frontal protection to gun positions. Area was marked by single strand of barbed wire 1½ - 2' above ground.

ADDENDUM

JAPANESE CONICAL BEACH MINE (Single-Horned Anti-Boat Mine)

Fig. A "Conical Beach Mine"

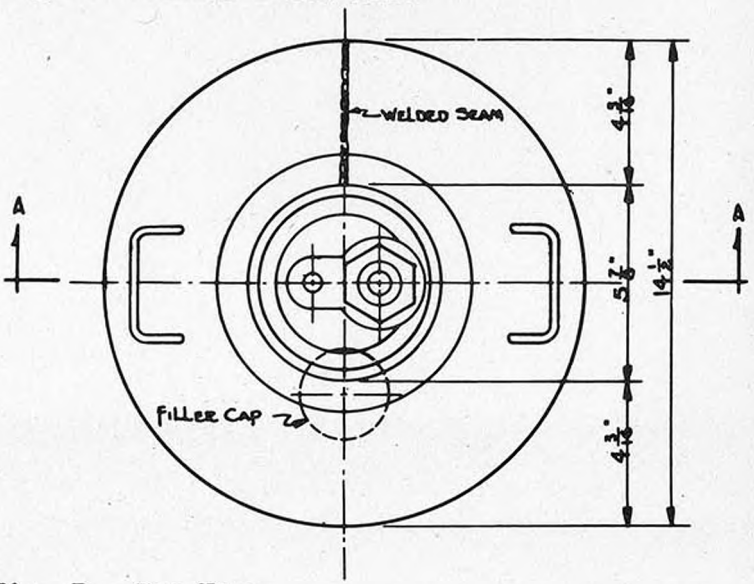


Fig. B - Top View

JAPANESE CONICAL BEACH MINE (Single-Horned Anti-Boat Mine) -contd

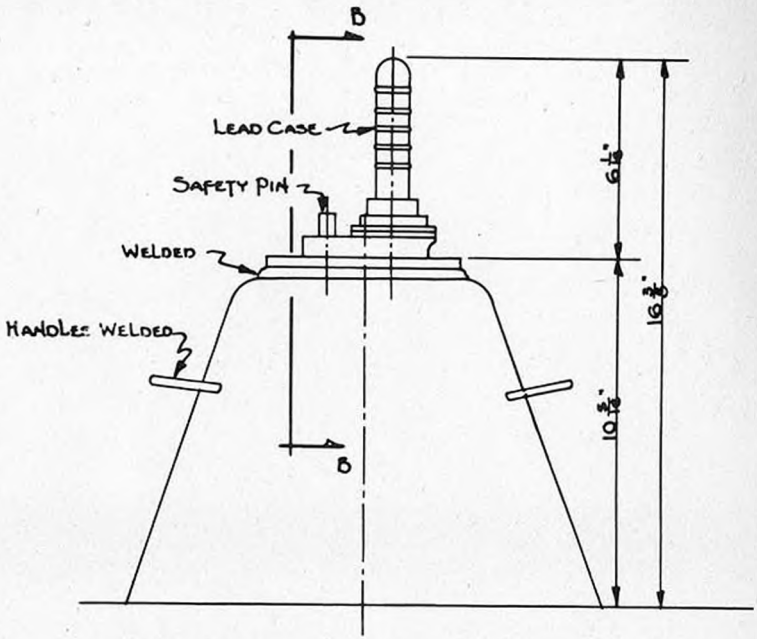


Fig. C -Side View

TYPE. Anti-boat, anti-vehicle, anti-tank
COLOR. Black
CASE. Steel
WEIGHT. 65 - 70 pounds
EXPLOSIVE. 22 pounds, Type 98 mixture

EFFECT. Disables landing craft, amphibious tractors, tanks and vehicles.

CRATING & TRANSPORTING. Booster charges packed separately, two per cardboard carton. Twenty-four (24) horns, battery cups, and all electrical wiring packed in a separate case.

RE-USE. Can be re-used if horns are undamaged.

JAPANESE CONICAL BEACH MINE (Single-Horned Anti-Boat Mine) -contd

FUNCTIONING, DEFUZING, DISARMING, INSTALLING, ARMING.

Similar to anti-boat mine (two-horned). Differs as follows:

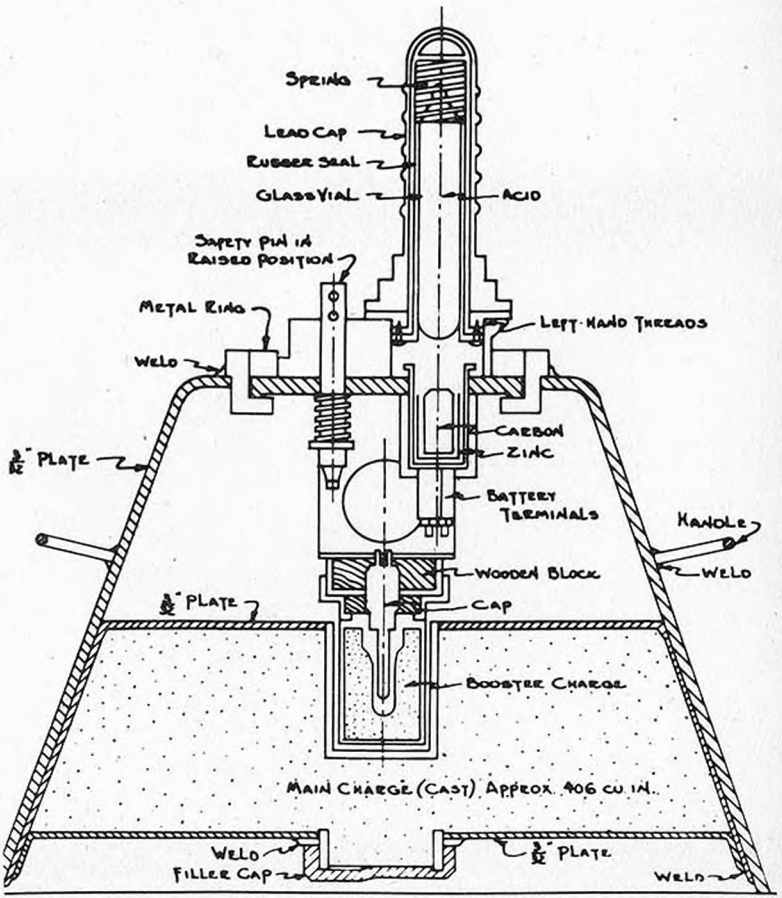


Fig. D

JAPANESE CONICAL BEACH MINE (Single-Horned Anti-Boat Mine) -contd

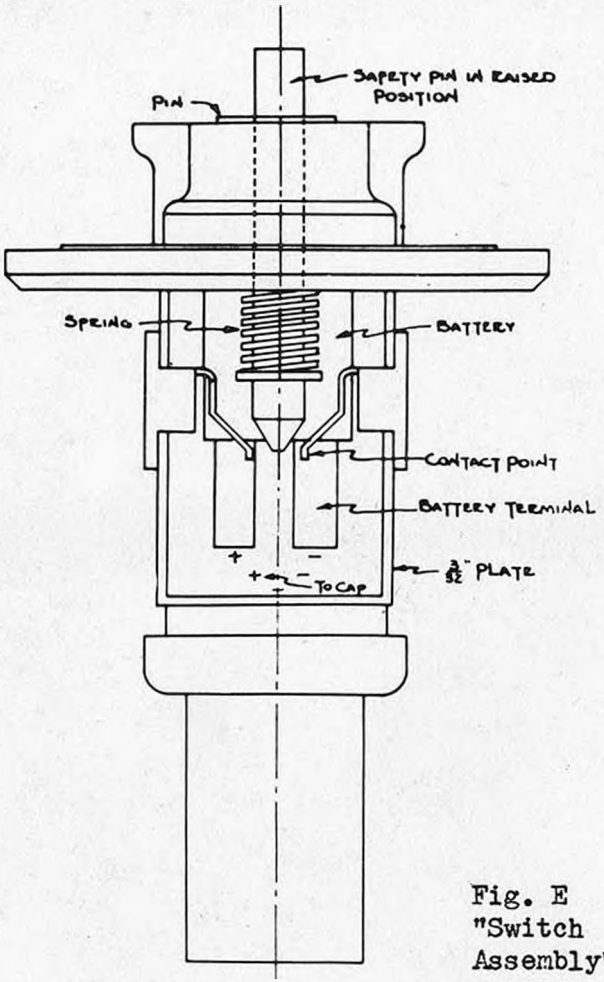


Fig. E
"Switch
Assembly"

Only one horn; horn on top of mine case. Circuit breaker has safety pin hole instead of groove for safety fork. No threads in top center of plunger. Additional lifting hole in plunger above safety pin hole is outside of mine case at all times. Disarm by placing wire or nail in lifting hole and raising plunger to permit insertion of safety pin.

JAPANESE CONICAL BEACH MINE (Single-Horned Anti-Boat Mine) -contd

NOTE: Extreme caution must be exercised in disarming this mine as nearly all that were found on Saipan were wired with a battery cap wire and an electric cap lead wire leading to each of the switch terminals. With this system of wiring it is impossible to break the electric circuit with the plunger. It is necessary to remove the acid horn in such cases.

EMPLOYMENT.

1. 106 of these mines encountered on Saipan in a single row, mines 15 feet apart.

2. 25 - 30 of these mines were found between the two-horned beach mines and the anti-personnel mine field on a beach at Tinian. Individual mines were placed to cover possible routes of advance from the beach inland (See "Anti-Personnel Minefield at Tinian" Fig. A, Anti-Boat Mine, Two-Horned, Addendum).

3. These mines were also found in groups of three with an 18-foot piece of pipe or bar stock lashed to all three horns, mines spaced evenly along bar.

4. Mines were installed on the beaches at Peleliu just above high tide point in front of gun positions. Area marked by low single-strand barbed wire fence.

ADDENDUM

Additional information from recent operations.

NEW ANTI-TANK MINE (PIE-PLATE MINE)

This mine, previously mentioned on Page 47, has been reported in extensive use by the Japanese in the India-Burma theatre.

Additional information indicates that it has a diameter of 6½ inches, contains 4 blocks of TNT-type explosive, and fuze mechanism and safety device similar to the Tape Measure mine. Operating pressure of the shear wire is 35 lbs. Although the actual weight of explosive charge is not known, the previously reported figure of 7 - 10 lbs. should be reduced to the vicinity of 2 lbs.

ADDENDUM

Additional information from the recent operations in the Marianas.

JAPANESE CANISTER ANTI-PERSONNEL MINE

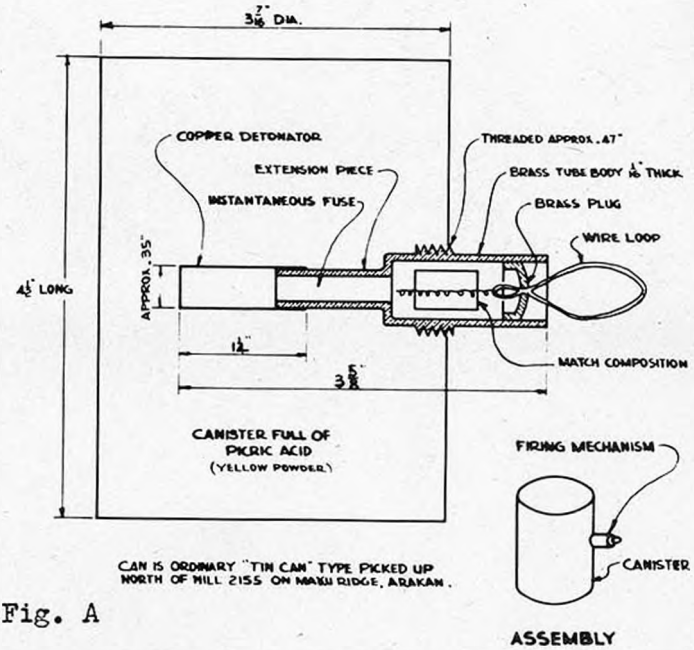


Fig. A

TYPE. Anti-personnel.
COLOR. Tin
CASE. Tin
WEIGHT. Approximately 2 pounds.

EXPLOSIVE. Approximately 1 1/3 pounds. Yellow powder, probably picric acid.

EFFECT. Anti-personnel. Range unknown.
CRATING AND TRANSPORTING. Unknown.

REUSE. Can be reused if friction lighter has not been fired and if moisture has not affected fuse lighter composition or picric acid.

JAPANESE CANISTER ANTIPERSONNEL MINE -contd

FUNCTIONING. Pull on wire loop fires match composition. Flash ignites instantaneous fuse, exploding detonator - main charge.

DISARMING AND DEFUZING.

1. Cut trip wire or trip cord.

2. Unscrew fuse lighter with attached detonator (firing mechanism is in one unit).

INSTALLING AND ARMING.

1. Anchor canister firmly in place.

2. Attach trip cord or wire to anchor point.

3. Insert detonator and fuse lighter into detonator well, and screw fuse lighter securely into place.

4. Attach trip cord to wire loop.

5. Complete camouflage.

EMPLOYMENT. Found on the Wayo Ridge in the Arakan, Burma, March 1944. Mechanism was not installed, but found lying on the ground.

ADDENDUM

Additional information from recent operations.

JAPANESE TYPE 3 LAND MINE (TERRA COTTA MINE)

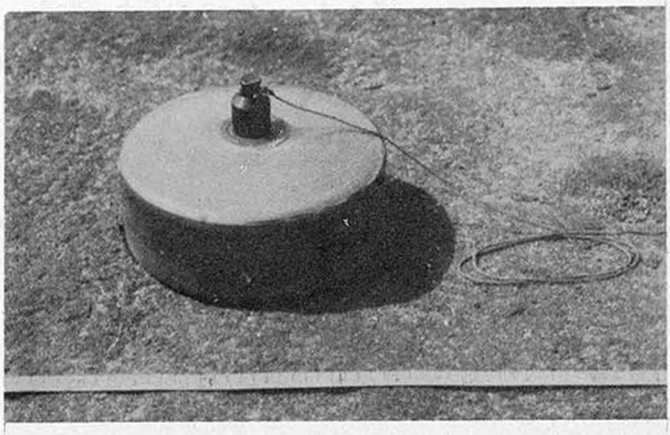


Fig. A
Type 3 Land Mine and Fuze

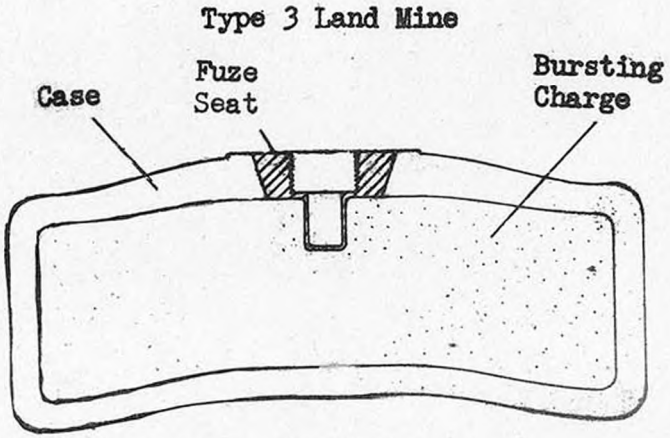


Fig. B
Cross-section Type 3 Land Mine
8 5/8 dia. x 4" high - 6" with fuze

JAPANESE TYPE 3 LAND MINE (TERRA COTTA MINE)-contd-

TYPE. Anti-tank, anti-personnel

COLOR. Earthen

CASE. Terra cotta ceramic material

WEIGHT $10\frac{1}{2}$ lbs.

EXPLOSIVE. Large model - $6\frac{1}{2}$ lbs

Small model - $4\frac{1}{2}$ lbs

Composition of explosive:

1 - 50% Ammonium nitrate
50% TNT

2 - 90% Ammonium nitrate
10% Dinitronaphthalene

3 - 75% Ammonium perchlorate
16% Ferro-silicon
6% Sawdust
3% Crude oil

EFFECT. Unknown. It is probable that both mines are effective against tracks of a medium tank. As antipersonnel mine, large model effective at 33 feet; small one at 26 feet.

PACKAGING AND TRANSPORTING.

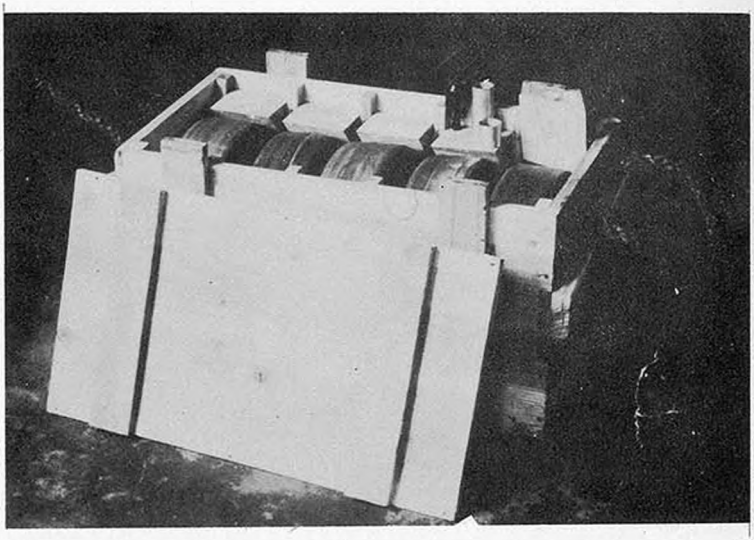


Fig. C
Type 3 Land Mine Packing Box

Mines packed five to a box; fuzes packed independently, one fuze per cardboard container.

RE-USE. Can be re-used if hammer release fork is not damaged and if striker is in good condition.

FUNCTIONING.

1. As pressure installation: 22 lbs pressure applied to plunger head compresses plunger spring. Entire plunger assembly moves downward contacting striker shaft and forcing it into percussion cap which fires detonator -main charge.

2. As pull-type installation: (With safety pin removed) 4½ lbs. pull on hammer. Release fork withdraws it from plunger, releasing percussion hammer. Percussion hammer spring forces

FUNCTIONING.

percussion hammer downward. Percussion hammer hits striker forcing it into percussion cap which fires detonator -- main charge.

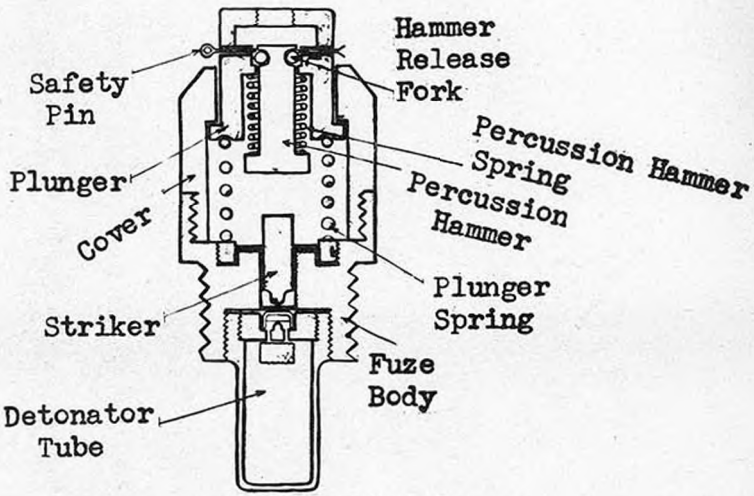


Fig. D
Cross-section of Type 3 Land Mine Fuze

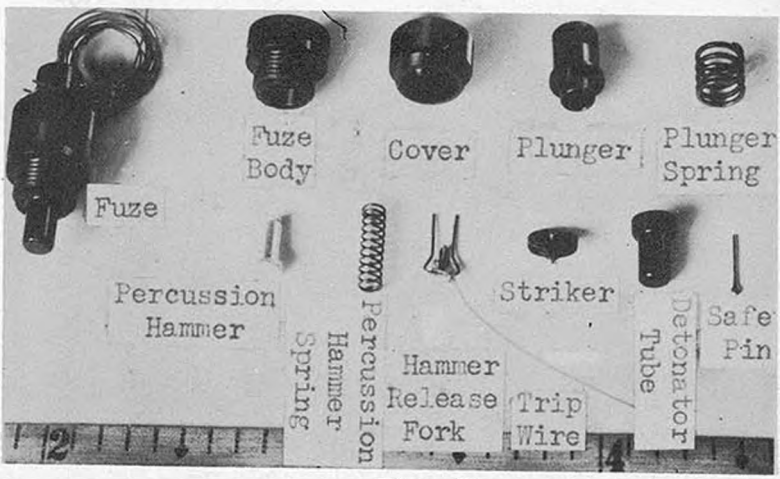


Fig. E
Components of Type 3 Land Mine Fuze

DISARMING.

1. Examine area around mine for trip wires or other mines and antipersonnel devices.

2. Insert safety pin into safety pin hole.

3. If trip wires are attached to hammer release fork, cut them next to the fork.

DEFUZING. Unscrew and remove fuze from fuze well in mine.

TESTING FUZE.

1. Gently unscrew detonator tube from fuze body.

2. Remove safety pin.

3. Check plunger spring action by pressing downward on outer end of plunger. Do not press hard enough to crush bakelite striker.

4. Unscrew fuze body from cover.

5. Check action of percussion hammer spring by withdrawing hammer release fork and allowing percussion hammer to travel forward against a wood surface.

6. Compress percussion hammer spring by pressure against percussion hammer and reinsert hammer release fork.

7. Check striker for possible damage.

8. If striker is undamaged, screw fuze body onto cover.

TESTING FUZE.

9. Replace safety pin.

10. Screw detonator tube gently into recess in fuze body.

NOTE: Do not attempt to force removal of detonator tube. If it fails to unscrew readily, omit steps 1, 2, and 3. If this is done, care must be taken to avoid hitting striker in any way. Proceed to check percussion hammer action as in steps 5 and 6.

Under no circumstances do anything that will crush detonator tube as instantaneous detonation will result.

INSTALLING AND ARMING.

1. Screw fuze into fuze well.

2. Bury mine not more than 2" below ground surface.

3. String trip wire from anchor point to hammer release fork.

4. Camouflage installation.

5. Remove safety pin.

6. Complete camouflage.

JAPANESE TYPE 3 LAND MINE -contd-

EMPLOYMENT.

1. No report of use in combat.

2. Can be used as anti-tank or anti-personnel mine.

3. The following methods of employment are indicated in a captured Japanese document:

Controlled mine
(TN: SHIHATSU JIRAI
視発地雷)

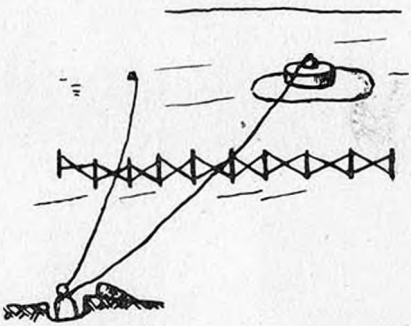


Fig. F

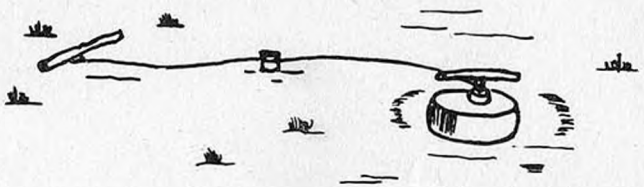


Fig. G
Example of use with Type 3 (TN: actually says Type 4) land mine.

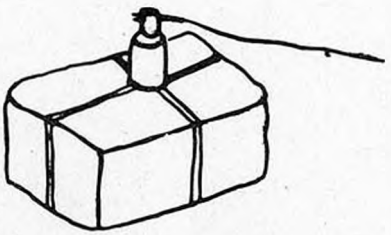


Fig H
Formed Explosive
Mine

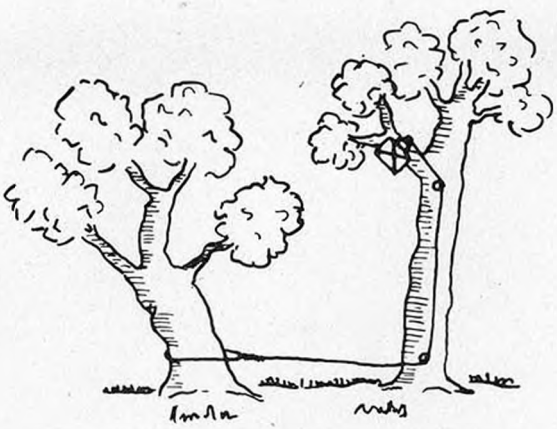


Fig I
Land Mine Suspended from
Tree

4. Encountered on Leyete.

ADDENDUM

Additional information from recent operations.

JAPANESE HAND THROWN MINE (EXPERIMENTAL?)

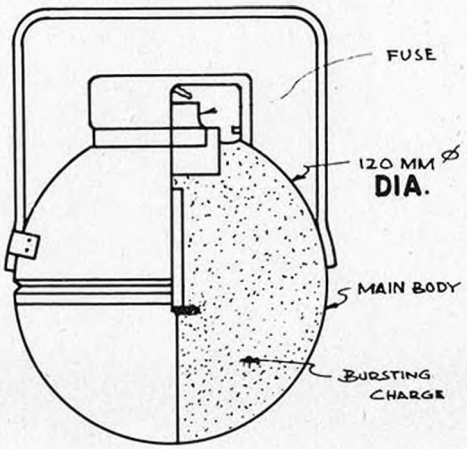


Fig. A
Sectional View Jap Hand Thrown Mine

TYPE.	Anti-tank mine (experimental?)
COLOR.	Black
CASE.	Aluminum
WEIGHT.	3½ lbs.
EXPLOSIVE.	Mixture of TNT, cyclonite, and tetryl
EFFECT.	Single mine penetrates 3/4 inches of armor. Severely damages armored vehicles. Effective radius of concussion and fragmentation is approximately 33 feet.

PACKAGING AND TRANSPORTING. 10 mines packed in wooden case. Fuzes packed separately in tins at one end of wooden case. Overall weight of full case - 42 lbs.

RE-USE. Not recommended. Destroy in place.

FUNCTIONING. Fuse is universal instantaneous type, and fires regardless of angle at which mine hits target.

DISARMING AND DEFUZING.

1. Remove protective cap; extract fuze.

2. Align safety pin holes in fuze body and striker.

3. Gently insert safety pin--bind safety pin in place with friction tape or twine.

4. Replace protective cap on mine body.

CAUTION: Do not separate fuze from detonator.

ASSEMBLING AND ARMING.

1. Assembling

a. Remove protective cap from mine body.

b. Check fuze well for foreign matter and remove if present.

c. Insert fuze and replace protective cap.

2. Arming.

a. Immediately prior to use remove protective cap and safety pin.

b. Advance within 33 feet of target. Hurl mine forcefully against target.

CAUTION:

1. Mine not to be held by carrying strap when thrown.

2. Do not drop on hard surface or jolt mine after safety pin has been removed.

EMPLOYMENT.

Mine has not yet been reported in use against Allied troops.

ADDENDUM

Additional information from recent operations.

TYPE 3 CONICAL HAND MINE

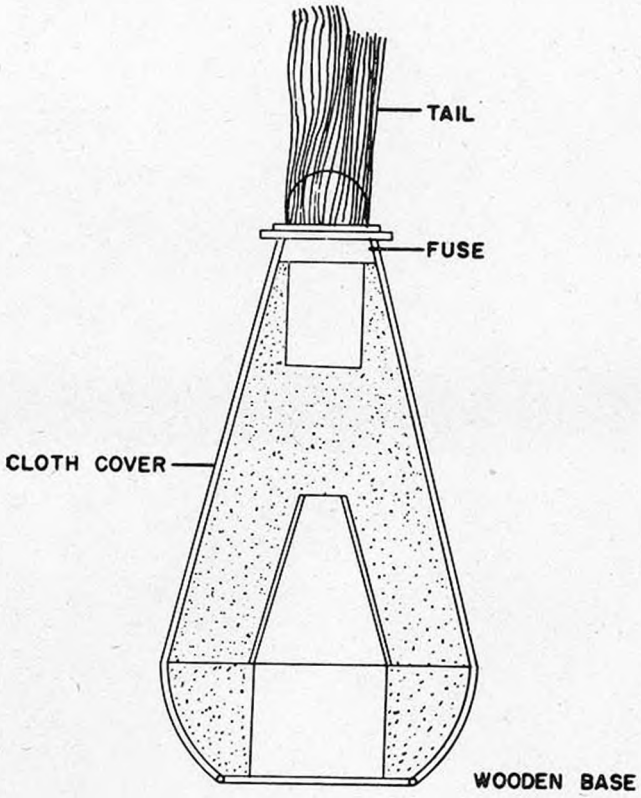


Fig. A
Type 3 Conical Hand Mine

TYPE.	Anti-tank
COLOR.	Olive-drab
CASE.	Cloth, wood, aluminum
WEIGHT.	1.5 lbs.

TYPE 3 CONICAL HAND MINE -Contd-

EXPLOSIVE. 1.1 lbs. mixture of TNT, cyclonite and tetryl

EFFECT. Single mine will penetrate 2¾ inches of armor scattering fragments with terrific force inside tank.

PACKAGING AND TRANSPORTING. Mines packed in boxes of 20. Fuzes packed separately from the mines. May be re-used if striker and percussion cap have not been damaged.

FUNCTIONING.

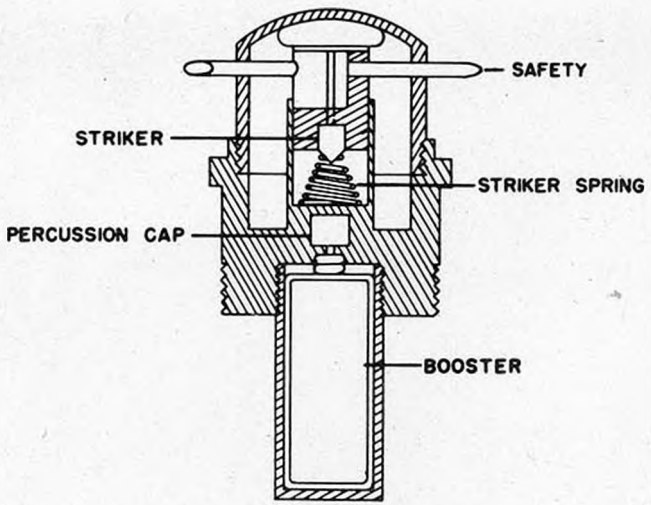


Fig. B
Fuze to Type 3 Conical
Hand Mine.
(Dimensions: Ht, 6", Dia @ base 4" @ Fuze Well 1¼")

1. Mine hits base first on tank or other object; firing pin by inertia travels forward against action of firing pin spring.

TYPE 3 CONICAL HAND MINE -contd-

FUNCTIONING.

2. Striker hits percussion cap, which in turn sets off explosive charge.

3. Fuze is of universal type and will cause detonation regardless of angle at which it hits tank.

NEUTRALIZING AND DISARMING.

Inspect fuze through safety pin holes to determine whether or not striker has gone forward. If striker head is visible above safety pin holes, insert safety pin through safety pin holes and into safety pin groove in striker shaft. Pin should extend through holes on opposite side of fuze head. Remove fuze, unscrew fuze head, lift out striker and examine percussion cap for possible damage. If damaged, detonate with a minimum of handling.

If inspection reveals that striker has moved forward, detonate in place. Dangerous in this condition.

INSTALLING AND ARMING.

1. Screw fuze into mine body.

2. Remove safety pin.

3. Throw mine, base first, at tank. Mine detonates upon impact if it has attained a velocity of 30 feet per second.

EMPLOYMENT. For use against armored vehicles, doors of pillboxes and other similar targets.

ADDENDUM

Additional information from recent operations.

KISKA (TYPE 99) HAND GRENADE (PRESSURE OPERATED)

PACKAGING AND TRANSPORTING.

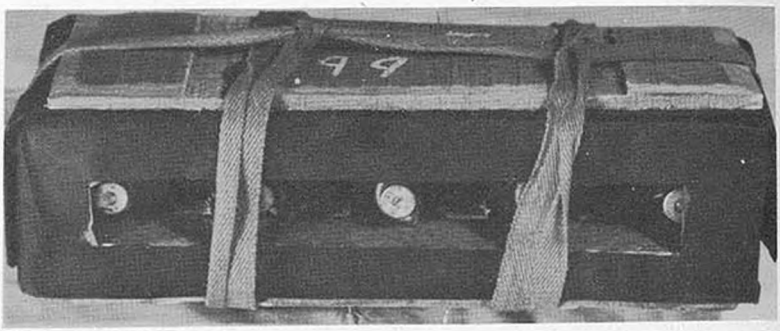


Fig. A
Package of 5 Kiska Grenades

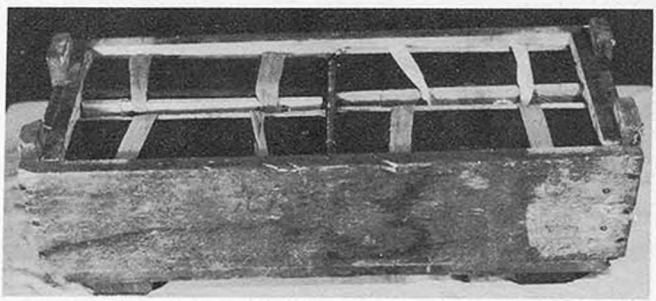


Fig. B.
Box of 20 Kiska Grenades

ADDENDUM

Additional information from recent operations.

JAPANESE TYPE 99 (1939) HAND GRENADE (b) WITH PULL-TYPE IGNITER)

TYPE. Pull-type hand grenade

COLOR. Black

CASE. Cast iron

WEIGHT. 9.6 oz

EXPLOSIVE. 1.9 oz. of pressed picric acid

EFFECT. Anti-personnel

PACKAGING AND TRANSPORTING. Same as Kiska (99a).

RE-USE. Before use, check to see that delay train is intact.

FUNCTIONING.

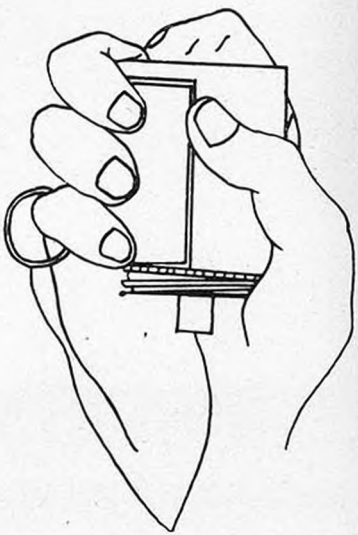


Fig. A
Manner of holding Grenade For Throw.

ADDENDUM

Additional information from recent operations.

JAPANESE FRICTION FUSE LIGHTER (LARGE TYPE)

"RED TYPE"

Another type of friction fuse lighter, operating on the same principle as the "black type" described on pages 51 and 52, is known as the "red type" in order to differentiate between them. It has a brass body with red plastic outer sleeve. The end cap of the red type is threaded to screw onto the end of the fuse lighter body. The inside of the screw cap is fitted with an eye for attaching the pull cord. The fuse end of the fuse lighter is covered with tinfoil to keep out moisture.

ADDENDUM

Additional information from recent operations.

JAPANESE TYPE 97 HAND GRENADE

PACKAGING AND TRANSPORTING.

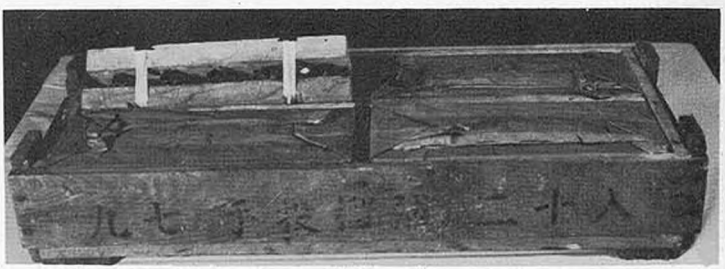
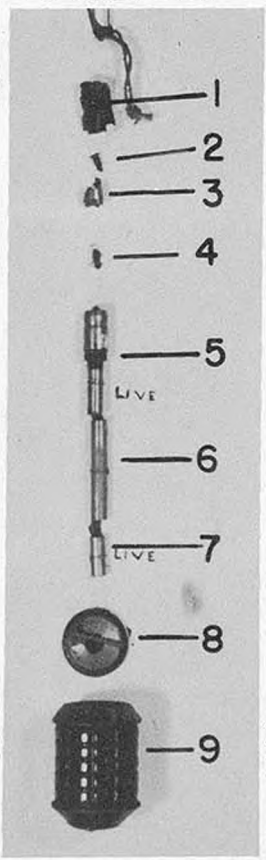


Fig. A
Packaging of 97 and 91 Grenades

FUNCTIONING.



KEY TO EXPLODED SECTION

1 Striker cover
2 Striker
3 Striker holder
4 Creep spring
5 Delay tube
6 Detonator holder
7 Detonators (2)
8 Grenade top
9 Grenade body

Fig. B
Exploded view of components.

ADDENDUM

Additional information from recent operations.

JAPANESE MODEL 89 (1929) 50 MM HIGH EXPLOSIVE SHELL PACKAGING AND TRANSPORTING.

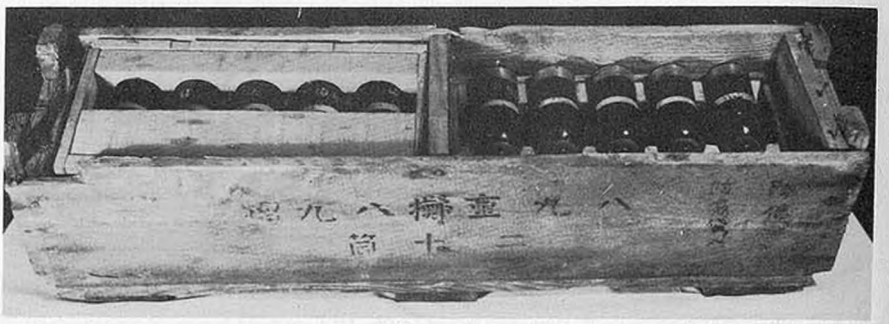


Fig. A
Packing of 20 shells (No fuzes)

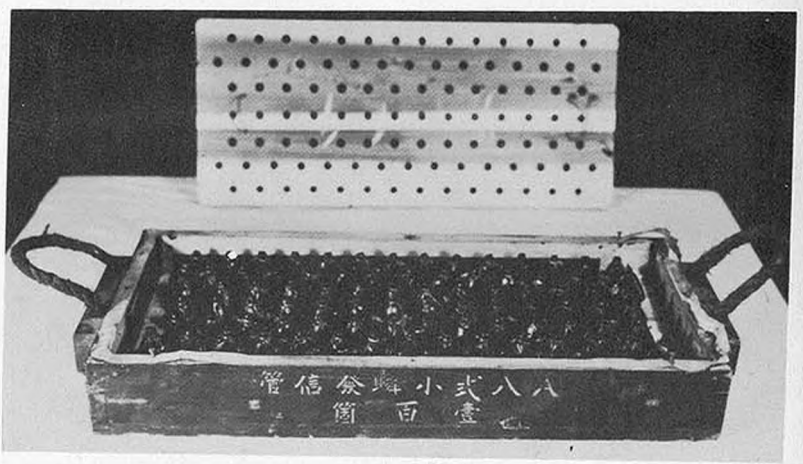


Fig. B
Separate packing of fuzes
(100 per case)

JAPANESE MODEL 89 -contd-

PACKAGING AND TRANSPORTING.

Fig C.
Packing - Shells with fuzes
(Each fuze packed in individual
cylindrical tin container)

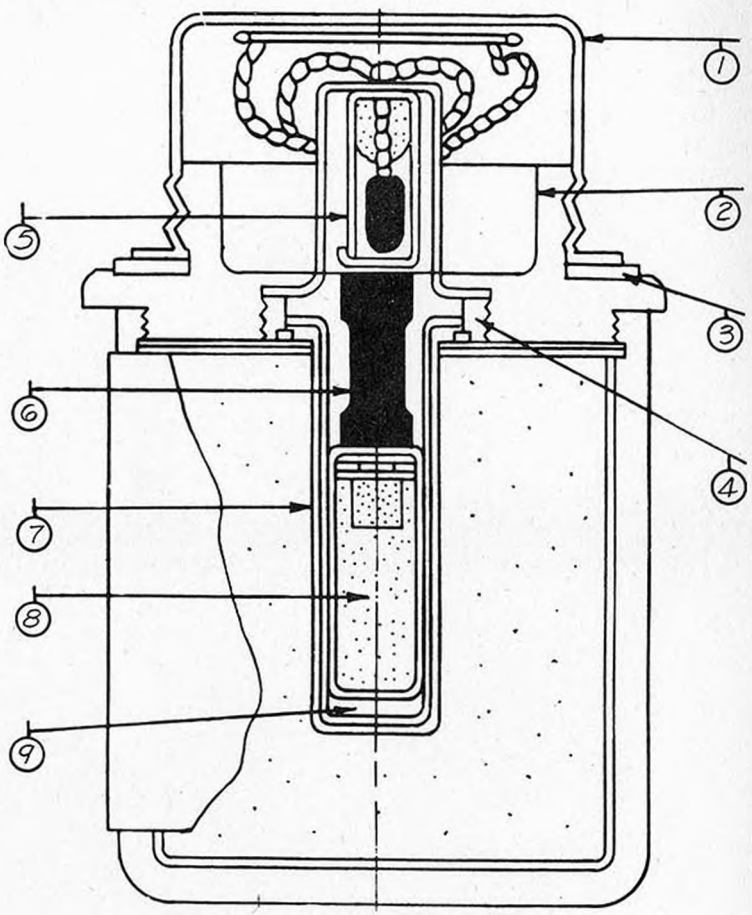


Fig. B
Sectional view of Grenade

Key to Diagram

1 - Cover
2 - Fuse body
3 - Fabric washer
4 - Locking ring
5 - Friction primer
6 - Powder train
7 - Booster cup
8 - Booster
9 - Spacer

JAPANESE TYPE 99 HAND GRENADE -contd-

FUNCTIONING. 1. Pull on firing string actuates friction lighter.

2. Flash from match composition ignites 4-second delay train.

3. Delay train sets off detonator - main charge.

DISARMING. 1. Replace pull cord within grenade; replace cover.

2. If cover is missing, cut pull cord as short as possible without exerting any pull on it.

3. Cover opening with friction tape.

DEFUZING. 1. Unscrew locking ring.

2. Lift out fuze without exerting pull on firing string.

3. Remove explosive charge.

ARMING. 1. Remove cover - replace pull ring over finger.

2. Throw grenade (pull ring and cord will be left in hand.)

EMPLOYMENT. 1. Offensive grenade.

2. Adaptable for use as anti-personnel device.

JAPANESE TYPE 99 HAND GRENADE -contd-

FUNCTIONING. 1. Pull on firing string actuates friction lighter.

2. Flash from match composition ignites 4-second delay train.

3. Delay train sets off detonator - main charge.

DISARMING. 1. Replace pull cord within grenade; replace cover.

2. If cover is missing, cut pull cord as short as possible without exerting any pull on it.

3. Cover opening with friction tape.

DEFUZING. 1. Unscrew locking ring.

2. Lift out fuze without exerting pull on firing string.

3. Remove explosive charge.

ARMING. 1. Remove cover - replace pull ring over finger.

2. Throw grenade (pull ring and cord will be left in hand.)

EMPLOYMENT. 1. Offensive grenade.

2. Adaptable for use as anti-personnel device.

ADDENDUM

Additional information from recent operations.

BRITISH 36M ANTIPERSONNEL RIFLE HAND GRENADE (CAPTURED)

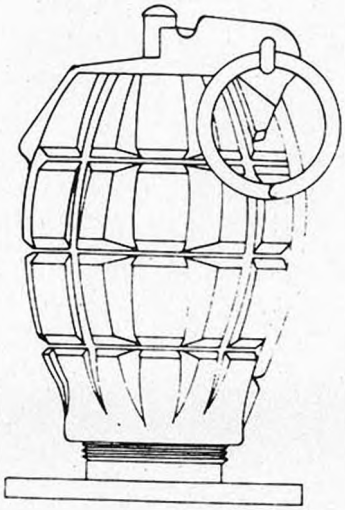


Fig. A
Exterior View

TYPE. Lever-operated fragmentation grenade.

COLOR. Black

CASE. Case iron.

WEIGHT. 1 1/2 lbs.

EXPLOSIVE. Baratol

PACKAGING AND TRANSPORTING. Unknown

EFFECT. Anti-personnel.

RE-USE. Check to see that delay has not been removed before re-use.

FUNCTIONING. 1. Remove safety pin holding safety lever in place.

2. Release safety lever.

3. Striker spring forces striker downwards.

4. Striker hits percussion cap, igniting 4-second delay train.

5. Delay train sets off detonator, main charge.

DISARMING. 1. Restrain lever.

2. Replace safety pin.

DEFUZING. 1. Remove base plug.

2. Remove detonator from cap chamber.

3. Replace base plug.

ARMING. 1. Restrain striker lever.

2. Withdraw safety pin.

EMPLOYMENT. Adaptable for antipersonnel use. (See Fig. 58, page 95.)

NOTE: Striker lever must be restrained before safety pin is removed.

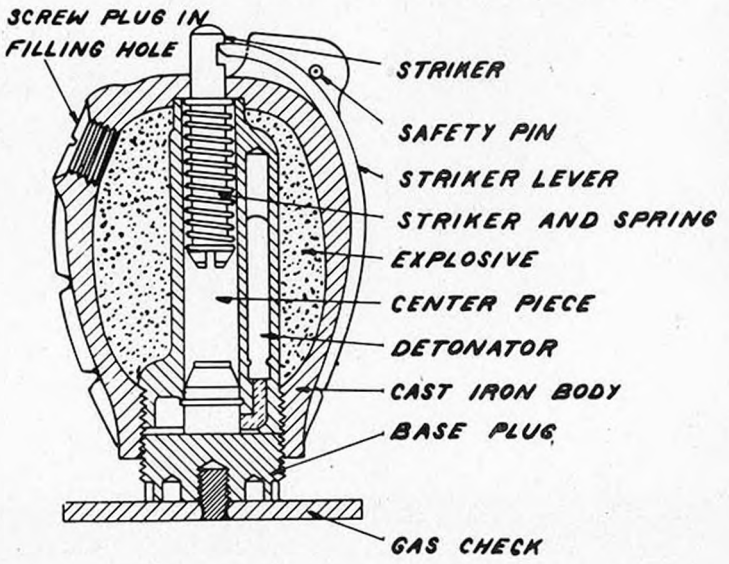


Fig. B
Cross Section

ADDENDUM

Additional information from recent operations.

BRITISH ANTIPERSONNEL HAND GRENADE NO. 69 MK.1 (CAPTURED)

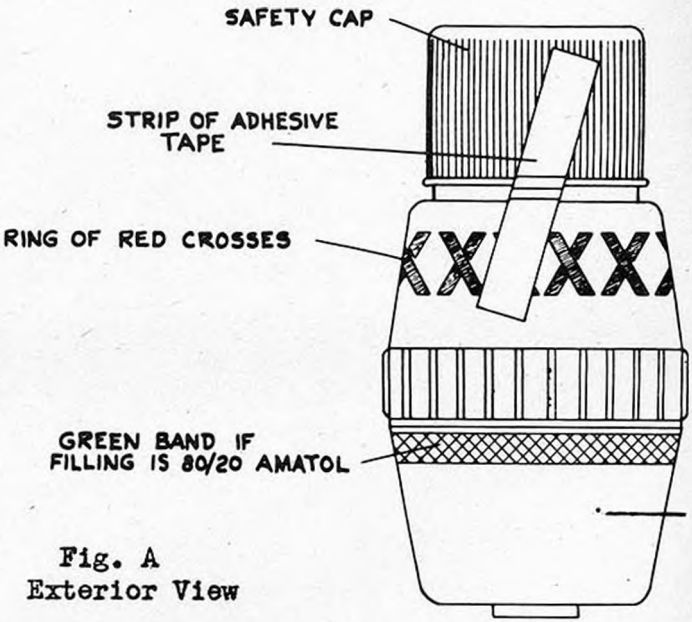


Fig. A
Exterior View

TYPE. Light impact offensive grenade.

COLOR. Black

CASE. Bakelite

WEIGHT. 11 oz.

EXPLOSIVE. 80/20 amatol or lyddite.

EFFECT. Offensive, antipersonnel.

PACKAGING AND TRANSPORTING. Unknown

RE-USE. Not recommended if tape has unwound and pin has come out of striker. Destroy in place.

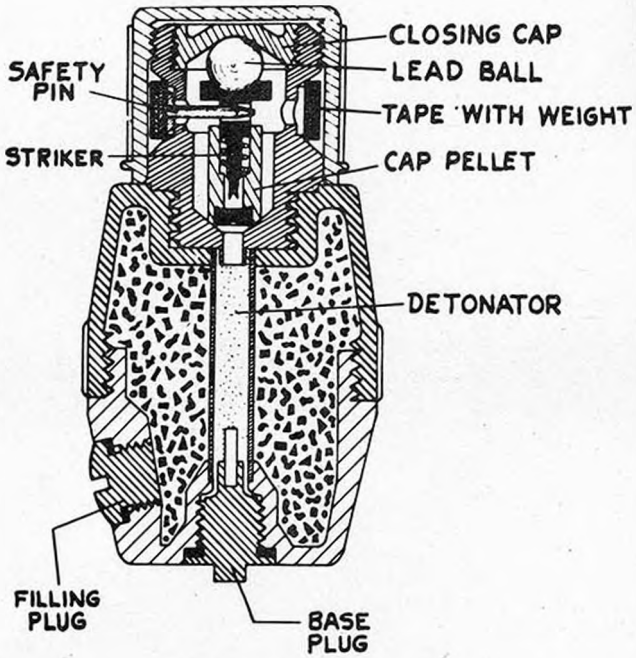


Fig. B
Cross Section

FUNCTIONING. 1. With safety cap removed, grenade is thrown.

2. Weight on tape causes it to unwind pulling out safety pin.

3. On impact striker is forced into primer cap igniting delay train - detonator - main charge.

BRITISH ANTIPERSONNEL HAND GRENADE NO. 69 MK.1 -cont

DISARMING AND DEFUZING.

1. Inspect safety pin.

2. Remove base plug.

3. Remove detonator.

4. Replace base plug.

ARMING.

1. Remove adhesive tape holding cap.

2. Unscrew safety cap with 1/2 turn.

3. Hold weighted tape in place until grenade is thrown.

EMPLOYMENT.

1. As antipersonnel device --Grenade is placed between door handle and door. Weighted tape is attached to door knob. When knob is turned, grenade is dislodged - tape unwinds. As grenade falls, it fires.

ADDENDUM

Additional information from the recent operations in the Marianas.

JAPANESE GRENADES AS PRESSURE INSTALLATIONS.

8. At one point a road was mined with several installations employing the #97 grenade. 5 to 6 grenades were taped together and buried in the roadway with the safety pins removed. The delays were not removed. A tank set off one such installation which exploded harmlessly after the tank had passed beyond it.

9. In another instance several anti-personnel installations were encountered employing the #91, #97, and #99 grenades. Each shell was placed upright in a tin can filled with approximately 1 pound of black powder and camouflaged. It is probable that the anti-personnel effect would not have been obtained unless the detents were removed.

ADDENDUM

Additional information from recent operations.

JAPANESE BANGALORE TORPEDO

PACKAGING AND TRANSPORTING.

Fig. A
Packing - 6 Bangalore Sections and 3 Firing Assemblies.
(Assemblies in right hand compartment)

ADDENDUM

Additional information from recent operations in the Marianas.

63 KG GENERAL PURPOSE (HE) BOMB

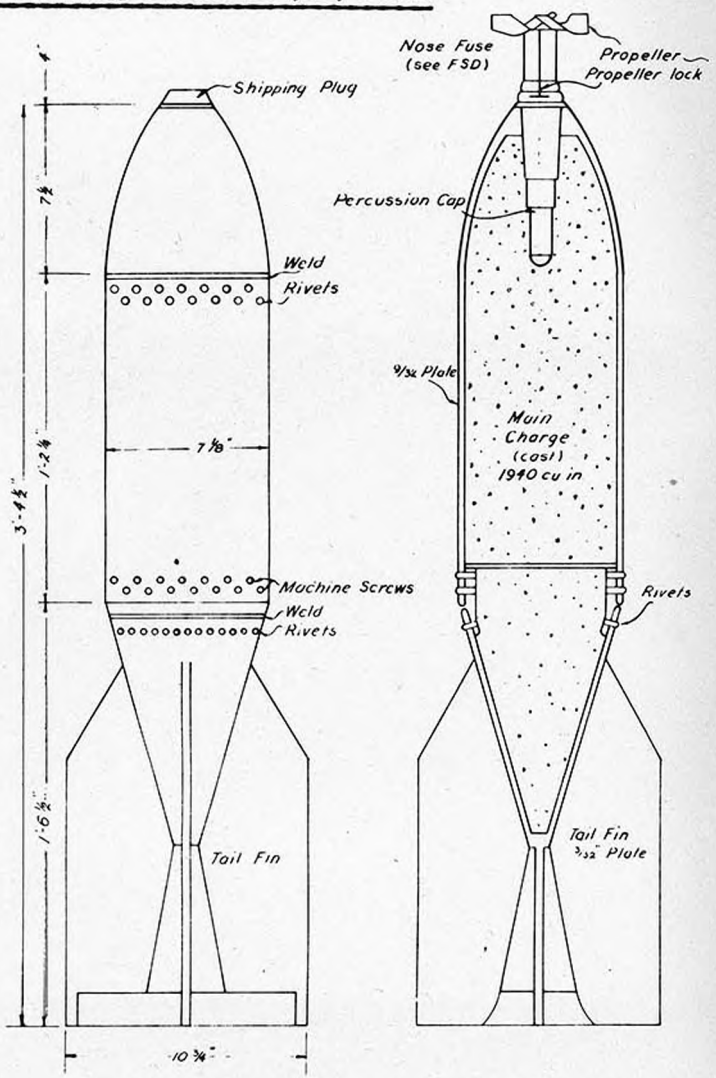
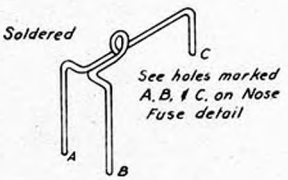
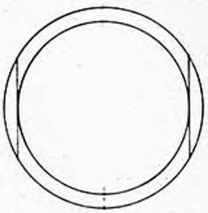


Fig. A

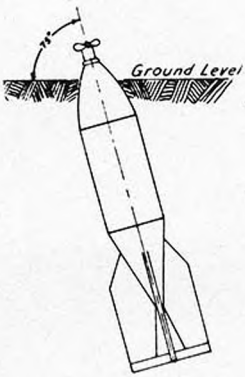
63 KG GENERAL PURPOSE (HE) BOMB -contd



PROPELLER LOCK

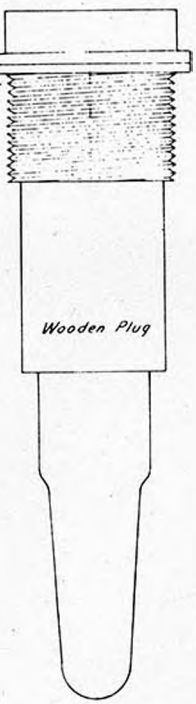


TOP VIEW

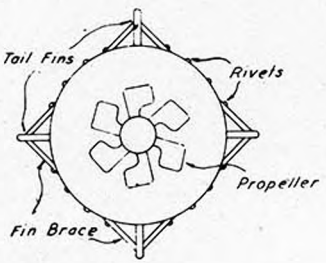


SECTIONAL VIEW

NOTE:
Bomb was placed in approximately this position and used land mine



SIDE VIEW
SHIPPING PLUG



TOP VIEW

Fig. B

63 KG GENERAL PURPOSE (HE) BOMB -contd

TYPE. Anti-tank.

COLOR. Gray.

CASE. Sheet Steel.

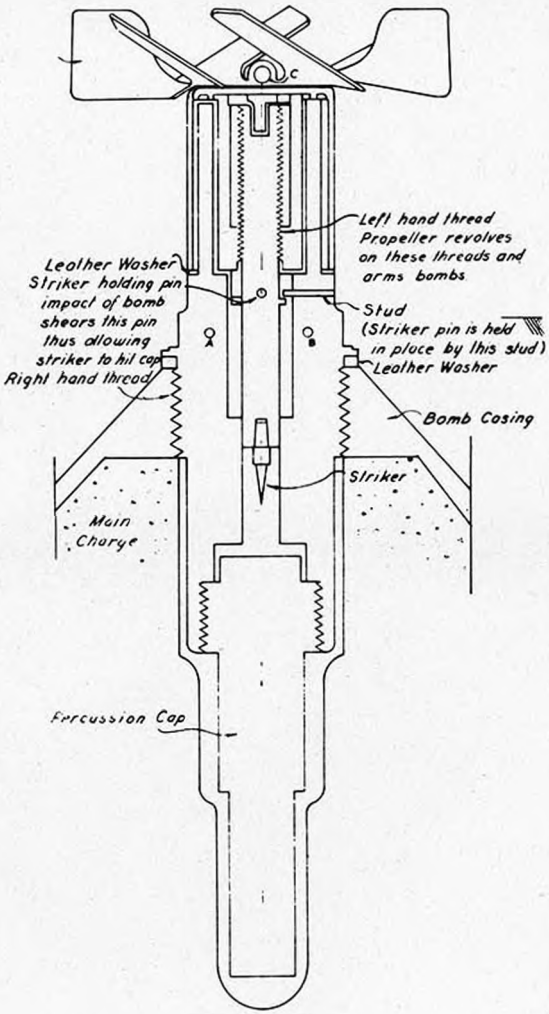
WEIGHT. 138 pounds.

EXPLOSIVE. 61½ pounds, Type 98.

EFFECT. Demolishes tanks, half-tracks, vehicles.

CRATING AND TRANSPORTING. Single bomb to a wooden crate. Fuze packed separately.

RE-USE. Can be re-used if no evidence of exposure to blast or pressure.



NOSE FUSE CROSS SECTION

Fig. C

63 KG GENERAL PURPOSE (HE) BOMB -contd

FUNCTIONING. Impact or pressure shears pin allowing striker to move forward firing percussion cap - detonator - main charge.

DISARMING AND DEFUZING. Turn propeller in a counter-clockwise direction until it tightens up. Replace safety locking wire. Unscrew fuze and remove.

INSTALLING AND ARMING. Bury in ground nose up flush with ground surface. Remove shipping plug and screw in nose fuze. Remove safety wire. Turn propeller in clockwise direction until fully extended. Complete camouflage.

EMPLOYMENT. 1. Used extensively on Saipan in definite patterns with as many as 4 rows, staggered. Distances between rows and mines varied from a few feet up to 40 yards. Fields extended for a distance as great as 350 yards. Camouflage was generally poor. Bombs were frequently pointed in the direction of approach at an angle of approximately 45 degrees. Safety wires frequently found nearby.

2. Roadways were mined with these bombs on shoulders, at curves and intersections and in the roadway itself. On one stretch of road 100 yards long, 14 bombs were found, 4 of which were carefully concealed the remainder projecting above ground.

3. One minefield employing this bomb extended 300 yards in length and 25 yards in depth. The bombs were laid in 3 rows, staggered with respect to one another. Approximately 300 bombs were installed.

4. Approximately 25% of the 63 Kg. bombs found on Guam had thin piano wire for shear wire for anti-personnel effect. Fuze employed was Navy A-3 (a) fuze. A-2 (a) and A-2 (c) are Army fuzes, found in land campaigns to date. It is expected that these two fuzes will be encountered inland on larger land masses.

ADDENDUM

Additional information from the recent operations in the Marianas.

IMPROVISED MINES (GENERAL)

1. Four 800 pound spherical naval mines (horned type) were buried at street intersections 12 to 18 inches below street level and were equipped for electrical firing. Lead wires very conspicuous.

NOTE: Generally contact mines are spherical in shape with several lead, steel or copper projections (horns) screwed into the mine case. When a horn is bent or broken, the mine is detonated (AB mine principle). Some varieties of contact mine have a copper cable entering the mine from either the top or bottom of the case. These cables, called antennae, should never be moved as they may explode the mine when they come in contact with a metallic object.

2. Mine depth charges were found on city streets. They were set as cratering charges and were wired for remote control firing.

3. On North Pier, Tinian, three torpedo warheads were found. The standard torpedo firing mechanism was altered by replacing the striker with an electric cap. The firing mechanism was installed in the fuze pocket with a 1000' electric cable connected to the cap lead wires. The cable led to an emplacement on the beach, but no electric firing mechanism was evident.

(On Peleliu 10 torpedo warheads were discovered. All were found to be booby-trapped.)

ADDENDUM

Additional information from recent operations.

CONCRETE MINE

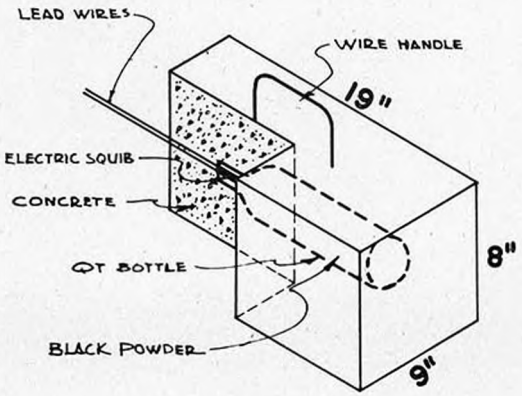


Fig. A
Three Dimensional View.

A concrete mine with dimensions shown in sketch and weighing 40 lbs. has been reported from Peleliu. A quart bottle of black powder inside the mine forms the explosive charge. Charge is fired with an electric wquib by remote control. Wire handle provides a means for carrying mine. Effect unknown.

ADDENDUM

Additional information from recent operations

JAPANESE IMPROVISED ANTIPERSONNEL MINE (TINIAN)

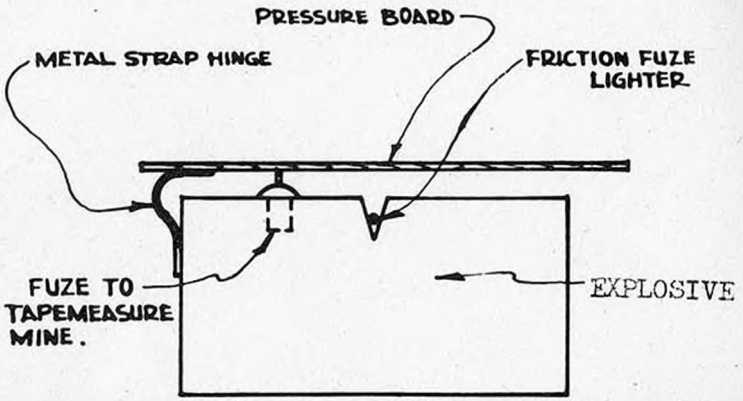


Fig. A
Japanese Improvised Antipersonnel Mine

NOTE: Friction fuse lighter improperly shown in Fig. A. In most cases it was found on end of mine opposite hinge.

This is the mine found in the antipersonnel minefield on Tinian. A number of these mines were set up in front of gun emplacements in conjunction with anti-boat mines. It is employed as a combination pull-and-pressure-type antipersonnel mine. The mine is crudely constructed, with outside dimensions of 6" x 8" x 12". The explosive consists of 20 sticks (½ lb sticks) of dynamite or 10 lbs of ammonium perchlorate mixture. A pressure type fuze (from the type 93 mine) with two non-electric caps is placed in the top center of the mine. A hinged pressure board 18" x 4" x 3/4" is used to transmit pressure to the fuze. On the end opposite the hinge a friction type igniter with two non-electric caps is fitted into a notch at the top, and a spider web of 5 or more iron trip wires (forming not more than a 180-degree

arc) is extended outward from 4' to 21'. On Tinian, some of these trip wires ran from the buried mine to an elevation of 2 feet.

An angle dozer set off two of these mines without causing any casualties or affecting the machine.

ADDENDUM

Additional information from recent operations.

JAPANESE IMPROVISED SHELL MINE.

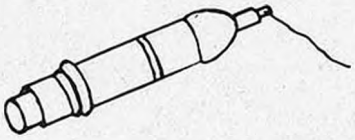


Fig. A
Improvised Shell
Mine

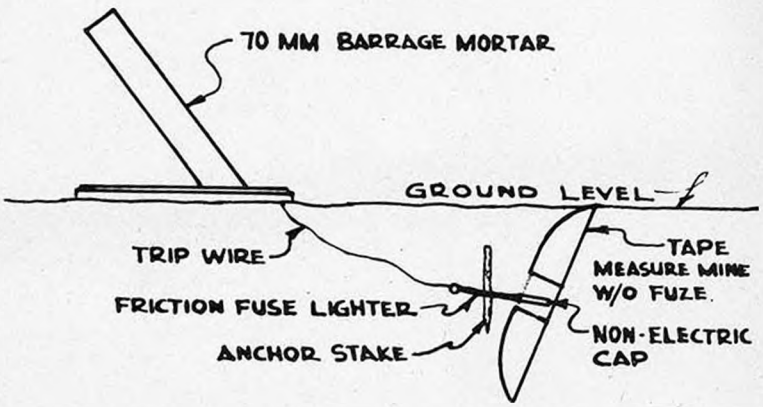
Fuze from Type 3 Land Mine is threaded so as to be interchangeable with standard Japanese Type 88 instantaneous impact fuze and Type 100 dual action artillery fuzes. Any common Japanese shell can be converted to a land mine or booby trap by employing this fuze.

ADDENDUM

Additional information from recent operations in the Marianas.

g. BOOBY TRAPS IN THE MARIANAS.

70MM BARRAGE MORTAR



JAPANESE BOOBY TRAP
Fig. A.

MISCELLANEOUS.

The Japanese on Saipan installed quite a number of booby traps. As is usually the case, a large number of reported booby traps proved to be duds or discarded ammunition and several injuries reputedly caused by booby traps resulted from the handling of duds by inexperienced personnel.

The Japanese booby trapped their dead, particularly their officers, with pull type firing devices. In one instance a wrist watch on the arm of a dead officer was attached to a

g. BOOBY TRAPS IN THE MARIANAS -contd

pull type device. A souvenir hunter was seriously wounded attempting to remove the watch.

In one bivouac area a tank company found rifles, binoculars, and signal equipment hanging from trees. All were booby-trapped with pull mechanisms. Wires were readily visible. This same tank company reported that 80 per cent of its casualties were caused by booby traps.

On Guam U.S. grenades were placed as booby traps by the Japanese in the armpits of dead Japanese soldiers with the arming pins removed.

h. Booby Trap Employing Type 3 Land Mine.

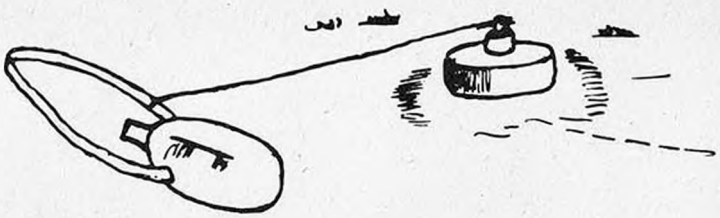


Fig. A
Canteen Booby-trapped with Land Mine.

(Moving of canteen exerts pull on fuze of land mine, exploding it.)

i. Booby trap employing fuze from Type 3 land mine.

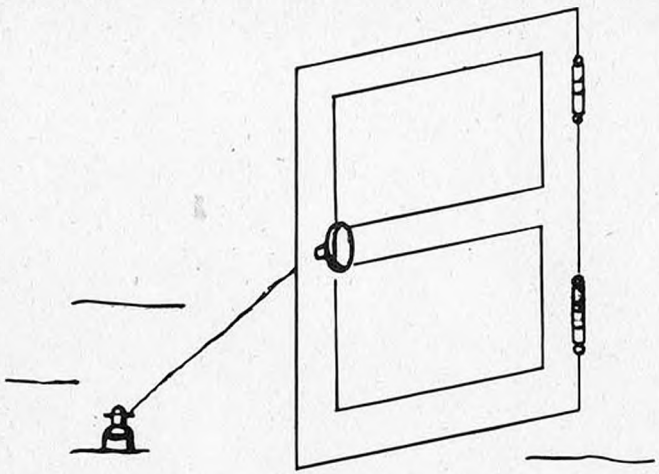


Fig. B
(Opening of door pulls wire attached to hammer release fork fuze inserted in artillery shell)

j. Japanese Booby Traps (Hansa Bay Area)

Two booby traps set up in dumps were encountered in Hansa Bay area. In both cases the enemy incorporated U.S. 23 lb Parafrag bombs with nose bomb fuze AN-MI20. In one, four parafrag bombs were covered with a sheet of galvanized iron. The sensitivity of the AN-MI20 was relied upon to initiate the booby trap through any careless movement of the iron. The second booby trap had three U.S. parafrag bombs incorporated as well as one Japanese 50 Kg.H.E. bomb. The 50 Kg.H.E. bomb was concealed in a cordage dump. From this a length of cordex-type instantaneous fuze was taken and this in turn had a detonator, non-electric, type 3, with a length of safety fuze to which a "black type" (large) pull igniter was fastened. A trip wire ran from the igniter and was attached to a coil of cordage. Three branch lines ran from the main length of the instantaneous fuze, each one to a parafrag bomb.

ADDENDUM

EXPLOSIVES EMPLOYED IN JAPANESE MINES AND BOOBY TRAPS

AMMONIUM PERCHLORATE, "KARITTO"

DESCRIPTION: Slate-gray powder, non-poisonous fumes. Affected by moisture.

Analysis:

Oil	2.3%
Ammonium perchlorate	75.9%
Silicon	12.9%
Fiber	6.4%
Residue	2.5%

SENSITIVITY: Insensitive to shock and friction. Burns but will not explode. Insensitive to heat and cold, and will not decompose in storage.

EMPLOYMENT: General demolitions; booby trap charges.

Fig. A
Perchlorate Explosive Charge

DYNAMITE

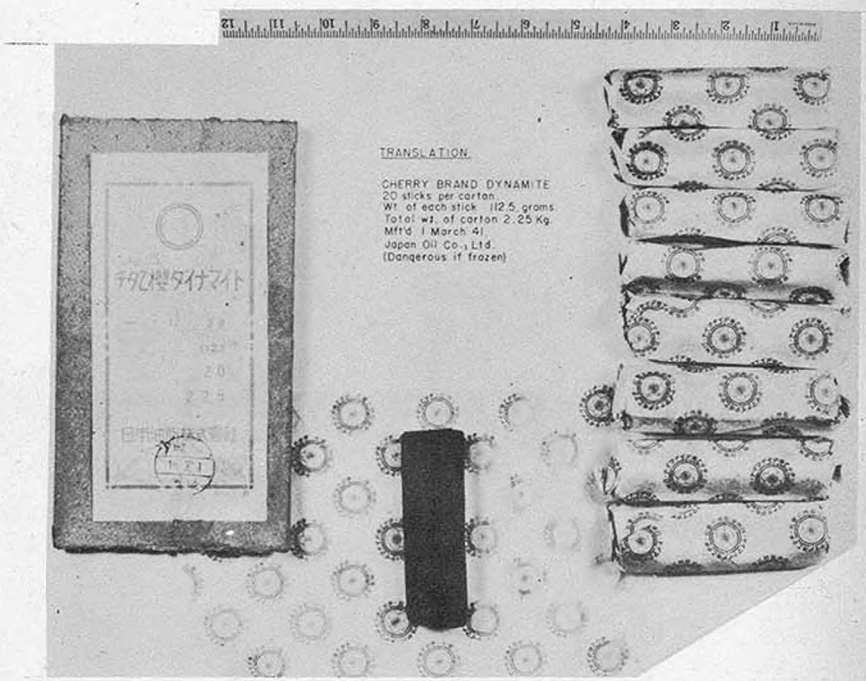


Fig. B
Japanese (Cherry) Dynamite

PICRIC ACID

EMPLOYMENT: 100 Kg. bombs; 250 Kg. bombs; demolition blocks.

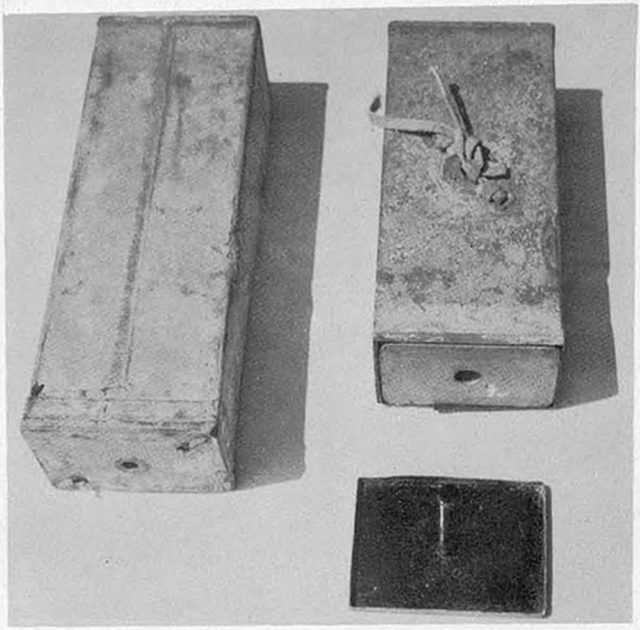


Fig. C
Manufactured Demolition Charge

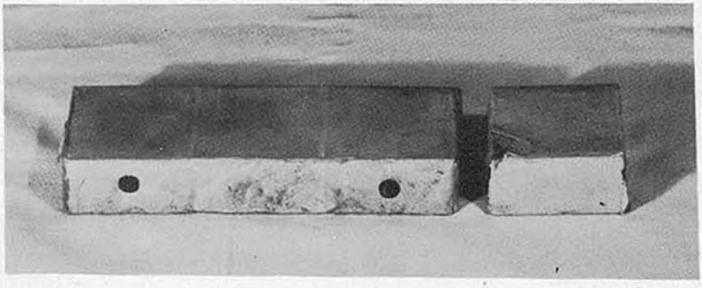


Fig. D
Standard Picric Acid Block

TNA (Type 98) "Trinitroanisole"

EMPLOYMENT: Conical Beach Mine (One-horned anti-boat)

TETRYL

EMPLOYMENT: Booster in explosive block of "yard-stick" mine; detonator for Dutch mine.

PETN "Pentaerythritetranitrate"

EMPLOYMENT: Primacord

LEAD AZIDE

EMPLOYMENT: Gaine in "type B" fuze, for 89 shell; detonator for fuze to "yardstick mine"

RDX (Cyclonite) "Cyclomethlenetrinitramine"

SENSITIVITY: Intermediate sensitivity of same order as tetryl.

MERCURY FULMINATE

EMPLOYMENT: Gaine in "Type A" fuze for 89 shell.

"NORWOOD"

BRAND

TO DUPLICATE THIS FOLDER ORDER

Globe-Wernicke

NO. 82½

MADE IN U. S. A.