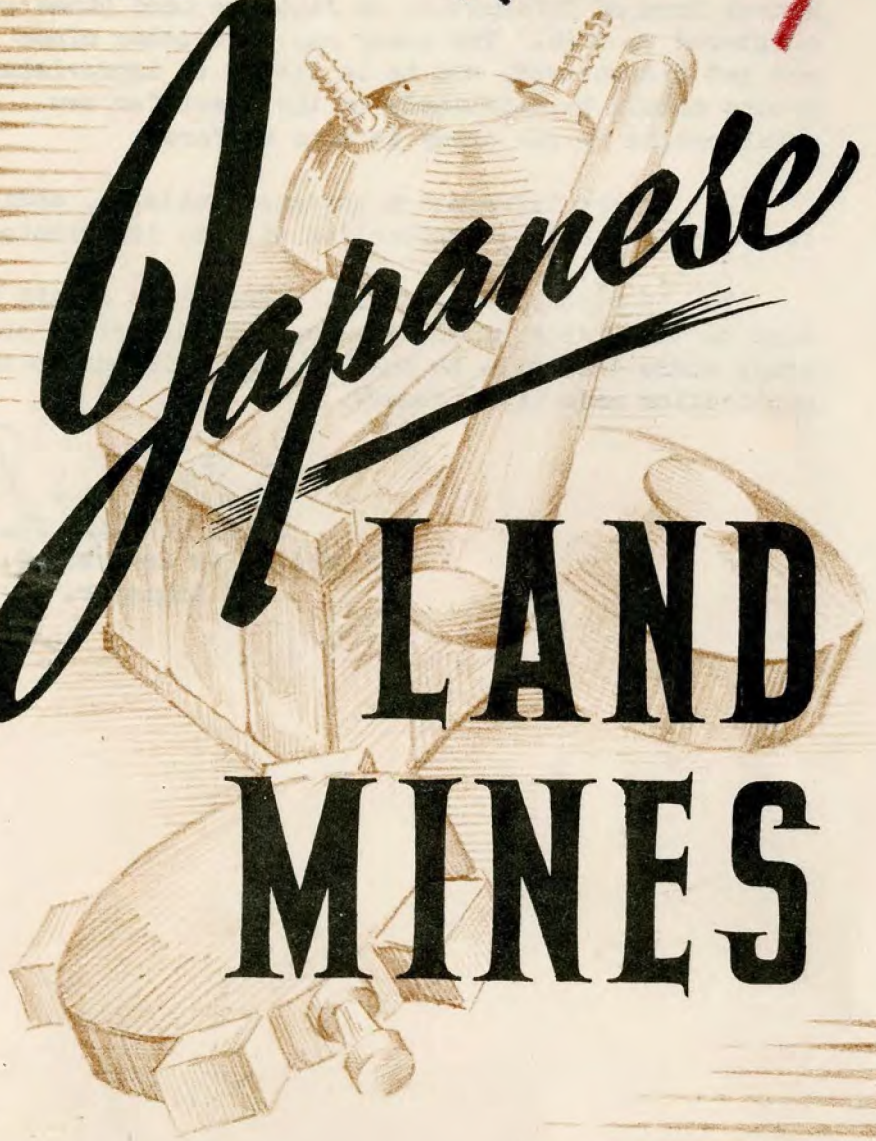
UNCLASSIFIED

JANUARY 1, 1945

A-9359

Japanese LAND MINES



OFFICE of the ENGINEER
Sixth ARMY

UNCLASSIFIED

NOTES

1. This publication is a compilation in condensed form of information on Japanese Land Mines encountered to date. The enemy may have other mines not yet encountered, and he is clever at improvising. Troops should be constantly on the alert for new developments by the enemy in mine warfare.

2. As new information becomes available, additional pages to this publication will be distributed.

3. If mistakes are noted, corrections should be sent to the Office of the Engineer, Headquarters Sixth Army, where they will be checked and revisions to the publication made if necessary.

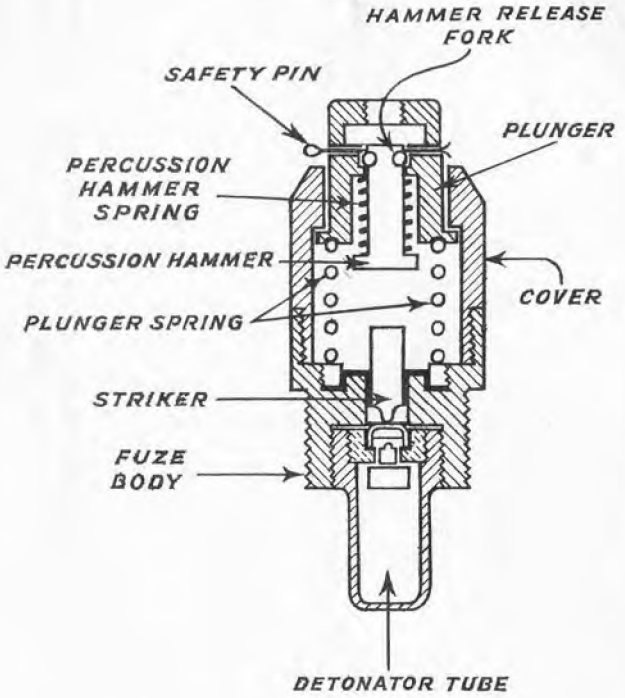
S. D. Sturgis Jr.

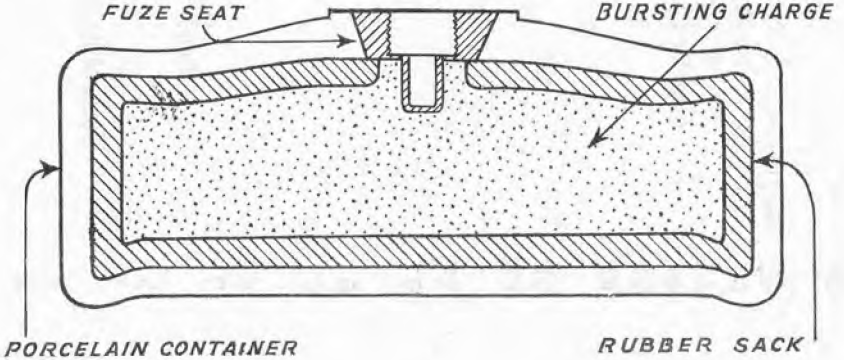
S. D. STURGIS, JR.,
Brigadier General, C. E.,
Engineer.

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HAMMER RELEASE FORK
SAFETY PIN
PLUNGER
PERCUSSION HAMMER SPRING
PERCUSSION HAMMER
COVER
PLUNGER SPRING
STRIKER
FUZE BODY
DETONATOR TUBE


FUZE SEAT
BURSTING CHARGE
PORCELAIN CONTAINER
RUBBER SACK

TYPE 3 MINE ("CHINA MINE" "FLOWERPOT MINE")

COLOR: Earthen.

CASE: Pottery.

WEIGHT: Small type: 11 lbs. Large type: Unknown.

EXPLOSIVE: Small type: 4½ lbs. Large type: 6½ lbs. Various explosives used.

GENERAL DESCRIPTION: Small type: 8½" in diameter, 3½" high. Large type: 10½" in diameter, 3½" high. Circular in shape with bakelite fuze inserted in threaded hard rubber container located in top center of mine. The fuze is spring driven, push or pull type, and contains the only metal parts of the mine - springs, striker, pins. A safety pin protects against firing by both push and pull. The striker is held in position by a forked clip, to which is attached a pull cord of fish gut or linen.

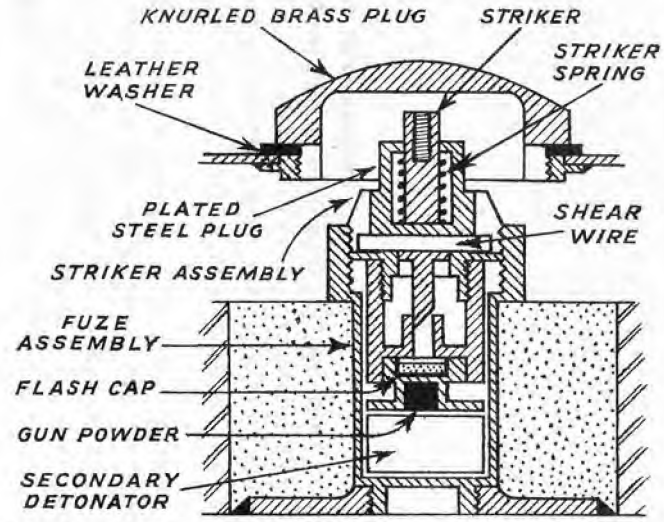
FUNCTIONING: Pull of about 22 lbs. on cord extracts forked clip, releasing striker, firing percussion cap, detonator and main charge. Pressure of about 5 lbs. on head of fuze releases striker from snare of forked clip and similarly initiates detonation.

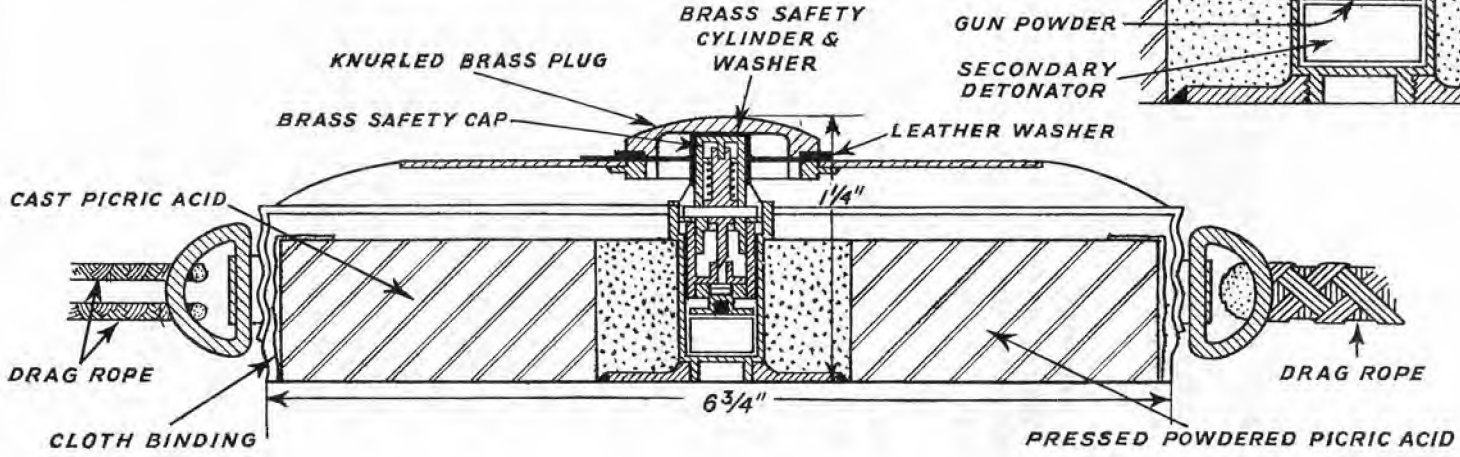
EFFECT: Both types destroy tracks of tanks. Effective against personnel at 26-ft. radius (small type), 33-ft. radius (large type).

EMPLOYMENT: Small type used along roads in Leyte. This was the first discovery of the mine itself, but document captured on Marianas gives detailed explanation of both types. Large type mine not yet discovered. Electromagnetic detector will not detect the mine.

DISARMING: Exerting extreme care to exert no downward pressure on fuze head or pull on cord, insert safety pin if available. Unscrew fuze. If safety pin or substitute not available, great caution should be used in unscrewing fuze.




KNURLED BRASS PLUG
STRIKER
STRIKER SPRING
LEATHER WASHER
PLATED STEEL PLUG
SHEAR WIRE
STRIKER ASSEMBLY
FUZE ASSEMBLY
FLASH CAP
GUN POWDER
SECONDARY DETONATOR


BRASS SAFETY CYLINDER & WASHER
KNURLED BRASS PLUG
BRASS SAFETY CAP
LEATHER WASHER
1¼"
CAST PICRIC ACID
DRAG ROPE
DRAG ROPE
6¾"
CLOTH BINDING
PRESSED POWDERED PICRIC ACID

TYPE 93 ANTI-TANK ("TAPE MEASURE", "PANCAKE")

COLOR: Olive Drab.

CASE: Tin.

WEIGHT: 3 lbs.

EXPLOSIVE: 2 lb. picric acid or 2 lb. of 50/50 mixture TNT and cyclonite.

GENERAL DESCRIPTION: Circular. Two brass handles on opposite ends. Brass pressure plate on top center. Fuze has spring driven striker. Detonator and booster charge employed. Brass safety cap screws on top of fuze.

FUNCTIONING: As A-T mine, 250 lb. pressure cuts shear wire. As A-P mine, 30-70 lb. pressure cuts shear wire. Released striker fires percussion cap, detonator, booster and main charge.

EFFECT: One disables vehicles. Two or three disable tanks.

EMPLOYMENT: 1. Permanently emplaced.

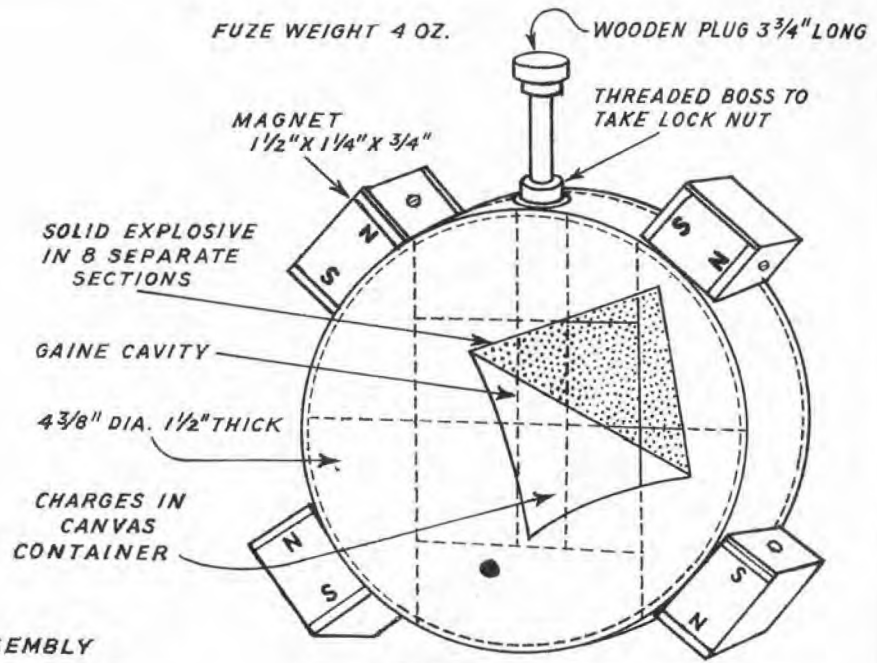
Right side up or upside down. Additional explosive or other mines have been placed underneath. A bakelite pressure cap has been used with anti-personnel shear wire. The pressure cap has been removed and the fuze raised above top of mine by means of brass extension sleeve.

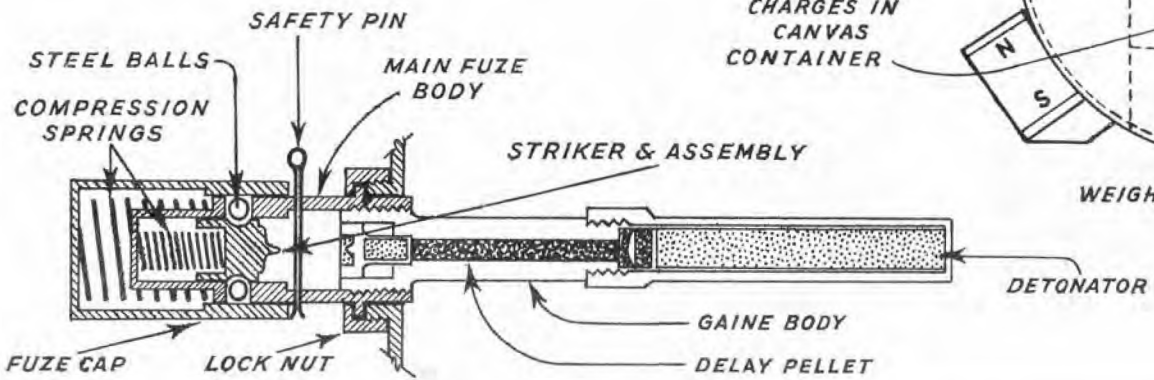
2. Mobile.

Drag ropes attached to handles and pulled in the path of vehicle. Two mines tied back to back on end of pole and thrust from foxhole bordering road.

DISARMING: Examine for booby traps. If pressure cap is in place, unscrew it without exerting downward pressure. If safety cap is available, screw it firmly on top of fuze and unscrew fuze. If cap not available, unscrew fuze, being extremely careful not to depress striker shaft.




FUZE WEIGHT 4 OZ.
WOODEN PLUG 3 3/4" LONG
THREADED BOSS TO TAKE LOCK NUT
MAGNET 1 1/2" X 1 1/4" X 3/4"
SOLID EXPLOSIVE IN 8 SEPARATE SECTIONS
GAINE CAVITY
4 3/8" DIA. 1 1/2" THICK
CHARGES IN CANVAS CONTAINER
N
S
WEIGHT WITH FUZE 2 LB. 11 OZ.


SAFETY PIN
STEEL BALLS
MAIN FUZE BODY
COMPRESSION SPRINGS
STRIKER & ASSEMBLY
DETONATOR
GAINE BODY
DELAY PELLET
FUZE CAP
LOCK NUT

MODEL 99 MAGNETIC ARMOR PIERCING MINE

COLOR: Khaki.

CASE: Canvas.

WEIGHT: With fuze 2 lbs. 11 oz.

EXPLOSIVE: 1½ lbs. of any of following:

1. Equal parts trinitroanisole and hexanitro diphenylamine.
2. Equal parts cyclonite and TNT.
3. Equal parts cyclonite and trinitroanisole.
4. Cast TNT.
5. Picric acid.

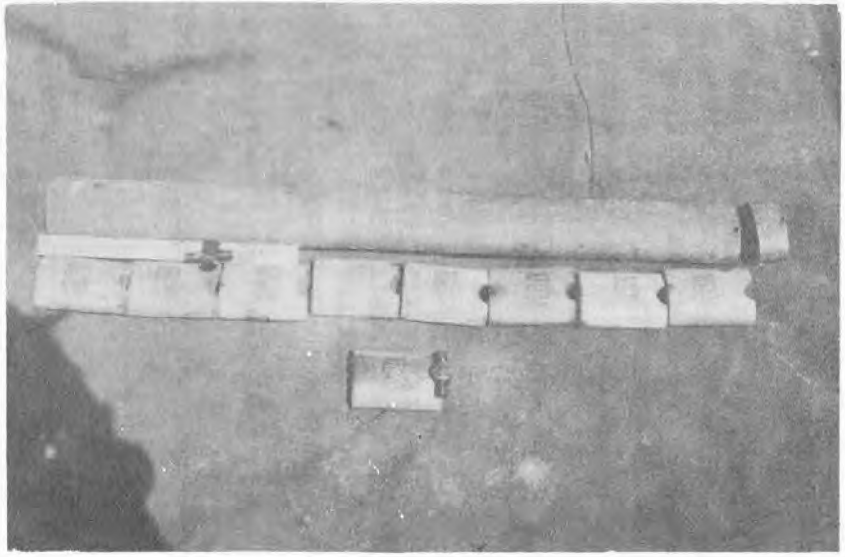
GENERAL DESCRIPTION: Circular, 4 3/8" in diameter, 1½" thick, four magnets equally spaced on outer edge. Fuze contains a percussion cap, a 5-6 second delay pellet and detonator. The mine is sometimes carried in a specially designed canvas pouch. Fitted to inside of pouch is a metal cylindrical fuze container. When carried in the pouch, a wooden plug is inserted in the fuze opening.

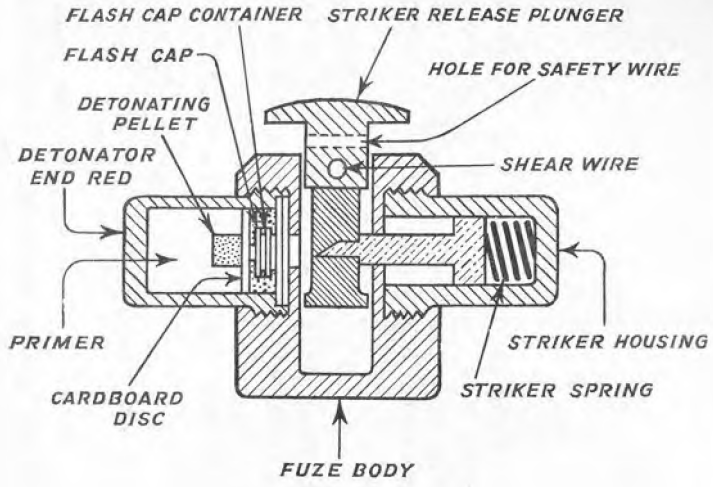
FUNCTIONING: Mine placed in contact with object under attack and clings to object by means of magnets. Pressure on end of fuze depresses plunger, releasing steel balls into groove in sliding cap. Striker fires percussion cap, igniting delay pellet which fires detonator and main charge.

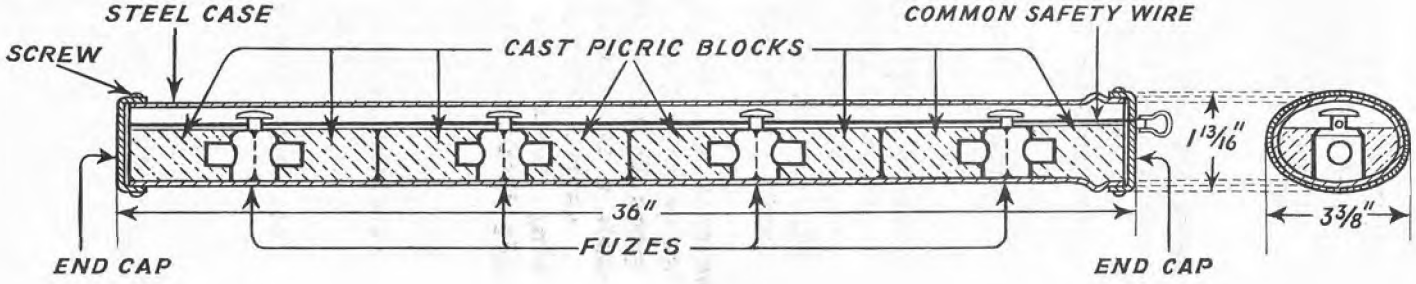
EFFECT: Single mine perforates 3/4" armor; double mine, 1½" armor.

EMPLOYMENT: Used against tanks or other armored objects. Usually two mines are placed together. As anti-personnel, planted in ground on board with fuze upright. Removal of delay pellet permits instantaneous firing.

DISARMING: Insert safety pin. Loosen ring holding fuze in place and remove fuze from main body. Unscrew detonator. If cap has been depressed so that pin holes are covered, it should be treated as a dud.




FLASH CAP CONTAINER
STRIKER RELEASE PLUNGER
FLASH CAP
HOLE FOR SAFETY WIRE
DETONATING PELLET
SHEAR WIRE
DETONATOR END RED
PRIMER
STRIKER HOUSING
CARDBOARD DISC
STRIKER SPRING
FUZE BODY


STEEL CASE
SCREW
CAST PICRIC BLOCKS
COMMON SAFETY WIRE
1 13/16"
36"
FUZES
3 3/8"
END CAP
END CAP

YARDSTICK MINE

COLOR: Olive Drab.

CASE: Steel.

WEIGHT: 10½ lbs.

EXPLOSIVE: 6 lbs. picric acid.

GENERAL DESCRIPTION: Elliptical in cross section, 3 3/8" wide by 1 13/16" high, and 36" long. Caps fit on both ends of container, and one cap has hole through which common safety wire is inserted. Individual shear pins in fuzes. Main charge divided into 8 blocks of explosive, rounded to shape of case on bottom and flat on top. Blocks also moulded on one end to receive fuze. Four pressure type fuzes inserted between the blocks. (Japs may use only 3 fuzes.)

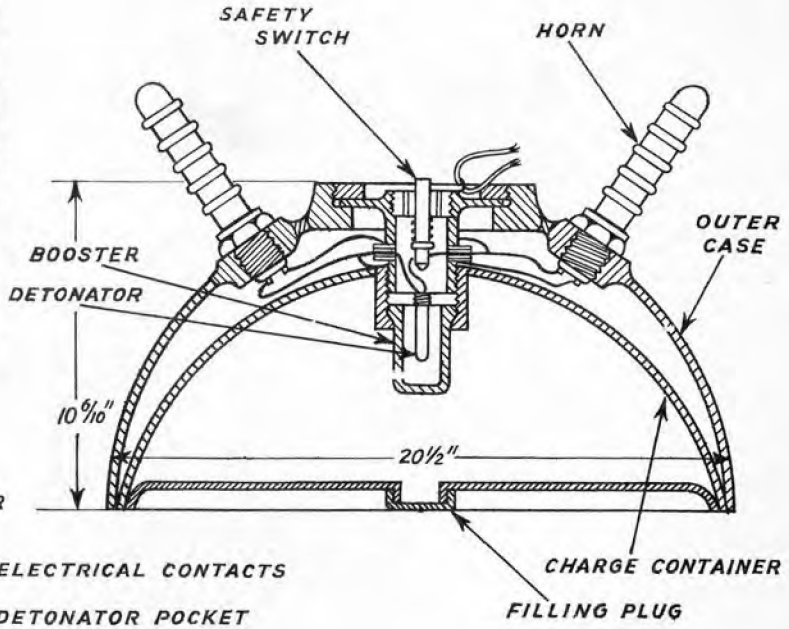
FUNCTIONING: Pressure on top of mine depresses case, which transmits pressure to one of fuzes. Shear wire generally encountered breaks at 300 - 350 lbs. Plunger forced downward, aligning enlarged opening in plunger with firing pin. Spring driven pin travels horizontally through enlarged opening, firing percussion cap, detonator, and main charge.

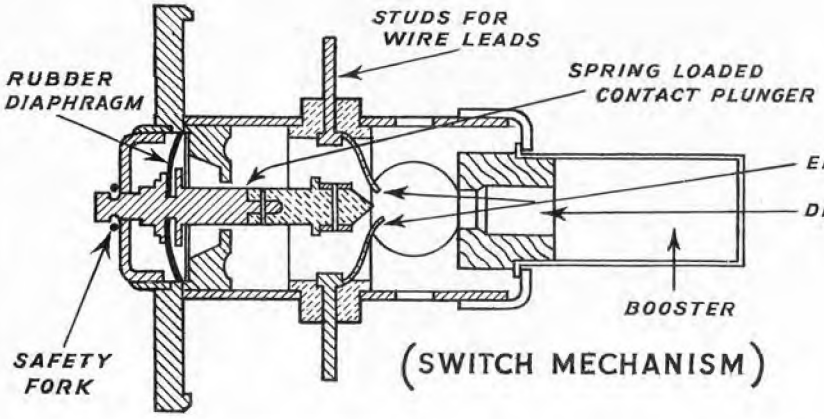
EFFECT: Disables vehicles and tanks.

EMPLOYMENT: Strength of metal case prevents use against personnel. Can be used in minefield against any type vehicle.

DISARMING: Examine for booby traps. Remove both end caps. Gently pushing on explosive blocks at one end, force charge and fuze through opposite end, but do not allow fuze to drop. Place piece of #16 wire through safety pin hole of each fuze. If mine has been deformed so as to indicate that shear wires have been partially cut, detonate in place.







(SWITCH MECHANISM)

ANTI-BOAT MINE #593 (BEACH MINE)

COLOR: Black.

CASE: Steel.

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

EXPLOSIVE: 46.5 lbs., 60% TNT, 40% TNA.

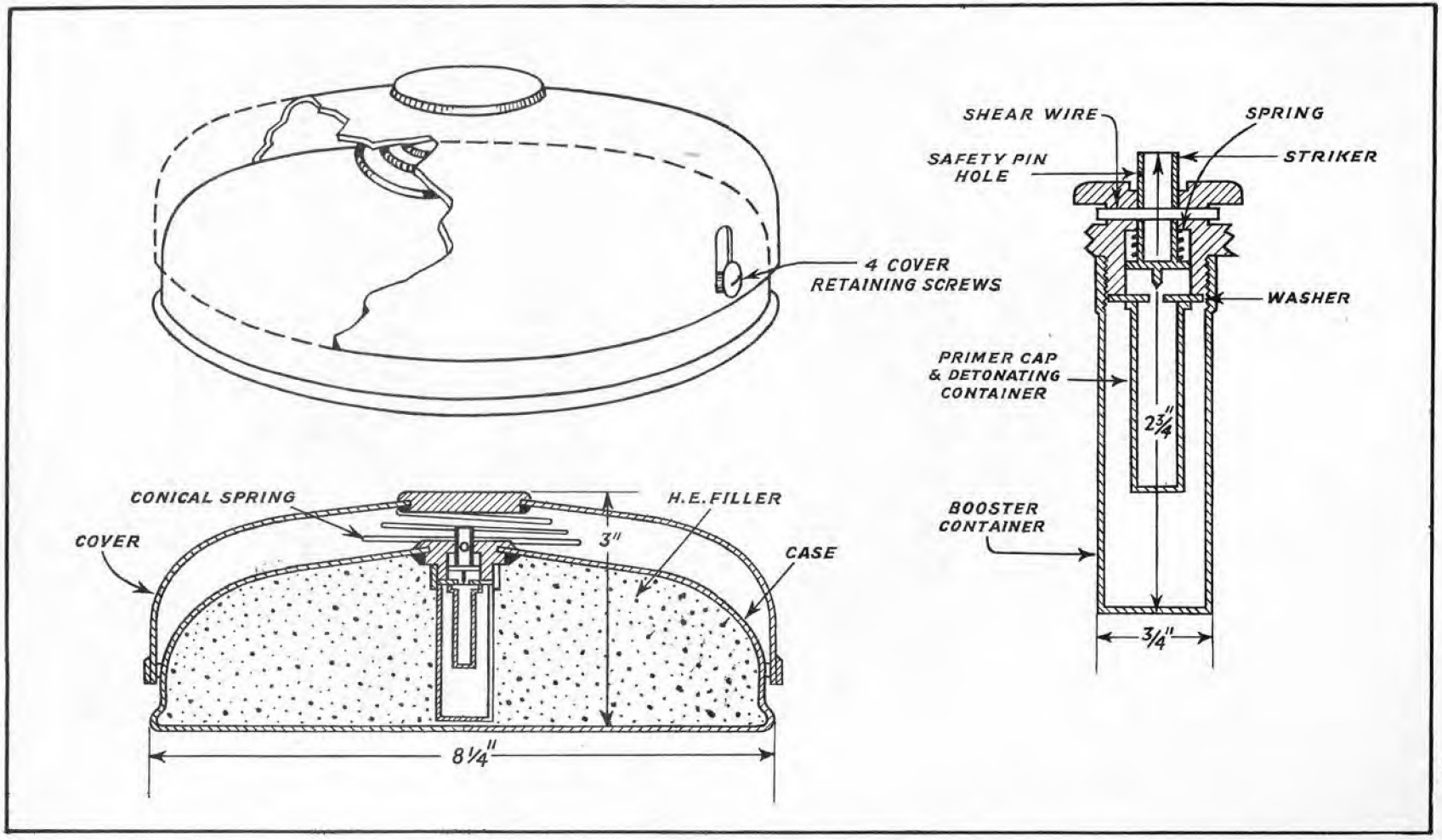
GENERAL DESCRIPTION: Dome-shaped and electrically detonated. Two horns screwed into top contain acid vials. A safety fork snares plunger on top surface of mine, preventing plunger from dropping and closing circuit. Firing mechanism consists of wires contacted by plunger, and battery cup and plates beneath each vial.

FUNCTIONING: 150 lb. pressure applied at right angles to center of either horn crushes acid vial. Acid drops into battery cup, contacting plates and generating electricity to fire detonator, booster, main charge.

EFFECT: Destroys landing craft, tanks, vehicles.

EMPLOYMENT: Has been installed in shallow water, on beaches, and as ordinary land mines.

DISARMING: Insert steel wire into threaded hole in plunger, and with prying motion withdraw plunger upward until improvised safety fork can be placed around safety groove of plunger. Unscrew exploder horns with 2 3/16" wrench (left hand thread). Note that withdrawal of plunger cannot be relied on to break circuit.


4 COVER RETAINING SCREWS
SHEAR WIRE
SPRING
SAFETY PIN HOLE
STRIKER
WASHER
PRIMER CAP & DETONATING CONTAINER
2¾"
BOOSTER CONTAINER
¾"
CONICAL SPRING
H.E. FILLER
COVER
3"
CASE
8¼"

DUTCH ANTI-TANK (MUSHROOM) MINE

COLOR: Olive Drab.

CASE: Sheet steel.

WEIGHT: 9½ lbs.

EXPLOSIVE: 5½ lbs. cast TNT.

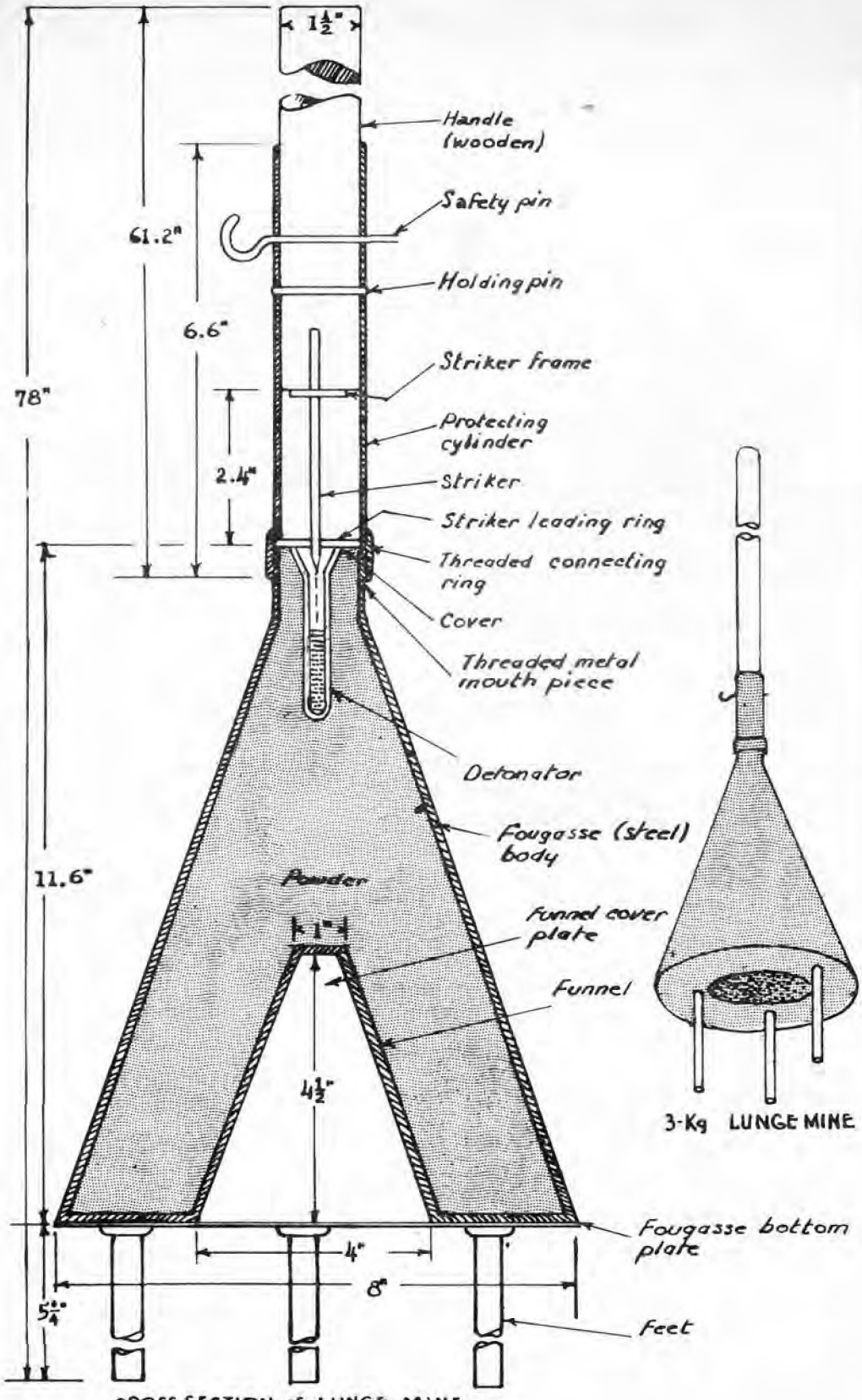
GENERAL DESCRIPTION: Mushroom shaped, 8½" in diameter. Cover suspended over body by helical spring and held in position by 4 screws in wall of body. Pressure type fuze having copper shear wire. Brass pressure cap screws into top center of cover.

FUNCTIONING: Pressure on any part of cover is transmitted by brass pressure cap to striker head. Spring driven striker explodes percussion cap, initiating detonation. As anti-tank, 180-240 lb. pressure required. As anti-personnel, 50 lb. pressure required.

EFFECT: Breaks tank tracks.

EMPLOYMENT: To date encountered only on Guadalcanal, and stocks captured from Dutch may now be exhausted.

DISARMING: Unscrew brass pressure cap without exerting downward pressure. Insert substitute safety pin in safety pin hole, unscrew fuze and remove. Replace pressure cap.



CROSS SECTION of LUNGE MINE
Scale ½" = 1"

LUNGE MINE

COLOR AND CASE: Unpainted Steel.

WEIGHT: 14.3 lbs.

EXPLOSIVE: 6.6 lbs. brownish, powdered charge.

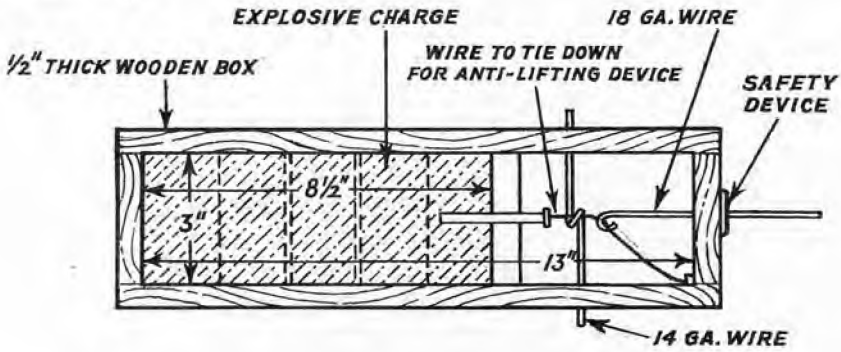
GENERAL DESCRIPTION: The case (fougasse) is conical-shaped. A metal funnel forms a small conical cavity within the case. Three legs, attached to the bottom surface of the mine keeps a distance of approximately 5" between the object under attack and the explosive charge at the moment of detonation. The detonator is inserted in the top part of the mine. A wooden handle, almost 5' long, screws into the top part of the case and contains a striker, safety pin and holding pin.

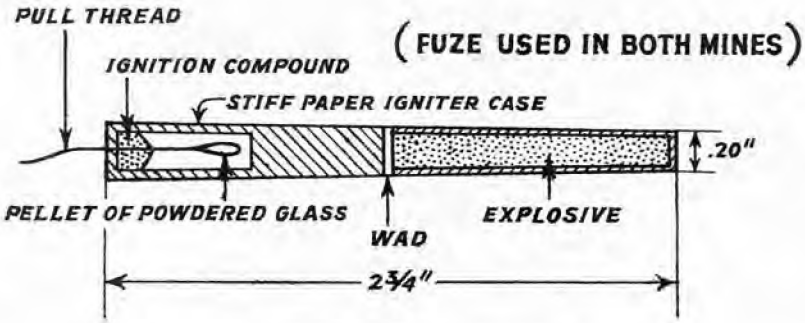
FUNCTIONING: Handle is attached to case. Safety pin is pulled. Soldier lunges forward at object with mine in a manner similar to a bayonet thrust. If object is struck with sufficient force, holding pin is cut, allowing striker to hit assembly. It is designed for suicide attack.

EFFECT: According to Jap document, capable of piercing 4" armor.

EMPLOYMENT: Has been used on Leyte, but so far unsuccessfully.

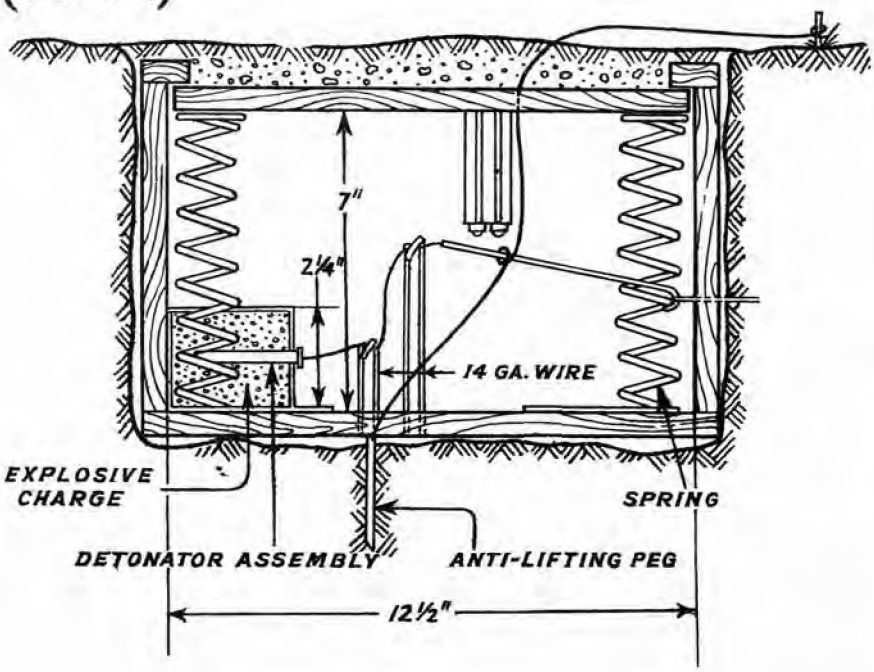
(TYPE 1)





(FUZE USED IN BOTH MINES)

(TYPE 2)



WOODEN BOX MINE
TYPE I

COLOR: Varied.

CASE: Wood.

WEIGHT: Unknown.

EXPLOSIVE: Approximately 3½ lbs. picric acid.

GENERAL DESCRIPTION: Wooden box, 13" x 3" x 2½". Trip wire attached to firing rod, which protrudes through hole in side of box. Rod hooks around thread which is attached to friction igniter at one end and anti-lifting device at other end.

FUNCTIONING: Pull on trip wire or lifting of mine initiates detonation.

EFFECT: Anti-personnel and light anti-tank mine.

EMPLOYMENT: Only reported used against the Chinese.

DISARMING: Search thoroughly for anti-lifting device and all possible wires or threads leading from box. Carefully detach such wires. Wedge rod firmly in place where it emerges from box. Open box in place and remove friction igniter and detonator.

WOODEN BOX MINE
TYPE II

COLOR: Varied.

CASE: Wood.

WEIGHT: Unknown.

EXPLOSIVE: Approximately 2 lbs. picric acid.

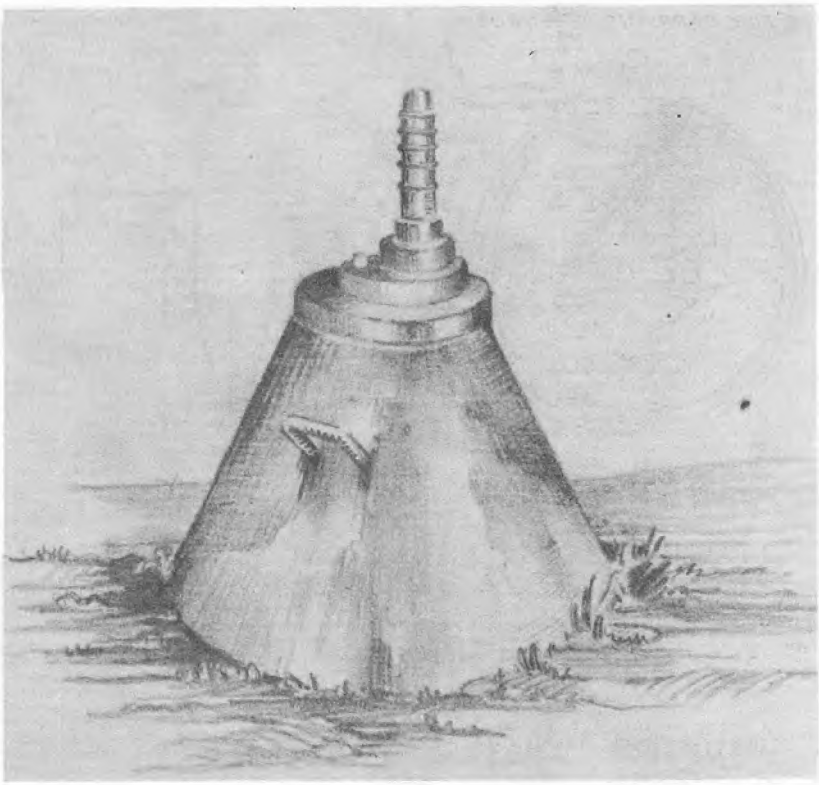
GENERAL DESCRIPTION: 12½" x 9" x 7". Lid kept in place by means of springs at each corner, pressing it against flanged top. Wooden block on under-surface of lid. Firing rod suspended in air at one end by attachment to side of box, at other end by thread attached to friction igniter and strung through pulley system. Trip wire attached to rod emerges from top of box. Other end of trip wire emerges from bottom of box and is attached to peg in ground.

FUNCTIONING: Pressure on lid applied to rod by wooden block exerts pull on friction igniter by means of thread. Pull on trip wire similarly initiates detonation. Anti-lifting device detonates if box is moved.

EFFECT: Unknown.

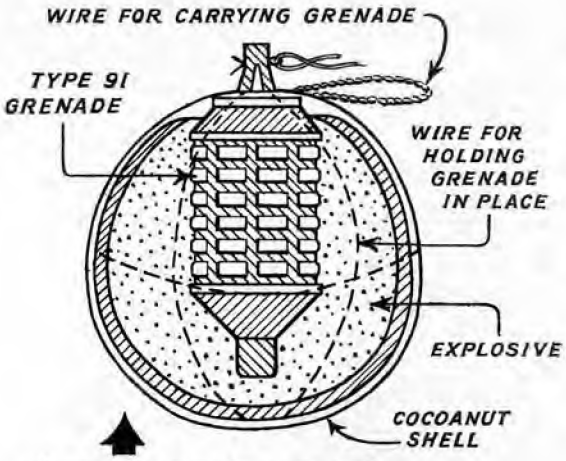
EMPLOYMENT: Only reported use against Chinese.

DISARMING: Similar to Type I except care must be exerted not to apply pressure on lid.

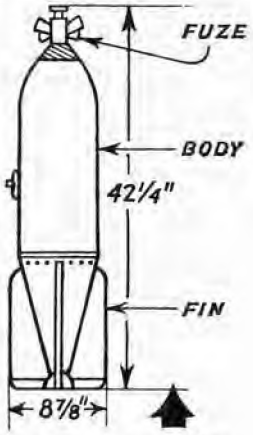


CONICAL ANTI-BOAT MINE

Full details concerning the mine are not yet available. It is conical in shape, 10½" high, 14½" in diameter at base. A single horn containing an acid vial screws into the top, and the electric firing mechanism is similar to the two-horned, hemispherical anti-boat mine (see pp. 10-11). It was discovered in the Gilberts, Marshalls and Saipan. At Saipan, it was used widely as a land mine, particularly at street intersections in the town of Garapan.



(COCOANUT MINE)



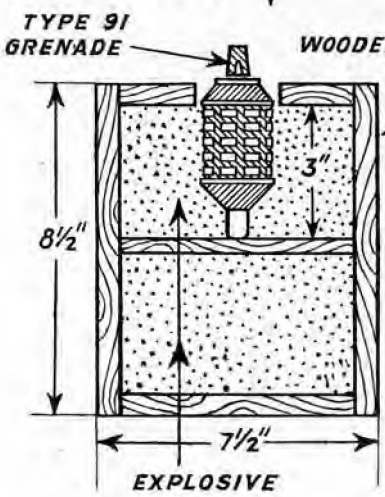
(63 Kg MINE)

(MORTOR GRENADE)

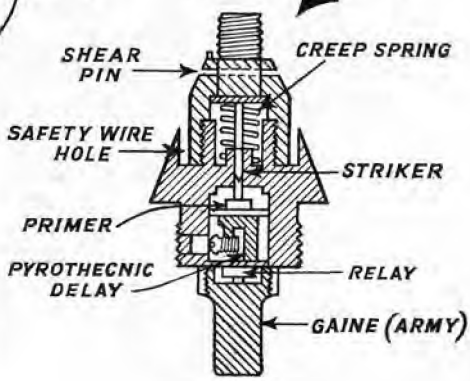


TYPE 91

(BOX MINE)



(FUZE A-2a)



IMPROVISED MINES

The Japanese are adept at the art of improvisation. Following are listed the more important expedients used.

1. Wooden box with hand grenade. Box filled with explosive detonated by pressure type grenade that may or may not have delay train. Used previously and recently found on Leyte. Also detonated by electric cap.

2. Coconut mine. Shell of coconut filled with black powder and detonated by grenade.

3. Aerial Bombs. Various sizes used, ranging upward from 30 KG. Usually buried in ground nose up. Various types of pressure fuzes used. Air strips frequently mined with them. If no evidence of blast or pressure is present, the fuze may be unscrewed from the bomb.

NOTE: Be suspicious. Explosives may be contained in any type of wrapping or encasement and various types of fuses may be easily attached.

JAPANESE MINEFIELDS

Unlike the Germans, the Japanese have not yet resorted to a prolific use of mines. As a result, few mine fields have been discovered and fewer still have had any definite pattern. But they have the mines and captured documents show they have a doctrine that teaches the extensive employment of mines. The future may reveal the Japs making a practical application of this doctrine.

To date, mines have been more a harassment than an obstacle. Favorite sites have been roads, particularly along the shoulders; air strips; beaches. A minefield, consisting of aerial bombs buried in the ground, nose pointing upward, was discovered on Tacloban airstrip, Leyte, and it had a definite pattern. They were laid in rows of three directly down the center of the strip.

MINEFIELD BREACHING PROCEDURE WITH ELECTRO-MAGNETIC DETECTORS
(For details, cf. FM 5-31)

Objective: To clear a lane 16 yards wide.

1. Advance Party.

1 O, 1 NCO, 3 EM equipped with lensatic compass, stakes, marking lights. Selects breach location, with detector proceeds through field, locates outer limit, locates guide stakes or lights along center line of lane, locates cross tapes.

2. No. 1 Party.

1 NCO, 9 EM with 3 electric detectors, tape, mine markers, compass, nails, pliers. Three men at eight-yard spacings, center man on line marked by advance Party, proceed forward, using detectors to check ground on immediate respective fronts. Each of three men followed by man laying tape, investigating, marking and disarming located mines, cutting trip wires. NCO follows in rear, runner behind him. Two men in reserve at base line. On completion, Party returns and may become Detector Party.

3. No. 2 Party.

1 NCO, 9 EM, with three detectors, mine markers, wire. Gives No. 1 Party a 15-yard lead and advances in right-hand, eight-yard lane. Three men with detectors sweep lane, working in 15-yard, echeloned intervals. One man follows each of three, marking mines found and switching places at 20-minute intervals. Two men follow and disarm and remove, or pull by 50-yard wire, the marked mines. Ninth man is runner accompanying NCO.

4. No. 3 Party.

1 NCO, 9 EM, with three detectors, mine markers, and wire. When ordered, proceeds up center line to first cross tape and works forward on right-hand lane, using same procedure as No. 2 Party. When finished, withdraws down center line to first cross tape and clears left-hand lane forward. Left-hand lane from base line to first cross tape may be cleared by No. 2 Party, or by No. 1 Party when its initial task is completed.

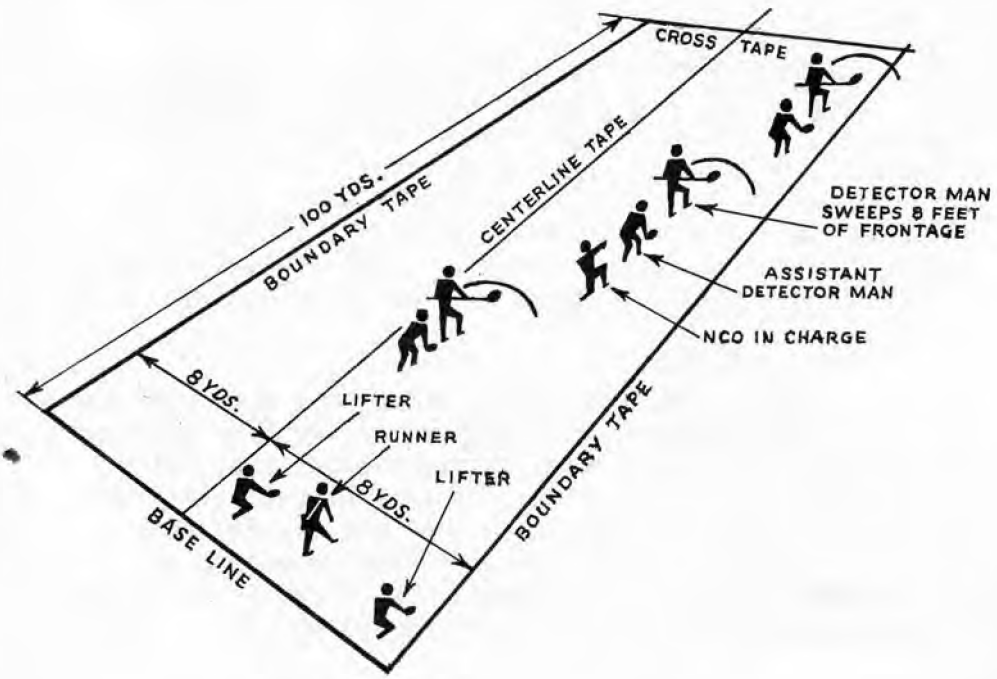
5. **No. 5 Party.**

1 NCO, 9 EM. Replaces casualties, erects lane markers, checks approaches to lane for mines, maintains communications.

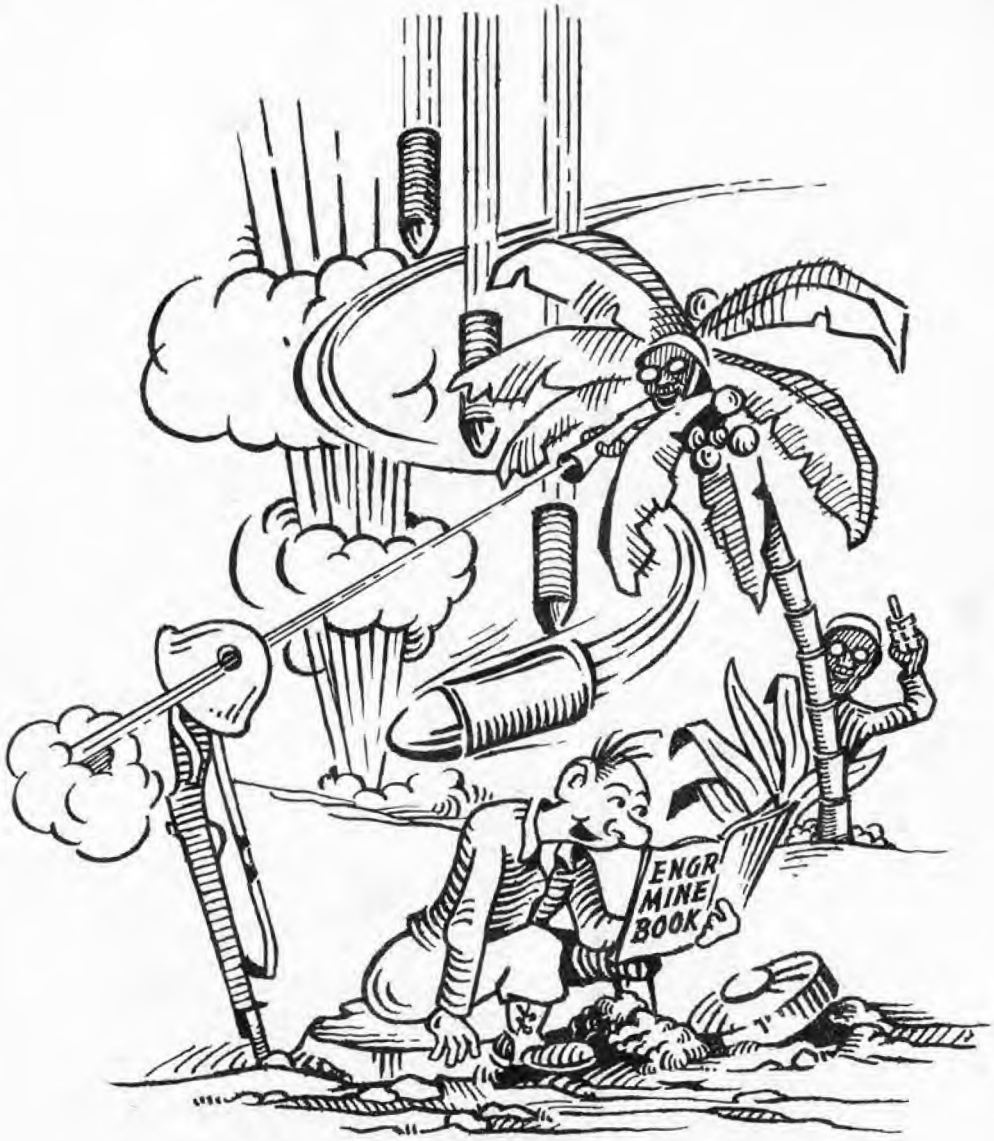
6. **Summary.**

The 16-yard lane is divided into segments, eight yards wide, bounded by longitudinal lines (center line and two boundary lines) and cross tape lines. Detector teams work simultaneously in different segments. (See sketch.)

Note: If non-metallic mines are encountered, mines must be detected by probing with bayonet. More men must be used because a man can probe only a three-foot width whereas a mine detector operator can cover a three-yard width.



A ENGR (11)



"Carefully examine for Booby Traps,
Insert Safety Pin . . . . . "