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INTELLIGENCE REPORT

ON

JAPANESE CHEMICAL WARFARE

268083

Volume V

Part H

JAPANESE CHEMICAL WARFARE

EQUIPMENT AND MATERIEL

Office of the Chief Chemical Officer

GHQ, AFPAC

APO 500

TOKYO, JAPAN

15 May 1946

Instructors Reading this Document

(Title No. _____)

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OFFICE OF THE CHIEF CHEMICAL OFFICER

GENERAL HEADQUARTERS, ARMY FORCES, PACIFIC

TOKYO, JAPAN

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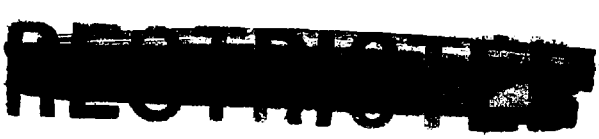
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F.) JAPANESE FLAMETHROWING EQUIPMENT

Although the Japanese considered the flamethrower an effective weapon and concentrated on it during the early development of their war machine, they rapidly fell behind during the war years. The two mechanized flamethrowers reported here illustrate that. After they completed the "Five-gun Flamethrowing Tank", little more was accomplished other than the experimental installation of flamethrowers in the Type 97 Medium Tank. Perhaps that could be accounted for by the shortage of vital materiels and the fact that they may not have succeded in producing an effective long range fuel.

When the reports were written, it was kept in mind that their purpose was to familiarize the reader enough to facilitate identification, and not to explain the operation. In most cases, theory of operation discovered through inspection was offered but as many components were missing, the explanations are incomplete. Ignition systems in particular were vague, and the different principles in each model showed that the Japanese were dissatisfied with their previous methods of ignition. No tests were made to determine the performance of the flamethrowers but the design and construction limits their effectiveness as being considerably under the standard U.S. models.

The above considerations are made on the basis of the equipment covered in these reports coupled with field team notes and documentary evidence and are not necessarily final for Japanese Flamethrower equipment.



201-TANK, FLAMETHROWER, 5-GUN MOUNT

Specifications:

Overall: Length: 15 ft. 10 in.
Width: 7 ft. 3 in.
Height: 5 ft. 4 in.
Clearance: 1 ft. 3 in.

Armor: Front: 1 in.
Side: 3/4 in.
Rear and Engine cover: ½ in.
Top: ¼ in.

Armament: Flame Throwers: Flamethrower Gun, Tank Mounted
Type 96 - 3 each
Type 97 - 2 each
Machine Gun:
Type 97 7.7 mm: - 1 each
Engine: 6 cylinder, air-cooled, overhead-valve, Diesel.
Steering: Clutch brake and epicyclic
Transmission: 5 forward speeds

Suspension: Track:
Ground contact: 10 ft. 10 in.
Width: 11½ in.
Pitch: 6 in.
Bogies: 12 in. diameter
Rear Sprocket: 27 in. outer diameter, 24 cogs
Front Idler: 24 in. diameter
Distance between Sprocket and Idler: 17 ft. 9 in.
Return Rollers: 10 in. diameter

Description: The Five-gun, Flame Throwing Tank is a full-track, low silhouette, armored vehicle. Its suspension system on each side, consists of four pair of dual bogies, resisted by two dual thirteen-leaf springs, and two, dual, rubber tired return rollers. The vehicle is powered by a large, air-cooled Diesel engine, mounted to the right and center of the hull, leaving a narrow passage to permit movement to the rear compartment. A distinguishing feature of this tank is its flat deck, broken only by a short cupola. This tower-like structure on the forwar deck, about 22 inches in diameter and 8 inches high, has a hinged hatch and four vision slits around its periphery. Another characteristic are the power winch in the rear and a series of pulleys along both sides; apparently this vehicle was also used for towing and removing obstacles. Normally the tank carries a four man crew.

Armament on this tank consists of a machine gun, ball mounted in the center-front, and the five flamethrowers. The machine gun and a Flamethrower Gun, Type 96 mounted in the right-front are operated by the forward gunner. Directly behind him, a side-gunner handles two flamethrowers, a Type 96, firing at a 45 degree angle to the tanks line of travel and a Type 97 (Pistol), behind the other gun, firing to the side. Behind the driver on the left, the other side gunner operates two identical weapons. The Type 97 gun on the left is mounted 45 degrees from the rear instead of to the side. All the flamethrowers are ball mounted.

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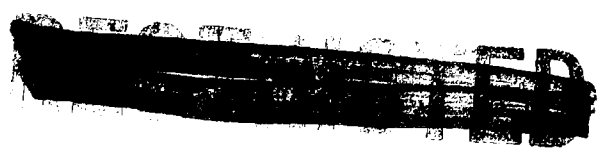
The fuel tanks are located in the rear of the hull. The flamethrower fuel tank, on the right, holds 75 gals. Adjoining on the left, is the motor fuel tank having a capacity of 35 gallons. If necessary, the flamethrower fuel can be cut in for the operation of the diesel engine. The flamethrower fuel drains to a pressure pump under the engine which forces the fuel to the five flamethrowers. There is a fuel tap, near the floor of the tank, for each gun. The fuel hoses, connected to each flamethrower gun, screw on these taps.

Electricity for the ignition system of the flamethrowers is supplied by storage batteries under the forward gunner's seat Wires from this battery run to outlet sockets on the bulkhead, near each gun.

Performance: No tests were made to determine the effectiveness of this vehicle. Its speedometer range of 25 miles per hour indicates a top speed somewhat under that.

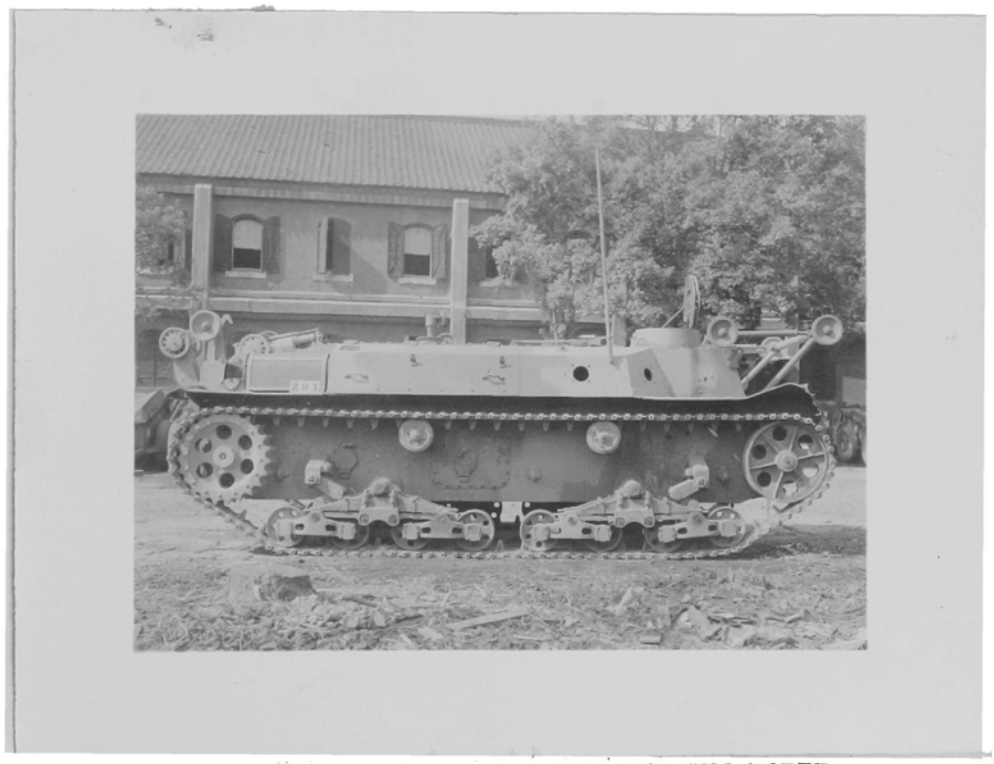
Remarks: Sources of reference for this report are listed below. Nos. 1 and 2 supplied majority of information.

1. "Japanese Mechanized Flamethrower", Field Technical Report of CWTI Team No. 6, dated 18 July 1945.
2. CW Intelligence Digest No. 12, dated 11 July, 1945.
3. "Japanese Tank and Antitank Warfare" Military Intelligence Division, WD, dated 1 August 1945.
4. "Intelligence Bulletin", Military Intelligence Division, WD, dated September 1945.





TOP FRONT VIEW-SHOWS 2FRONT GUN PORTS



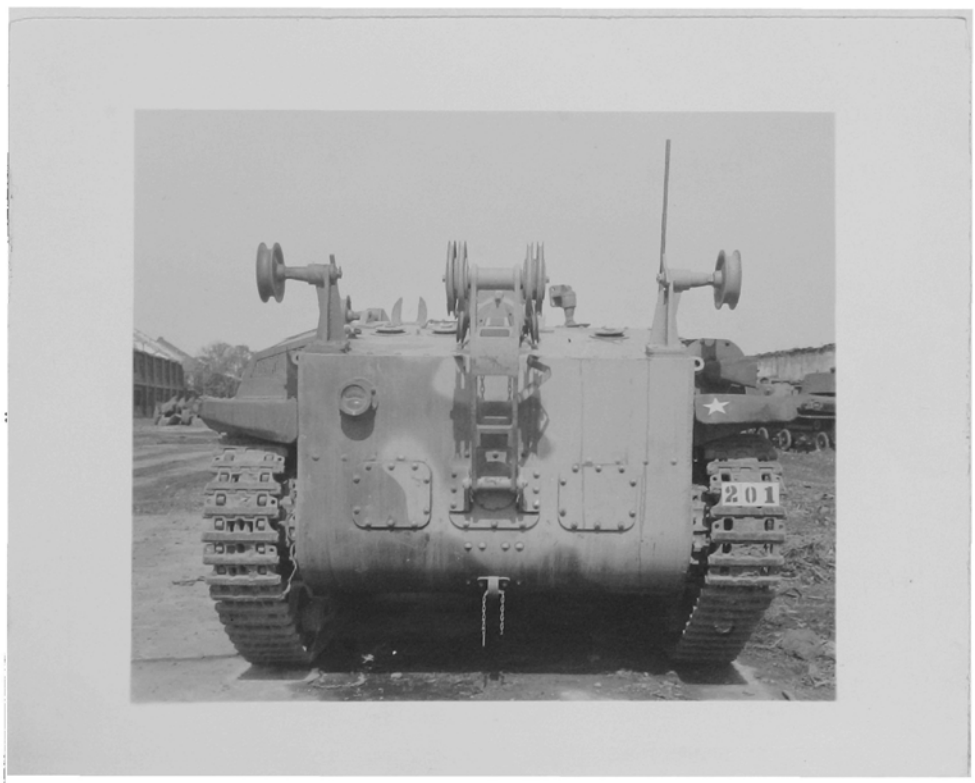
SIDE (RIGHT)VIEW-SHOWING TWO GUN PORTS

201-TANK, FLAMETHROWER, 5 GUN MOUNT

[redacted]



LEFT REAR VIEW-SHOWING LEFT REAR GUN PORT



REAR VIEW

201-TANK, FLAMETHROWER, 5GUN MOUNT

608-FLAMETHROWER EQUIPMENT FOR TANK, FLAMETHROWER, 5-GUN MOUNT

General:

Color:	Dark Brown
Markings:	Japanese characters in white on the lid.
Components:	Box No. 1 & Box No. 2.
Dimensions: (of each box)	Length - 47⅛" Width - 12" Height - 12"

Description: The two boxes, constructed of wood, are identical in outward appearances. All edges of the boxes are reinforced with metal strips. The tops are hinged and fastened with two hasps and swivel hooks. Inside, the guns are supported on wooden braces. Flamethrower gun accessories lie loosely in the bottom of the boxes.

Contents:

Box No. 1 - Weight 105 lbs.

Flamethrower Gun, Tank Mounted, Type 96	2 each

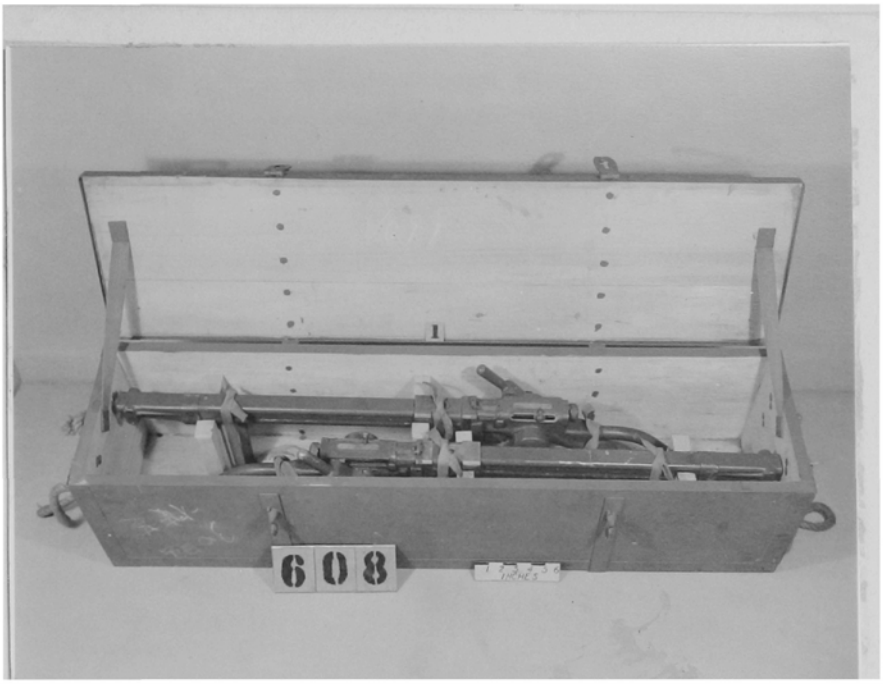
Box No. 2 - Weight 120 lbs.

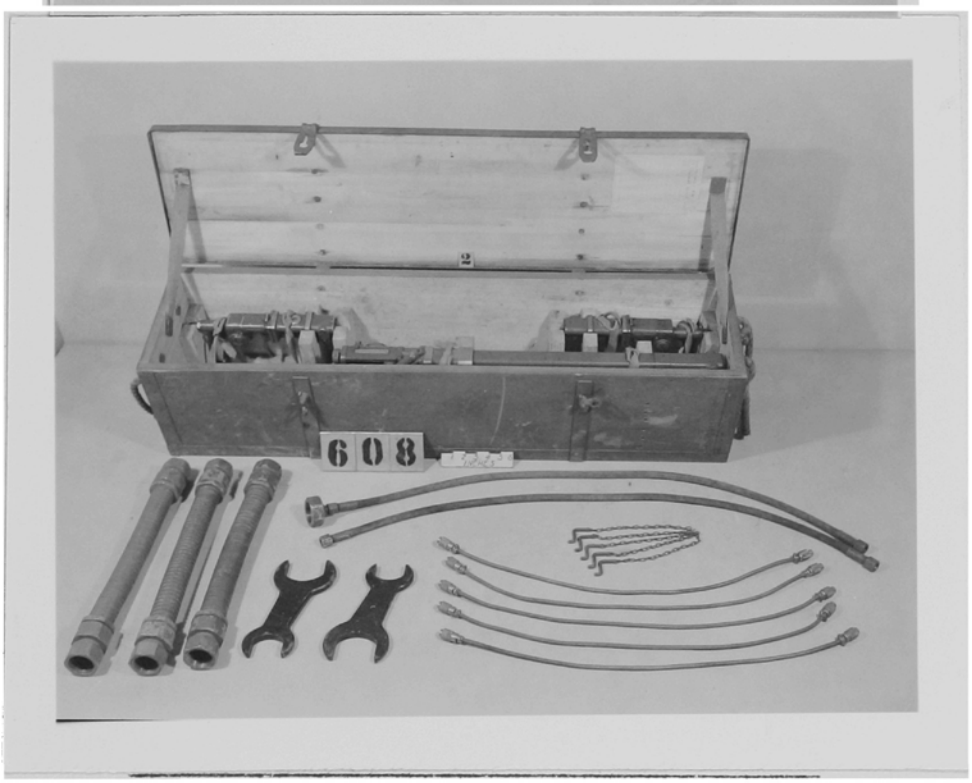
Flamethrower Gun, Tank Mounted, Type 96	1 each
Flamethrower Gun, Tank Mounted, Type 97	2 each
Cable, electrical, 30" long, for flame-throwing guns	5 each
Brush, cleaning, 30" long	1 each
Hose, fuel, metal, flexible, 1-3/4" diam. x 21" long, for type 96 flamethrowing gun	3 each
Hose, fuel, rubber, 5/8" diam. x 46" long for type 97 flamethrowing gun.	2 each
Wrench, Allen, hexagonal ¼" (For set-screw in ball mount)	5 each
Wrench, 15° offset, open end, 2-1/8" and 2-3/4".	2 each

Remarks: These two boxes contain all the equipment necessary install the flamethrowers on the Tank Flamethrower 5-Gun Mount. The tank and the two type guns are described in detail in three seperate reports.

Reference:

Tank, Flamethrower, 5-gun mount (Item No. 201)
Flamethrower Gun, Tank Mounted, Type 96 (Item No. 608A)
Flamethrower Gun, Tank Mounted, Type 97 (Item No. 608B)





608-FLAMETHROWER EQUIPMENT FOR T4E1, FLAMETHROWER, 5-GUN MOUNT

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608A-FLAMETHROWER GUN, TANK MOUNTED, TYPE 96

General:

Color:	painted brown
Dimensions:	overall length - 42 inches
	width, barrel - 1½ inches
Weight:	28 lbs.

Description: The type 96 Flamethrower is designed for use on armored vehicles, such as Tank, Flamethrower, 5-Gun Mount. Fuel, fuel pressure, and electricity are all supplied by the vehicle mounting the gun. It embodies a dual, electrically fired cartridge, ignition system.

The mount for this gun is a ball-type, similar to those used with Japanese machine guns. Two flanges around the barrel make a snug fit for the ball. A set-screw secures the flamethrower in place in the ball.

The fuel line attaches to the threaded end of a short length of 1½ inch pipe that extends from the rear of the gun in a downward curve. Fuel pressure is held in the receiver by a cylindrical valve until the trigger lever is pulled to the rear. The trigger lever rotates the cylinder ninety degrees, opening the fuel line. The fuel, under pressure, flows through the barrel and out the nozzle.

All of the components of the ignition system were not available. Electrically fired cartridges obviously supplied the fuel flashing element. Below is the apparent operation of this system.

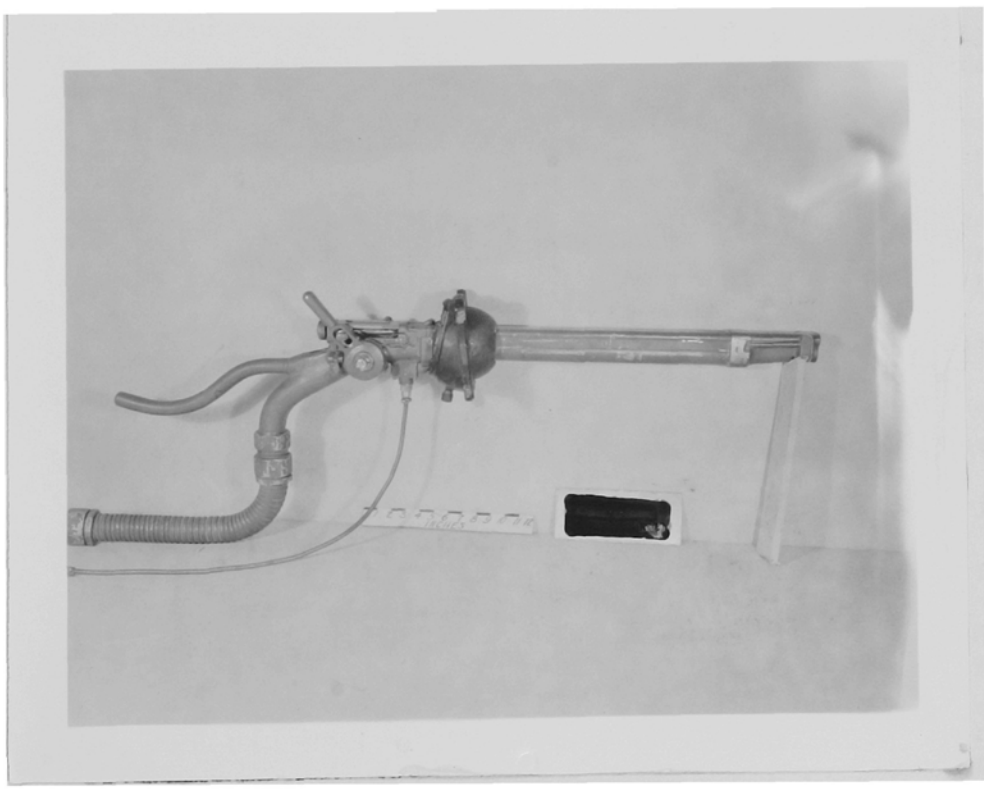
The cartridges are breech loaded. The breech cover swings forward exposing a barrel on each side and a spiral-grooved conveying rod in the center. A lug on each cartridge fits into one of the two grooves on this rod; cartridges loaded in the left barrel fit into one groove; cartridges loaded in the right barrel fit into the other. When the trigger lever is pulled, the conveying rod makes one complete revolution, forcing the cartridges forward. Twenty-five cartridges, each side, can be loaded before the first reaches the firing position. A pointer, geared to the rod, moves over a scale, numerically graded from 0 to 25, indicating the number of cartridges left in the gun.

A screw receptacle, located on the bottom of the gun, forward of the trigger, receives the ignition wires. Two wires run forward to the nozzle of the gun; each connects to a small "ball" contact inside of the cartridge barrels, about one inch from the muzzle. The circuit is complete when the cartridges connect with the contacts and ground the current to the body of the gun. A cut-out in the receptacle prevents the current from firing the cartridges until the trigger is pulled; a cam on the trigger counteracts this spring cut-out to complete the circuit.

All the operations mentioned above are synchronized with the trigger movement. When the trigger lever is pulled to the rear, the fuel is released, the cartridges are forced forward, and the circuit is completed to fire the two cartridges.

Performance: This weapon was not tested for performance. Its principle of ignition appears satisfactory, however a report on an armored vehicle mounting this gun states that it must have proven inefficient. According to this report, an improvised system was employed whereinn wires were extended through the barrel to the gun muzzle, connected to two carbon electrodes. An arc between electrodes when the electrical system was "on" provided the ignition spark for the fuel.

Reference: "Japanese Mechanized Flamethrowers", CWTI Team No. 6 Report, dated 18 June 1945.



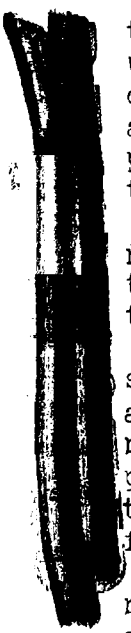
6083-FLAMETHROWER GUN, TANK MOUNTED, TYPE 97

General:

Color: painted brown
Dimensions: overall length - 12-3/4"
height from base of pistol grip to receiver- 6½"
width, receiver - 1-3/4".
Weight: 9.8 lbs.

Description: The Type 97 Flamethrower is a pistol-type gun, designed for use on armored vehicles, such as Tank, Flamethrower, 5-Gun Mount. It embodies an electrically-fired cartridge, ignition system. Fuel, fuel pressure, and electricity are all supplied by the vehicle mounting the flamethrower.

The mount for this gun is a ball-type, similar to those used with Japanese machine guns. Two 3/8" flanges around the barrel make a snug fit in the ball. A set-screw secures the flamethrower in the ball.



The fuel line is attached to a threaded nipple at the rear of the gun. Fuel pressure is exerted in the receiver until the trigger is pulled. The fuel barrel is forced back out of its pressure tight housing by the trigger until two apertures in the barrel move into the receiver. The fuel, under pressure, flows into the receiver, through these holes and out the nozzle of the gun.

All of the components of the ignition system were not available. Electrically fired cartridges obviously supplied the fuel flashing element. Below is the apparent operation of this system.

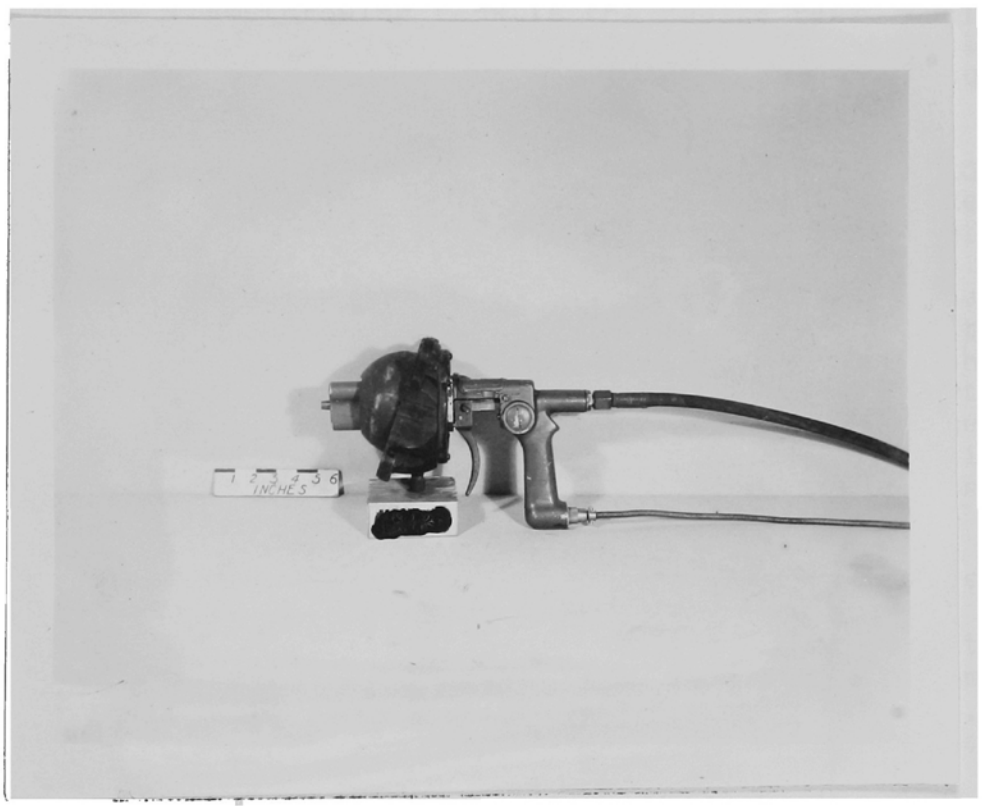
The cartridges are breech loaded. The breech cover swings forward exposing the cartridge barrel in the center and a spiral-grooved conveying rod on the left. A lug on the cartridge fits into the groove on this rod. When the trigger is pulled to the rear, the rod makes a complete revolution, forcing the cartridge forward. Five cartridges can be loaded before the first reaches the firing position.

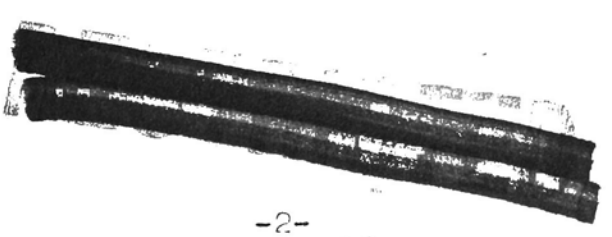
A screw receptacle at the base of the pistol grip receives the ignition wires. One wire runs to a small "ball" contact inside the cartridge barrel, about one inch from the muzzle. The other wire goes to a button underneath the receiver. The circuit is complete when the cartridge carries the current from the "ball" to the conveyer rod, and the trigger, in direct contact with the rod, presses the button.

All the operations mentioned above are synchronized with the trigger movement. When the trigger is pulled to the rear, simultaneously, the fuel is released, the cartridge is forced forward, and the circuit is completed to fire the cartridge

Performance: This weapon could not be tested for performance. Its principle of ignition appears satisfactory, but a report on an armored vehicle mounting this gun states that it must have proven inefficient. According to this report, an improvised system was employed wherein wires were extended through the barrel to the gun muzzle, connected to two carbon electrodes. The arc between the carbon electrodes when electrical system was "on" provided ignition spark for the fuel.

Reference: "Japanese Mechanized Flamethrowers", CWTI Team No. 6 Report dated 18 June 1945.





402-TANK, FLAMETHROWER, EXPERIMENTAL, TYPE 97 (less guns)

Specifications:

Overall:	Length:	18 ft. 2 in.
	Width:	7 ft. 7 in.
	Height:	7 ft. 9 in.
	Clearance:	1 3/4 in.
	Engine:	V-12, air-cooled, overhead-valve, Diesel.
Track:	Ground Contact:	12 ft. 2 in.
	Width:	12 in.
	Pitch:	15 in.

Description: The Type 97 Experimental Flamethrowing Tank is a modified Type 97 Medium Tank mounting two flamethrowers. Its suspension system, engine, and armor are identical with that of the standard tank. The outstanding distinguishing characteristic of the flamethrowing tank is the square rear, built to make room for the two large fuel tanks. The other distinction is that the two flamethrowers have replaced the hull-mounted machine gun.

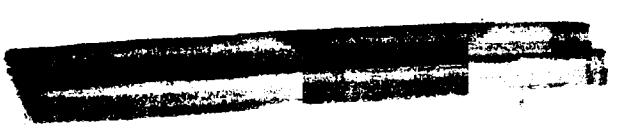
As the tank had been disarmed, this report cannot definitely state what guns the tank mounted. It is evident that the turret guns were the same as those mounted by the Medium Tank, a low-velocity Type 97 57-mm tank gun in the front and a Type 97 7.7-mm machine gun in the rear. It is possible that the 57 was replaced by the newer Type 1 47-mm tank gun. The two flamethrower gun mounts, one on each side, indicate that no previously reported model was used. The mount has one hole near the bottom, about two inches in diameter, two short insulated tubes directly above that hole, and another hole near the top. Apparently this is a simply constructed weapon using a carbon arc for the ignition spark. The gun nozzle probably fit through the bottom hole, the two ignition wires through the tubes, and the top hole was used for vision.

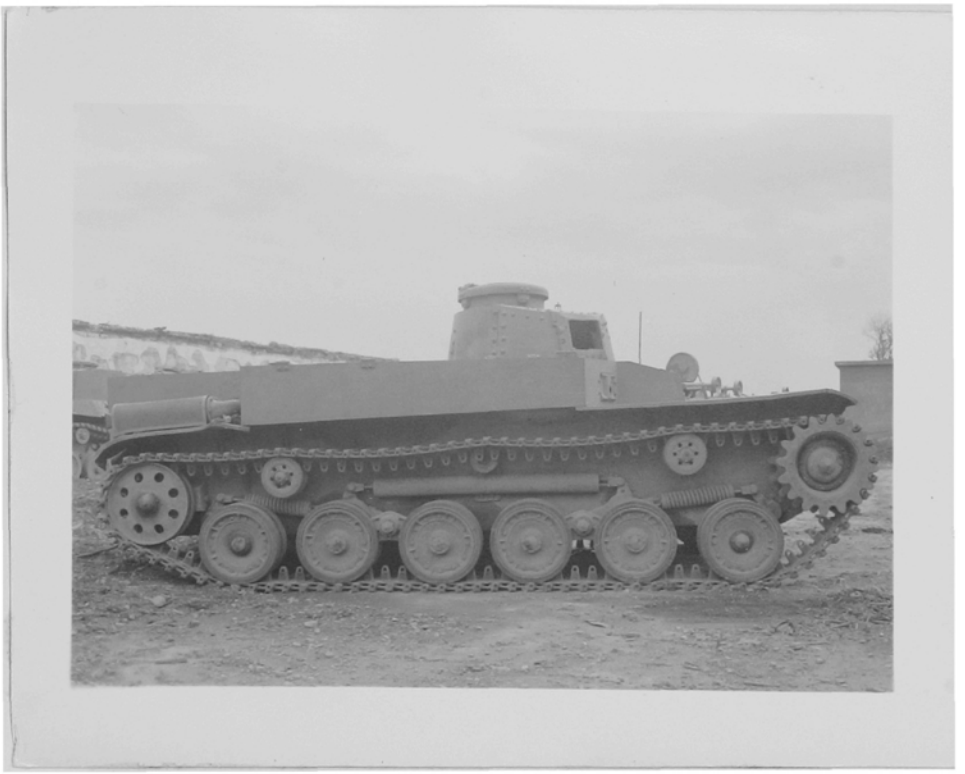
Too many components of the fuel system were missing to permit any definite conclusion as to its operation. The two large fuel tanks in the rear supply both the motor and the flamethrower. A pipe line from each tank leads to a compartment on each side, directly to the rear of the flamethrowers. A cradle and straps inside these compartments are evidence of some type of cylinder. Those are the only parts of the fuel line intact but it probably continued from there to the guns.

Remarks: This tank was reported as an experimental model by the field intelligence teams which located the tank.

Performance: There was no way to determine the effectiveness of this tank.

References: "Japanese Tank and Antitank Warfare" Military Intelligence Division, WD, Special Series No. 34, dated 1 August 1945.





SIDE VIEW



[redacted]

402-TANK, FLAMETHROWER, EXPERIMENTAL, TYPE 97

[redacted]





TOP REAR VIEW
402-TANK, FLAMETHROWER, EXPERIMENTAL, TYPE 97

[redacted]



CLOSE UP OF FLAMETHROWER GUN MOUNT

402-TANK, FLAMETHROWER, EXPERIMENTAL, TYPE 97

G.) VESICANT HANDLING EQUIPMENT

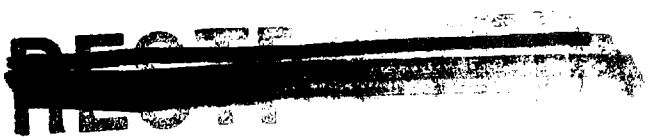
There are numerous vesicant containers in this section. All of these are small units of varying capacities up to 40 gallons. The vesicant containers 30 gal and 40 gal (items 570A and 554 respectively) have been found in use in Naval arsenals for bulk storage of the blister gases. For such use their small size may be a disadvantage. However an advantage gained from the small capacity, ease of handling, as compared to a unit such as the U.S. 1 ton container, might compensate the above disadvantage.

The materials of construction for the vesicant containers include metal (steel), wood and plastic. The numerous wood containers are quite ineffective for bulk storage for long periods. Use of these would be hazardous. The best containers are those made of metal. That the Japanese agreed on this point is shown by their use of the metal type.

The vesicant filling, transferring and spraying equipment is defenitely limited in capacity, however is adapted for field use. Most of these items could be used in defensive operations only as the using personnel would have to be in the area being contaminated while dispersing the agent, making it imperative that the area be under control of friendly forces. Specific examples of items used in this manner are reports numbered 607, 607A and 338.

Airplane spray tanks have been included in this section. Some of these are very likely to be used for smoke spray only, however this fact is not known conclusively. The group of spray tanks found by the Air Technical Intelligence Group (unnumbered spray tanks) are much superior to the other two units reported upon. These latter appear to be obsolete.

There are no markings on most of the items in this section. The few items marked had a yellow band on the body of the unit, the standard marking for blister gas filling.



606-FILLER, VESICANT CONTAINER

General:

Color:	Brown
Markings:	Japanese characters on two small labels.
Dimensions:	34" long, 25"wide, 48" high
Weight:	205 lbs.

Description: The filler is an apparatus, mounted on a metal frame, which in its operation fills a 2-gallon container with a liquid vesicant. The framework, in turn, is mounted on four metal wheels, 9-3/4" diameter, making unit moveable.

The apparatus transfers the vesicant from a large drum to specially designed Containers, Vesicant, 2-Gallon. A long black rubber hose, 1" diameter, is connected to the inlet of a small hand operated pump. The hose has a metal cylinder on its free end which is placed on a vertical metal rod near the frame when not in use, thus securing the hose. When the filler is being used, the hose and cylinder are inserted in the drum by the pump. A valve screw-cock is in the line on both sides of the pump to regulate the amount of flow, and a primer with a funnel opening is attached to the pump. After passing through the pump, the vesicant line travels upward a distance of 12" and goes through a fine wire screen. The screen cover and its clamp lock are removable to enable, cleaning the screen filter. The screen housing is 9½" diameter. The vesicant now flows downward through the outlet and into the container. The outlet operates on a jointed arm which breaks at the joint and enables the outlet to be raised or lowered into the container. A small handle is provided for this purpose. A counter-weight for the outlet and the arm slides up and down one leg of the metal frame. The handle also operates a cut-out valve which is just above the outlet. This valve is so connected that it is open when the outlet is lowered into the container and closed when the outlet is raised. An overflow tube is attached to the outlet. Its opening is into another container.

The 2-gallon containers are placed on a turn table which rests on the bottom of the frame. Places are provided for four containers at one time. Four lever catches stop the turn table after it has gone 90°, each stop placing one of the containers directly under the vesicant outlet. Simultaneously, the next container to be filled is placed to receive any amount of overflow.

A removable canvas cover which covers the unit when not in use, protects the filler.

Remarks: The capacity of the hand operated pump is low, maki it a slow filling operation.

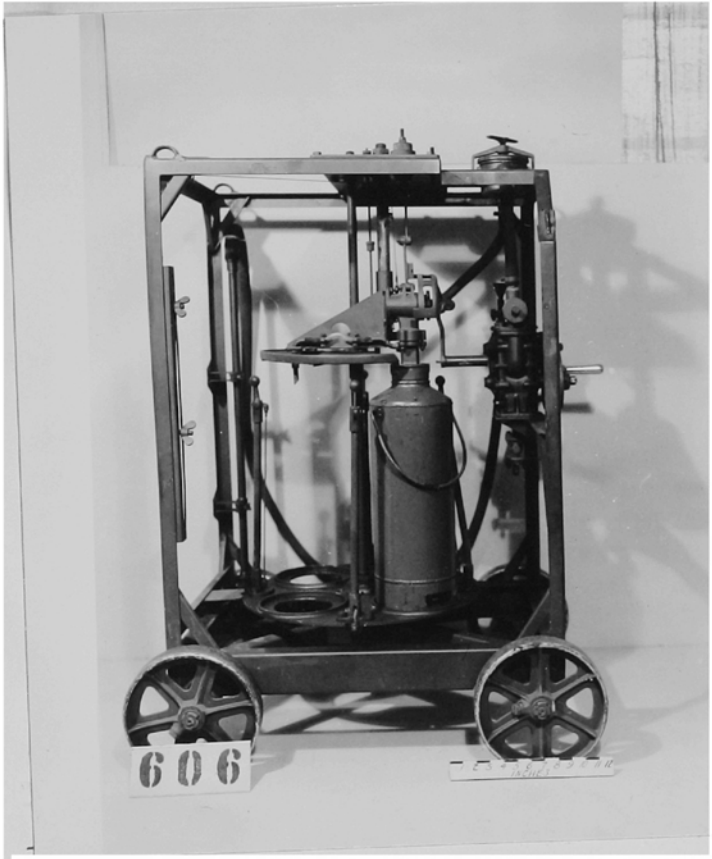


Photo No. 1
Front view

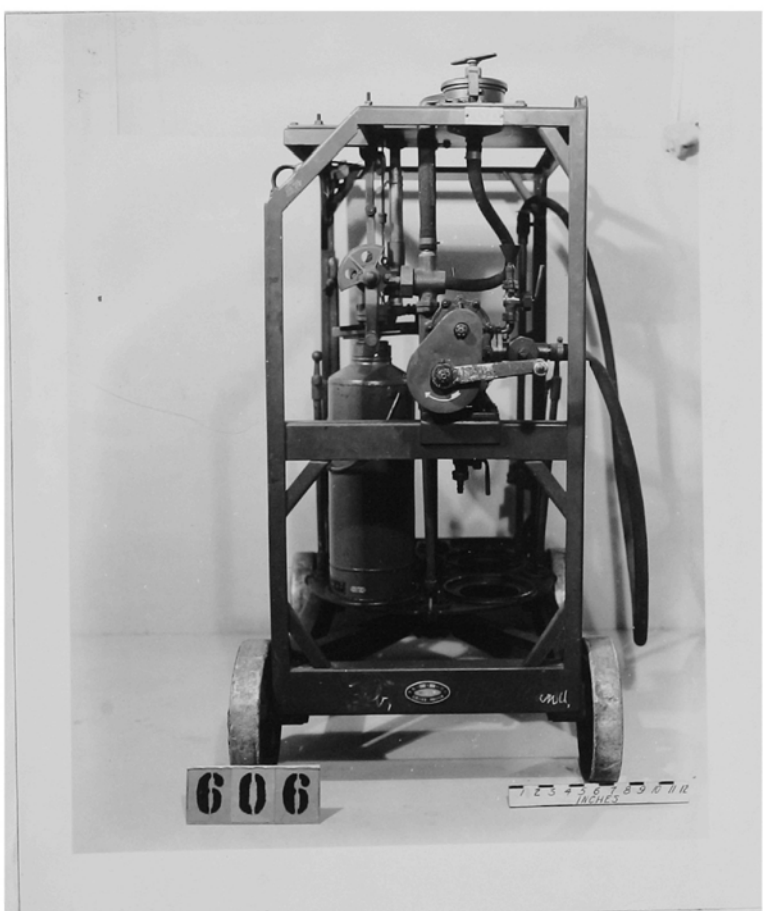


Photo No. 2
End view

606-FILLER, VESICANT CONTAINER

[redacted]

607-CONTAINER, VESICANT, 2-GALLON

General:

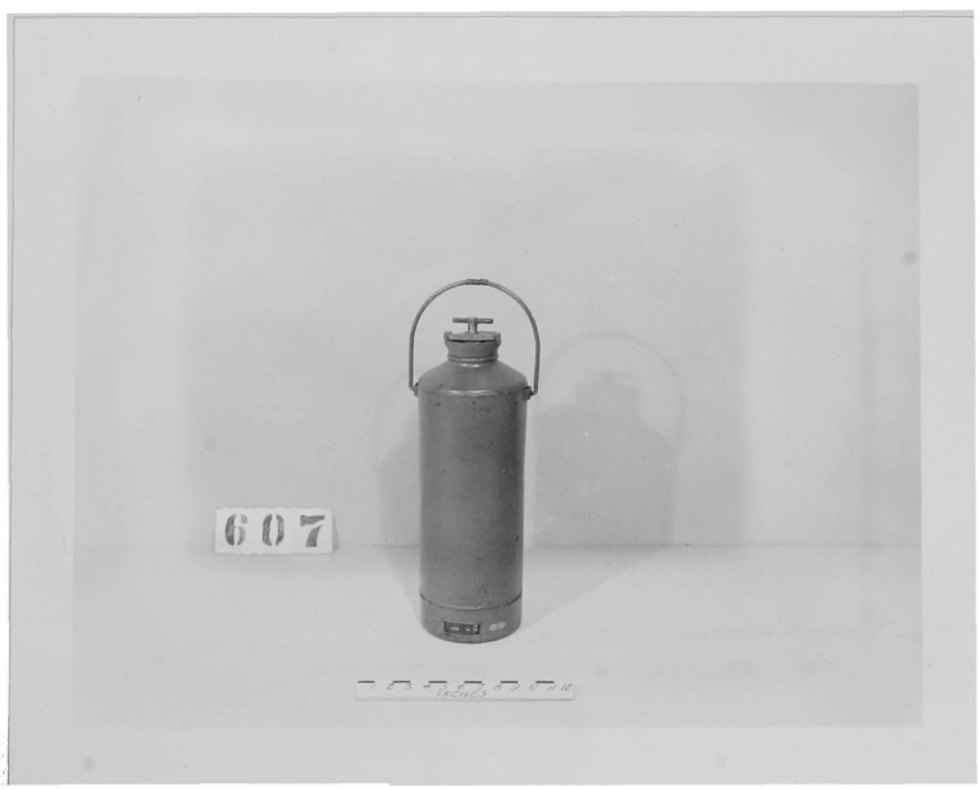
Color:	Brown
Markings:	Japanese characters on two small labels.
Dimensions:	18½" high (excluding handle), 6½" diameter
Weight:	6½ lbs.

Description: The container is made of heavy metal and has a metal rod handle. The handle is fastened near the top of the container and may be turned down to rest against the side when the container is not being carried. The neck of the container is 2-3/4" in diameter (outer housing) and is the seat for a metal cap which seals the container with a turn-buckle lock. A small ring is attached to the side of the container for convenience in holding when it is used as a spraying container.

A cylindrical ring of thin sheet metal is welded to the base of the curved bottom container body. This ring provides a firm base so that the container can be set on a flat surface. There is one rectangular opening in this ring large enough for a hand grip, evidently the use for the opening.

The inside walls of the container have a heavy lacquer finish. This finish provides corrosion resistance to the action of the vesicant filling.

Remarks: This container is used as the receiver for the vesicant transferred by the Filler, Vesicant Container.



607A-SPRAYER, VESICANT, TYPE 95

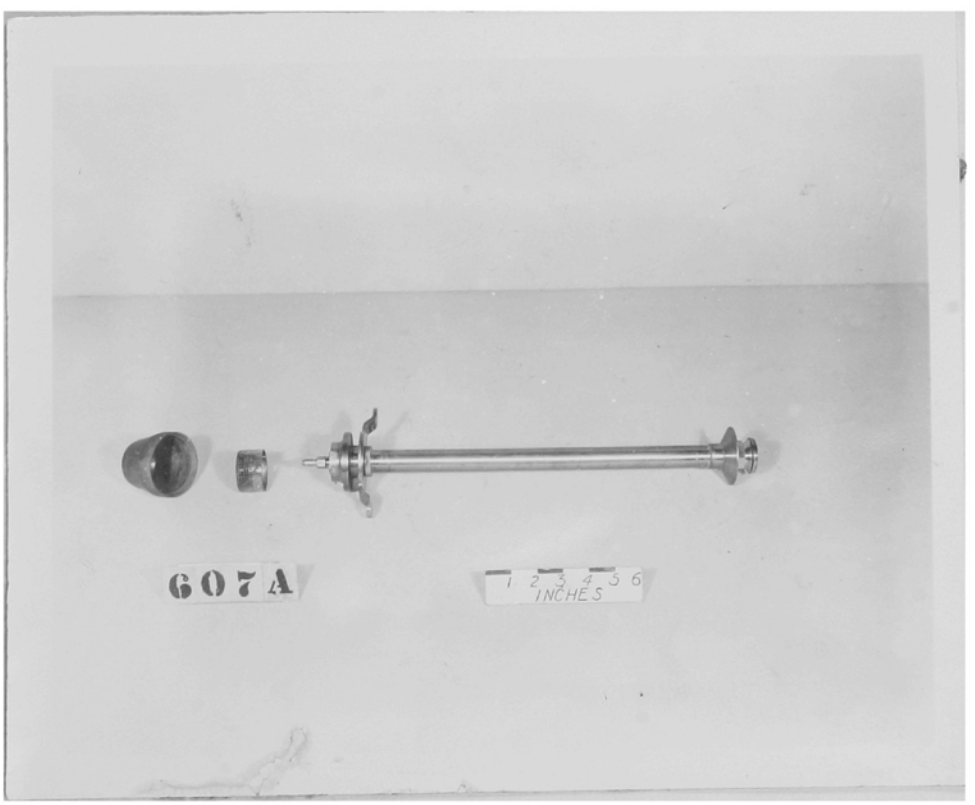
General:

Color:	Brass
Dimensions:	19" long, 1" diameter
Weight:	2-3/4 lbs.

Description: This sprayer is used with Container, Vesicant, 2-Gallon for local dispensing of the vesicant.

The sprayer is made of heavy brass tubing. At one end is a fitting for the opening in the top of the 2 gallon container. This fitting is a cup shaped screen which slides on the sprayer tubing. A black rubber washer is seated around this opening. This end of the sprayer is protected, when not in use, by a removable rubber cap. A brass plate which slides on the sprayer tubing, locks the sprayer in place in the neck of a 2-gallon container. Two brass handles provide a means for turning the locking plate in place.

At the other end of the sprayer is a round, metal nozzle which has one large and three small holes. A large nut which screws on the tubing of the sprayer seats the nozzle in place. A brass guard prevents the vesicant from splashing on the dispensing equipment or the operator.



607B-ACCESSORIES FOR VESICANT SPRAYER, TYPE 95

General:

Color:	Brown
Markings:	Japanese characters in white paint
Contents:	Accessories and spare parts for Sprayer, Vesicant, Type 95.
Dimensions:	22" long, 6⅛" wide, 4⅛" high.
Weight:	31 lbs.

Description: The container is an ordinary metal box. The lid is attached to the box in back with two hinges and in front with a turn-buckle lock. A small oval shaped metal label is riveted to the top of the box. On both ends of the box is a rope handle, pulled through metal slots and knotted.

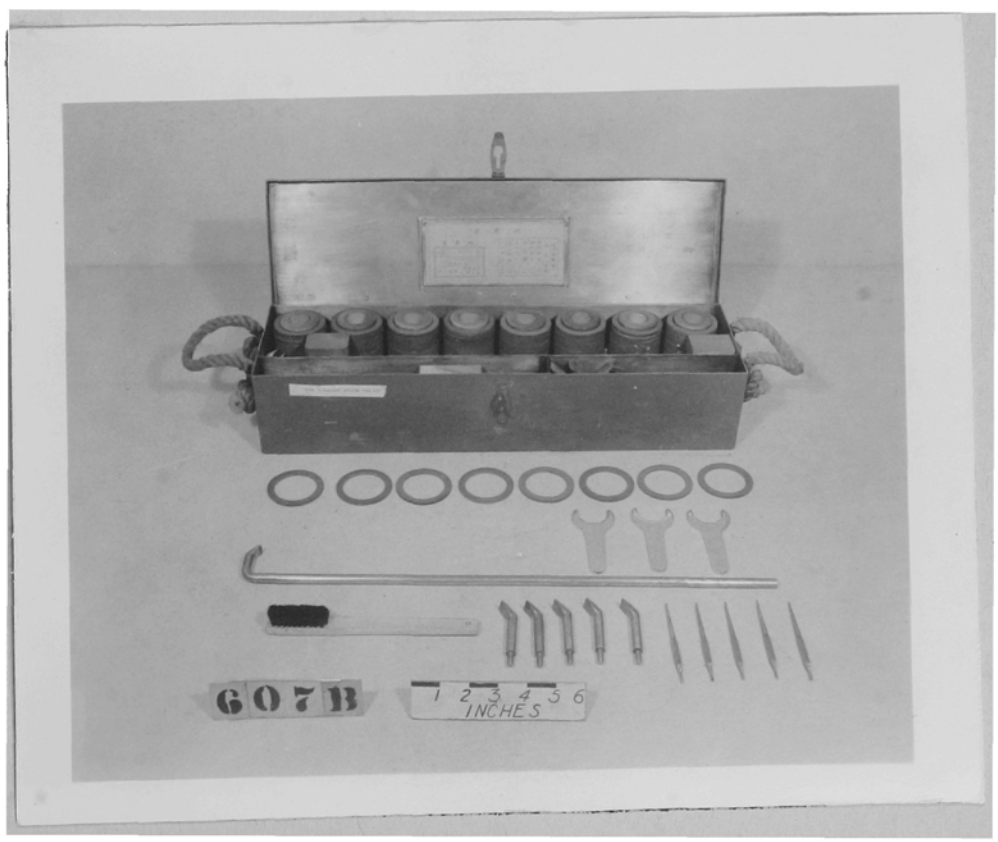
The contents of the box consist of spare parts and equipment used for cleaning the sprayer. The label inside the cover is translated as follows:

Contents:

Cleaning rod A	10 each
Cleaning rod B	10 each
Cleaning stick	10 each
Single Spanner	5 each
Brush	10 each
Rubber washers	264 each

Actual contents agreed with above listing.

Remarks: Enough washers are provided to enable changing a washer each time the sprayer is cleaned. This assures always having a tight fit and reduces the possibility of leaks.



514A-ACCESSORIES, TYPE 100, FOR VESICANT SPRAYER, TYPE 95

General:

Color:	Brown
Markings:	Japanese characters in white paint
Contents:	Accessories and spare parts for vesicant sprayer, type 100.
Dimensions:	20" long, 5" wide, 3-3/4" high
Weight:	15 lbs.

Description: The container is an ordinary metal box. The lid is attached to the box in back with two hinges and in front with a turn-buckle lock. A small oval shaped metal label is riveted to the top of the box. On both ends of the box is a rope handle, pulled through metal slots and knotted.

The contents of the box consist of spare parts and equipment for cleaning the sprayer. The label inside the cover is translated as follows:

Contents:

Cleaning rod A	3 each
Cleaning rod B	3 each
Cleaning stick	3 each
Double spanner	3 each
Brush	3 each
Nozzle cap	88 each
Filter screen	6 each
Rubber washers	75 each

Actual contents agreed with those listed on the label.

Remarks: This box of accessories is probably used in conjunction with the Accessories, Type 95. The Type 100 has a more complete stock of spare parts, though it hasn't as many washers as the type 95.

[redacted]



514A-ACCESSORIES, TYPE 100, FOR VESICANT SPRAYER, TYPE 9[redacted]

[redacted]

605-TRANSFERER, LIQUID, TYPE 97

General:

Color:	Brown
Markings:	Japanese characters in white
Contents:	Liquid transferer, accessories, spare parts
Dimensions:	29" long, 18" wide, 8½" high
Weight:	71 lbs.

Description: The container is a wooden box, reinforced with metal bands. The top is attached to the box in back with two hinges and in front with two turn-clamp locks. On each end of the box is a rope handle, pulled through slots in wooden blocks and knotted. A list of contents is pasted to the inside of the top of the box.

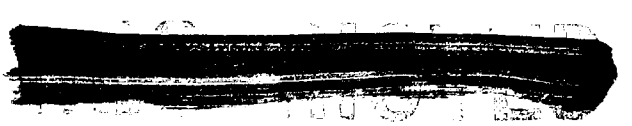
The inside of the container is divided into one large and one small section. The former contains a liquid transferring apparatus. It consists of a bellows, two heavy hoses, and a smaller hose. The bellows is 16" long, 8" wide, and brown in color except for the rubber section which is black. It has a small leg on each side in front and a double leg in back. These and the compressor handle are all made of metal. On the under side of the bellows are its air inlet and outlet valves. The inlet housing valve, 2½" diameter, has a small screen over the opening to the rubber disc which is the valve. The outlet valve has a short threaded extension for receiving a hose connection. The valve housing is 2" diameter.

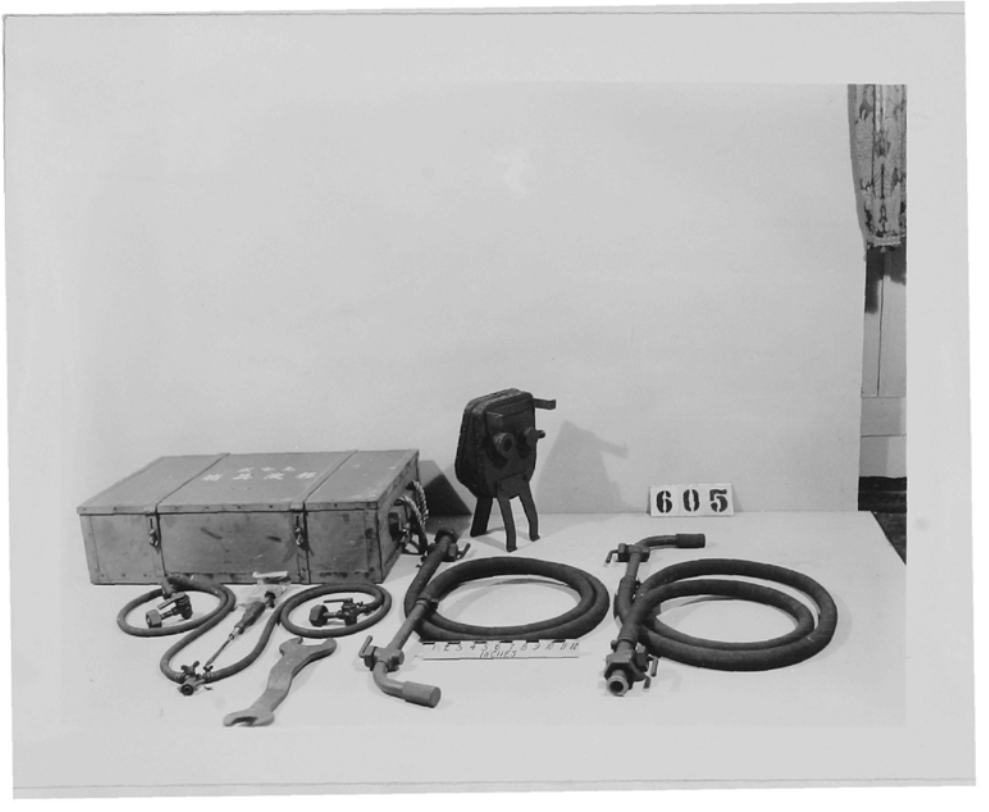
The heavy hoses of black rubber tubing are 104" long and 1¼" diameter. On one end of each hose is a metal nozzle containing a valve for turning on or off. On the other end is a valve with a threaded nut on the end for connecting it to a container.

The small hose consists of two lengths, each 57½" long and 3/4" diameter, joined together by a small metal T-pipe. The T-pipe has a small valve and a connection on the end for screwing onto the air outlet valve of the bellows. The two lengths of hose are of black rubber and on their outer end contain a metal valve with a threaded nut connection.

The small section of the box contains accessories and spare parts including a double spanner, a single spanner, a screw driver, 5 inlet valves for the bellows, 5 outlet valves, and a paper sack containing various size washers. The single spanner and the valves were missing from the unit photographed.

Remarks: This apparatus is comparable to the U.S. vesicant agent transfer apparatus, however very likely to be considerably less efficient. It would be used on vesicant agents and other liquids which would be harmful to personnel handling the material





605-TRANSFERER, LIQUID, TYPE 97

670-VESICANT CONTAINER, 11 GALLON

General:

Color:	Black
Markings:	"No. 2" in yellow
Dimensions:	Height 16 in., Diameter 6.8 in. (at base)
Weight:	11 lbs. (empty)

Description: The container is conical shaped and is made of sheet metal. The top of the container is threaded and is covered with a cap. In the center of the cap there is a threaded extensi which is covered with a small cap which is attached to a small chain that is anchored to the body of the container to prevent losing the cap.

The bottom of the container is cupped and has a hole in the center which is closed by a plug, that is anchored loosely to prevent losing.

A cylindrical piece of metal is welded to the bott which makes a base for the container.

Remarks: This container has an approximate capacity of one gallon.



569-A-VESICANT CONTAINER, 3 GALLON

General:

Color:	Unpainted
Dimensions:	15 in high, 9½ in. diameter
Weight:	11½ lbs. (empty)

Description: The container is a cylinder made of sheet metal, welded longitudinally. The ends are welded to the body. In the center of the top, a threaded adapter is welded, which serves as a filling hole. A reducer is screwed into the adapter. The hole is closed by a threaded plug.

Remarks: This container would not withstand rough handling. It is very possible that this container could be used as a vesicant land mine, however there are no provisions for attachments of a detinating device.
The capacity of this container has been estimated, not checked.



[redacted]

555-VESICANT CONTAINER, 8 GALLON

General:

Color:	Brown
Markings:	Yellow band near top, indicating vesicant; Japanese characters on side.
Components:	Cylinder, tap, inlets, handles.
Dimensions:	12¼ inches diameter, 17-3/4" high.
Weight:	37 lbs. (empty).

Description: The container is made of steel of undetermined thickness with a welded seams. The inside walls of the contain were entirely corroded The top and bottom are convex plates welded to the sides. The bottom is fixed to the side about 1½ inches above the base.

Two 3/8 inch thick plates, 4½ inches in diameter are riveted to the top. A 2-1/8 inch (outside diameter) socket threaded inside and out is in the center of each plate; a brass plug which screws inside is provided to seal the container.

The tap, or spigot, which appears to be broken off on the end extends 4½ inches from the cylinder, near the bottom. A 2 inch length of pipe is welded to the tank and to the end of this screws the valve housing. The valve is controlled with a 2 inch handle.

Two carrying handles which fold down are attached to the sides.

Translations: On side of cylinder, above tap.
"Army Sixth Technical Research Laboratory".

Remarks: The vesicant agent is poured into the container through the openings on the top. The filling is taken from the container through the spigot.



555-1 BOMB CONTAINER, 8 GALLON

[redacted]

569-VESICANT CONTAINER, PLASTIC

General:

Color:	Maroon colored plastic.
Dimension:	21 in. high, 12 in. diameter
Weight:	33 lbs. (empty)

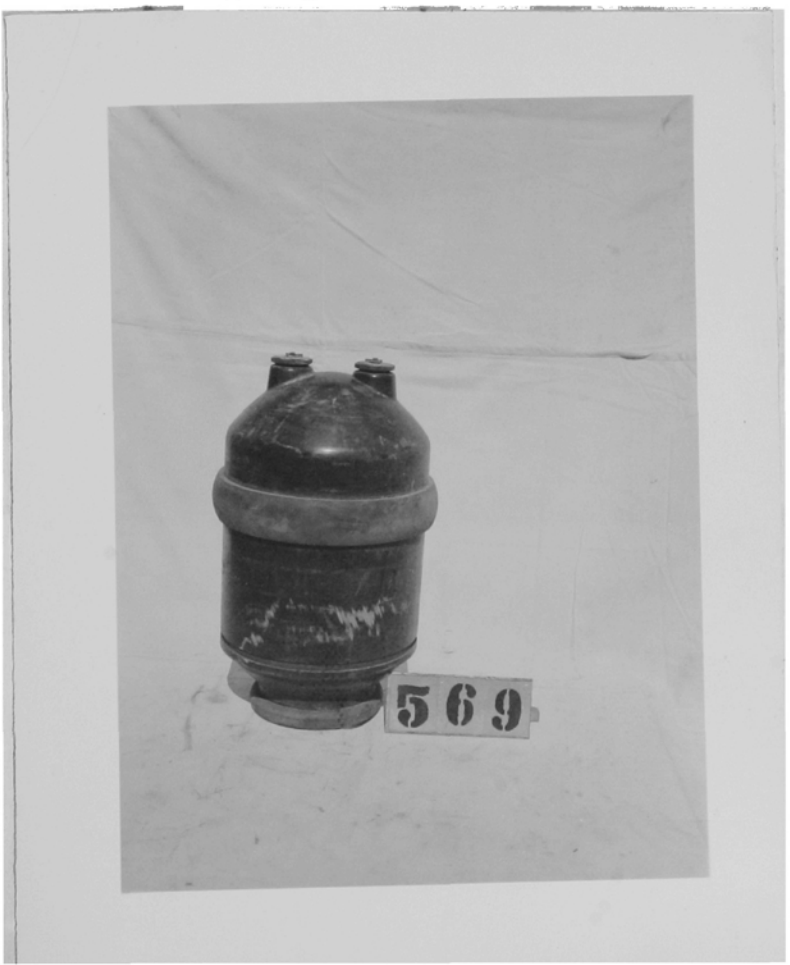
Description: The body is a cylinder with the upper end having the shape of a hemisphere. There are two short necks at the top which serve as filling holes, and these holes are fitted with a metal adapter, into which screw metal plugs. The bottom end tapers to a cylinder of 7 in. diameter. The end of the cylinder is flat and there is no opening in it. There is a rubber ring 2½ in. wide and ½ in thick, around the container near the top. A rubber circle is attached to the bottom of the cylinder and extends 1 in. up the side of the container. Approximate volume of this container is 10 gallons.

Remarks: The rubber rings are useful as shock absorbers to prevent the breaking of the plastic containers. It is believed that there are two rubber rings around the containers, but on the one examined there was only one and it could not be said definitely that there had been two.

The only practical use of this container is a storage container for vesicants in a laboratory. By replacing the metal adapters and plugs with plastic or glass, this container would make an excellant container for acids and distilled water for laboratories.

An intelligence team in the field turned this item in as a vesicant container

Estimated capacity of this container is 8 to 10 gallons.





570-VESICANT CONTAINER, 25-GALLON

General:

Color-	Brown
Markings-	Yellow band around top of cylinder; Japanese Characters on lid.
Components-	Cylindrical container, lid, air and vesicant inlets and outlets.
Dimensions-	(overall) 28 3/4 inches high x 18 3/4 inches diameter
Weight-	230 3/4 lbs. (empty)

Description: The container is a cylinder of approximately 3/8 inch thick steel with a welded seam, lined on the inside with lead and painted on the outside. The bottom is a concave steel plate which is indented from the base 2 inches at the edge to 4⅛ inches at the center; it is welded to the cylinder. A 1¼ inch wide steel band welded to the outside reinforces the attachment.

The top is constructed in a manner somewhat similar to the bottom. In this case the concave plate extends in only 2¼ inches from the side leaving a 13 inch opening. A steel ring 1¼ inches x ⅛ inches fixed onto the plate, and into it are screwed sixteen 5/8 inch bolts threaded at both ends; these bolts extend 1½ inches above the ring. A lid is attached to the plate by means of these bolts. A rubber gasket 3/4 in. x 5/8 in. fixed to the st steel ring seals the lid.

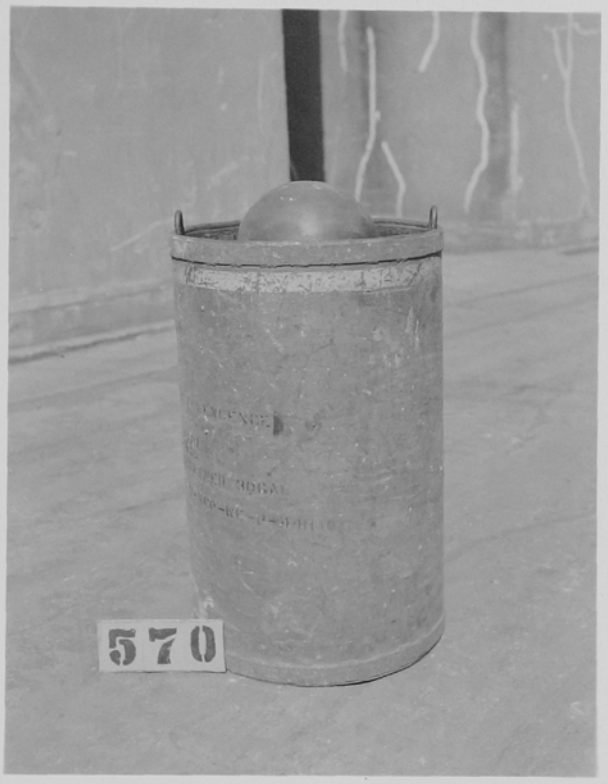
The lid is a 9/16 inch concave steel plate which has four ports of varying sizes in its center. The three largest are constructed identically, except for size. The largest extends about 1 1/8 inches above the plate, and has an outside diameter at the top of 2¼ inches; a marking in Japanese characters identifies this as the vesicant inlet. The second port has an outer diameter of 1 3/4 inches. In this opening is a led plug with a 3/4 inch hole. A 24 inch length of lead pipe extends from this into the contents of the vessel. It is marked vesicant outlet. The outer diameter of the third port is 1¼ inches; this the air inlet. All these ports are closed by threaded brass caps, sealed with built-in rubber gaskets.

The fourth port is probably a safty valve. Its outside diameter is 3/8 inches, many aperture in it in the container inspected has been plugged up, probably by corrosion

A dome-shaped hood, 4 3/4 inches high x 10 3/4 inches diameter, protects these plugs; it is held in place by three locking lugs of steel welded to the lid [illegible] are provided

Two elongated rings fixed to the inside top are provided to ficilitate handling.

[redacted]


570


570

570A-VESICANT CONTAINER, 30 GALLON

General:

Color:	Black
Dimensions:	34 in high, 16 in diameter
Weight:	194 lbs.

Description: This container is welded longitudinally, making a cylinder. It is made of steel 3/16 in. thick. The bottom end is welded inside the cylinder, 2½ in. from the end of the cylinder. The bottom is hemispherically shaped, but because of the inset, it does not touch the ground.

The head of the container is also inset. There is a band welded inside the end to which is attached the head. There are 16 bolts, 5/8 in. in diameter, holding the head secure.

There are two valves in the head and two more holes that would accept valves. These two holes are closed by plugs.

Remarks: This container is similar to the U. S. Type A, One Ton Container except in size.

The capacity of this container has been estimated.



554-VESICANT CONTAINER, 40 GALLON

General:

Color:	Black
Markings:	A metal plate on the head of the drum, A yellow band near the top and one near the bottom.
Dimensions:	27 in. high, 20 in. diameter.
Weight:	157 lbs.

Description: The container is an ordinary steel drum, reinforced by three steel bands. In the center of the head of the drum, there are two pipe sleeves welded into holes in the drum. One of the holes is closed with a cap, the other with a plug. A threaded ring is welded to the drum head. A cap, 8 in. in diameter, screws onto this ring and protects the filling plugs.

Remarks: This drum is built well and would withstand treatment ordinarily given a vesicant container. Lewisite has been found in bulk storage in Japanese Naval Arsenals in this type container. The capacity of this container has been estimated.



568B-VESICANT DRUM, WOODEN, 10 GALLON

General:

Color:	Olive drab
Dimensions:	36 in. long, 7 in diameter
Weight:	9 lbs (Less lid)

Description: The drum is a wooden cylinder with a steel band around the center and a wooden band at each end. There is a rectangular suspension lug attached to the steel band around the middle. There is another suspension lug riveted to the posterior end of the drum. The drum is made of sheets of ply-wood which are glued together.

A steel bar extends diametrically across the front end and has a winged screw that secures the lid. The lid was not available for examination. The steel bar is anchored to the container wall by two screws on each side.

Remarks: This drum is probably used as an airplane spray tank, but the method of releasing the liquid is not known. Another possible use of this container would be as a mid-section of a bomb; nose and tail would have to be provided.



[redacted]

568C-VESICANT DRUM, 10 GALLON

General:

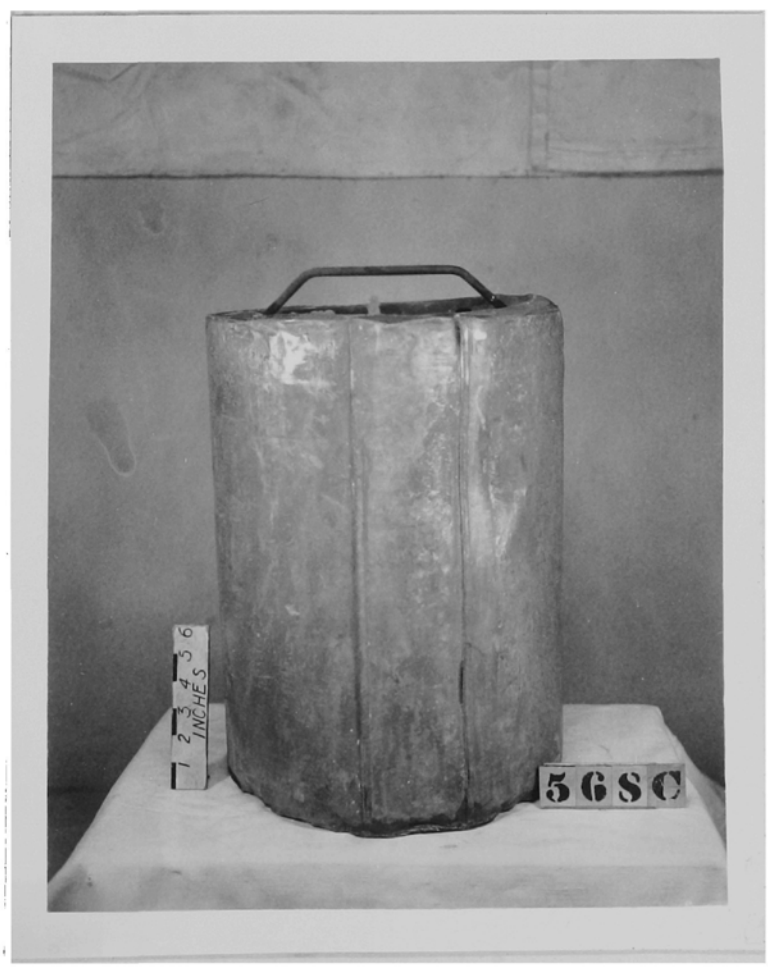
Color:	Brown
Dimensions:	17½ in high, 12.7 in. diameter
Weight:	35½ lbs.

Description: This drum is made of wood and is cylindrically shaped. The wood is covered with a sheet of rubber which is held in place by a thin sheet metal container which is welded longitudinally with its bottom crimped to the cylinder.

In the head of the drum there is a filling hole and an air vent, both of which are closed with metal plugs. The holes are equipped with metal adapters.

A metal rod extends across the top of the drum, and to this rod is attached a carrying handle.

Remarks: This container would not be suitable for long term storage of blister agents. The wooden cylinder and its rubber protective covering would be penetrated in time.



568A-VESICANT DRUM, WOODEN, 30 GALLON

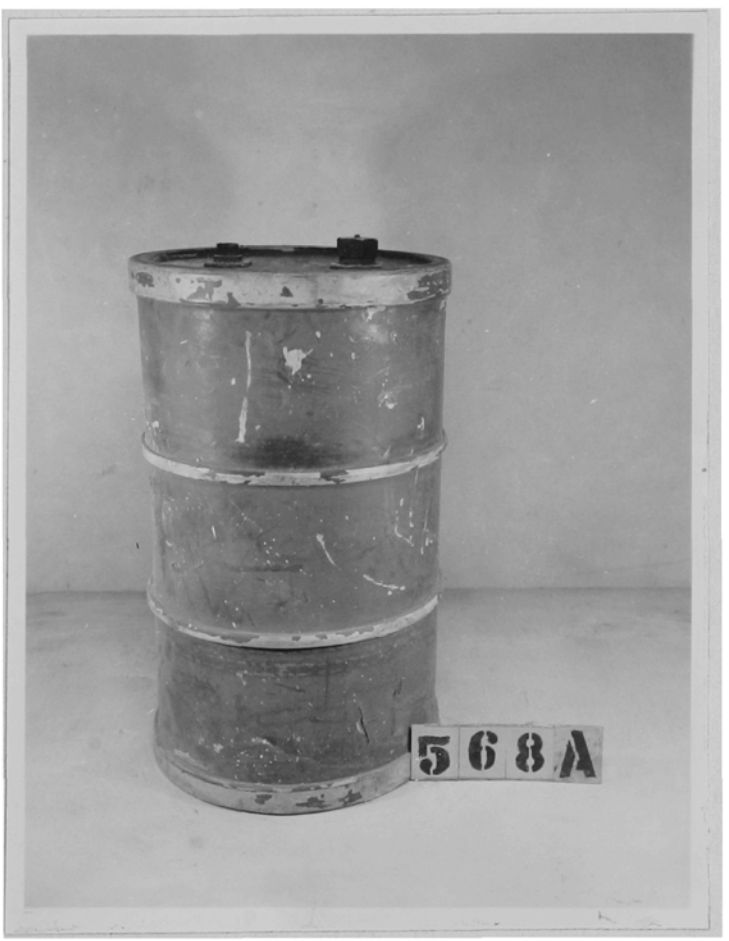
General:

Color:	Olive drab
Dimensions:	30 in. high, 17½ in. diameter
Weight:	33 lbs (empty)

Description: This drum is made of very closely woven wood splints, possibly bamboo. The head and bottom are made of the same material and have reinforced wood splints woven into them. The hoops are glued to the drum. There are two metal adapters that are secured to the drum head. These are filling holes, and they are closed by two metal caps.

Remarks: No nails were used in the construction of this drum. The only metal that could be found was in the metal adapters and caps. The woven splints make a surface very similar to ply-wood.

This drum is not recommended for use as a vesicant container.



338-SPRAYER, VESICANT GAS, TRAILER MOUNTED, TYPE 94-A

SPECIFICATIONS:

Overall:
Length: 9 ft. 9 in.
Width: 5 ft. 3 in.
Height: 3 ft. 9 in.
Clearance: 10 in.
Armor: 3/16 in.
Suspension: Two bogies, paired, resisted by 8-leaf spring track:

Track:
Ground Contact: 3 ft. 2 in.
Width: 6-3/4 in.
Pitch: 3½ in.
Bogies: 18 in. diameter
Idlers, front and rear: 11½ in. diameter
Distance between idlers: 6 ft. 1 in.
Height to center of idler: 13 in.
Tow bar: 3 ft. long

Description: The type 94-A Gas Sprayer is a full-track, armored trailer. The hull is suspended on a pair of rubber-tired bogies, resisted by an 8-leaf spring.

An elliptically-shaped tank, the vesicant gas container, is located in the center of the trailer. This tank has an approximate capacity of 70 gallons. Pressure to expel the gas is supplied by a cylinder of compressed air. The cylinder is connected to the top of the vesicant tank by a line of copper tubing. This pressure in the tank forces the agent through a valve in the top-rear of the tank and out a spray-nozzle on the outside top-rear of the trailer. This valve is operated by a small motor-generator mounted in the left rear section. Across from this motor, in the right-rear, there is a small tank, about 10 gallon capacity, that holds a decontaminant. Several compartments in the trailer contain a spare track, nozzle, pressure gauges, and a complete tool kit.

The trailer is pulled by a modified Type 94 Tankette. The spraying operation is completely controlled from a panel board bolted to the inside of the rear hatch of the tankette. This arrangement provides comparative safety for the operator. Power for the small motor-generator and a tail-light on the rear of the trailer is supplied by an auxiliary battery in the tankette. The lines and wires between the two vehicles are protected by a flexible conduit.

Performance: This sprayer, according to Japanese military personnel, will contaminate a path 21 to 24 feet wide. Traveling at 10 kilometers per hour, the amount of vesicant carried is sufficient to cover 100 meters; at full speed, the agent will be expended in six minutes. At the completion of the mission, the trailer is decontaminated with the solution carried in the small auxiliary tank.

Remarks: Several other model tankettes have been designed to tow this trailer. The latest of these is the "TEKE", a modified Type 97 Tankette that mounts neither a turret nor a gun. The old Type 92 was originally equipped for this purpose.

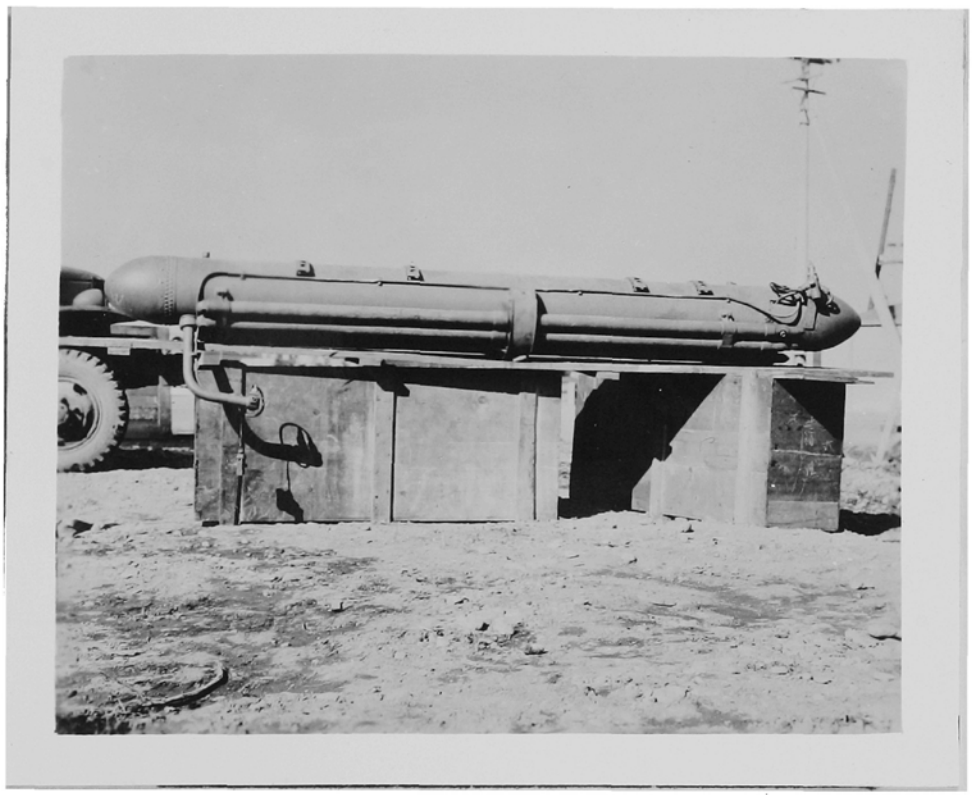




338-SPRAYER, VESICANT GAS, TRAILER MOUNTED, TYPE 94-A

SPRAY TANK, AIRPLANE, TYPE 99, NAVY, (PRESSURE)

The information and photograph shown below are taken from a report by the air Technical Intelligence group operating in the field in Japan. The tank was found in Japan and sent to Wright Field, U.S.A.



1. JAPANESE NAVY 99 TYPE (PRESSURE) TANK (1939)

This is the latest type Japanese Spray Tank. It is almost thirteen feet long and weighs ca. 700. KG. Its capacity is ca. 400 KG. Discharge time 20 seconds.

It is a belly type tank and was carried in the same manner as a torpedo. The long cylinders along the bottom are the compressed air cylinders.

SECRET

SPRAY TANK, CHEMICAL, PRESSURE TYPE, GERMAN MADE

The information presented below is an exact copy of the report presented by the Air Technical Intelligence group on items found in the field in Japan. The tank was sent to Wright Field, U.S.A.



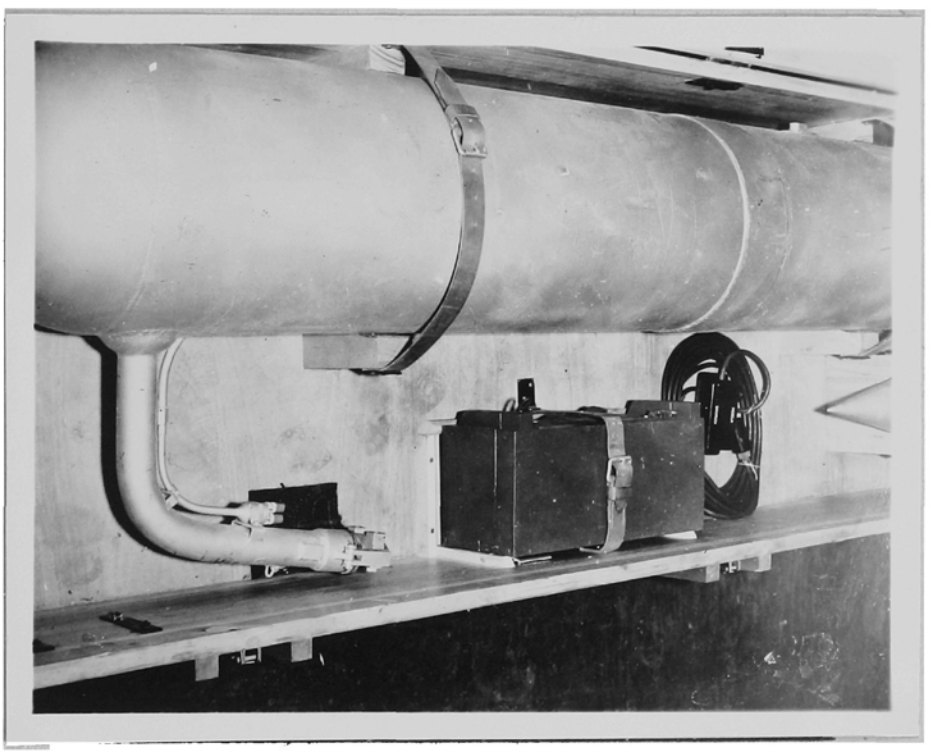
GERMAN PRESSURE TYPE CHEMICAL SPRAY TANK

Bought from German commercial firm (Hagnuk) and shipped to Japan in 1937.

Capacity - ca. 200 - 300 KG.
Discharge Time - ca. 2 min.
Total Weight - ca. 400 KG.

The tank is discharged electrically.

The coil of lead wire shown has two buttons on the control box, one marked "Smoke", the other "Gas".

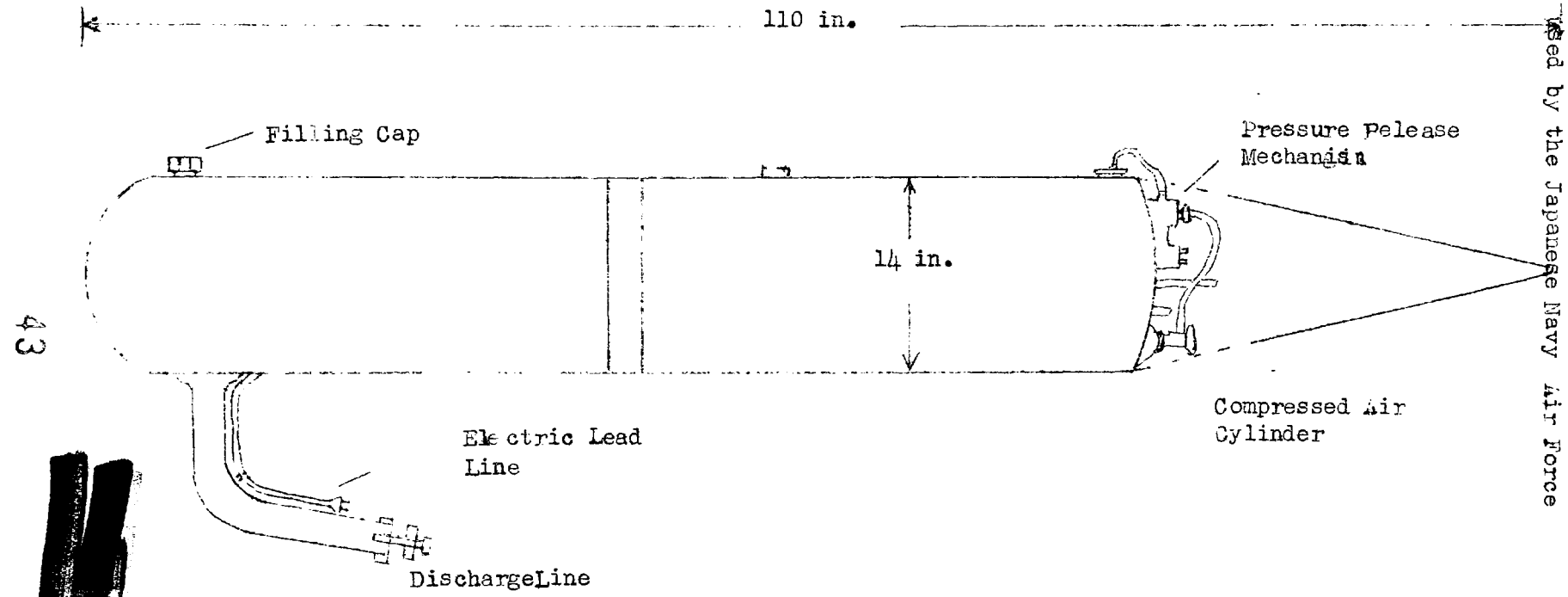


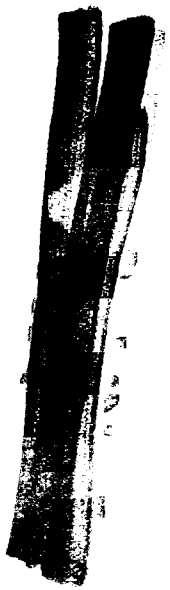
GERNAL PRESSURE TYPE CHEMICAL SPRAY TANK

Another view showing discharge line and spare parts kit.

Sketch of SPRAY TANK, CHEMICAL PRESSURE TYPE

Used by the Japanese Navy Air Force





Used by the Japanese Navy Air Force

SPRAY TANK, SMOKE, NAVY, FUSO TYPE (NON-PRESSURE)

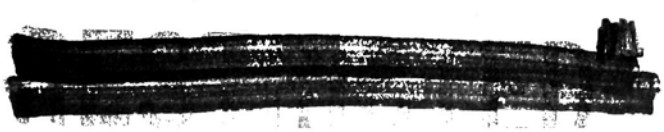
The information presented below is taken from a report on this item found in Japan by the Air Technical Intelligence group. The tank has been sent to Wright Field, U.S.A.

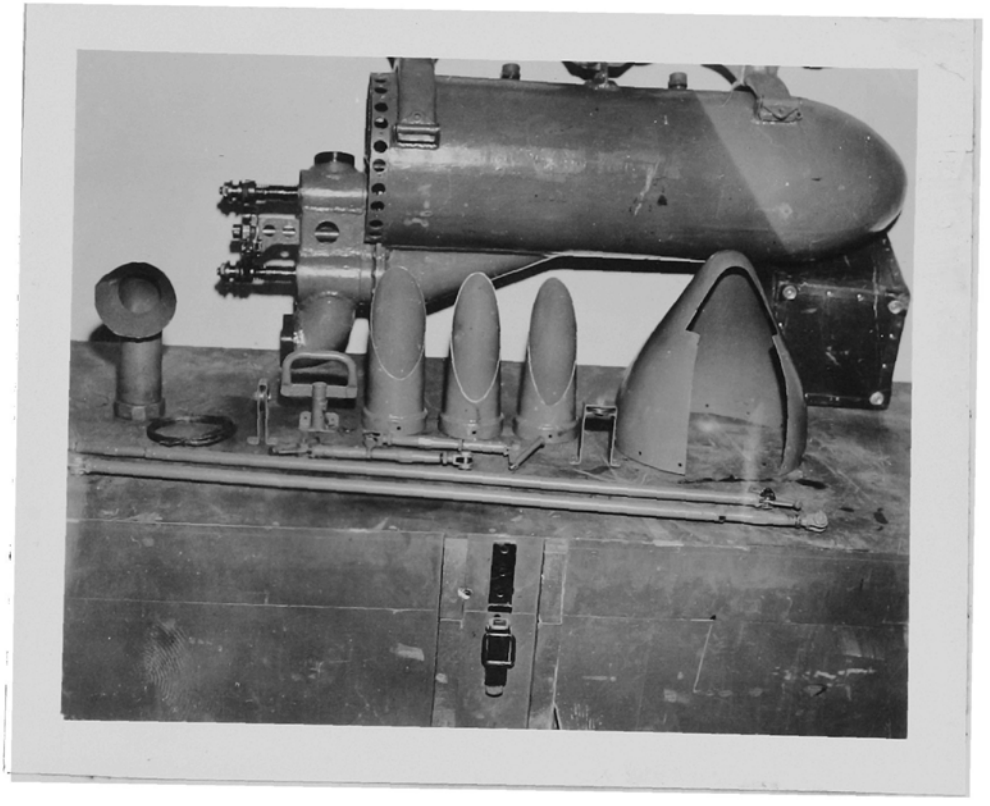


1. JAPANESE NAVY FUSO TYPE (NON PRESSURE) TANK

With a capacity of only ca. 50 KG.; this was a very inefficient tank. It was made to be carried by only one type airplane.

There are two valves, an air inlet valve and a discharge valve, the former at the top, the latter at the bottom. A rather elaborate release mechanism released the spring tension holding the valves closed, and the tank discharged.



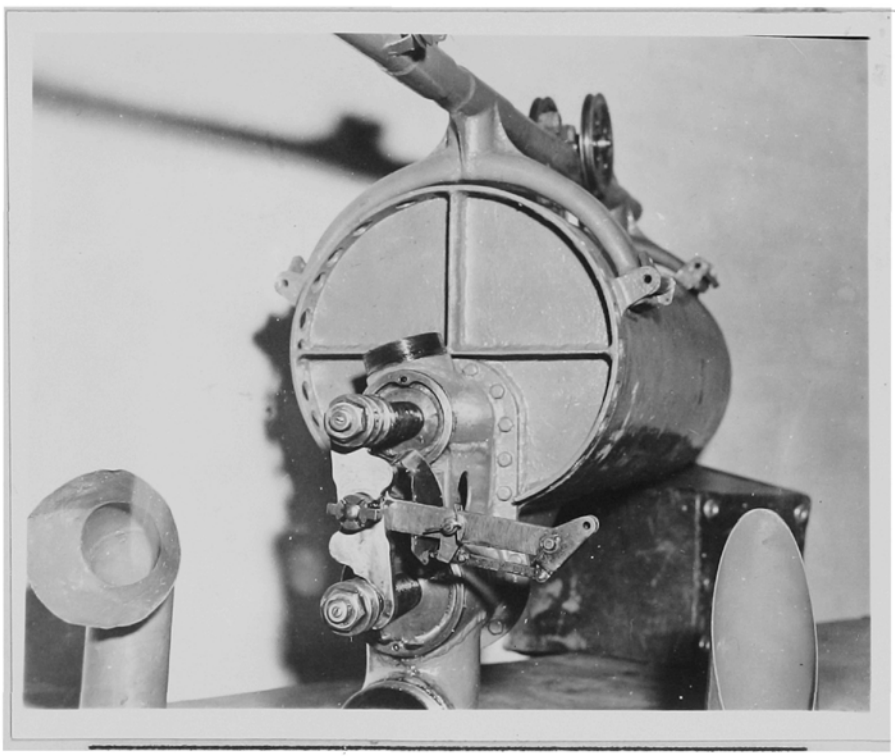


2. JAPANESE NAVY FUSO TYPE (NON PRESSURE) TANK

A view showing the tail faring, the air inlet funnel and the tail pipe removed, together with spare tailpipes (different diameters) and other spare parts and accessories.

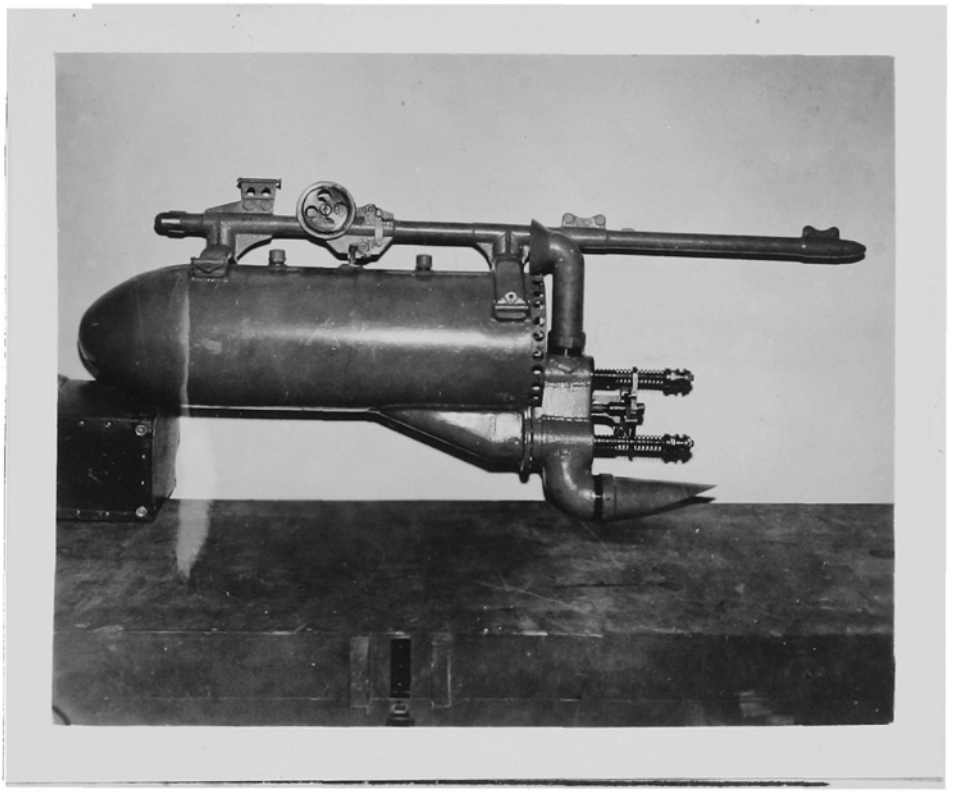
The air inlet valve (top) and the discharge valve can more plainly be seen here.

The release mechanism was an elaborate cable-pulley arrangement.



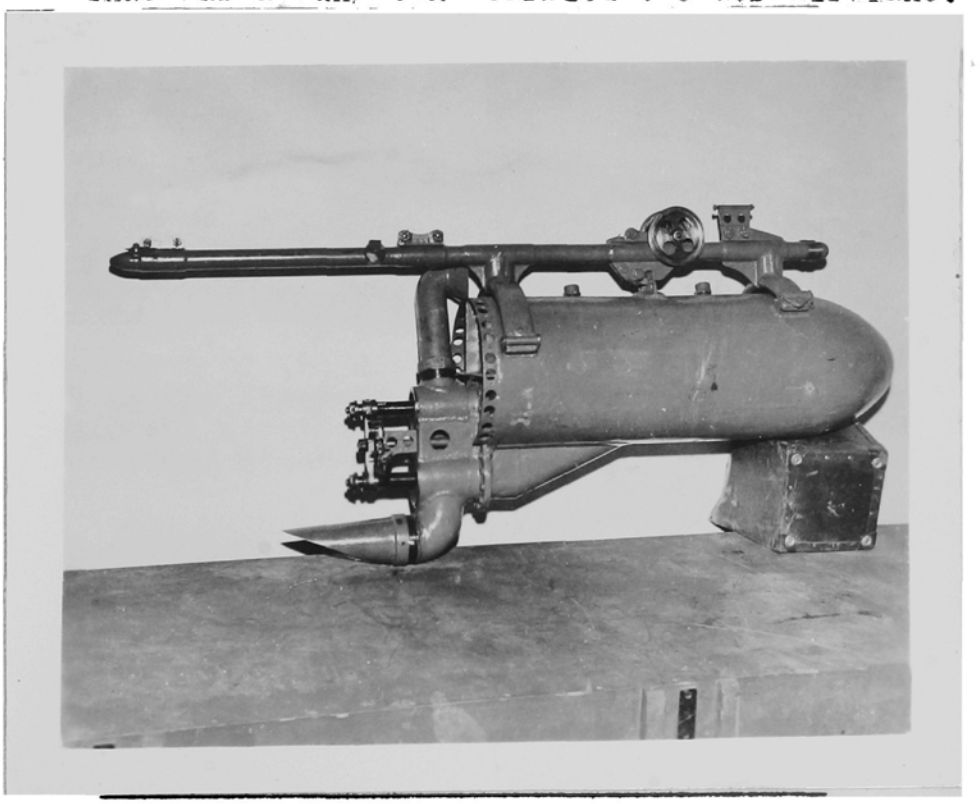
3. JAPANESE NAVY FUSO TYPE (NON PRESSURE) TANK

A closeup of the discharge mechanism. The cable fastened to the discharge arm and when pulled from the cockpit of the airplane, released the arm from the spring valve stems and discharged the tank.



4. JAPANESE NAVY FUSO TYPE (NON PRESSURE) TANK

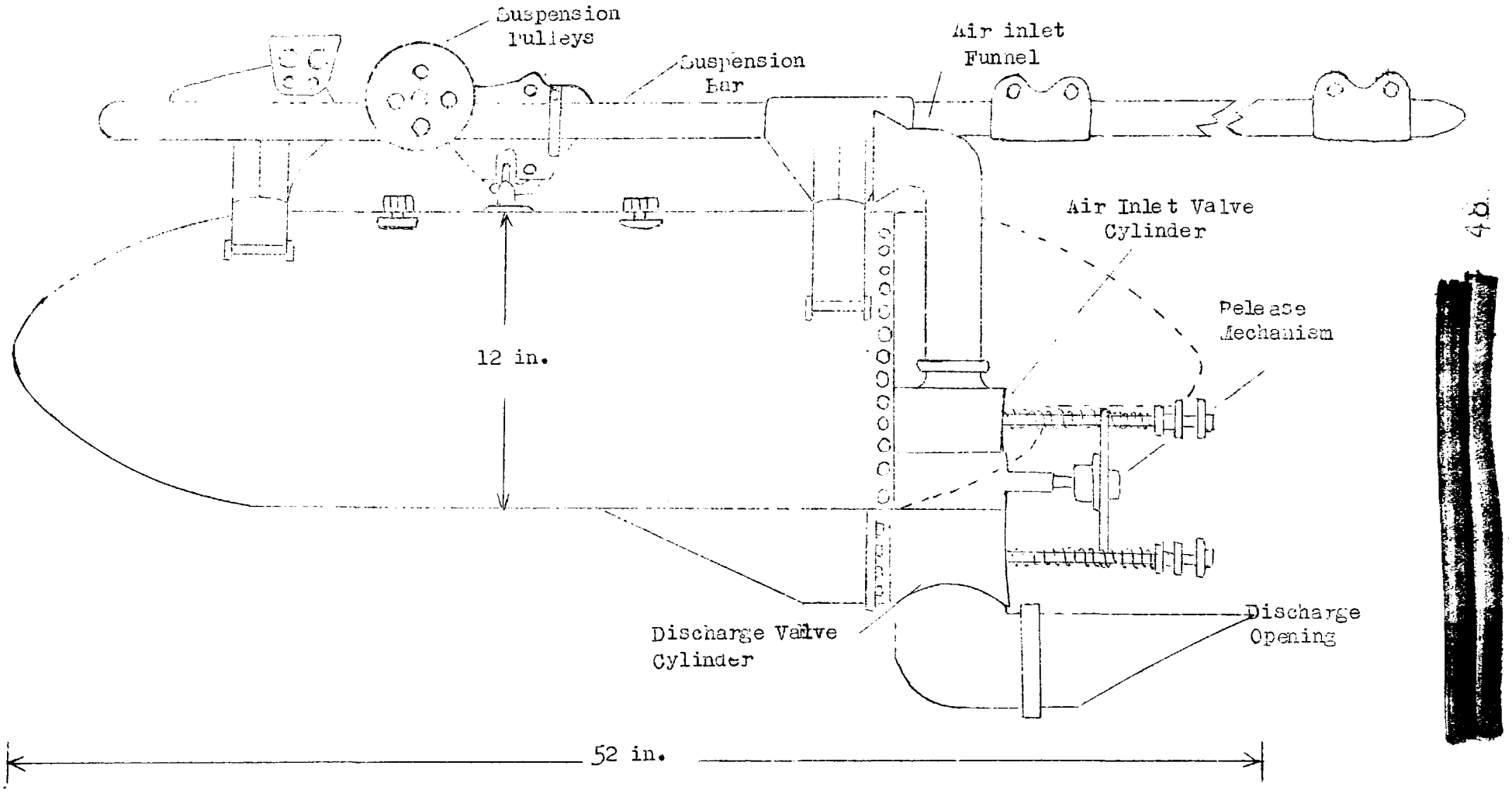
Another view with only the tail faring removed.
This was a wing tank-carried two per airplane.



JAPANESE NAVY FUSO TYPE (NON PRESSURE) TANK

Removed tail faring.

Sketch of SPRAY TANI, SHORE, NAVY, FUSO TYPE



528-VESICANT SPRAY TANK, AIRPLANE

General:

Color: Gray
Dimensions: 42½" long, 29" in diameter at the suspensio lug.
Weight: 19 lbs. (empty).

Description: The tank is made of thin brass sheet metal. The nose is conically shaped and has a filling plug longitudinally parellel to the suspension lug. The body is circular shaped, but is some smaller at the nose end than at the tail. There is a metal band 4" wide around the middle of the body. The rivets that secure the suspension lug to the tank extend through the metal and through the body.

The tail part of the tank slopes on the top side at an angle of 45 degrees, making a cylinder at the end, 5 in. in diameter. The cylinder is closed by a disc which is attache to a bar that is secured on one end by a hinge and on the other end by a lever fastener. The lid may be tightened by a wing screw that extends through the bar. The hinge on the lid bar is equipped with springs that force the lid open when the lever fastener is released. The lid is circularly grooved to fit the end of the tank and is equipped with a rubber gasket.

Remarks: The lever is believed to be operated manually by means of a chain or wire. This spray tank is made of good material and would probably give good service. This tank could be used for blister gases or even more likely smoke agent.



567-VESICANT SPRAY TANK, AIRPLANE, LARGE

General:

Color:	Neutral gray.
Markings:	(Translation) Kondo Manufacturing Co., Ltd., 5th March 1945, Type 3, Volume 85 liters.
Components:	Tank, leg stabilizers, outlet, air intake, cable linkage, cocking and trigger assemblies.
Dimensions:	58½" long, 12" in diameter at girth.
Weight:	45 lbs. empty.

Description: This spray tank is in general torpedo shaped wit four stabilizing legs projecting from its belly or ventral side. The air intake is well forward on the ventral side near a short rounded nose. There is an elbow shaped outlet on the dorsal side near the tank's conical shaped posterior. The tank is operated by a mechanical cable linkage motivated by a hand cocked spring operating trigger. (Note: the trigger release was found to be missing from this item but the cocking and firing mechanism was present and some form of release was evident). The firing device and a suspension strap are in a channel shaped assembly which is bolted in three places to the ventral side of the tank. The cocking device is a plunger whi operates against a strong compression spring. Two steel cables attach to the plunger in such a way that they are under tensio against the action of the cocking spring. One cable attaches to an operating arm on the air-intake. The other goes over a pulley then through the body over another pulley and through the outlet elbow where it attaches to a release device for the outlet cover in such a manner that the cover will fly open when the cable is pulled. A spring on the outlet cover hinge causes it to open. There is also a safety catch on the outlet cover which may be wired to the cover release effectively preventing its operation. The outlet cover is essentially an asbestos gasketed steel plate.

In operation the two cables are pulled simultaneously. The cable to the inlet operating arm when pulled aligns two lugs with corresponding slots and permits a compression spring to open a steel, asbestos gasketed, diaphragm.

Four legs are attached on the ventral side to two strap bands. The length of these legs are adjustable through a one inch range. Each leg terminates in a ball and socket, rubber cushioned, pedal. In operation these pedals press firmly against the plane's undersurface and stabilize the spray tank. Another stabilizing device is welded to the ventral side of the nose.

Remarks: This spray tank is without doubt subject to all of the "bugs" involved in such a complicated mechanical linkag This tank may possibly be satisfactory for smoke filling but the ever present danger of leakage would make it impractical for use with vesicant filling.

[redacted]



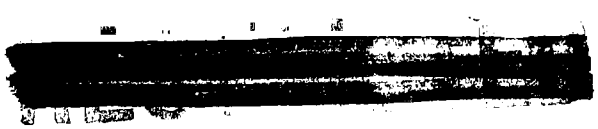
567-VALIANT, SPRAY TANK, AIRPLANE, LARGE

III MISCELLANEOUS

In this group of items are those which were utilized by the CW units of the Japanese Army and Navy in weather observation and experimental work on smoke and casualty agents. These could not be fitted well into any of the preceding categories. Each item requires a separate estimation as to value and usefulness, hence no generalizations have been made.

A few reports on mines are included, but with one exception (item 335 - Chemical Land Mine, Substitute) these are out of the CW field, are HE mines.

Additional information received since the report on 654-Chemical Agent Filled Bottle was completed indicates that these bottles were to be dropped from aircraft.



641-AIR COMPRESSOR, HAND

General:

Color- The pump is painted a drab brown

Markings- There is a blue enameled aluminum specification plate on the pump rocker arm. There is, also, a brown paper label on the inside cover of the box unit and an illustrated booklet of instructions. There are, also, identifying markings in black on the canvas bags which carry the frame units.

Components- One drab brown painted wooden box containing a pump unit and accessories. Two buckle secured, rope lashed canvas bags each of which contains one half section of the quadrupedal pump standard, one half of the rocking bar extension, and one two man pump handle.

Dimensions:

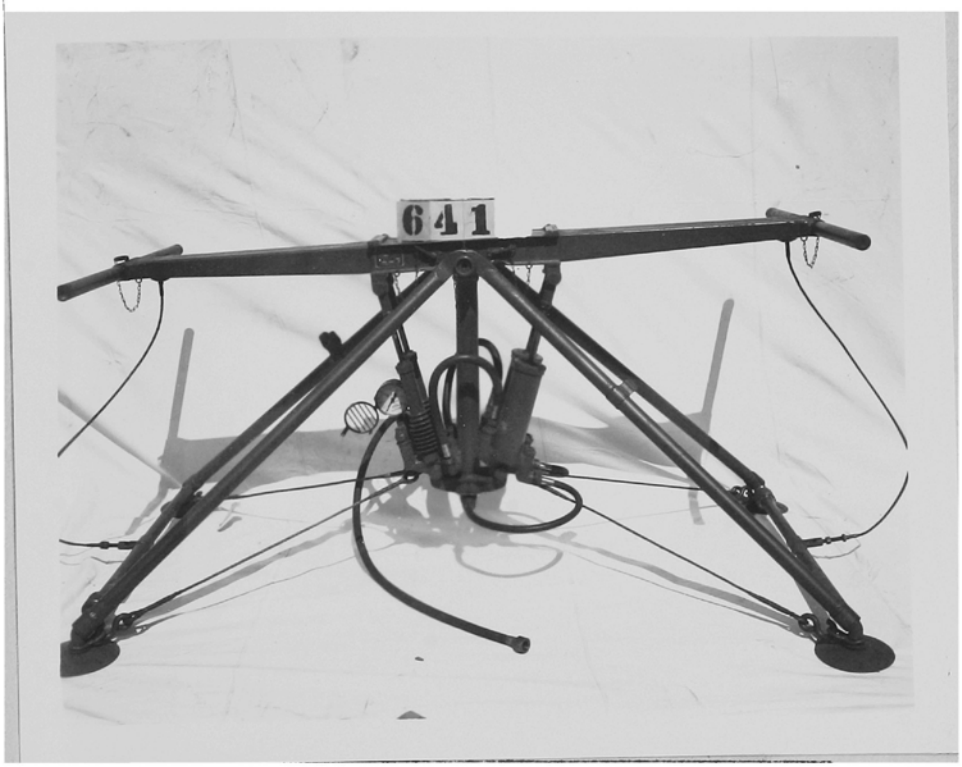
Box containing the pump unit
28 3/4 inches x 19 3/4 inches x 14 inches
Bag containing legs and rocking bar section
49 inches x 11 inches

Weight- Total about 132 pounds

Description: This pump, when set up for operation, is somewhat reminiscent of the working principle used for railroad hand cars. It consists of a four legged standard from which the pump unit is suspended on its pivoting axle. Four ½ inch steel guy cables secure the bottom of the suspended pump unit to the four base pedals of the frame. The pump unit consists of two large low compression cylinders on one side which are pressure hose coupled in series with two small, fin cooled, high pressure cylinders on the other side. The cycle of operation is such that the air compressed by the large cylinders operating in tandem is taken up by the small cylinders, which, also, are tandem operating, and further compressed to a higher pressure. This pump is rated at a pressure output of 20 kg/sq. cm. (Translation). A pressure gauge reading to 30 kg/sq. cm. is fitted to the tandem connection between the two high pressure cylinders. There is a pressure hose from this tandem coupling for delivery of the high pressure air. The pump is suspended in the framework so that the cylinder heads are down. The four pouton rods connect in pairs to a center fulcrum rocking bar. Thisbar can be dismantled into two sections. Both ends of the rocking bar terminate in a two man handle and are attached to the quadrupedal base with a ½ inch steel check cable. The purpose of this cable is to check the motion of the bar and prevent overextending the piston stroke to the possible injury of the pump.

The pump unit is packed in a heavy, strap hinged, hasp closing, reinforced wooden box. The box contains, besides the pump unit and booklet of instructions, spare valve parts, spare piston packing diaphragms, washers, a bulk can for oil, and an oil squirt cam.

Remarks: Thispump may be intended for field use with a flame thrower service unit. However, the pressure output is decidedly less than the required pressure for the type 93 small flame thrower which is rated at an air pressure of 355 lbs. per sq. inch.



641-AIR COMPRESSOR, HAND

[redacted]

ANEMOMETER

General:

Markings: Name plate giving manufacturer, number and arsenal.

Dimensions: 9" long at the base, 2-5/8" wide at the base, 12½" high.

Description: Functioning as a standard anemometer, the passing air is trapped by means of four hemispheres, causing a shaft to turn. By worm gear action the amount of air passing the point at which the machine operates is recorded on a series of dials recorded in meters and arranged in multiples of ten. The arrangement and number of dials would suggest that the machine is employed to record the total passage of air over a protracted period of time, probably 24 hours. The presence of a cam-operated breaker switch and two terminal posts indicate that an external power source was used, in conjunction with a recording device to allow a trained observer to ascertain the wind velocity at any given moment, by noting the proximity of perforations or marks on an endless tape.

Remarks: The above is an excerpt from a "Weekly Report of Investigation of Japanese Chemical Warfare, Hq. XXIV Corps, APO 235, San Francisco, DEIDT (CWL Sec) S-2, dtd 9 Dec 1945.



ANEMOMETER, FIELD

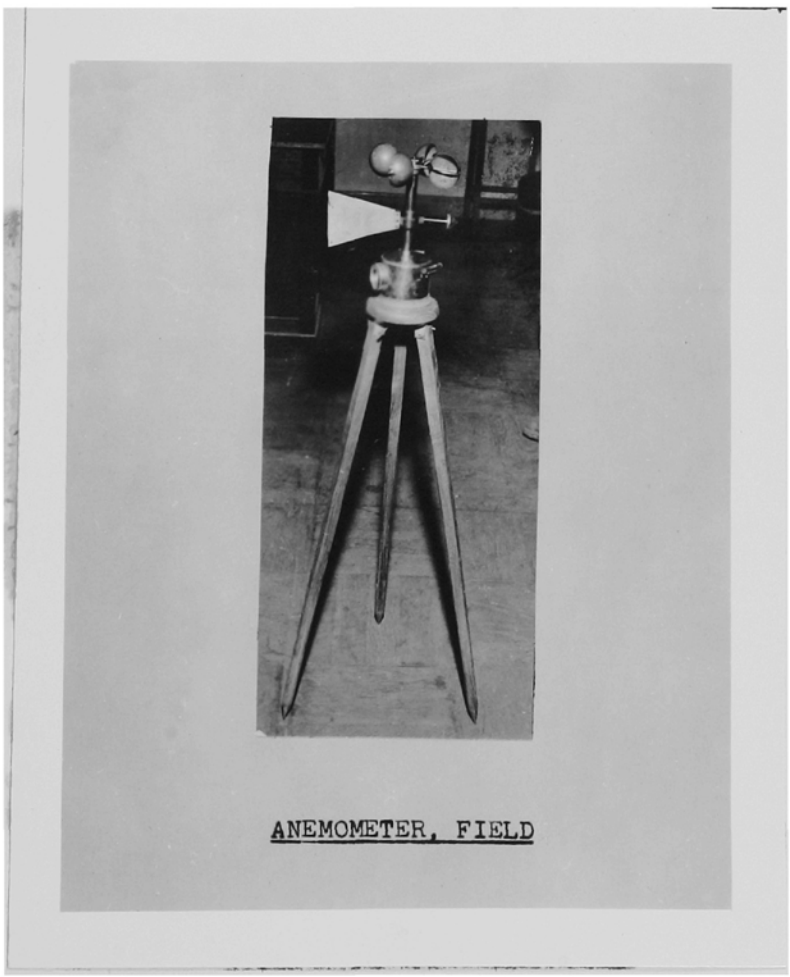
General:

Color: Chromium Plated
Markings: None
Components: Instrument, tripod

Description: The instrument stands 9½" high without the tripod, and is chromium plated except for the four copper wind cups. It is equipped with cross-levels and a gage indicating wind velocity in meters per second. The points of the compass are indicated on the top of the base section.

The tripod is made of wood and has metal spikes on the tip of each leg. The pedestal is made of wood and has metal screws for attaching the instrument.

Remarks: The above report is a condensation of FEIST CW Technical Intelligence Report 2 from Korea. According to that report this anemometer was found in a warehouse in Korea with other CW material. This item was probably used in a meteorologic section of a Japanese CW experimental team.



ANEMOMETER, FIELD

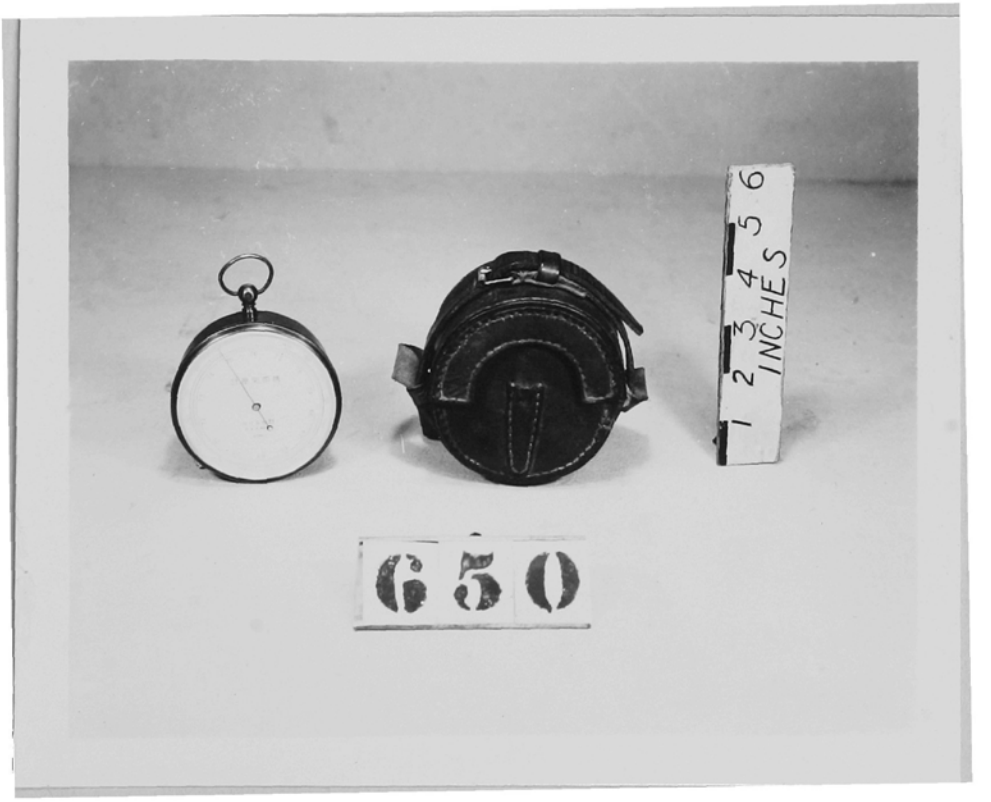
650-BAROMETER

General:
Color: Red leather carrying case. Barometer-light green with a clear glass face.
Markings: Nomenclature in Japanese on the face of the barometer.
Dimensions: 4¼" in diameter, 1-3/8" thick.
Weight: 1 lb. (without the carrying case.)

Description: The barometer is aneroid type with a stationary dial graduated from 660 mm to 790mm. There is a movable dial graduated 0 to 1400 meters for elevation. There is a handle attached to the barometer.

The leather carrying case is well made and is equipped with a shoulder strap for carrying.

Remarks: The barometer examined would not work. The needle rubbed against the glass face.



654-BOTTLE, CHEMICAL AGENT FILLED

General:

Color:	Either clear or colored green glass.
Markings:	Japanese characters on label indicating type of filling.
Contents:	Chemical agent filled plain soda bottle, cardboard tube.
Dimensions (of bottle):	9½" high, 2⅝" diameter approximately 10 ounce (300cc) capacity.
Weight (empty bottle):	16-17 oz. (450-475g)

Description: This agent filled glass bottle was packed in a heavy, cylindrical, cardboard container the bottom of which was filled with a few inches of sawdust which provided a safety cushion. The slid on cardboard top was attached to the body tube by a strip of adhesive tape which had to be torn off before the container could be opened. Bottles were closed with a composition or rubber stopper and an ordinary beer bottle cap.

This type agent bottle was found with four different agent fillings. The label on the bottle indicated the kind of filling. The designation on each bottle was translated to read Special Bottle, Mk I, Mk II, Mk III A, and Mk III B, respectively for the four different bottles. This designation is the one referred to in CW Intelligence Digest No. 9, dtd 15 May 1945, according to which Mk I, Mk II and Mk III are translated as tear, vomiting and blister gas respectively. IIIA and IIIB are Mustard and Lewisite respectively.

Results of tests made to confirm agent fillings inferred by the Mk designations are shown in table accompanying report along with other factors pertinent to these items.

The photograph shows Special Bottle Mk I, CN filled. Other bottles are identical except for filling.

Remarks: Presumably these bottles would be used in local tactical action, that is, thrown, The bottles filled with tear and vomitting gas would definitely be ineffective when used in this manner.

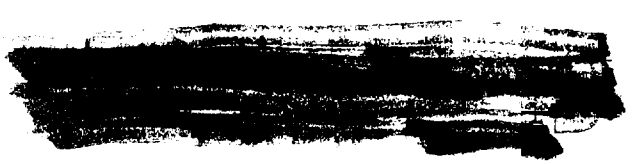


Table of Characteristics of Agent Filled Bottles

Specific Marking	Translation of Label	Color & Physical State	Confirmed by tests as:	Wt. of filling:	Chemical Efficiency
———	MkI Special Bottle	Cream colored solid crystal	CN	250-300g	35-40%
- - - -	MkII Special Bottle	Translucent solid, amber color, liquid on surface	DC	400-450g (14-16 oz.)	45-50%
- - - -	MkIIIA Special Bottle	Orange to Brown, thin liquid	H	400-450g (14-16 oz.)	45-50%
- - - -	MkIIIB Special Bottle	Brown-yellow thin liquid	L	550-600kg (19-21 oz.)	55-60%





711-INTERFEROMETER, Gas

General:

Color:	Box-unfinished wood, instrument-black.
Markings:	Japanese characters translated "Gas Interferometer" and "Chemical TE Equipment".
Contents:	Optical instrument.
Dimensions:	78" long, 9" wide, 11" high.
Weight:	94 lbs.

Description: This is an optical instrument manufactured by Carl Zeiss, Jena. It consists of four units mounted on a heavy channel iron base.

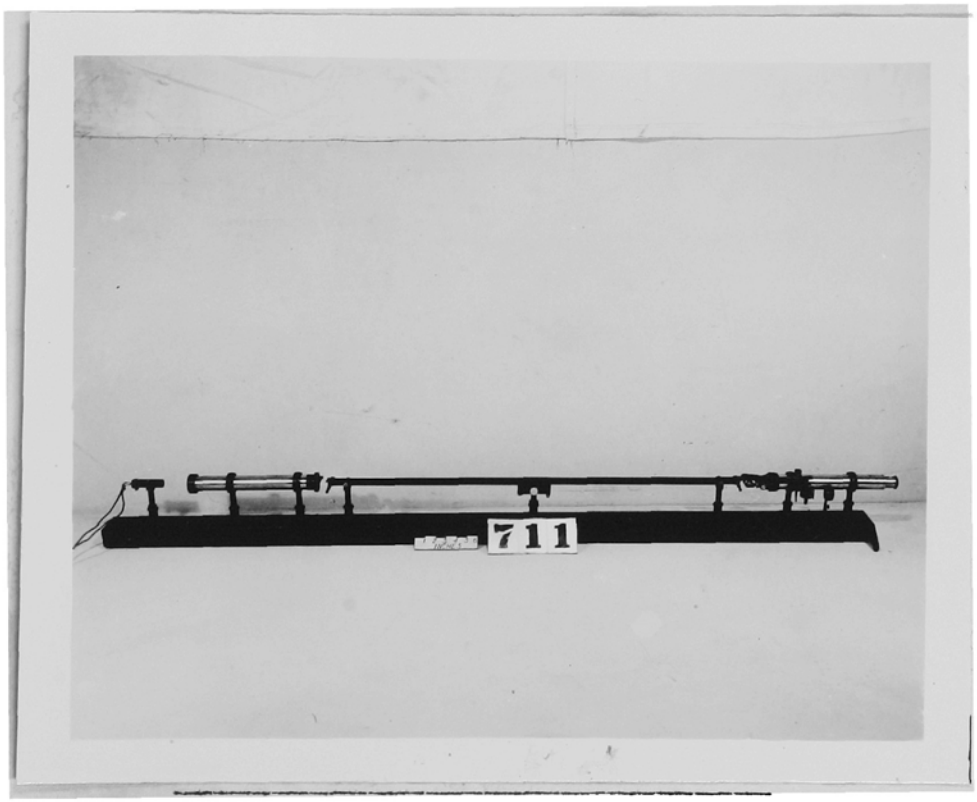
The first unit consists of a 4.5 volt incandescent light source (a blue bulb) and lens tube.

Next is a tube containing an optical element, a slit of fixed width, at the end of the 11½" tube, a collimating lens and a cover containing two parallel slits that can be adjusted with respect to axis of the instrument.

The following section is a meter length tube 3/8" high and 7/8" wide divided into two parallel sections with plane glass window at each end. It is provided with a gas inlet and outlet to each of the two sections.

At the end of the tube is a prism of parallel sides then two 1mm thick plane plates covering half the optical field which can be rotated slightly. The movement of one plate relative to the other is measured by a micrometer arrangement. Light then passes through a collimating lens through a 12½" tube to the eye piece. This consists of a cylindrical lens protected by a piece of plane glass.

Remarks: It is presumed that this instrument is used in laboratory analysis to compare the interference patterns formed by various gases, as a part of their identification.



711-INTERFEROMETER, GAS

[redacted]

647-MISCELLANEOUS CHEMICALS

These items were for the most part ordinary commercially made chemical products which have been used in various phases of C W work.



647A-Ammonium Carbonate
647B-Smoke Neutralizer
647C-Bleaching Powder
(see item 686) 647D-Dummy Detector liquid
647E-Calcium Chloride
647F-Detecting Chemical "P"

[redacted]

General:

Color-	Natural wood
Markings-	Metal plate on case
Components-	Bubbler tube, air pumps, connector, case, extra parts.
Dimensions-	15 3/4 inches x 12 inches x 5½ inches
Weight-	12 lbs.

Description: The hardwood case has plated clamps, handle and reinforcements on the upper corners; the cover opens on hinges and is held upright by a brace inside, forming a platform on which the apparatus is set.

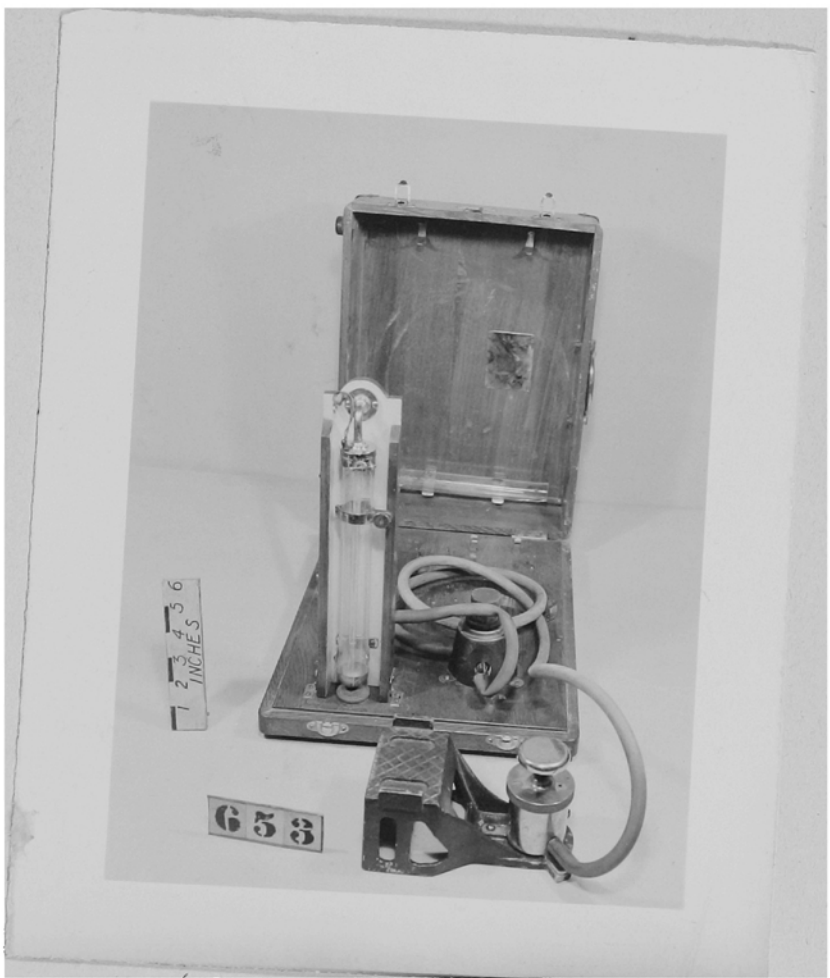
There are three main parts of the apparatus. As the case is opened there is on the left a graduated test tube 9½ inches long x 1 1/8 inches diameter.held in place on a wooden support, 12½ in. longx 2 3/4 in wide, by clamps; this support is held up vertically on hinges when the device is being used. A ¼ inch glass tube extends to the bottom of the graduate from an inlet which is clamped on, air-tight, to the top; a length of small metal tubing runs from this to a connection near the base, and from the side, of the support.

On the other side of the platform are the two other parts. To the rear is a small air pump, set on a mounting which indicates that it may be pedal operated. To the front is a rubber and metal connection set in a wooden frustrum. From this are two ducts, one equipped with a stopcock.

Inside the lid are two sets of clamps which hold extra graduated tubes. Two lengths of rubber tubing and a rubber stopper were also found with the kit.

Translations: On metal plate, front of lid:
"Showa Manufacturing Co., Ltd."
"Mfg. No. 48"
"Manufactured 3rd Month, 17 Year of Showa (March, 1942)"
"Address: 835 Shimura Maeno Itabashi, Tokyo"

Remarks This apparatus is probably connected to theoutlet side of equipment being tested for protection against gases to register a "break" in the protecting material. An indicator solution is placed in the bubbler tube and the flow outlet from the tested equipment is bubbled through this solution



653-KIT, BUBBLER, TUBE

[redacted]

335-Mine, Land, Chemical-Substitute

General:

Color:	Olive gray
Markings:	One yellow band 3/4" wide with two Japanese characters in bold white above the band.
Components:	Canister, canister handle, gaine assembly (2 parts)
Dimensions:	Overall dimensions of canister: 9" long by 4" diameter.
Weight:	Empty, 1-3/8 lbs.

Description: (Not filled) This land mine is essentially a cylindrical can of approximately 20 gage sheet won with a wire handle at the top and a threaded well-coupling soldered into the top to receive the gaine. The gaine is composed of a burster tube and a threaded insert containing the fuze reservoir.

Remarks: Two "eyes" welded to the fuze reservoir indicates that the gaine may have been designed for use with an electric squib and that the "eyes" were possibly intended for making fast the lead wires.



[redacted]

688-MINE, HAND, CONICAL TYPE 3

General:

Color-	Green silk
Markings-	On charge in black are Japanese characters translated as "Cyclonite July 19th Year." On the silk bag in red, as translated; "Military Secret." On silk bag in black is "19.8" and characters which are believed to be a Tokyo arsenal mark and the mark for "Large."
Dimensions-	4 inches diameter at base, 6 inches length of frustum
Weight-	1½ lbs.

Description: This item is contained in a conical silk bag with a drawstring at its slightly truncated apex and another at its base. The drawstring at the apex ties securely around a plastic (sometimes metal) fuze coupling. The main body of the mine is a conically formed chalky white explosive contained in a yellow cardboard wrapper. The cone is built up in two segments. The apex segment has a small detonating well and the base section has a conically bored hollow. An aluminum alloy cone fits this hollow and a slightly ogival wooden washer fits over the base.

Remarks: There is a reference to a similar item in the manual "Japanese Explosive Ordnance, Revised p. 132.



391-MINE, HEMISPHERICAL, 5 Kg.

General:

Color:	Green
Dimensions:	6 in. long, 9.2 in Diameter
Weight:	11 lbs.

Description: The mine is a hemisphere with a cupped bottom. The mine is attached to a wood circle ½ in. thick. Four sheet metal legs are secured to the wood base by screws. The threaded fuze hole is located in the top of the mine. There are three carrying rings with ropes attached, located two 1½ inches from the fuze hole and equidistantly surround the fuze hole.

Near the bottom there are three rings soldered in the mine wall.

The mine charge is picric acid.

Remarks: This mine is described in Japanese Explosive Ordnance p. 214, as an anti-tank mine. The mine is to be placed against an armored vehicle by hand, pole, or line.



[redacted]

643-MORTAR, 80mm., TYPE 3

General:

Color- Dark brown

Markings- There is a single narrow white stripe painted on the barrel's base cap are characters which yield the following information

Type 3-8cm Mortar
Yokosuka Naval arsenal, 1944

Components- Barrel with detachable base cap, standard, base plate, ram rod.

Dimensions- Base plate is 23½ inchesxx 19½ inches,
Ramrod is 43½ inches long
Barrel calibre is 8 cm
Barrel length including base cap is 50 inches

Weight- Barrel- 45 lbs
Standard- 28 lbs.
Base plate- 47 lbs.
Ramrod- 8 lbs

Description: A smooth bored steel barrel screws into a steel base cap which terminates in a truncated steel ball. In operation the ball fits a corresponding socket attached to the base plate. When the barrel isturned in such a way that the white stripe on the barrel is aligned with the white stripe on the base plate the socket and ball joint are secured. The ball is cored and plugged with a screw plug. When this plug is removed there is access to a firing pin adjustment. A bolt in the side of the base cap permits removal ofthe firing pin. A colar bolted around the forward end of the barrel secures it to the standard. The standard has two worm screws; one, a traversing screw, is motivated by cramk wheel, andthe othr, an elevating screw is motivated by a hand wheel. The standard is supported by two folding legs of steel pipe which terminate in discoid pedals. To the underside of each pedal is welded a tri-agonal spike. The base plate is of heavy sheet metal having beveled corners. A heavy wire handle is fastened to the base plate for carrying. An "X" spade of channel iron is riveted and welded to the underside of the base plate. A wooden shafted ramrod isthe final component of this item. A bristle brush is fastened to one end and a brass bore gauge is fastened to the other.

Remarks: This is a Navy weapon and should not be confused with the old (1928) army 81 mm mortar.



643- MORTAR 80mm,, TYPE 3

[redacted]

PSYCHROMETER

General:

Markings: Name plate giving manfacturer and date of manufacture.

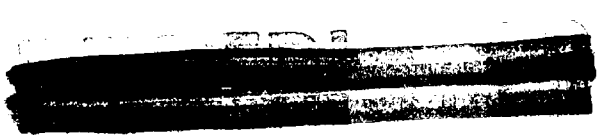
Dimensions: Length of case 9-1/8", width of case 3-3/4 Depth of case $3\frac{1}{4}$".

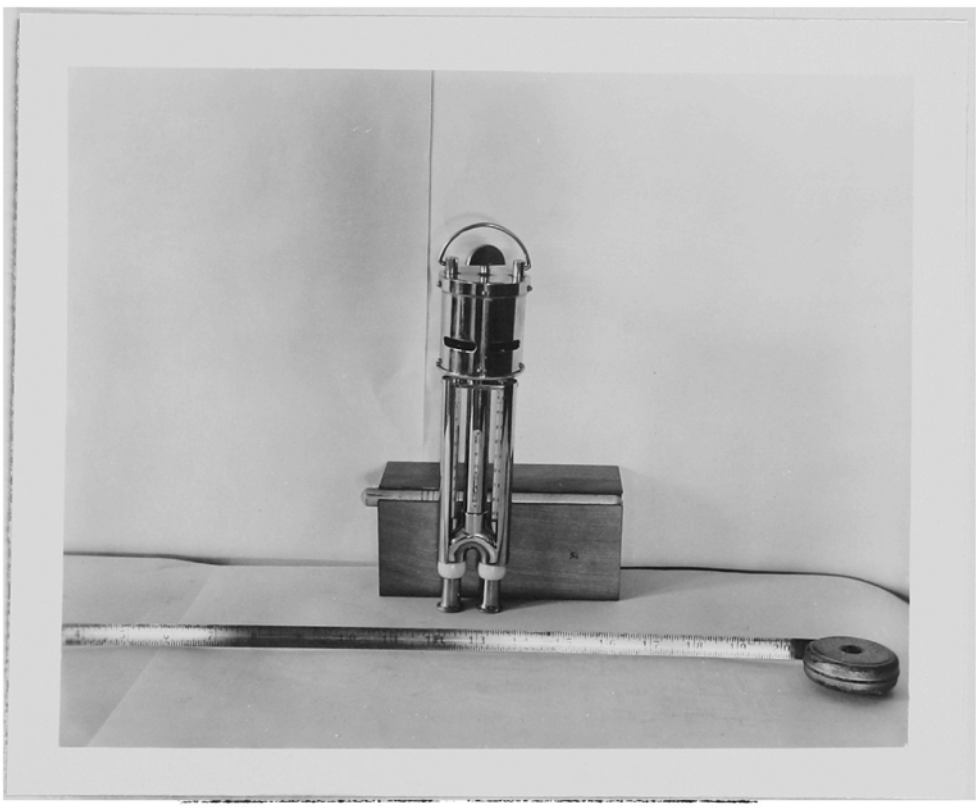
Description: The psychrometer is packed in a rectangular canvas case, which is khaki colored and has a heavy rubber—impregnate web carrying strap and a closure strap and buckle on front. The following items are packed in the case:

1 Motor, spring driven
1 Hook(suspension device)
1 Syringe, bulb, rubber
1 Table(figures)
1 Clamp
2 Nozzles, glass
3 Thermometers,Centigrade(graduated in degrees)

This device, used in finding the relative humidity, functions on the same principle as the sling psychrometer used in the U.S. Army. One of the thermometers is provided with a small gauze jacket which is soaked with water with syringe provided. The spring motor is wound, thus setting the fan in action, and the resultant stream of air is directed over the bulbs of both thermometers by means of tubes leading from the fan to the thermometer bulbs. When a period of time sufficient to allow establishment of equilibrium conditions has elapsed, a reading from both thermometers is taken. The reading of the wet bulb is subtracted from that of the dry bulb thermometer. The resultant number is one needed to determine the relative humidity The other value that is needed is the reading from the dry bulb thermometer. By applying both of these values to the table of figures, the relative humidity is determined.

Remarks: The above report is a direct excerpt from a "Weekl Report of Investigation of Japanese Chemical Warfare" Hq. XXIV Corps, APO 235, San Francisco, PEIST (Chm Sec) G-2, dtd 9 Dec 45. According to the translation of the label this instrument was manufactured in 1940, by Ota Guage Manufacturing Co.





PSYCHROMETER

Psychrometer Kit. The instrument fits into a protective wooden case (extreme left of photo). Accessories are in the small wooden case (center of photo). Tabulated figures on celluloid card (right of photo). Carrying case shown open.

[redacted]

638A-SMOKE CONCENTRATION MEASURER #1

General:

Color:	Brown
Markings:	Manufacturers name, date, serial number, and name of apparatus in Japanese characters.
Components:	Wooden box with 4 attached metal handles; Small electric motor and blower; 3¼ in iron tube, 25 inches long; iron box 8 inches high, 6-3/4 inches wide, 9-3/4 inches long; 2 electric inlets; 2 switches; 1 sheostat.
Dimensions:	10 inches high, 10½ inches wide, 55 inches long.
Weight:	80 lbs.

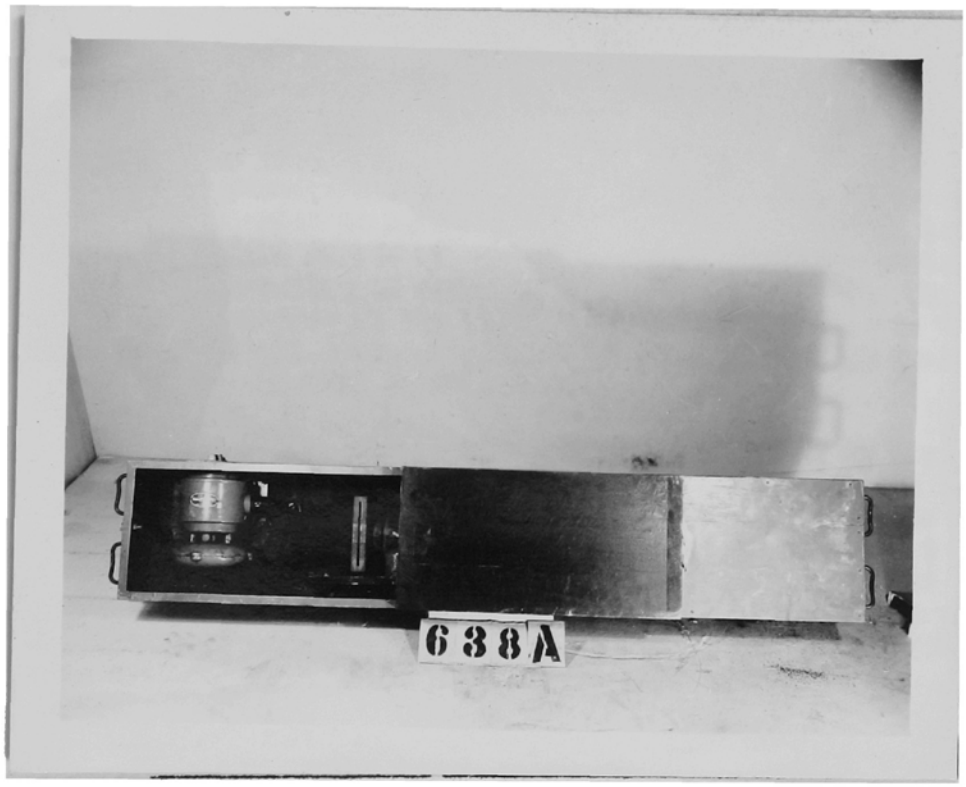
Description: From the information received with items 638A and 638B they are supposedly parts of one unit. From inspection of the two apparatuses the only apparent relationship is that the instrument readings may have been used together to determine smoke density. Otherwise the units seem to function independently, operating on like principle.

This unit consists of a small motor and blower in one end of the wooden box and a small metal box in the other end; a section of iron tube is braced horizontally between the blower and the metal box. Both ends of the pi are closed off by transparent glass plates. One end is fit against a circula ground glass plate which is sealed into the side of the small box.

The light source and light recording meter or photo cell were missing and an explanation of function can only be assumed. The unit probably contained a light source at the blower end of the cylinder as there are connections for a light source. A rheostat is connected in series with the light source for regulating light intensity.

Function: Smoke filled air is drawn through this unit by the blower. It enters the tube through an opening at the top (instrument end of tube) and leaves by an opening on the side which is connected to the blower inlet by a short metal duct. The beam from the light source is directed through this horizontal column of smoke and into the metal box. The intensity of the light as effected by the smoke density is then recorded by photmeter means or by a photoelectric cell. Persumably readings taken in this instrument would suppl data for a comparison of unknown smoke obscuring powers or to known standard smoke concentrations.

Remarks: No parts of the light source or the recording device except the electrical connection were in the instrument examined, hence no specific information can be given as to types used.



638A-SMOKE CONCENTRATION MEASURER #1

RESTRICTED

638P-SMOKE CONCENTRATION MEASURER NO.2

General:

Color:	Black
Markings:	Manufacturing date, mfr's name, serial no., and name of apparatus in Japanese (translated: Smoke Density Meter).
Components:	Metal housings for light source, and photoelectric cell, collimating lenses, series of parallel plates.
Dimensions:	36 inches long, 15 3/4 inches wide, 15 3/4 inches high.
Weight:	130 lbs. (minus some parts).

Description: This apparatus is used for measuring obscuring power of smoke. At the left end of the unit is a light source, a small electric bulb. This bulb is mounted in a metal housing which is removable from the box like chamber, 15 3/4 in. high, 15 3/4 in. deep, 8 in wide. At the right end of the the unit is another chamber, 15 3/4 in high, 15 3/4 in deep, 10½ in wide which houses a removable metal plate on which are mounted a metal coated photoelectric cell (believed to be cesium coated) and a pentode amplifier tube which are fully wired to yield an amplified signal from any excitation in the photoelectric cell. There is an electrical outlet on the bottom of the platesupporting these tubes. Presumably an amplified signal from the photoelectric cell is carried to a meter which measures its intensity.

Between the two ends of the unit is a section, approximately 17 3/4 inches wide, in which are mounted 41 parallel 1/32 in thick metal plates, perpendicular to the long axis of the unit. There is a space of 3/8 inches between each two plates in the series. At the center of each plate is a hole (4 in. diam.). These plates help to distribute the smoke particles evenly, form by means of the centered holes, a column of smoke to be subjected to the light beam from the left end of the unit, help keep out interfering light.

A metal tube, the same diameter as the holes in the plates connects the light bulb housing to the first plate in the series from the left. A collimating lens is mounted in this tube. A glass slide plate is in front of the lens. This plate protects the lenses from the smoke column, that is, prevents coating.

At the photoelectric cell end of the unit is another metal tube joining the instrument housing and the column of holes through the vertical plates. A collimating lens is mounted in this tube. Another sliding plate, half glass, half metal, protects this lens from coating by the smoke particles. When the unit is being used, the glass portion of this plate is in line with the smoke column and lens, when not in use the metal part of plate is moved into position. This plate arrangement makes possible a complete closing off of the photoelectric cell from light excitation when the cell is not being used for controlled measurement.

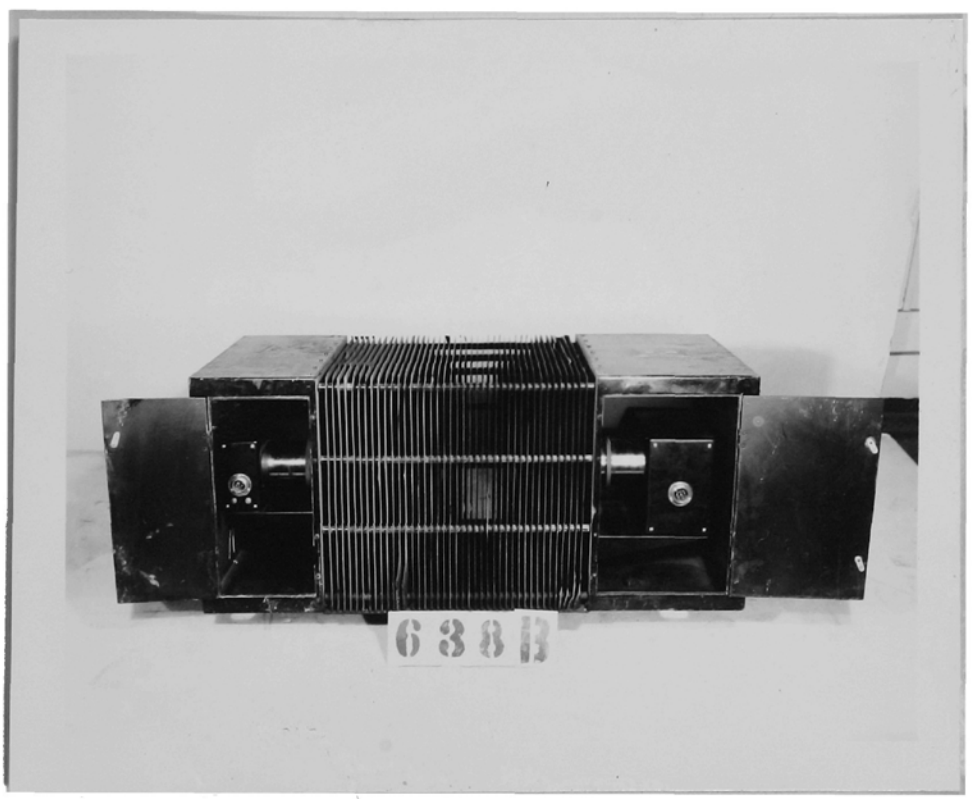
Between the lens and the photoelectric cell is another plate in which there is a pin hole. Light transmitted through the smoke column is converged through the pin hole and in that way is directed on the light sensitive coating on the photoelectric cell.

Remarks: This unit is placed in the smoke atmosphere being tested. The lightbulb is turned on and the amount of transmitted light through the

[redacted]

constant length smoke column is measured by the enclosed photoelectric cell. The instruments used for measuring the currents developed as a result of this light excitation of the cell were not with the unit.

This instrument can function independently and has no apparent connection with item 638 A, despite intelligence data to the contrary. However thisunit and 638A are both probably used simultaneoully while taking data and smoke density. A correlation of data from the two units (638A & 638B) could likely be more significant than data taken from either unit alone.



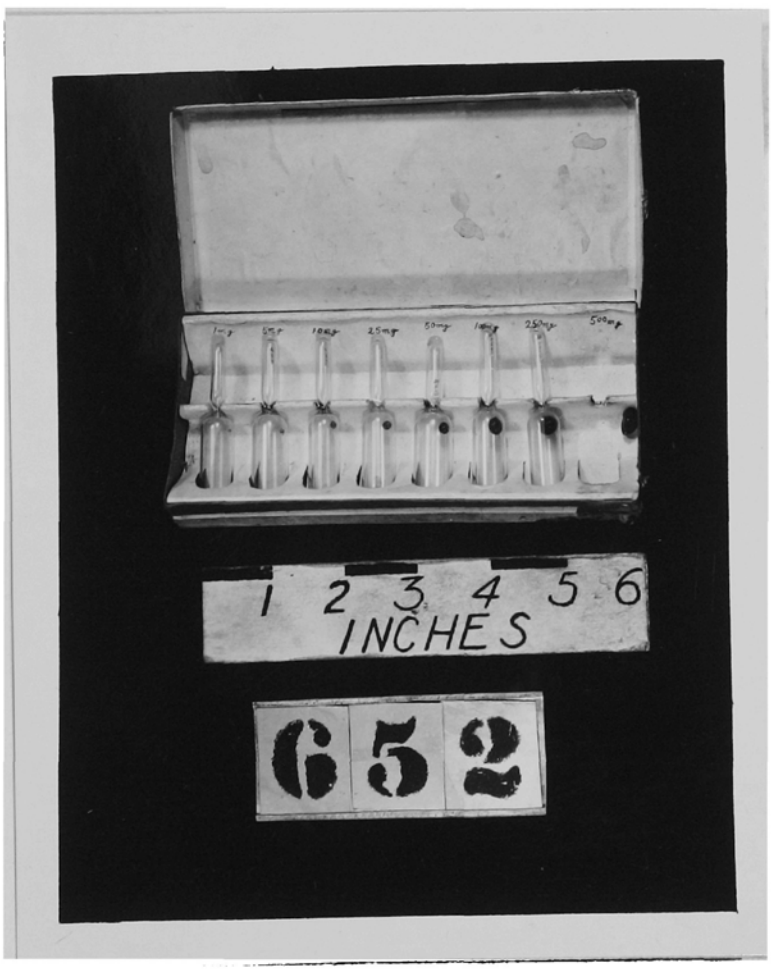
652-TITRATION AID FOR MUSTARD GAS

General:

Color: White paper
Markings: Identification hand printed in blue ink on the box lid.
Components: Cardboard box containing eight glass vials.
Dimensions: Box size 6.4" x 2.9" x 1.9".
Weight: 1 oz.

Description: This "titration aid" is a roughly fashioned cardboard carton containing eight nearly uniform slender necked sealed glass vials. Each vial contains one amber colored glass bead and are arranged in a series of progressi sizes ranging from 1 mg through 500 mgs in weight. In the neck of each vial is enclosed a hand written paper tag indicating the weight of each contained bead.

Remarks: The use of these beads in mustard titration has not been determine



709-TITRIMETER, FOR C.W. AGENTS

General:

Color- Dark Oak Stain

Markings- Metal identification tag of the Shimazu Co. on the front cover. A small paper label on the side which was translated to read, "Acidic Gas Detector Alarm"

Components- Five compartment cabinet built box containing the following; galvanometer and resistance bridge (standard cell missing), electrode clamp stand (electrodes missing), beaker stand (beaker missing), vials of 3.03 Ph standard soln. (one vial missing), brown glass automatic titration apparatus with graduated 1 cc delivery (broken). One of the compartments is believed to have held a bottle of standard reagent for the titration assembly

Dimensions- 17 inches x 5 inches x 20¼ inches

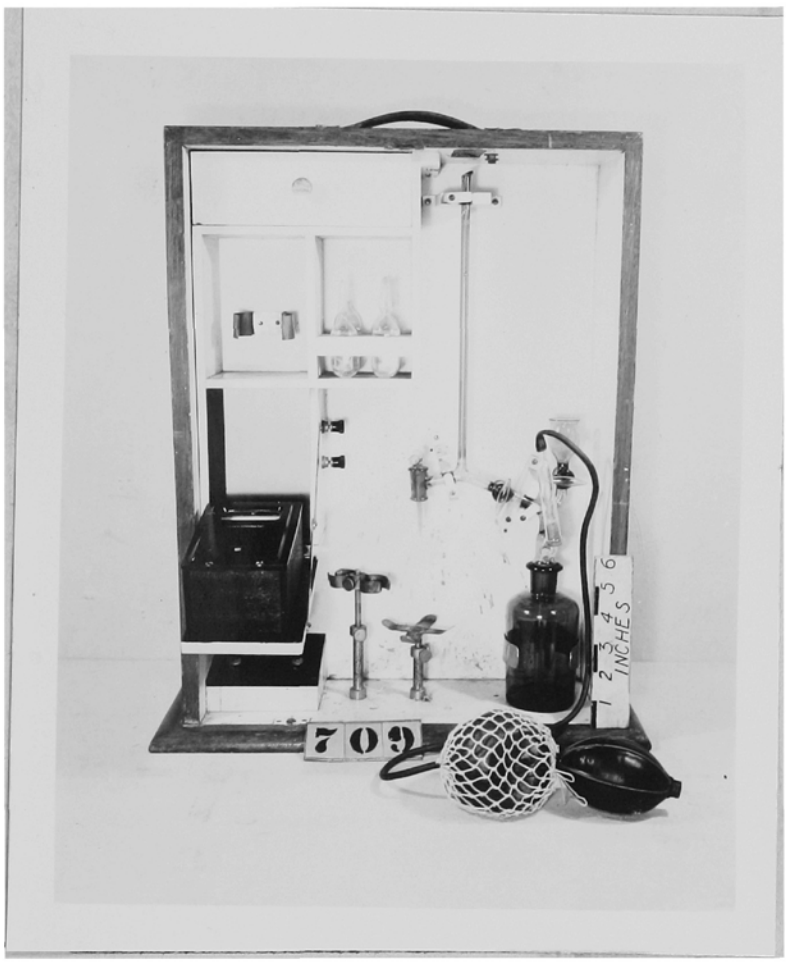
Description: The item that was available for examination was found to be incomplete. It is believed that upon reconstruction it would appear as follows:

One half of the box contains an automatic burrette of 1 cc capacity firmly held in a locking frame. The burrette is filled by means of air pressure supplied by a hand operated rubber bulb. The other half of the instrument is devoted to a Ph control unit with bridge resistance and standard 3.03 Ph buffer solution. A reagent bottle is believed to have been nested in a compartment on this side of the box.

The box itself has a front opening cover that is held in place by three ball-spring and grommet type fasteners. The box has a leather strap handle for portability.

Remarks: This instrument, which is easily portable, could be used to advantage in the field determination of chlorine on a semimicro scale. The pH of the buffer solution (Ph 3.03) is significant. In the mercurimetric determination of chlorine the determination is made at a corresponding pH range. During the titration there would be no increase in ion activity while unionized $HgCl_2$ is being formed, however when excess $Hg(NO_3)_2$ is added an indication of the increase ionization would be recorded in the potentiometric system. Although the reagent intended for use in this instrument is believed to have been $Hg(NO3)2$ there was not found sufficient evidence to make identification positive.

[redacted]



709-TITRIMETER, FOR C.W. AGENTS

[redacted]

APPENDIX

Equipment and Material Shipped to the U.S.A. From Japan and Korea

The following lists give in detail the nomenclature and quantities of the items shipped from Japan and Korea at the specified dates per directions (list . excepted) from the Office of the Chief Chemical Officer, GHQ, AFPAC, APO 500 in the period following the commencement of the occupation of Japan's former territories.

There are three separate lists. List 1 shows the equipment shipped from CW units in Japan, list 2 the items sent from CWS points in Korea and list 3 the three airplane spray tanks found in Japan by the Air Technical Intelligence Group and shipped to Wright Field in the U.S. (date not known).

The consignees of these shipments have been given to show where these items are available in the U.S.A.

Not all of the items are reported upon in this volume. In the individual lists a method of designation has been used to show which items can be found described in this volume.

1.) List of Equipment shipped from Japan to the U.S.A.

All items below were sent to the President, Chemical Warfare Board, Edgewood Arsenal, Maryland, Attention: Captured Materiel Officer per shipping manifest--- USA - CWSIV - V.- SCP - ME - B44-HY 1 through 15, on Voucher no. CVJ -7-46.

All items marked * are reported upon in the looseleaf notebook "Japanese Chemical Warfare". Numbers appearing with the nomenclature of these items are also in the shipping manifest and are marked on the items of equipment.

All items lacking the * are reported upon in this volume. The number on each item has the same significance as noted above. The purpose of the item number is to make identification and location of the item easier.

Item No.	Nomenclature	Quantity shipped	
PROTECTIVE EQUIPMENT			
A.)			
1.) Gas Masks, Canisters and Accessories			
a.) Army Gas Masks			
544 -	Mask, Gas, Army, Type 87, Old	3	
544A-	Mask, Gas, Army, Type 87, Old, Early Model	1	
544B-	Cutaway View of Mask, Gas, Army, Type 87 (544)	1	
400 -	Mask, Gas, Army, Type 89 (about)	1	
200 -	Mask, Gas, Army, Type 91	6	
200A-	Cutaway View of Mask, Gas, Army, Type 91 (200)	1	
99A -	Mask, Gas, Army, Type 95, W/Hood	30	
99B -	Cutaway View of Mask, Gas, Army, Type 95 (JCW)	3	
100A-	Mask, Gas, Army, Type 99, W/Hood	1	
100B-	Mask, Gas, Army, Type 99, W/Hood	1	
100C-	Cutaway View of Mask, Gas, Army, Type 99 (JCW)	2	
101A-	Mask, Gas, Army, Assault	2	
101D-	Mask, Gas, Army Assault	1	
101B-	Cutaway View of Mask, Gas Army Assault (101)	3	
102A-	Cutaway View of Mask, Gas CO, General Service (JCW)	2	
103B-	Mask, Gas, Head Wound, Modified	1	
547 -	Mask, Gas, Army, W/Rubber Reinforced Facepiece	11	
550 -	Mask, Gas, Army, Diaphragm	20	
551 -	Mask, Gas, Army, Diaphragm, For High Ranking Officers	9	
552 -	Mask, Gas, Army, W/Oval Type Canister	7	
553 -	Mask, Gas, Army, W/Round Type Canister	2	
685 -	Dual Purpose Gas Mask	1	
675 -	Mask, Gas, Unknown W/Air Cooler on Hose	1	
383 -	Mask, Gas, Aviator	3	
384 -	Mask, Gas, Aviator (new)	8	
384A-	Cutaway View of Mask, Gas, Aviator (new), (384)	1	
414 -	Mask, Oxygen, Aviator	4	
684 -	Mask, Oxygen, Special	1	
679 -	Mask, Gas, Officers	5	
681 -	Mask, Gas, Pilot's	5	
672 -	Mask, Gas, Unknown Nationality	1	
673 -	Mask, Gas, Unknown Nationality	1	
99 -	Mask, Gas, Army, Type 95	3	*
100 -	Mask, Gas, Army, Type 99	50	*
101 -	Mask, Gas, Army, Assualt	18	*
102 -	Mask, Gas, CO, General Service	4	*
103 -	Mask, Gas, Head Wound	11	*

Item No.	Nomenclature	Quantity Shipped	
	b. Navy Gas Masks		
106A	- Mask, Gas, Navy, Type 93, No. 4	17	
510	- Mask, Gas, Navy Experimental, Type 3 Chlorine	1	
401	- Mask, Gas, Aviator Navy	1	
596	- Mask, Oxygen, Naval	14	
306	- Mask, Gas Navy, Type 97, No. 1 Diaphragm	12	*
105	- Mask, Gas, Navy Type 93, No. 2	18	*
106	- Mask, Gas, Navy, Type 93, No. 3	9	*
	c. Civilian Gas Masks		
107A	- Mask, Gas, Civilian, Type 1A	5	
107B	- Mask, Gas, Civilian	8	
108A	- Mask, Gas, Civilian, Type 2A, Modified A	1	
108B	- Mask, Gas, Civilian, Type 2A, Modified B	1	
108C	- Mask, Gas, Civilian, Type 2A, Modified C	1	
108D	- Mask, Gas, Civilian, Type 2A, Modified D	1	
108F	- Cutaway view of Mask, Gas, Civilian, Type 2A	1	
580A	- Cutaway view of Mask, Gas, Civilian, 12th Yr.	2	
671	- Mask, Household, Type 2A	1	
671A	- Mask, Household, Type 2A	1	
109	- Mask, Gas, Air Defense, Type 16th Year, Model A (Child)	1	
307	- Mask, Gas, Air Defense, Type 17th Year, Model B	19	
307A	- Mask, Gas, Air Defense, Type 17th Year Model A	50	
347A	- Mask, Gas, Civilian, Wide Vision Type	2	
674	- Mask, Gas, Civilian, M/Hood	1	
387	- Respirator, Civilian, Dust	3	
680	- Respirator, Dust	9	
107	- Mask, Gas, Civilian, Type 1A, Improved model	9	*
108	- Mask, Gas, Civilian, Type 2A	14	*
110	- Mask, Gas, Air Defense, Type 16th Year	11	*
	d. Animal Gas Masks		
521	- Mask, Gas, Camel	2	
520	- Mask, Gas, Cow	1	
377	- Mask, Gas, Dog and Shoe Leggings	13	
379	- Mask, Gas, Horse (New)	6	
104	- Mask, Gasp Horse, Type 96	14	*
	e. Canisters		
990	- Canister for Mask, Gas, Army, Type 95	10	
1010	- Canister for Mask, Gas, Army Assault	8	
3834	- Canister for Mask, Gas, Aviator	1	
68[illegible]	- Canister for Mask, Gas, Pilot	3	
[illegible]	- Canister for Mask, Gasm Navy, Type 93, No. 2	11	
104[illegible]	- Canister, Model 1A	5	
103[illegible]	- Canister for Mask, Gas, Civilian Type 2A	1	
363	- Canister for AC Mask	8	
363A	- Canister for AC Mask	6	
121A	- Canister for Acidic Gas	1	
375	- Canister for CO	1	
369	- Canister for Phosgene, Bromine, Iodine	1	
376	- Canister for Sulfurous acid	1	
	f. Accessories		
602	- Attachment, Type 100 Waterproofing Clamp and Hose	1	
381	- Attachment, Experimental Waterproofing Clamp and Hose	7	
381A	- Attachment, Experimental Waterproofing Clamp and Hose	1	
381B	- Attachment, Experimental Waterproofing Clamp and Hose	1	
381C	- Attachment, Experimental Waterproofing Clamp and Hose	1	

Item No.	Nomenclature	Quantity Shipped	
	f. Accessories (cont)		
418	- Tube, Oxygen Generator	2	
543	- Absorbemt For Canister	1	
129	- Anti-Freeze, Horse Mask	10	*
123	- Anti-Dim Disc	10	*
127	- Air Tube, Gas Mask "A"	1	*
154B	- Kit, Repair, Gas Mask, Type 98	2	*
	2.		
645	- Tester, Mask, Table Model	2	
646	- Tester, Mask, Table Model	2	
524	- Tester, Mask, Type A, Motor Operated	1	
500A	- Tester, Canister, Laboratory type	1	
500B	- Tester, Canister, Laboratory type	1	
151	- Tester, Mask, Type 98 No. 1	2	*
152	- Tester, Mask, Type 98 No. 2	2	*
153	- Tester, Mask, Sewing Machine Type	2	*
	[illegible]		
343	- Oxygen Inhalator, Type 3	3	
344A	- Oxygen Inhaler, Hospital, Box	2	
344B	- Oxygen Inhaler, Hospital, Stand	2	
344C	- Oxygen Inhaler, Hospital, Accessories	1	
344D	- Oxygen Inhaler, Draeger	1	
344E	- Oxygen Charger	1	
344F	- Oxygen Cylinder	6	
639	- Oxygen Inhalator, Mark 4	1	
640	- Oxygen Inhalator, Training, Mk 1	1	
	B) CHEMICAL AGENT DETECTOR EQUIPMENT		
535	- Detector Agent	10	
424	- Detector Chemical, Civilian, Gas	7	
686	- Detector Kit, Persistent Gas, Air Defense	10	
539	- Detector Paper, Mk II	1	
648	- Detector Paper, Type 95 A	1	
346	- Detector Plate and Pain, Vesicant, Type A and B	10	
603	- Detector Pump, Gas, Type A	7	
604	- Detector Pump, Gas, Type B	1	
345	- Detector, Tape Roll, Vesicant	8	
154	- Detector Kit, Type 91, Carbon Monoxide	5	*
153	- Detector Kit, Type 95A	10	*
153B	- Detector Kit, Type 95B	10	*
151	- Detector Kit, Type 96, Scouting	10	*
153	- Detector Kit, Type 100, Carbon Monoxide	10	*
32A	- Detector Kit, Navy, Model 2	2	*
	C) COLLECTIVE PROTECTOR EQUIPMENT		
348	- Blower, Type 93, Hand Operated	1	
348A	- Accessories For Type 93 Hand Operated Blower	1	
349	- Blower, Large, Hand Operated	1	
350	- Blower, Type 94, Motor Operated	1	
351	- Blower, Type 93, Motor Operated	1	
351A	- Accessories For Blower, Type 93, Motor Operated	1	
594	- Collective Protector, Type 97 Canister	1	
594A	- Canister, Type 97	5	
594B	- Accessories For Type 97 Canister	5	

Item No.	Nomenclature	Quantity Shipped	
	C) COLLECTIVE PROTECTOR EQUIPMENT (CONT)		
594C	- Canister, Type 97, Large	1	
594D	- Collective Protector, Type 97, Large, Canister	1	
598	- Collective Protector, Charcoal Type Canister	1	
598A	- Canister, Charcoal Type	5	
598B	- Canister, Charcoal, Replacement	5	
599	- Collective Protector, Caustic Soda Type Canister	1	
599A	- Canister, Caustic Soda Type	5	
599B	- Accessories For Caustic Soda Type Canister	3	
599C	- Canister, Caustic Soda Type, Replacement	2	
	D) DECONTAMINATING EQUIPMENT		
403	- Decontaminating Agent Mk 5 Powder	10	
534	- Decontaminating Agent, Mk 6 Powder	8	
512	- Decontaminating Unit, Horse carried, Steam, Type 99, Mk A	1	
513	- Decontaminating Unit, Horse carried, Hot air, Type 99, Mk B	1	
340	- Decontaminating Unit, Armored, Trailer Mounted	1	
341	- Decontaminating Unit, Mobile, Hot Air, Type 99, Mk B	1	
342	- Decontaminating Unit, Mobile, Steam, Type 99 Mk A	1	
558	- Sprayer, Decontaminating, 5 Gal., Portable	1	
642	- Sprayer, Decontaminating, Fire Extinguisher Large	2	
642B	- Sprayer, Decontaminating, Fire Extinguisher Small	1	
169	- Decontaminating Agent, Mk 1 thru 4	1	*
171	- Decontaminating Agent, Oval Green can	10	*
	E) GAS CASUALTY KITS		
502	- Kit, Gas Casualty, A,B,C	3	
503	- Kit, Gas Casualty, Battalion	1	
515	- Kit Gas Casualty, Experimental Type	1	
518	- Kit, Civilian Type, Gas Medical	1	
522	- Kit, Gas Casualty, Veterinary, Large	1	
682	- Kit, Gas Casualty, Veterinary, Small	5	
516	- Kit, Gas Casualty, Veterinary, Type A	5	
597	- Kit, Gas Casualty, Veterinary, Type B	5	
522L	- Replacements for Kit, Gas Casualty, Veterinary, Large (Cases)	5	
	F) IMPREGNITES		
365	- Impregnite, Shoe, Summer Type, Individual, Type A	10	
366	- Impregnite, Shoe, Winter Type, Individual Size, B	10	
367	- Impregnite, Shoe, Company Size, Type C	9	
[illegible]	- Impregnite, Horse Mask, Type 91, Old	1	
[illegible]	- Impregnite, Horse Mask	10	*
	G) PROTECTIVE CLOTHING		
396	- Clothing, Protective, Heavy, Type 90	6	
373	- Clothing, Protective, Hood Type	10	
374	- Clothing, Protective, Decontaminating Suit, Heavy	4	
677	- Suit, Heavy Rubber with Attached Boots	10	
385	- Boots, Gas Scouting	10	
146	- Cover, Protective, Horse Type 97	10	
370	- Eye Shields, Experimental Type, Horse	3	
148L	- Horse Leggings, Experimental Type	1	
197	- Tent, Gas Proof, Large	5	
676	- Cover, Vehicle	8	
134	- Cape, Protective, Type, 3, Modified 1	10	*

Item No.	Nomenclature	Quantity Shipped	
G) PROTECTIVE CLOTHING (CONT)			
134A	- Cape, Protective, Type 3, Modified 2	10	*
133	- Cape, Sheet Paper	10	*
139	- Clothing, Protective, Type 96 Complete	10	*
155	- Kit, Repair, Protective Equipment	10	*
148	- Leggings, Horse, Type 100	1	
H) TRAINING AIDS			
1) Sniff Sets			
186-195	- Sniff Testing Chemicals, A	5	
352	- Sniff Set Unit, Type 96	5	
425	- Sniff Set, Shimazu	5	
593	- Sniff Set, Civilian	5	
411	- Sniff Training Tube, CNB	2	
2) Charts, Training Aids, CW Agent			
540	- Training Aid Chart, CW Agents, Set of Five	6	
540A	- Training Aids, Chart, CW Agents	1	
540B	- Training Aid, Chart, CW Agents	1	
3) Others			
531	- Bomb, Training Aid, Wooden	1	
683, A,B,C	- Display, Gas Mask Parts	1	
581	- Training Aids, CW Agents	1	
389	- Training Aid, Physiological Effects of CW Agents	10	
I) GAS WARNING EQUIPMENT			
198	- Siren, Small	5	
601	- Siren, Portable	3	
649	- Gas Alarm Sticks	10	
WEAPONS AND MUNITIONS			
A) Grenades			
600	- Grenade, Frangible Smoke "C"	2	
610	- Frangible, Smoke Grenade "D"	4	
527	- Grenade, Tear Gas, Type 1, Model B, Improved	10	
626	- Grenade, Rifle, Model 3, Mod.1 (Liquid)	1	
708	- Ball H.E.	3	
67	- Grenade, Frangible Incendiary, Navy	1	*
73	- Grenade, Incendiary, Hand, WP	1	*
68A	- Grenade, 50mm., Type 91, Smoke, Shell, Hand	1	*
76A	- Grenade, Smoke, Rifle, Mk 1	1	*
67B	- Igniter, Capsule for Grenade, Frangible Incendiary, Navy	10	*
B) Bombs			
1. Gas Casualty Agent Bombs			
299	- Bomb, 60 Kg, No. 6 Mk 1, Land	100	
299C	- DC Container For Bomb, 60 Kg, Type 1, No. 6, Mk. 1 Land (Sneezing Gas)	12	
299D	- Container, For Bomb, 60 Kg, No. 6, Mk 1, Land	10	
299E	- Bomb, 60 Kg, Type 4, No 6, Mk 1, Land	1	
578	- Bomb, 200 Kg, Gas	1	
667	- Bomb, 30cm, Gas, Wooden (w/o Tail Section)	1	
666	- Bomb, 14" diameter, Gas, Wooden (w/o Tail Section)	1	
663	- Bomb, Large Wooden, Vesicant	1	
2. Incendiary and Smoke Bombs			
79A	- Bomb, 2 Kg, Smoke Float, Mod. 4, Yellow	56	
79B	- Bomb, 2 Kg, Smoke Float, Mod, 4, Black	100	
635	- Bomb, 2 Kg, Smoke Mod. 2 (1932)	1	
633	- Bomb, 5 Kg, Type 4, Incendiary	18	
		26	

Item No.	Nomenclature	Quantity Shipped	
	2. Incendiary and Smoke Bombs		
609	- Bomb, Floating Smoke Flare	26	
11	- Insert, Incendiary, For 40 Kg. Bomb	4	
419	- Bomb, 60 Kg., Type 3, No. 6, Mk 27, Model 1, Rocket	5	
304B	- Bomb, 70 Kg., Type 1, No. 7, Mk. 6, Model 3, Mod. 2	50	
77	- Bomb, 1 Kg, Type 93, Incendiary	2	*
93	- Bomb, 32 Kg, Type 99, No. 3, Modif. Incendiary	50	*
87	- Bomb, 50 Kg, Type 100, Incendiary	3	*
303	- Bomb, 50 Kg, Type 3, No. 6, Mk 3, Incendiary	30	*
94	- Bomb, 70 Kg, Type 98, No. 7, Mk 6, Modif. 1, Incendiary	1	*
97	- Bomb, 250 Kg, Type 2, No 25, Mk 3	50	*
	3. Training Bomb		
88	- Bomb, Practice, Type 95, 4 Kg.	1	
328	- Bomb, 10 Kg., Mk 1, Practice	6	
328A	- Bomb, 10 Kg., Mk 1, Practice	1	
364	- Bomb, Training Smoke	1	
661	- Bomb, 30 Kg. Model 1, Practice	6	
661A	- 30 Kg, Model 1 Practice	4	
	4. Special Purpose Bombs		
34	- Bomb, Target Indicator, 2 Kg. Type 2	46	
662	- Bomb, 2 Kg. Model 1 and 2	15	
636A	- Bomb, Flare, Illuminating A	10	
636B	- Bomb, Flare, Illuminating B	1	
669	- Bomb, 15 Kg Anti-Personnel H.E.	1	
96	- Bomb, 70 Kg, Type 3, No. 6, Target Marker	50	*
	C) PROJECTILES AND SHELLS		
	1) Gun - Howitzer		
561	- Projectile, 75mm, Incendiary (empty)	4	
560A	- Projectile, 75mm, Gas, (Cutaway)	1	
560C	- Projectile, 75mm, Gas, (Cutaway) Vesicant Filled	1	
560B	- Projectile, 75mm, Gas, (Cutaway) Vomiting Filled	1	
592A	- Projectile, 100mm, (Cutaway)	1	
715	- Projectile, 105mm, Type 92, Vesicant filled	2	
55A	- Projectile, 105mm, (Cutaway), Chemical Filled	1	
55B	- Projectile, 105mm, (Cutaway) Chemical Filled	1	
55C	- Projectile, 105mm, (Cutaway), Chemical Filled	1	
55D	- Projectile, 105mm, Chemical Filled (Cutaway)	1	
55E	- Projectile, 105mm, Chemical Filled (Cutaway)	9	
322A	- Projectile, 12.7cm, Magnesium Flare Blue	3	
322B	- Projectile, 12.7cm, Magnesium Flare Red	3	
713	- Projectile 150mm, Type 92, Vesicant Filled	6	
714	- Projectile, 150mm, Type 93, Vomiting Gas Filled	4	
590	- Projectile, 150mm, Type 13 year Smoke	9	
57A	- Projectile, 15cm, Empty	1	
57B	- Projectile, 15cm, Empty	1	
57C	- Projectile, 15cm, Empty	1	
57D	- Projectile, 15cm, Empty	1	
57E	- Projectile, 15cm	3	
57F	- Projectile, 15cm, Empty	3	
57G	- Projectile, 15cm	1	
559A	- Projectile, 15cm, Chemical Filled (Cutaway)	1	
559B	- Projectile, 15cm, (Cutaway)	1	
559C	- Projectile, 15cm, Chemical Filled (Cutaway)	1	

Item No.	Nomenclature	Quantity Shipped	
	1) Gun - Howitzer (cont)		
559D	- Projectile, 15cm, Chemical Filled (Cutaway)	1	
559E	- Projectile, 15cm, Chemical Filled (Cutaway)	1	
60A	- Shell, 50mm, 10th year, Flare "A"	5	
60B	- Shell, 50mm, 10th year, Flare "B"	5	
658	- Shell, 75mm, Type 1AP, Prov. For Type 90 Field Gun	26	
717	- Shell, 75mm, Type 92, Vesicant Filled	8	
716	- Shell, 75mm, Type 92, Vomiting Gas Filled	8	
560D	- Shell, 75mm	1	
621	- Colorizing Agent, Yellow, 12.7 cm, 40 cal. Dual Purpose Gun	10	
31B	- Insert, C.W. Agent for 12.7cm, Naval Shell	5	
31A	- Insert, C.W. Agent for 15cm Naval Shell	40	
50	- Projectile, 75mm, HL	10	*
	2) Mortar		
655	- Projectile, 81mm, Mortar Mark 1, Special	10	
659A	- Projectile, 81mm, Type 89, Smoke Mod, 1, Yellow	4	
659F	- Projectile, 81mm, Type 89, Smoke Mod.2, White	4	
659B	- Projectile, 81mm, Type 91, Smoke, Impr. #2 White	6	
659C	- Projectile, 81mm, Type 91, Smoke Impr. #2 Red	2	
659D	- Projectile, 81mm, Type 91, Smoke, Impr. #2 Black	5	
659E	- Projectile, 81mm, Type 91, Smoke Mod. 2, Green	5	
655A	- Shell, Mortar, 81, Type 100, For Type 97 Mortar	9	
63A	- Projectile, 81mm, Mortar, [illegible], Flare	1	
63B	- Projectile, 81mm, Mortar, [illegible], HE, Smoke	9	
63C	- Projectile, 81mm, Mortar, [illegible], Green Nose, Red Band	6	
564A	- Projectile, 81mm, Mortar, Experimental Fuzeless	5	
564B	- Projectile, 81mm, Mortar, Experimental Fuzeless	4	
564C	- Projectile, 81mm, Mortar, Experimental, Fuzeless	7	
564D	- Projectile, 81mm, Mortar, Experimental, Fuzeless	1	
564E	- Projectile, 81mm, Mortar, Experimental, Fuzeless	2	
333A	- Projectile, 90mm, Mortar, Type 1, Smoke, Prov., For Type 94, Light Mortar	34	
333B	- Projectile, 90mm, Mortar, Type 94, Smoke Substitute For Type 94 Light Mortar	10	
316B	- Projectile, 90mm, Mortar, Gas, (Empty)	1	
563	- Projectile, 90mm, Mortar, Gas	1	
562	- Projectile, 150mm, Mortar, Vesicant Gas	1	
613	- Projectile, 32cm, Spigot Mortar	1	
61A	- Projectile, 50mm, Grenade, Type 89, HE	2	
316A	- Projectile, 90mm, Mortar, Gas (DC)	12	*
	3) Rockets		
689	- Projectile, Rocket, 72mm	3	
668A	- Projectile, 10cm, Rocket	4	
668B	- Projectile, 10cm, Rocket	2	
668C	- Projectile, 10cm, Rocket	1	
668D	- Projectile, 10cm, Rocket	4	
668E	- Projectile, 10cm, Rocket	1	
583G	- Projectile, 15cm, Rocket, Warhead For	1	
583F	- Projectile, 16cm, Rocket, Warhead For	1	
584E	- Projectile, 16.5cm, Rocket	1	
584B	- Projectile, 20cm, Rocket, Warhead For	1	
584C	- Projectile, 20cm, Rocket	1	
583A	- Projectile, 23.5cm, Rocket, Warhead For	1	
583E	- Projectile, 23.5cm, Rocket, Warhead For	1	

Item No.	Nomenclature	Quantity Shipped
C) PROJECTILES AND SHELLS (CONT)		
583H	- Projectile, 24cm, Rocket Warhead For	1
583D	- Projectile, 24cm, Rocket Warhead For	1
584D	- Projectile, 24cm, Rocket	1
583C	- Projectile, 24.5cm, Rocket, Warhead For	1
583B	- Projectile, 25cm, Rocket, Warhead For	1
664	- Projectile, 25cm, Rocket	1
584A	- Projectile, 38.5cm, Rocket, Warhead For	1
644A	- Warhead, Rocket Projectile, 90mm, Ceramic	1
644B	- Warhead, Rocket Projectile, 90mm, Ceramic	1
644E	- Warhead, Rocket Projectile, Ceramic	1
644D	- Warhead, Rocket Projectile, Ceramic	1
644C	- Warhead, Rocket Projectile, 100mm, Ceramic	1
582	- Warhead, Rocket Projectile, Pressed Paper	1
D) JAPANESE FUSES AND GAINES		
651	- Fuze, Type I, Instantaneous, Nose	1
687	- Fuze, Type I, Mechanical Impact, Tail	1
690	- Fuze, Type 88, Instantaneous	22
691	- Fuze, Type 88, Short Delay	1
692	- Fuze, Type 91, Modif. 1, Time (Box of 40)	1
697	- Fuze, Type 97, Mark 2, Model 2, Modif. 1, Nose (Box of 40)	6
698	- Fuze, Type 99, Mk 3, Modif. 1, Tail (Box of 12)	6
701	- Fuze, Type 99, No. 25, Base (Box of 6)	1
702	- Fuze, Type 100, Combination (Box of 53)	1
703	- Fuze, Type 3, 8cm, Mortar, Combination	2
704	- Fuze, Type 3, Nose Initiator (Box of 6)	9
705	- Fuze, Type 5, Year Combination (Box)	1
706	- Fuze, Type 15, Model 2, Modif 1, Base (Box of 4)	9
707	- Fuze, Mechanical Impact Nose, A3b	1
693	- Gaine, Type 92, Modif. 2, Land Bomb (Box)	2
694	- Gaine, Type 92, Modif. 3, Land Bomb (Box)	2
695	- Gaine, Type 97, "A" Modif. 1, Land Bomb (Box of 20)	4
696	- Gaine, Type 97, "B" Modif. 1, Land Bomb (Box of 20)	7
699	- Gaine, Type 99, Mk 3, Modif. 2, (Box of 20)	5
700	- Gaine, Type 99, "A" Ordinary Bomb (Box of 20)	1
E. PYROTECHNICS AND CHEMICAL ORDNANCE		
1) Candle, Containers, and Sticks		
a. Smoke		
32	- Candle, Smoke, Type 97 Light	8
360	- Candle, Smoke, Type 3B, Small	10
536A	- Candle, Smoke, Type 1, Model 1, White	10
536B	- Candle, Smoke, Type 1, Model 1, Yellow	10
536C	- Candle, Smoke, Type 1, Model 1, Red	10
536D	- Candle, Smoke, Type 1, Model 1, Blue	10
595	- Candle, Smoke, Rev.3, White	1
612A	- Candle, Smoke, Large Model, Green	10
612B	- Candle, Smoke, Large Model, Red	10
612C	- Candle, Smoke, Large Model, Yellow	10
617	- Candle, Smoke, Self Projecting	10
619	- Candle, Smoke, 1 Kg, Rev.5,	10
625	- Candle, Smoke, Black	1
170	- Candle, Smoke, Type 94, Large	2
634A	- Candle, Smoke, Large A	2

Item No.	Nomenclature	Quantity Shipped	
E) PYROTECHNICS AND CHEMICAL ORDNANCE (CONT)			
634B	- Candle, Smoke, Large B	2	
407	- Container, Smoke, A, Mk 1	5	
657	- Generator, Smoke, Floating "A"	5	
660	- Smoke Ball	1	
22	- Candle, Smoke, Hand Carried	8	
627	- Candle, Smoke, Message Tube	5	
629A	- Candle, Smoke, Small Model 2, Special	10	
629B	- Candle, Smoke, Large Model 2, Special	8	
27A	- Smoke Candle, 10 Kg, Naval Ignition Charges	1	
23	- Candle, Smoke, 1/3 Kg, Rev. 3	3	*
26	- Candle, Smoke, 1 Kg, Rev. 7	10	*
15	- Candle, Smoke, Type 94, Floating A	4	*
16	- Candle, Smoke, Type 94, Floating B	10	*
17A	- Candle, Smoke, Type 94, Large A	6	*
17B	- Candle, Smoke, Type 94, Large B	8	*
18	- Candle, Smoke, Type 94, Small A	10	*
19	- Candle, Smoke, Type 94, Substitute "A"	10	*
356	- Candle, Smoke, Type 97, Small, Yellow	10	*
357	- Candle, Smoke, Type 97, Small, Red	10	*
358	- Candle, Smoke, Type 97, Small Blue	10	*
20	- Candle, Smoke, Type 99, Self Projecting	10	*
588	- Candle, Smoke, Rev. 2, Red	3	*
589	- Candle, Smoke, Rev. 2, Blue	2	*
b. Tear Gas			
656	- Container, Tear Gas, Model 1	6	
35	- Candle, Tear Gas, Type 89	10	*
37	- Candle, Tear Gas, "A", Large	10	*
38	- Candle, Tear Gas, "A", Small	10	*
184	- Sticks, Tear Gas, Type 89	10	*
c. Others			
712	- Candle, Special Smoke, Vomiting Gas Impregnated	1	
519A	- Candle for Bomb Disposal Fork, Red	1	
519B	- Candle for Bomb Disposal Fork, Black	2	
185	- Indicator, Persistent Gas, Type 93	10	*
44	- Candle, Vomiting Gasm Type 99, Medium	10	*
45	- Candle, Vomiting Gas, Type 100, Large	10	*
48	- Candle, Vomiting Gas, Type 100, S.P.	10	*
43	- Candle, Vomiting Gas, Type 98, Small	4	*
47	- Candle, Vomiting Gas, Type 99, S.P.	11	*
2) Flares			
611	- Flare, Wing, Type 90	2	
616	- Flare, Parachute, Type 100, Self Projecting	1	
618	- Flare Tube, Type 3, Self-Projecting, Provisional	5	
623A	- Flare, Signal, Type 93, 4cm, White Parachute Star	1	
623B	- Flare, Signal, Type 93, 4cm, Green Triple Star	1	
623C	- Flare, Signal, Type 93, 4cm, White Triple Star	1	
623D	- Flare, Signal, Type 93, 4cm, Black Dragon	1	
628	- Flare, Signal, Ground, Green	1	
630C	- Flare, Parachute, Type 90, Model 1, Green	2	

Item No.	Nomenclature	Quantity Shipped	
	3) Incendiary Items		
13	- Incendiary Block	100	
577	- Handle, Incendiary, Mk 1A, Small	9	
393C	- Filler, Incendiary	7	
393A	- Pellet, Incendiary	100	
393B	- Sheet, Incendiary	8	
632A	- Incendiary Tube, 1 Kg, Electron	8	
632B	- Incendiary Tube, Electron 2 Kg	8	
632C	- Incendiary Tube, Electron, 10 Kg	3	
404	- Incendiary Tube M, (Special), Type 3	10	
408	- Incendiary Tube M, Mark 1, Med.	5	
409	- Incendiary Tube M, Mk 2, Large	1	
538	- Incendiary Liquid	2	
	F) FLAMETHROWING EQUIPMENT		
201	- Tank, Flamethrower, 5-Gun Mount	1	
608	- Flamethrower Equipment, for Tanky Flamethrower, 5-Gun Mount	5	
402	- Tank, Flamethrower, Experimental, Type 97 (less guns)	1	
12A	- Flamethrower Type 93, Portable	5	*
12B	- Flamethrower, Type 93, Portable	5	*
14A	- Flamethrower, Type 100, Portable	5	*
14B	- Flamethrower, Type 100, Portable	5	*
14C	- Flamethrower, Type 100, Portable	5	*
637	- Tankette, Type 97	1	
149	- Compressor, Air, Small, Type 99	5	*
150	- Maintenance Kit for Compressor, Air, Small, Type 99	4	*
	G) VESICANT HANDLING EQUIPMENT		
606	- Filler, Vesicant Container	3	
607	- Container, Vesicant, 2-Gallon	5	
607A	- Sprayer, Vesicant, Type 95	10	
607B	- Accessories For Vesicant Sprayer, Type 95	1	
514A	- Accessories, Type 100, For Vesicant Sprayer, Type 95	10	
605	- Transferer, Liquid, Type 97	3	
675	- Vesicant Container, 1-Gallon	1	
569A	- Vesicant Container, 3-Gallon	2	
555	- Vesicant Container, 5-Gallon	3	
569	- Vesicant Container, Plastic	3	
570	- Vesicant Container, 25-Gallon	5	
570A	- Vesicant Container, 30-Gallon	2	
554	- Vesicant Container, 40-Gallon	2	
568B	- Vesicant Drum, 10 Gallon	1	
568C	- Vesicant Drum, 10 Gallon	1	
568A	- Vesicant Drum, Wooden, 30-Gallon	1	
338	- Sprayer, Vesicant Gas, Trailer Mounted, Type 94A	1	
528	- Vesicant Spray Tank, Airplane	2	
567	- Vesicant Spray Tank, Airplane, Large	4	
	MISCELLANEOUS		
641	- Air Compressor, Hand	2	
650	- Barometer	1	
654	- Bottle, Chemical Agent Filled	10	
711	- Interferometer, Gas	1	
647	- Miscellaneous Chemicals	3	

Item No.	Nomenclature	Quantity Shipped
MISCELLANEOUS (CONT)		
653	- Kit, Bubbler, Tube	1
335	- Mine, Land, Chemical Substitute	1
688	- Mine, Hand, Conical, Type 3	1
391	- Mine, Hemispherical, 5 Kg.	5
643	- Mortar, 80mm., Type 3	1
638	- Smoke Concentration Measurer #1	1
652	- Titration Kit For Mustard Gas	1
709	- Titrimeter For C.W. Agents	1

2.) List of Equipment Shipped from Korea to the U.S.A.

This equipment was sent in two groups. An explanation concerning consignor and consignee is given in the paragraph preceding each group.

Items marked * are reported upon in this volume. Material for reports was taken from a report summary and weekly field reports made by the ATIST (Cml Sect) G-2, Hq., XXIV Corps, Korea. Wherever nomenclature listed on copy of shipping instructions differed from that used in the reports in this volume, the nomenclature used in the shipping instructions is shown in parentheses below the nomenclature adopted in this volume.

Items are not numbered as the intelligence reports on these Korea located items were not coorelated with the shipments as they were on those items shipped from Japan.

a) Shipped to OCCWS, 22 Nov. 1945, from Hq. XXIV Corps, ATIST (Cml Sect) G-2, Korea.

Nomenclature	Quantity
Anemometer, Field	1 each
(Anemometer, Complete w/tripod)	*
Canister, Collective, Protector	4 each
Decontaminating Apparatus, Portable	1 each *
Respirator, Dust, No. 2	3 each
(Dust Respirator, STS Type)	*
Eyepieces, Optical, Type 91	2 each
Gas Detector Ampoules (large ampoules)	3 boxes
Gas Detector Ampoules (small ampoules)	3 boxes
Hose and Tripod, Collective Protector	3 each
Pulmotor, Japanese Army	3 each
Sniff Sets, Complete	2 each
Underclothing for Use With Rubber Protective Clothing	3 each

b. Shipment Directed by Office of Chief Chemical Officer, GHQ, AFPAC, APO 500, To be made by Chief Chemical Officer, Hq. XXIV Corps to President, Chemical Warfare Board, Edgewood Arsenal, Md., Attn: Captured Materiel Officer, Report of completion of shipment by consignor not received as of 15 May 1946, however is assumed to have been made as directed.

Anemometer	1 each
(Anemometer, Cup Automatic Reading)	*
Cover, Gas, Propellor, Spinner	1 each
(Anti-Gas Cover Airplane propellor Spinner)	*
Anti-Freeze, Horse Gas Mask	3 cans
Cape, Training, Navy Mk 3	10 each
Cape, Oil Skin, Navy Mk 3	1 each
Clothing, Protective	3 each
(Rubber Pants w/boots attached)	*
Cover, Gas, Propellor	1 each
(Propellor Cover, Rubberized)	*
Cover, Protective, Ground Sheet-Trousers	1 each *
Detector Kit, Type 95A	3 each
Detector Kit, Type 95B	1 each
Detector Kit, Type 100, CO	1 each
Detector Compound, Gas, Type Unknown (16ampoules per box)	5 boxes

Nomenclature	Quantity	
Detector Compound, Gas, Type Unknown (10 ampoules per box)	1 box	
Detector Kit, Type 96, Patrol (Variation)	3 each	
Detector Set, Type 5, Army	1 each	
Flares, Ground (6 green, 6 white, 4 pink & 1 red)	1 each	
Gas Alarm (Hand Siren)	1 each	
Gas Mask Absorbemt, Horse, Type 91A(Variation)	3 cans	
Gas Mask, Navy, Type No. 4	1 each	
Hood, Protective	2 each	*
Mask, Gas, Horse	6 each	
(Gas Mask, Horse, Type Unknown)		*
Marker, Gas, Troop (Gas Personnel Arm Band)	3 each	
Protective Garment, Button Type	1 each	
Protective Suit (w/gloves)	3 each	
Rubber Suit, Rubber, Navy	1 each	
Protective Underclothing, Type 96 (complete sets)	5 each	
Psychrometer	3 each	*
Rubber Hood and Jacket, W/Boots, Type 92	1 each	
Rubber Trousers	1 each	
Sniff Set (3 bottles in metal can)	1 box	
Sprinkler, Hand, Type 95	3 each	
Tester, Canister, Field	1 each	
(Canister Tester, Field)		*
Underclothing Special	4 sets	
(Underclothing, Special For Wear With Protective Clothing)		*

3.) List of Equipment Shipped to Wright Field, U.S.A.

Below are three airplane spray tanks which were found in Japan by the Air Technical Intelligence Group and sent to Wright Field, U.S.A. These items are reported upon in this volume. Information in reports was taken from intelligence reports by the Air T.I.G. which located the items. Quantity of items shipped is not known.

Nomenclature

Spray Tank, Airplane, Type 99, Navy (Pressure)
Spray Tank, Chemical, Pressure Type, German
Spray Tank, Smoke, Navy, Fuso Type (Non-Pressure)

[redacted]

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