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V. A. P. MACHINE CARBINE

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C O N F I D E N T I A L

THE

V.A.P. MACHINE CARBINE CALIBRE 9 M/M

TYPES

V-42. Infantry Model.

V-43. Paratroop Model.

August, 1944.

NOT TO BE PUBLISHED

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C O N T E N T S.

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A WEIGHT COMPARISON:

The weight of the 60 round V.A.P. Magazine is $13\frac{1}{2}$ ozs.
" " " " 30 " Standard " " $10\frac{1}{4}$ ozs.
Type.

But to carry 60 rounds with Standard Type Magazine requires 2 Magazines instead of one, as in the case of the V.A.P., so that the weight ($10\frac{1}{4} \times 2$) = $20\frac{1}{2}$ ozs. - i.e. an additional 7 ozs. to carry the same amount of ammunition.

Again, to carry 120 rounds, i.e. 2 Magazines, in the V.A.P. gun, the weight is ($13\frac{1}{2} \times 2$) = 27 ozs.

But to carry 120 rounds with the Standard Type Magazine requires 4 Magazines at $10\frac{1}{4}$ ozs. each ($10\frac{1}{4} \times 4$) = 41 ozs., i.e. an additional 14 ozs.

From the above, it will be seen that the slight increase in weight of the V.A.P. over the 6 lbs. weight as recommended in the G.S. Specification, is fully compensated for if 2 or more Magazines are carried.

For example, the V-42 without Bayonet weighs 6 lbs 10 ozs., and with Bayonet 6 lbs 14 ozs.

Taking a V-42 without Bayonet, against a hypothetical gun of 6 lbs weight, using Standard Type Magazines, the result would be as follows:-

- (a) V-42 @ 6 lbs 10 ozs with 120 rds. in 2 Mags. @ $13\frac{1}{2}$ ozs each
weight 6 lbs 10 ozs + 27 ozs ($13\frac{1}{2} \times 2$) = 8 lbs 5 ozs
- (b) Hypothetical Gun @ 6 lbs with 120 rds. i.e. 4 Mags. @ $10\frac{1}{4}$ ozs each
weighs 6 lbs + 41 ozs ($10\frac{1}{4} \times 4$) = 8 lbs 9 ozs

i.e. a saving of 4 ozs, which incidentally, in the case of the V.A.P. would mean the inclusion of the Bayonet, which weighs exactly 4 ozs.

In addition, the V.A.P. Magazines do not require a Magazine Filler ($2\frac{1}{2}$ ozs).

THE

V.A.P. MACHINE CARBINE 9 M/M.

TYPES

V-42 Infantry Model
V-43 Paratroop Model.

Data

Gun and Magazine:

Length of gun without bayonet	...	...	33"
Length of gun with bayonet	...	...	41 $\frac{1}{2}$ "
Length of barrel	...	...	10"
Length of Magazine	...	...	8 $\frac{1}{2}$ "
Weight of V-42 Model with bayonet	...	...	6 lbs. 14 ozs.
Weight of V-42 Model without bayonet	...	...	6 lbs. 10 ozs.
Weight of V-43 Model with bayonet	...	...	7 lbs. 3 ozs.
Weight of V-43 Model without bayonet	...	...	6 lbs. 15 ozs.
Weight of Bayonet	...	...	4 ozs.
Weight of full Magazines	...	...	2 lbs. 5 $\frac{1}{2}$ ozs.
Weight of Magazine Empty	...	...	13 $\frac{1}{2}$ ozs.
Capacity of Magazine (Box Type)	...	...	60 rounds.

Rate of Fire (Lower Rate)- 900 rounds per minute.
" " " (Higher Rate)- 1,000 " " "

Sights:

Foresight is of the blade type (adjustable laterally)

Backsight is of the open type adjustable to 100, 200 and 300 yards.

These sights are for use when firing from the shoulder, and are accurate up to and including 300 yards.

Ammunition:

The carbine fires British, American, Finnish, German, Italian and other makes of 9 m/m Parabellum ammunition satisfactorily.

I. General Description.

Types V-42 and V-43.

The V.A.P. Sub-Machine Gun is a fully automatic weapon of 9 m/m calibre, having a stationery air-cooled barrel and a moveable breech block. The gun is of the recoil operated or simple blow back type.

The weapon is designed to fire fully automatically in bursts, or to fire single shots so as to conserve ammunition. In addition the weapon is provided with a 2 speed device, situated at the rear of the breech block, which provides two rates of fire - one high, and the other some 100 rounds per minute slower. The gun can be secured against accidental discharge when cocked by means of a Safety Catch (middle position of Change Lever) mounted on the left side of the Trigger Guard.

A further safety device is provided which permits the Breech Block to be locked in the forward position. This prevents the Breech Block from moving backwards and feeding a round into the chamber in the event of the Butt being banged down heavily on the ground. When the Cocking Handle is pushed in, the Breech Block is locked, and the Cocking Handle must be withdrawn a short distance before the action can be cocked.

As an alternative, a safety device can be incorporated in the Magazine Guide which allows the Magazine to be firmly held in the Magazine Guide without being pushed fully home, thus preventing a round being carried forward and fired by the Breech Block if the Butt of the weapon is banged down heavily on the ground. When ready to fire the magazine can be clicked home into position by again pressing the Magazine Catch and sliding the Magazine fully home. When the Magazine is only partially inserted and is in the safety position, this can be readily ascertained as the Magazine Stop on the left side of the Magazine Casing will not be up against the lower end of the Magazine Guide. This device is however optional.

The Magazine itself is of outstanding design being of the simple box type and consisting essentially of an outer casing, Bottom Plate, and Retainer Bottom Plate, the latter

being attached to the end of the Spring in the front compartment, and having a raised part which protrudes through a hole in the Bottom Plate. There are two Magazine Springs, one in each of the two compartments of the Magazine and two Magazine Platforms. The front Magazine Compartment holds 31 rounds and the rear one 29.

The Sights are of the ordinary open type. The foresight being a well defined blade sight, and the backsight is adjustable and made in one piece having three separate positions for 100 yards, 200 yards and 300 yards respectively. In addition to which there is a fully down position below the sides of the Backsight Protector to prevent any damage when not in use.

A Bayonet is fitted to the gun and in the normal unfixed position lays along the top of the Barrel Casing, with the point of the Bayonet housed in a small hood for safety. The blade is of the cruciform type similar to the bayonet on the No. 4 Rifle.

II. Stripping and Assembling.

- (1) Make certain that the weapon is unloaded and that the Breech Block is in the forward position.
- (2) To Remove the Butt and Recoil Mechanism:

In the case of the Infantry Model V-42, push out the Body Locking Pin, with the point of a 9 m/m Cartridge, and withdraw the Pin to its fullest extent. The Butt, Body Extension, Trigger Housing and Spring and Rod Return (attached) can now be withdrawn from the Body. To remove the Spring Return (and Rod Return in Infantry Model) undo the Nut Butt Plate and the Spring Return can be withdrawn from the Tube Spring Return in the Butt.

In the case of the Paratroop Model V-43, push forward the Butt Retaining Catch on the top of the Body Extension and give the Butt a half turn to the left. The Butt will then automatically disengage itself from the Body Extension.

- (3) To remove the Breech Block:

When the Body Extension has been removed, pull back

the Cocking Handle to the rear of the long slot in the Body Casing. The Cocking Handle can then be withdrawn from the Breech Block.

The rear end of the Breech Block and the Rod Spring Return in the case of the Paratroop Model, will now extend beyond the rear end of the Body Casing and can be pulled out.

Normally, it will not be necessary to strip the Breech Block for ordinary maintenance but should stripping be necessary the following procedure should be adopted:-

- (a) To strip the Ejector, Ejector Spring, Firing Pin, Firing Pin Spring, Pin Firing Pin and Hammer. First pull out the long Pin Hammer situated on the left side of the Breech Block, to about $\frac{5}{8}$ of its total length, the Ejector and Ejector Spring can now be taken out. When the Pin Hammer is completely withdrawn the Hammer, Pin Firing Pin, Firing Pin and Spring can be removed from the vertical slot in the Breech Block. The Firing Pin and Spring slide out underneath the Breech Block as they are both located low down in the slot.
- (b) To remove the Extractor, insert the base of a cartridge under the claw of the extractor at the front of the Breech Block and lever the Extractor out from the face of the Breech Block.
Note:- This can only be done after the Pin Hammer has been withdrawn from the left side of the Breech Block.
- (c) To remove the Buffer and Buffer Spring, depress the Buffer Spring by pressing hard on the Buffer, i.e., in to the Breech Block, and the Buffer Pin will then slip out from the top of the Breech Block and the Buffer and Buffer Spring withdrawn from the rear of the Breech Block. In the case of the Paratroop Model the Rod Return is attached to the Buffer by a short Pin which can be easily prised out for periodical inspection. The small circular spring which positions the Cocking Handle can be shaken out of the Large Hole at the rear of the Breech Block.

(4) To Remove the Barrel.

It is not intended that the Barrel should be removed from the Body in the Infantry Model V-42, except

by skilled personnel as mentioned above. Should it be necessary, as for example when a change of Barrel is required, the following procedure should be adhered to:-

Unscrew the Screw Rest Hand and remove it together with the Rest Hand, then unscrew the long fine thread of the Barrel Nut until it is clear of the Body. A quarter turn of the Barrel to the left or right will disengage the bayonet joint at the chamber end of the barrel and the Barrel can then be separated from the Barrel Casing Assembly.

In the case of the Paratroop Model V-43, turn the weapon over so that the Barrel Retaining Catch is uppermost. Depress the Barrel Retaining Catch and give the Barrel Casing and Barrel a third of a turn to the left and the Barrel Casing and Barrel can then be withdrawn from the Body.

By using a small punch the small pin which holds in the Barrel Retaining Catch, can be driven out and the Barrel Retaining Catch removed from its recess, after which if the Barrel is given a quarter turn so as to disengage the bayonet joint at the chamber end, it can be separated from the Barrel Casing assembly. This latter operation should however only be undertaken by an armourer or skilled Instructor.

(5) To Strip the Trigger Mechanism.

The undermentioned stripping is not necessary for ordinary care and cleaning and should only be undertaken by skilled personnel.

Place the gun with its underside facing upwards.

- (a) Undo the Nut Trigger Housing in front of the Trigger Guard. Note:- The Screw is held in by a small retaining plunger and spring.
- (b) The Trigger Housing can now be withdrawn from the Body Extension as a complete unit.
- (c) Withdraw the Catch Safety from the left side of the Trigger Housing, being careful to keep the thumb on the Sear so as to prevent the Sear and Sear Spring from jumping out. The Sear and Sear Spring can then be released and taken out of the Trigger Housing.

- (d) The Cam Catch Safety can now be lifted out.
- (e) Next the Trigger can be removed by first lifting and turning down the Spring Pin Trigger on the right side of the Trigger Housing through an angle of approximately 90°. Then release the Spring Tripping Lever, inside the Housing, from the Peg to which it is attached. The Trigger, Tripping Lever, Pin Tripping Lever and Spring can now be removed and form a complete sub-assembly.

(6) To strip the Magazine.

Depress the Bottom Plate Retaining Catch with the nose of a cartridge and slide off the Bottom Plate, controlling the two compressed Magazine Springs with the hand to prevent them flying out. Withdraw the Springs and Platforms from front and rear compartments. It will be noted that the top end of the rear Spring is tapered so as to fit into the Rear Platform.

(7) To Strip Magazine Guide Interlock Levers.

This stripping is also not necessary for normal care and cleaning and should only be undertaken by competent personnel.

- (a) With a pair of pliers remove the Safety Wire from the forward drilled ends of the Shafts, Interlock Magazine Guide, and withdraw the two shafts, Interlock Magazine Guide and shake out the two Interlock Levers from the bulged portion of the Magazine Guide. Note:- when assembling the wire will have to be renewed and constitutes an expendable store.
- (b) Remove the small Coil Spring from the forward end of the top Interlock Lever. The assembly is now fully stripped.

(8) To Assemble the Butt and Spring Return.

- (a) To replace the Spring Return, and Rod Spring Return in the case of the Infantry Model, into the Butt; insert the Spring, with the Cup Spring Return or Rod Spring Return according to the model, into the Tube Spring Return from the Butt Plate end of the Butt. Then insert the Nut Butt Plate and screw tightly home.

- (b) To replace the Butt in the Paratroop Model, engage the lugs on the forward end of the stock into the recesses in the rear of the Body Extension and press home against the tension of the Spring Return and lock with a half turn.

With the Infantry Model, make sure that the body Locking Pin is withdrawn to its fullest extent, then slide the Body Extension and Butt on to the Body as far as it will go and push home the Body Locking Pin.

(9) To Assemble and Replace the Brooch Block.

- (a) To replace the Buffer, first insert the small circular Cocking Handle Spring into the Large Hole at the rear end of the Breech Block, with the point of the raised part of the spring uppermost and pointing forward towards the face of the Breech Block so that it will engage in the slots on the Cocking Handle. Place the Buffer Spring into the large hole at the rear end of the Breech Block (and Rod Return Assembly in the case of the Paratroop Model) until the Buffer Pin can be pushed home through the small hole on the top of the Breech Block and through the large or small slot in the Buffer itself. Note:- At this point it should be noted that the 2 speed device can be utilised to give either a high or low rate of fire. This is done by positioning the Buffer in one of its two positions, viz: If the Buffer is inserted so that the Pin is passing through the long slot on the side of the Buffer, this allows the Buffer Spring to operate freely, and gives the gun a high rate of fire.

If on the other hand, the pin is inserted through the short slot (i.e the Buffer turned through 180°) this cuts out the Buffer spring and a much slower rate of fire is obtained.

The High Rate of Fire is between 1000-1030 rounds per minute and the Low Rate of Fire is between 900 - 930 rounds per minute.

- (b) To replace the Extractor simply press this right home from the face of the Breech Block making sure that the claw of the Extractor is facing inwards towards the Firing Pin hole.
- (c) To assemble the Firing Pin mechanism first insert the Firing Pin and Spring into the lower hole leading from the slot in the Breech Block with the

point of the Firing Pin pointing forwards. Then insert the Pin Firing Pin into the top hole leading from the slot with the head at the Pin Firing Pin in the slot. Now insert the Hammer with the cutaway concave side towards the front of the Breech Block and the long tail of the Hammer upwards. Then insert the Pin Hammer from the left side of the Breech Block making sure that it passes through the hole in the centre of the Hammer.

- (d) To replace the Ejector and Ejector Spring, insert these into the cutaway portion on the left side of the Breech Block before the Pin Hammer is pressed fully home. The thick Butt portion of the Ejector should be to the rear with the Ejector Spring on the left side of the long shank of the Ejector, which runs through to the face of the Breech Block. A tiny lug on the left side of the thick butt portion of the Ejector fits into a shallow runway leading to the cut away portion of the Breech Block which accommodates the Ejector and Spring.

The Breech Block can now be replaced into the Body with its flat side downwards by compressing the Ejector Spring until the Breech Block is bearing on the Breech Block Guide inside the Body. Replace the Cocking Handle in the normal, not safety, position with the round head turned upwards and slide the Breech Block fully forward.

(10) To Replace the Barrel Assembly.

Reverse the procedure detailed in Section (4) making sure the barrel catch clicks fully home when the Barrel is finally positioned.

(11) To Assemble and Replace the Trigger Mechanism.

- (a) First insert the Trigger, Tripping Lever, Pin Tripping Lever and Spring sub assembly into the Trigger Housing. Push in the Trigger Retaining Pin and Trigger Retaining Spring and turn up the Spring through approximately 90° to its original position, ensuring that the free end of the Spring is clipped into the dimple on the outside of the Trigger Housing.
- (b) Anchor the Spring Tripping Lever to the Peg on the inside of the Trigger Housing.

- (c) Hold down the Tripping Lever (now under tension) and insert the Cam Catch Safety into the hole in the left side of the Trigger Housing.
- (d) The Spring Sear is now placed over the guide Spring Sear and the top of the Spring guided into the recess in the Sear itself.
- (e) Now depress the Sear and insert the Catch Safety or Change Lever. Note:- The slot on the Catch Safety must engage in the notch of the Cam Catch Safety.

The complete mechanism can now be replaced in the Body Extension and the Nut Screw Trigger Housing tightened and secured by its plunger.

(12) To Assemble the Magazine Guide Interlock Levers.

- (a) Slip on the Spring Lever Interlock on to the top Interlock Lever being careful to see that the 'U'-shaped end of the coil spring is placed on first, and on moving the Spring about half a turn downwards that the 'U' shaped end of the Spring fits over and engages on the forward end of the Flat Cam of the top Interlock Lever.
- (b) Now tension the Spring by rotating the long plain end upwards and engaging it under tension with the small notch cut in the underside of the Flat Cam.
- (c) The top Interlock Lever, which is the control lever, should now be inserted into the top position in the bulge of the Magazine Guide by sliding it up the Magazine Guide, from the open bottom end, with the Spring towards the forward (barrel) end of the Magazine Guide and with the Flat Cam of the Interlock Lever towards the Assembler, i.e. towards the bottom open end of the Magazine Guide.
- (d) Push the top Interlock Lever as far up as it will go into the bulge of the Magazine Guide until the top holes in the bulge coincide with the hole bored along the Interlock Lever itself. Insert one of the Shafts Interlock Lever, with the round head of the Shaft to the rear through the holes in the bulge of the Magazine Guide and through the whole length of the top Interlock Lever. During the next operation hold the top shaft in position otherwise it will slip out. Note:- The forward Flat Cam of the top

Interlock Lever holding the long end of the Spring, still under tension, should be pushed up into the up position by the finger through the open bottom end of the Magazine Guide, otherwise the Spring cannot be subsequently released.

- (e) The second or lower Interlock Lever should also be inserted from the open bottom end of the Magazine Guide with the long Claw to the rear, and with the Claw towards the Assembler. Push up the Interlock Lever until the hole through it coincides with the lower holes in the bulged part of the Magazine Guide, and insert the lower Shaft Interlock Lever with the round head to the rear as before. Now wire up the drilled front ends of the two Shafts. Note:- The wire used must be soft iron wire of $1/32$ " diameter. Stiff wire must never be used.

- (f) The Assembler should now lock up the Magazine Guide from the bottom open end, and with his finger disengage the long plain end of the Spring from the small notch in the Flat Cam of the top Interlock Lever by releasing it to the left i.e. towards the front end of the Magazine Guide.

The Interlock Levers will now be correctly engaged with the rear claw of the bottom Interlock Lever locked.

(13) To Assemble the Magazine.

First attach the tapered end of the rear Magazine Spring to the inside of the rear Magazine Platform, making sure that the sloping and ribbed side of the rear Platform coincides with the curved left side of the rear compartment. Then slide on the Bottom Plate halfway so as to trap the Spring in the rear compartment.

Then insert the top of the front Spring into the front Platform with the lug of the front Platform to the right and attach the Retainer Bottom Plate to the bottom of the Spring with the raised portion to the front. Push this assembly into the front Compartment making sure that the lug on the front Platform is in the Channel on the right side of the Magazine, and push home the Bottom Plate. See that the Platforms are working freely.

III. Action of the Mechanism.

(14) Preparation for Firing.

Put the gun at Safety i.e. the safety catch or Change Lever in the central dimple on the left of the Trigger Housing. Pull back the Cocking Handle. Insert a loaded Magazine, making sure that it is right home and not in the first safety position (this is done by pressing the Magazine catch a second time and pushing up the magazine). The gun is now ready for firing. For single shot firing, pull the Change Lever to the rear position. For Automatic firing push it to the forward position.

(15) Forward Action.

(a) Gun set for single shots.

When set at single shot i.e. the Change Lever in the rear position, if the gun is cocked and the trigger pressed, the Sear is depressed and disengages from the Bent on the underside of the semi-circular Breech Block. This allows the Breech Block to be driven forward by the Spring Return, compressed when the gun is cocked and acting on the Breech Block by means of the Rod Spring Return.

As the Breech Block moves forward the small Ramp on the left underside of the Breech Block rides over and depresses the cam on the top of the Tripping Lever. As this is part of the Tripping Lever, the Tripping Lever is depressed and allows the Sear, actuated by the Sear Spring, to click up after the Breech Block has passed over it so as to re-engage with the Bent of the Breech Block during the subsequent backward movement and so arrest the Breech Block and prevent it from going forward until the Trigger is again pressed.

(b) Gun set for Automatic fire.

If the Change Lever is in the forward position to fire fully automatically, the Tripping Lever is already depressed and the Ramp on the left underside of the Breech Block moves freely over it without engaging it and the Sear remains depressed and so clear of the Bent underneath the Breech Block until the Trigger is released and the automatic fire interrupted.

(c) In both instances as the Breech Block goes forward, the front lower face of the Breech Block picks up a round from either the front or rear compartment of the Magazine (according to the position of the Interlock Lever), and takes it forward where it is guided into the Barrel Chamber. When the Breech Block is fully forward the Pin Firing Pin, which protrudes in front of the top forward face of the Breech Block, strikes the rear end of the Barrel Nut and is driven inwards. This, acting on the top end of the Hammer, drives forward the lower portion of the Hammer which in turn drives forward the Firing Pin (compressing the Spring Firing Pin) to strike the cap and fire the round.

(16) Backward Action.

Part of the explosive force drives the Breech Block rearward, the empty case being held on the face of the Breech Block by the Extractor. As the Breech Block moves back a shoulder on the left side of the Breech Block guide inside the Body engages with the butt of the Spring loaded ejector which is driven forward and forces off the spent cartridge case which is ejected through the Ejector Opening on the right side of the gun. Continuing rearwards the Breech Block, acting on the Rod Return, compresses the Spring Return in order to drive forward again the Breech Block unless held by the Sear, as the result of the gun being set at single shot, or pressure being released from the trigger. The Buffer and Buffer Spring situated in the rear of the Breech Block, is included to avoid strain due to excessive recoil on the Rod and Spring Return, but its inclusion is optional and its action can be cut out by assembling it in the lower rate of fire position as already described."

During the first part of the backward action the Firing Pin, actuated by the Firing Pin Spring, regains its normal position ready to be driven forward again by the Pin Firing Pin and lower part of the Hammer when next the Breech Block is fully forward.

IV. Care and Cleaning.

(17) Cleaning.

Normal cleaning should be carried out. It is recommended that the mechanism of the gun be kept bright and oiled so as to reduce friction and consequent wear.

In sandy conditions, however, this will not be possible and the working parts should be kept dry, as the gun will function perfectly when dry if so desired.

The bore of the Barrel can be cleaned with a rifle pull through, using light oil (G.S.) and flannelette 4" x 3". In the case of the Paratroop Model, the Barrel should be disengaged from the Body (it is quickly detachable) for cleaning, and with the Infantry Model the Butt, Body Extension and Breech Block must be removed, as the pull-through weight is too long to go through the Ejection Opening. Occasional oiling of the Spring Return should be undertaken, and this is easily carried out by compressing the Spring Return slightly from the front end of the Butt by pushing it down with the Rod Return, and allowing a few drops of oil to run down into the Tube Spring Return which is enclosed in the Butt and is fully protected.

Another point to note when cleaning and oiling the gun is that the face of the Breech Block is clean and that the friction surfaces on the underside of the Breech Block are slightly oiled together with the Firing Pin mechanism and Ejector and Spring.

Care should be taken to see that the Interlock Lovers are working freely. For storage the Breech Block and Barrel should be creased or thoroughly oiled.

V. Stoppages and I.A.

(18) Stoppages in this weapon are extremely rare, and apart from actual breakage of components, can only occur due to:
(a) Fault in feed, (b) Mal-ejection, (c) Misfire, (d) burst case.

(a) Fault in Foed. While a round is entering the chamber a succeeding round may become partly displaced from the magazine (probably due to incorrect filling of the Magazine), thereby becoming jammed by the Breech Block, so that the latter cannot go forward to fire the charge.

(b) Mal-ejection. The empty case, on being extracted from the chamber, is not ejected through the ejection opening, but

remains in the Body Casing, whereupon the Breech Block cannot go fully forward to fire the charge.

(c) Misfiring. Due to a faulty round which fails to explode when struck, or less likely, due to excessive accumulation of carbon or dirt on the face of the Breech Block and cartridge recess which may interfere with the Firing Pin reaching the cartridge cap.

(d) Burst Case. Can only occur with a faulty case (fracture in metal or faulty manufacture), but this is very unlikely as this weapon has not got a fixed Firing Pin and so will not strike the round until it is fully in the Chamber.

Note: The ejection of the V.A.P. gun is very positive and failures are rare. It will be noted that the empty cases are ejected slightly forward.

(e) I.A. (i) When the Magazine is empty, the gun will stop with the working parts forward. It is only necessary to cock, change magazine and continue firing.

(ii) Should the gun stop whilst firing, cock it, examine the ejection opening, and if nothing is there, continue firing. (At night the firer should cock the gun, put it at "Sai ty" and feel for any obstruction in the ejection opening). If one live round or an empty case is there, vigorously shake the gun over to the right; if it falls out continue firing.

(iii) If it does not fall out, or there is a live round and an empty case there, remove the magazine, shake out the case, fire the round, replace the magazine and continue firing.

VI. Handling and Sighting.

(19) Holding. When shooting, it is recommended that the weapon should be fired from the shoulder if time permits. The weapon should be held with the fingers of the left hand round the front of the magazine guide, just underneath the Barrel casing, with the left thumb lying parallel with the knurled portion at the front of the Body of the Paratroop Model, or alongside the plastic or wooden Hand Rest on the

Infantry Model V-42. Men with long arms may find it preferable to place the left hand further forward under the Barrel Casing, and there is no objection to this practice, provided that the fingers are kept well forward of the ejection opening so as not to obstruct the line of flight of the ejected empty cases, which are ejected slightly forward, and so perhaps knock back an empty case into the ejection opening.

When firing from the hip, the same grip should be adopted.

No appreciable heat is felt, unless continuous and sustained long bursts are fired. Short bursts of two or three rounds will not heat up the gun which has a carefully graded barrel and remains very cool.

The Foresight can be adjusted laterally by a competent instructor as it is mounted on a dove-tailed Foresight Block.

The Backsight is adjustable by the Firing for 100 yards, 200 yards and 300 yards, at which ranges the gun is accurate for a weapon of this type.

The Paratroop Model V-43, when broken up into its four major components i.e. Barrel, Body, Butt and Magazine, can be carried in the Battledress Pockets or in a Haversack. The Magazines will also fit into the ordinary pouch.

VII. Description and Filling of Magazines.

(20) Description.

As already mentioned, the Magazine is an outstanding feature of this gun. It is of the simple box type, but is divided into two compartments. This front compartment holds 31 rounds and the rear compartment 29 rounds, making a total of 60 rounds, although the Magazine is only $8\frac{1}{2}$ " long.

There are two box-ended Magazine Springs, each fitted with a Magazine Platform or feeder, and these are held in the Magazine Casing under tension by a Bottom Plate which in turn is secured by a Retainer Bottom Plate, fitted but

detachable to the bottom end of the front Magazine Spring.

When assembling the Magazine, care should be taken to ensure that the rear Platform and Spring are correctly inserted, as the rear spring is slightly tapered at its top end so as to fit easily into the rear Magazine Platform, which must be inserted into the Magazine with the pressed channel, on the left of the rear platform, to the left so as to correspond with the curved topped left side of the rear compartment. The front Platform must be inserted with the lug on the right side of the Platform in the long channel on the right flat side of the Magazine.

The functioning of this double magazine is of particular interest, and is as follows:-

When a magazine, filled with any number of rounds in each compartment, is inserted into the gun and pushed fully home, the rounds in the rear compartment are immediately forced down by the rear claw of the bottom Interlock Lever, which is at this stage locked by the Control or Top Interlock Lever, and fits into the cut away portion on the right lip of the magazine. This enables the Breech Block to pass over the rounds in the rear compartment without engaging them, and so the gun will only feed from the front compartment.

However, as the last round from the front compartment is taken forward by the Breech Block, the lug on the right side of the front platform rises up above the end of the channel on the right side of the front compartment casing, and engages with the Flat Cam on the forward end of the Top Interlock Lever, which in turn, when moved upwards by the lug on the platform, unlocks the rear claw of the Bottom Interlock Lever which springs up clear of the rounds in the rear compartment, thus allowing the Breech Block to feed in the normal way from this compartment. This change over is entirely automatic and instantaneous.

(21) Filling.

The magazine is filled by hand and does not require a special filler.

When filling both compartments, the rear compartment should be filled first.

Take the magazine in the left hand with the left thumb on the rear end of the rear compartment. Take the round between the forefinger and thumb of the right hand and insert the base of the round on to the rear platform at the point where the right rear lip of the magazine is cut away to accommodate the claw of the Interlock Lever. Push the round downwards and rearwards so that the base of the cartridge is right back against the rear end of the compartment. Insert the subsequent rounds in a like manner, bearing down on the previous rounds at a point directly opposite the cut away portion in the right rear lip of the magazine. This compartment will take 29 rounds.

The front compartment is extremely easy to fill and the rounds can be pressed down horizontally between the lips of the magazine, in staggered form, by the forefinger of the right hand. This compartment will hold 31 rounds.

Two important points should be observed when filling the magazine. They are:-

(i) That the rounds in both front and rear compartments are pushed as far to the rear of each compartment as they will go.

(ii) That the rounds are under uniform tension from the magazine springs. This can be ascertained by pressing down the column of rounds in each compartment and letting them spring up gently.

Another point is, that should it become necessary, when in action, to reload very quickly, a number of rounds, say 20, can be pushed very quickly and easily into the front compartment without any filler being required.

The gun will fire satisfactorily British (including 1942), American, Finnish (Sako), German and Italian 9 mm. Parabellum ammunition.

(22) To Empty.

To empty the Magazine, hold it in the left hand and push out the rounds from each compartment with the thumb of the right hand.

VIII. The Bayonet.

(23) The Bayonet is similar to that fitted to the No.4 Rifle and is of the cruciform type and weighs only 4 ozs. It is normally carried in the unfixed position, where it lies along the top of the Barrel casing, locked to the Barrel and with its point shielded in a hood at the rear end of the Barrel casing.

The gun can be fired with the bayonet fixed.

(a) To fix the Bayonet. Press in the Nut Bayonet Fixing on the right of the Bayonet and turn the Lever Fixing Bayonet to the rear. Now withdraw the bayonet from the top of the Barrel casing, through the Foresight Block, and turn it round ready for fixing. Slide the Bayonet on to the Barrel making sure that the small pin fixing bayonet fits into the small hole in the nose of the Barrel casing, then push the lever bayonet fixing downwards so that it clicks home and secures the bayonet to the Barrel in the fixed position.

(b) To unfix the Bayonet. Press in the Nut Bayonet Fixing on the right side of the bayonet, push forward the Lever Bayonet Fixing, take off the barrel, turn it over and to point to the rear, pass the blade through the Foresight Block and along the top of the Barrel Casing until the point is housed in the hood. Then push forward the Lever Bayonet Fixing so as to lock the bayonet in position.

XI. THE HAVERSACK

The Haversack used for the V-43 Paratroop Model consists essentially of a webbing rectangular Haversack of approximately $13\frac{1}{2}$ " x $7\frac{1}{2}$ " x $3\frac{1}{2}$ ", together with a sling and supporting strap, and divided into 4 separate compartments.

The Haversack is designed to be worn in four different positions as circumstances may demand. The positions are as follows:-

- (1) The Haversack may be worn high up on the chest - well clear of the Parachute Harness Release Buckle in the case of Airborne Personnel - with the sling or brace round the neck, and the supporting strap round the body. This position is similar for the Alert Position of the Mark V. Respirator. The opening end of the Haversack with its quick release buckle should be to wearer's right. This position is also suitable for Amphibious personnel who, with the Haversack in this position, can wade ashore with both hands free to carry other stores, etc.
- (2) The Haversack may be worn in a vertical position on the right thigh, with the belt passing through the two large loops provided and the supporting strap wrapped round the outside of the Haversack and thigh. This method of carriage might be found convenient for Armoured personnel.
- (3) The Haversack may be worn slung by the Sling or Brace over either shoulder in the manner of an ordinary Haversack, with or without the use of the supporting strap to prevent it swinging.
- (4) The Haversack may also be carried on either side of the body, with the two loops through the belt.

The four separate compartments in the Haversack are clearly marked and the component parts of the V-43 should be inserted with the forward end of the component concerned going into its relevant compartment first, so as to facilitate rapid assembly when withdrawn.

In addition to the 3 full magazines carried spare ammunition in boxes of 20 or loose, to the extent of an additional 200 rounds, can be carried in the bottom of the compartments housing the Barrel and Magazines. Thus a total of 380 rounds can be carried.

A series of descriptive photographs of both models are included for guidance.

(1) The Haversack may be worn slung up on the chest - with the front flap closed - with the supporting strap round the neck, and the supporting strap round the body. This position is suitable for the Haversack when used as a satchel.

(2) The Haversack may be worn in a vertical position on the right side, with the belt carrying straps round the waist, and the supporting strap round the neck. This position is also suitable for the Haversack when used as a satchel.

(3) The Haversack may be worn slung by the strap or brace over either shoulder in the manner of an ordinary Haversack, with or without the use of the supporting strap to prevent it swinging.

(4) The Haversack may also be carried on either side of the body, with the two loops through the belt.

The four separate compartments in the Haversack are clearly marked and the component parts of the V-43 should be inserted with the forward end of the component concerned going into the relevant compartment first, so as to facilitate rapid assembly when withdrawn.



V-42 INFANTRY MODEL

(RIGHT SIDE)



V-43 PARATROOP MODEL

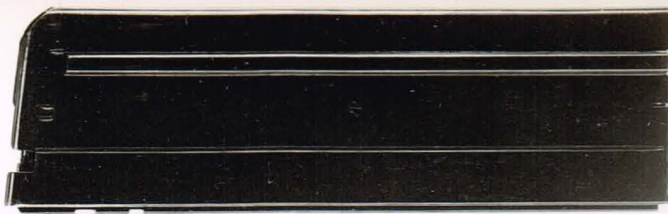
(RIGHT SIDE)



V-43 PARATROOP MODEL

(BAYONET FIXED)

(RIGHT SIDE)



7



4



1

2

3



6

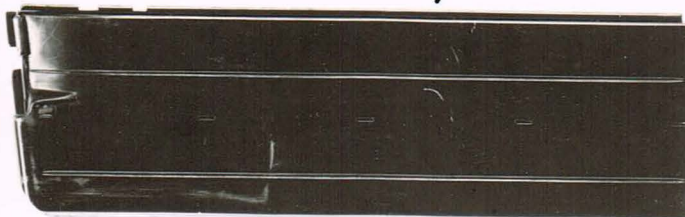
5

RIGHT SIDE



6

5



7



4



2

3

LEFT SIDE

V-42 AND V-43 MAGAZINE

- 1. FRONT PLATFORM
- 2. FRONT SPRING MAGAZINE
- 3. RETAINER BOTTOM PLATE
- 4. BOTTOM PLATE

- 5. REAR SPRING MAGAZINE
- 6. REAR PLATFORM
- 7. CASING MAGAZINE



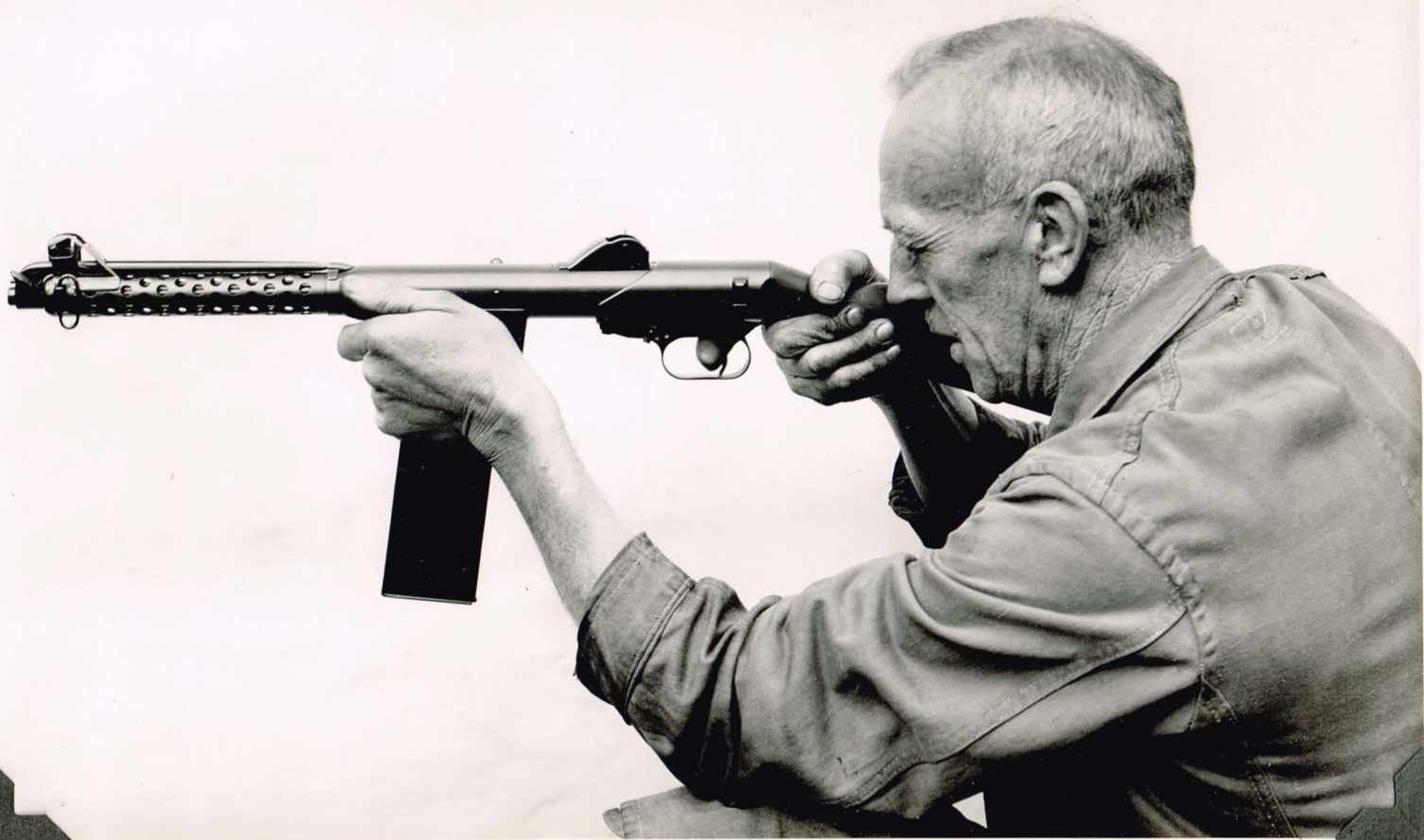
V-42 INFANTRY MODEL

(BROKEN DOWN POSITION)



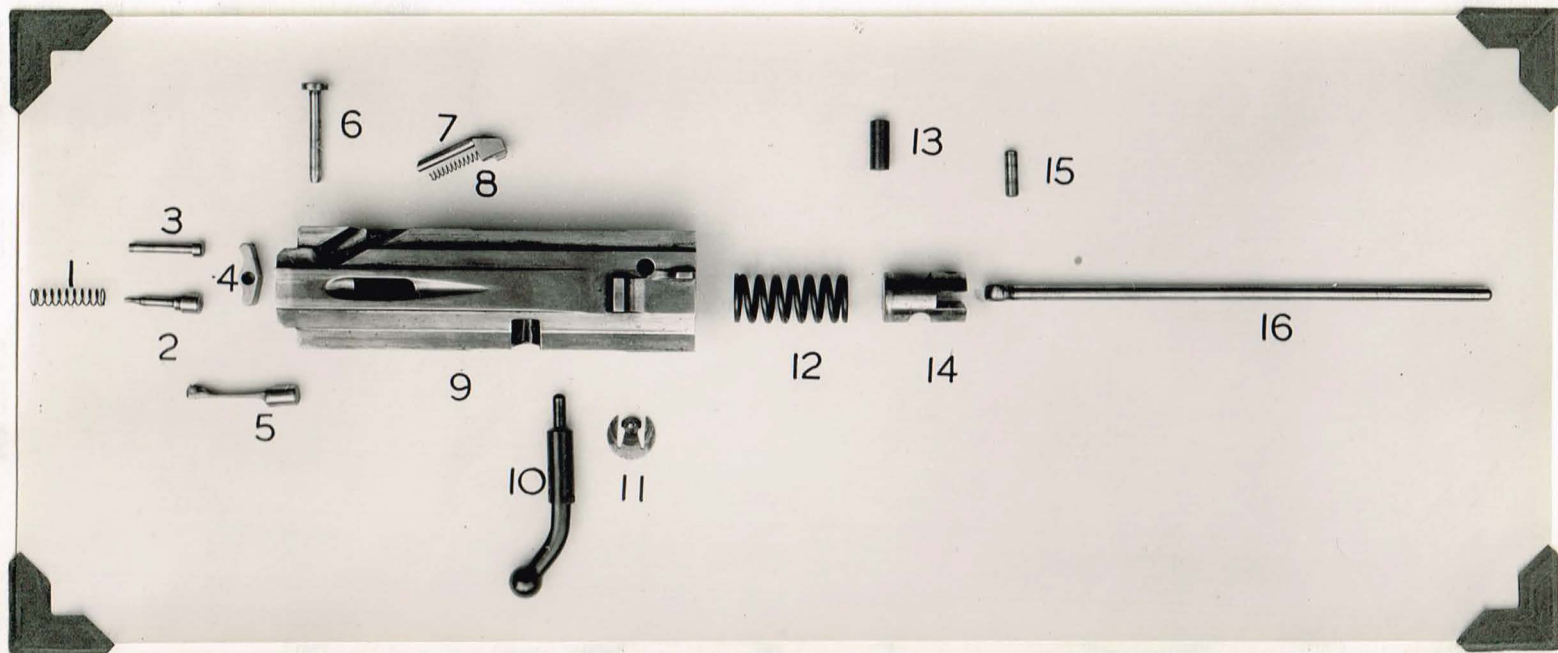
V-43 PARATROOP MODEL

(BROKEN DOWN POSITION)



V-42 & V-43 MODELS

(CORRECT HOLDING POSITION)



V-43 PARATROOP MODEL-BREECH BLOCK ASSEMBLY

1. SPRING FIRING PIN

2. FIRING PIN

3. PIN FIRING PIN

4. HAMMER

5. EXTRACTOR

6. PIN HAMMER

7. EJECTOR

8. EJECTOR SPRING

9. BREECH BLOCK

10. COCKING HANDLE

16. ROD RETURN

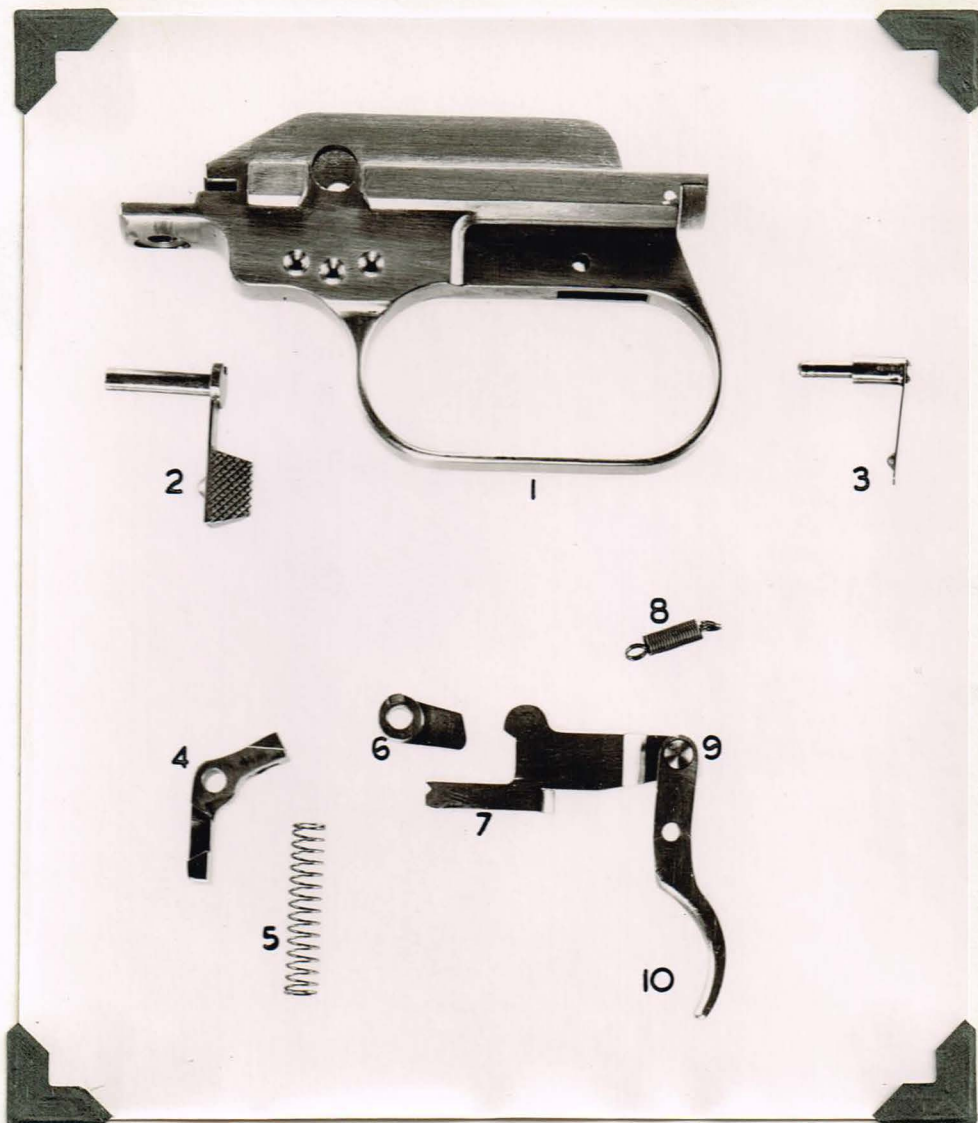
11. CATCH HANDLE COCKING

12. BUFFER SPRING

13. PIN BUFFER

14. BUFFER

15. PIN ROD RETURN



V-42 & V43 TRIGGER MECHANISM

1. TRIGGER HOUSING

2. CATCH SAFETY OR
CHANGE LEVER

3. PIN TRIGGER &
SPRING PIN TRIGGER

4. SEAR

5. SPRING SEAR

6. CAM CATCH
SAFETY

7. TRIPPING LEVER

8. SPRING TRIPPING
LEVER

9. PIN TRIPPING
LEVER

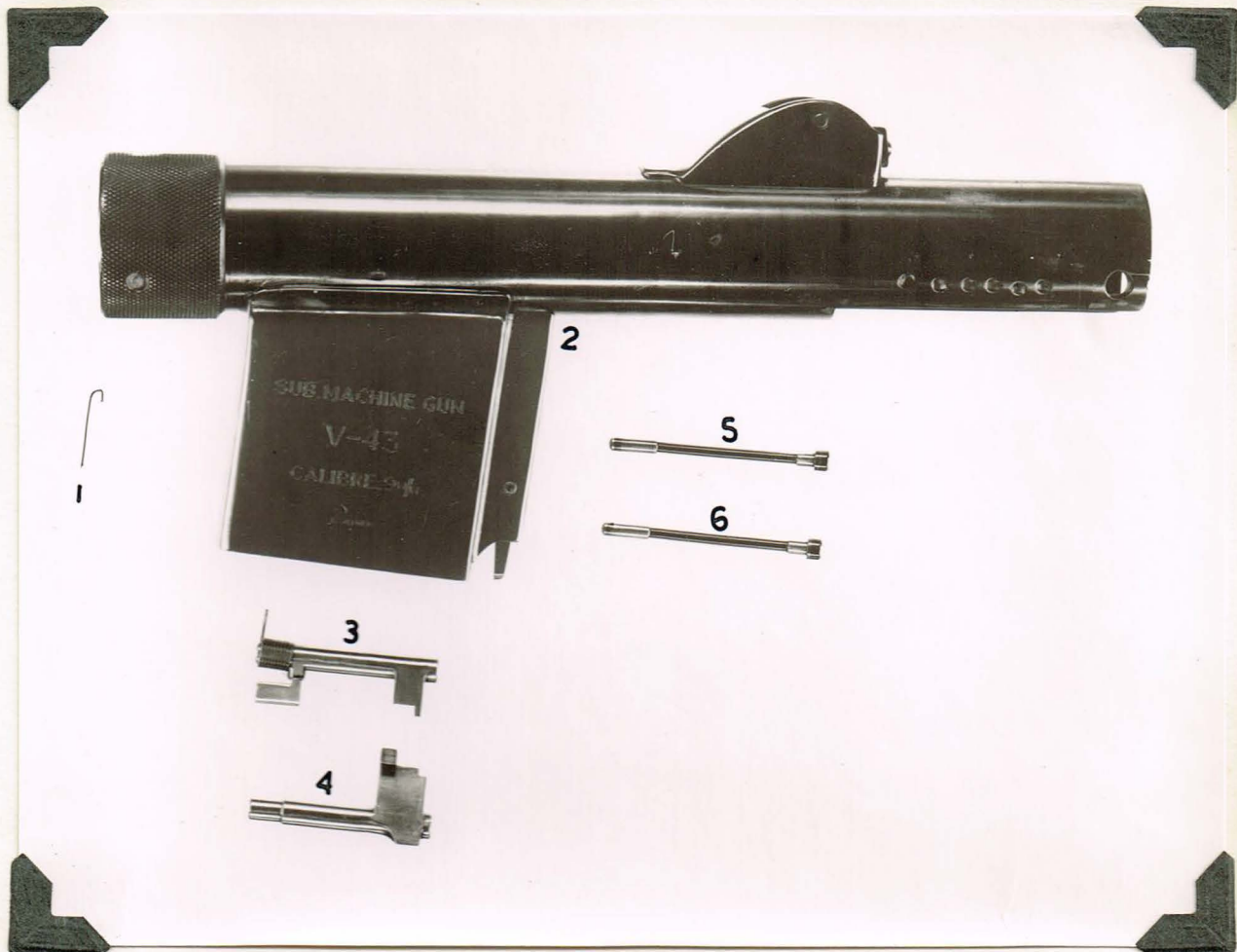
10. TRIGGER



V-43 PARATROOP MODEL

(INTERLOCK LEVERS & RIGHT
SIDE OF MAGAZINE GUIDE)

NOTE: HOLES IN BULGED PORTION OF MAGAZINE
GUIDE THROUGH WHICH SHAFTS ARE INSERTED



V-43 PARATROOP MODEL
 (INTERLOCK LEVERS &
 MAGAZINE GUIDE MECHANISM)

1. SAFETY SPRING (EXPENDABLE)

2. MAGAZINE GUIDE

3. TOP OR CONTROL INTERLOCK
 LEVER (WITH SPRING)

4. BOTTOM INTERLOCK LEVER
 (NOTE CLAW WHICH DEPRESSES
 CARTRIDGES IN REAR COMPARTMENT)

5. SHAFTS INTERLOCK LEVER

6. " " "