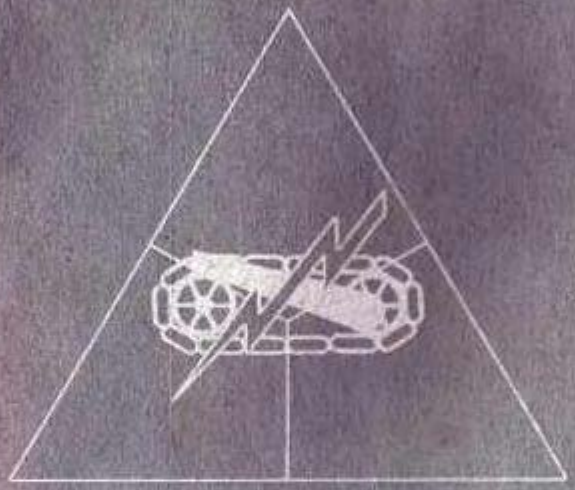
THE ARMORED FORCE SCHOOL



FORT KNOX, KENTUCKY

GUNNERY
DEPARTMENT
1941

THOMPSON SUB-MACHINE GUN M1928A1

FIG. 8 LOADED DRUM (TYPE L) & BOX (TYPE XX) MAGAZINES

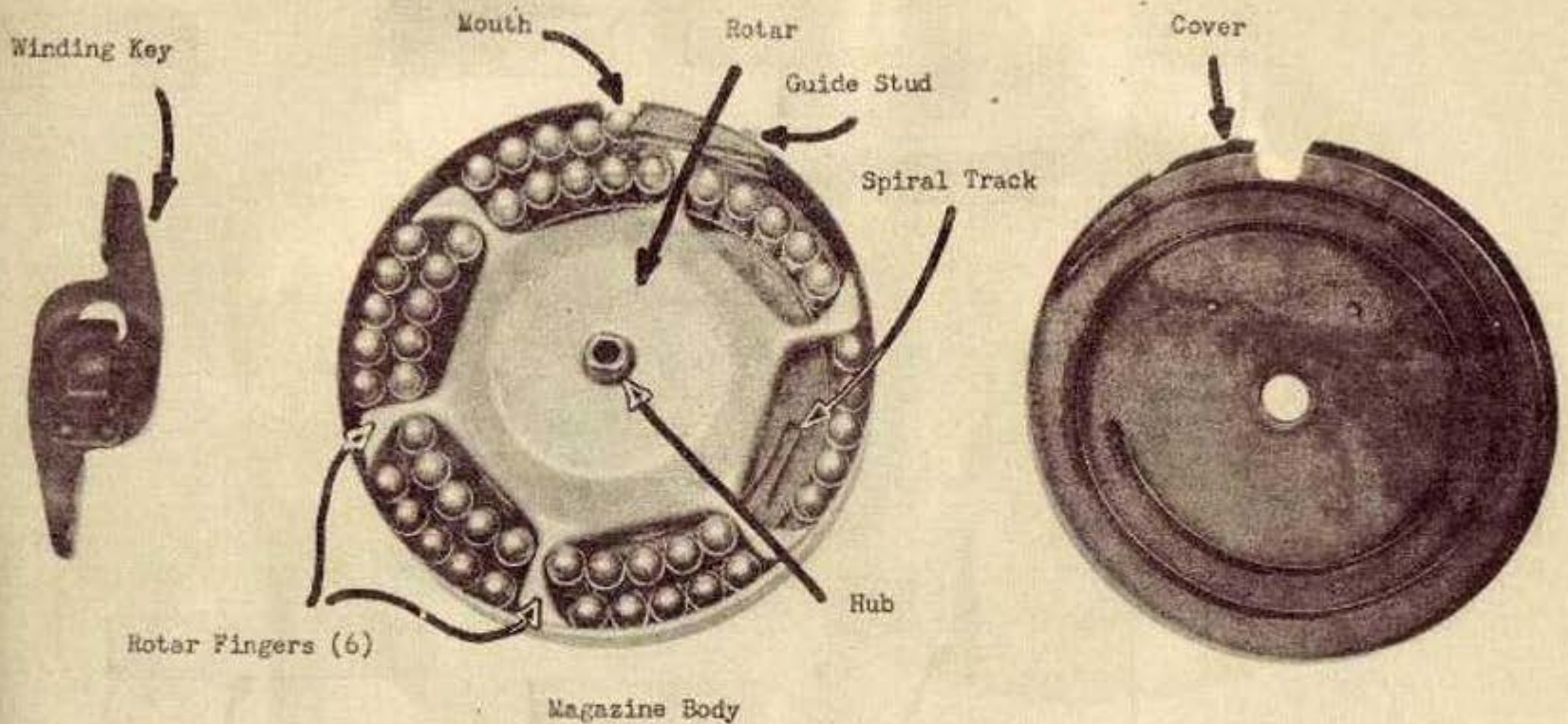


FIG. 9 LOADED L. MAGAZINE WITH COVER REMOVED SHOWING ARRANGEMENT OF CARTRIDGES

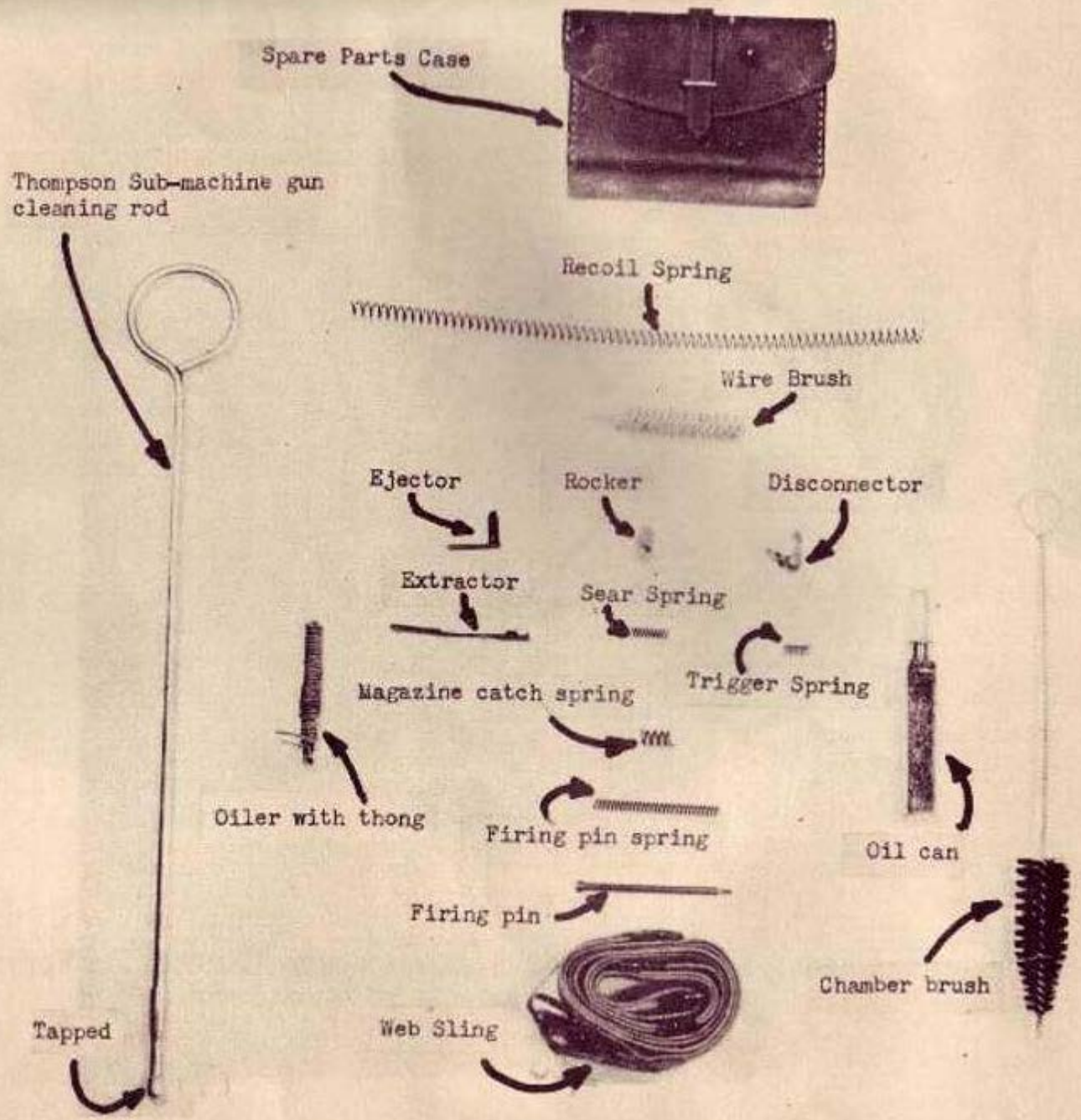
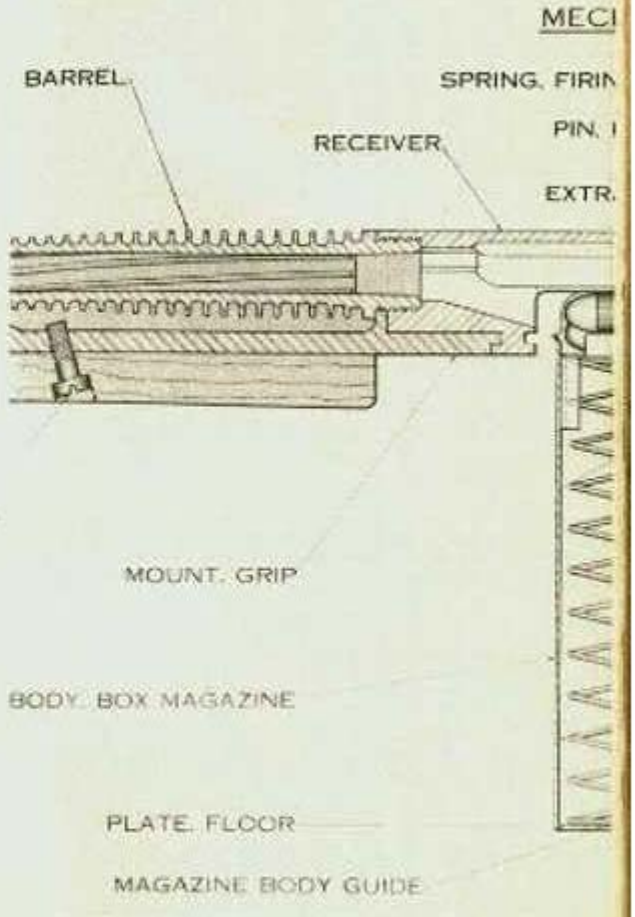


Fig. 10 Spare Parts & Accessories as issued

FUNCTIONING

Fig. (1): "Mechanism in Recoil Position" BACKWARD MOVEMENT OF THE RECOILING PARTS (First Phase): The cartridge having been fired, the pressure from the burning powder is transmitted through the forward end of the BOLT to the LOCK and through the LOCK to the locking surfaces of the RECEIVER. The powder used is fast burning, so that the highest chamber pressure obtained is nearly instantaneous. The high chamber pressure causes the lock to adhere to the locking surface on the RECEIVER, thus locking the BOLT in its forward position until this pressure subsides. As soon as the high chamber pressure has subsided, the lock moves upward, clears the locking surfaces in the RECEIVER, and the Bolt can move to the rear. The angle of the LOCK is such that the moment the LOCK is moved to clear the RECEIVER locking surfaces there is only sufficient powder pressure in the CHAMBER to force the cartridge case and BOLT to the rear, eject the empty case, and compress the RECOIL SPRING, which thus stores up energy for the forward movement. The empty case is unseated by the chamber pressure as the BOLT is unlocked. As soon as the BOLT moves back from the abutment on the under side of the RECEIVER, the FIRING PIN SPRING forces the FIRING PIN to the rear away from the face of the BOLT. The empty cartridge is held on the face of the BOLT by the EXTRACTOR. After the BOLT has traveled to the rear about 2 inches the EJECTOR, which protrudes in a groove on the left side of the BOLT, comes in contact with the base of the empty cartridge and throws it to the right through the EJECTION opening. The BOLT still has about 1-3/4 inches to go to the rear before the back of the BOLT comes in contact with the BUFFER. The rearward movement of the BOLT, carrying the ACTUATOR and compressing the RECOIL SPRING, expends nearly all the energy imparted by the chamber pressure, so that the BOLT does not strike heavily against the BUFFER. The BUFFER PAD absorbs the remaining shock. On the under side of the BOLT there are two SEAR NOTCHES so that, if the BOLT strikes the BUFFER PAD, the REAR SEAR NOTCH will pass over the SEAR and allow the SEAR to engage the FRONT SEAR NOTCH. If the movement is not strong enough to cause the BOLT to strike the BUFFER PAD, the SEAR will engage in the rear SEAR NOTCH. If the BOLT moves to the rear far enough to eject the empty cartridge case and to feed the next cartridge from the top of the MAGAZINE, the BOLT will <u>normally</u> be back far enough to engage the SEAR with the REAR SEAR NOTCH.



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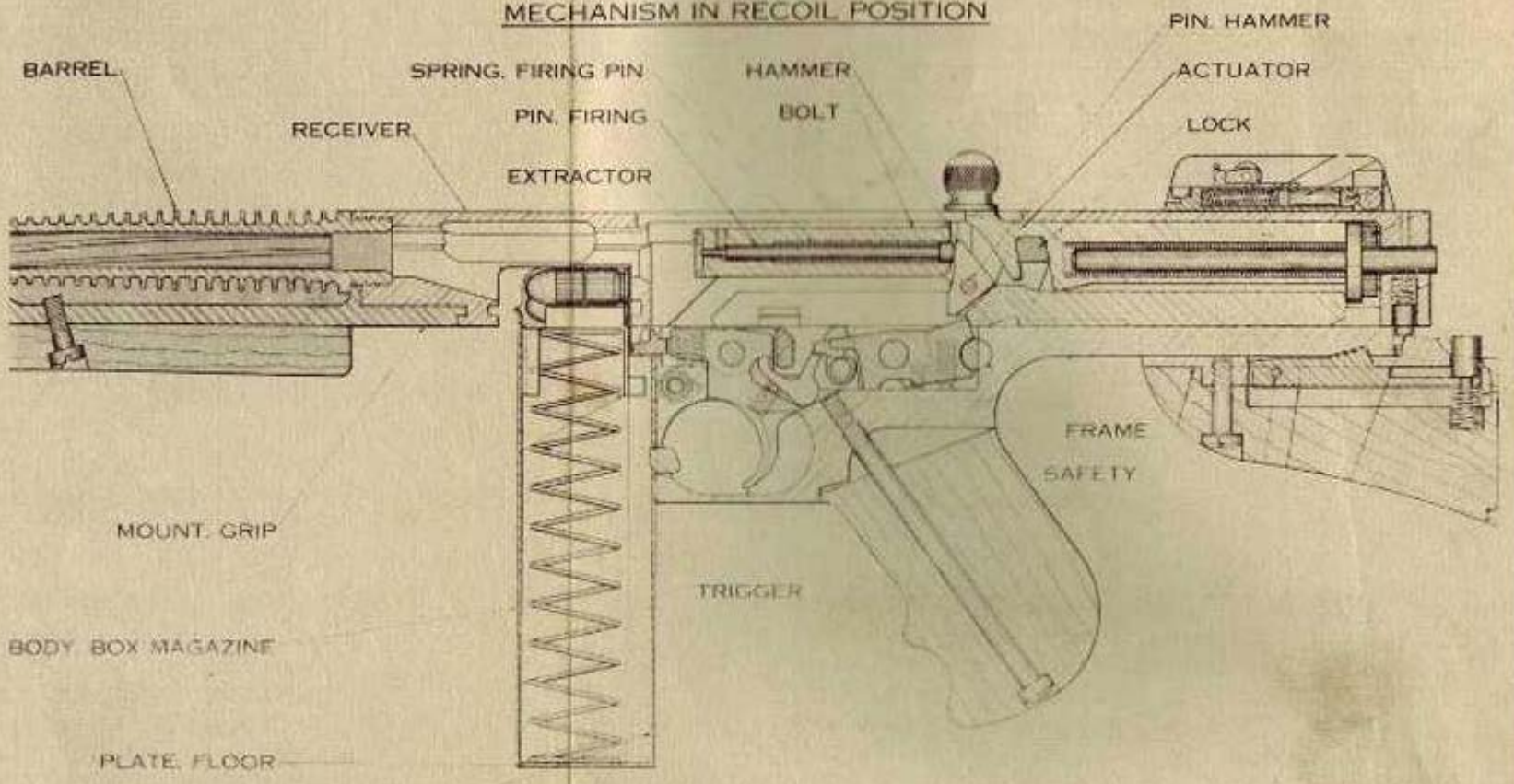
MECHANISM IN RECOIL POSITION



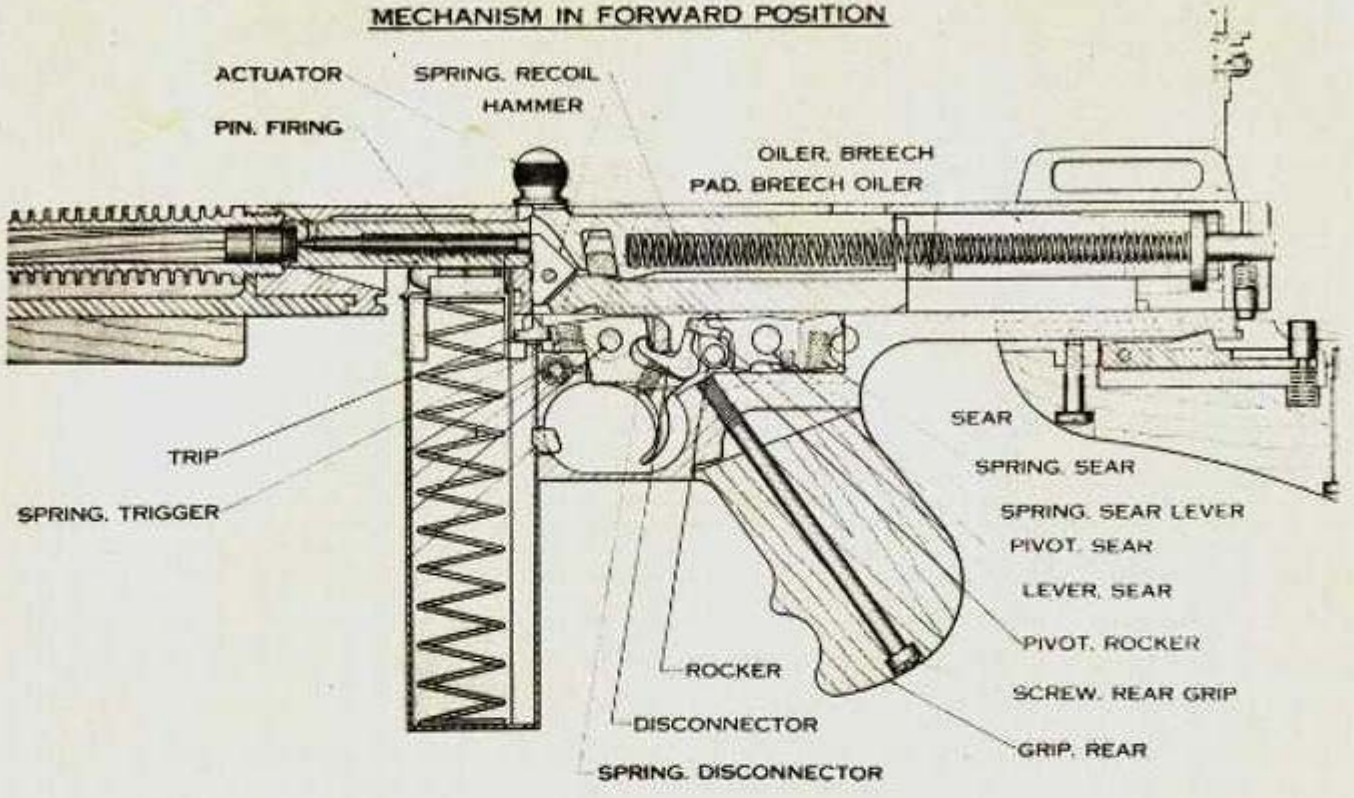


Fig. (2): "Mechanism in Forward Position" FORWARD MOVEMENT OF THE RECOILING PARTS (Second Phase): When the TRIGGER is pulled, the BOLT moves forward under the action of the RECOIL spring, carrying the LOCK and ACTUATOR with it. After the BOLT moves forward about 1 inch, the forward end of the BOLT comes in contact with the back of a cartridge and pushes it forward until the nose of the bullet comes in contact with the BULLET RAMP in front of the RECEIVER. The lips of the MAGAZINE hold the cartridge in a straight line until the cartridge has almost cleared the MAGAZINE. The cartridge is guided into the chamber by the BULLET RAMP and the lips of the MAGAZINE. When the cartridge has been seated in the CHAMBER, the EXTRACTOR snaps around the rim of the cartridge. Just before the BOLT reaches its forward position, the LOCK is cammed down into the locking grooves of the RECEIVER so that the BOLT is in a position to be locked as the HAMMER on the underside of the BOLT strikes the RECEIVER. The HAMMER being of a triangular shape, the lower point strikes the RECEIVER, causing the HAMMER to pivot around the HAMMER PIN, camming the FIRING PIN forward with the upper point thereby firing the cartridge. The rectangular surface of the BOLT, striking the abutment of the RECEIVER, stops the forward movement.

SEMI-AUTOMATIC, TRIGGER RELEASED, BOLT OPEN

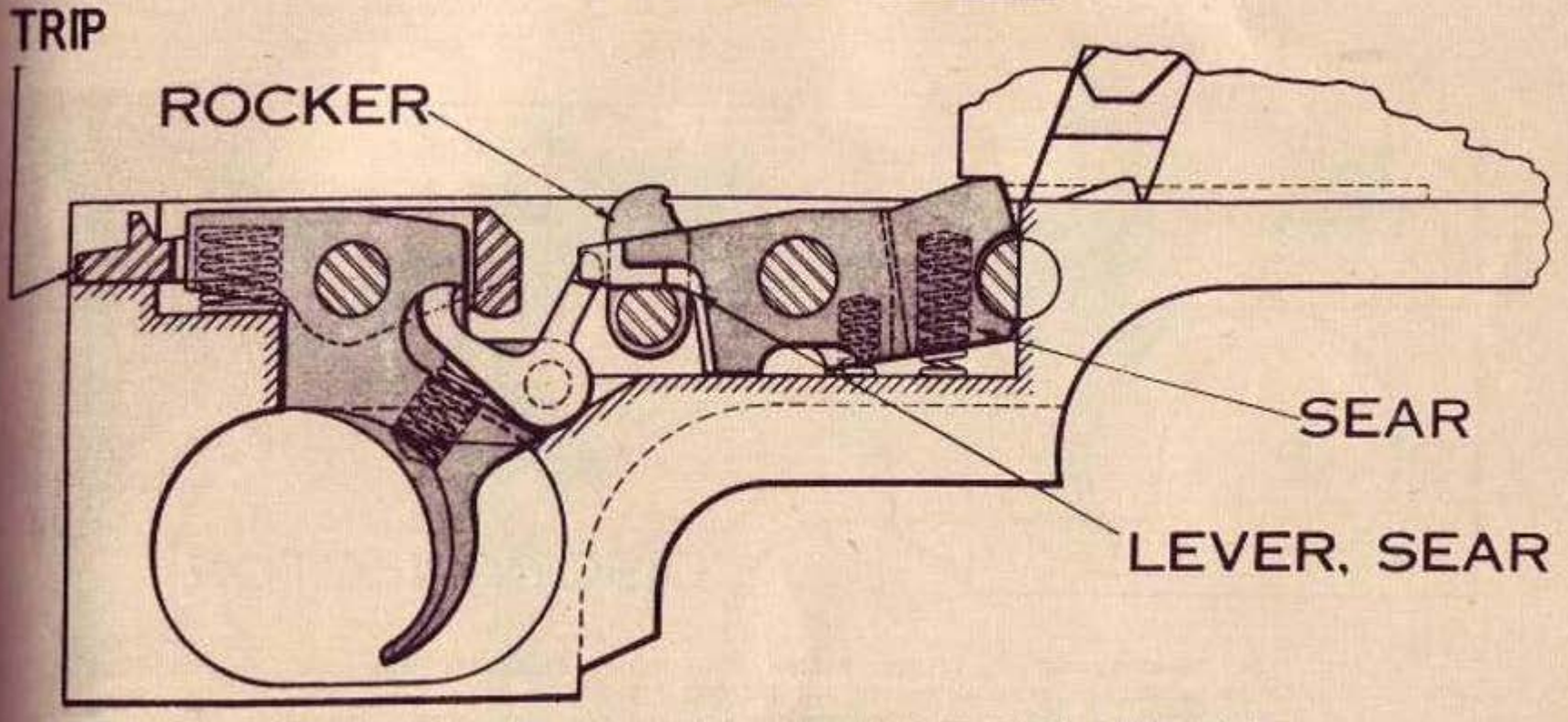


Fig. (3): "Semi-Automatic, Trigger Released, Bolt Open" ACTION OF THE TRIGGER MECHANISM (Third Phase): Inasmuch as the gun fires with the recoiling parts in their rear-most position, the above illustration shows all the parts at the moment previous to the pulling of the TRIGGER. The FRONT SEAR NOTCH of the BOLT is engaged by the SEAR, and the ROCKER is in its "high" position - in the path of the BOLT.

SEMI-AUTOMATIC, TRIGGER PULLED, BOLT MOVING FORWARD

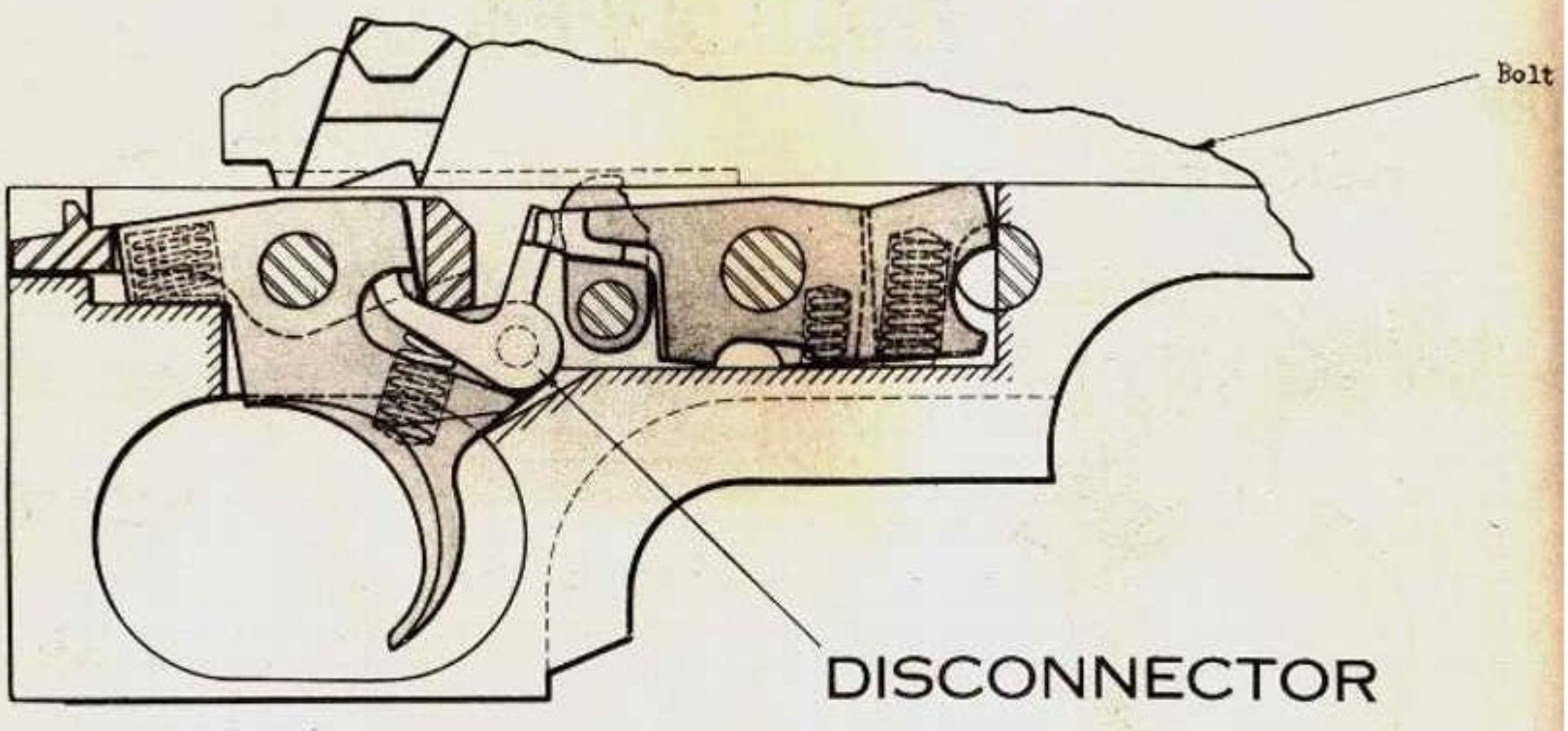


Fig. (4): "Semi-Automatic, Trigger Pulled, Bolt Moving Forward": When the TRIGGER is pulled, it rotates around the TRIGGER PIVOT (the forward pin of the PIVOT PLATE) and lifts the DISCONNECTOR up under the SEAR LEVER. The SEAR LEVER lifts the front end of the SEAR; this causes the SEAR to rotate around the SEAR PIVOT (the rear pin of the Pivot Plate), and in so doing, depresses the nose of the SEAR, disengaging it from the SEAR NOTCH on the underside of the BOLT. As the BOLT goes forward, the point of the ROCKER is in the T-groove on the under side of the BOLT. When the POINT OF THE ROCKER strikes the rear end of the T-groove, the ROCKER will be forced forward.

SEMI-AUTOMATIC, TRIGGER PULLED,

BOLT CLOSED

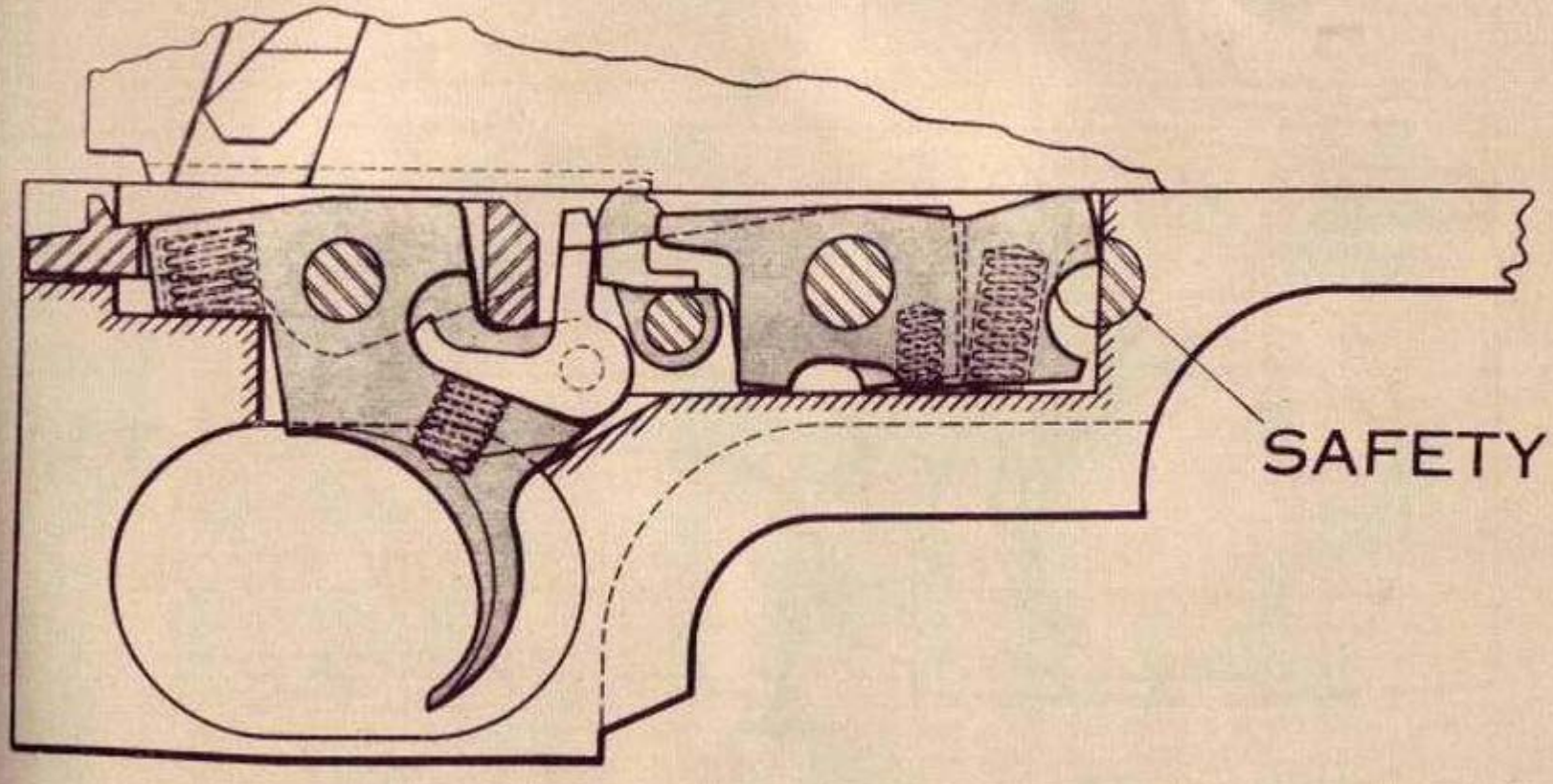


Fig. (5): "Semi-Automatic, Trigger Pulled, Bolt Closed": The rounded part of the ROCKER comes in contact with the DISCONNECTOR and forces it out from under the SEAR LEVER. As soon as the DISCONNECTOR has been disengaged from the SEAR LEVER, the SEAR SPRING and the SEAR LEVER SPRING force the SEAR and SEAR LEVER up into firing position, so that the SEAR NOTCH on the BOLT will catch on the next rearward movement of the BOLT.

NOMENCLATURE OF THE THOMPSON SUB-MACHINE GUN

FULL AUTOMATIC, TRIGGER PULLED

BOLT CLOSED

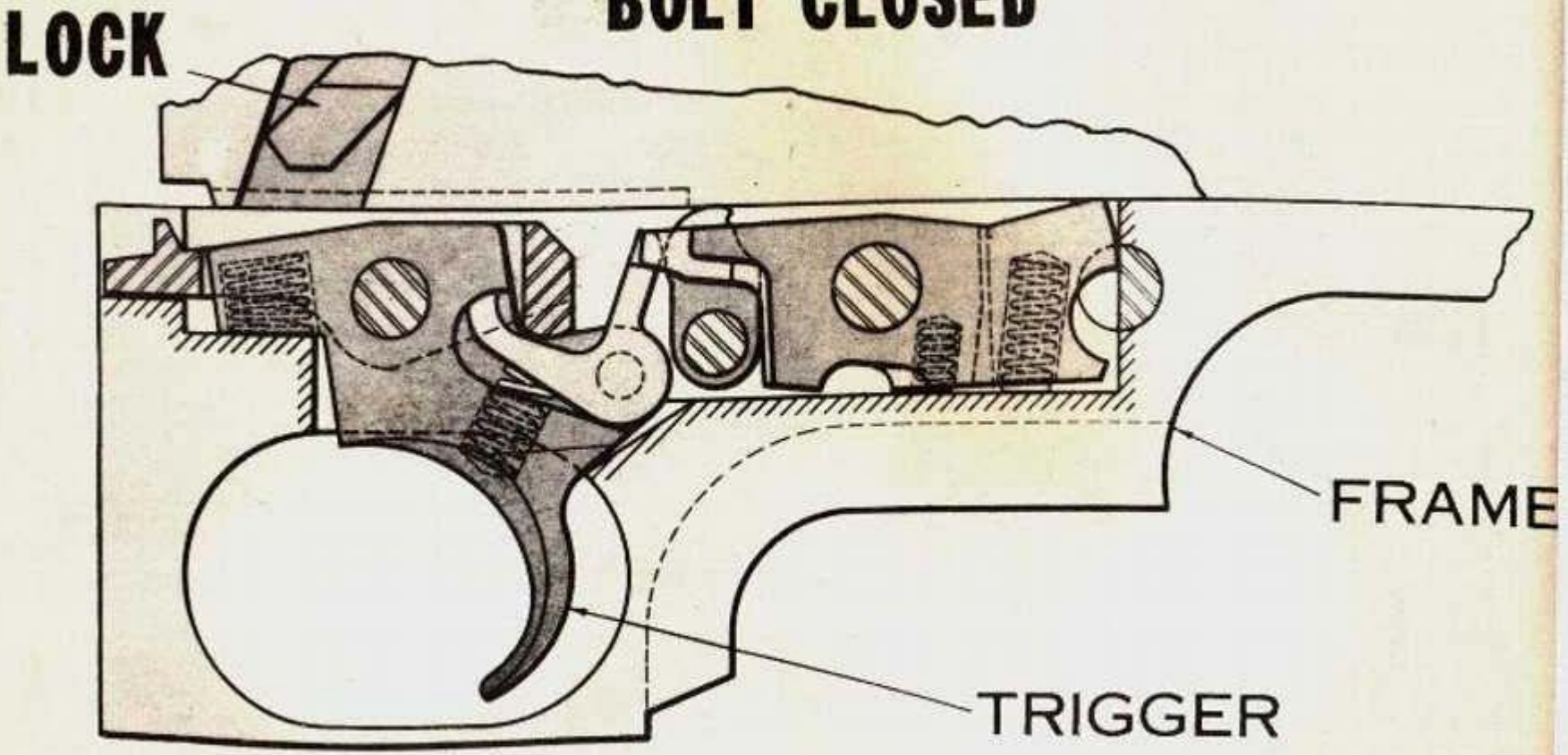


Fig. (6): "Full Automatic, Trigger Pulled, Bolt Closed": The ROCKER PIVOT is of eccentric design, so that when the ROCKER PIVOT ("Fire control lever") is set at "Full Auto" the ROCKER is lowered enough to allow the BOLT to move forward without striking the point of the ROCKER. Therefore, the SEAR remains in its lowered position as long as the TRIGGER is held depressed (or until the last round has been fired from an XX magazine) and the forward-rearward movement of the RECOILING PARTS will continue.

DISASSEMBLY AND ASSEMBLY

Fig. (1): Hold the gun in the right hand by the REAR GRIP and raise up on MAGAZINE CATCH. Slide MAGAZINE from MAGAZINE GUIDEWAYS. (Either BOX or DRUM MAGAZINES).

Fig. (2): Pull TRIGGER and allow recoiling parts to move forward slowly. This is done by retarding the forward movement of the ACTUATOR KNOB. (Note: the BOLT must never be allowed to go forward on an empty CHAMBER.)

Fig. (3): Remove BUTT-STOCK by pressing down on BUTT-STOCK CATCH BUTTON and sliding BUTT-STOCK from the BUTT-STOCK GUIDEWAYS on the FRAME.

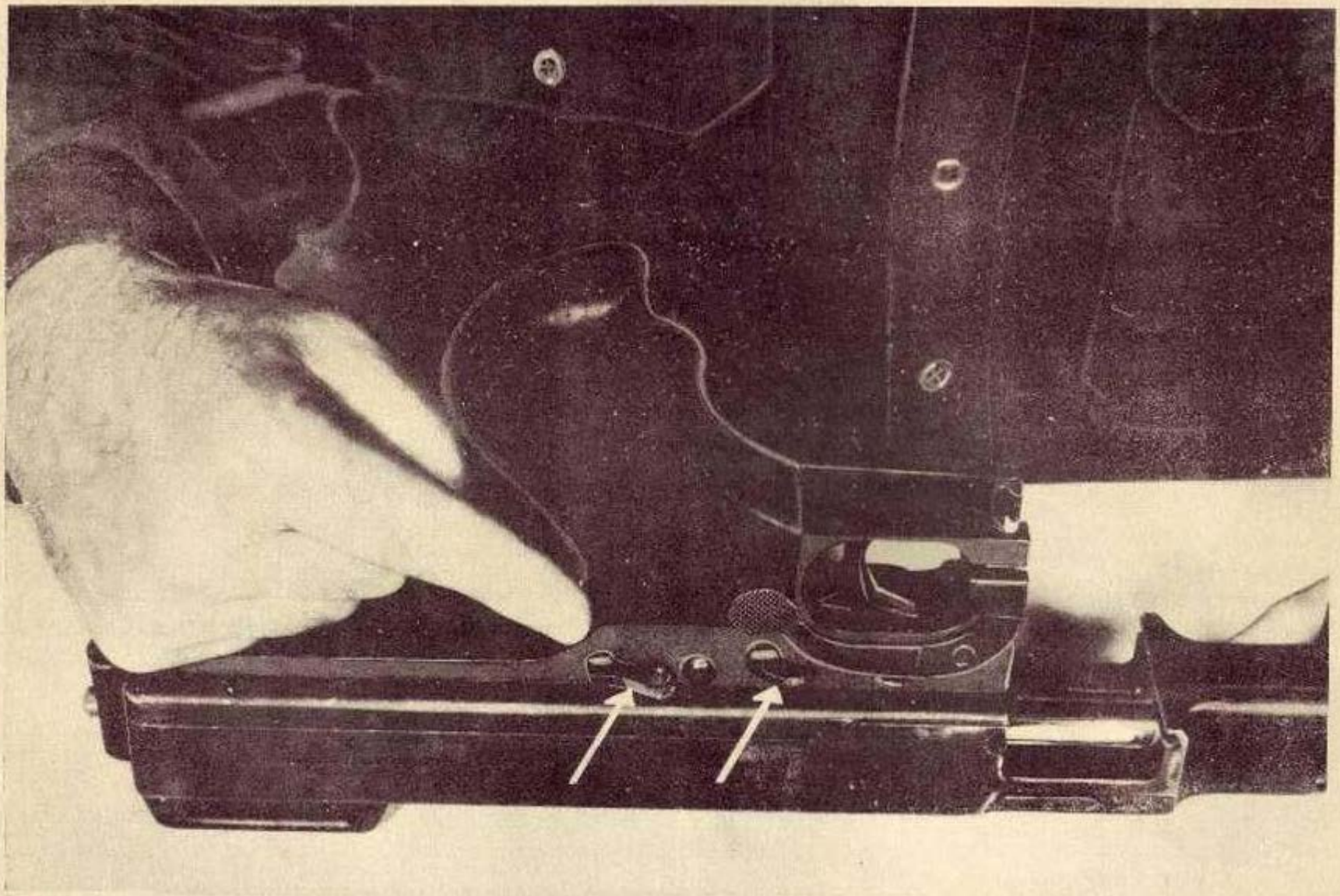


Fig. (4): Turn SAFETY to "fire" position (Forward) and FIRE CONTROL LEVER to "full auto" (forward). (This is to make certain that the SEAR is not locked in its "high" position", and that the ROCKER is not "up." If this were not done, the BOLT, ROCKER and SEAR might be damaged when the FRAME is slid from the RECEIVER).

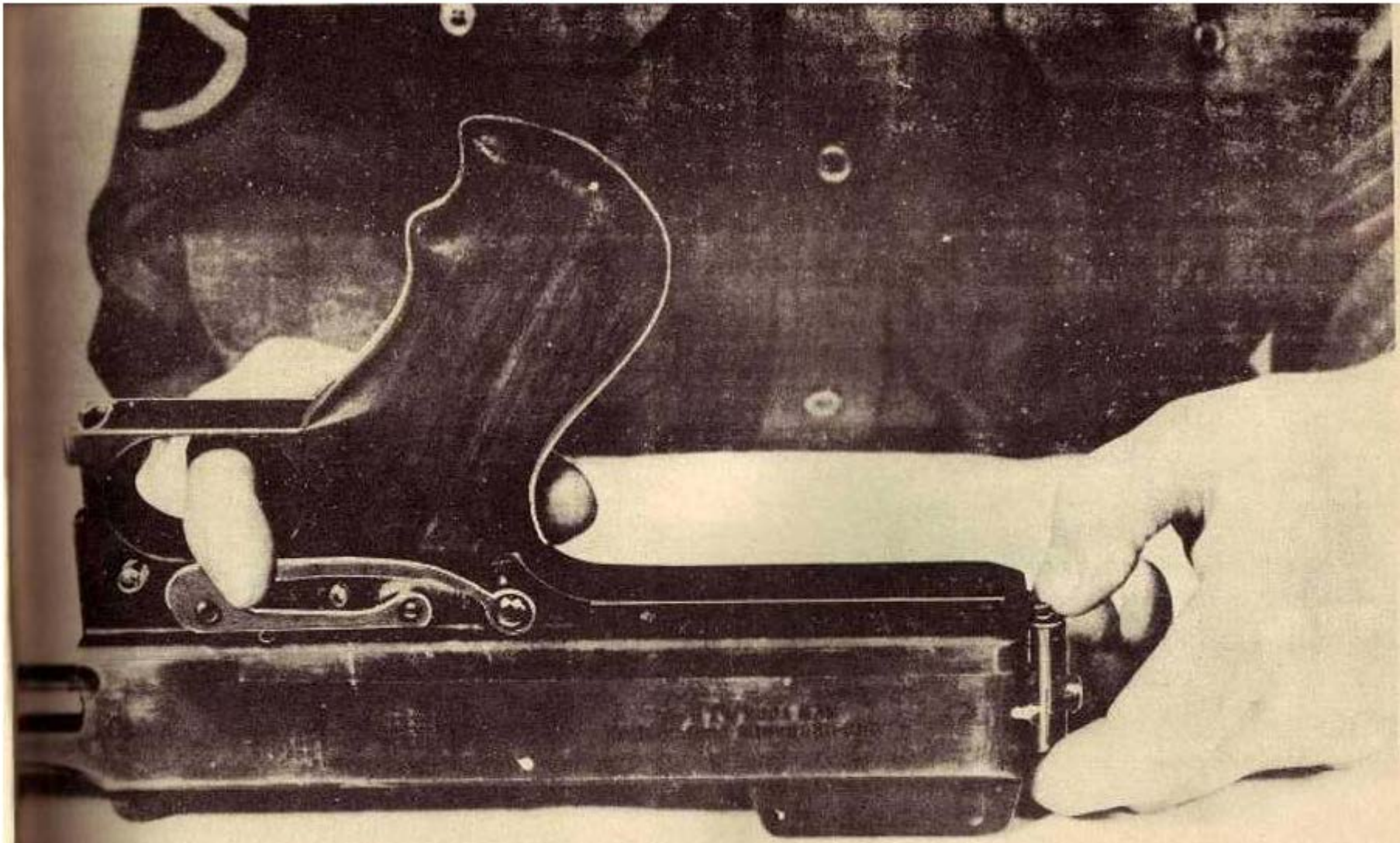


Fig. (5): Press down on FRAME LATCH and tap FRAME a sufficient distance to the rear to hold the LATCH depressed.

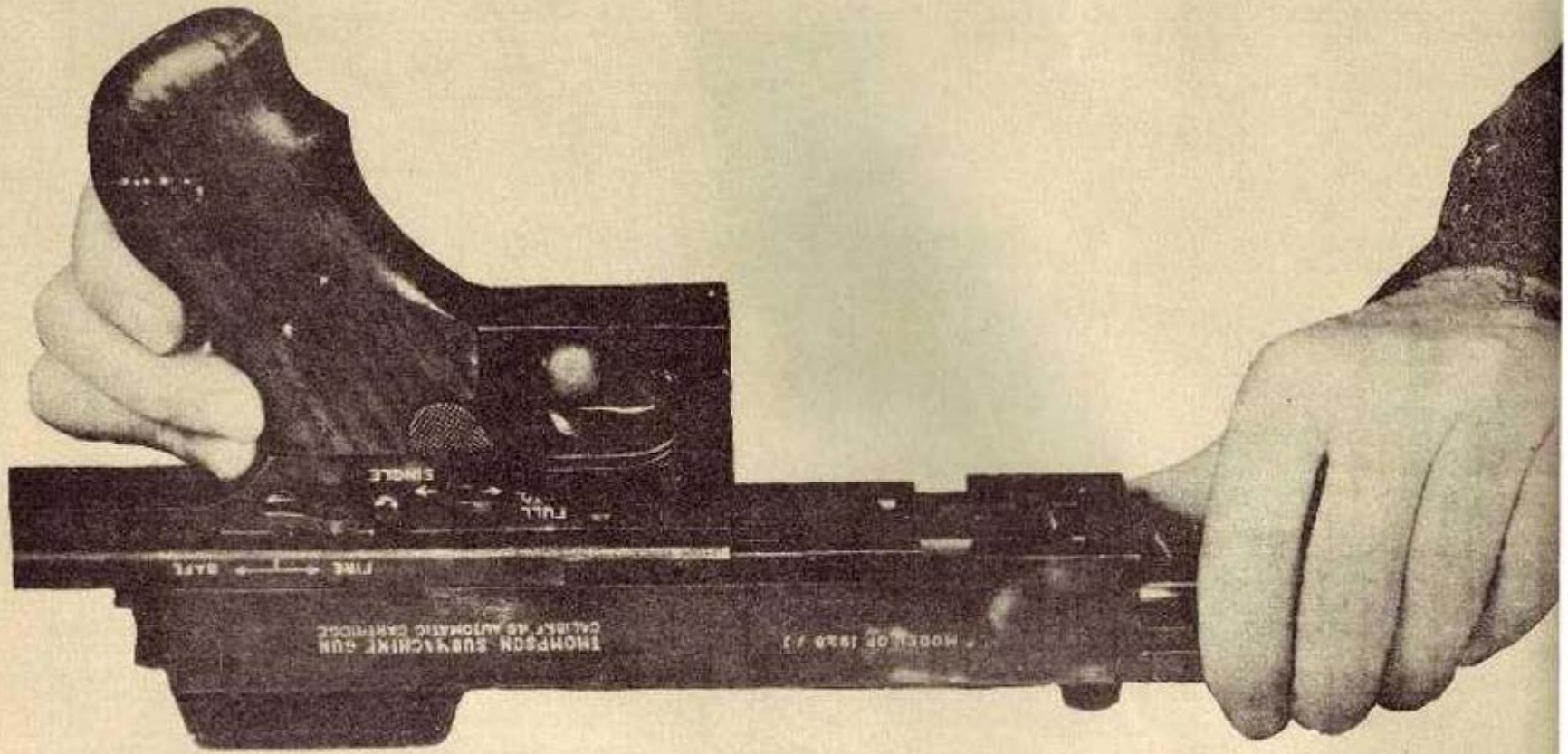


Fig. (6): Pull trigger, and slide FRAME from RECEIVER.

Fig. (7): Holding RECEIVER with bottom up; push recoiling parts to rear until the back of the BOLT just contacts the SMALL HOLE drilled in the PILOT. Insert the point of a nail into this hole; thus holding the RECOIL SPRING compressed.

Fig. (8): Move recoiling parts fully forward and lift out PILOT RECOIL SPRING and BUFFER.

FIG. 1 R. SIDE VIEW OF GUN WITH "L" MAGAZINE

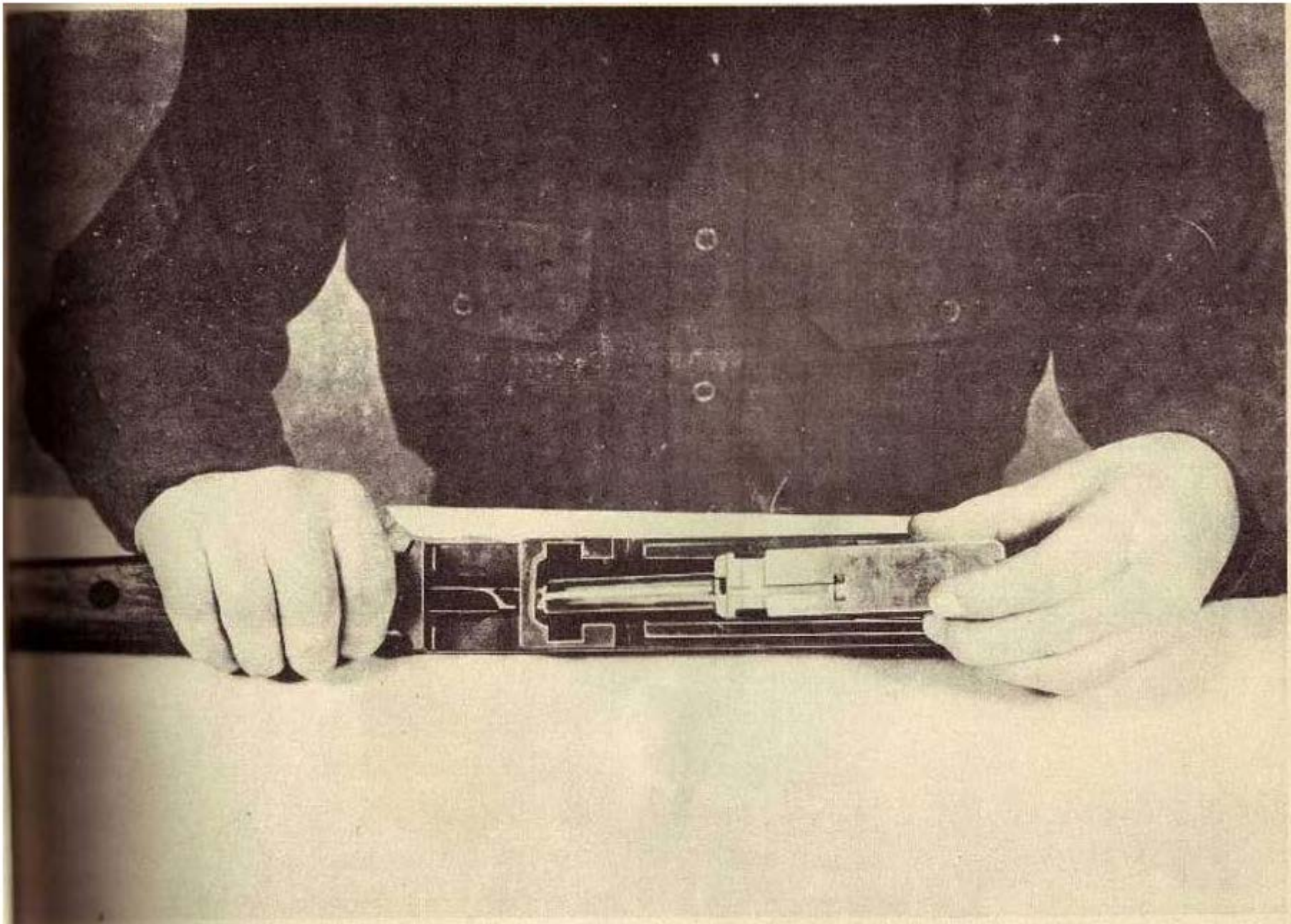


Fig. (9): Slide recoiling parts to rear of RECEIVER and lift out BOLT.

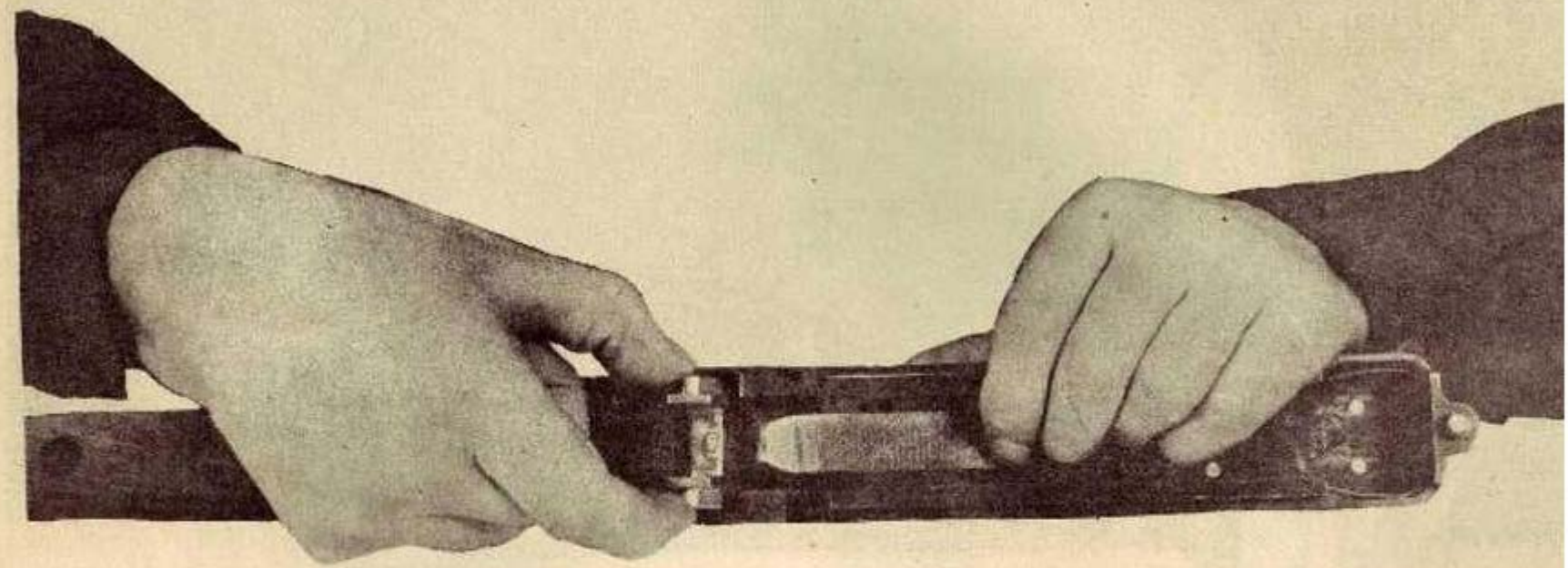


Fig. (10): Slide ACTUATOR and LOCK forward in RECEIVER and lift BRONZE LOCK out thru the LOCK GROOVES.

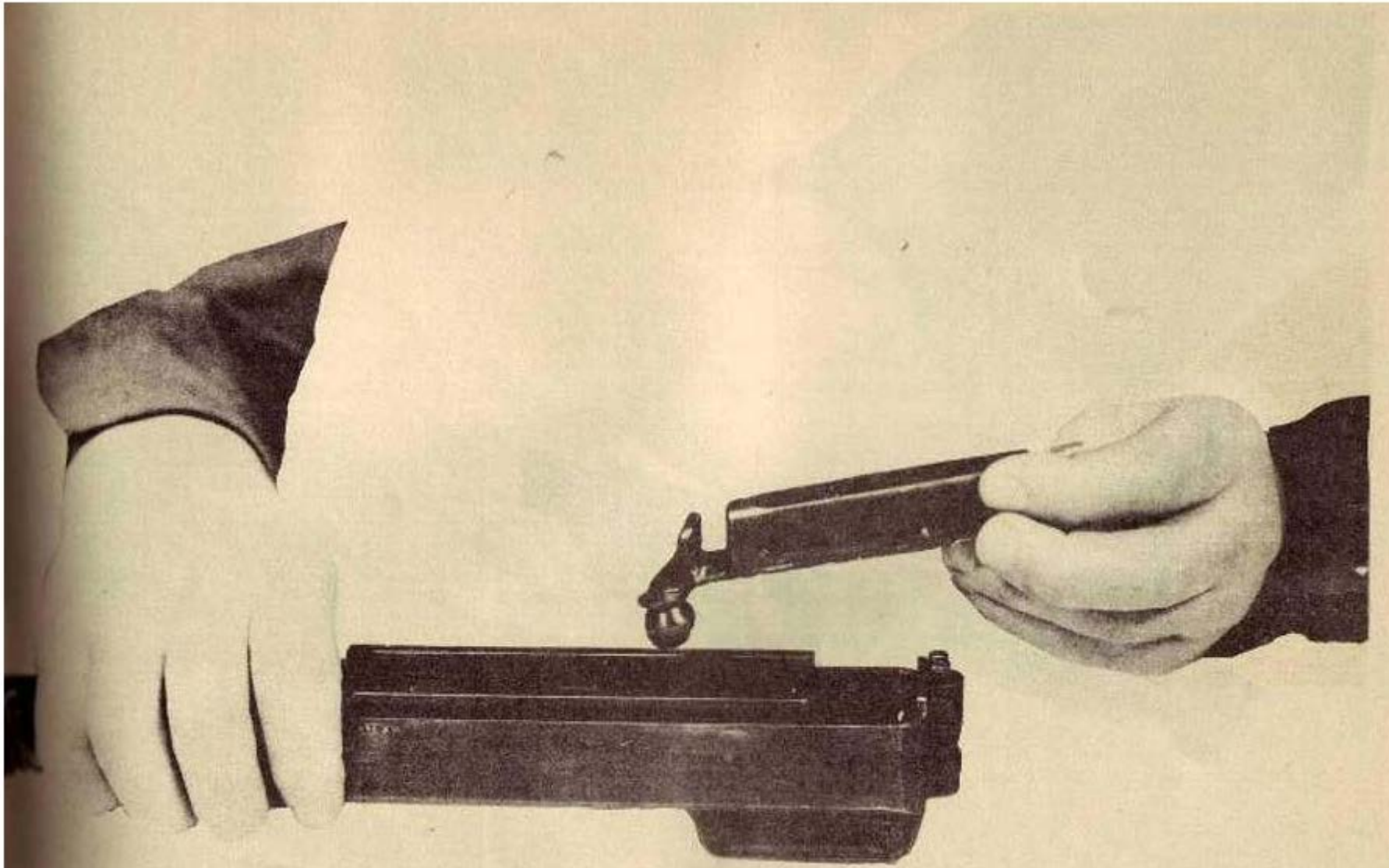


Fig. (11): Slide ACTUATOR to rear of RECEIVER and lift out.

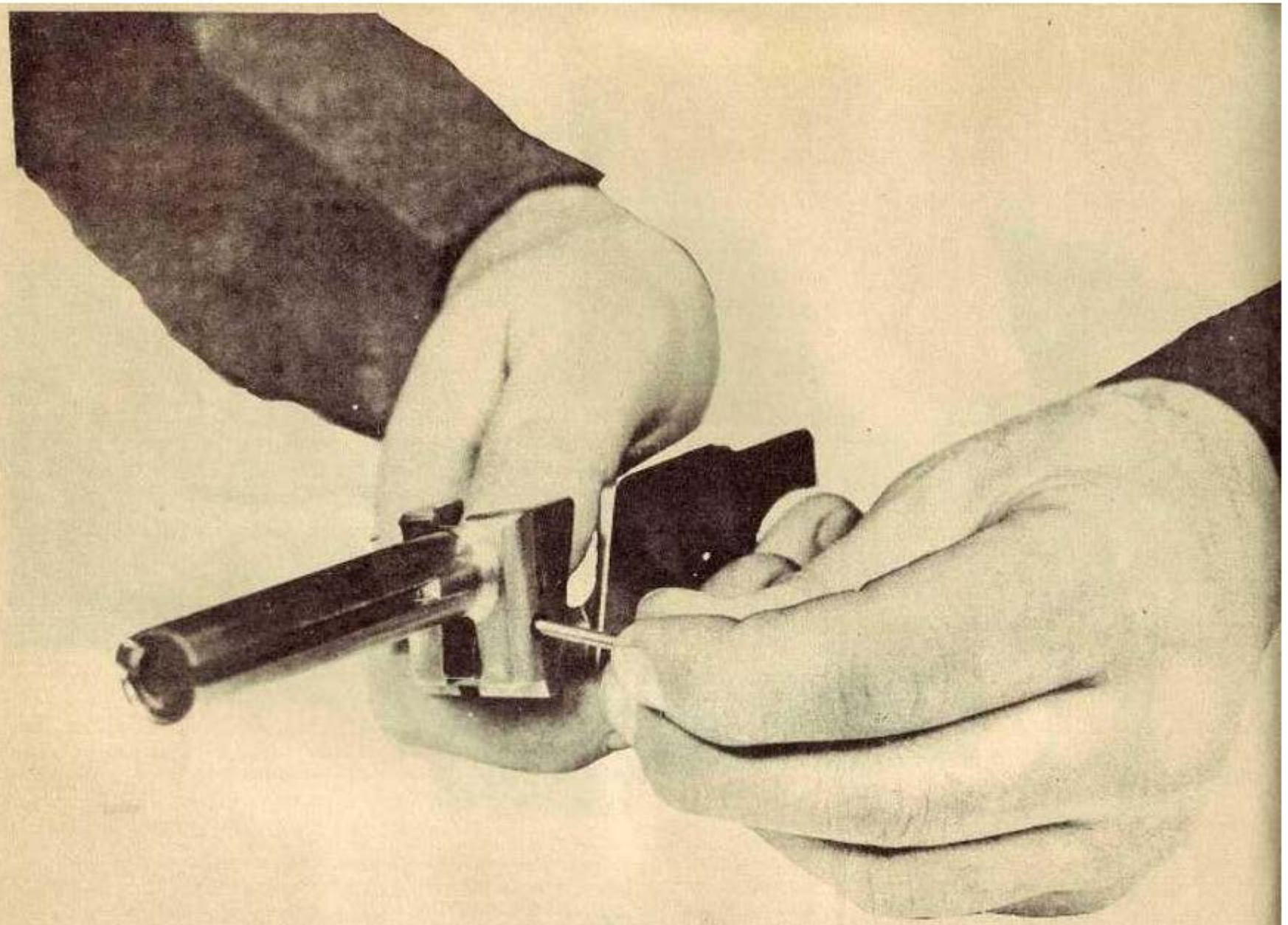


Fig. (12): Hold the bolt as shown, (with the thumb applying pressure to the back of the HAMMER, in order that the FIRING PIN and SPRING will not spring away, and drift out the HAMMER PIN (from either side.) Remove FIRING PIN and SPRING.

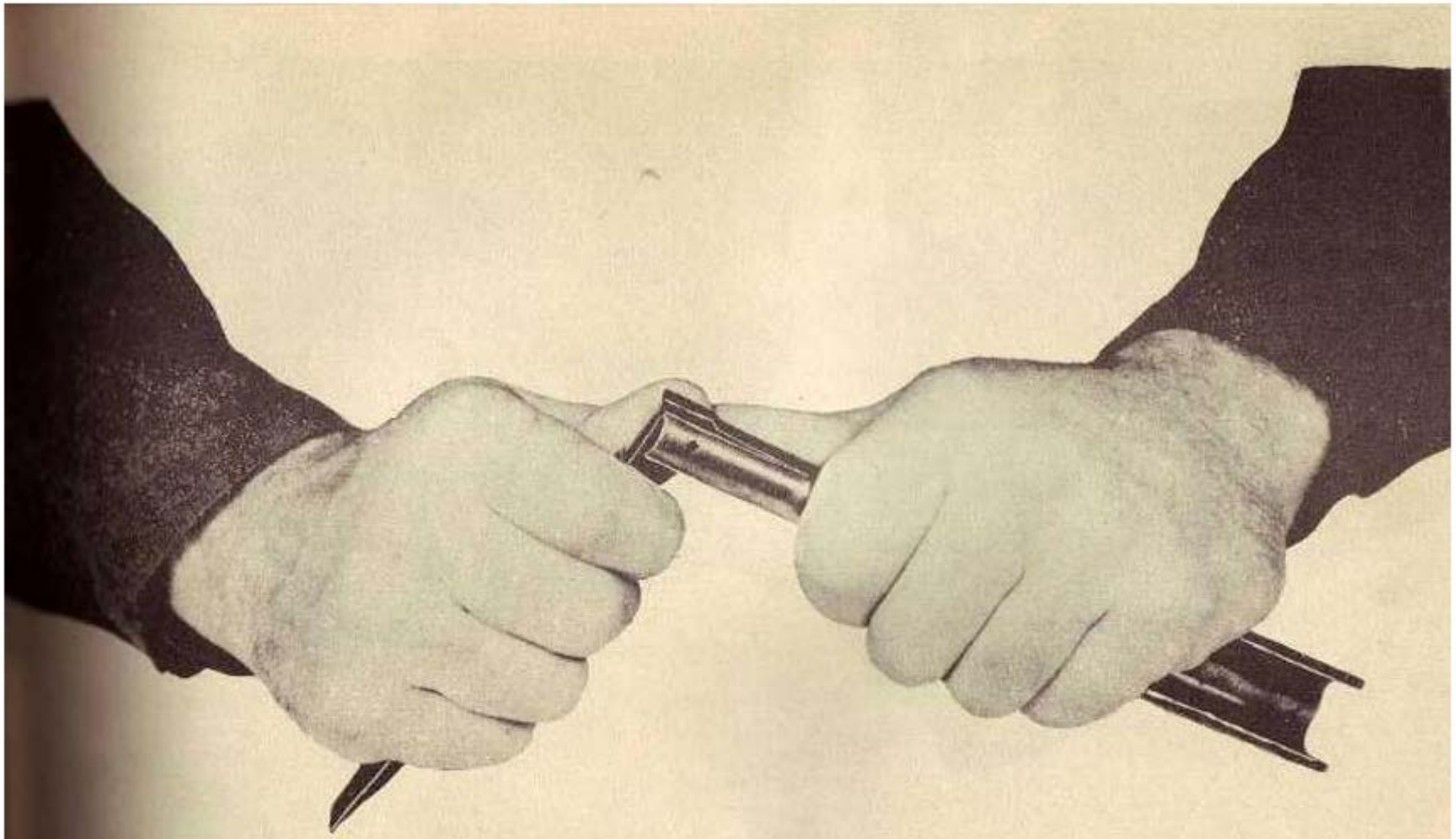


Fig. (13): Insert a combination tool (or flange of ACTUATOR) under the head of the EXTRACTOR on the face of the bolt and pull EXTRACTOR out and up to withdraw it from its groove. (Note: Do not lift EXTRACTOR higher than necessary for lug to clear anchorage hole as otherwise setting or breaking may occur).

Fig. (14): With the FIRE CONTROL LEVER pointing straight down, using a combination tool (or the flange of the ACTUATOR) expand the short finger of the PIVOT PLATE disengaging the cut on the LEVER.

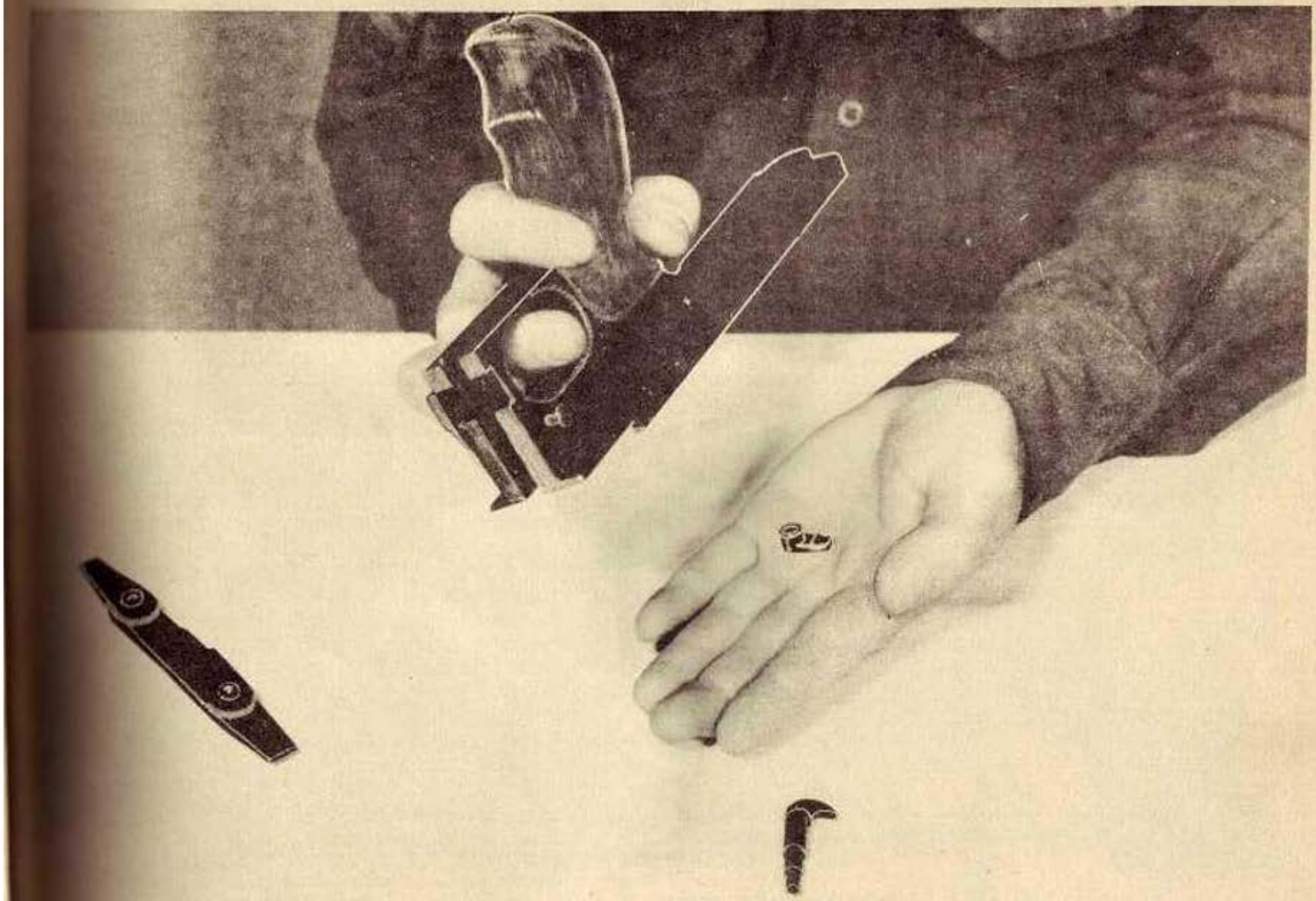


Fig. (15): Lift out FIRE CONTROL LEVER and turn FRAME over in hand catching ROCKER as it falls out.

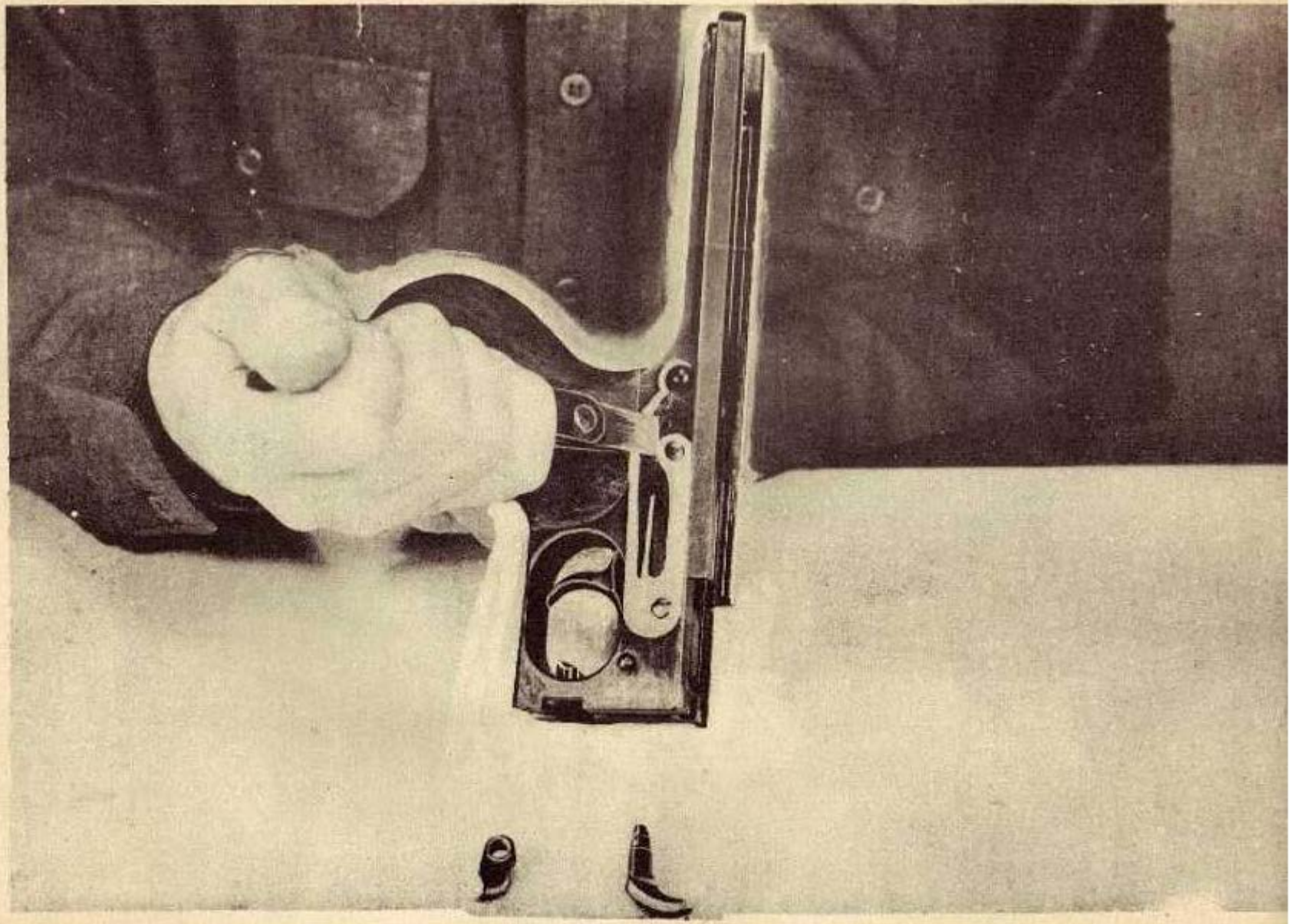


Fig. (16): Remove the SAFETY LEVER in the same manner the FIRE CONTROL LEVER was removed. Lever down the long finger of the PIVOT PLATE and lift out the SAFETY LEVER.

Fig.(17): Holding the FRAME in both hands, apply pressure with the balls of the thumbs to the TRIGGER and SEAR PIVOTS. Press evenly on both pins until the PIVOT PLATE protrudes on the other side far enough to permit withdrawal.

Fig. (18): While withdrawing PIVOT PLATE, press down on TRIGGER and SEAR with the ball of the hand in order to reduce the pressure of the SPRINGS on the PIVOTS. This facilitates removal.

FIG. 2 L. SIDE VIEW OF GUN WITH "XX" MAGAZINE

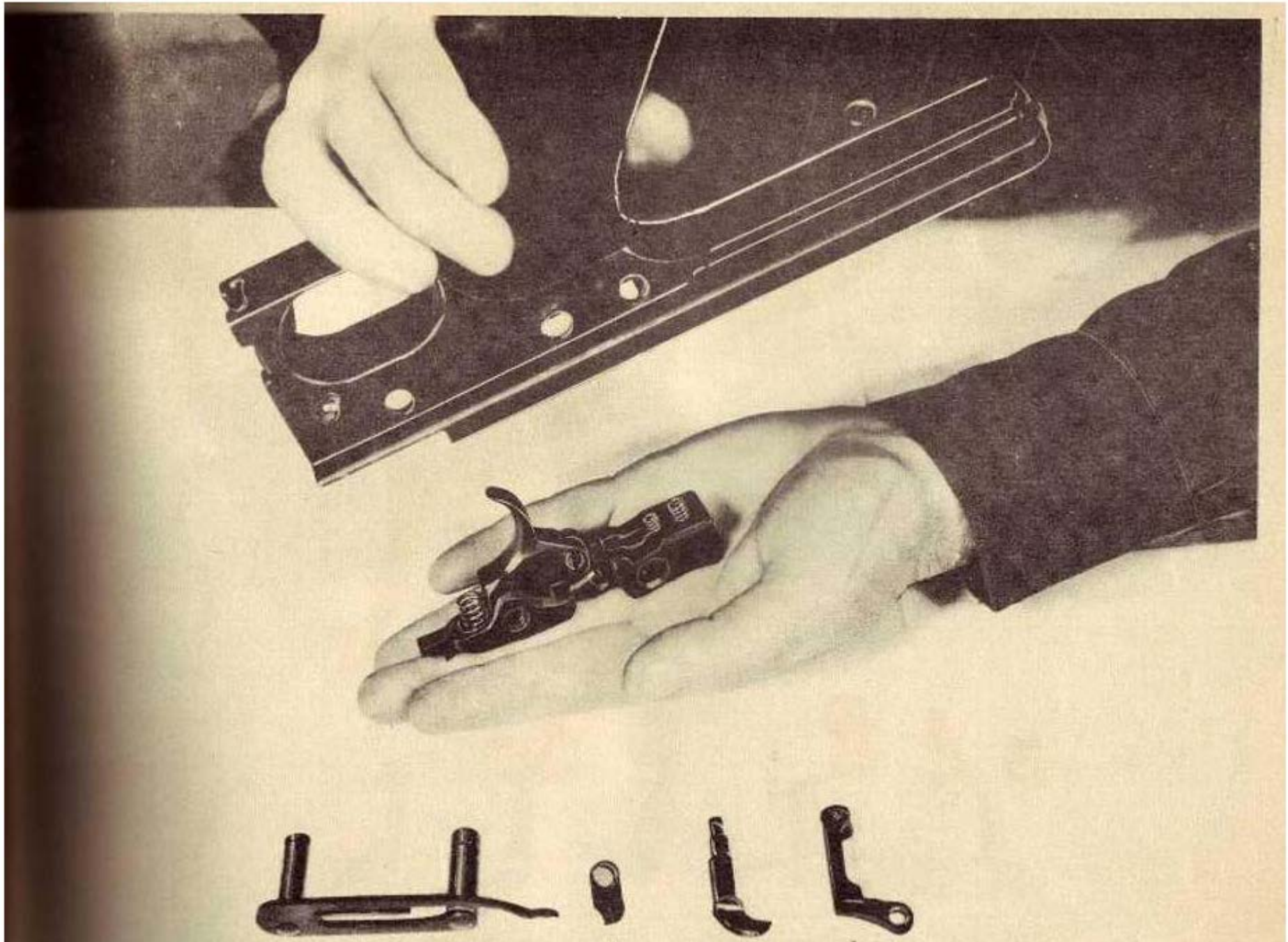


Fig. (19): Turn FRAME upside down and empty contained parts into the palm of the other hand.

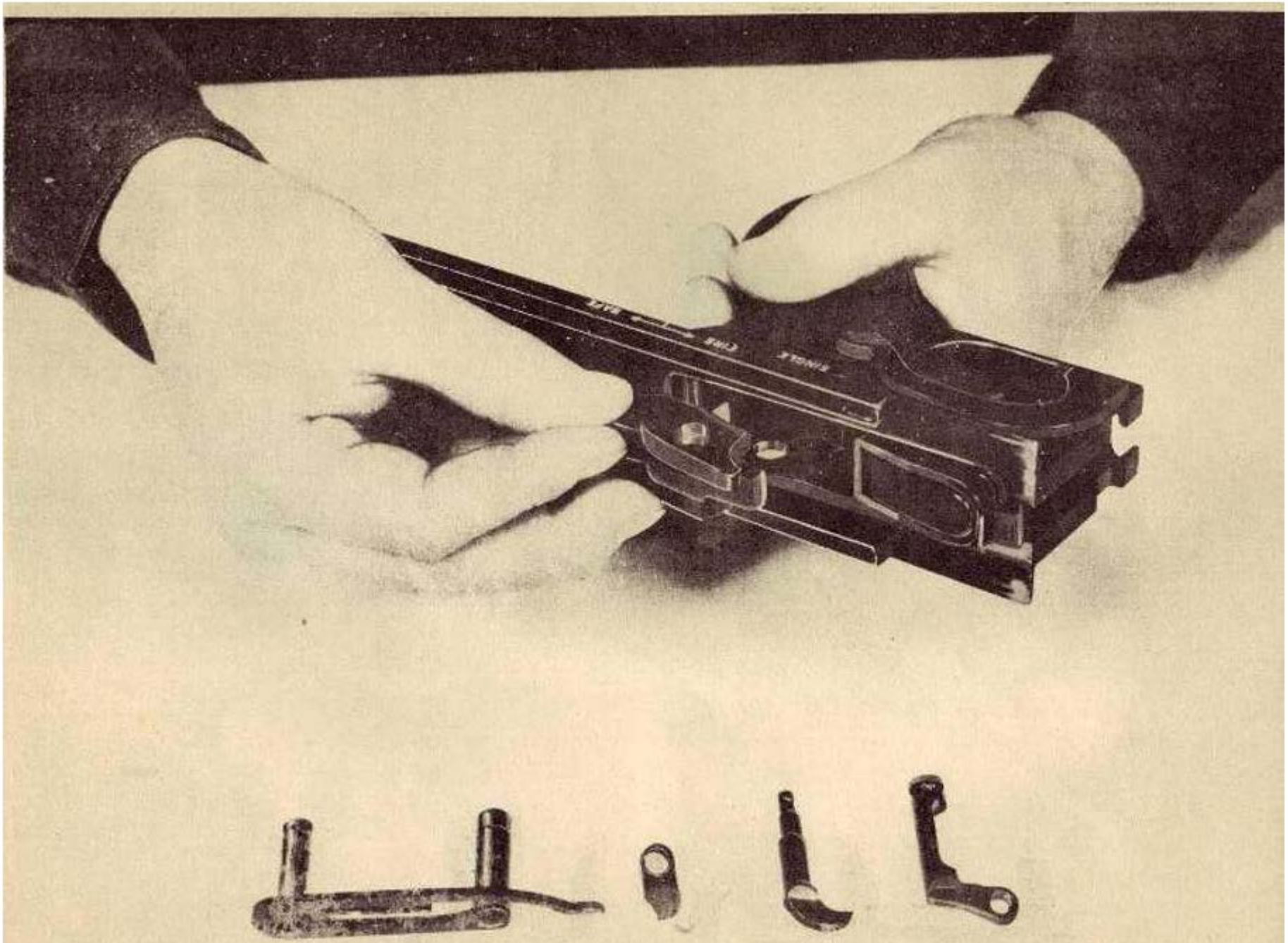


Fig. (20): Replace TRIGGER, TRIP, SEAR AND SEAR LEVER with their contained springs in their correct positions in the FRAME. (Note: Be sure that forward end of SEAR LEVER rests on DISCONNECTOR.)

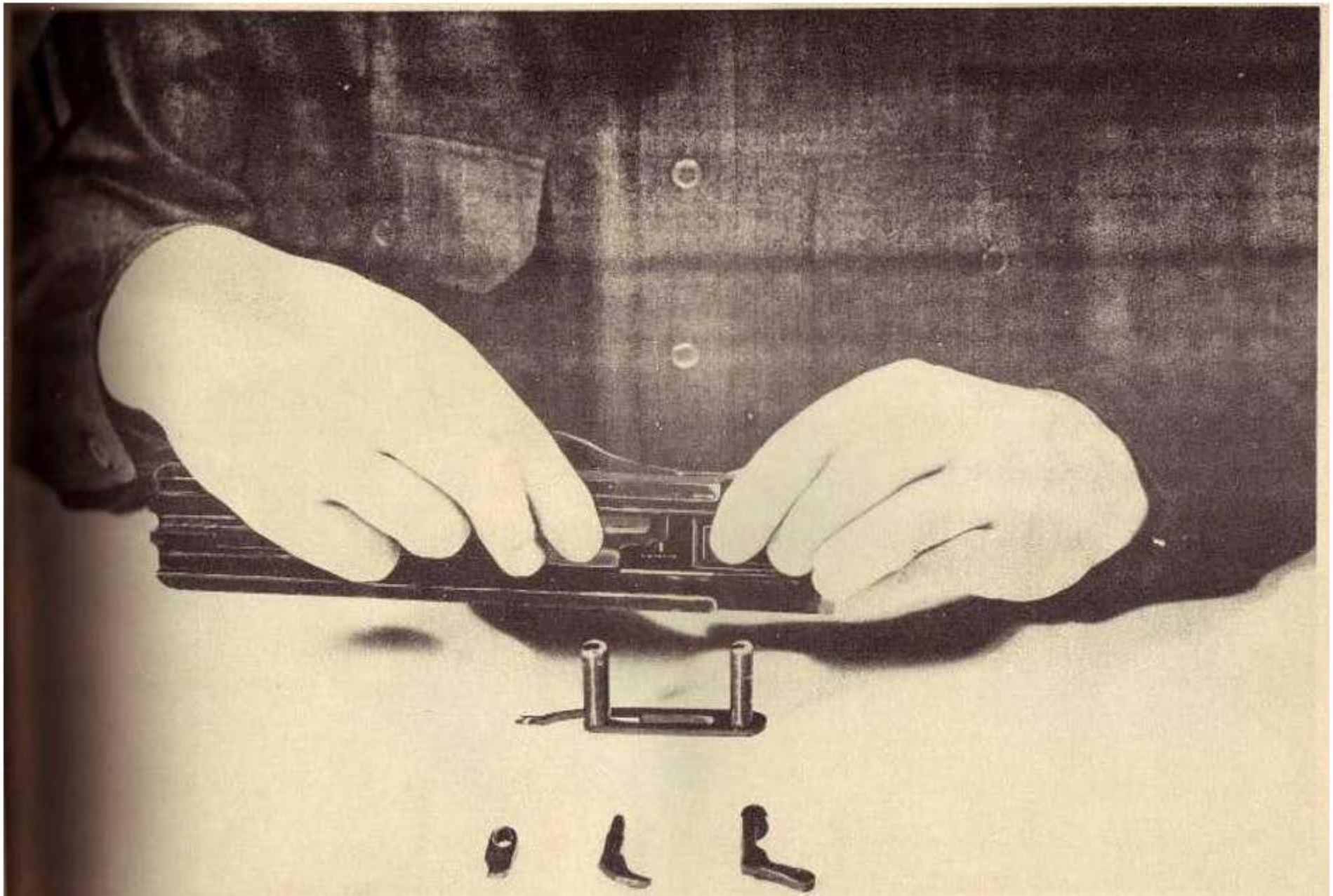


Fig. (21): Set PIVOT PLATE on table, pivots up. Holding the FRAME in both hands apply pressure to the trigger mechanism with the fingers of both hands while pushing the FRAME onto the PLATE. Complete the seating by driving the PLATE home with thumbs. (Test mechanism.)

Fig. (22): Insert SAFETY LEVER and secure with long finger of PIVOT PLATE. (Note: This is done in the same manner that the lever was removed; by levering the finger down with a tool.)

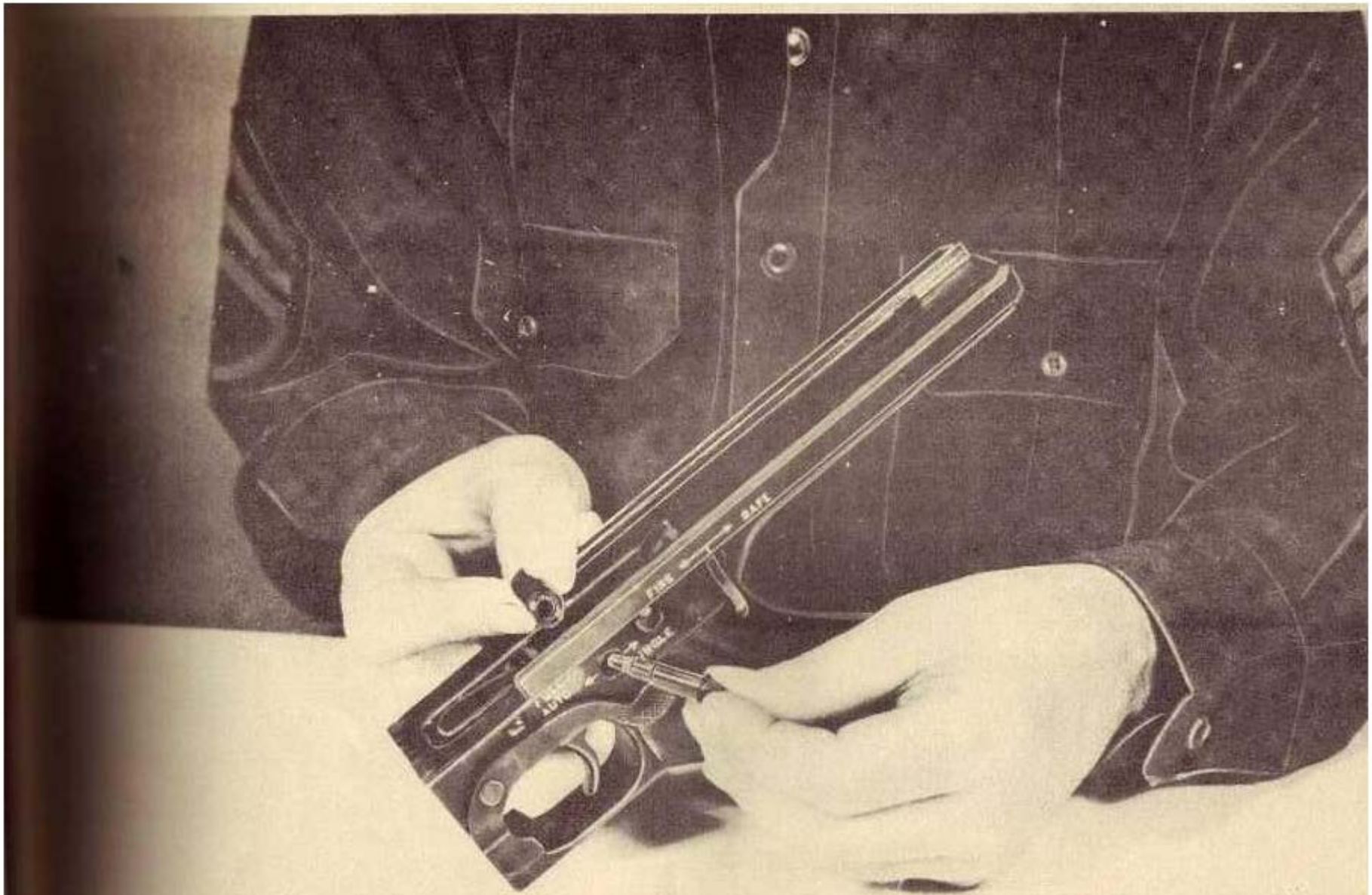


Fig. (23): Place ROCKER in position with <u>hook toward the rear</u> and insert FIRE CONTROL LEVER as far as it will go. Engage LEVER with the short finger of the PIVOT PLATE. (Test mechanism.)

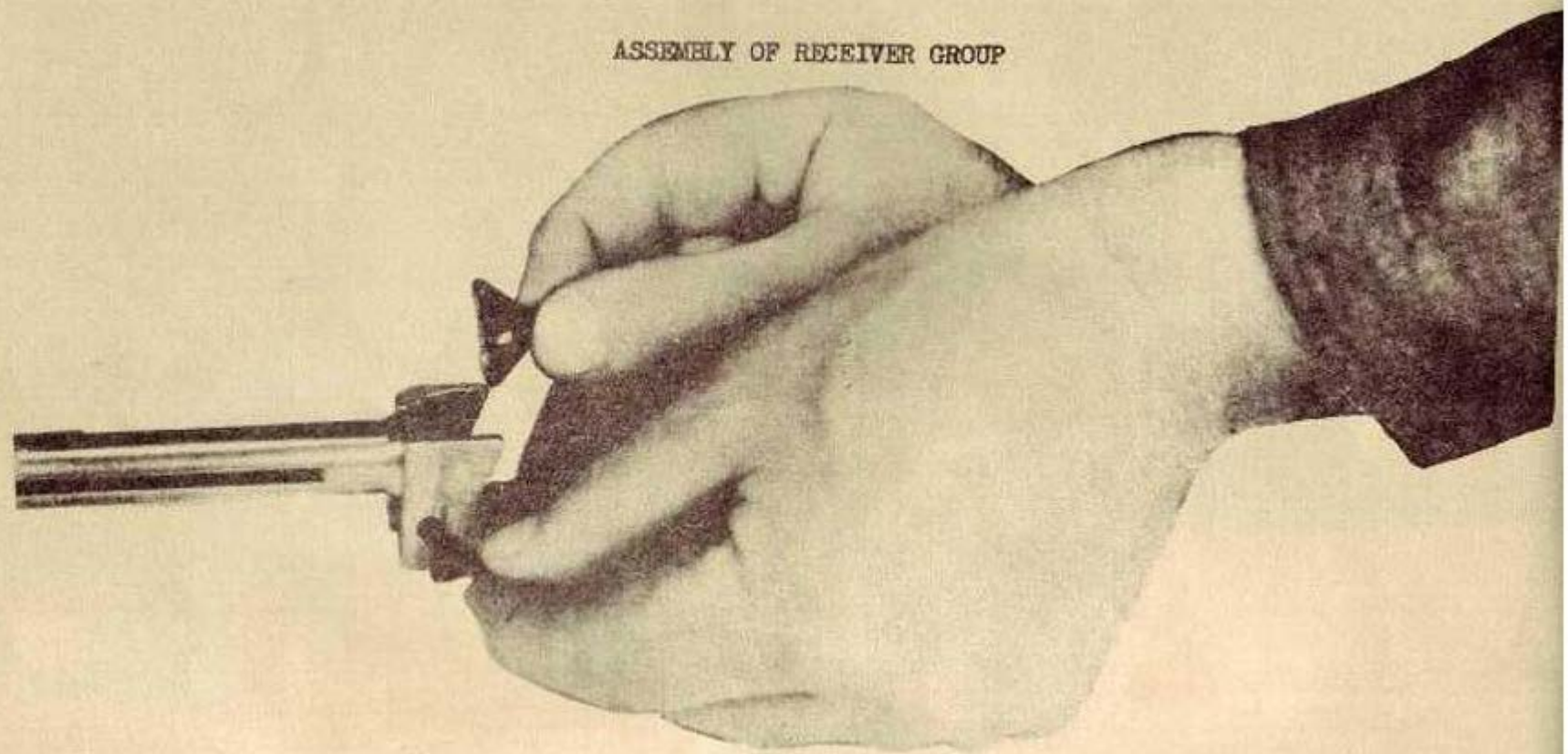


Fig. (24): After the EXTRACTOR has been replaced (by sliding it in, lifting the head only enough to clear the stud) insert the FIRING PIN and SPRING in their recess in cylindrical part of BOLT. Place HAMMER in position with rounded edge upward and push HAMMER PIN into place.

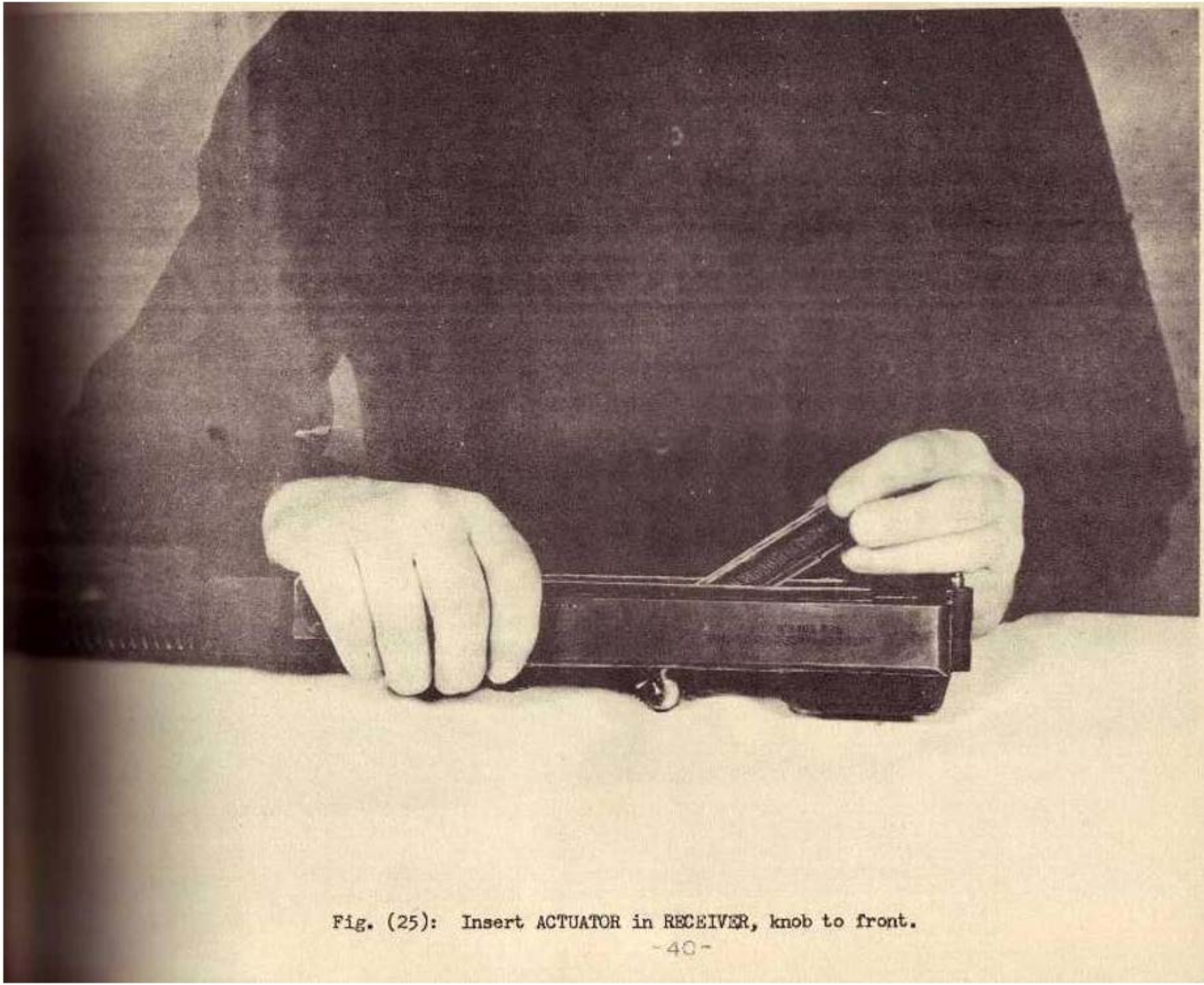


Fig. (25): Insert ACTUATOR in RECEIVER, knob to front.

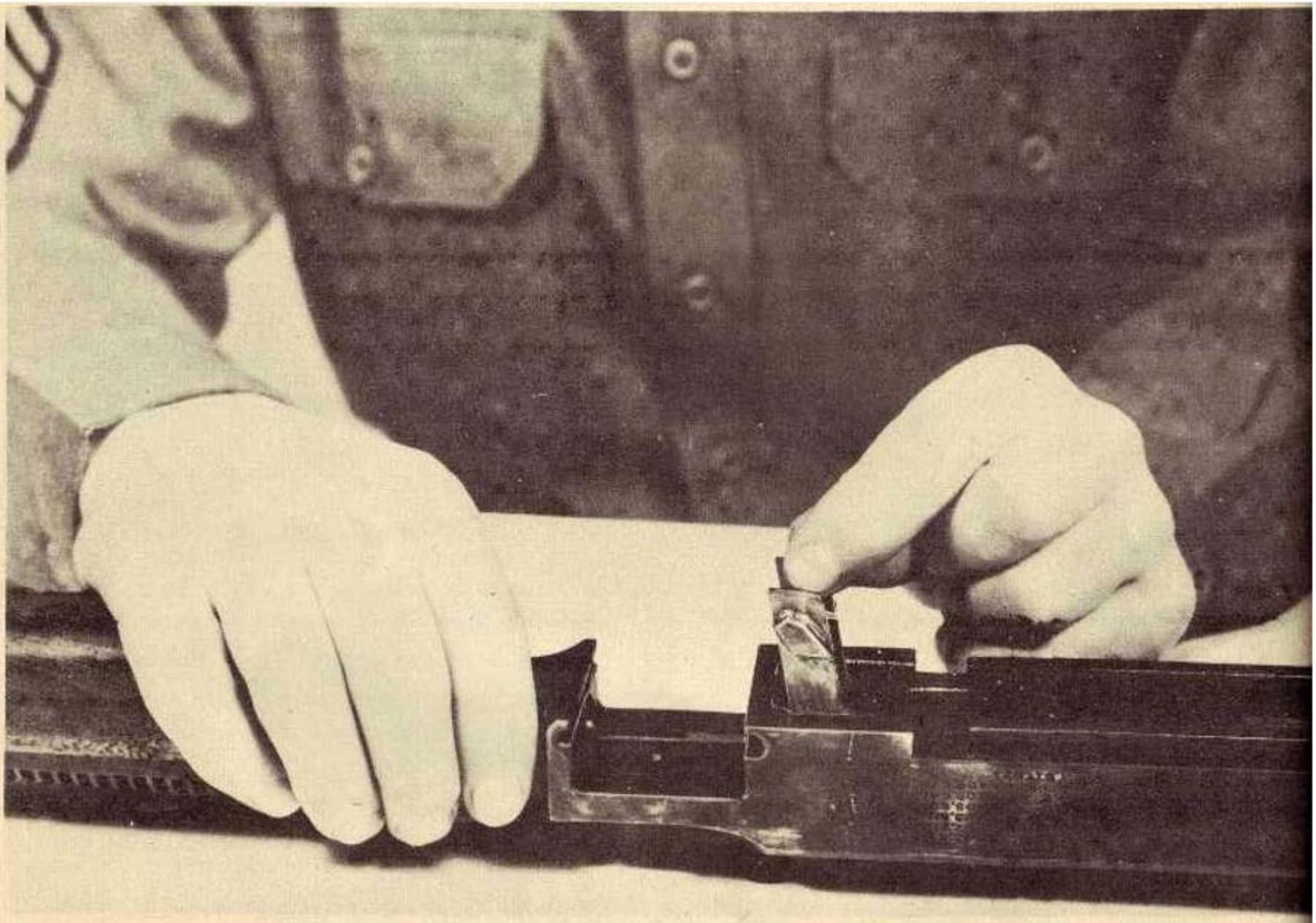


Fig. (26): Slide ACTUATOR forward and place BRONZE LOCK in grooves of RECEIVER with the word "UP" correctly readable from the rear and the arrow pointing forward.

Fig. (27): Slide ACTUATOR to rear and place BOLT in position.

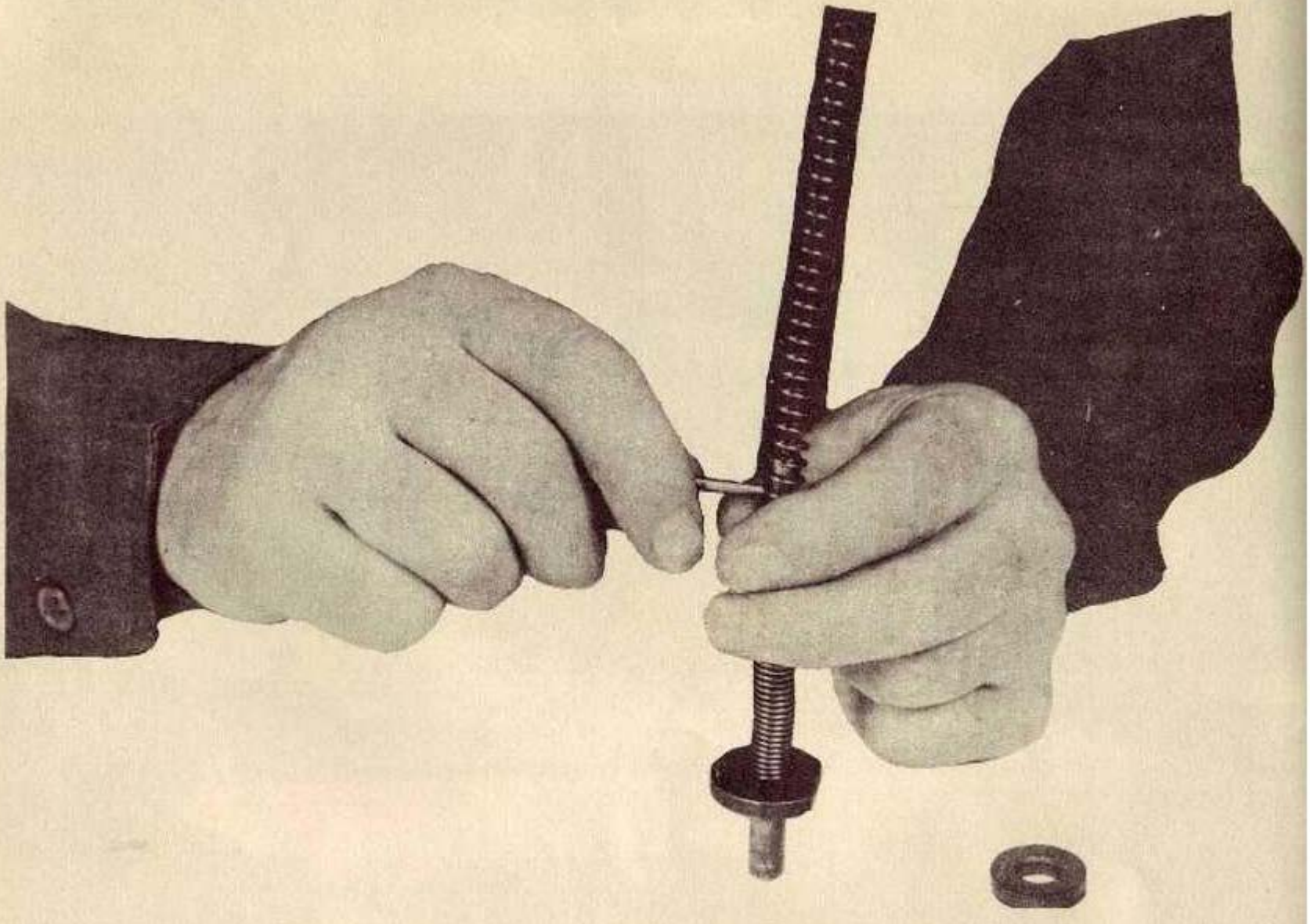


Fig. (28): Compress RECOIL SPRING on PILOT and retain it with a nail inserted thru hole. It is not necessary to fully compress the spring; if three or four inches are free it will be adequate. Make certain that the nail is inserted from the side opposite the flat-milled portion of the BUFFER; otherwise the assembly can not be replaced in the receiver.

DISASSEMBLY AND ASSEMBLY OF GUN

REMOVAL OF GROUPS:

Fig. (3). Three component groups of the gun

Fig. (29): Assemble BUFFER PAD to PILOT slide free end of RECOIL SPRING into recess in ACTUATOR and engage the PILOT in the PILOT HOLE of the RECEIVER.

Fig. (30): Push BOLT back against nail and withdraw the nail. (The object of this is to make it impossible for the RECOIL SPRING to coil into the gap between the end of the PILOT and the back of the ACTUATOR when the recoiling parts are fully forward.)

CARE AND CLEANING

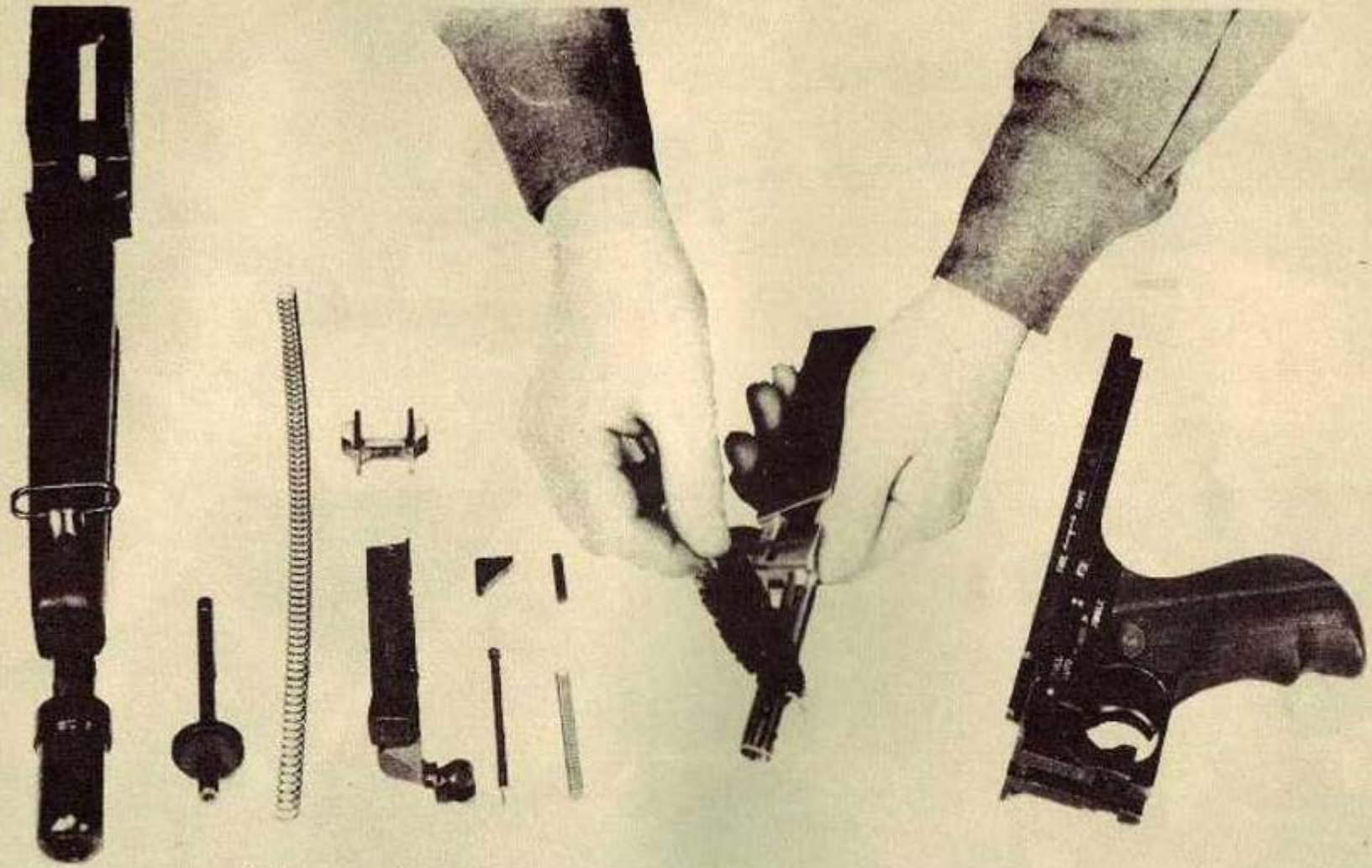


Fig. (1): Keep the gun well cleaned and oiled. After each day's firing, clean the BORE, CHAMBER, and all parts and surfaces of the RECEIVER, BOLT, EJECTOR and EXTRACTOR that have been in contact with powder gasses. Remove FRAME from RECEIVER and take BOLT out; thoroughly clean the EXTRACTOR and front end of the BOLT. Escaping gasses usually manage to get into the FIRING PIN RECESS in the forward end of the BOLT; the RECESS, FIRING PIN and SPRING must, therefore, be thoroughly cleaned. The gun must be stripped to the extent shown in the illustration for the ordinary thorough cleaning after firing. All traces of the burnt gasses (usually a black stain) must be removed from the parts; the chamber brush is useful for this purpose.

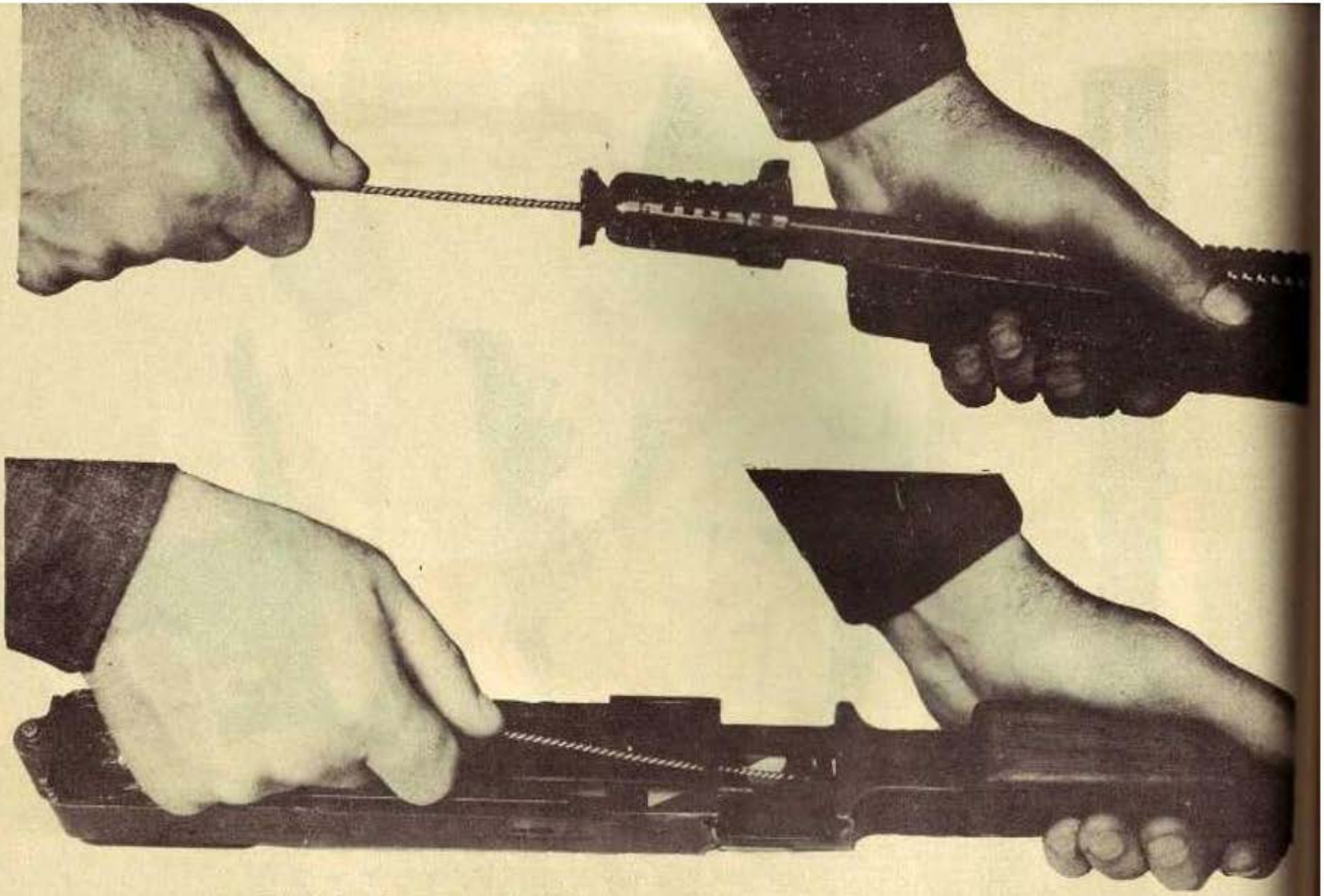


Fig. (2): The CHAMBER and COMPENSATOR should be cleaned with the chamber cleaning brush. For the CHAMBER the brush is introduced through the opening in the bottom of the RECEIVER; the COMPENSATOR is, of course, cleaned from the MUZZLE. The brush must be used vigorously in both cases even though they are further cleaned and oiled in the process of cleaning the BORE.

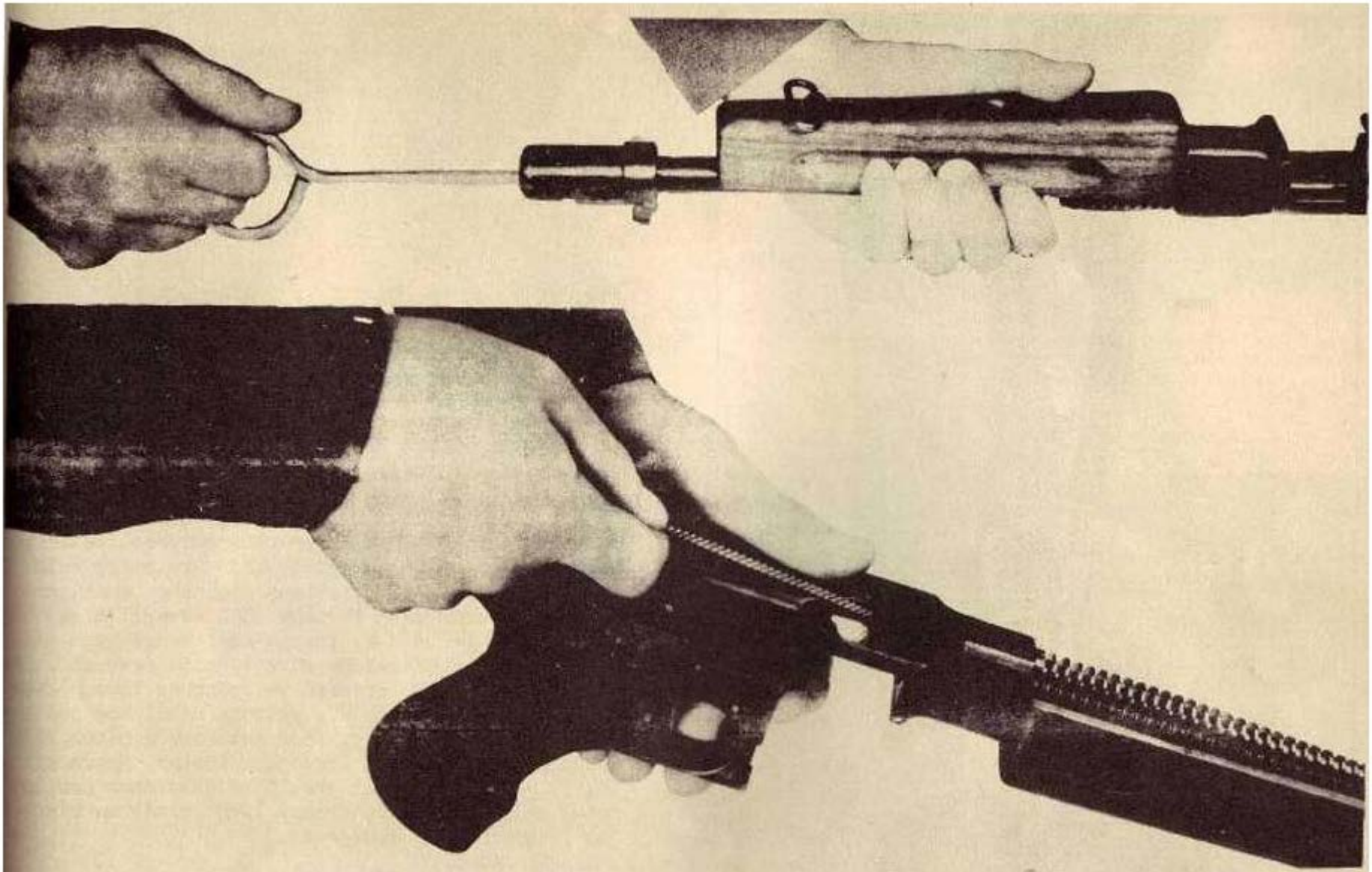
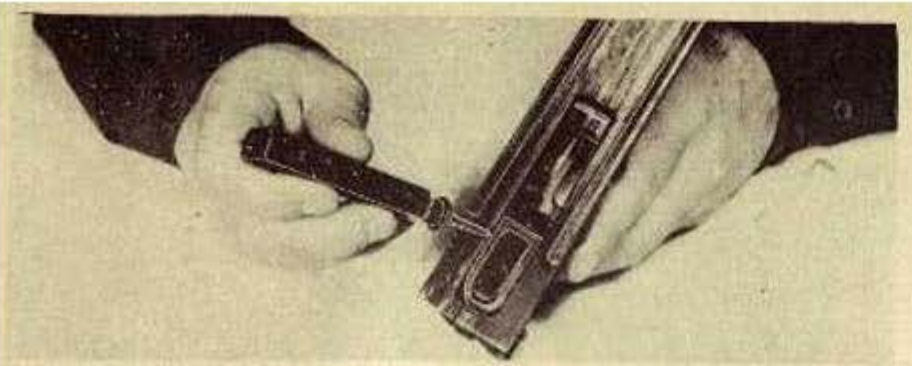
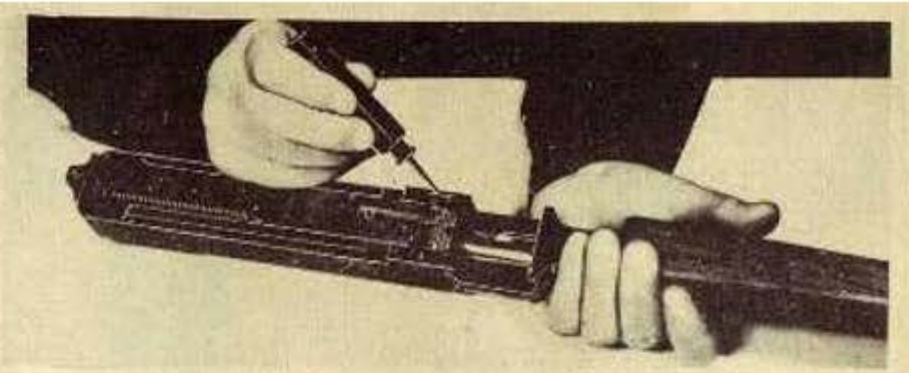


Fig. (3): In the event that it is desired to clean the CHAMBER and BARREL in the field during a period of extended firing, and yet it is not advisable to field-strip the gun; it may be accomplished by introducing the chamber brush through the EJECTION OPENING and using the submachine gun cleaning rod on the BARREL - working from the MUZZLE.

Fig. (4): As the BARREL of the submachine gun is not removed for cleaning, it must be cleaned from the MUZZLE, if the submachine gun cleaning rod is used. However, by using the rifle cleaning rod, the BARREL can be cleaned from the BREECH. Push the rifle cleaning rod thru the BUFFER PILOT HOLE in the back of the RECEIVER and thread a patch thru the eye of the rod. (Note: In cleaning the bore, care must be taken not to foul the cleaning patch in the slots of the COMPENSATOR.) Run several wet patches thru the BORE. For this purpose, water must be used; warm water is good, and warm soapy water is better. Remove patch, attach cleaning brush, and run brush back and forth through BORE several times. Care should be used to insure that brush goes all the way thru the BORE before direction is reversed. Remove brush and run several wet patches through the BORE. Follow this by dry patches until the patches come out clean and dry, then saturate a patch with sperm oil and push it through. (Note: Sperm oil (U. S. A. Spec. 2-45A) should be used when available; motor oil, weight 20, or any light grade machine oil may be used in an emergency.)





CARE AND CLEANING

Fig. (5): To function efficiently, the gun must be properly lubricated. For this purpose, use aircraft machine gun lubricating oil (U.S.A. Spec. 2-27) or sperm oil (U.S.A. Spec. 2-45A).

a. Having removed FRAME from RECEIVER, oil should be dropped over pivot points of TRIGGER and TRIP, SEAR And SEAR LEVER, and DISCONNECTOR and ROCKER.

b. Oil should also be dropped on locking lugs of LOCK, on sides of LOCK, and on all sliding surfaces of BOLT and RECEIVER.

c. FELT PADS in BREECH OILER must be kept well-saturated with oil. (Note: Care must be taken that in swabbing out the BORE no water is splashed onto these pads. If water does get in them, the BREECH OILER should be removed and the pads squeezed dry before new oil is applied.

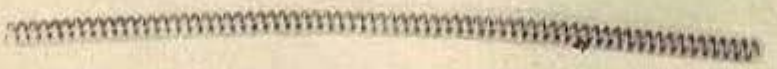
d. After assembling FRAME to RECEIVER, BOLT should be drawn back and a little oil should be dropped on rounded front end of BOLT. ACTUATOR KNOB should be worked back and forth several times to insure penetration of oil to all parts of mechanism.

e. All sliding surfaces should be oiled frequently and freely to insure perfect functioning of gun.

Fig. (6): It is imperative that magazines be given the best of care and kept in perfect condition. They should be disassembled, wiped clean and dry, and thinly coated with oil. Dirt that gets into them through careless handling must be removed. Care must be exercised to avoid denting or bending, especially the lips of the mouth of the BOX MAGAZINE (XX).

Fig. (7): Wipe off the exterior surfaces of the gun with a dry cloth to remove dampness, dirt, and perspiration; then wipe off all metal surfaces with an oiled rag (sperm oil.)

Receiver (w/compensator, fore-grip, sights, etc.)



Recoil Spring

Pilot (& buffer)

Buffer Pad

Bolt (Group)

Bronze lock

Actuator

Fig. 4 Receiver Group broken down

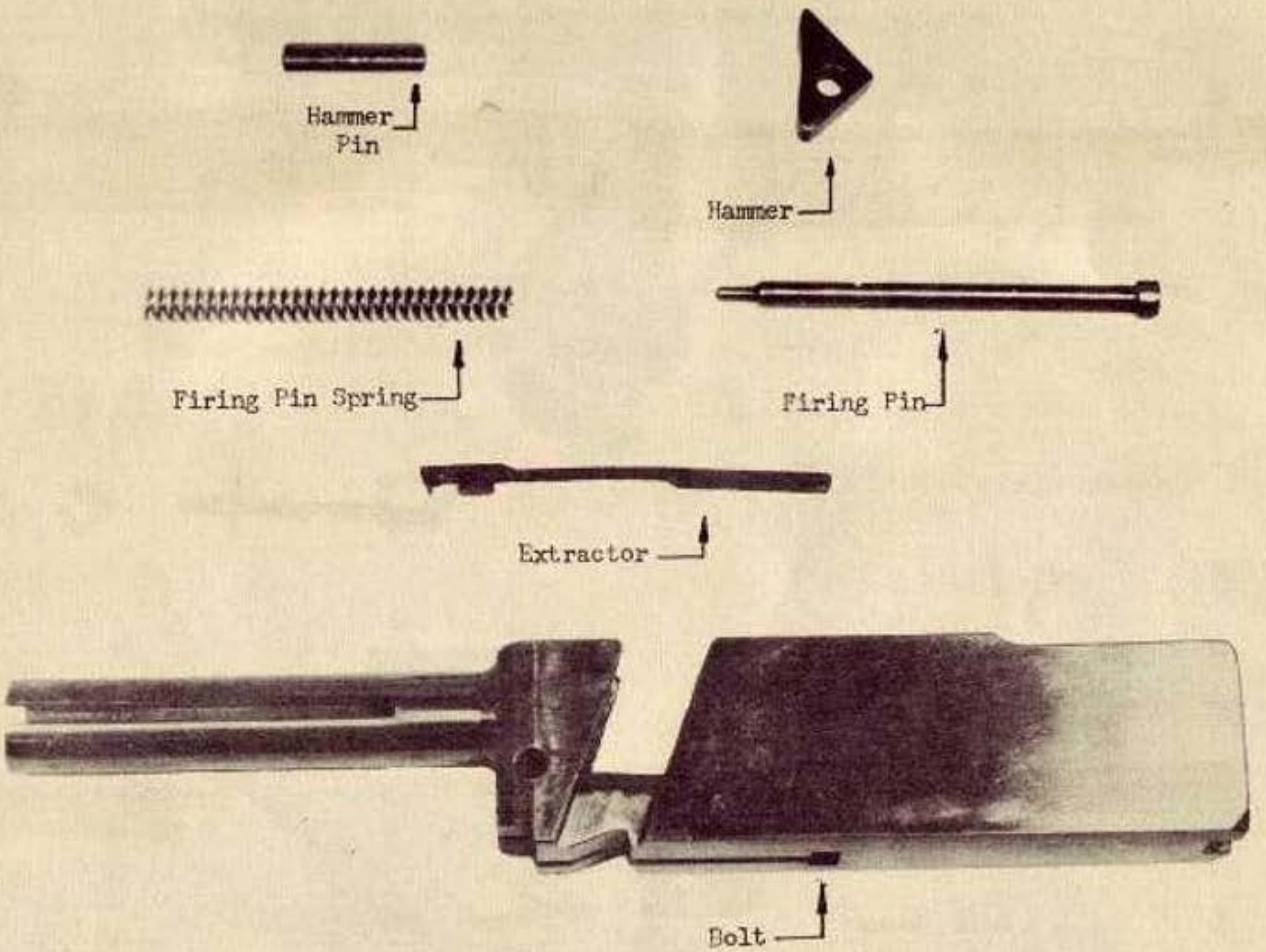


Fig. 5 Bolt group completely disassembled

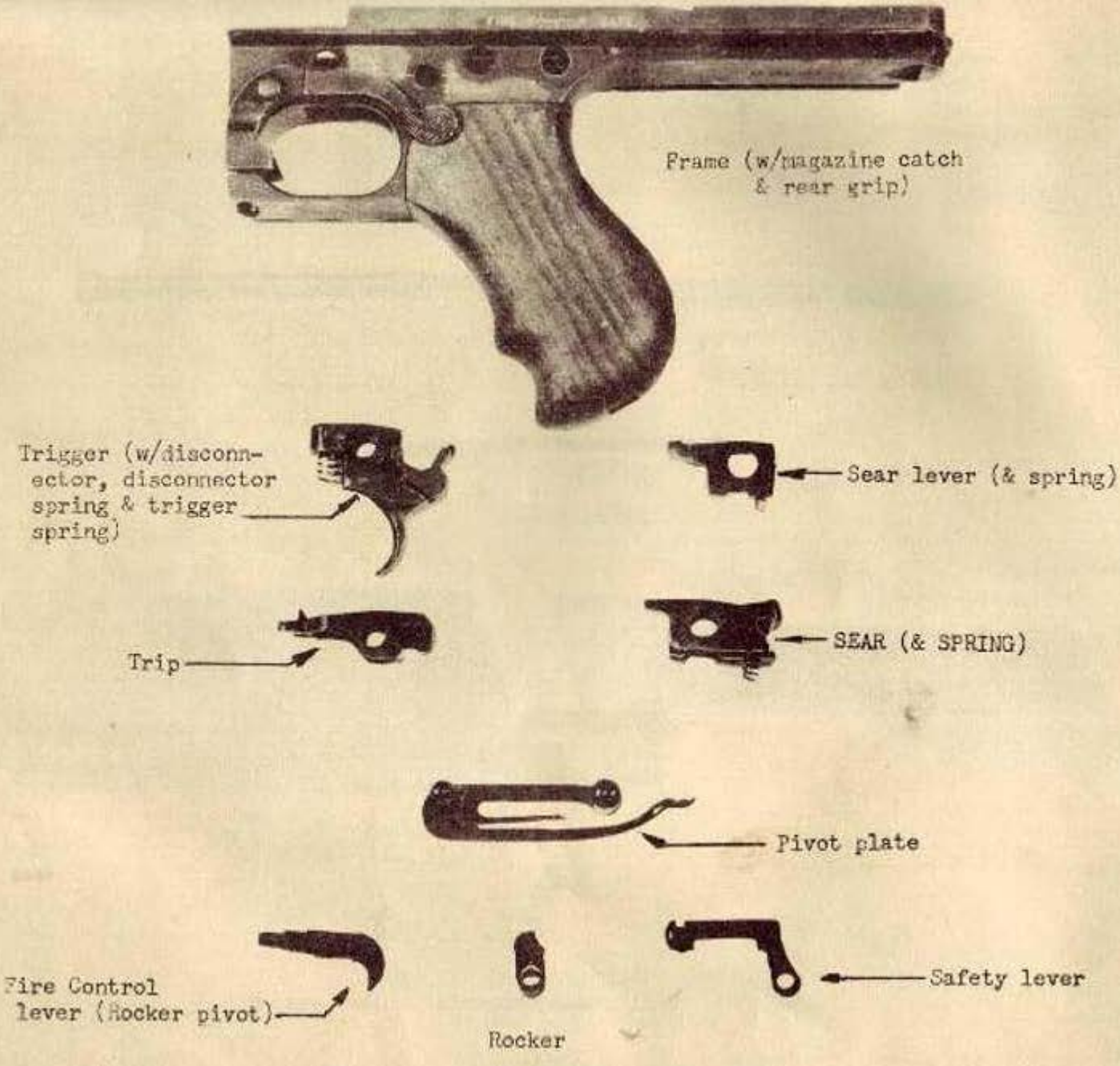


FIG. 6 FRAME GROUP DISASSEMBLED

FIG. 7 COMPLETE DISASSEMBLY OF GUN FOR CLEANING (NOT INCLUDING FORE-GRIP)