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I. GENERAL CHARACTERISTICS

1. **Method of functioning.** — The weapon is gas-operated. Gas intake is controlled by means of a regulator, which ensures regular and smooth functioning, without excessive recoil. The breech block is mechanically locked before firing can take place; in addition, unlocking cannot take place until the bullet has left the barrel.

As the breech block must necessarily be in the forward position when firing takes place, accuracy is not affected by the forward movement of a fairly heavy mass, which is one of the draw-backs of many automatic weapons.

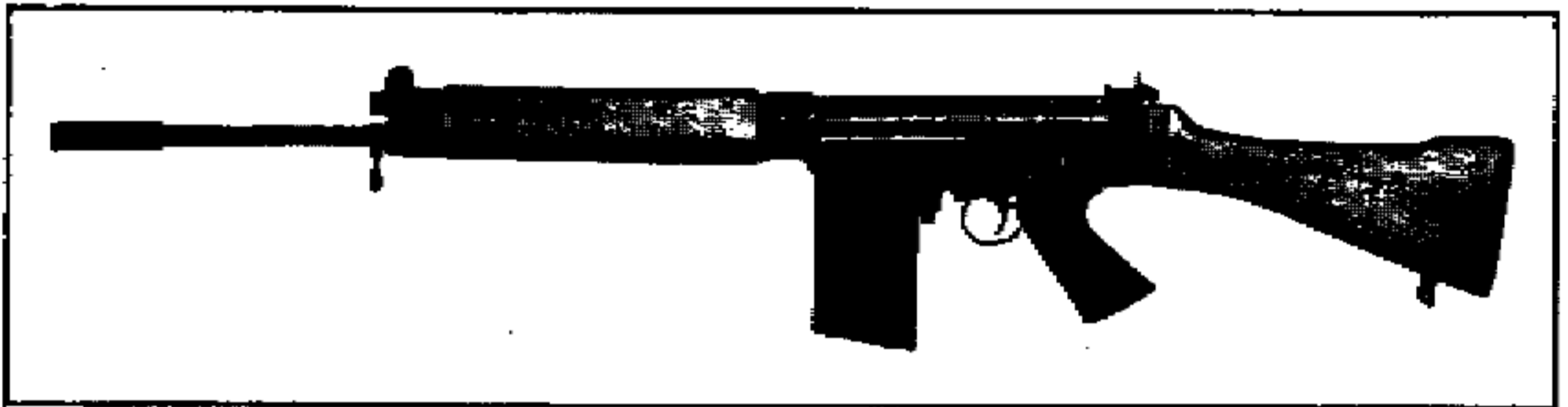


Fig. 1

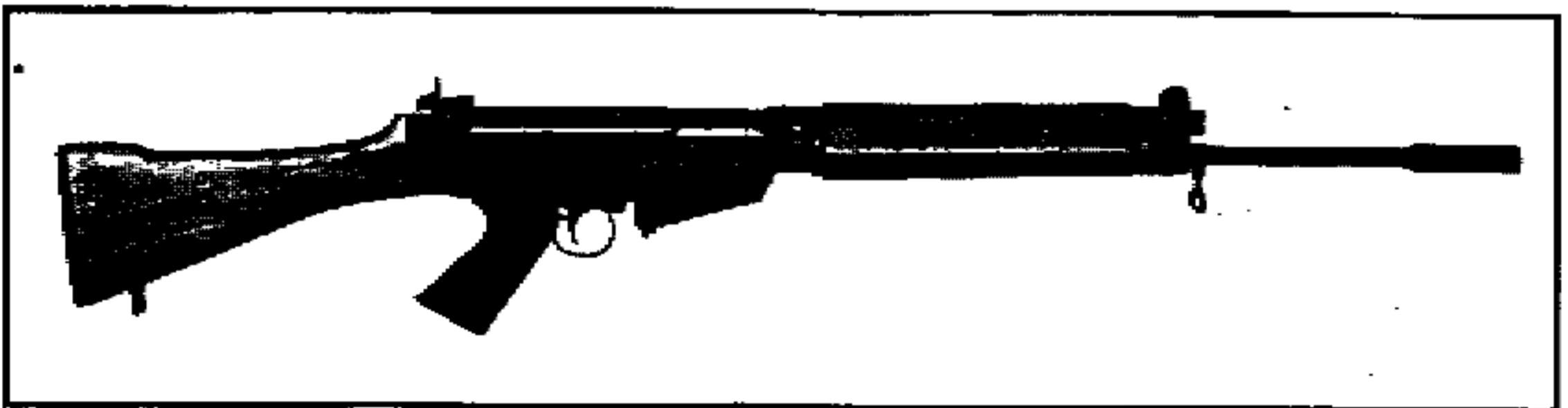


Fig. 2

After each shot, the mechanism extracts the spent case and feeds another round into the chamber; this operation continues so long as there are any cartridges in the magazine. When the magazine is empty, the breech block is held to the rear, which lets the firer know that he must recharge.

2. **Firing.** — The rifle can be fired in two ways, either semi or full automatic, by manipulating the change lever positioned on the lefthand side of the trigger frame.
3. **Stability.** — By placing the gas cylinder above the barrel and careful attention to design, the centre of gravity of the weapon has been placed in line with the barrel axis. The tendency of a weapon to jerk upwards on recoil has thus been eliminated in this rifle, as compared with most existing types. This stability enables the firer to keep his sights trained on the target without difficulty. On the other hand, this design avoids the danger inherent in rectilinear weapons, with raised sights, which force the soldier taking cover to disclose his position when he fires.
4. **Method of feed.** — Feed is from a 20-round magazine, housed beneath the receiver. Arrangement of cartridges in the magazine is quincuncial.
5. **Sights.** — These consist of:
 - An aperture backsight, graduated up to 600 metres (or yards), fixed to the rear part of the trigger frame,
 - A well protected foresight, mounted at the forward end of the gas cylinder.The line of sight is very low, which allows the soldier to keep under cover when firing.
6. **Gas regulator.** — This is designed on the exhaust principle, i.e. the regulator only allows sufficient gas to ensure correct functioning to penetrate into the gas cylinder; surplus gas is vented outside the weapon. This system prevents undue wear on the mechanism and keeps fouling to a minimum.
7. **Protection from the elements.** — The weapon itself is completely weatherproof, without any additional protection, and this is the best safeguard against grit, sand and mud.

8. **Handiness.** — The reduced weight of this rifle and its length make it a very handy weapon. Its weight is in proportion to the power of the cartridge and it is thus a very comfortable weapon to fire. The F. N. 7.62 mm rifle is designed so that the operations of cocking, feed, putting the weapon at safe are done with the left hand, leaving the right hand on the pistol grip. In addition, the rifle has a carrying handle, which can be folded down when not in use. This handle is positioned at the centre of gravity and is a handy method of carrying the weapon when advancing in the field.
9. **Stripping and assembly.** — Stripping and assembly for normal cleaning and maintenance can be done without using tools. For the usual cleaning, it is sufficient to take out the magazine, gas plug and piston and the breech block assembly, after removing the top cover (fig. 3). The breech block assembly and the cover can be removed very easily. The weapon opens like a shot-gun, i.e. the butt is hinged to the body and the rifle swings open to give access to the mechanism. The return springs, encased in the butt, do not require maintenance and should never be touched by the user.

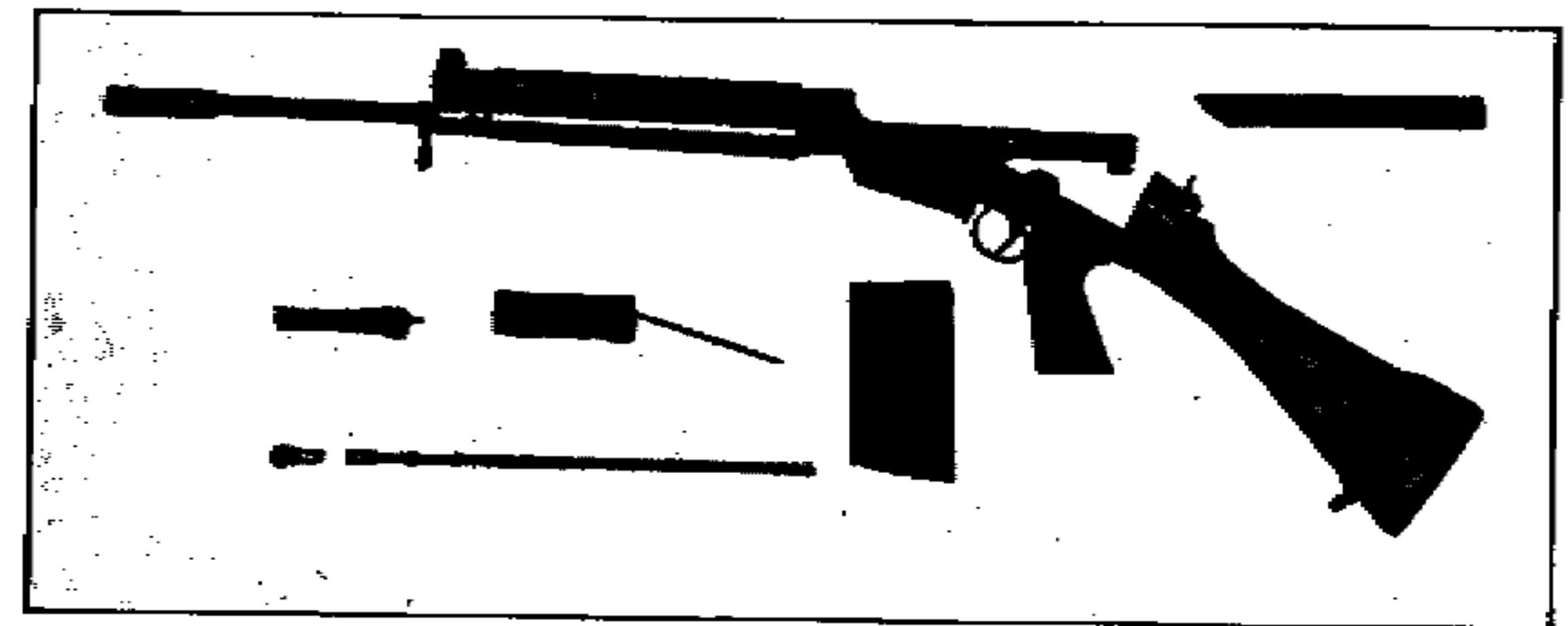


Fig. 3

II. OPERATION OF MECHANISM

1. GAS SYSTEM

10. Technical details

1. Weights:
 - a) Rifle without magazine: 4.200 kg (9.25 lbs.);
 - b) Empty magazine: 250 grams (8.8 ozs.);
 - c) Filled magazine: 730 grams (1 lb. 9.74 ozs.) (bullet 9.30 grams = approx. 144 grains);
 - d) Barrel: approx. 800 grams (1 lb. 12.21 ozs.);
 - e) Bayonet with scabbard: 350 grams (12.34 ozs.).
2. Lengths:
 - a) Overall length: 1.10 metres (43.3");
 - b) Barrel: 533 mm (approx. 21");
 - c) Bayonet: 290 mm (approx. 11.4").
3. System of operation: gas.
4. Method of feed: 20-round magazine.
5. Position of feed opening: underneath the body.
6. Position of ejection opening: right side of body.
7. Position of cocking handle: left side of body.
8. Position of change lever: left side of trigger frame.
9. Sight radius: 553 mm (21.77").
10. Backsight graduated from 200 to 600 metres, in 100 metre steps (or in yards).
11. Rifling of barrel: number of grooves: four; twist: righthand; pitch: 1 in 305 mm (1 in 11.9").
12. Rate of fire:
 - a) Cyclic: 650-700 r.p.m.
 - b) Effective, automatic fire: 120 r.p.m.;
 - c) Effective, semi-automatic: 60 r.p.m.

- Starting point:
a round is in the chamber;
the breech block is locked;
the shot has just been fired.
- The bullet moves along the barrel and reaches the level of the gas port (f) (fig. 4).
- The combustion gases pass through the gas port (f) and reach the gas plug (a), which closes the front end of the gas cylinder, screwed into the gas block (b); if the gas plug is closed (letters Gr showing on top), the gas intake is blocked and the weapon will then function as a repeating rifle.
- If the gas plug is open (letter A showing on top), gas passes through the plug (a) and reaches the piston head (d).
- Under pressure of the combustion gases, the piston moves backward and uncovers the gas outlet vent (e).
- The gas exhaust vent is partially closed by the gas regulator (c) the position of which determines the gas exhaust and thus controls the quantity of gas acting on the piston. The position of the gas regulator sleeve is normally determined when the weapon is fired for gas regulator setting (see Chapter IV).

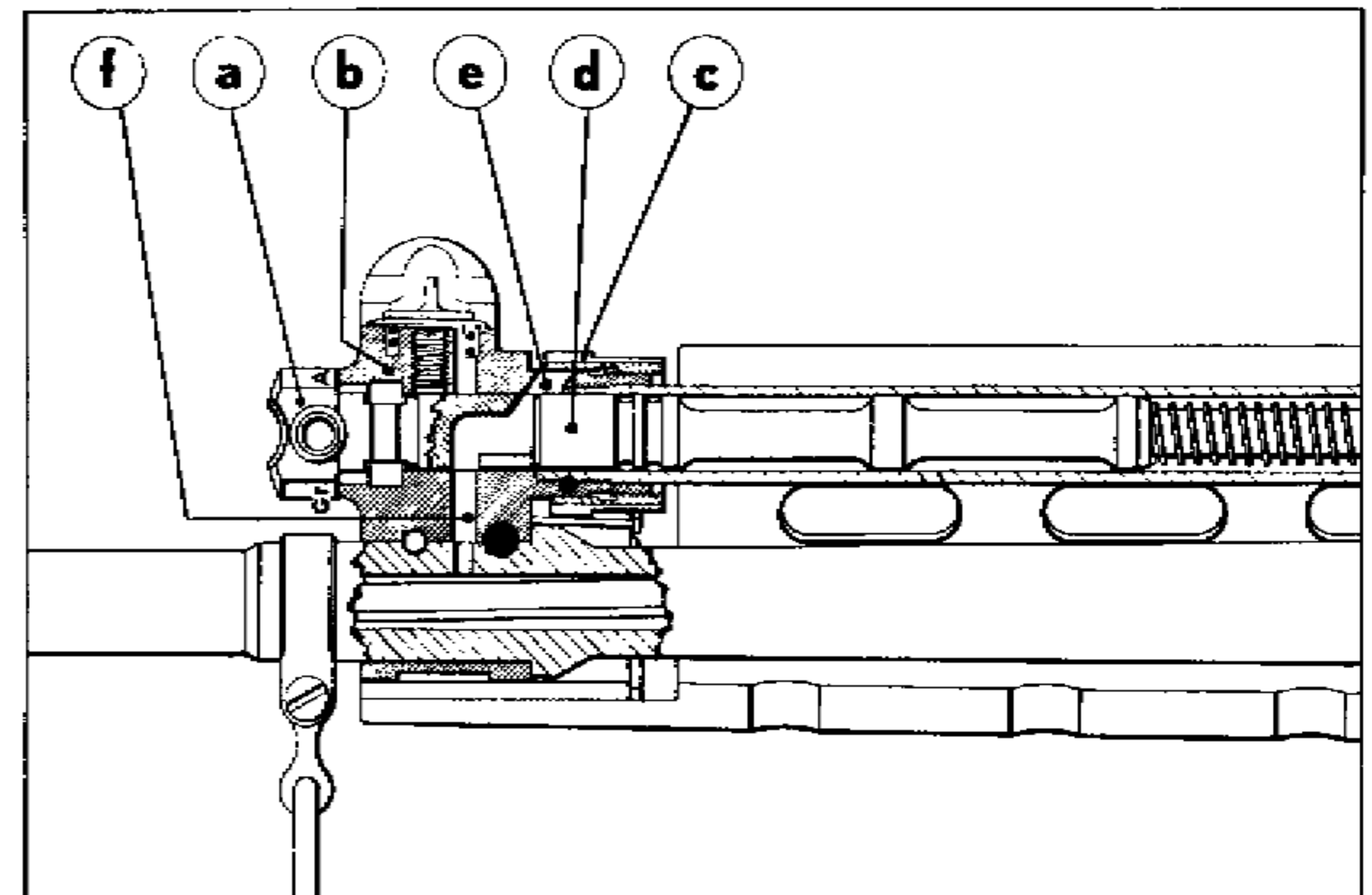


Fig. 4