

## THE SJOGREN AUTOMATIC RIFLE

The Sjogren Automatic Rifle Submitted for British Trials by the United Kingdom  
Agents the Normal Powder and Ammunition Company Limited

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## THE NORMAL AUTOMATIC GUN, SJÖGREN SYSTEM.

IN the views and the detail illustrations, Figs. 1 to 9, page 110, we show a shot-gun on the Sjögren system, built by the Aktiebolaget Svenska Vapen-och Ammunitioners Fabriken, Stockholm. This is a self-acting, recoil-operated firearm, fitted with a rigid non-recoiling barrel. In this system, the energy of recoil is turned to account for operating the breech mechanism, and for inserting a fresh cartridge automatically from the magazine, which has a capacity for four extra cartridges.

Referring to Figs. 1 to 5, the recoil of the discharge is almost completely absorbed by the spring-controlled inertia-block carrying the striker M. The backward motion of this block and its return serve to eject the spent cartridge, and to insert a new one from the magazine. The kick of the gun is so slight as to allow of almost instantaneous re-sighting. The pull of the trigger Q depresses the sear Y, and lowers an intercepting pawl from its abutment in the firing-pin, leaving the latter free to drive forward and strike the cap, under the action of its spring n. Recoil then takes place, but the movable breech-bolt cover—takes the inertia block above—does not at first, by virtue of its inertia, participate in the recoil action. On the firing-pin striking the cap, the breech-bolt cover is driven slightly forward, a slight play being provided for this in front; it thereby cocks the piece and compresses the recoil spring m. An instantaneous expansion of the latter then ensues, which drives the breech-bolt cover backwards; this draws with it the fired cartridge-case, which is thrown out clear of the receiver by the ejector. The recoil of the breech-bolt cover lasts long enough for this and for the insertion of a fresh cartridge from the magazine; recoil continues until the said cover strikes against the false breech or stop P. The cartridge-stop K, which blocks the entrance to the magazine, also follows this rearward action, and ensures the tripping of the carrier I, which brings up to the chamber the fresh cartridge. The head of this impinges against the carrier-latch R, which until that instant maintained the breech-bolt cover in its hindmost position, and the carrier I in its downward position; the cartridge becomes inserted in the barrel, and the gun is ready for firing afresh.

When the supply in the magazine becomes exhausted, the breech remains open, this serving as an indication that the magazine requires refilling. This, as stated, contains four cartridges, a fifth is inserted in the chamber, so that the marksman has five shots at his command. Should a misfire occur, the cocking-piece L is moved one-quarter upwards, and the bolt drawn back.

Owing to the short travel of the striker M, its instantaneous action and the soft trigger pull, no time whatever is lost between consecutive shots.

In order to load the gun, the main spring n is compressed by turning the cocking-piece L of the striker one-quarter turn upwards, the cocking-piece being then drawn back to its original position. Care has to be taken that the safety catch takes up the "safety" position, in which it points to the letter S. The breech-bolt cover B is then pulled back, until it abuts against the false breech P. A cartridge is inserted in the opening, and the carrier latch R is pressed upwards. This latch is seen on the lower side of the carrier; it drives the cartridge home and closes the breech. The four other cartridges are inserted into the tubular magazine under the barrel, forcing the carrier I upwards every time by pressing the mouth of the cartridge against the carrier-latch R.

To remove an unfired case from the chamber, at the same time cutting off the magazine, the striker cocking-piece L is half raised; the breech-bolt cover has to be drawn back till it strikes the false breech P. This motion places the cartridge in the chamber, and blocks the mouth of the magazine. Then the striker cocking-piece L is pushed to either of its extreme positions. For re-opening the magazine, or for bolting the mechanism, the magazine is emptied by drawing the breech-bolt cover backwards and forwards. This is a precaution which should be taken before putting the gun away. No danger attaches in any circumstances to the carrying of the arm with a full magazine, providing the cartridge-chamber be empty.

As regards safety devices, we may state that the striker cocking-piece L, pointing upwards locks the breech-bolt, and also the firing-pin; it also obscures the line of sight. The firing-pin held back within the breech-block cannot reach the cap. Unless the breech-block be securely bolted, thus enabling the striker pawl W to engage the ratchet on the sear, the gun cannot be fired, because the firing-pin in the cocked position remains locked and held back; on the other hand, its forward travel locks the vertical tenons or resistance lugs. The usual intercepting safety, fitted to hammerless guns upon the tang, is also on the Sjögren shot-gun and locks the trigger. These combined safety devices provide in every eventuality against an accidental discharge. The other references to Figs. 2 to 5 are as follow:—

A. Receiver.	P. False breech.	h. Magazine-tube.
B. Breech-bolt cover	Q. Trigger.	c. Screw-lock for b.
C. Trigger-guard.	R. Carrier-latch.	d. Magazine-nut.
D. Breech-bolt.	S. Saddle.	e. Magazine-spring piston.
E. Bolt-lock.	T. Screw-plug for closing spring.	f. Safety-slide.
F. Front band.	U. Closing-spring piston.	g. Safety slide-connection.
G. Back band or receiver extension.	V. Tongue for U.	h. Fore end.
H. Lock for X and Q.	W. Striker-pawl.	i. Stock.
I. Carrier.	X. Adjusting-sleeve of the barrel.	k. Magazine spring.
J. Switch for I.	Y. Sear.	l. Closing-spring.
K. Cartridge-stop.	Z. Cartridge-extractor.	m. Recoil-spring.
L. Striker cocking-piece.	a. Magazine-tube latch-pin.	n. Main-spring.
M. Striker.		p. False breech-spring.
N. Nut for striker.		
O. Cartridge-ejector		

The view, Fig. 6, shows the breech with the breech-bolt cover removed; the breech-bolt cover, striker, springs, cocking-piece, and bolt-lock, are illustrated in Fig. 7; Fig. 8 shows the saddle and false breech or stop; and Fig. 9 illustrates the interrupted thread device on the barrel and magazine for connecting these up with the breech portion of the gun.

The parts forming the lock are made of the best Swedish tool-steel; a steel of special quality, with a high tensile strength, and produced by renowned steel works, is used in the manufacture of the barrels. These are tested at a pressure of 1000 atmospheres. The gun-stocks are made from the best walnut.

The Normal shot-gun is supplied in the 12-gauge pattern only, with 28-in. barrel, choke-bored. A spare cylinder barrel, with magazine attached thereto, 24 in. in length, can also be supplied for special purposes, such as rabbit shooting in thick coverts, &c. All guns have a length of pull of 14½ in. measured from trigger to centre of butt-plate; the bend is as usual. Butt-plates varying in thickness may be ordered, with the object of increasing the distance between the trigger and the heel-plate by ½ in.

The weight of the shot-gun is 7 lb. 4 oz. A 7.63-millimetre (0.3-in.) rifle, designed on the same principle, has been submitted to the National Rifle Association, Bisley, and its performance attracted much attention.

The agents for the United Kingdom are the Normal Powder and Ammunition Company, Limited, Hendon, London, N.W.



THE NORMAL AUTOMATIC GUN; SJÖGREN SYSTEM.  
 MANUFACTURED BY THE AKTIEBOLAGET SVENSKA VAPEN- OCH AMMUNITIONSFABRIKEN, STOCKHOLM.  
 (For Description, see Page 108.)

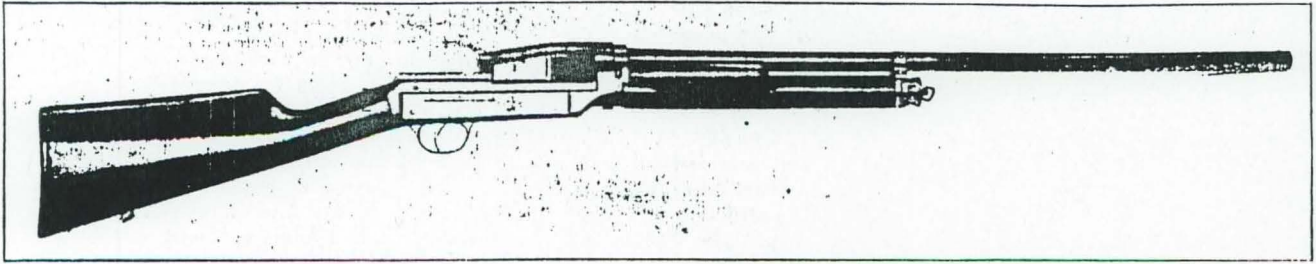


FIG. 1.

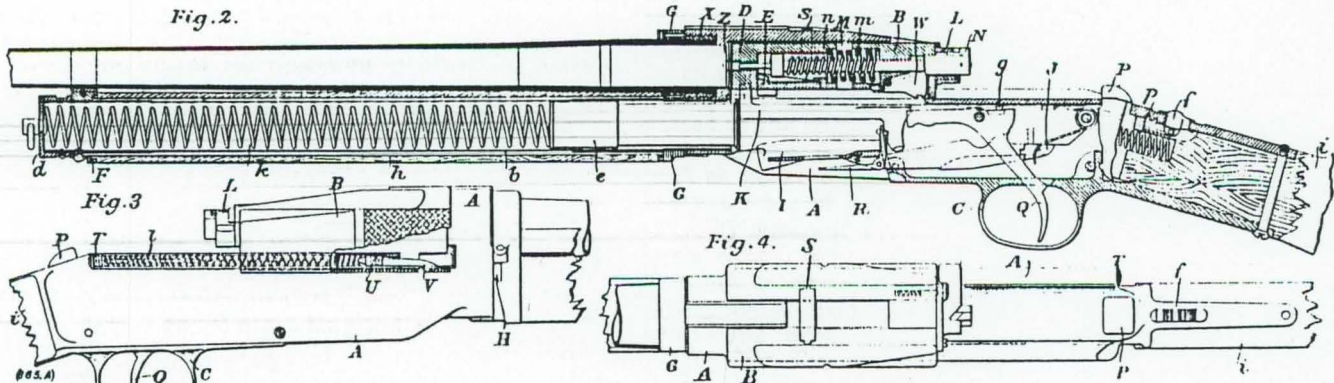


Fig. 2.

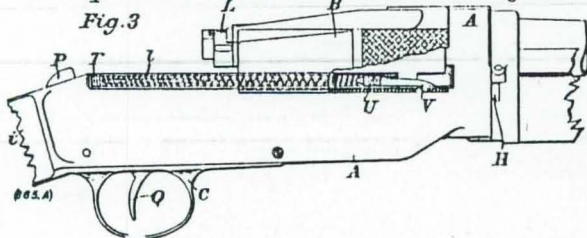


Fig. 3.

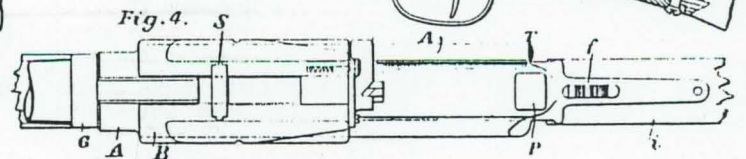


Fig. 4.

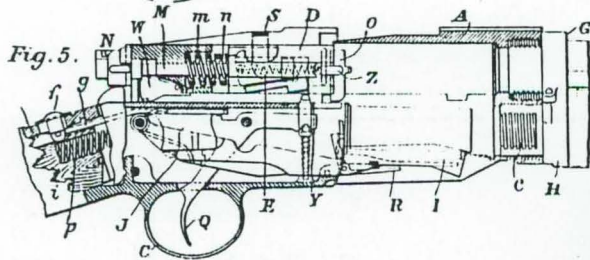


Fig. 5.

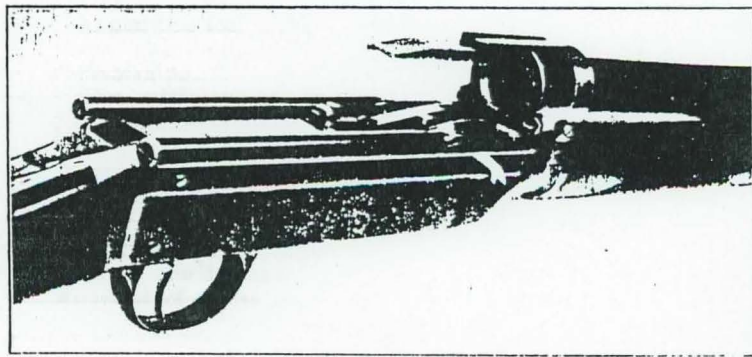


FIG. 6.

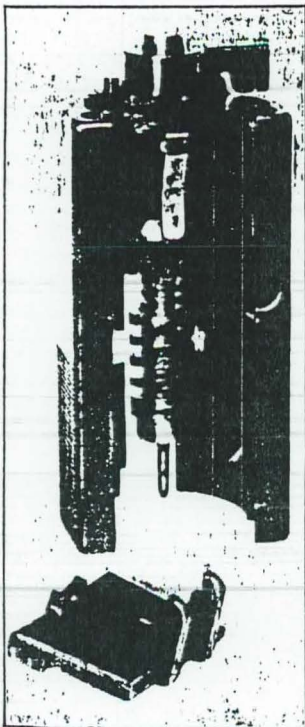


FIG. 7.

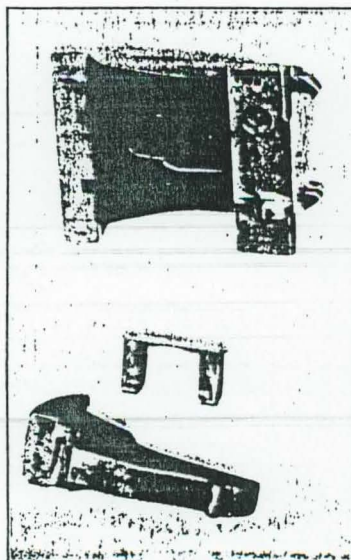


FIG. 8.

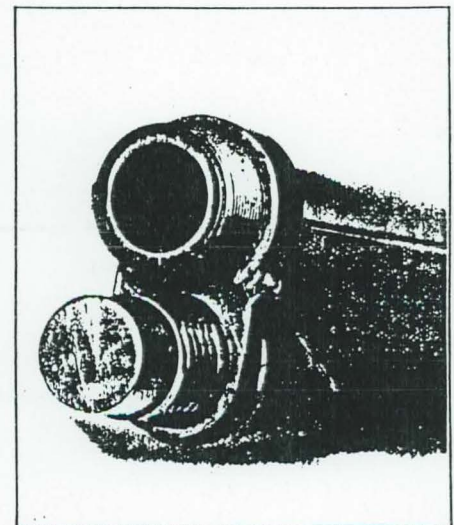


FIG. 9.



## THE SJÖGREN AUTOMATIC MILITARY RIFLE.

IN a former issue (see page 108 *ante*) we gave an illustrated description of the Normal automatic shot-gun on the Sjögren system, manufactured by the Aktiefabrik Svenska Vapen- och Ammunitionsfabriken, Stockholm. The same company have recently brought out a military rifle built on the same principle as the shot-gun, which we illustrate in Figs. 1 to 8 on page 858. This is a magazine rifle taking clips of five cartridges, and its special feature, as in the case of the gun previously described, lies in the device by which the recoil of the discharge is largely absorbed by the spring-controlled inertia sleeve carrying the striker. By this means the kick of the gun is exceedingly slight, and allows of almost instantaneous re-sighting.

The inner side of the breech-block cover, or inertia sleeve, is shown in the views, Figs. 1, 2, and 5. This cover slides forward and recoils on the firing of each cartridge; it ejects, on recoiling, the empty cartridge-case, the latter being replaced automatically by a loaded cartridge from the clip. It contains, as will be seen, the firing-pin, which in the view, Fig. 5, is shown cocked, with the main spring compressed; the view also shows the recoil storage spring, or recoil accumulator, the intercepting pawl and sear, and the cocking-piece. Figs. 1 and 2 are a longitudinal section, and a plan and horizontal section of the mechanical portion of the gun.

As will be seen by reference to the two illustrations, the breech-block cover, or inertia sleeve A, travels backwards and forwards under the actions of firing and of its recoil-checking or accumulator spring on the guide-path, or horizontal breech-block B; the location of the main and recoil-springs is shown in the view, Fig. 5; the main spring C is that which actuates the firing-pin. The stouter spring D, Figs. 1 and 2, bears at one end hard against the bottom end of the groove cut inside the inertia sleeve A, the other end bearing against a shoulder E on the guide-path, or horizontal breech-block B. The spring C, which acts on the firing-pin, is placed inside the spring D, between the bottom end of the same groove, against which it bears also, and the head F of the firing-pin. The breech-block cover, or inertia sleeve, engages, by means of a pin or tripper G, actuated by a spring H located at the top of the breech-block cover, with two angle-levers J (Figs. 2, 4, 7, and 8), which are made to have a slight horizontal angular displacement, and which are located on the guide-path B; the front ends of both these angle-levers J are made with shoulders K, which, when the breech-block is in the closed position, engage in corresponding recesses cut in the stay-piece L, which is screwed fast to the barrel.

The rear ends of the angle-levers J are close to each other when the breech-block is in the closed position, and cannot move sufficiently apart to allow the pin G to pass in. The forward motion of the striker immobilises the angle-levers in the closed position by

means of the interrupting collar of the striker, until all ballistic action is at an end, thus securing a positive locking of the breech. The return or secondary motion of the cover disengages the angle-levers from their recesses, and thus allows the inertia sleeve A, and the accompanying breech-piece, to travel backwards; during the backward running, under the action of the accumulator spring, and the return to the closed position, the empty cartridge-case has been ejected, a fresh loaded one has been inserted, the shoulders of the angle-levers J have engaged their respective recesses, the gun being thus ready for repeat firing. The sear or pawl M, Fig. 1, is actuated by a spring N, and when the breech-block cover or inertia sleeve has completed its return, the sear engages a hook-shaped recess O in the firing-pin, thus maintaining the firing-spring C compressed. A small projection in the pawl obstructs the return of the striker, as long as recoil has not taken place. On firing the gun, the sear or pawl M is disengaged from the firing-pin by the knock-off P connected to the trigger.

The spring R, designed to draw the breech-block back at closed position, is lodged in the stock underneath the barrel, and is connected to the breech-block cover by means of the fork S. The backward travel of the breech-block cover is limited by the stop-cleat Q, which is made to be depressed completely over a spring, for drawing back by hand the inertia sleeve, and taking the mechanism of the gun apart.

The view, Fig. 4, shows the bolt-locks (angle-levers) closed, the breech-block cover (inertia sleeve) having been removed. The breech-piece and angle-levers are illustrated separately in Figs. 7 and 8.

When the last round is fired, the receiver remains open, this indicating that the magazine requires replenishing.

The military rifle we illustrate herewith is the 7.63-millimetre (0.3-in.) one which we stated in our former article had been put before the National Rifle Association, Bisley, who found its performance most interesting.

The agents for this country are the Normal Powder and Ammunition Company, Limited, Hendon, N.W., pending the formation of an international company, whose chief offices are to be in London.

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# THE SJÖGREN AUTOMATIC MILITARY RIFLE.

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(For Description, see Page 854.)

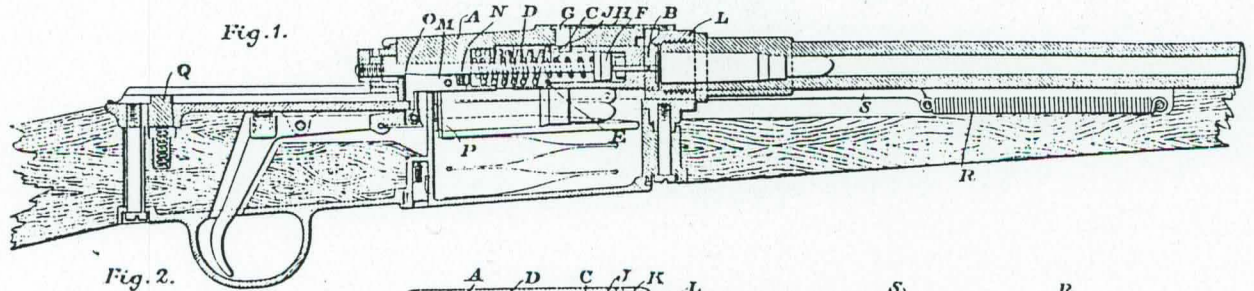


Fig. 2.

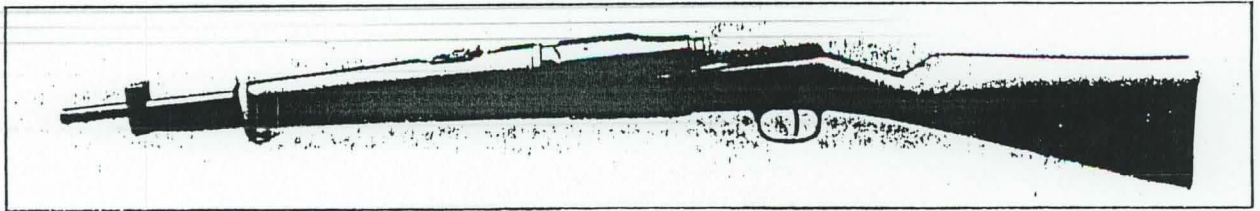
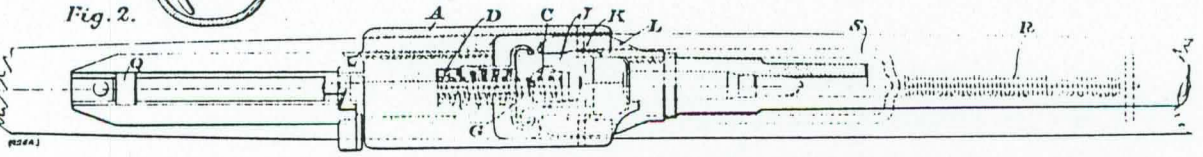


FIG. 3.

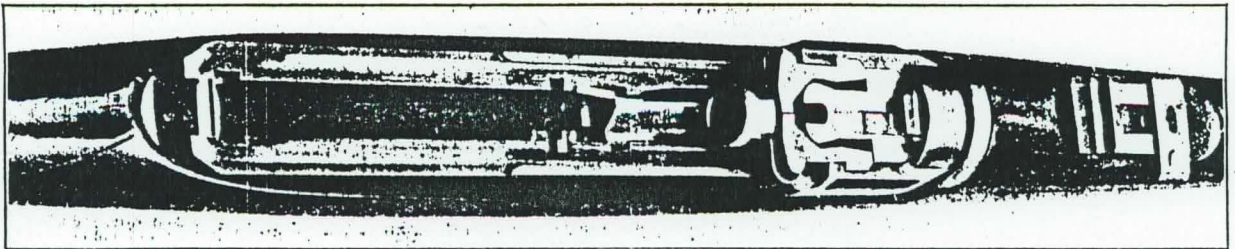


FIG. 4.

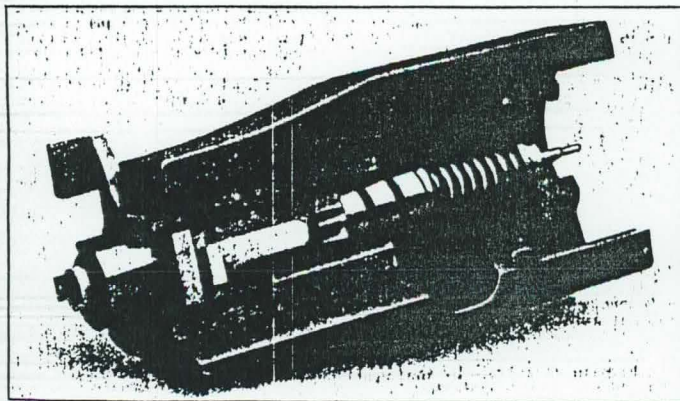


FIG. 5.

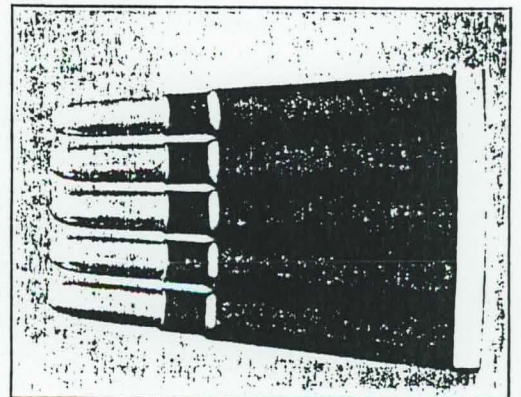


FIG. 6.

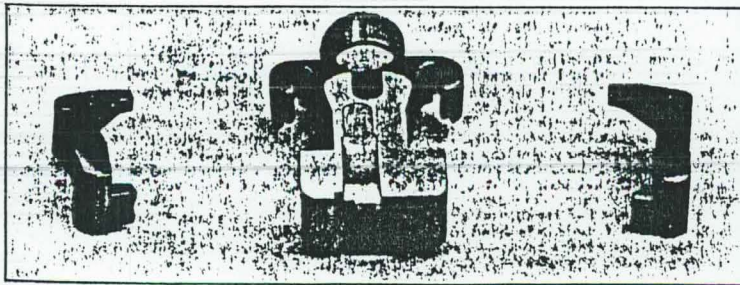


FIG. 7.



FIG. 8.