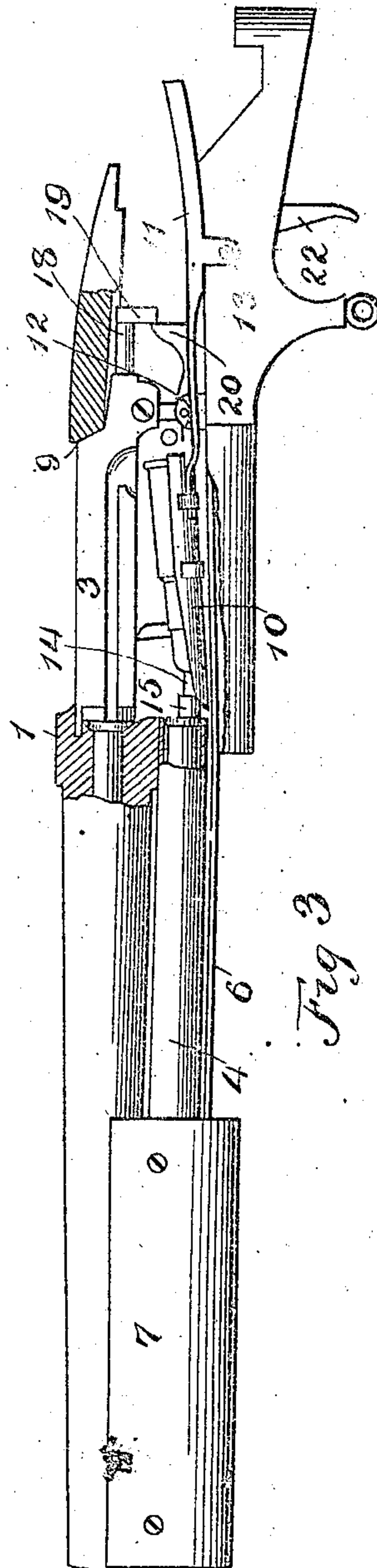
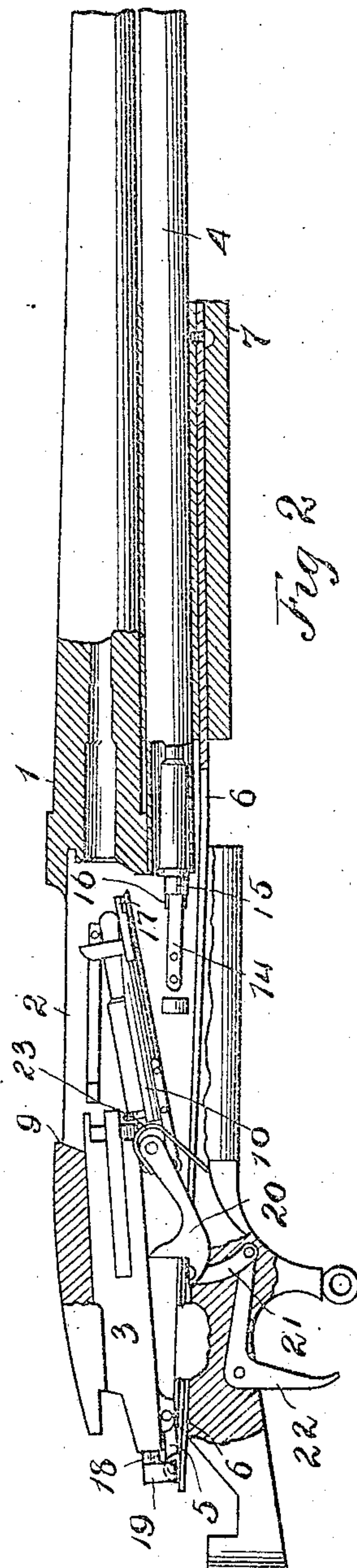
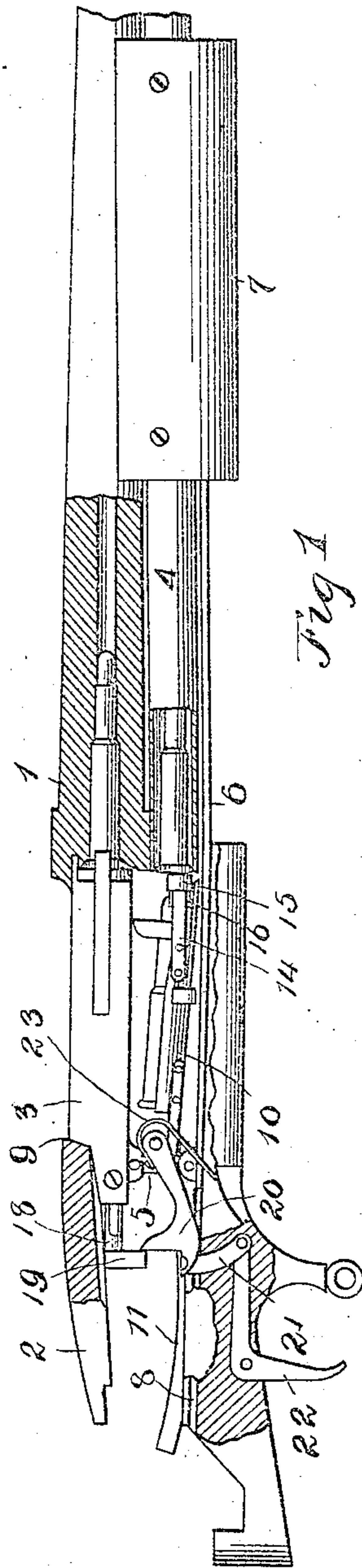


P. FRAZIER.
BREECH LOADING FIREARM.

APPLICATION FILED JULY 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

R. E. Hamilton.
Chas C Stone

INVENTOR

Perry Frazier,

BY

Warren D. House
His ATTORNEY.

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2 SHEETS—SHEET 2.

Fig 4

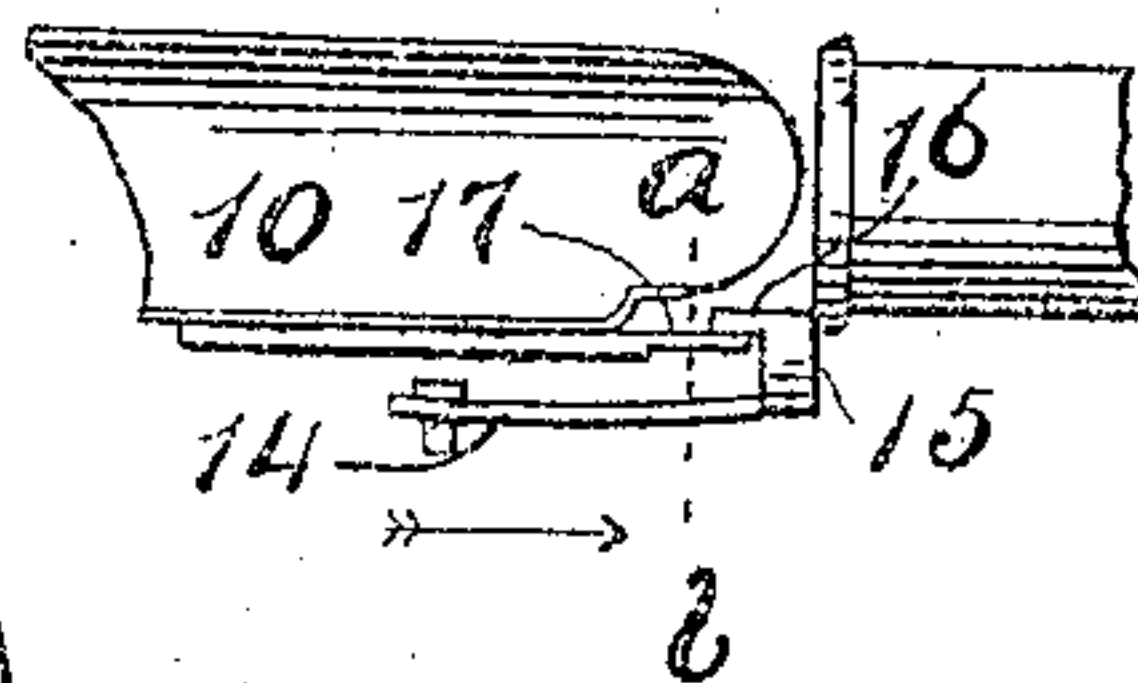
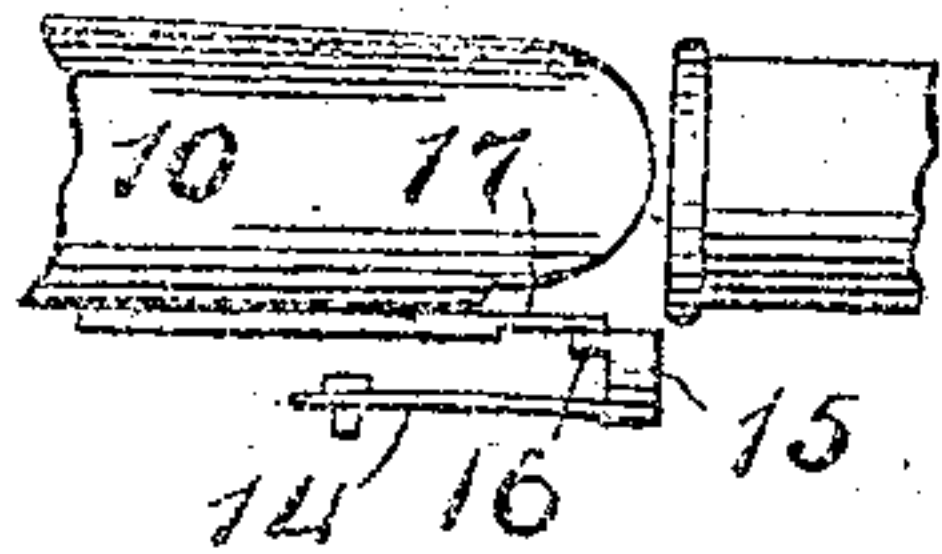


Fig 5

Fig 6

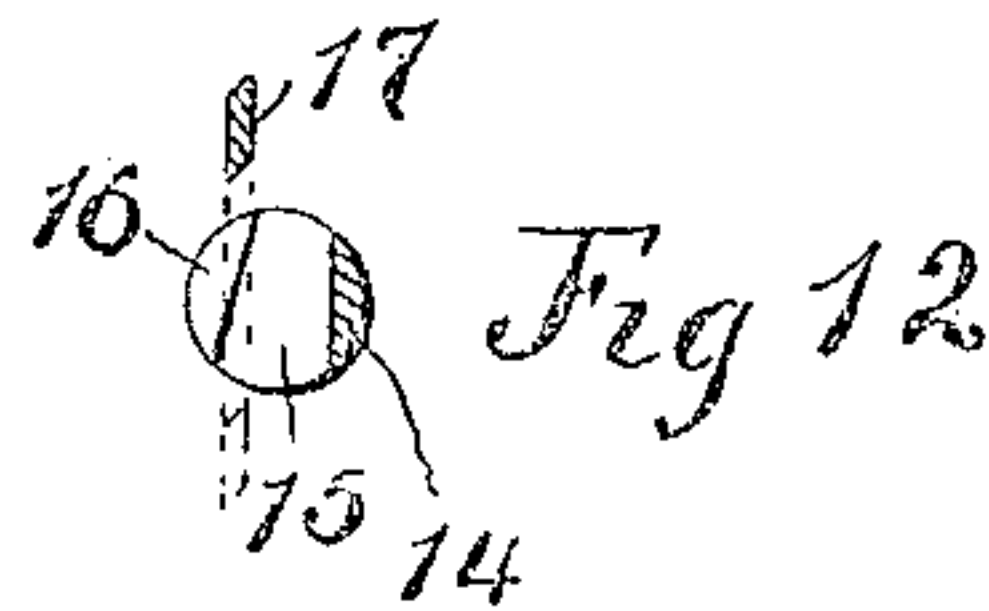
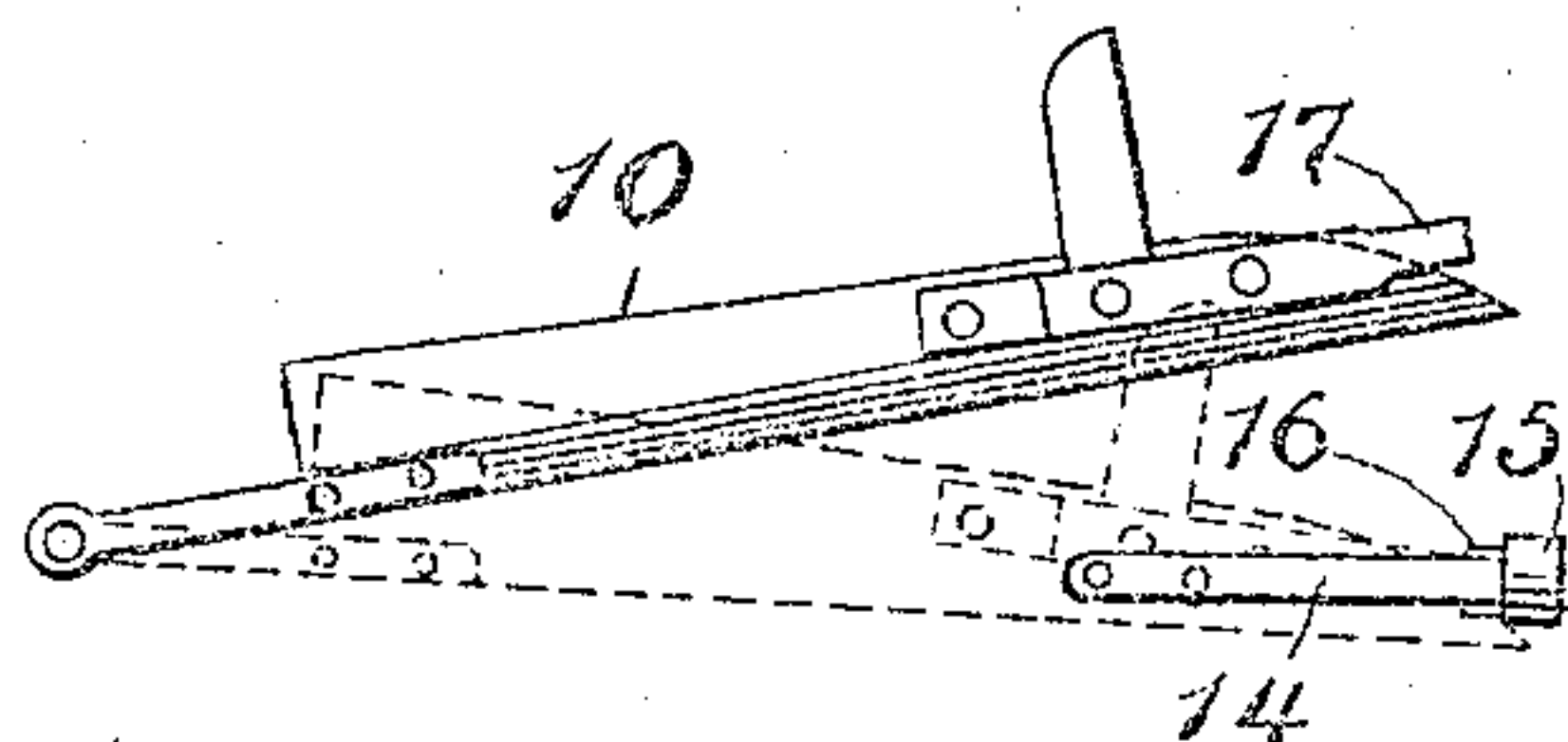


Fig 12

Fig 7

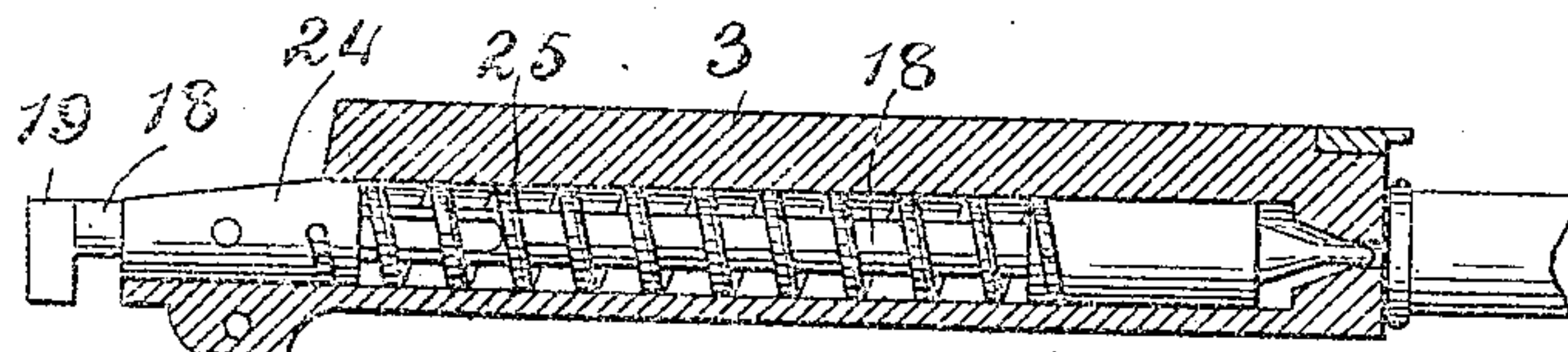


Fig 8

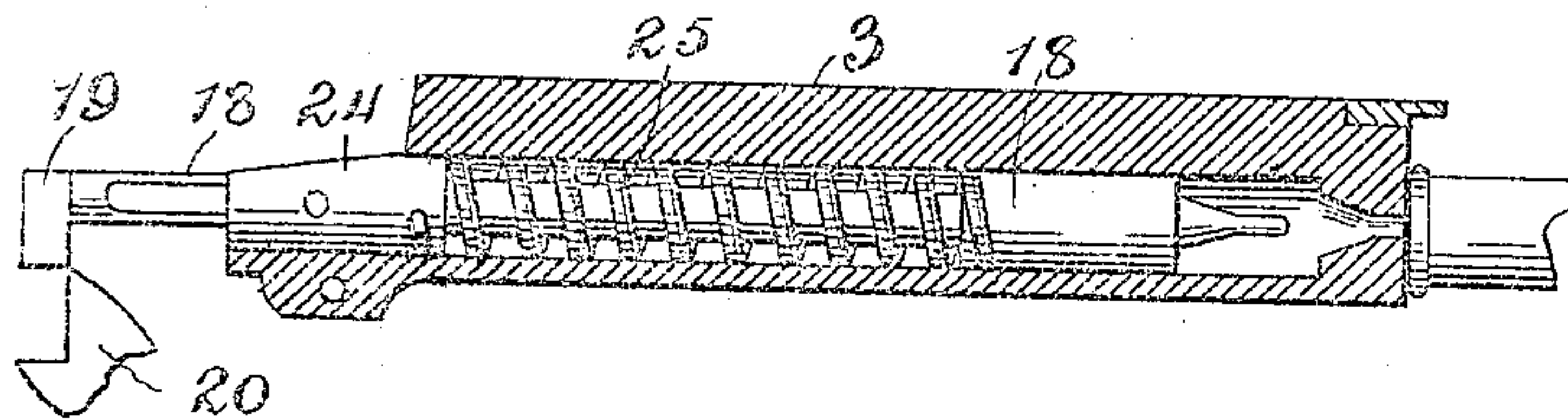


Fig 9

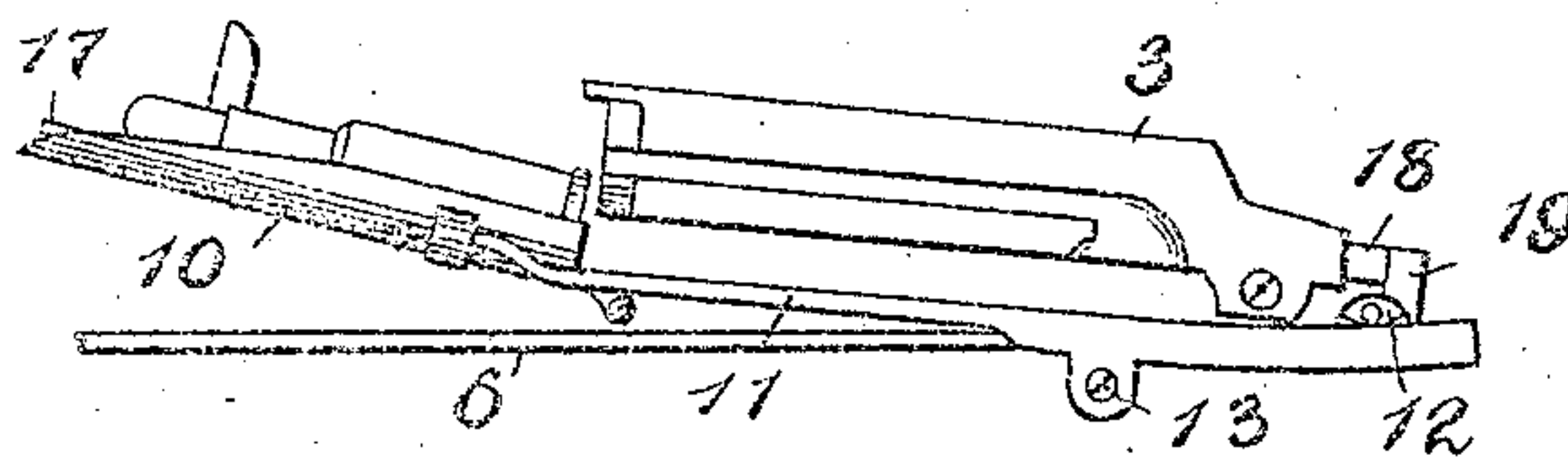


Fig 10

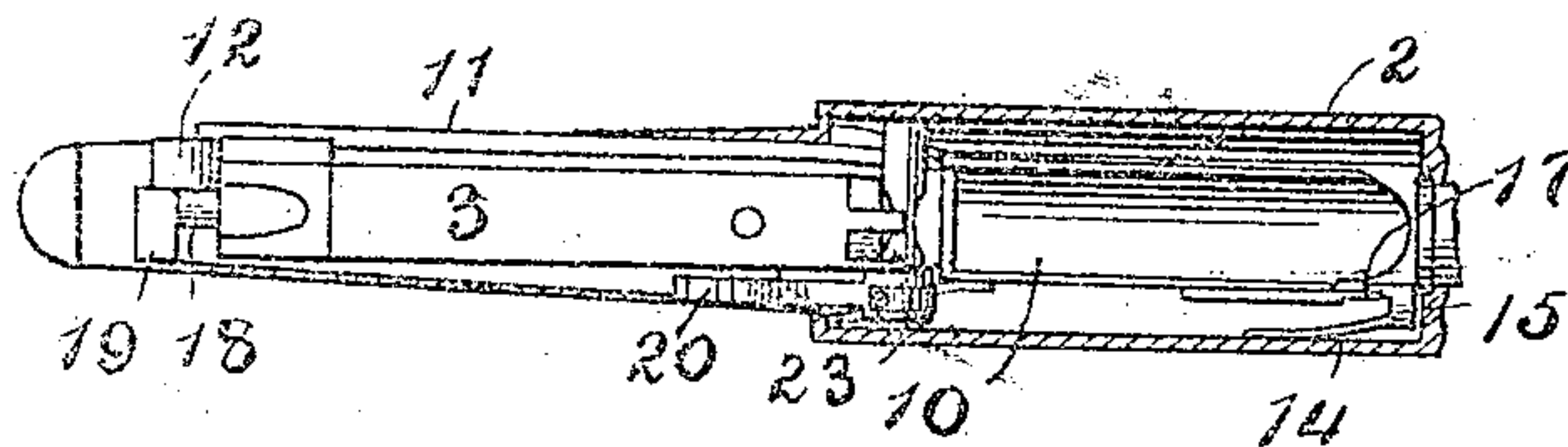
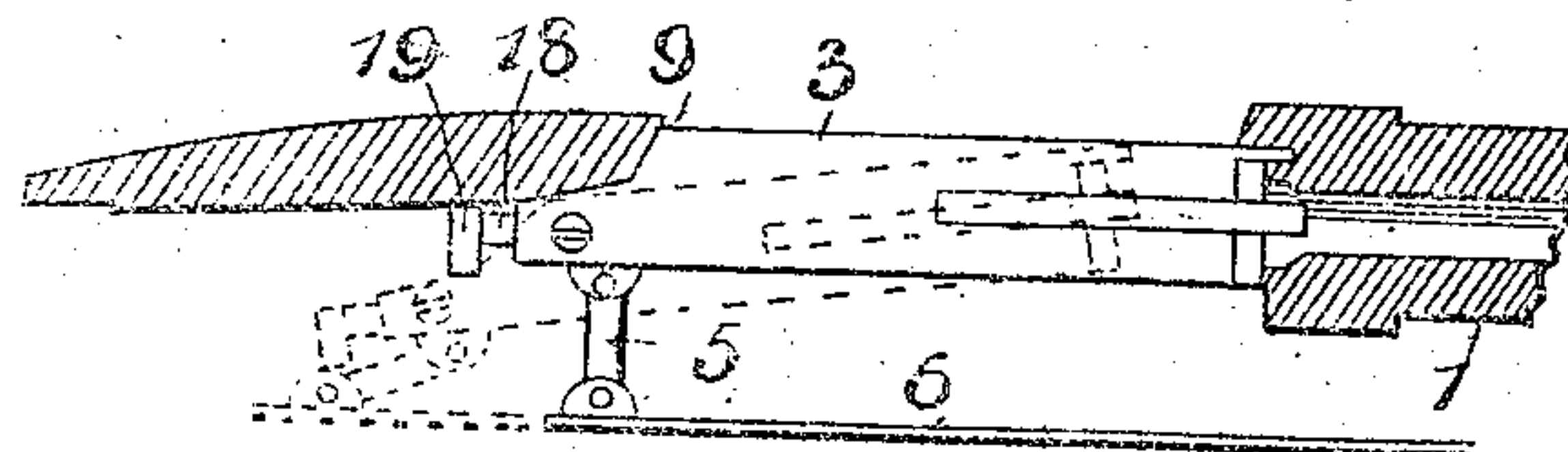


Fig 11



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UNITED STATES PATENT OFFICE.

PERRY FRAZIER, OF DUBOIS, NEBRASKA.

BREECH-LOADING FIREARM.

SPECIFICATION forming part of Letters Patent No. 753,384, dated March 1, 1904.

Application filed July 29, 1902. Serial No. 117,447. (No model.)

To all whom it may concern:

Be it known that I, PERRY FRAZIER, a citizen of the United States of America, residing in Dubois, in the county of Pawnee and State of Nebraska, have invented a new and useful Improvement in Breech-Loading Firearms, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in breech-loading firearms.

The object of my invention is to provide a breech-block mechanism for use in repeating and other guns by which the breech-block may be held rigidly and securely in the firing position and yet be easily and quickly released and withdrawn for the extraction of the shell and insertion of a fresh cartridge in the breech.

My invention provides a mechanism by which the breech-block may be manipulated by a forearm mechanism.

My invention provides a sliding breech-block provided with an abutment to receive the recoil combined with a sliding support adapted to be reciprocated by the forearm and a brace connecting the breech-block with the sliding support, the brace serving to withdraw the breech-block from the firing position and also to hold it securely against the abutment when in the firing position.

My invention provides, further, a novel construction of breech-block by means of which the firing-pin carried thereby may be normally held in the "safety" position by automatic means.

It provides, further, a spring connected with the breech-block and the firing-pin and so disposed as to force the firing-pin, after retraction, into the firing position and then by its tension to return the pin to a position intermediate the firing position and the retracted position.

My invention provides, further, a cartridge-feeding device actuated by the movement of the cartridge-carrier for releasing cartridges successively from the magazine, so that at the proper time they may be transferred by the carrier to a position in front of the retracted breech-block.

My invention provides other novel features hereinafter fully described and claimed.

With a breech-block mechanism constructed in accordance with the principles of my invention the breech-block mechanism is so easily operated and the breech-block released from the firing position that the cartridges used may be loaded with high-power explosive material and yet the breech-block mechanism may be operated with a forearm mechanism.

In the accompanying drawings, which illustrate my invention, Figure 1 is a vertical sectional view of a portion of a breech-loading rifle provided with my invention. Portions of the mechanism are shown in side elevation. Fig. 2 is a similar view showing the breech-block in the retracted position and the other parts in their appropriate positions. Fig. 3 is a view similar to Fig. 1, but taken from the other side of the gun, the breech-block in both of these views being shown in the firing position. Fig. 4 is a top view of the forward end of the cartridge-carrier, the rear end of a shell about to enter the carrier, and the arm on the carrier forcing the cartridge-retaining device to one side. Fig. 5 is a view similar to Fig. 4, showing the retaining device in its normal position and the arm on the carrier passing upward past the said device. Fig. 6 is a side elevation view of the carrier and cartridge-retaining device, the solid lines showing the carrier in the elevated position, the same being shown in dotted lines in the lower position, in which the arm on the carrier is about to actuate the retaining device. Fig. 7 is a longitudinal vertical sectional view of the breech-block, showing the firing-pin in the safety position. Fig. 8 is a view similar to Fig. 7, the firing-pin being shown in the retracted position. Fig. 9 is a side elevation view taking from the left side and showing the breech-block, cartridge-carrier, the lever for actuating the carrier, and a portion of the reciprocative operating-bar. In this view the breech-block is shown retracted. Fig. 10 is a top view of a portion of the gun, including the breech-block retracted and the carrier. Fig. 11 is side elevation view of the breech-block shown in the firing position in solid lines. The brace and operating-

bar, a portion of the breech of the gun, and the abutment are shown in vertical section. In dotted lines are shown the breech-block partly retracted, the brace, and the rear end of the operating-bar. Fig. 12 is a cross-section of the cartridge-retaining device, taken on the dotted line *ab* of Fig. 5.

Similar numerals of reference indicate similar parts.

1 indicates the gun-barrel; 2, the lock-casing; 3, the breech-block, which is of the ordinary construction, with the exception of the mechanism controlling the movement of the firing-pin, which will be described later.

4 indicates the magazine, located under the barrel and of ordinary well-known construction and provided with any well-known device for forcing the cartridges held therein rearward. The breech-block is guided in the manner common with breech-blocks that retract downward and backward similar to the "Savage" rifle mechanism. The retraction of the breech-block and its movement forward is controlled by a brace-bar 5, one end of which is pivoted to the under side of the breech-block, and the other end is pivoted to a longitudinally-movable horizontal operating-bar 6, the forward end of which is secured to an ordinary hand-grip 7, reciprocally mounted on the rear end of the magazine 4. The rear end of the operating member or bar 6 is mounted in guides 8, provided in the lock-casing 2. These guides are preferably formed by providing horizontal grooves cut in the casing. To the rear of the block when the same is in the firing position, as shown in Fig. 1, is provided an abutment 9, against which the rear end of the breech-block bears and which receives the shock of the recoil when a cartridge is discharged. This abutment is provided, preferably, with an inclined face fitted to the rear end of the breech-block. This permits the ready downward withdrawal of the rear end of the breech-block when it is desired to retract the breech-block. By reciprocating the hand-grip rearwardly the breech-block is forced by the bar 6 and link or brace 5 from the position shown in Fig. 1 to that shown in dotted lines in Fig. 11 and finally to that shown in Fig. 2. When in the last-named position, the shell will have been ejected from the barrel by any of the well-known forms of ejecting mechanisms. Pivoted to the casing 2, below the breech-block 3, is the cartridge-carrier 10, which is concave on its upper side and has its free end adapted to swing in front of the rear end of the magazine 4, so as to receive the cartridges discharged therefrom.

To the left side of the gun-casing is pivoted near the middle a lever 11, the forward end of which is connected to the under side of the carrier 10. Resting upon the upper side of this lever is a projection 12, provided on the left side of the operating-bar 6. As the operating-bar is forced rearwardly in the casing

2, after the projection 12 passes the pivotal point 13 of the lever 11 the projection 12 will tilt the forward end of the lever 11 upwardly, thus raising the free end of the carrier into the position shown in Fig. 2, in which position a cartridge on the carrier will have its rear end just in front of and in the path of the forward end of the breech-block 3. As the hand-grip 7 is reciprocated forwardly, thus moving the bar 6 forwardly and with it the projection 12 thereon, the said projection 12 will, after it has passed the pivotal point 13 of the lever 11, force the forward end of the lever 11 downward, thus depressing the carrier 10 into position in which it will receive another cartridge from the magazine 4. The breech-block moving forward at the same time the operating-bar is moved forward will force the cartridge on the carrier into the gun-barrel 1—that is, it will force the first cartridge mentioned into the barrel. The second cartridge will not be released until the breech-block is almost in the firing position shown in Fig. 1. To release the cartridges from the magazine, I provide a horizontal spring 14, secured at its rear end to the inside of the casing 2 in the rear of the magazine 4. On the forward free end of the spring 14 is secured a cylindrical head 15, provided on its left inner side with a rearwardly-extending projection 16, adapted to be engaged by an arm 17, secured to the right side of the forward end of the carrier 10. The spring 14 normally holds the head 15 in the path of the cartridges that are to be ejected from the rear end of the magazine 4. As the carrier 10 is swung downwardly, the arm 17 thereon strikes against the left side of the projection 16 and forces the head and free end of the spring 14 to the right or into the position shown in Fig. 4, thus releasing the rear cartridge in the magazine and permitting it to be projected rearwardly onto the carrier 10. The carrier quickly passing downwardly to the limit of its stroke causes the arm 17 to pass below the head 15, which quickly assumes again the position shown in Fig. 5, and retains the remaining cartridges in the magazine. In order that the arm 17 may not on its upward passage with the carrier again depress the spring 14 and release another cartridge, the inner or right side of the projection 16 is inclined, so that the arm 17 will, when rising, strike the right instead of the left side of the projection 16. It will be observed, therefore, that every time that the breech-block is moved forwardly to the firing position a fresh cartridge will be released from the magazine and passed to the carrier, which, as the breech-block is retracted, will place the released cartridge in position for the breech-block to force it into the gun-barrel when the breech-block is again forced forward. In the breech-block 3 is mounted in a longitudinal opening provided for it the horizontal firing-pin 18, constructed in its general features similar to

others of this well-known type. Its forward end is provided with a reduced central projection adapted to pass through the forward end of the breech-block and strike the cartridge which is in the gun-barrel. The rear end is provided with an arm 19, the forward side of which is adapted when the breech-block 3 is forced forward to engage the free end of a lever 20, pivoted to the casing 2 and connected by a link 21 with the trigger 22. A spring 23 holds the lever 20 normally in the position shown in Fig. 1. The rear end of the breech-block is provided with the plug 24, secured in the rear end of the opening in which is mounted the firing-pin 18. The said plug 24 is provided with a central longitudinal hole therethrough, in which is longitudinally movably mounted the rear end of the firing-pin.

The forward end of the firing-pin is provided with an enlarged portion to which is secured the forward end of a coil-spring which encircles the firing-pin to the rear of the enlarged portion. The rear end of the spring, which is indicated by 25, is secured to the plug 24. The length and tension of the coil-spring 25 is such that in its normal position, or position when at rest, the firing-pin will be held in the position shown in Fig. 7, or in the safety position, in which position the projection on the forward end of the firing-pin will not project outside the breech-block and cannot in that position discharge a cartridge. When the lever 20 is disengaged from the arm 19 of the firing-pin by pulling on the trigger 22, the tension of the spring 25 will force the firing-pin 18 forward past the safety position and against the cartridge held in the gun-barrel, the momentum of the firing-pin and the spring 25 being responsible for the carrying of the firing-pin past the safety position. After the cartridge has been exploded the tension of the spring 25 will pull the firing-pin back to the position shown in Fig. 7.

In operating my invention the magazine 4 is first supplied with a number of cartridges. The hand-grip 7 is then forced rearwardly, thus retracting the breech-block 3 through the bar 6 and brace 5 to the position shown in Fig. 2. A cartridge may then be inserted in the rear end of the gun-barrel 1 and the hand-grip 7 reciprocated forwardly, thus bringing forward the breech-block, as already described, and swinging the carrier 10 downwardly and releasing the rear cartridge in the magazine. The released cartridge is then carried by the carrier 10 into the position shown in Fig. 2 by again reciprocating the hand-grip rearwardly. When the hand-grip is moved forward once more, the breech-block carries the released cartridge into the barrel 1, when it may be exploded by pulling the trigger 22. It will be noted that when the breech-block is

in the firing position, as shown in Fig. 1, with its rear end bearing against the abutment 9, the brace 5 will be disposed perpendicularly between the breech-block and the operating-bar 6, thus firmly holding the breech-block against the abutment 9. As soon as the operating-bar is forced rearwardly the brace 5 draws the rear end of the breech-block downwardly or away from the slightly-inclined surface of the abutment 9.

My invention may be variously modified without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a suitable support, of the cartridge-carrier pivoted thereto and provided with an arm, means for swinging the carrier, and a spring provided with a slotted head normally disposed in the path of the cartridges to be fed to the carrier, the said arm on the carrier being so disposed as to strike the outside of the head during the downward movement of the carrier and force the head out of the path of the cartridges, the arm passing through the slotted portion of the head when the carrier is moved in the other direction.

2. The combination with a suitable support, of the cartridge-carrier pivoted thereto and provided with an arm, means for swinging the carrier, and a spring secured at one end to the support and provided at its free end with a head having an oblique projection thereon located in the path of the carrier-arm, the said head lying normally in the path of the cartridges, whereby when the carrier-arm is moved in one direction it will strike the oblique portion of the projection and force the head farther across the path of the cartridges, and when the carrier-arm is swung in the opposite direction it will strike the said projection on the side opposite the oblique portion and force the head from the path of the cartridges.

3. The combination with a slidable breech-block, of a swinging cartridge-carrier, a lever connected thereto for swinging the carrier, a slidable support provided with a projection slidable along the lever to positions at each side of the pivotal point of the lever whereby the said projection will swing the lever in two directions when the slidable support is reciprocated, means for reciprocating the slidable support, and a brace pivoted to the breech-block and the said slidable support.

4. The combination with a slidable breech-block, of a swinging cartridge-carrier, a lever connected at one end thereto and extending at its other end beyond the pivotal point of the lever, a slidable support provided with a projection engaging the lever alternately at each side of the pivotal point of the lever when the said support is reciprocated, means

for reciprocating the slidable support, and a brace pivoted to the slidable support and to the breech-block.

5 5. The combination with a slidable breech-block, of a reciprocable bar provided with a hand-grip, a brace pivoted to the breech-block and to the said reciprocable bar, a swinging cartridge-carrier, a pivoted lever connected thereto for swinging said carrier, means by
10 which the said lever is swung in two directions when the said bar is reciprocated, a cartridge-magazine having suitable means for depositing the cartridges upon the carrier, a spring rigidly secured at one end to a suitable
15 support and provided at its free end with a head normally located in the path of the cartridges and having a projection which, when the cartridge-carrier is swung in one direction, will be struck on one side and force the
20 said head from the path of the cartridges and which when the cartridge-carrier is swung in the opposite direction will be struck on the opposite side and thus force the said head farther across the path of the cartridges.

25 6. The combination with a slidable breech-block, of a swinging cartridge-carrier, a cartridge-magazine, means by which the cartridges may be deposited one by one upon the carrier when the said carrier is properly
30 moved, a pivoted lever connected to the carrier for swinging the same, a reciprocable support provided with means for engaging, when reciprocated, the lever at each side of its pivotal point for swinging the lever in two
35 directions, means for reciprocating the said support, and a brace connecting the said breech-block and the said support.

40 7. The combination with a slidable breech-block, of a swinging cartridge-carrier, a pivoted lever connected thereto for swinging the carrier, a slidable bar provided with a hand-

grip by which the said bar is reciprocated, the said bar being provided with a projection for engaging, when reciprocated, the lever at each side of its pivotal point for swinging the
45 lever, and a brace pivoted to the said breech-block and to the said slidable bar.

8. The combination with a slidable breech-block, of a swinging cartridge-carrier, a lever connected thereto for swinging the carrier, a
50 reciprocable member provided with means for alternately engaging the lever at each side of the pivotal point thereof when the member is reciprocated, and a brace pivoted to the breech-block and to the said reciprocable mem-
55 ber.

9. The combination with a suitable support, of a cartridge-carrier pivoted thereto and provided with an arm, means for swinging the carrier, and a spring secured at one end to
60 the said support and provided at its free end with a head located normally in the path of the cartridges, the said head being provided with a projection thereon which the carrier-arm strikes when moving in one direction, and
65 forces the said head out of the path of the cartridges, the said projection having an inclined face adapted to be engaged by the carrier-arm when the carrier-arm is moved in the opposite direction the disposition of the
70 projection being such that when the carrier-arm is moved in the latter direction the head will be forced thereby farther across the path of the cartridges.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

PERRY FRAZIER.

Witnesses;

R. W. BOBST,
P. J. STIEFER.