

No. 717,486.

Patented Dec. 30, 1902.

R. C. WOLFERSPERGER & M. E. MORAN.

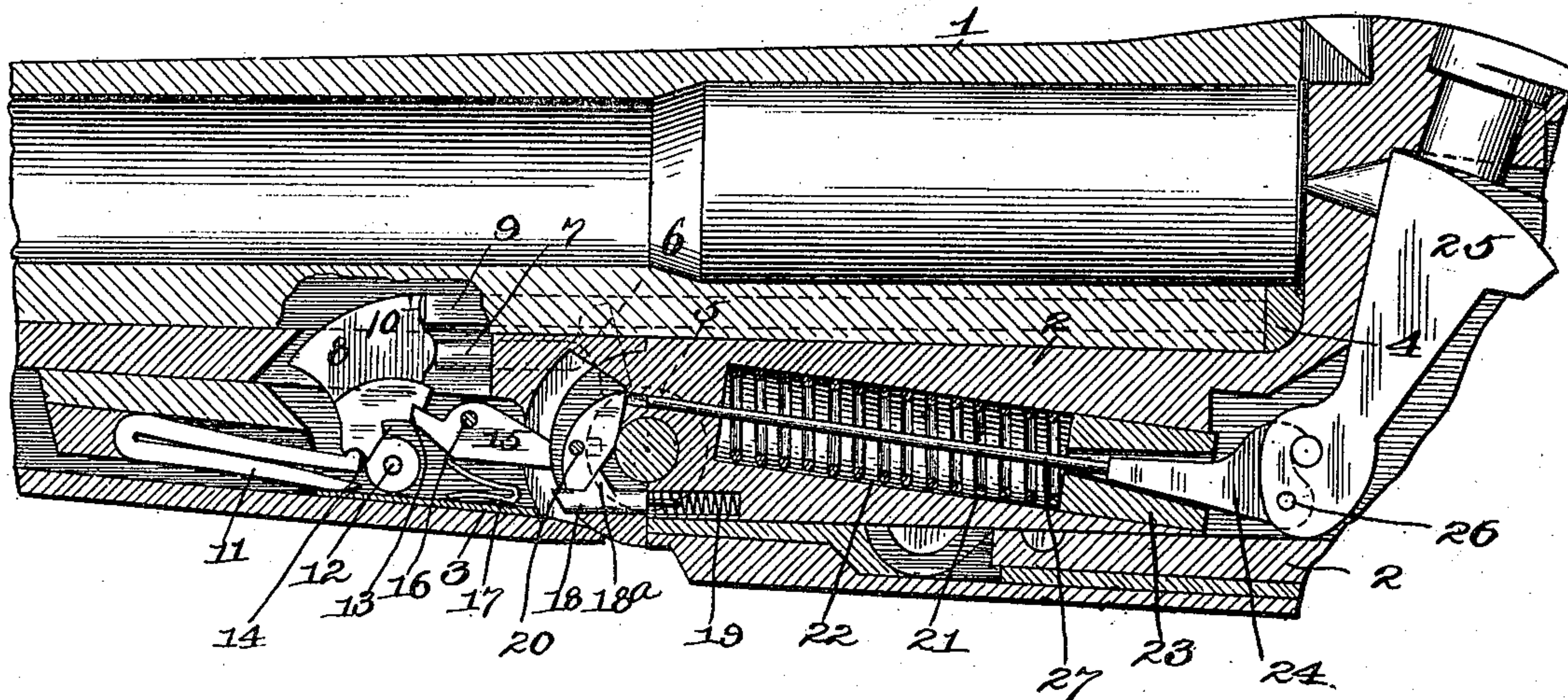
GUN.

(Application filed Nov. 16, 1901.)

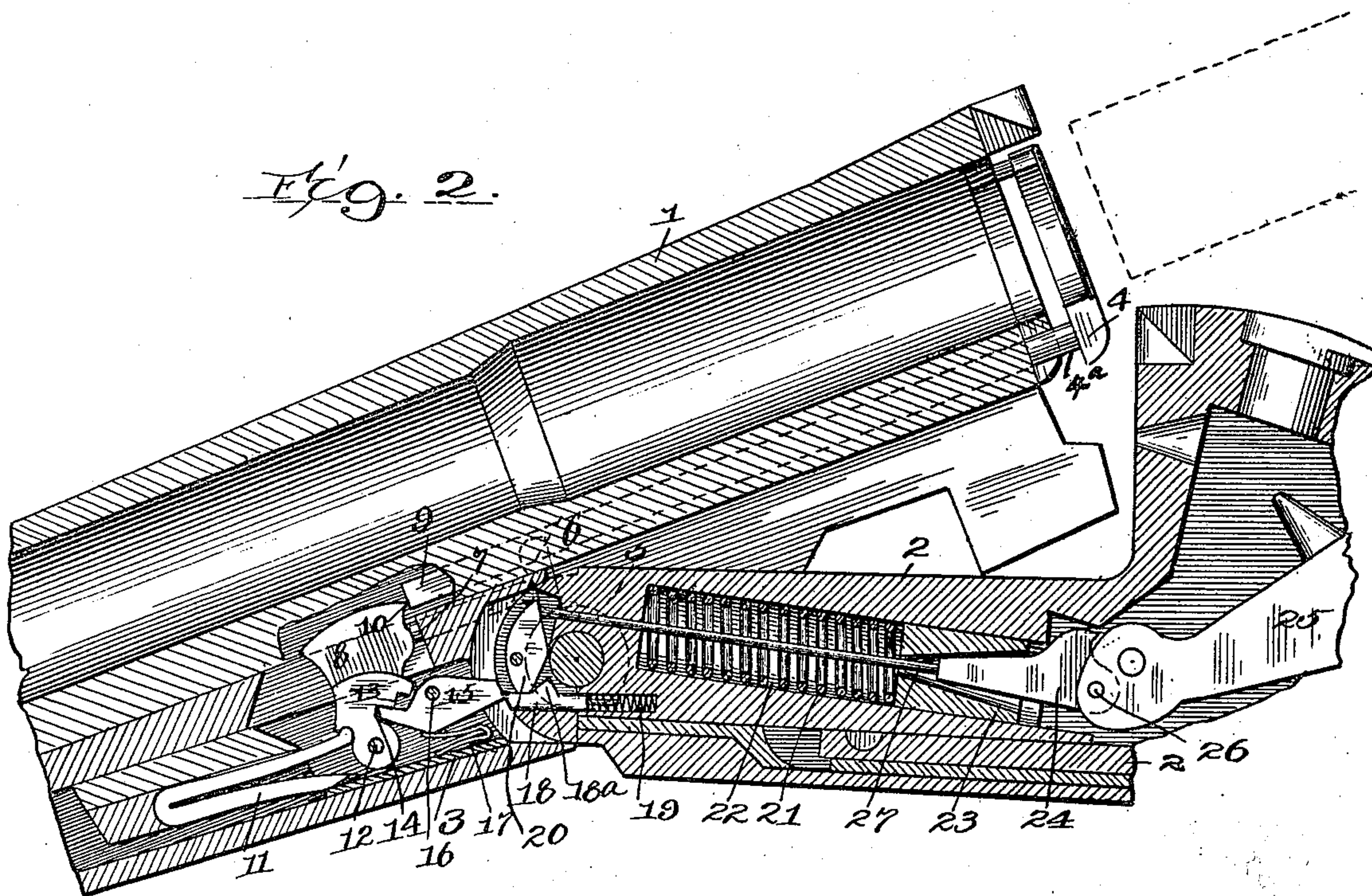
(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Fr'g. 2.



Utrunculus
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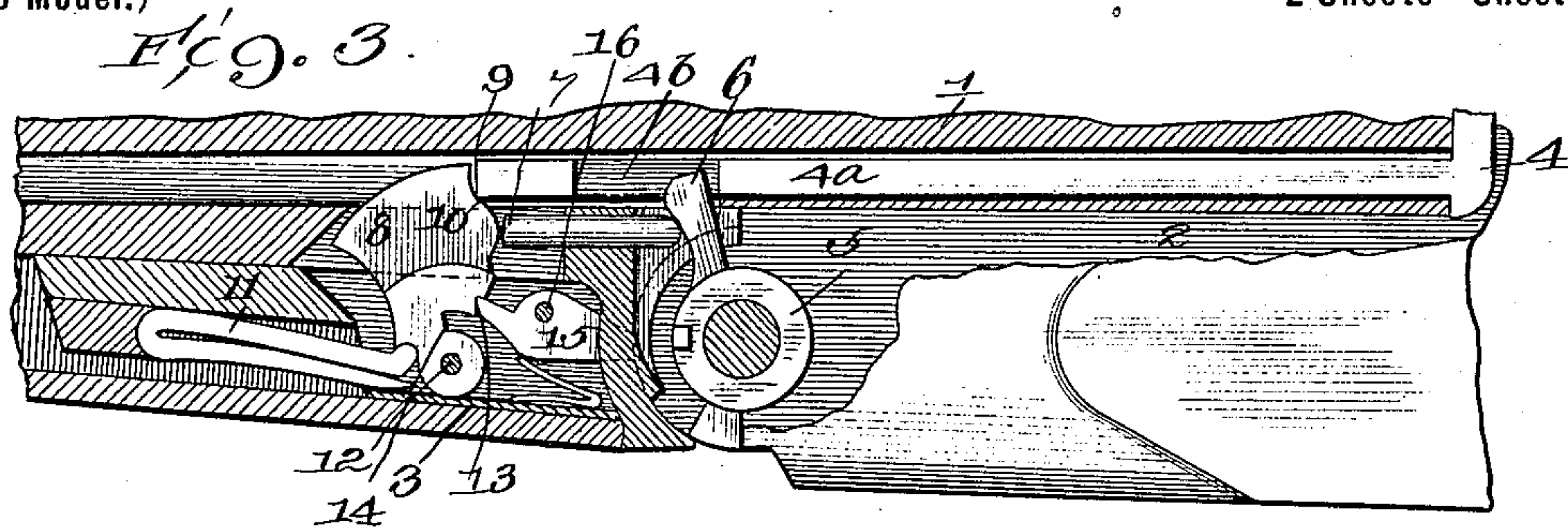


Fig. 10.

Fig. 7.

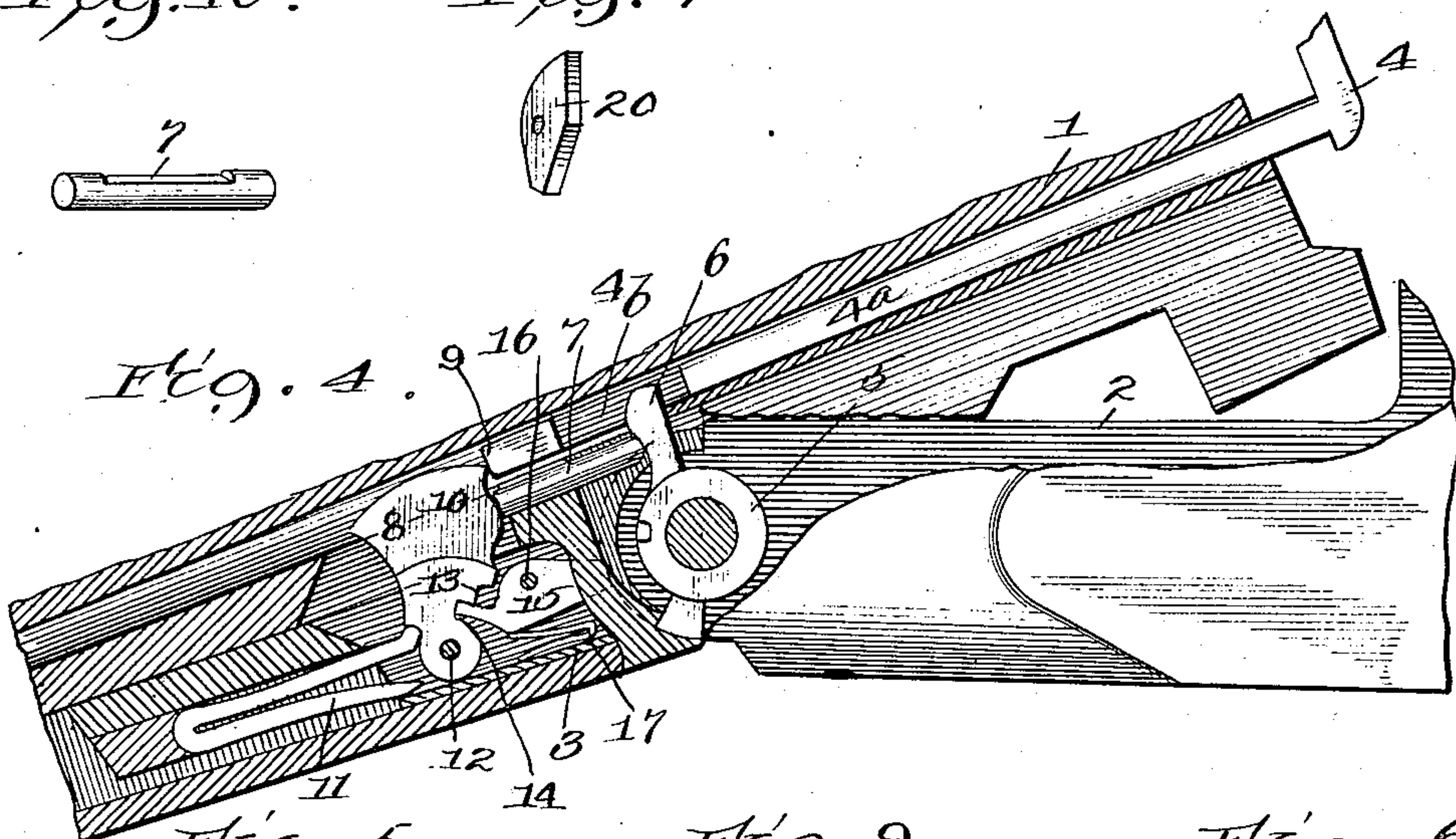
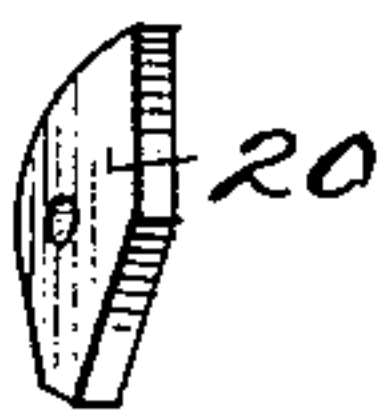
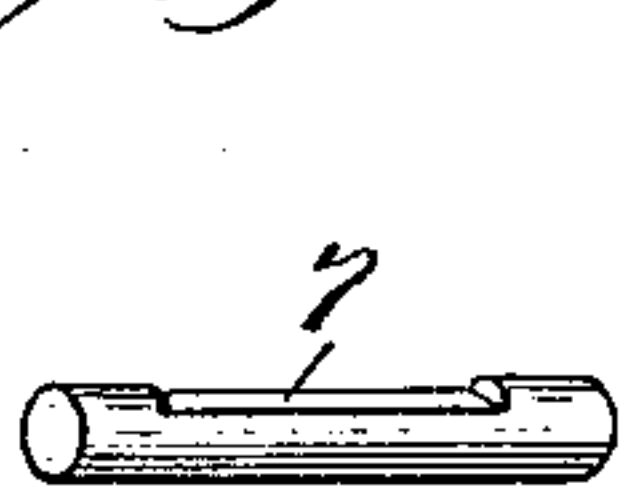


Fig. 5.

Fig. 9.

Fig. 6.

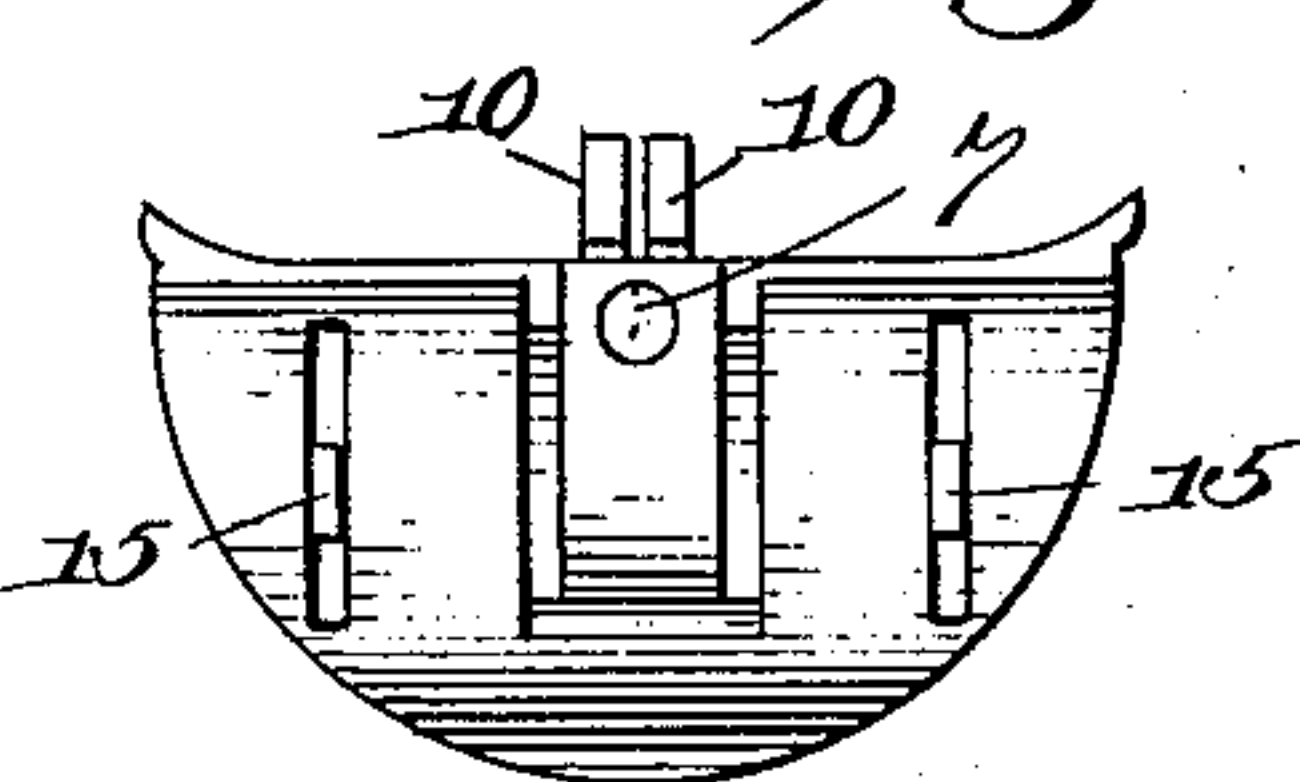
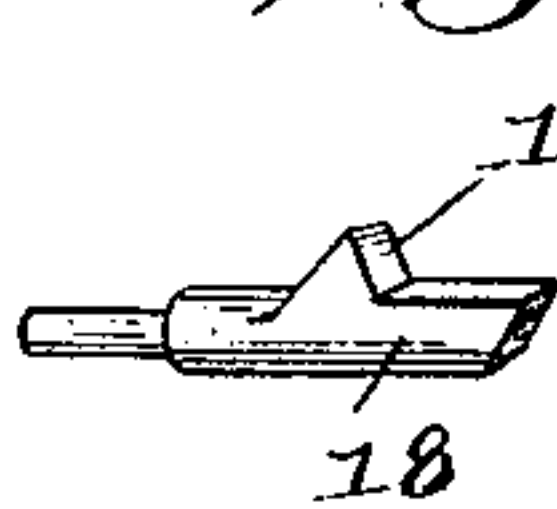
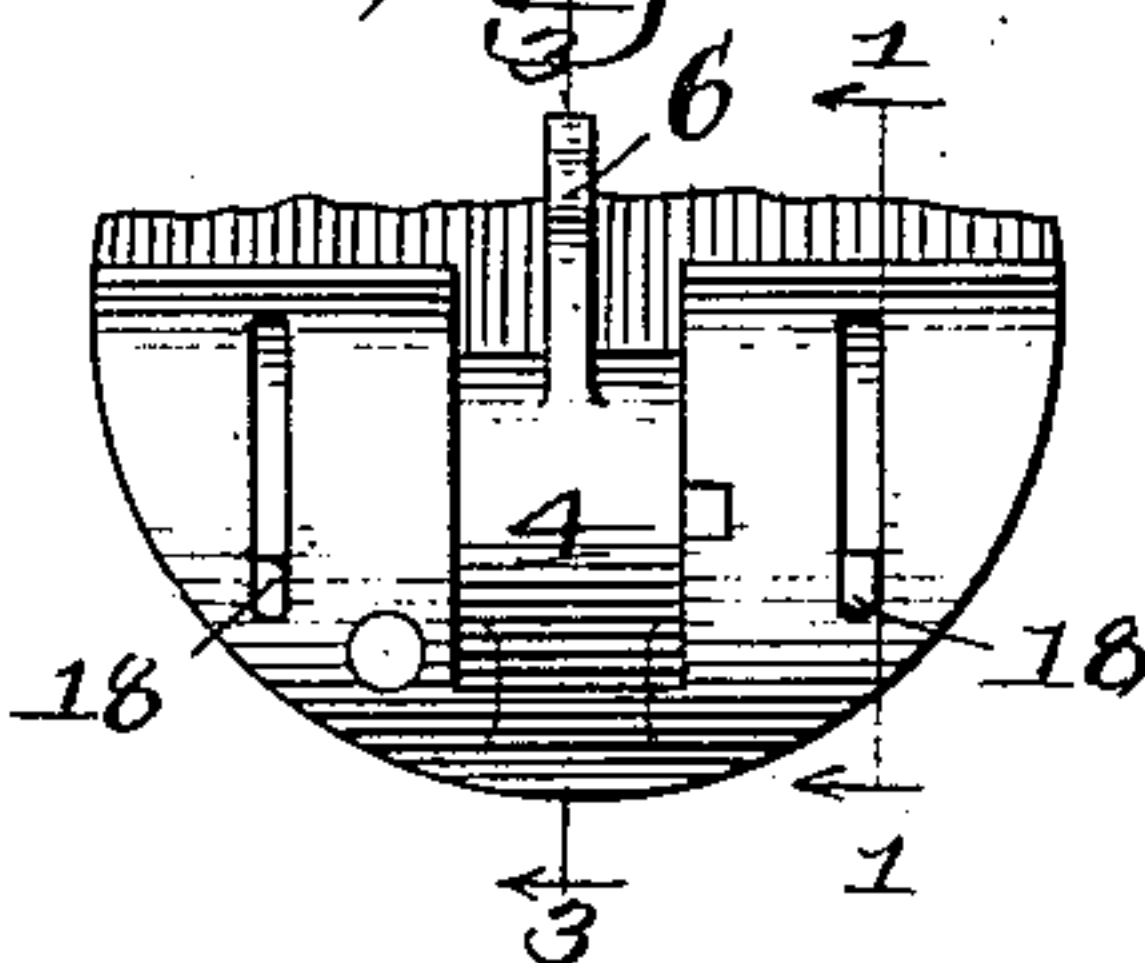
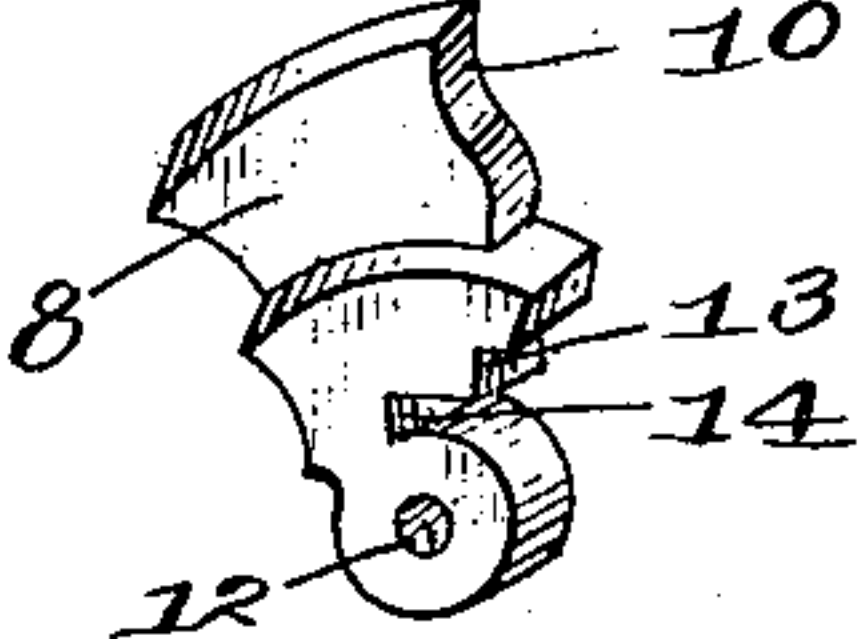
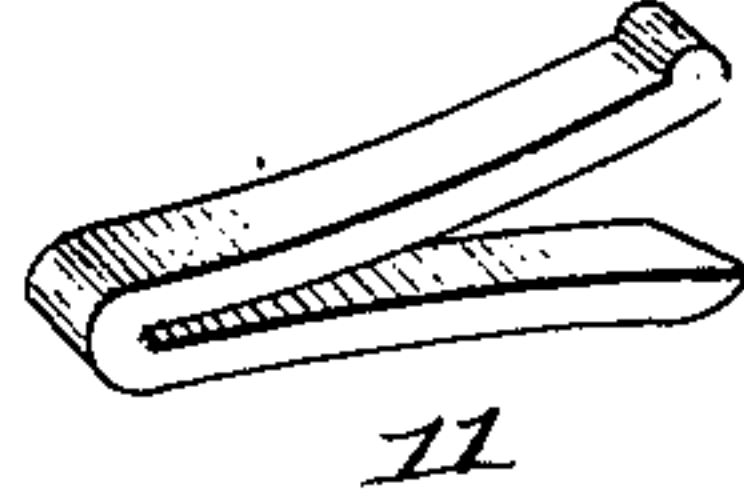
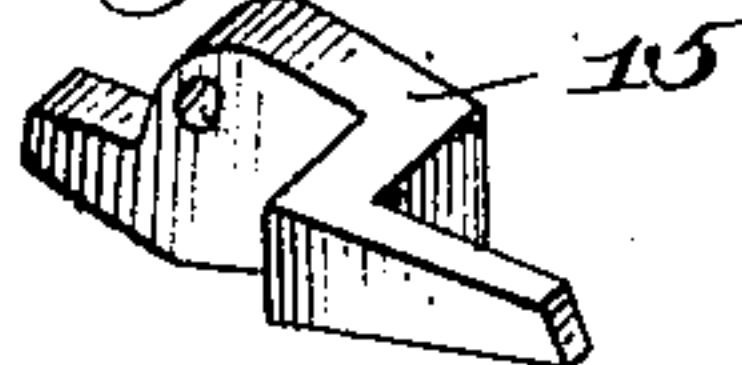


Fig. 12.

Fig. 11.

Fig. 13.

Fig. 8.



Witnesses
Lang & Malt.
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UNITED STATES PATENT OFFICE.

ROSS C. WOLFERSPERGER AND MATTHEW E. MORAN, OF CHICAGO,
ILLINOIS.

GUN.

SPECIFICATION forming part of Letters Patent No. 717,486, dated December 30, 1902.

Application filed November 16, 1901. Serial No. 82,526. (No model.)

To all whom it may concern:

Be it known that we, ROSS C. WOLFERSPERGER and MATTHEW E. MORAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Guns; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to improvements in guns, and has especial reference to automatic cartridge-shell ejectors, by means of which the empty shell of the cartridge is automatically and forcibly thrown from the breech of the gun-barrel at the time the gun is opened for reloading.

The object of our invention is to provide a means which will forcibly and positively eject the shell of a cartridge which has been fired from the barrel of a gun at the time when the gun is opened preliminary to reloading.

A further object of our invention is to provide a means whereby the shell of a fired cartridge from either barrel in a double-barreled gun may be independently ejected when the gun is opened—that is to say, that the mode of operation of our device is such that an intact cartridge is never ejected. The shells in either of the two barrels are by separate mechanisms independently ejected when the cartridge has been fired and the gun has been opened for the purpose of reloading, the unfired cartridge remaining in its normal position within the gun-barrel.

A further object of our device is to provide a means whereby the cartridges may be slightly removed from the end or breech of the gun-barrel for the purpose of removing the same when desirable so to do, so that the end of the cartridge may be easily grasped for the purpose of extracting it by hand from the barrel of the gun.

With these and other objects in view, which will be obvious to those skilled in the art and from the description hereinafter, our invention consists in the features, details of construction, and combination of parts, which will first be described in connection with the

accompanying drawings and then particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal section of a portion of a gun, taken on line 1 1 of Fig. 5, showing the gun closed. Fig. 2 is a similar section showing the gun opened. Fig. 3 is a broken-away longitudinal section taken on lines 3 3 of Fig. 5, showing the gun closed. Fig. 4 is a similar view showing the gun opened. Fig. 5 is a broken-away end view of the action-frame with the barrels removed. Fig. 6 is an end view of the fore-piece. Fig. 7 is a perspective view of the ejector-trip lever. Fig. 8 is a similar view of the ejector-hammer. Fig. 9 is the ejector-sear trip. Fig. 10 is the ejector-hammer plunger. Fig. 11 is the ejector-sear. Fig. 12 is the ejector-hammer spring. Fig. 13 is the sear-spring.

In all of the views the same numerals of reference indicate similar parts.

The drawings show a hammerless gun of the Parker type with our ejector device applied thereto. When applying our device to such a gun, we do not remove any of the usual parts, but preferably place our ejector in position so as to work in harmony and to coact with the other parts of the action of the said gun. Our device may be used in other guns than that shown.

1 shows the barrels of a shotgun.

2 is the action-frame, which provides a receptacle for the working parts of the said gun.

3 is a fore-piece of the frame, in which the ejector-hammer and coacting sear of our device are contained.

4 is the ordinary extractor, which is slidably mounted in the gun, one being provided for each gun-barrel, which are held in place, with reference to the action-frame and stock of the gun, by means of the rod 4^a, which is prevented from entirely leaving its position in such mounting by any suitable means.

5 is the usual roll upon which the barrels are pivoted.

6 is an abutting projection from the roll 5 for reciprocating the plunger 7 at the time when the gun is being closed for the purpose of setting the ejector 8 in position. The ejector-rod 4^a is cut away or slotted at 4^b, so

as to be free of the projection 6. The end of the rod 4^a is shown at 9, and the anvil of the ejector-hammer 8 is shown at 10. In the operation of the device the anvil 10 of the pivoted ejector-hammer is brought forcibly into contact with the end 9 of the rod 4^a so as to strike a blow thereon by means of the compression-spring 11, which engages in a notch thereof to one side of the pivot 12. 13 is a sear-notch in the said hammer, and 14 is a clearance-notch for receiving the end of the sear 15 when said sear is tripped and said hammer is moved forward as a consequence thereof.

15 is a sear pivoted at the point 16, the front end of the said sear being held in an upward position by means of the sear-spring 17. The front pointed engaging end of the said sear is adapted to engage in the notch 13 when the hammer 8 has been moved forward on its pivot by means of the plunger 9 bearing against the abutment 6 at the time when the gun is closed sufficiently for the sear to drop into the notch 13.

18 is the sear-trip, which is held so that its front end is extended forward by means of the helically-wound compression-spring 19. The lateral tapered projection 18^a of the trip normally rests against one end of the sear-trip lever 20 when the gun is not cocked and also when the gun is closed, as shown in Fig. 1.

21 is a mainspring of a gun, shown in this case to be an open helical spring, adapted to be compressed when the gun is cocked. The open helical mainspring 21 is contained within the casing 22, in which a plunger 23 is adapted to be laterally reciprocated. The plunger 23 is provided with a conical opening, in which the hammer-stirrup 24 is inserted. The hammer-stirrup 24 is pivoted to the hammer 25 at point 26. We attach to the stirrup 24 a trip-lever push-rod 27, or this rod may be connected to the plunger 23 or to the hammer 25, the end of this push-rod being adapted to be brought into contact with the upper end of the lever 20 when the gun is cocked.

The use and operation of our device are as follows: Fig. 1 shows the position of all of the parts of our ejector device when the gun is closed, but not cocked, after having been fired. Fig. 2 shows the position occupied by the push-rod 27, the trip-lever 20, and the sear-trip 18 when the gun is cocked and closed ready for firing. When the gun is fired, the rod 27 is drawn back from the end of the trip-lever 20, as shown in Fig. 1, the lower end of trip-lever 20 is moved forward by the spring 19, and the sear-trip 18 is also moved forward thereby and projects beyond the position it occupies in Fig. 2 to that shown in Fig. 1. When the gun is opened, it swings on the roll 5, at which time the tail end of the sear 15 comes into contact with the end of the sear-trip 18 and causes the sear to become disengaged from the notch 13 of the ejection-hammer 8.

This occurs at a time when the gun has been sufficiently opened to allow the shell to clear the standing breech, as shown in Fig. 2. The ejector-hammer being thus liberated, the spring 11 will cause the ejector-hammer 8 to be violently propelled upon its pivot 12 until the anvil 10 of the said hammer strikes a blow upon the end 9 of the ejector-rod 4^a, causing the ejector to be moved with a high velocity for a short distance into the position shown in Fig. 2, at which time the cartridge-shell (shown in dotted lines) will be ejected from the breech of the gun-barrel in a violent manner, sufficient to propel the cartridge-shell a considerable distance. The gun is now ready to be loaded. When the cartridge has been inserted in the gun in the usual manner, the ejector part 4 goes back into position when the barrels are brought to place, the ends of the cartridges coming into contact with the standing breech. They are thereby forced into the chamber of the barrel and the gun is ready for firing again. Just before the gun is closed and before the cartridges are inserted therein the parts occupy the position shown in Fig. 2. During the time when the gun is being closed the plunger 7 is brought into contact with the inclined abutting projection 6, and owing to the fact that the barrels of the gun are pivoted upon the roller 5 and that the said abutment is some distance on a radial line from the axis of the said roll the plunger causes the hammer 8 to be forced or pushed forward until the sear 15 engages in the notch 13 of the said hammer. This action compresses the spring 11 and stores power in the said spring sufficient to move the ejector-hammer a proper distance and with sufficient velocity to project the cartridge-shell from the barrel of the said gun when the ejector-hammer is liberated in the manner heretofore described.

In Fig. 3, which is the normal position of the devices just described, when a gun is loaded and ready for operation it will be noticed that the plunger 7 occupies the entire space between the abutment 6 and the rounded shoulder upon hammer 8, against which the said plunger engages, and it would appear that the hammer for this reason could not move backward in the manner that we have just described; but when the gun is opened the plunger 7 is moved around the axis of the roll 5 bodily away from the abutment 6, so that when the barrels occupy the position shown in Figs. 2 and 4 before the ejector device is operated there is a considerable space between the rear end of the plunger 7 and the front surface of the abutment 6, this space equaling the distance that the ejector-hammer moves when it is propelled by the compression-spring 11.

In the drawings we have shown a complete and independent ejector-action for each barrel, adapted to be operated independently and so arranged, as explained, that in the event

of one cartridge being fired only the shell of the fired cartridge will be ejected when the gun is opened for reloading and the cartridge that has not been fired will be only slightly moved from the barrel, convenient for its removal by hand when it is desired to entirely unload the gun.

We do not wish to confine our invention to the exact form and location of the parts shown and described, as considerable latitude of variation may be made without departing from the gist and spirit of our invention.

Having described our invention, what we claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. In a gun, the combination of a gun-stock, a barrel pivoted thereto, a shell-ejector slidably mounted in said barrel, an ejector-hammer, a spring for projecting said hammer to actuate the ejector, a sear for controlling the movements of the hammer, a trip for actuating the sear, a pivoted lever 20, adapted to move said trip into inoperative position, and a connection between the said lever and the lock mechanism whereby the trip is locked in inoperative position through the action of the lever, while the gun is cocked.

2. In a gun, the combination with a gun-stock having an action-frame, a barrel, and a fore-piece secured to the barrel, of a sliding ejector, an ejector-hammer, a spring adapted to project said hammer to actuate the ejector, a sear adapted to retain the hammer in raised position against the action of its spring, all mounted in the fore-piece, and a trip adapted to move the sear to release the ejector-hammer, a spring for normally holding said trip in operative position, a pivoted lever adapted to move said trip into inoperative position, and a connection between said lever

and the lock mechanism, whereby said lever is actuated when the gun is cocked, all mounted in the action-frame.

3. In a gun, the combination with a gun-stock of a barrel pivoted thereto, a sliding ejector, an ejector-hammer adapted to actuate the ejector, a spring for actuating said hammer, a sear arranged to retain the hammer in raised position against the action of the spring, a sliding trip 18, adapted to move said sear to release the hammer, a spring 19 for normally projecting the trip into operative position, a pivoted lever 20 adapted to move the trip into inoperative position, lock mechanism, and a connection between the lever 20 and the lock mechanism, whereby said lever is actuated to retract the trip when the gun is cocked.

4. In a gun, the combination with the ejector 4, of an ejector-hammer 8, adapted to strike said ejector when liberated, a spring 11 for moving said hammer, a sear 15 for retaining said hammer in a set position, a plunger 7, and abutment 6 for moving said hammer into a position for engagement with said sear, a sear-trip 18 for disengaging the said sear, a lever 20 for moving said trip out of the path of said sear, a connection with the cocking-action of the gun for moving said lever, and a roll upon which said barrel is pivoted, substantially as set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

ROSS C. WOLFERSPERGER.
MATTHEW E. MORAN.

In presence of—
FORÉE BAIN,
M. F. ALLEN.