

No. 751,847.

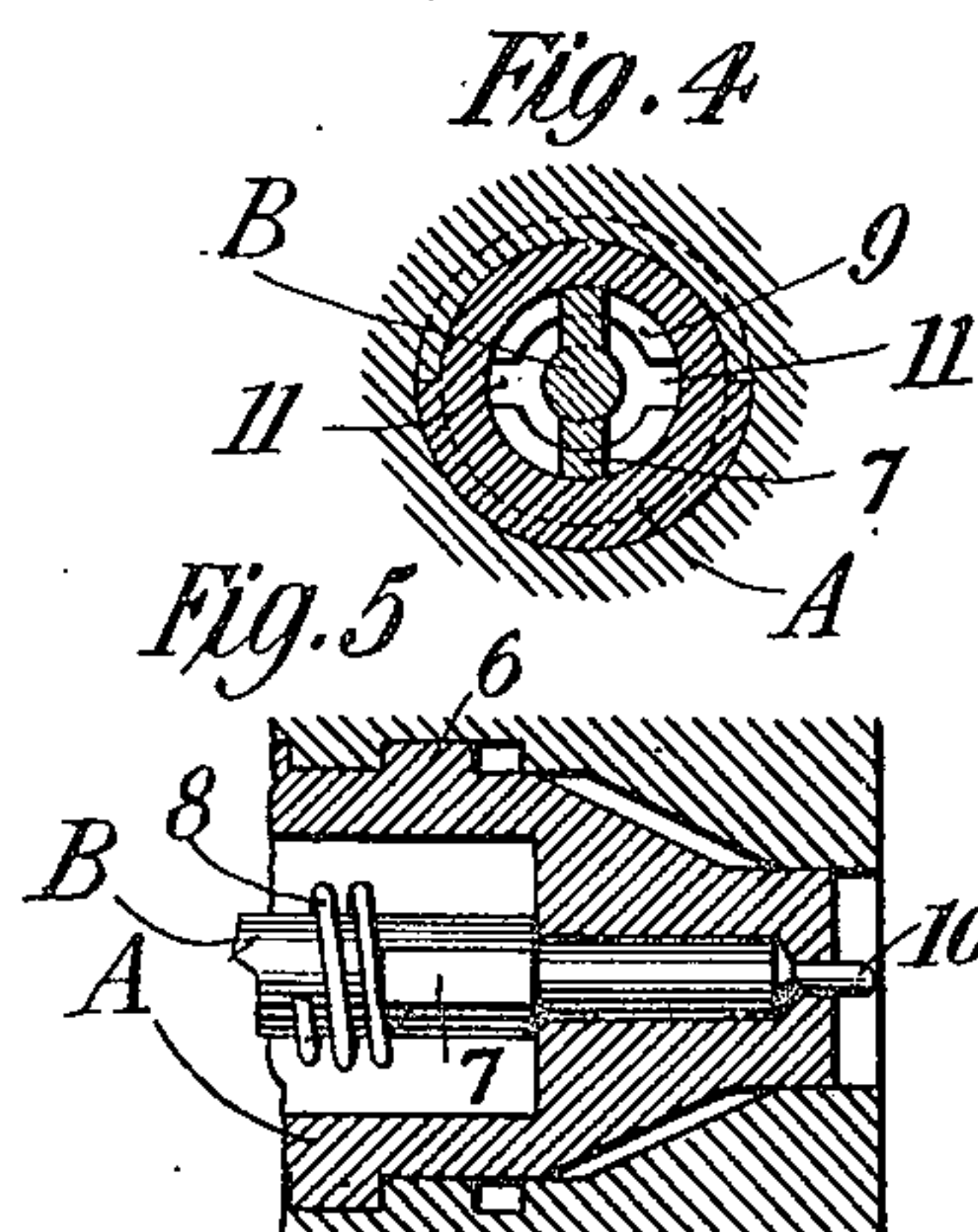
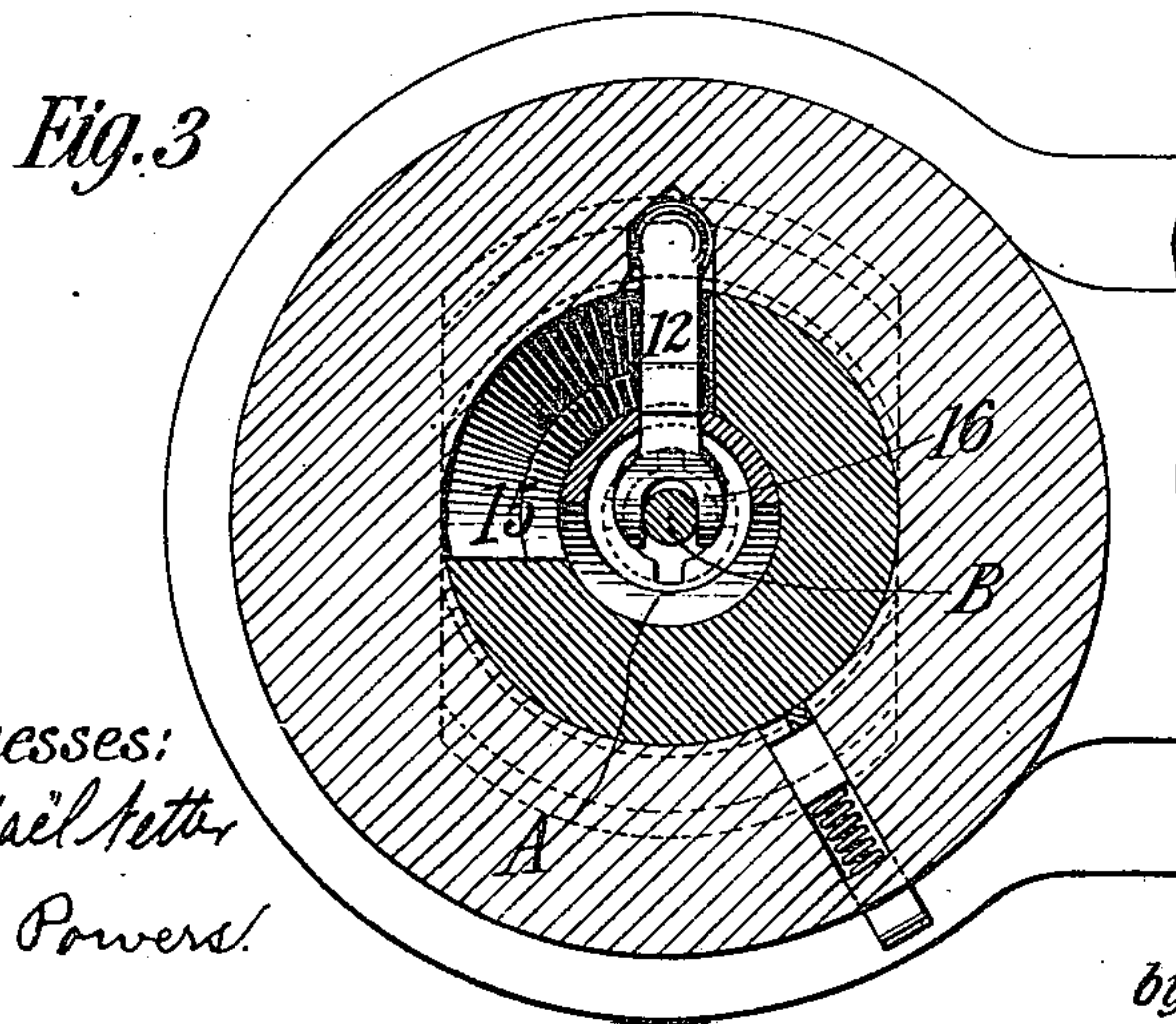
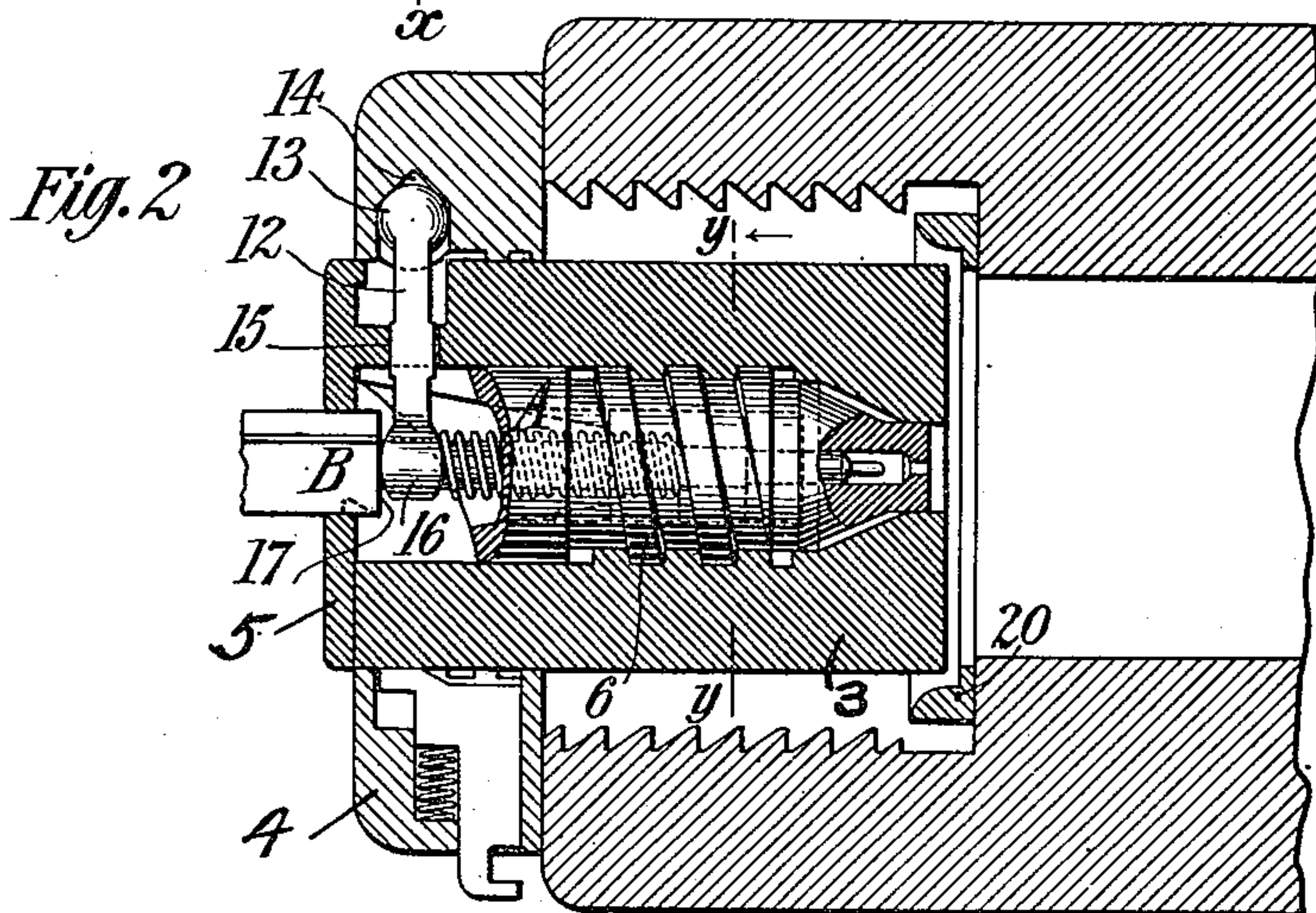
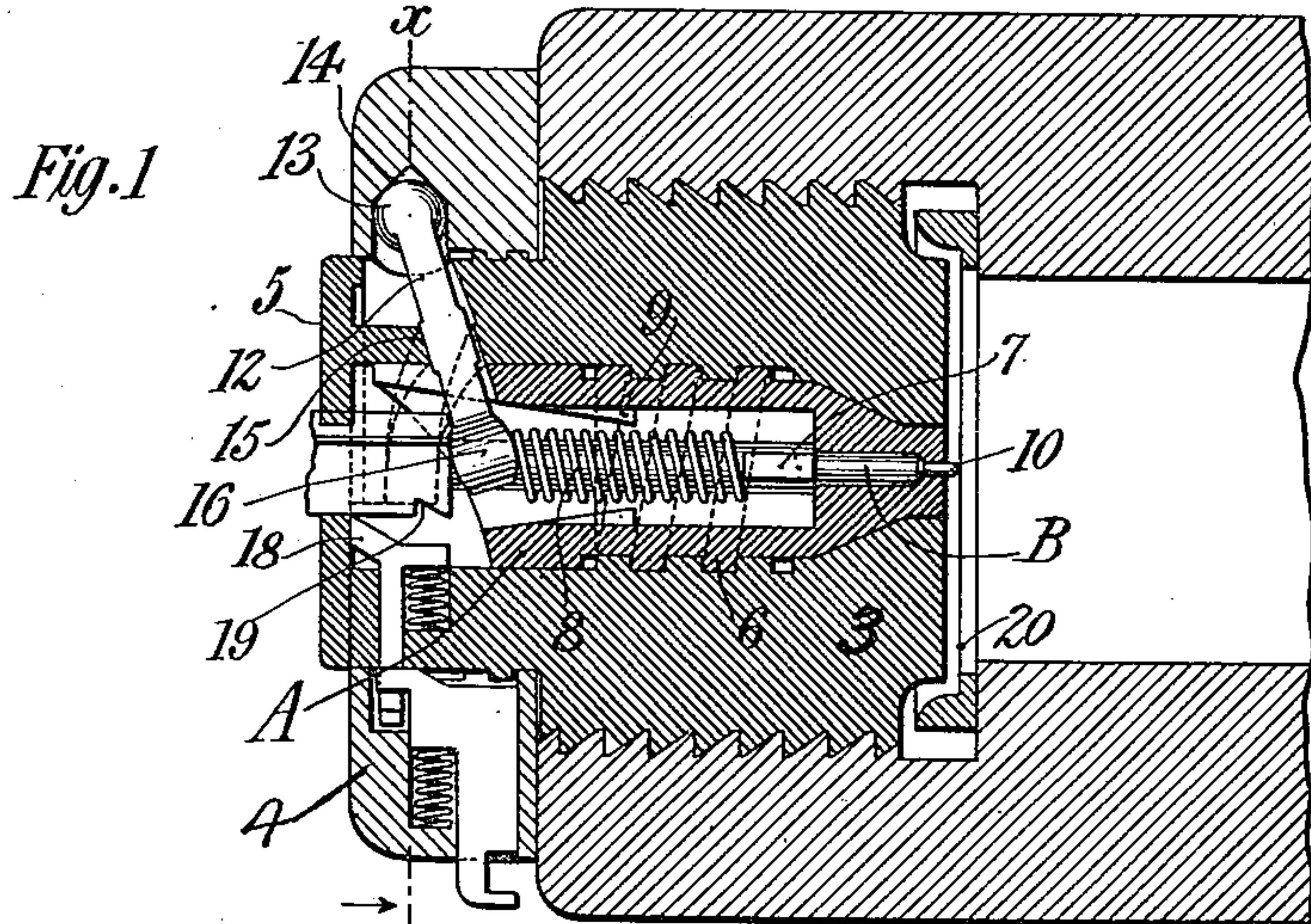
PATENTED FEB. 9, 1904.

G. GERDOM.

RETRACTING ATTACHMENT FOR FIRING PINS FOR ORDNANCE.

APPLICATION FILED SEPT. 16, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

GREGORY GERDOM, OF WATERVLIET, NEW YORK, ASSIGNOR TO ORDNANCE IMPROVEMENT COMPANY, A CORPORATION OF NEW YORK.

RETRACTING ATTACHMENT FOR FIRING-PINS FOR ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 751,847, dated February 9, 1904.

Application filed September 16, 1903. Serial No. 173,364. (No model.)

To all whom it may concern:

Be it known that I, GREGORY GERDOM, of Watervliet, Albany county, New York, have invented a new and useful Retracting Attachment for Firing-Pins for Ordnance, of which the following is a specification.

My invention relates to improvements in ordnance, its object being to provide means for preventing the accidental discharge of a cartridge in the gun by contact of the firing-pin therewith before the block has been rotated to closed position.

To this end my invention consists in providing a support for the firing-pin which has an axial movement in the block actuated by the rotative movement of the block, serving to withdraw the pin from the position of possible contact with the primer except while the block is in closed position, as hereinafter more particularly described and claimed.

The accompanying drawings, forming part of this specification, illustrate the preferred construction of firing-pin fitting or attachment. This consists of a bushing having screw-threaded connection with the breech-block, which bushing is held from rotation with relation to the gun by means of the firing-lever, whereby the block when rotated in the opening movement turns about the bushing and retracts it with its included firing-pin. In the closing movement of the block the opposite movement of the bushing with respect to the block takes place, carrying the firing-pin forward to proper position to be actuated for firing. By this means if the firing-pin should be broken so that its point would protrude from the block so as to come in contact with the primer of the cartridge the movement of the bushing will retract the same, so as to carry it out of any possible contact with the primer so long as the block is out of closed position.

In the drawings, Figure 1 is a central vertical longitudinal section of the breech of a gun with a breech-block fitted with my improvement, the block being shown in closed position and the other parts in the position

after firing. Fig. 2 is a similar section, the block having been rotated through an angle of ninety degrees to release position in readiness for being withdrawn from the gun-breech, the firing-pin bushing being shown in retracted position. Fig. 3 is a cross-section of Fig. 1 on dot-and-dash line *xx* looking in the direction of the arrow. Fig. 4 is a cross-section of the firing-pin and its bushing on dot-and-dash line *yy* of Fig. 2 looking in the direction of the arrow. Fig. 5 is a detail longitudinal section of a part of the firing-pin and bushing, the bushing being shown in retracted position with the firing-pin point protruded, illustrating the impossibility of the firing-pin coming in contact with the primer of the cartridge while the breech-block is not in closed position.

2 represents the gun-breech, 3 the breech-block, 4 the carrier-ring upon which the block is supported and carried, and 5 the breech-block cap. The construction of the parts is of the type shown in my previous patents, particularly No. 585,517, dated June 29, 1897, upon which this invention is an improvement. The breech-block is of the interrupted screw-thread construction, having two threaded segments and two cut-away segments, requiring rotation through an angle of ninety degrees from closed to full release position.

A is the firing-pin sleeve or bushing, which is fitted concentrically in the breech-block, having screw-threads 6 engaging corresponding grooves in the block. The threads upon the bushing are oppositely inclined to those upon the breech-block. In other words, the block, as shown, is provided with a left-handed thread, while the bushing is provided with a right-handed thread. The firing-pin B is arranged concentrically in the sleeve, a pair of longitudinally-arranged ribs 7 serving as abutments for the firing-spring 8 and also as stops limiting the rearward movement of the pin by engaging the shoulder 9 on the interior of the bushing A. The ribs 7 abut against the forward end of the socket in the bushing when the point 10 of the firing-pin is protruded in

firing. The shoulder 9 is provided with grooves 11, through which the ribs 7 of the firing-pin are passed when the pin is inserted into the bushing, after which the pin is rotated through a slight angle, so as to prevent the ribs from reëntering the grooves.

12 is the cocking-lever, having a rounded fulcrum head or end 13, resting in a socket 14 in the carrier-ring, the power being intermediately applied by means of the segmental cam 15, the resistance end 16 of the lever being bifurcated and fitted over the firing-pin and serving as a seat for the rear end of the spring 8. The opposite side of the lever bears against the shoulder 17 of the firing-pin, whereby the lever in the rotating of the breech-block toward release position automatically retracts or cocks the firing-pin, which latter is held in retracted position by the sear 18, the point of which engages the notch 19 in the firing-pin. This position is maintained after the block has been rotated into closed position and until it is released by actuating the lanyard-strap in the operation of firing.

20 represents the shell-extractor, which engages the rim of the cartridge and serves as means for withdrawing the same from the gun after being fired.

The operation or working of the device is as follows: The firing-pin bushing is arranged in the breech-block in the position shown in Fig. 1 when the block is in closed position, with its forward end flush with the inner end of the breech-block and held from turning by the cocking-lever. When the block is rotated to release position, the bushing being thus held from turning by the cocking-lever, the screw-thread upon the bushing serves to withdraw the same in the block to the position shown in Fig. 2, which position should be such that the protruding point 10 of the firing-pin shall not project beyond the end of the breech-block so as to explode the primer of the cartridge in case of the firing-pin being broken or the parts being otherwise out of order. Conversely, when the block is rotated into closed position the bushing A is carried forward again to the position shown in Fig. 1, permitting the firing-pin to protrude under the tension of its spring sufficiently to explode the primer. It will thus be seen that the firing-pin can in no case be projected beyond the breech-block sufficiently to explode the primer except when the block is in closed position.

The means thus shown and described for the automatic retracting of the firing-pin bushing by the rotation of the breech-block is the preferred construction, although any other means for automatically retracting the bushing actuated by the rotation of the breech-block may be employed without departing from my invention, the gist of which is the employing

of a support for the concentrically-arranged firing-pin adapted to be automatically retracted in the block when the block is not in closed position.

I claim—

1. In a breech-loading gun, the combination with a rotatable breech-block and its firing-pin, of a support for said pin fitted to said block and means for automatically retracting said support when the block is rotated from "closed" toward "release" position.

2. In a breech-loading gun, the combination with its rotatable breech-block and the firing-pin carried thereby, of a stop engaging said pin near its point and limiting its forward movement, said stop having axial movement in said block controlled by the rotative movement of said block.

3. In a breech-loading gun, the combination with its rotatable breech-block and firing-pin of a support for said firing-pin and means for automatically shifting the position of said support axially with relation to said block, as and for the purposes set forth.

4. In a breech-loading gun, the combination with its rotatable breech-block, of a firing-pin having a shoulder or lateral projection near its point, a seat or stop adapted to be engaged by said shoulder and to limit the forward travel of the pin, said stop having axial movement in said block determined by the rotative movement of the block.

5. In a breech-loading gun, the combination with its rotatable breech-block and firing-pin, of a bushing threaded concentrically in said block and carrying said pin and means preventing the rotation of said bushing with relation to said gun, for the purposes specified.

6. In a breech-loading gun, the combination with its rotatable breech-block, of a firing-pin having a tapered or shouldered point, and a seat for the tapered portion, said seat being moved axially in said block by the latter's rotative movement, whereby said pin-point is restrained from protrusion while the block is in "release" position, but permitted to protrude a predetermined distance when the block is in "closed" position.

7. In a breech-loading gun, the combination with its rotatable breech-block, of a firing-pin working therethrough, and a support for the point of said pin limiting its forward movement, and having axial movement in said block controlled by the rotative movement of the block.

8. In a breech-loading gun, the combination with its rotatable breech-block, of a firing-pin working therein and having a conical shoulder near its point, and a non-rotatable seat for said shoulder having screw-thread connection with the block, whereby it is moved axially therein as the block is rotated.

9. In a breech-loading gun, the combination

with its rotatable breech-block, and firing-pin
working in said block, of a stop engaged by
the pin-point whereby its forward movement
is limited, and means for axially shifting the
5 position of said stop when the block is ro-
tated from "closed" to "release" position,
and vice versa.

Signed at Albany, New York, this 8th day of
September, 1903.

GREGORY GERDOM. [L. s.]

Witnesses:

H. L. WASHBURN,
ANNA L. CASE.