

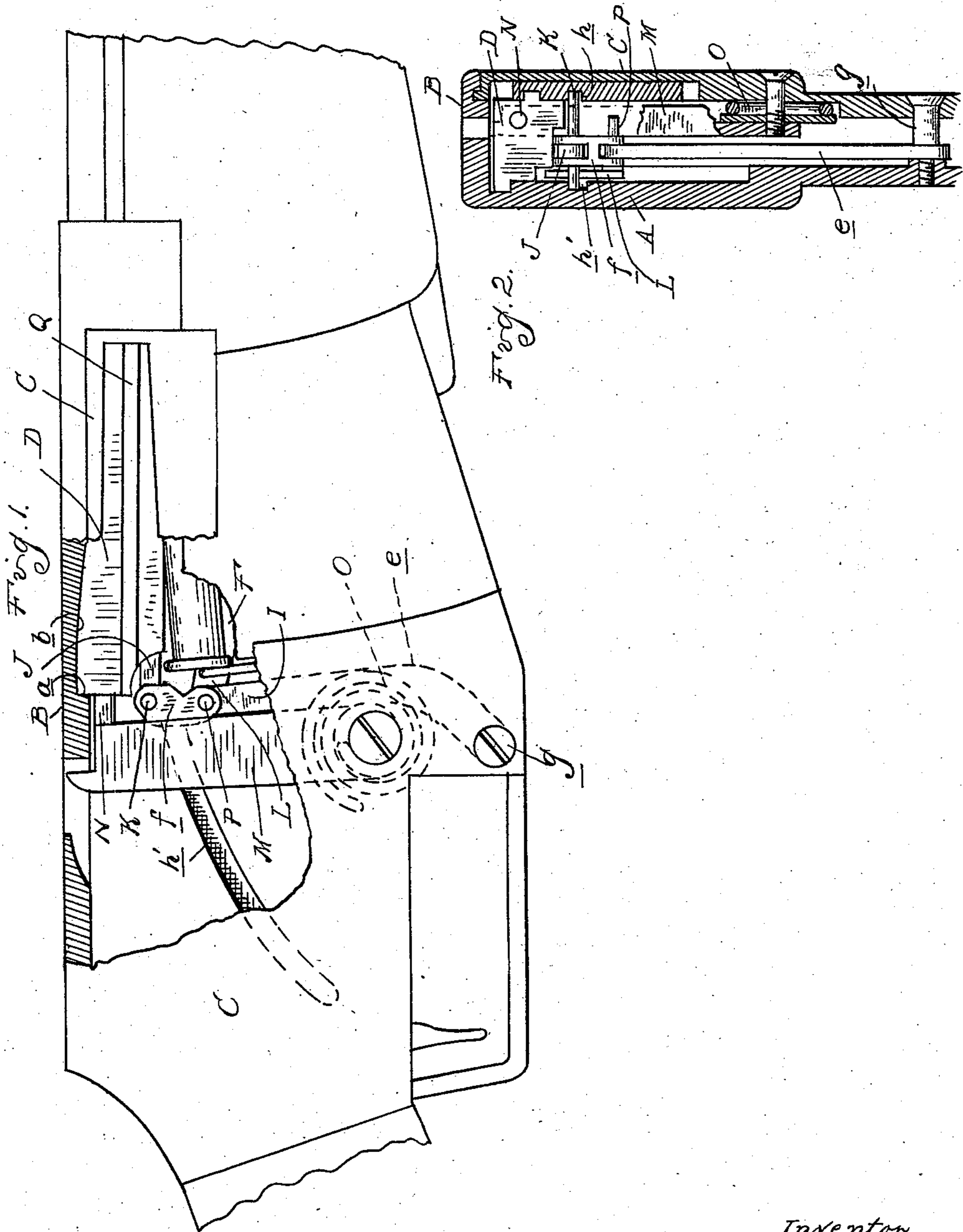
No. 894,531.

PATENTED JULY 28, 1908.

B. W. PUNCHES.  
GUN.

APPLICATION FILED AUG. 29, 1906.

2 SHEETS—SHEET 1.



Inventor  
Bert W. Punches

Witnesses  
Geo. H. Gurn  
James O. Barry

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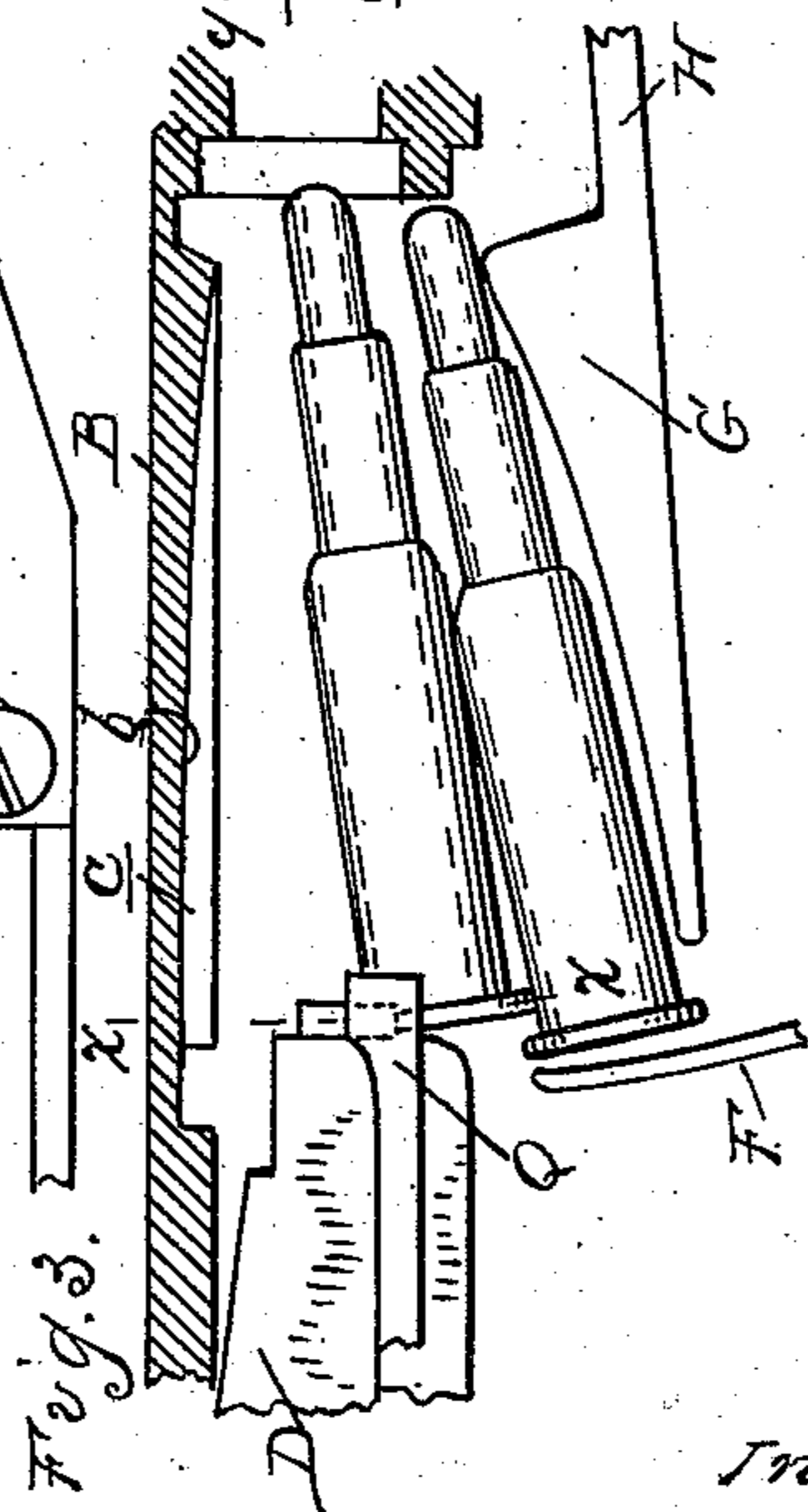
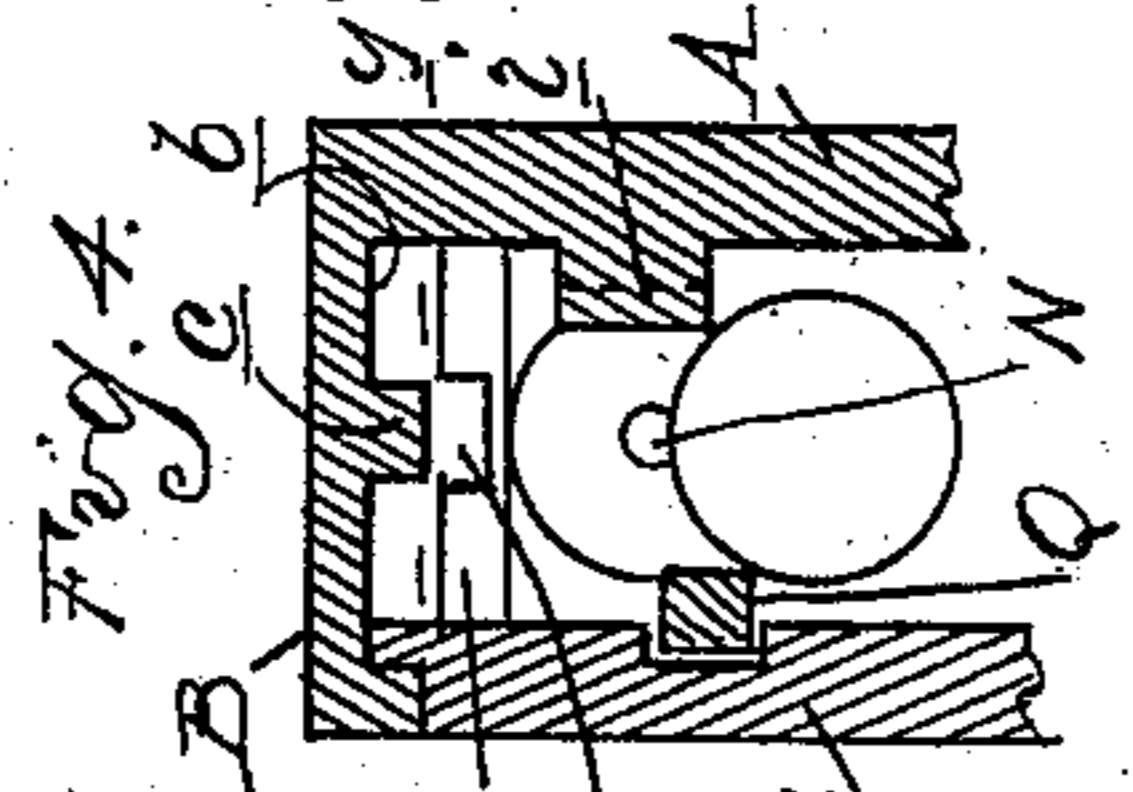
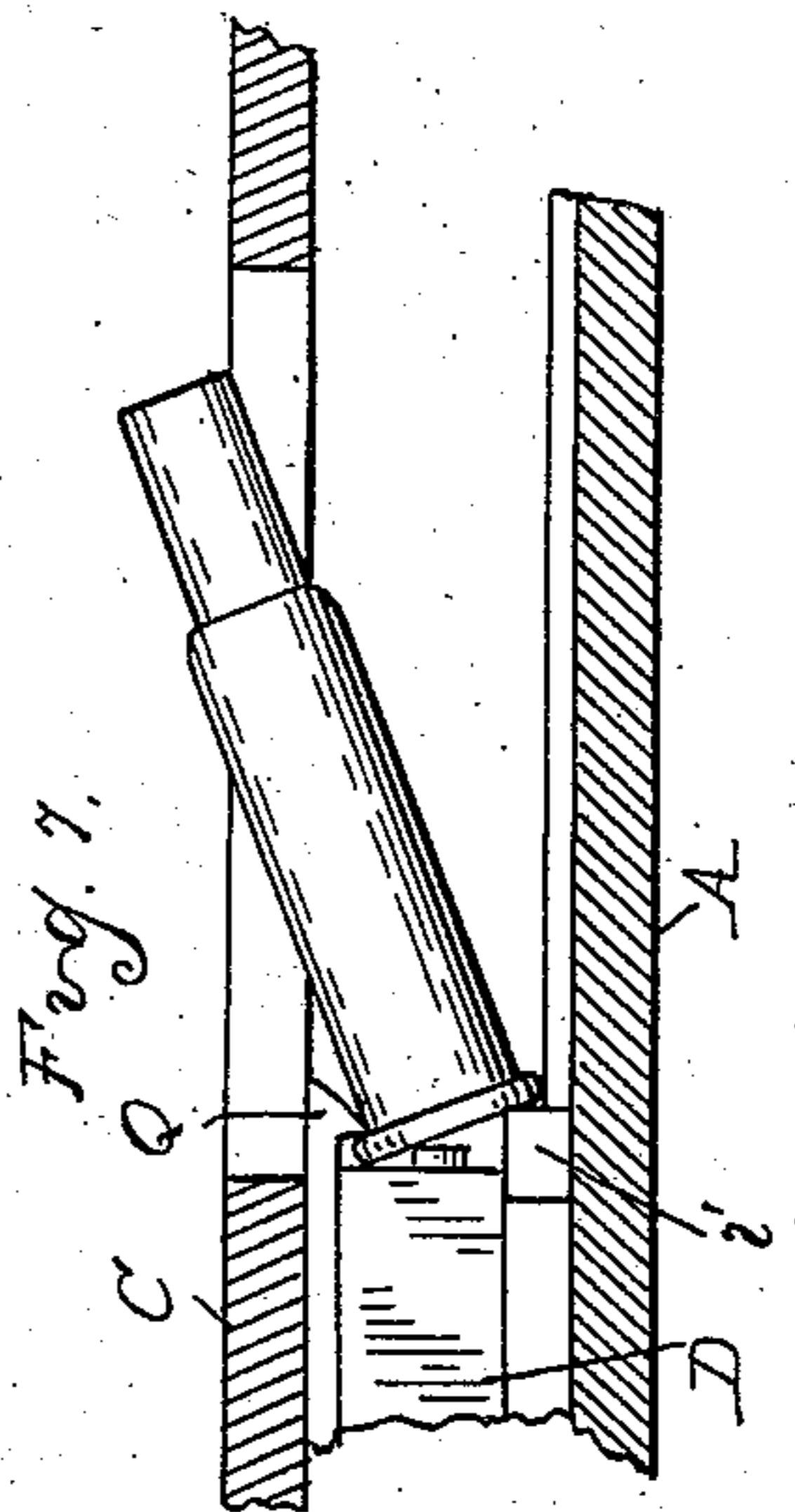
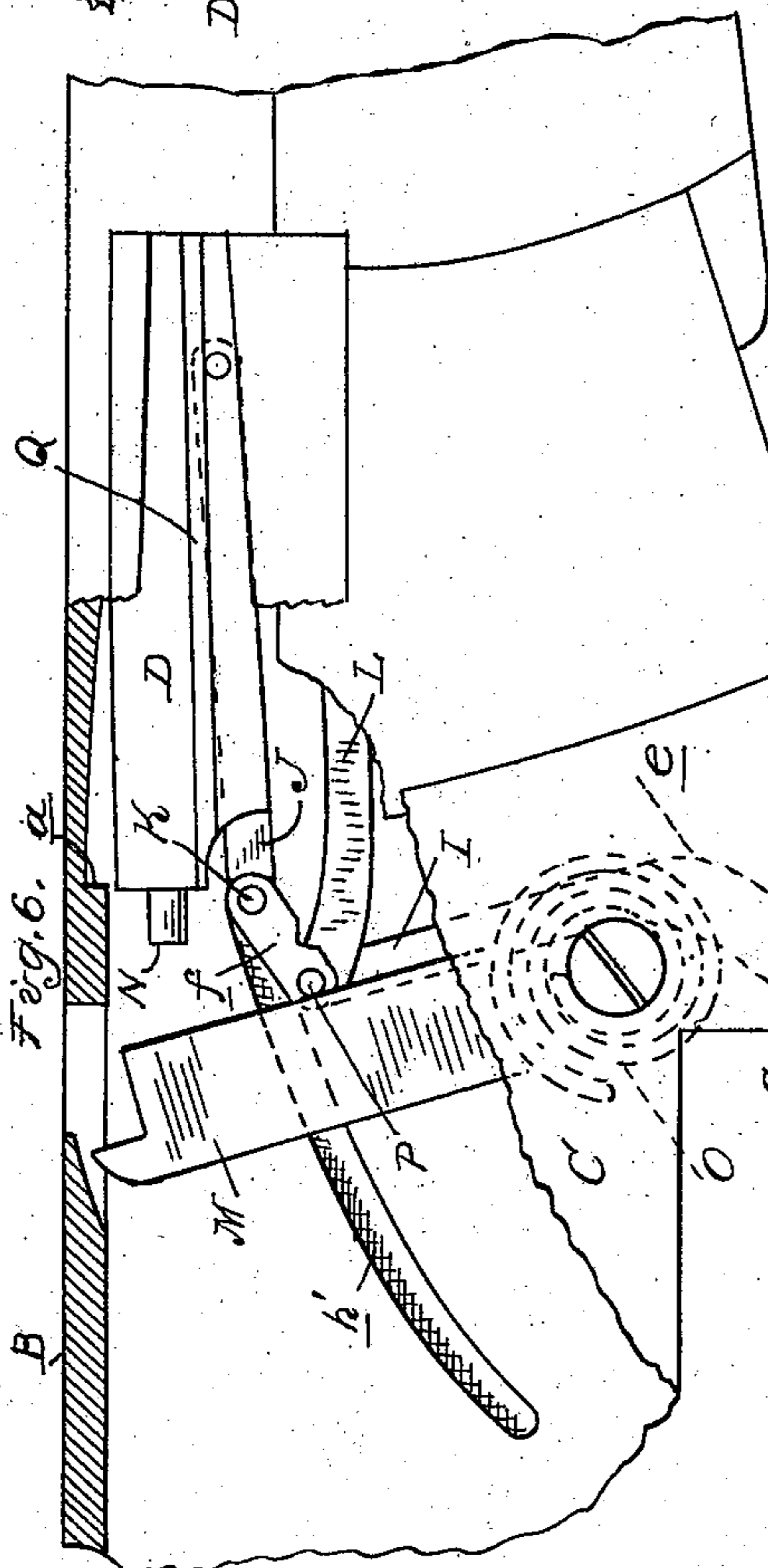
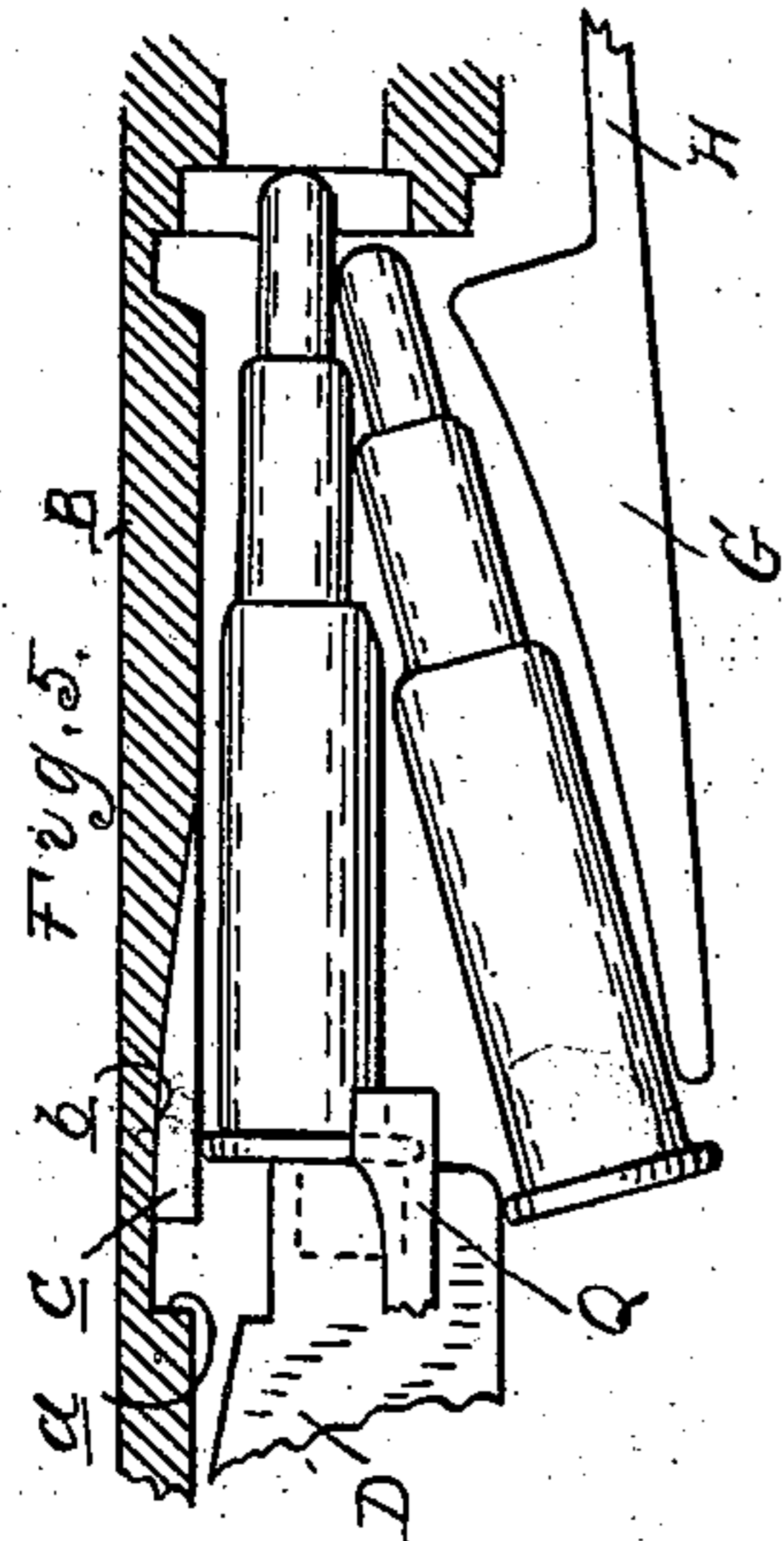
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

BERT W. PUNCHES, OF TOLEDO, OHIO.

GUN.

No. 894,531.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed August 29, 1906. Serial No. 332,534.

*To all whom it may concern:*

Be it known that I, BERT W. PUNCHES, a citizen of the United States of America, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Guns, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to guns, and consists in certain novel features of construction, with more particular reference to the means for feeding the cartridges from the magazine into the barrel; and, further, the means for compelling the locking of the breech-block prior to the firing of the gun.

In the drawings,—Figure 1 is a side elevation of the frame of the gun, with one side-plate thereof broken away; Fig. 2 is a cross section; Fig. 3 is a sectional elevation, showing a portion of Fig. 2, with the parts in different positions; Fig. 4 is a cross section on line  $x-x$  of Fig. 3; Fig. 5 is a view similar to Fig. 3, showing still a different position of the parts; Fig. 6 is an elevation of a portion of Fig. 2, showing the breech-block unlocked; and Fig. 7 is a section on line  $y-y$  of Fig. 4, illustrating the operation of the extractor.

The frame of the gun is preferably formed of an integral side-plate A and top-plate B, together with a detachable front-plate C.

D is a breech-block longitudinally slidable within the frame and engaging suitable guides E on the frame.

F is the magazine, which is of segmental form and located in the forward portion of the frame, beneath the breech-block, into its closed position.

G is a follower within the magazine, carried by a pivotal arm H, and adapted to feed a series of cartridges upward.

The breech-block D in normal position is locked by the engagement of its rear end with a shoulder  $a$  formed in the top-plate B of the frame. This shoulder is preferably formed by cutting away the inner face of said top-plate at  $b$ , so as to permit the breech-block to move upward therein, but a central rib  $c$  is left, which forms a guide for the cartridges in entering the barrel. The breech-block is grooved at  $d$  to receive this guide  $c$ .

I is a toggle lever, which constitutes both the actuating connection and the locking means for the breech-block. This lever comprises the members  $e f$ , the former being pivoted at  $g$  in the lower portion of the frame,

and the latter being connected by a swinging link J with the breech-block. The pivot-pin K, which connects the member  $f$  with the link J, extends across the space within the frame, and into engagement with segmental guide-ways  $h h'$  in the front and rear plates of the frame. The central pivot or knuckle of the toggle is connected with a reciprocatory rod L, extending forward and provided with a suitable hand-operated actuating member (not shown). Thus, the movement of the rod L will cause the swinging of the toggle lever I about the pivot  $g$ , while the guide-slots  $h h'$  will determine the path of movement of the pin K and the angularity of the member  $f$  to the member  $e$  and link J. These guides  $h h'$  are so shaped that the member  $f$  and link J are in substantial alinement during the greater part of their travel, but after the breech-block has reached its forward position, a vertical movement of the pin K is permitted, so that a further movement of the toggle will straighten the members  $e f$  thereof, and force the breech-block laterally into engagement with the locking-shoulder  $a$ .

M is a hammer which is in the form of a pivoted arm within the hollow frame and preferably secured to the detachable plate C thereof.

N is the firing-pin slidably secured in the breech-block and extending rearward therefrom. The arrangement is such that the hammer will swing through substantially the same path as that traversed by the toggle lever I, and will be actuated by the latter during the retraction of the breech-block. This will cock the hammer and engage it with the trigger mechanism (not shown), by which it may be subsequently released when the breech-block is in normal position. The hammer is under the tension of a suitable spring O, which will cause it to fly up and strike the projecting end of the firing-pin.

As has been stated, it is one object of the construction to avoid possibility of firing when the breech-block is unlocked. This is accomplished by providing the knuckle of the toggle lever I with a pin P, which projects into the path of the hammer. This, as illustrated in Fig. 6, will prevent the hammer from contacting with the firing pin so long as the members  $e f$  of the toggle are in angular relation to each other, but, when the toggle is straightened to force the breech-

block into engagement with the shoulder *a*, the pin *P* will move forward and provide a clearance for the hammer *M*.

It will be understood that in normal operation the actuation of the rod *L* will reciprocate the breech-block and also straighten the toggle lever *I*, so as to lock said block, but, if for any cause this locking is not accomplished the pin *P* will stand in the path of the hammer *M* and will prevent the firing of the gun; furthermore, the impact of the hammer against the pin *P* will of itself straighten the toggle, and thereby effect the locking of the breech-block.

The cartridges are fed from the magazine *F* each time the breech-block is withdrawn into the space vacated thereby. To prevent the feeding of more than one cartridge into the path of the breech-block, a stop is provided which arrests the inward movement of the cartridge, and holds it until after the initial forward movement of the breech-block, which disengages the said cartridge from the stop and also intercepts the following cartridges, which are constantly pressed upward by the tension of the follower. This stop is preferably formed by the elements constituting the extractor, and comprising a lug *i* on the side-plate *A* of the frame, and the cooperating hook *Q* on the breech-block. The space between said lug and hook is slightly less than the diameter of the cartridge, so that the latter is prevented from passing into full alinement with the barrel until after the initial movement of the breech-block disengages it from the lug *i*. As soon as thus released, the tension of the follower, acting through the series of cartridges, will press the partly-engaged cartridge into exact alinement with the barrel, in which position it is held by the guide-rib *c* during the return of the breech-block. The forward movement of the breech-block required for disengaging the head of the cartridge from the lug *i* is sufficient to move the side of the breech-block into the path of the head of the following cartridge, so that only one cartridge at a time can be engaged with the breech-block.

What I claim as my invention is,—

1. In a gun, the combination with a reciprocatory breech-block, of a magazine, a spring-pressed follower therein for feeding a series of cartridges from the magazine into the space vacated by said breech-block when retracted, and an extractor constituting a stop for limiting the initial inward movement of the foremost cartridge, for the purpose described.

2. In a gun, the combination with a reciprocatory breech-block, of a magazine, a spring-pressed follower therein for feeding the series of cartridges from the magazine into the space vacated by said breech-block when retracted, an extractor comprising a hook on said breech-block, and a stationary

coöperating lug, the said extractor and lug coöperating to form a stop for limiting the initial inward movement of the foremost cartridge when the breech-block is completely retracted, and from which said cartridge is released upon the initial forward movement of the breech-block.

3. The combination of a reciprocatory breech-block, a frame having a portion above the breech-block recessed in its under face for the reception of said block when in forward position, means actuated by the hammer in its forward movement for forcing said block into said recess, a magazine arranged beneath said block and recess, a follower for feeding a series of cartridges from said magazine upward and into the space vacated by the retraction of said block, and a guide-rib projecting downward in said recess and engaging a corresponding groove in said breech-block, said rib serving to aline the cartridge entering the space vacated by the breech-block with the barrel.

4. In a gun, the combination with a reciprocatory breech-block, of a frame member above said block recessed in its under face to receive and form a locking shoulder for said block when in forward position, a magazine beneath said block and recess, a follower for feeding the cartridges upward in said magazine and into the space vacated by the block upon the retraction thereof, a guide-rib projecting downward in said recess and engaging a corresponding groove in said breech block, said rib serving to aline the cartridges with the barrel.

5. In a gun, the combination with a reciprocatory breech-block, of a magazine, an extractor having a hook thereon and a stationary coöperating lug, said extractor and lug being spaced from each other slightly less than the diameter of the cartridge and coöperating to form a stop for limiting the initial inward movement of the foremost cartridge when the breech block is completely retracted.

6. In a gun, the combination with a reciprocatory breech-block, of a magazine, an extractor having a hook thereon, a stationary coöperating lug, said extractor-hook situated on one side, the coöperating lug on the frame on the opposite side of the breech-block and spaced from each other slightly less than the diameter of the cartridge and coöperating to form a stop for limiting the initial inward movement of the foremost cartridge when the breech-block is completely retracted.

7. In a gun, the combination with a barrel and frame, of a breech-block mounted in said frame for longitudinal reciprocation, a shoulder on said frame with which the rear end of said breech-block engages in closed position, a toggle lever secured to said frame extending transversely of said breech-block and adapted when straightened to press the

block into engagement with said shoulder, a link connecting said toggle to said block, a firing pin, a hammer operating in a plane at the side of the toggle lever, a member on said toggle lever in the path of said hammer whereby the toggle lever is straightened and the breech-block locked before the operation of the firing pin.

8. In a gun, the combination with a reciprocatory breech block, of a magazine, an extractor having a hook thereon, a stationary cooperating lug, said extractor and lug being spaced from each other a distance slightly

less than the diameter of the cartridge and cooperating to form a stop for limiting the initial inward movement of the foremost cartridge when the breech block is completely retracted, the breech block upon its initial forward movement being adapted to disengage the cartridge from the stop.

In testimony whereof I affix my signature in presence of two witnesses.

BERT W. PUNCHES.

Witnesses:

JAMES P. BARRY,  
THOS. O'DONNELL.