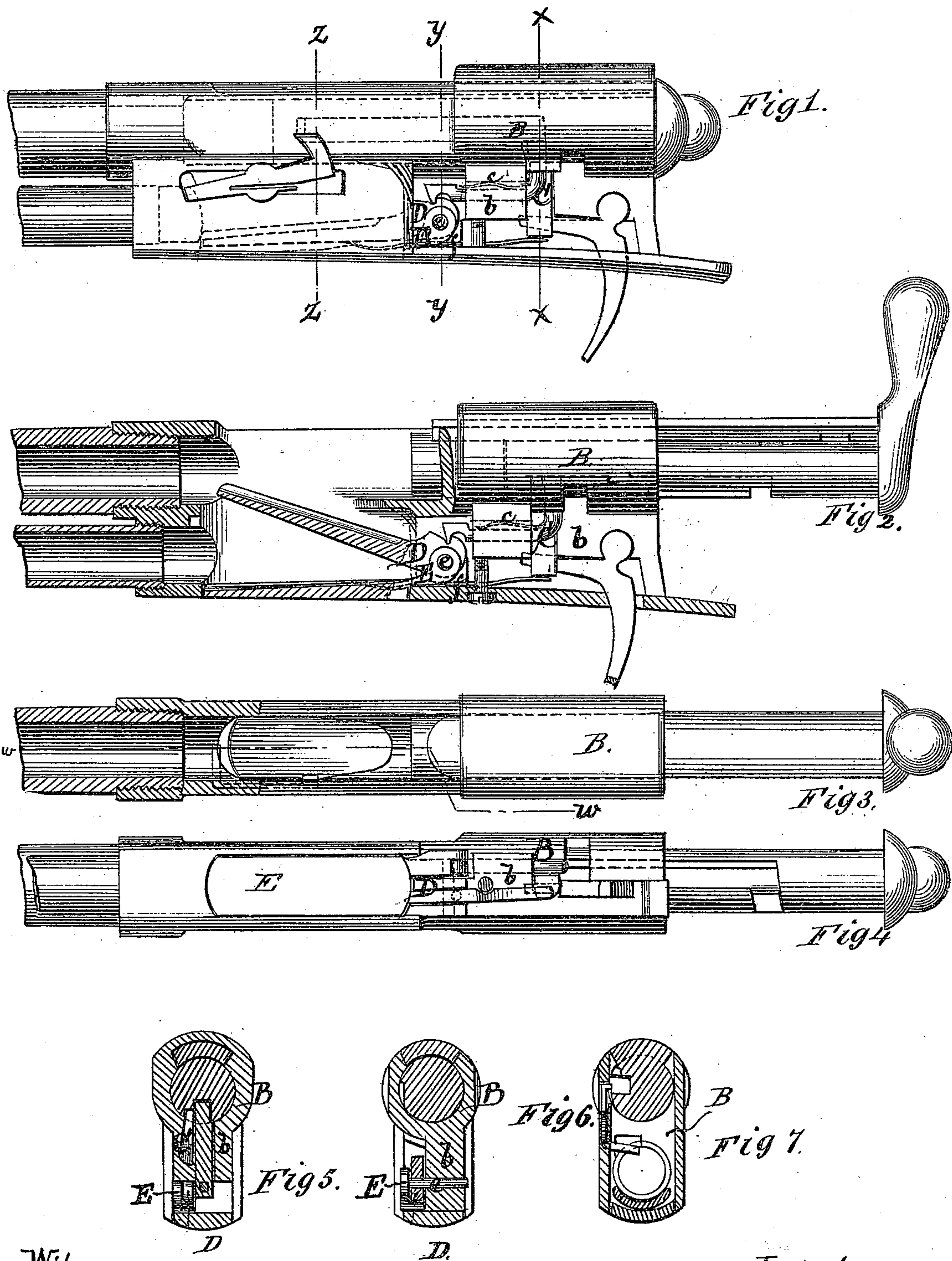


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MAGAZINE FIRE-ARM.

No. 172,447.

Patented Jan. 18. 1876.



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Fig 12.



Fig 8.

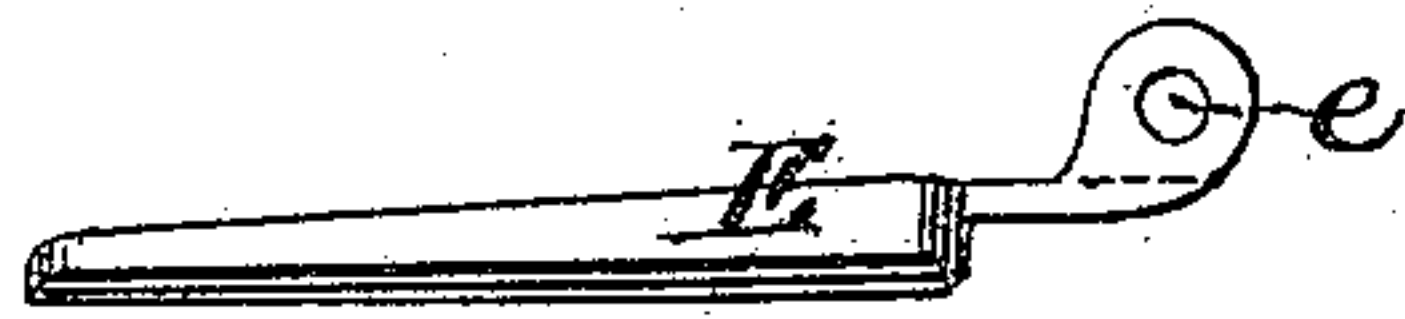


Fig 13.

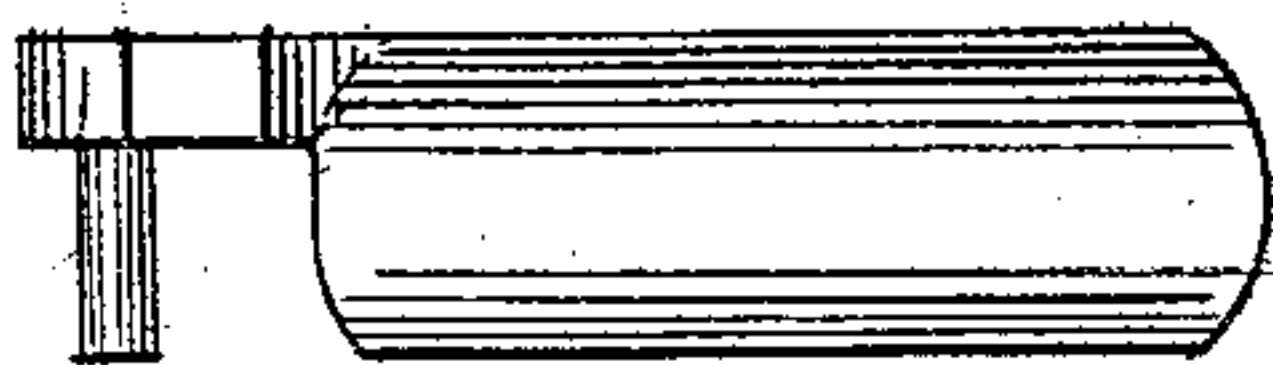


Fig 9.



Fig 14.

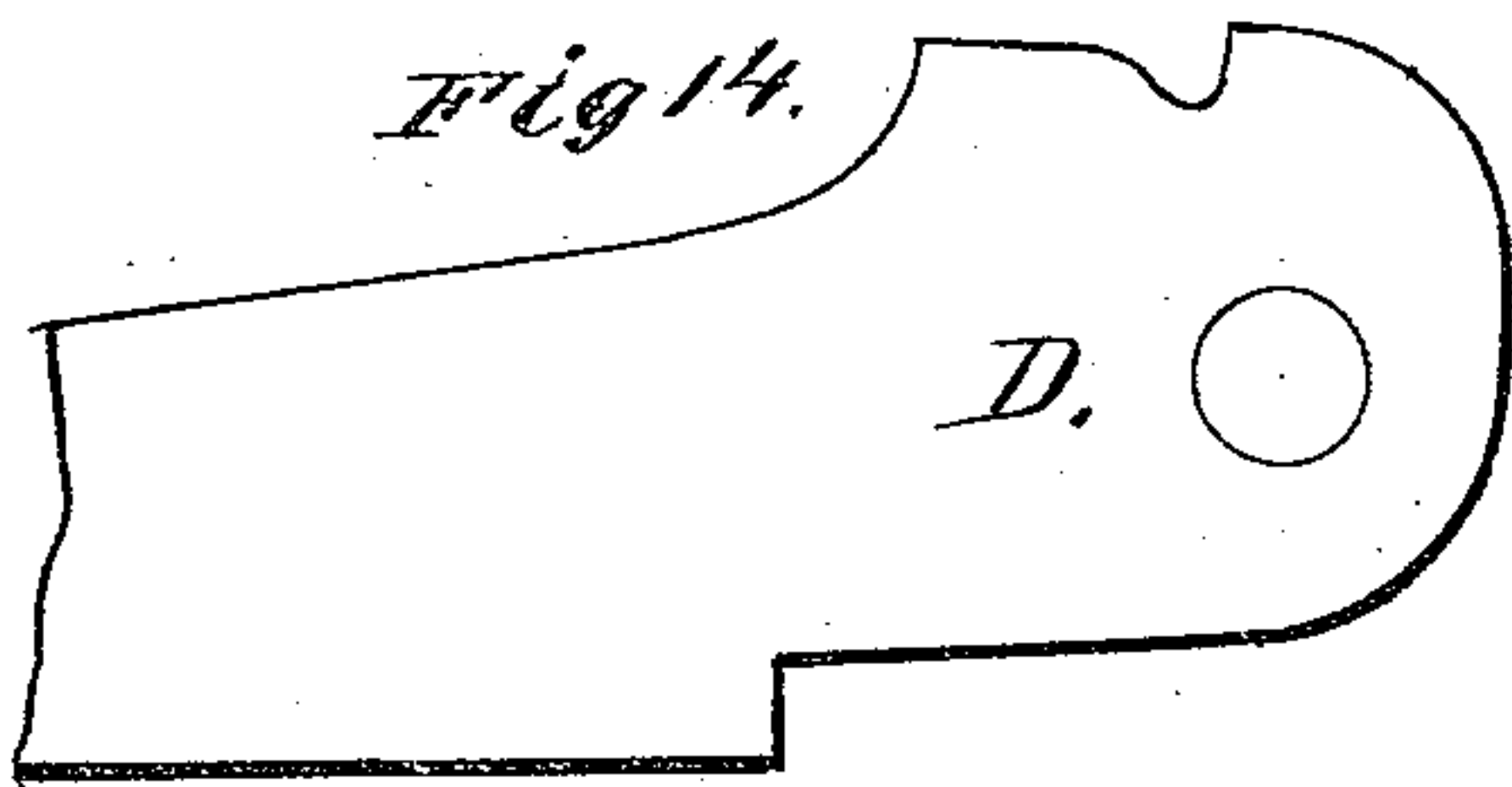


Fig 10.

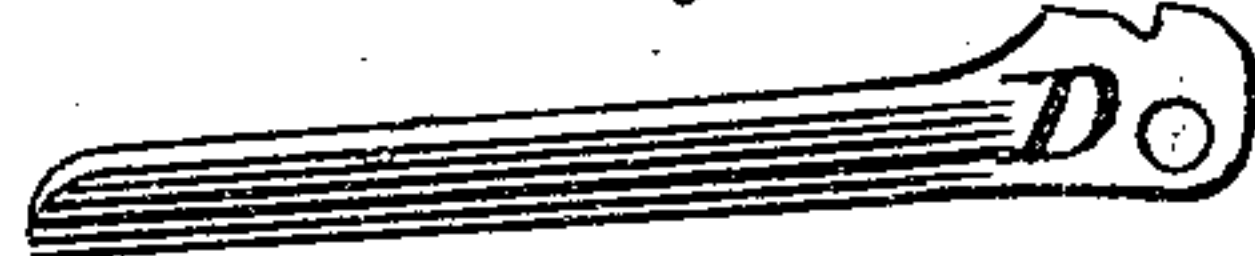


Fig 11.

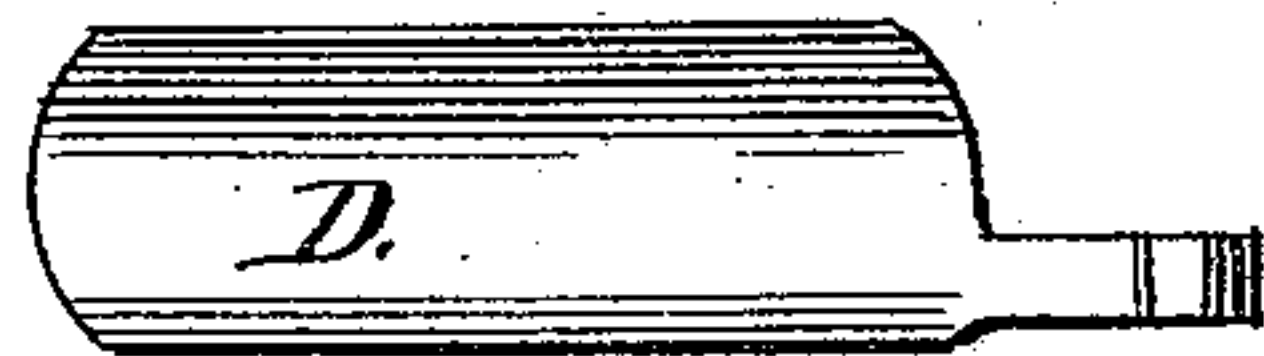


Fig. 17.



Fig. 16.



Fig. 15.

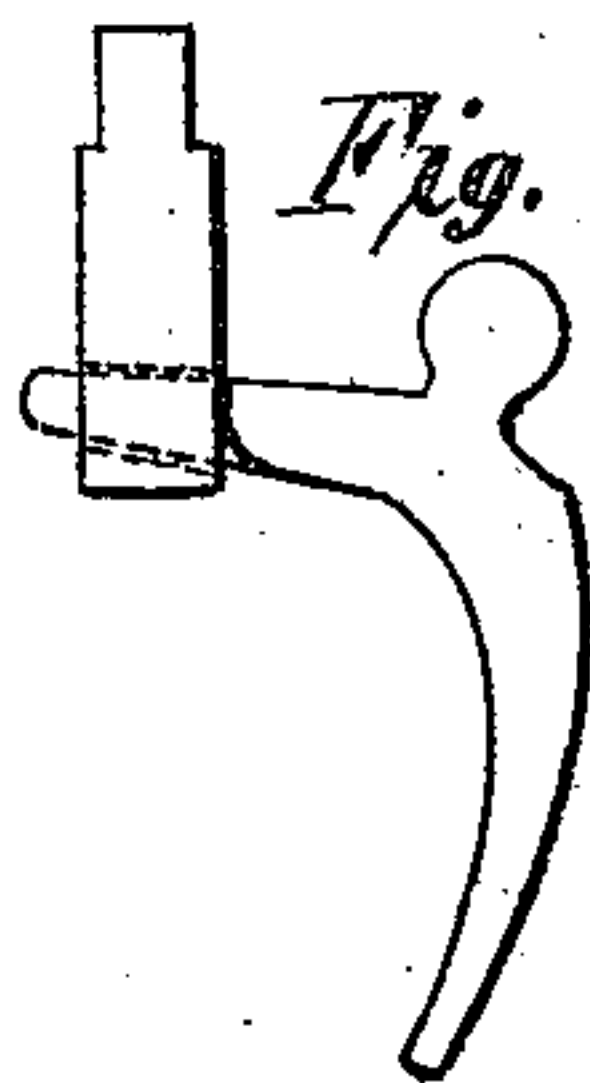


Fig. 18.

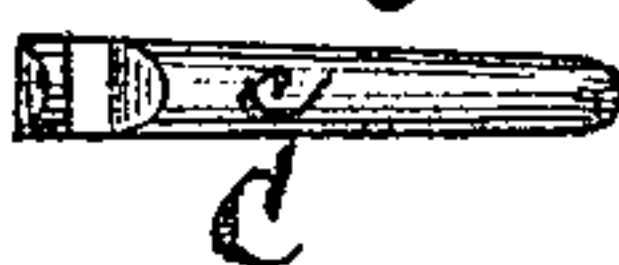


Fig 32.

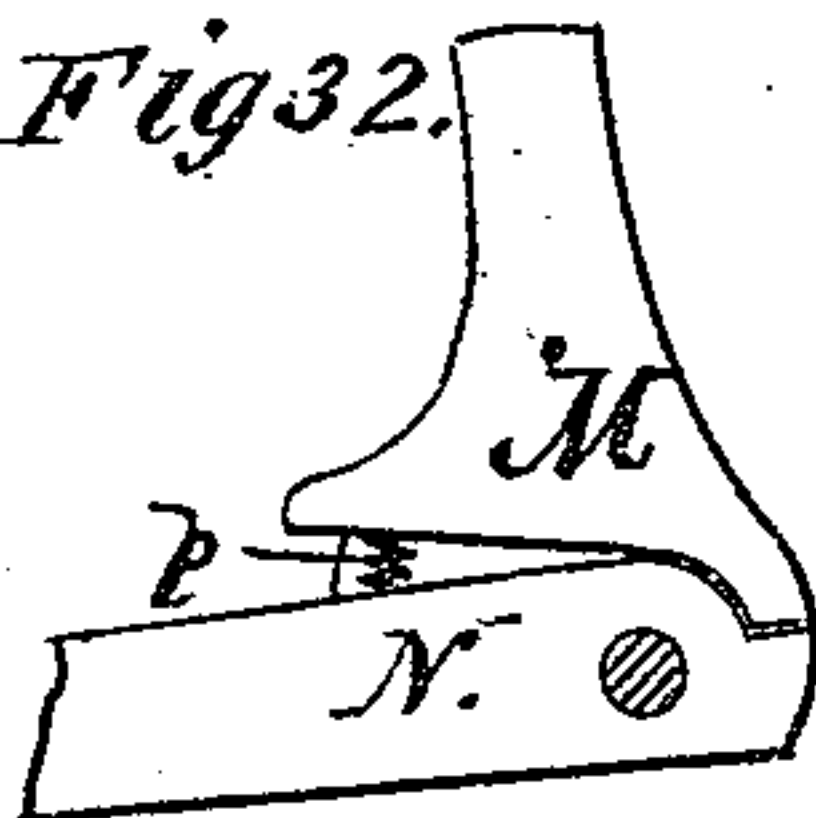


Fig. 19.

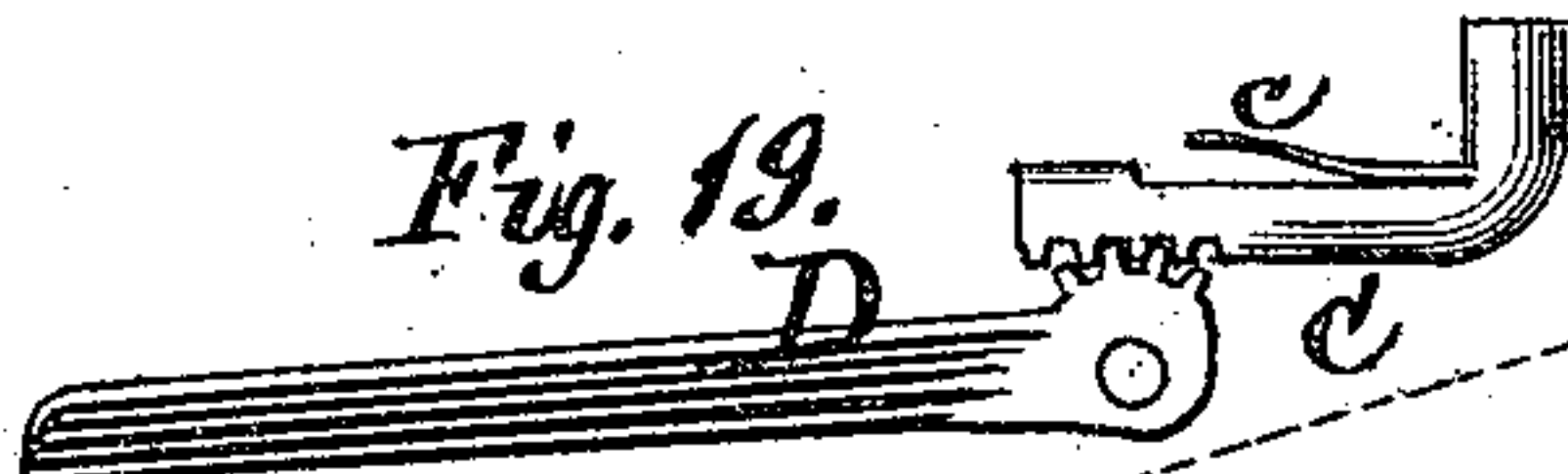


Fig. 33.

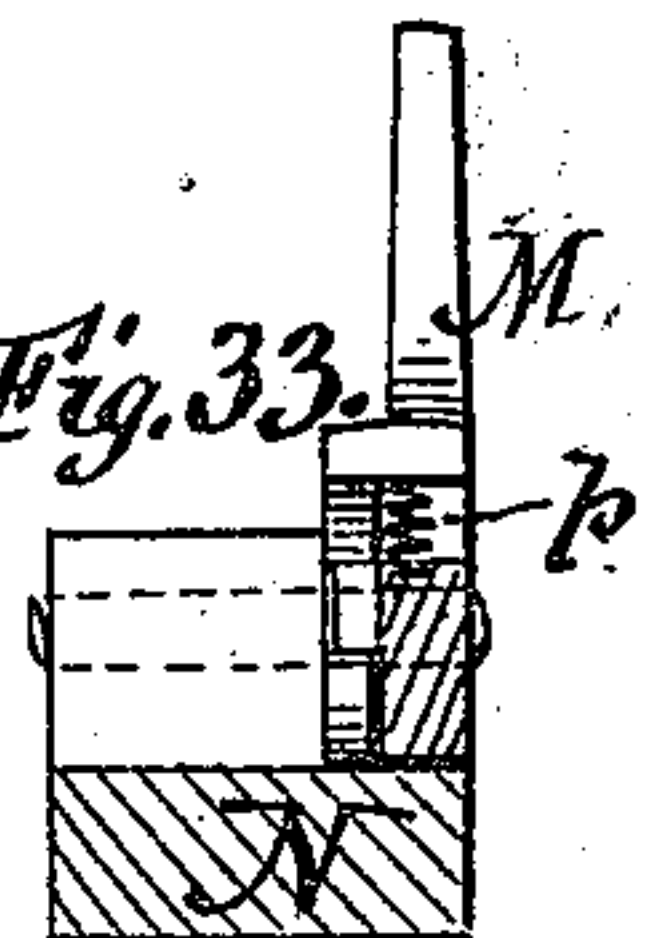
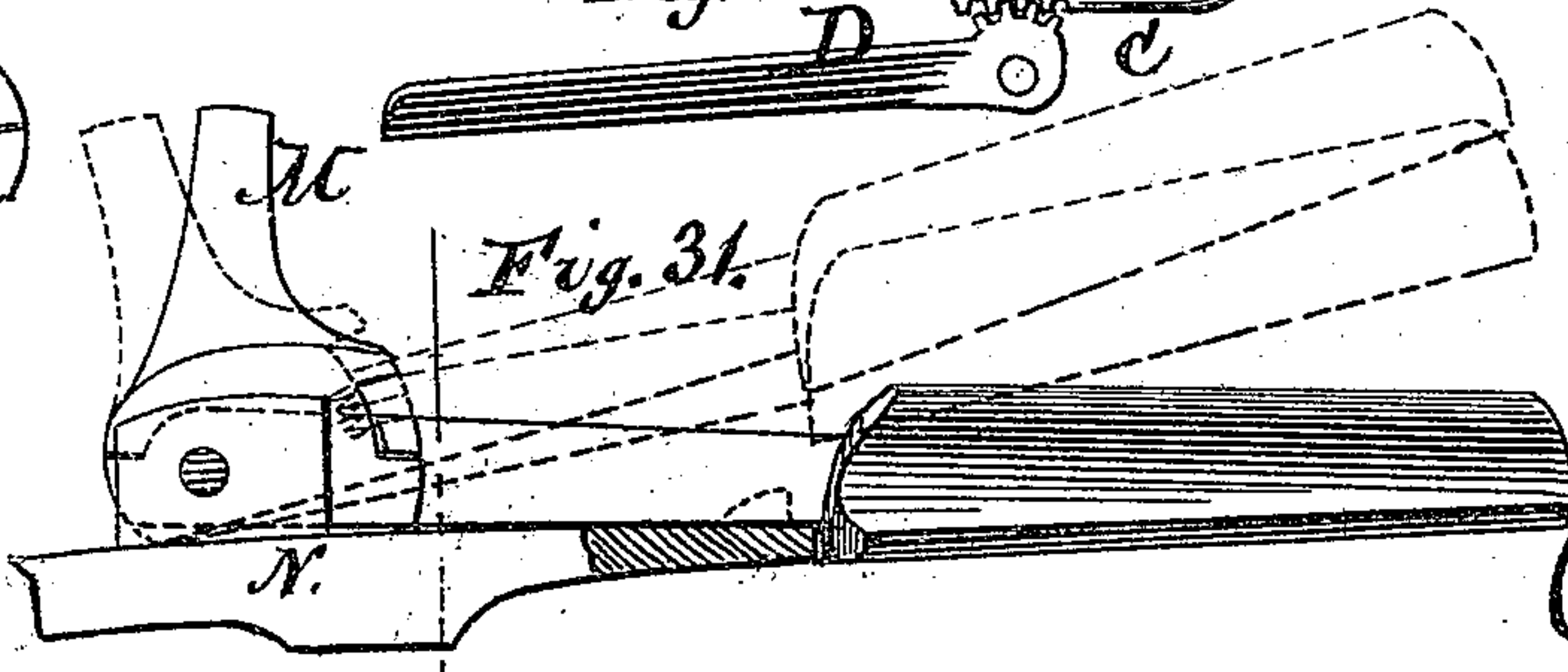


Fig. 31.



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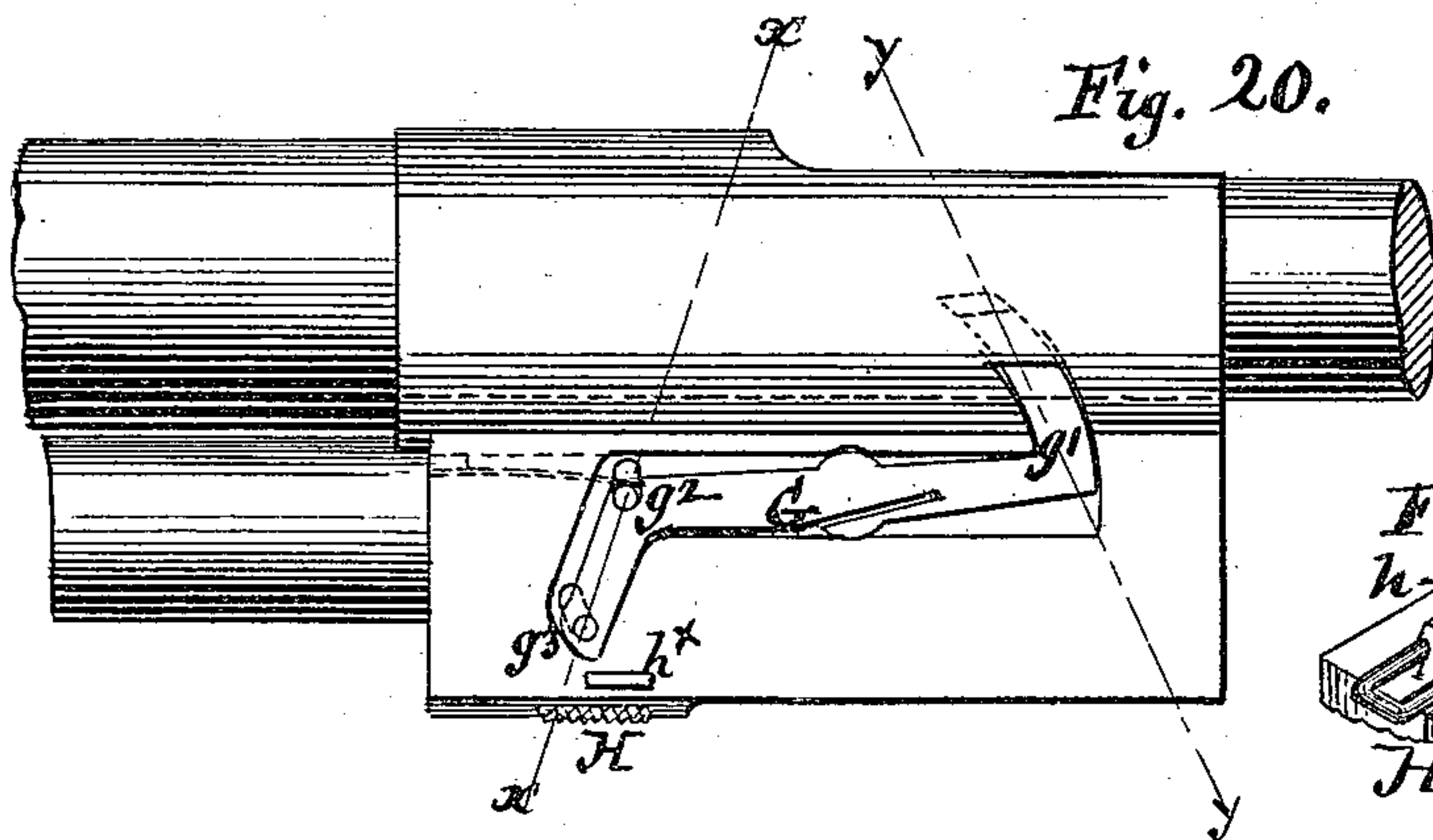


Fig. 20.

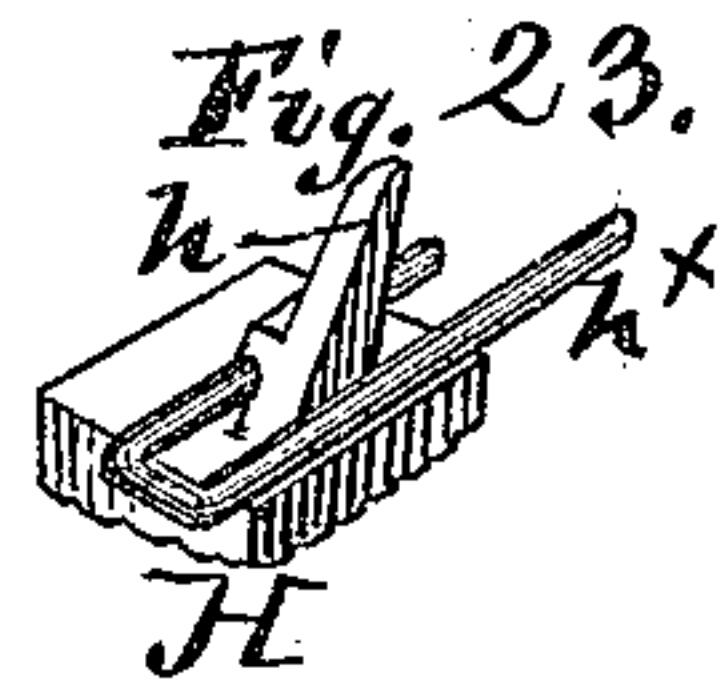


Fig. 23.

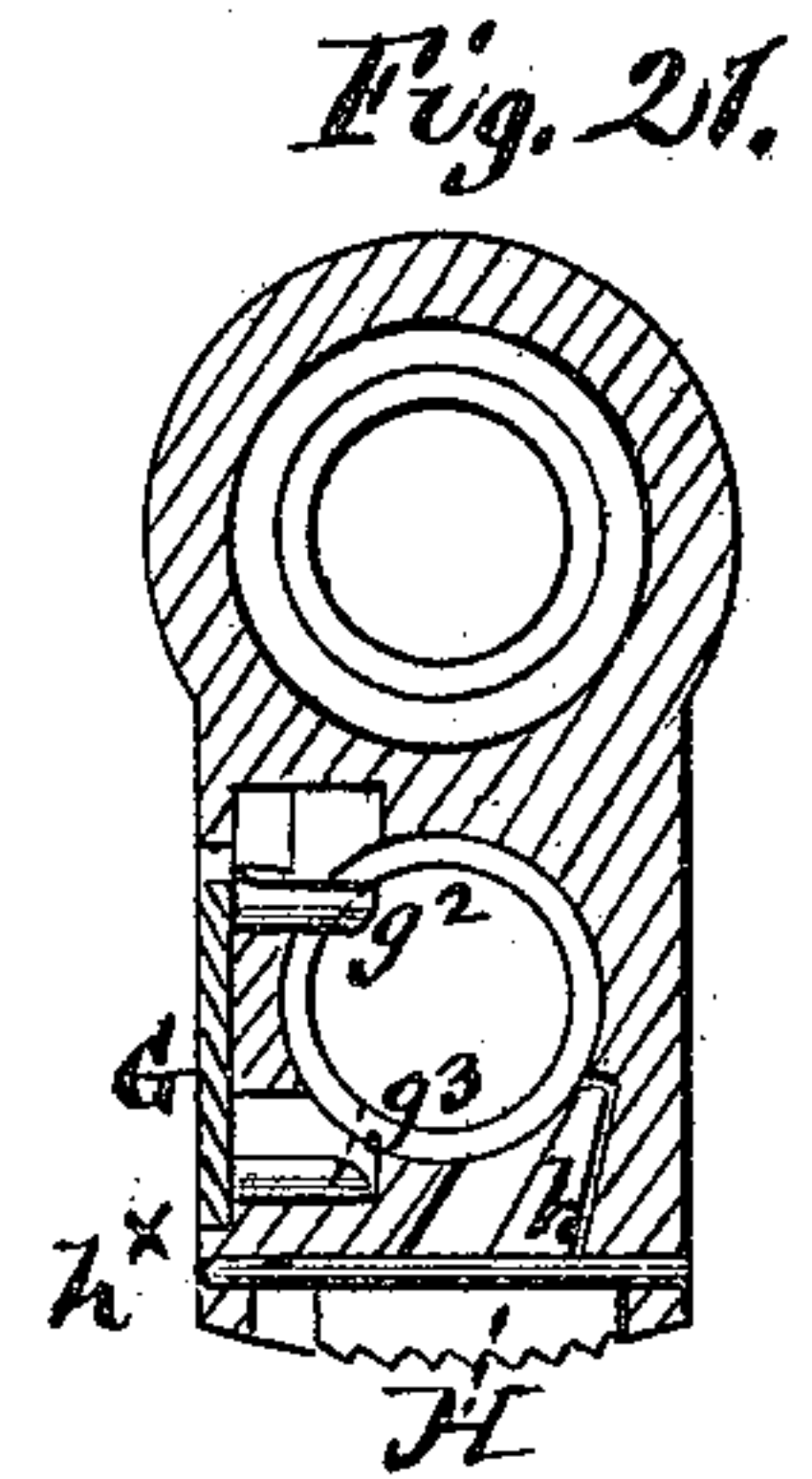


Fig. 21.

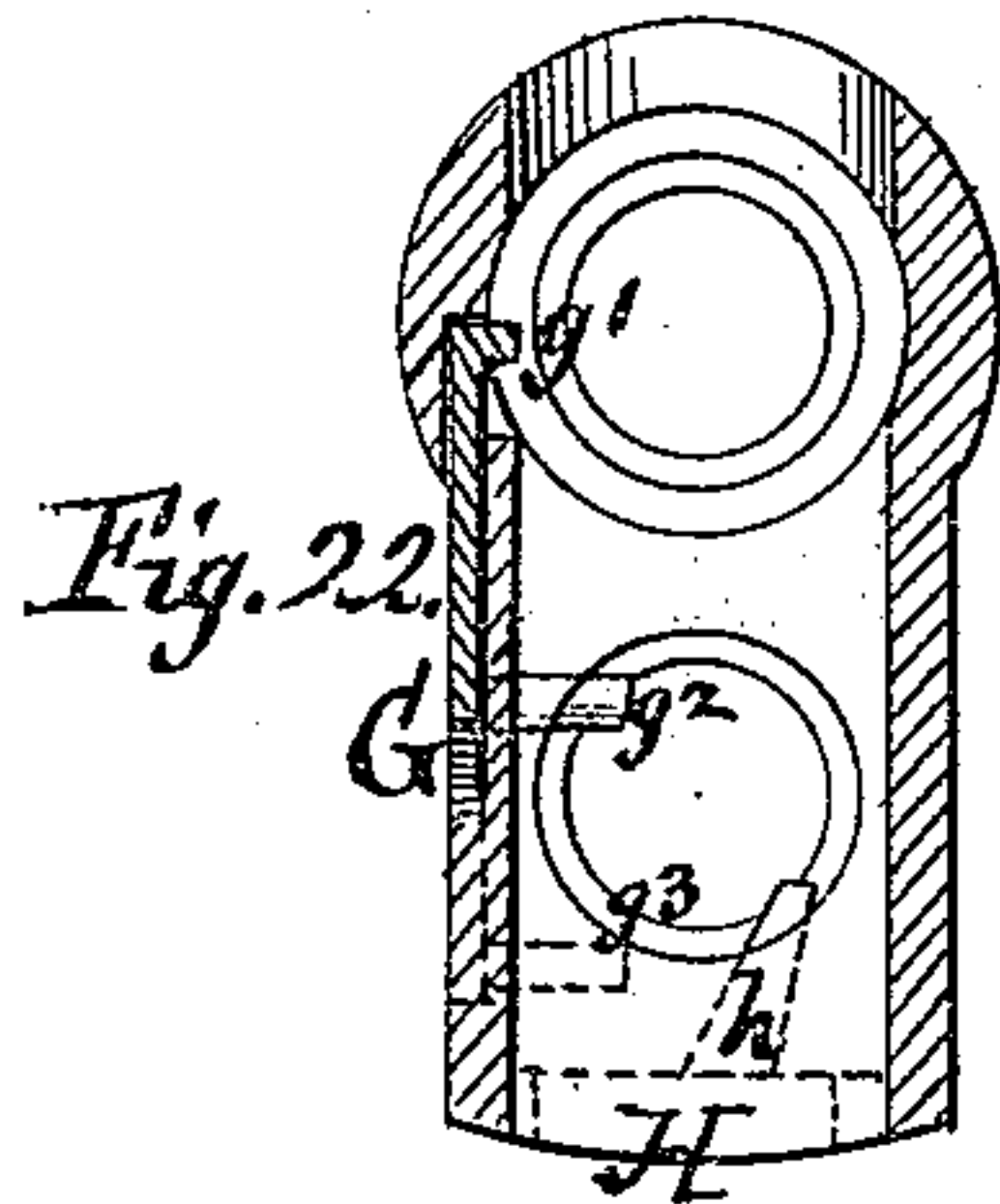


Fig. 22.

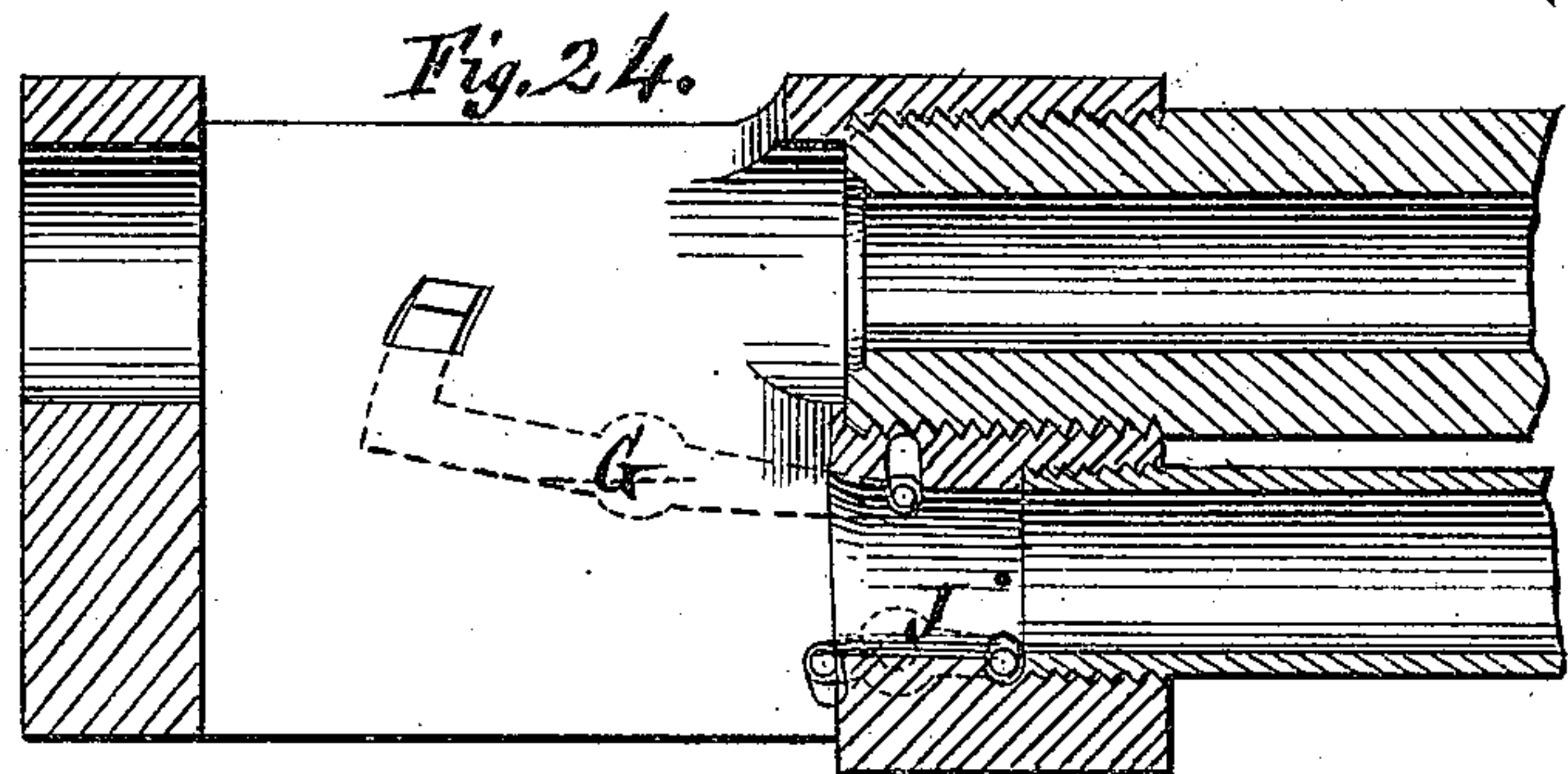


Fig. 24.

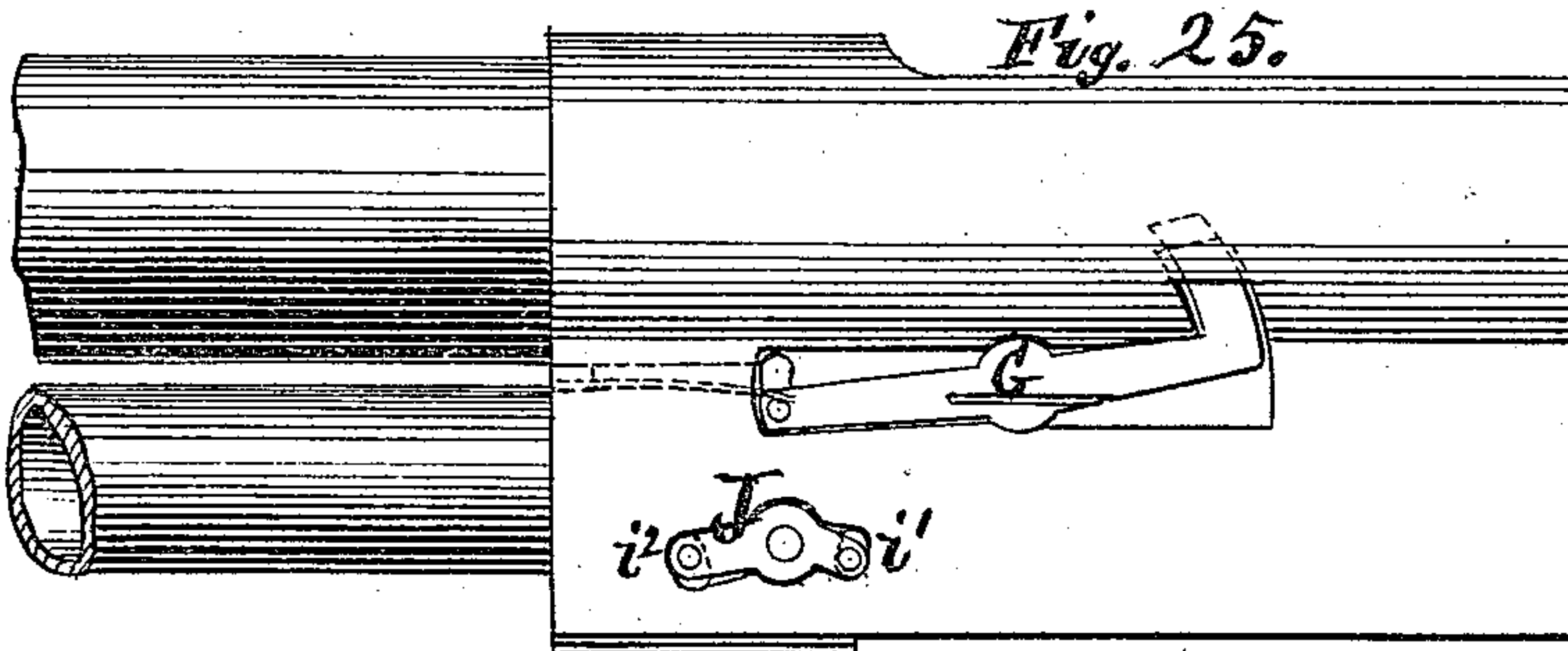


Fig. 25.

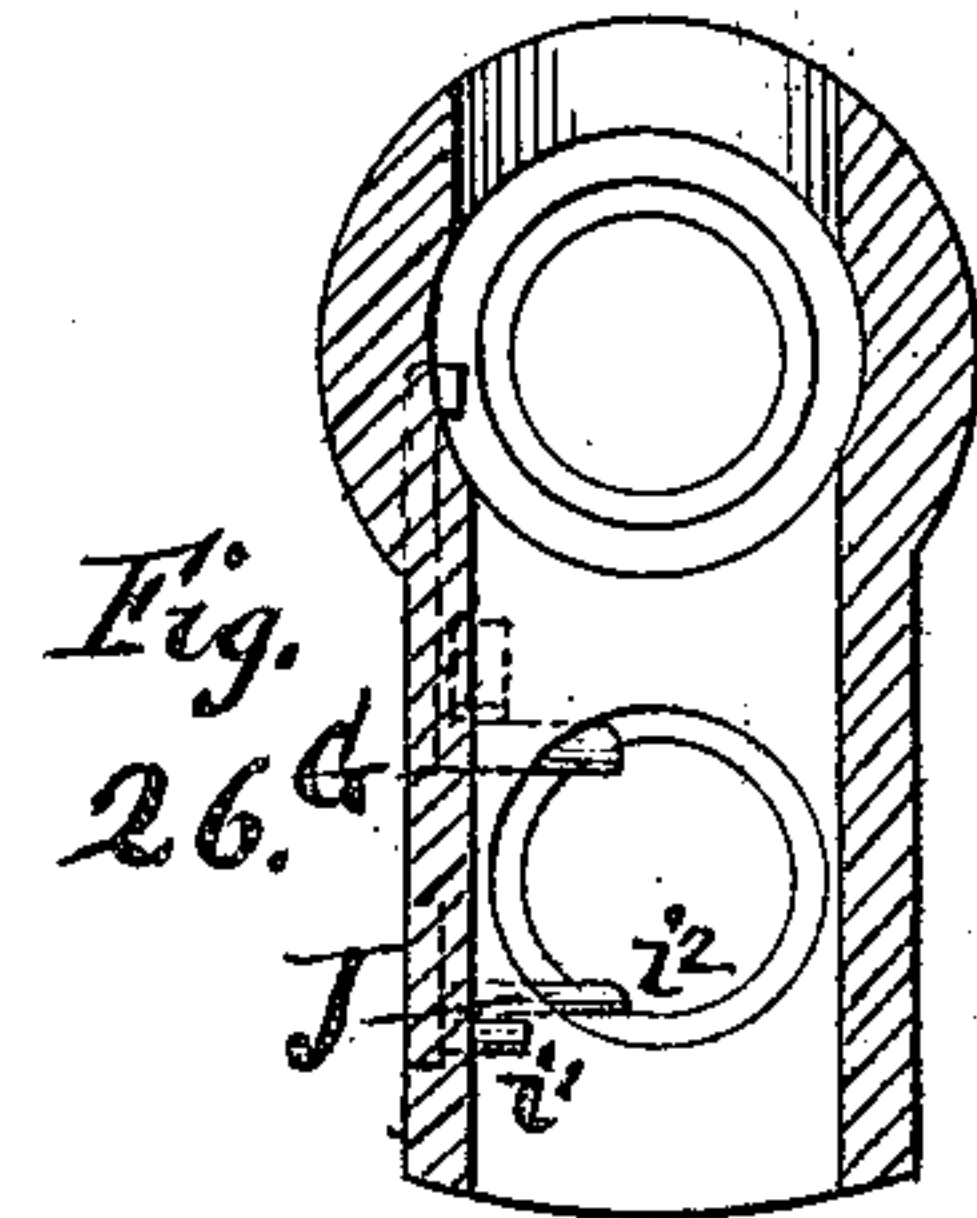


Fig. 26.

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# UNITED STATES PATENT OFFICE.

JOHN W. KEENE, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. 172,447, dated January 18, 1876; application filed October 24, 1874.

*To all whom it may concern:*

Be it known that I, JOHN W. KEENE, of Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification:

My invention relates to certain improvements on those for which Letters Patent were heretofore granted to me, to wit, No. 147,945, No. 147,946, No. 147,947, and No. 147,948, dated February 24, 1874, and No. 148,614, dated March 17, 1874.

The present invention consists in; first, a sliding elastic bar or bent lever with a hook or teeth on its front end, working parallel with the breech-bolt for operating the carrier; second, the combination of the sliding elastic bar or rack and the cam or teeth on the rear portion of the carrier for raising and lowering the carrier by the backward and forward motion of the bolt; third, the combination, with the cartridge-carrier, of a leaf pivoted thereto and provided with a spring or catch for holding it down, said leaf serving to keep the bottom of the carrier-well closed when the gun is being operated; fourth, the combination of the sliding elastic bar or lever with the carrier and the leaf pivoted thereto for throwing the carrier down and keeping the gun closed when the magazine is being charged from the bottom; fifth, the combination, with the receiver and carrier-well, made in one piece, of the carrier, trigger, and elastic bar or rack, all attached to or suspended from the receiver for securing compactness and durability.

In the accompanying drawing, Figure 1 is a side elevation of my invention, with the breech closed. Fig. 2 is a longitudinal vertical section, with the breech open and the cartridge-carrier elevated. Fig. 3 is a top view of the same, partly in section. Fig. 4 is a bottom view of the same. Fig. 5 is a transverse vertical section taken in the line *xx* of Fig. 1. Fig. 6 is a similar view in the line *yy*. Fig. 7 is a similar view in the line *zz*. Fig. 8 is a side view, and Fig. 9 a top view, of the leaf pivoted to the carrier. Fig. 10 is a side view, and Fig. 11 a top view, of the cartridge-carrier. Fig. 12 is a side view, and Fig. 13 a top view, of a carrier made in one piece, without the additional leaf. Fig. 14 is a side view on an

enlarged scale, showing the notch and cam on the rear portion of the carrier. Fig. 15 is a side view of the trigger and trigger-bolt. Fig. 16 is a rear view of the same. Fig. 17 is a side view, and Fig. 18 a bottom view, of the elastic sliding bar. Fig. 19 is a side view, showing the sliding bar and carrier constructed to operate as a rack and pinion instead of with a single hook and notch. Figs. 20, 21, 22, and 23 are views of a modification of the cut-off devices shown in my patent of February 24, 1874, No. 147,945, and March 17, 1874, No. 148,614, aforesaid. Figs. 24, 25, and 26 are views of another modification.

The breech-bolt, receiver, carrier-well, barrel, and magazine-tube are of substantially the same form and construction as in my patents hereinbefore referred to, except that the receiver B is formed with a rib, block, or extension, *b*, on its under side, to which all the working parts are attached. The trigger and its pivot are made in one piece and hung in the rear part of the extension *b*, the nose of the trigger passing into a slot in the lower portion of the trigger-bolt, which works in the receiver in the ordinary manner.

Just forward of the trigger-bolt, passing through a widened part of the extension *b*, is a sliding elastic bar or lever, C, the rear end of which is bent upward and passes through a slot in the bottom of the receiver and enters the L-shaped slot in the breech-bolt. The front end of the bar C has a hook formed on the lower side, at the front end, for engagement with a notch in the upper side of the rear portion of the carrier D, which carrier is provided with a lateral pivot which passes into the front portion of the extension *b*. The rear end of the carrier is of cam or eccentric form with relation to the pivot. The bar C is provided with a spring, *c*, shown clearly in Fig. 17, which holds it in position when moved back or forward by the bolt. Instead of the hook on the bar and the notch on the carrier, both parts may be formed with gear-teeth, as shown in Fig. 19. When the bolt is pulled back to open the breech, the engagement of the slot in the bolt with the upper end of the bar C draws back said bar and causes the hook or teeth to engage with the notch or toothed cam on the carrier and raise the carrier to the



position shown in Fig. 2. When the bolt is moved forward to close the breech the carrier is again depressed to the position shown in Fig. 1. The pivot on which the carrier D works is hollow, and through this hollow pivot passes a lateral pivot, *e*, (see Figs. 8 and 9,) on the rear end of a leaf, E, by which means the carrier and leaf are connected together, so that the leaf will lie under the carrier when in place in the gun, and keep the bottom of the carrier-well closed. The leaf is provided with a spring, *f*, for holding it down in the position shown in Figs. 1 and 2. This arrangement allows of the loading of the magazine from the bottom when the breech is closed by the bolt or breech-block, as the spring *f* allows the leaf E to be pressed in, and the spring *e* allows the bar C to yield and allow the carrier to rise; and when pressure is removed from the leaf the spring *f* forces it down, and the spring *e* forces down the bar C and causes it to depress the carrier. The leaf E is not affected by the motion of the bolt, but remains down and keeps the bottom of the carrier-well closed at all times, except when pressed inward to load the magazine from the bottom. If desired, the carrier may be made in one piece, without the leaf, in the form shown in Figs. 12 and 13.

On Sheet 3, Figs. 20, 21, 22, and 23, are represented a modification of the device for cutting off the cartridges one at a time, shown in my patent of March 17, and the device for reserving the magazine, shown in my patent of February 24. The elastic lever G is operated by the rotation of the bolt to the left, as in my patent aforesaid; but said lever is elongated and provided with an additional spur or stud protruding into the magazine-tube below and forward of the first one, so that when the rear end *g*<sup>1</sup> of the lever G is depressed by the bolt, and the front end *g*<sup>2</sup> elevated to allow a cartridge to escape to the carrier, the additional spur or stud *g*<sup>3</sup> rises in the lower part of the magazine-tube and prevents the escape of the next cartridge.

For permanently cutting off the cartridges, to reserve the magazine, a block, H, is arranged in a recess under the mouth of the tube, with a nose, *h*, extending up into the tube. The block may be held in place by a spring-key, *h*<sup>x</sup>, the form of which, with that of the block H and its nose *h*, is shown clearly in Fig. 23. This block may be moved so that the nose *h* will extend into the tube and pre-

vent the escape of the cartridges in the same manner as the device for reserving the magazine described in my patent of February 24 aforesaid.

In the modification shown in Figs. 24, 25, and 26 the lever G is operated by the rotation of the bolt to the left, in the same manner as the similar lever in my patent of March 17 aforesaid; but, instead of the pin *c* shown in said patent, I may employ a lever, J, similar in form and mode of attachment to the lever G, having a stud, *i*<sup>1</sup>, extending into the carrier-well for engagement with the carrier, and a stud, *i*<sup>2</sup>, extending into the magazine-tube to cut off the second cartridge in the same manner as the pin *c* in said patent of March 17.

What I claim as new, and desire to secure by Letters Patent, is—

1. A sliding elastic bar or bent lever, with a hook or teeth on its front end, working parallel with the breech bolt or block for operating the carrier, substantially as shown and described.

2. The combination of the sliding elastic bar or rack and the carrier, for raising and lowering the carrier by the backward and forward motion of the bolt, substantially as shown and described.

3. The combination, with the cartridge-carrier, of a leaf pivoted thereto and provided with a spring or catch for holding it down, said leaf serving to keep the bottom of the carrier-well closed, substantially as shown and described.

4. The combination of the sliding elastic bar or lever with the carrier and the leaf pivoted thereto, for permitting the carrier to be raised when the magazine is being charged through its bottom while the breech is closed, and for throwing the carrier down to close the gun, substantially as described.

5. The combination, with the receiver and carrier-well, made in one piece, of the carrier, trigger, and elastic bar or rack, all attached to or suspended from the receiver, substantially as shown and described.

6. The combination, with the rotating bolt, of the elastic lever G, provided with the projections *g*<sup>1</sup> *g*<sup>2</sup> *g*<sup>3</sup>, substantially as and for the purpose herein described.

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Witnesses:

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F. E. SKELDING.