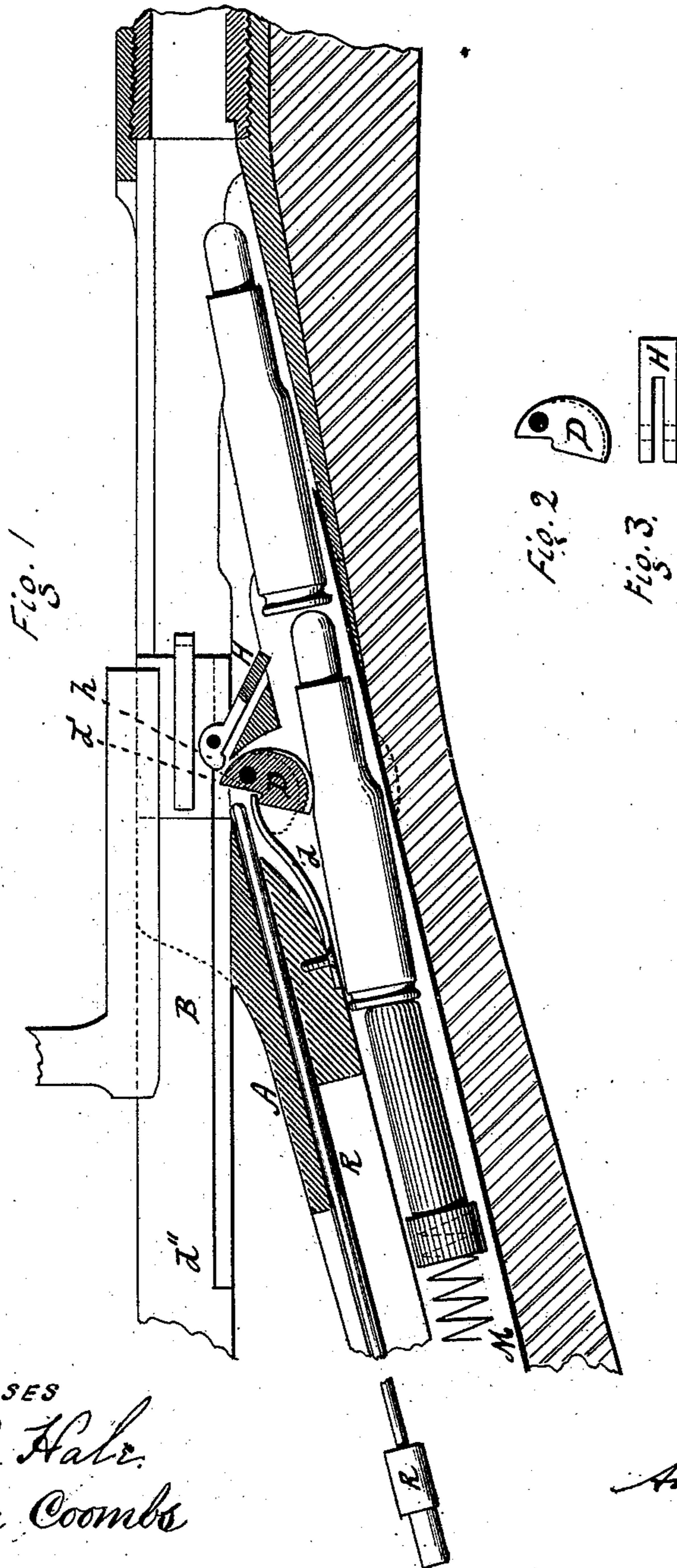


A. BURGESS.
Magazine Fire-Arm.

No. 213,869

Patented April 1, 1879.



WITNESSES
W. B. Hale.
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Fig. 4

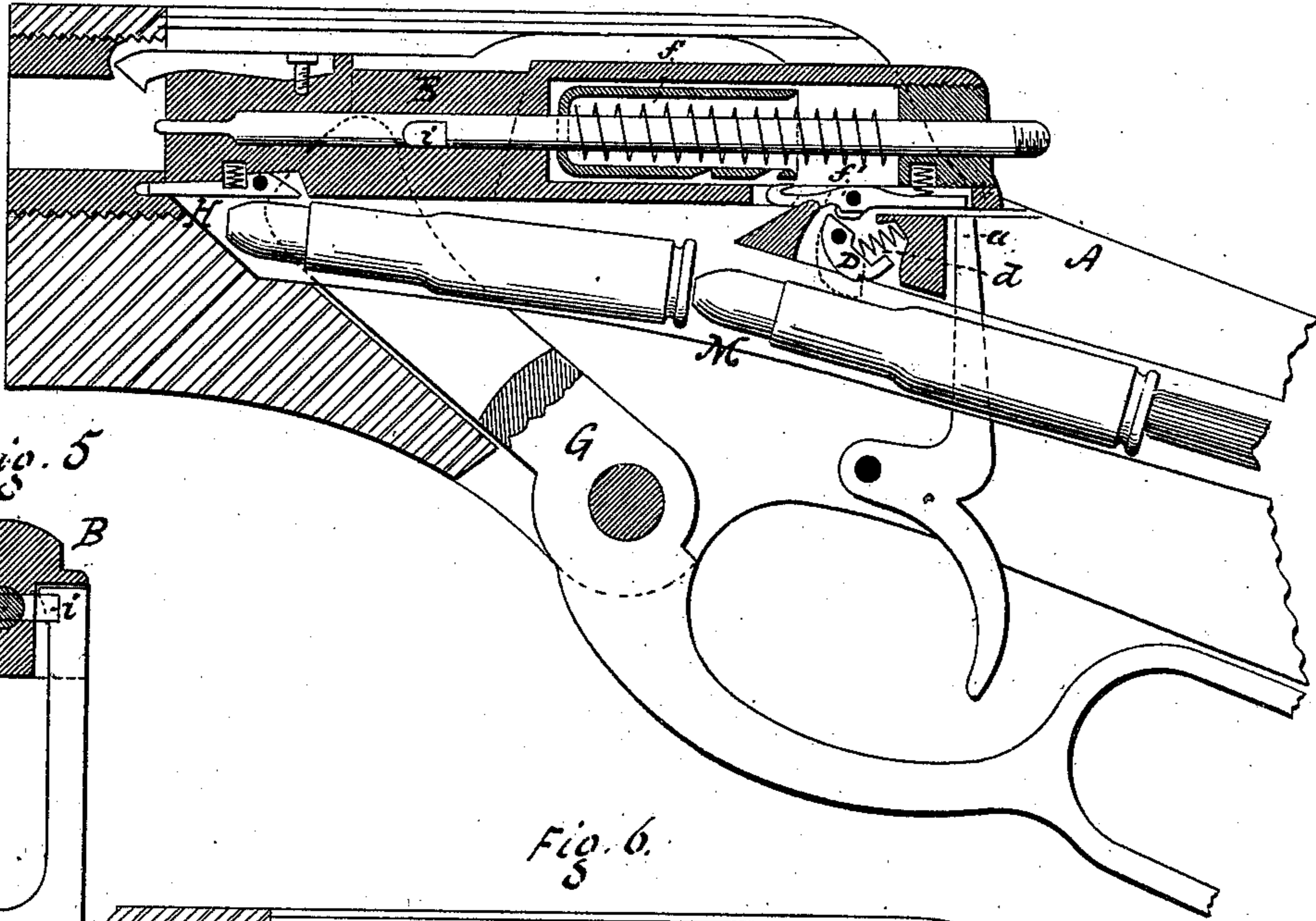


Fig. 5



Fig. 6

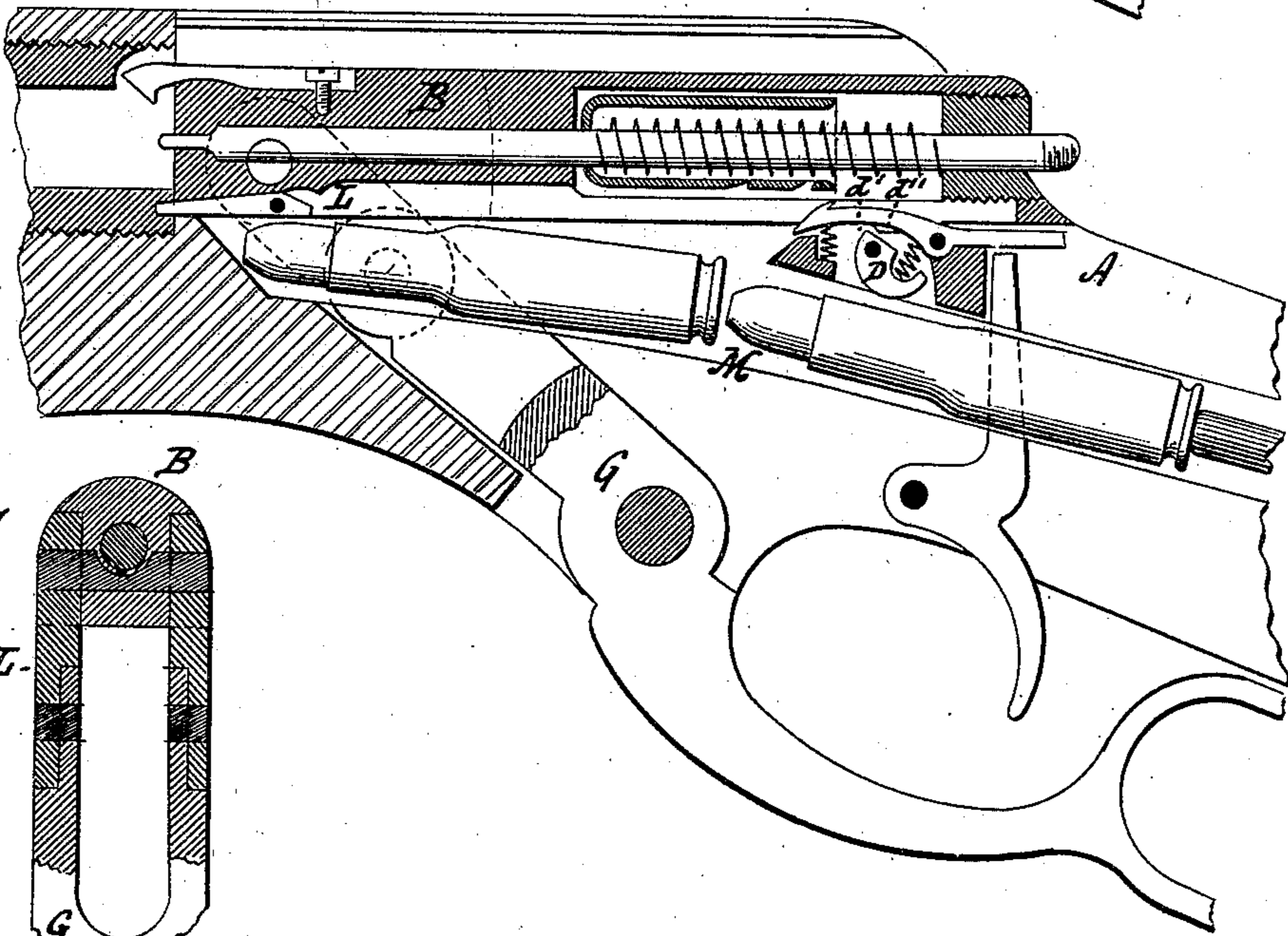
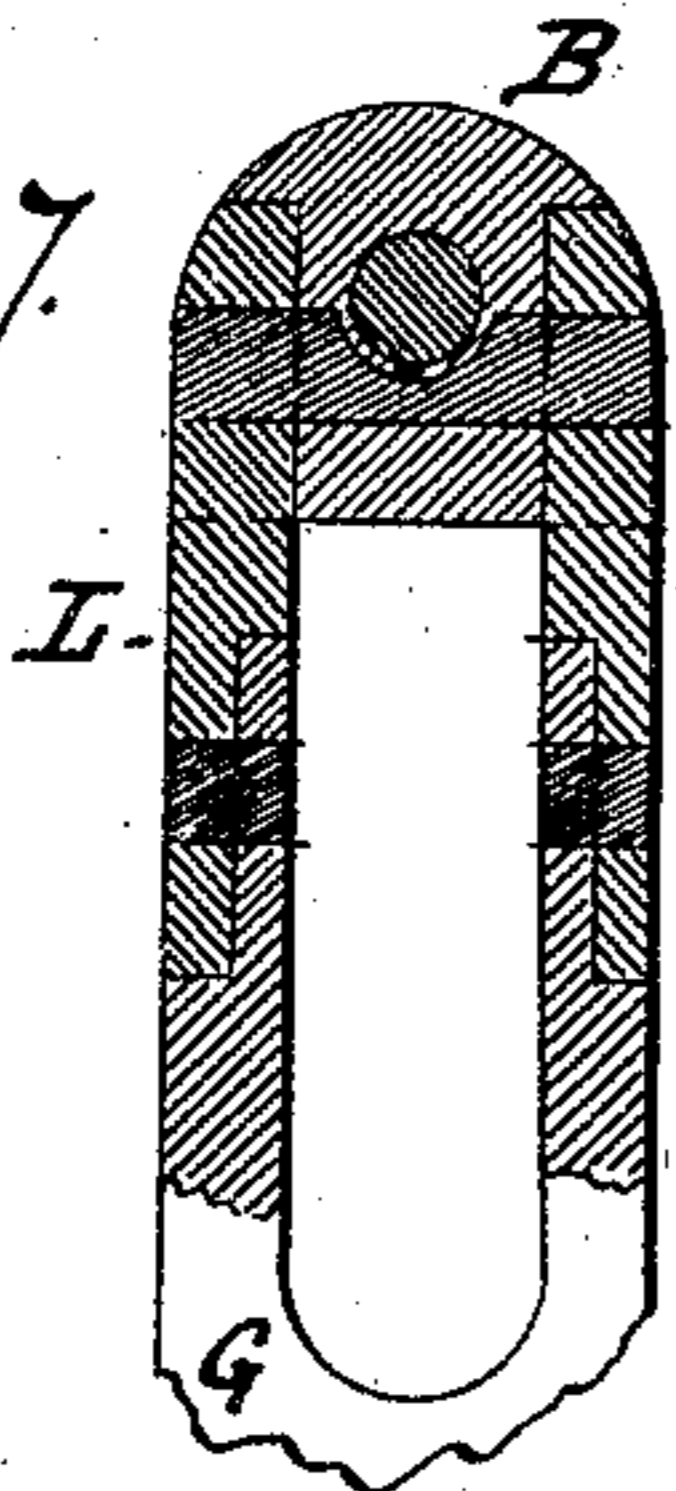


Fig. 7



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ANDREW BURGESS, OF OWEGO, NEW YORK.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **213,869**, dated April 1, 1879; application filed March 5, 1879.

To all whom it may concern:

Be it known that I, ANDREW BURGESS, of Owego, in the county of Tioga and State of New York, have invented a new and useful Improvement in Magazine Fire-Arms, of which the following, in connection with the accompanying drawings, is a specification.

My invention consists, principally, in a device to detain and regulate the cartridges as they are loaded into or fed from the magazine, together with the general arrangements and combination of parts, hereinafter more fully set forth and described.

Figure 1 is a sectional view of a bolt-gun, showing the detent in section. Fig. 2 shows the detent, and Fig. 3 the hand, detached from the arm. Fig. 4 represents a lever-bolt arm with a magazine in the butt and a similar detent. Fig. 5 shows a vertical cross-section of the bolt and firing-pin of Fig. 4 and a rear view of the forked lever G and stud *i*. Fig. 6 shows the application of parts similar to Fig. 4 in a lever-bolt gun, but in which the lever actuates the bolt by a link-connection, and Fig. 7 shows a cross-section of the bolt and firing-pin of Fig. 6, with the link L and a part of the forked lever in section.

Similar letters of reference indicate corresponding parts.

A is the receiver or frame of the arm, B the breech-bolt, M the magazine, D the detent, *d* the detent-spring, and H the loading-hand. *d'* is an arm of the detent, and *d''* is the shoulder or projection for turning the detent by engaging its arm *d'*. R is a rod, shown as a modified means of operating the detent. G is the guard-lever. *i* is a cross-stud in the firing-pin; *f*, the firing-pin cup; *f'*, the dog or sear, and *a* an arm of the trigger to engage the sear.

A magazine rises from the butt of this arm in an incline, regular or irregular, directly to the chamber of the barrel. A reciprocating bolt closes the delivery end of the magazine when said bolt is in its forward or closed position, and opens the mouth of the magazine when it is drawn back to its rearward position.

In arms of this construction a detent has been used to hold the cartridge by engaging with its projecting head, which constitutes the flange of the cartridge now in general use. To

admit cartridges with the ordinary flanges it is necessary to make the bore of the magazine much larger than the body of the cartridges to admit the flanges. This gives the body of the cartridge so much lateral play as to render the control of its movement difficult, and the great space taken up by the magazine weakens the stock, renders it clumsy, or occupies space needed for other parts of the mechanism.

My improved detent enables me to hold the cartridges and regulate their feeding without regard to their flanges, or permits the use of a much smaller magazine, while the capacity of the cartridge-shell is almost or entirely retained.

The eccentric stop or detent D is pivoted in the body of the arm, its greater radius rearward, so that, when free to rotate, the spring *d* presses its greater diameter down and forward, so that it enters the bore of the magazine to grasp the body of the cartridge, the pressure of the magazine-spring serving to tighten the grasp, as shown in Fig. 1.

To prevent the possibility of the slipping of the detent on the cartridge, I prefer to roughen or cut small teeth in its engaging-surface, or a depression in the magazine beneath the detent, as shown in dotted lines in Fig. 1, which allows a still firmer hold on the cartridge.

The detent has an arm, *d'*, opposite its eccentric part and the other side of its pivot, which, by being acted on by a projection or shoulder on the breech or firing bolt, serves to turn the eccentric part back to release the cartridge.

The breech-bolt, Fig. 1, carries a shoulder, *d''*, which can reach and turn forward the arm *d'* only in the closed position of the bolt, so that when, by means of the arm *d'*, the eccentric part of the detent is turned back and upward, as shown in dotted lines in Fig. 1, the cartridge is free to advance to a position in front of the detent, where it is again stopped by the bottom of the bolt; but when the bolt is drawn back this cartridge may spring forward into the barrel; or, at least, ahead of the bolt, to the position of the forward cartridge shown in Fig. 1, the next cartridge advancing until caught by the detent, as shown in same figure.

The breech-bolt is provided with a swinging hand, H, which is pivoted to the bottom of the bolt near its front end, its longer part extending forward of the face of the bolt. It has a short part, *h*, projecting behind its pivot, and which, by striking an obstruction in the frame as the bolt reaches its rearmost position, is forced up, depressing the forward part of the hand to its position in rear of the cartridge, as seen in Fig. 1, so that it will engage and propel the cartridge forward as the bolt advances, and will be forced up into the chamber by the inclined bottom of the magazine as the breech is closed.

By splitting the rear of the hand H and making it spring-tempered a friction-bearing is obtained, so that it will remain either up or down when not forced to a change of position.

The magazine of this arm may be loaded through the butt or by thrusting the cartridges back through the frame when the breech is open. When the cartridges are loaded in from the front they force the detent to turn back and upward; but the force of the spring *d* being constantly exerted to turn it down and forward, it will hold the cartridges in the magazine whenever their rearward part passes back of said detent, so that in charging the magazine in this manner it is not essential to thrust every cartridge its full length down the magazine.

In Fig. 4 I show this magazine and detent applied to a lever-bolt arm, in which the bolt is moved and locked by a guard-lever in a manner similar to that shown in my patent No. 210,181; but in this case a spiral spring impels the firing-pin to explode the charge. This firing-pin has a stud, *i*, projecting from it, which is engaged by the back of the locking-lever G as said lever is vibrated to unlock the breech. This act moves the firing-pin back so far that by the time the end of the lever is turned entirely from under the locking-segment of the breech-bolt the full-cock notch in the firing-pin cup *f* will be engaged by the sear *f'*, so that when the bolt becomes free to move back the lock will be at full-cock. The sear *f'* is pivoted to the bolt so as to move with it, and the cup *f* is rigidly attached to the firing-pin. An arm, *a*, extends upward from the trigger to disengage the sear when the trigger is pulled.

As a modified means of operating the detent to release the cartridge I show a rod, *r*, in Fig. 1, which I extend back to project through the butt-plate of the arm, so that when pressed against the shoulder in the act of firing it is

thrust forward to turn the detent; also, by making this rod heavy or weighting it the recoil of firing will start the arm back so quickly that the detent, by being resisted by the inertia of said rod, will be turned to release the cartridge. The detent is here shown pivoted between the bolt and magazine, but it operates as well on one or both sides of the magazine. In some cases I prefer to fix one ahead of the other on each side to operate alternately or directly opposite to grasp the cartridge between them.

I also locate the detent below the magazine when I wish to release the cartridge from its grasp by the opening instead of the closing of the breech. In this case an arm is extended from the side of the eccentric part of the detent and curved upward around the side of the magazine so far that it may be engaged by the bolt or a projection thereon.

The shoulder *d''* may be on the firing-bolt, so that it shall strike the arm of the detent to release the cartridge by force of the main-spring when the arm is fired.

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

1. The combination, with a magazine-tube, of a cam or eccentric pivoted outside the tube, so as to permit the ready insertion of a cartridge from one direction, but to grasp and hold the cartridge by its eccentric surface when the cartridge is pushed in the other direction, substantially as shown and described.

2. The combination, with a magazine-tube, of a cam or eccentric pivoted outside the tube, as described, and a breech-block operating to trip the cam in one direction, as set forth.

3. A pivoted cam, arranged to project into the magazine, a reciprocating bolt with a shoulder, *d''*, to engage and trip said cam, and a spring, *d*, to press said cam down when released by the bolt, the parts being arranged for operation substantially as shown and described.

4. The hand H, pivoted to the bolt and having the friction-bearing described, in combination with a ledge or projection in the frame, against which an arm on the hand strikes on withdrawing the bolt to turn down its forward end, substantially as specified.

ANDREW BURGESS.

Witnesses:

VINTON COOMBS,
W. B. HALE.