(No Model.) 2 Sheets—Sheet 1.

W. H. DAVENPORT.

SHELL EJECTING DEVICE FOR FIREARMS.

No. 592,239. Patented Oct. 26, 1897.

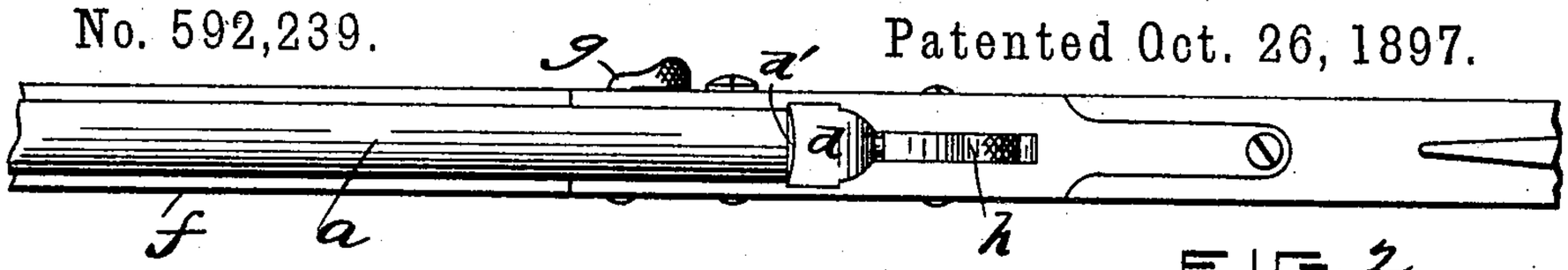

FIG. 2.

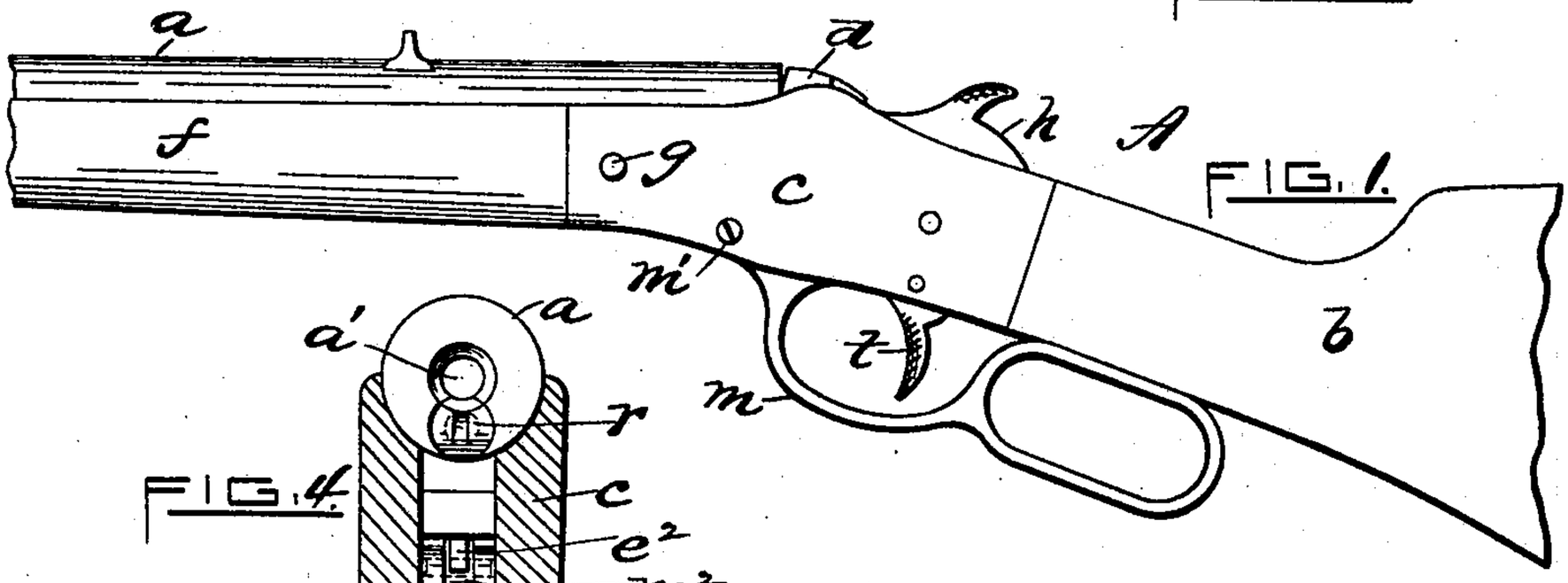

FIG. 1.

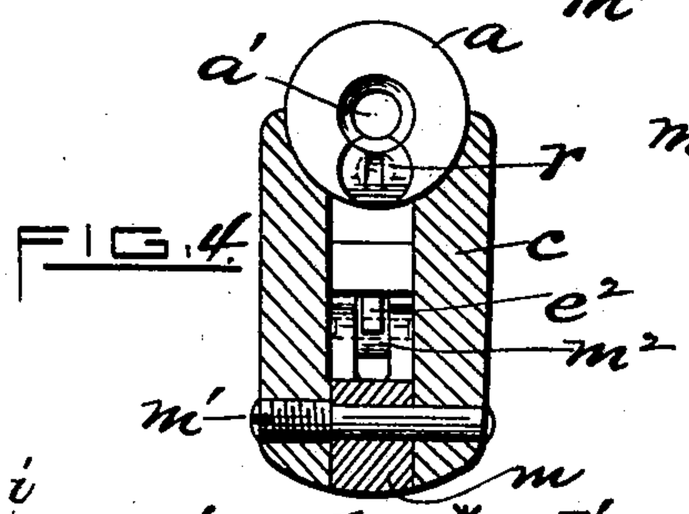

FIG. 4.

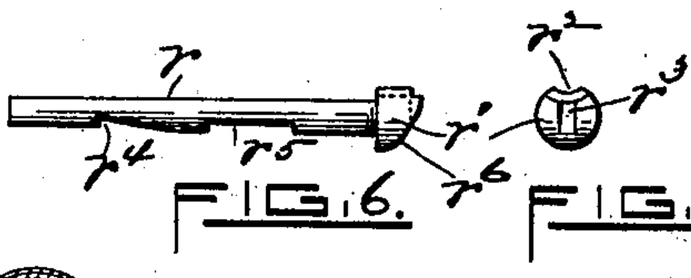

FIG. 6. FIG. 7.

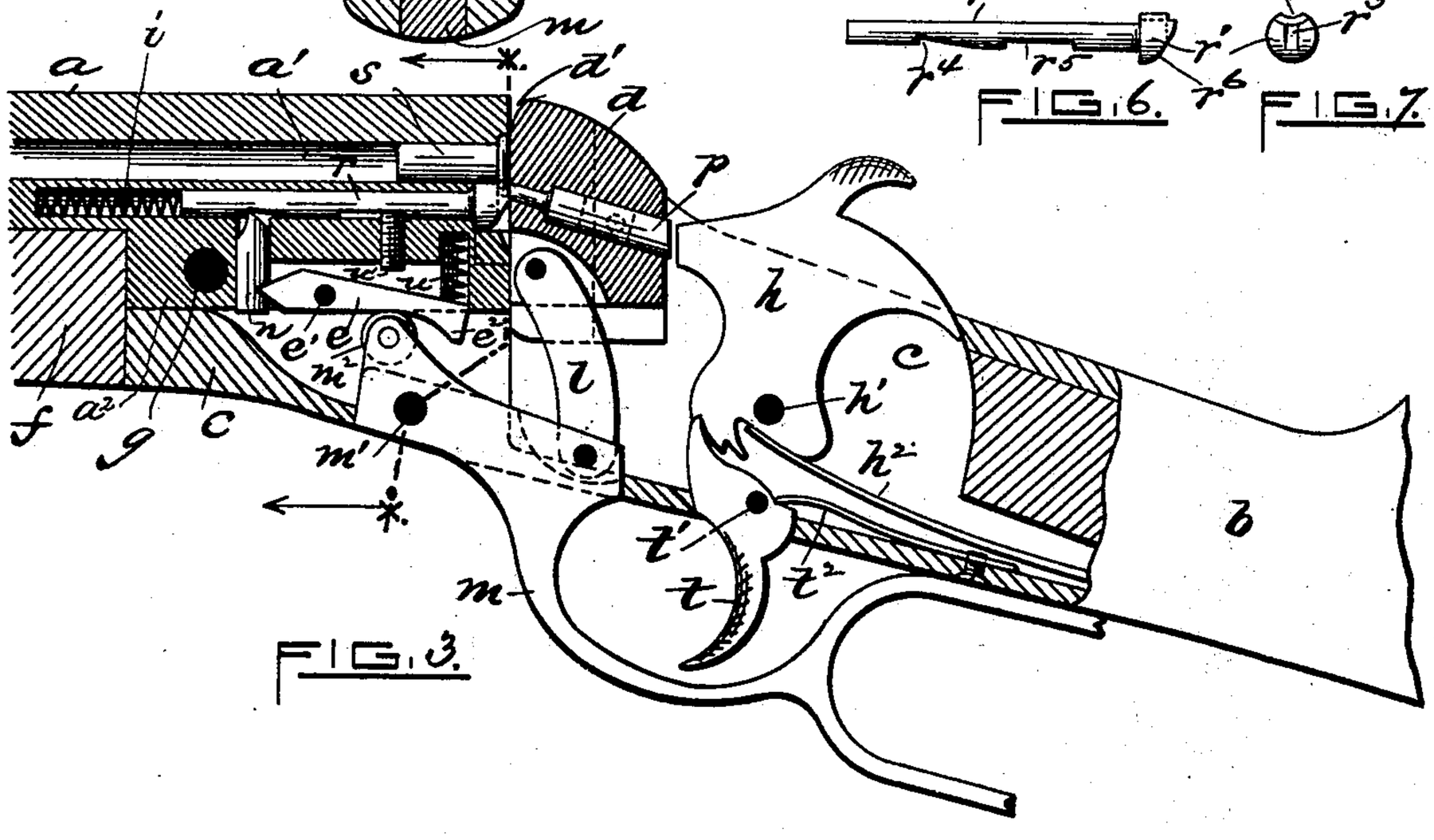

FIG. 3.

WITNESSES:

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Pennington Sherman

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Atty.

(No Model.) 2 Sheets—Sheet 2.

W. H. DAVENPORT.

SHELL EJECTING DEVICE FOR FIREARMS.

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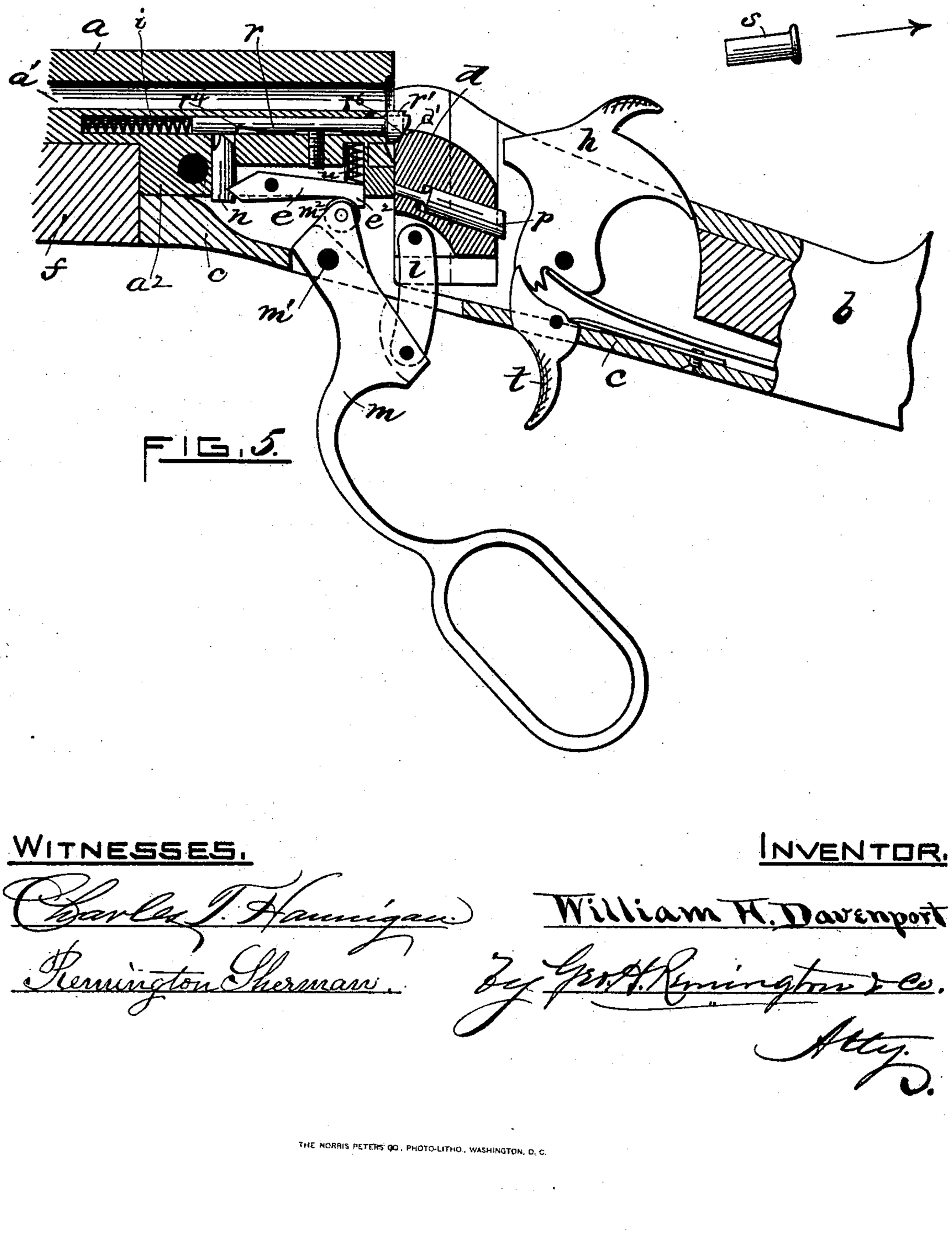

FIG. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM H. DAVENPORT, OF NORWICH, CONNECTICUT.

SHELL-EJECTING DEVICE FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 592,239, dated October 26, 1897.

Application filed March 29, 1897. Serial No. 629,636. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DAVENPORT, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Shell-Ejecting Devices for Rifles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved shell-ejecting device for rifles; and it consists, essentially, in the combination of a spring-resisted ejector-rod, means for automatically locking the latter in position after it has been returned to its seat by the action of the vertically-movable breech-block in closing the barrel, and a swinging guard-lever connected with said breech-block adapted to automatically release the said locking mechanism at substantially the same instant that the breech-block is dropped to its lowermost position, all as hereinafter set forth and claimed.

The object I have in view is to provide rifles or small-bore shotguns with a positive-action shell-ejecting device, the same being actuated and controlled by the movements of the guard-lever, as in opening and closing the barrel, the device being comparatively inexpensive and not liable to become inoperative.

In the accompanying two sheets of drawings, Figure 1 is a side elevation of a rifle embodying my improvement, portions of the barrel and stock being omitted. Fig. 2 is a plan view. Fig. 3 is a longitudinal central section, on enlarged scale, taken through the frame and the adjacent portions of the rifle, the parts being in the normal position. Fig. 4 is a transverse section taken on line x x of Fig. 3. Fig. 5 is a sectional view similar to Fig. 3, showing the breech open and the ejector in the act of discharging the empty shell from the rifle. Fig. 6 is a side view of the ejector-rod detached from the rifle, and Fig. 7 is an end view of the same.

A in the drawings indicates my improved rifle. The barrel a, fore-wood f, stock b, frame c, hammer h, hammer-spring h^2, trigger t, and its spring t^2 are all constructed substantially as usual in firearms of this class. The under side of the barrel is provided with a lug a^2, let into the said frame c, and having a pin or screw-key g passing transversely through both, thereby securing the barrel to the frame, also as common.

The breech-block d is located between the rear end of the barrel and hammer. It is fitted to slide vertically in grooves or ways formed in the frame c. The said block carries a firing-pin p, mounted to move endwise therein, substantially as usual. The block is actuated by means of the swinging guard-lever m, a connecting-link l being jointed to both the said members for the purpose.

The barrel is drilled longitudinally below the bore a' to receive the ejector-rod r, the head r' thereof being enlarged and cut away on top at r^2 to receive the rim of the shell or cartridge s. A spring i bears against the forward end of the rod for the purpose of forcing the latter outwardly when the block is dropped, as in opening the rifle. The rod r is flattened or slotted on its under side at r^5 to receive the end of the vertical screw-pin u', thereby preventing the rod from turning. The rod is provided with a notch r^4, formed forward of said flattened portion r^5, adapted to receive the beveled end of the locking-pin n, mounted in the lug a^2.

The lower side of the lug a^2 is cut away longitudinally to receive the lever e, the latter being mounted on a transverse pivot e' and in continuous engagement with a V-shaped notch formed in the locking-pin n, as clearly shown. The rear end of the lever e has an enlargement e^2 on its under side, adapted to contact with the corresponding portion of the guard-lever m, soon to be described. By means of a spring u, bearing upon the top of the lever e, the latter maintains the pin n in normal engagement with the said notch r^4 of the ejector.

The guard-lever swings on a pin m', passing transversely through the lower part of the frame c. The upper end of the head portion of the guard-lever is provided with a free-turning roller m^2, located in the plane of and in engagement with the under side of the spring-pressed lever e, as shown. By means

of this construction the guard-lever when dropped to its limit, as shown in Fig. 5, slightly elevates the rear or free end of the lever *e*, thereby at the same time withdrawing the pin *n* from the notch formed in the ejector-rod.

The face of the breech-block is beveled at the top at *d'*, the head of the rod *r* being correspondingly beveled, as shown at r^6. This arrangement forms a stop for the ejector when the block is dropped to its limit, and it offers a comparatively small resistance or degree of friction in returning the ejector to its seat in the barrel upon elevating the block to the normal position.

In a rifle provided with my improved shell-ejecting device the relation of the parts when in the normal position is shown in Fig. 3; the shell, say, having been exploded by the action of the hammer and firing-pin, the latter as drawn being adapted to "rim-fire" shells. The parts are so timed that upon dropping the breech-block, through the medium of the guard-lever, the face of the former passes the head of the ejector and uncovers the bore of the barrel at substantially the same instant that the roller m^2 of the guard-lever causes the lever *e* to withdraw the pin *n* from the notch of the rod *r*, thereby releasing the latter, when now the pressure of the spring *i* forces the ejector rearwardly until arrested by the block and at the same time throwing the empty shell from the barrel with considerable force.

It will be seen, referring to Fig. 5, that the angular movement of the guard-lever in opening the breech is comparatively small. Therefore it can be operated with greater rapidity. In order to protect the small or front end of the firing-pin *p* while the block is being worked back and forth, as in opening and closing the rifle, I cut a small vertical groove r^3 in the face of the head *r'* of the ejector (see Fig. 7) for the free passage of that part of the firing-pin.

I claim as my invention—

1. In a rifle of the class hereinbefore set forth, provided with a vertically-movable breech-block, a guard-lever connected therewith and the usual firing means, the combination therewith of the shell-ejecting device hereinbefore described, the same consisting of the spring-pressed ejector rod or member *r* mounted in the barrel, and means attached to or integral with said guard-lever adapted to automatically release the ejector while the lever is being dropped, as an opening in the rifle.

2. In a breech-loading rifle, a vertically-movable breech-block having its upper end or face contiguous to the barrel beveled at *d'*, in combination with the ejector *r* having its head or rear portion adapted to engage said beveled part of the block and forming a stop therefor when the barrel is open, a spring bearing against the forward end of the ejector, a locking-pin in engagement with the ejector member, and a swinging guard-lever connected with the breech-block and arranged to trip or release the ejector, substantially as hereinbefore described.

3. In a breech-loading firearm, the combination with the vertically-movable breech-block and firing-pin movably mounted therein, of a shell-ejecting device embodying a rod, *r*, having its rear end adapted to receive the rim of the shell *s*, and being vertically grooved to permit the passage of the forward end of the said firing-pin, substantially as described.

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

WILLIAM H. DAVENPORT.

Witnesses:

GEO. H. REMINGTON,

REMINGTON SHERMAN.