(No Model.)

W. H. DAVENPORT.

BREECH LOADING FIRE ARM.

No. 406,031. Patented July 2, 1889.

FIG. 1.

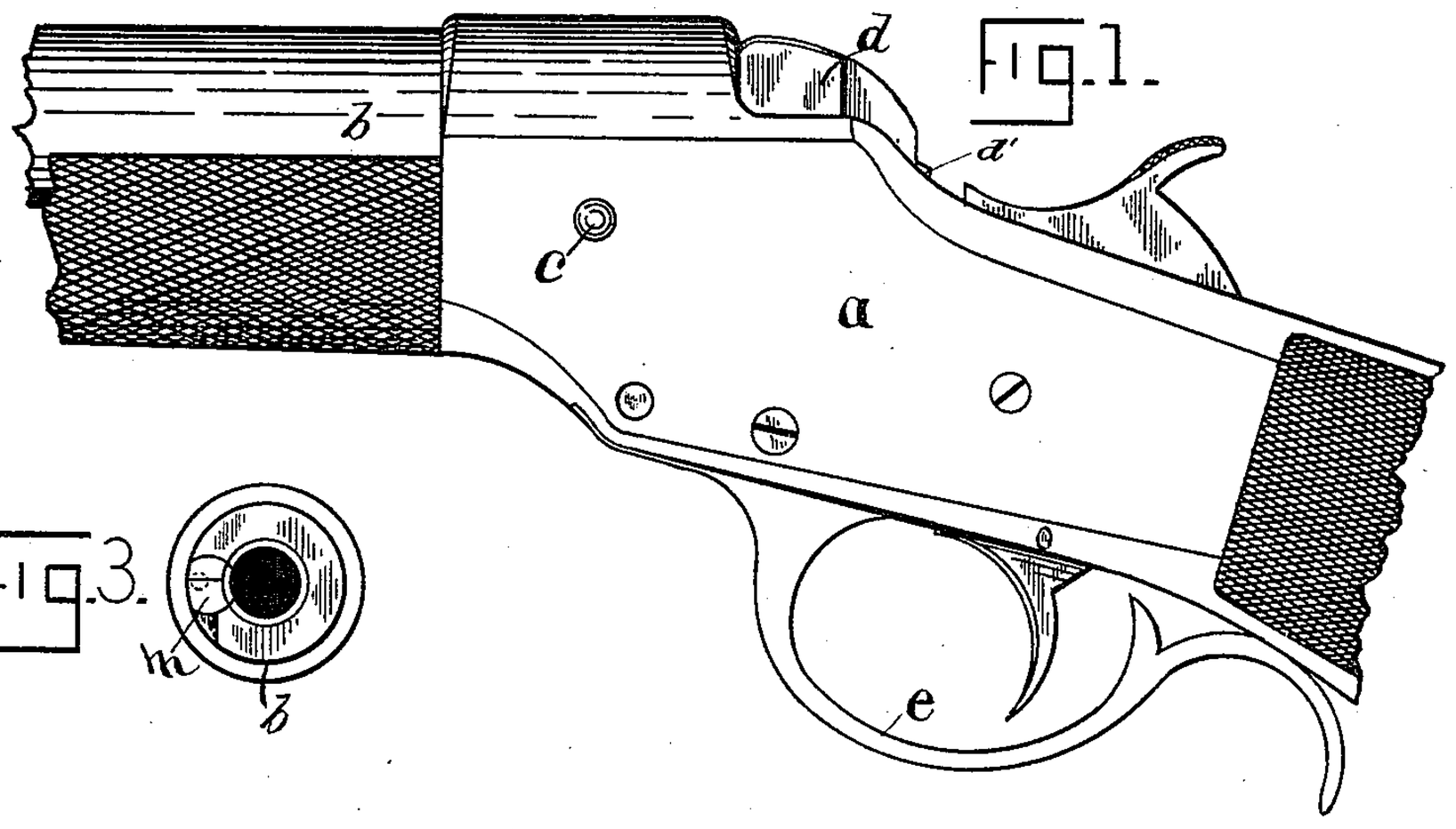

FIG. 3.

FIG. 2.

FIG. 4.

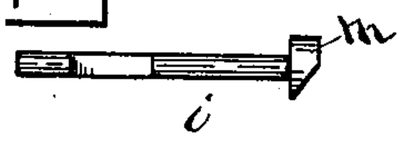

FIG. 5.

FIG. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. DAVENPORT, OF NORWICH, CONNECTICUT.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 406,031, dated July 2, 1889.

Application filed November 24, 1888. Serial No. 291,740. (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 Fire-Arms, which improvements are fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings.

This invention is in the class of arms including rifles and shotguns in which the barrel is removably attached to the breech-frame, said invention having particular reference to the device for ejecting the empty cartridge-shells after firing, and to the mechanism for operating said ejecting device, my object being to provide inexpensive but positive mechanisms that may automatically adjust themselves, or be readily adjusted, to receive and coact with barrels of different calibers, and also to allow the use of either rim-fire or center-fire cartridges. With these objects in view I have produced the mechanisms illustrated in the annexed drawings, in which—

Figure 1 is a side face view of the breech-frame and a portion of the attached barrel of an arm embodying my improvements. Fig. 2 is a similar view of said frame cut away in part to expose the breech-block and its actuating mechanism and the ejecting-lever. Said Fig. 2 shows the barrel as withdrawn from the frame. Fig. 3 is a rear end view of the barrel, showing the ejector in place, and Fig. 4 is a detached view of the ejector proper. Fig. 5 is a detached view of the link that connects the guard-lever and breech-block. Fig. 6 is a detached view of the ejector-lever, showing edge and rear side views of the same.

Referring to the drawings, the letter *a* indicates the breech-frame of a rifle or single-barrel shotgun, and *b* the barrel, which latter is turned down at its rear end to enter a corresponding seat in the frame, the barrel being firmly held in place within the frame by a pin *c* driven through said parts, substantially as described in my patent, No. 320,637, of June 23, 1885.

d refers to the breech-block, arranged to slide in vertical ways or guide-slots in frame *a* and capable of being carried downward in said ways a distance sufficient to allow the empty cartridge-shells to be ejected from the barrel and loaded shells substituted therefor when desired. The breech-block *d* is actuated by a guard-lever *e*, pivoted in frame *a* forward of the breech-block and connected with said block by a link *h*. When the guard-lever *e* is forced downward, as in Fig. 2, the link *h* causes the breech-block to follow, thus exposing the rear end of the barrel.

A portion of my invention lies in the form of link *h* employed. I have stated above that one object of said invention is to provide means whereby either rim-fire or center-fire cartridges may be used in the same arm. I attain this desirable result by providing link *h* with two pin-holes h' h^2 at its lower end, either of which may be readily brought into coincidence with a hole in the guard-lever to receive a pivot-screw *k*. By this construction the operator is able to so limit the upward movement of the breech-block as to bring the firing-pin d' either opposite the center of the cartridge-head or opposite its rim, as desired. When the screw *k* is in hole h' of the link and the guard brought up to place, the breech-block is carried well upward in the frame and the firing-pin is in position to engage the rim of a cartridge; but when said screw is changed to hole h^2 said firing-pin stops immediately opposite the center of the cartridge-head. By providing a multiple of holes in the link *h* several barrels adapted to receive rim-fire cartridges of different sizes may be fitted to and used with a single breech-frame.

The ejector proper which I employ is formed as a pin *i*, having a head *m*. The rear end of the barrel *b* is bored and counterbored to receive, respectively, said pin and head. Pin *i* is cut away throughout a considerable portion of its length, as in Fig. 4, and a pin *n* is passed through the barrel and across said cut-away portion to prevent the ejector from being drawn entirely out of the barrel. The head *m* of the ejector projects inward to the bore of the barrel under the head or flange of a cartridge seated therein.

The ejector thus described is caused to act to throw out an empty cartridge-shell by a crank-lever *o*, which in turn is actuated by the descent of the breech-block. Said crank-lever *o* is pivoted in the frame *a* at one side of the breech-block and has a nearly vertical

arm o' projecting upward toward the described ejector, but not long enough to reach said ejector. In the free end of said arm o' is a pin p, whose outer end is beveled from rear to front side, as in Fig. 2. The pin p rests in a hole drilled in the arm o', and is forced upward by a spring s, seated beneath it.

To prevent the accidental displacement of pin p, it is cut transversely, substantially like the ejector-stem first above described, and is limited in its longitudinal movement by a pin t, driven through the arm o'. In assembling the barrel and frame of arms of this class much trouble and annoyance have been experienced heretofore in passing the ejector-head by the end of the crank-lever, which, so far as I am familiar with such devices, has been made solid instead of with a yielding end, as now provided in the spring-pressed pin p. The ejector parts being hidden from sight, it has been difficult to adjust them to insure satisfactory results. The addition of the pin p overcomes the existing objections and allows the ejector-head to pass freely over and to the rear of said pin, which latter is forced downward as the head m passes over it, and is then immediately forced upward to place by the spring s. When the breech-block is carried downward, a shoulder on its side engages the short arm o^2 of lever o and throws its vertical arm o' forcibly rearward. The pin p as it moves carries before it the ejector, and thus expels the cartridge-shell.

I make no claim here to the crank-lever o when made solid or without a yielding end to engage the ejector, as I am aware that such a construction is old and well known.

What I do claim is—

1. In combination, in and with the frame of an arm, a vertically-movable breech-block carrying a firing-pin, a guard-lever pivoted in said frame, and a link connecting said block and guard-lever, said link being provided with a multiple of holes suitably disposed, as set forth, whereby the position of the firing-pin relative to the cartridge-head may be governed.

2. In combination with the frame of an arm, a barrel fitted therein, a cartridge-ejector longitudinally movable in said barrel, a crank-lever pivoted in said frame, having its ejector-engaging end formed as a spring-pressed pin, as set forth, and mechanism for actuating said crank-lever, all substantially as specified.

3. In combination with the frame of an arm, a barrel fitted therein, a cartridge-ejector longitudinally movable in said barrel, a crank-lever pivoted in said frame, having its ejector-engaging end provided with a spring-pressed pin, as set forth, a breech-block at the rear of the barrel, a guard-lever pivoted in said frame, and a link connecting said breech-block and guard-lever, all substantially as and for the purpose specified.

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Witnesses:

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