

# UNITED STATES PATENT OFFICE.

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## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 300,852, dated June 24, 1884.

Application filed January 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. DAVENPORT, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; 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 or figures of reference marked thereon, which form a part of this specification.

My present invention relates to certain improvements in breech-loading fire-arms, which are provided with a "top snap-lever;" and it consists, essentially, in a rotating vertical crank-shaft located at the rear of the hammer, the top end of said shaft being adapted to be secured to a segment gear or lever of small radius, which in turn meshes into a similar gear or lever, but of larger radius, the latter gear adapted to receive the top snap-lever, which is located over and forward of the hammer, the lower end of said crank-shaft adapted to engage with a link which connects with the spring locking-bolt, the whole arranged whereby the angular motion of said top snap-lever is reduced, as compared with the motion of the crank-shaft, and adapted to withdraw the locking-bolt and cock the hammer, all as will be more fully hereinafter set forth.

In the accompanying drawings, Figure 1 represents a central longitudinal section through the frame and rear end of the gun-barrel, showing the parts constituting my invention in position, and also showing the hammer cocked and ready for firing. Fig. 2 represents a top view of the locking-bolt, connection, crank-shaft, and spring. Fig. 3 represents a top view of the segment-gears or gear-levers as in use, which constitutes the major part of my invention. Fig. 4 represents an end view of the locking-bolt, connection, and vertical crank-shaft. Fig. 5 is a top view of said shaft.

The following is a detailed description of my invention and the manner of operating the same.

A represents the breech-frame of an ordinary

breech-loading fire-arm, but provided with the bearing A' for the vertical crank-shaft H, and also adapted to receive the mainspring locking-bolt C, link D, hammer K, sear L, spring i, and firing-pin O, all as common, also still further adapted to receive the gear-levers F G and top snap-lever E.

B represents the rear portion of the barrel, adapted to swivel and lock in the usual manner. The said top snap-lever, E, is mounted in and near the forward end of the frame A, as shown, so that the end e of said lever can be conveniently operated, which would be inconvenient if located much farther rearward. The front end of the lever E is secured to the gear-lever F, the latter being placed at the top inside the frame A and over the hammer K, as shown. Meshing into this lever is the gear-lever G, which is secured to the top end of the shaft H at h. This shaft is mounted in the bearing A' of the frame, and is provided with the collar h<sup>2</sup>, which has the crank-pin h' depending therefrom. Said pin engages with the head i<sup>2</sup> of the connection D, which latter in turn is jointed at C' to the main locking-bolt C, as fully shown.

For the purpose of insuring rapidity, &c., in operating the gun, I employ two gear-levers, F G, as shown, the former being of larger radius than the latter, whereby the angular motion of the lever G is increased, resulting in a proportionate reduction of the angular movement of the lever F and top lever, E. I may, however, dispense with the cogs of the levers, and use instead a pin secured to one lever which works in a slot in the other lever, or even dispense with said levers F G altogether, and extend the shaft H up through the frame A, said shaft being surmounted by a crank-pin, which in turn engages with a slotted hole in the under side of the said top snap-lever, E, the latter being fulcrumed relatively to the frame, as shown, with the levers F G. I however consider the connection as shown for practical purposes as being the best.

The operation is as follows: Assuming the gun to have just been fired, as indicated by the hammer K in dotted lines, I then force the end e of the top snap-lever, E, to the right, (see arrow direction, &c., Fig. 3,) which movement, by means of the levers F G and shaft H, causes



the bolt C to be withdrawn, which at the same time cocks the hammer by means of the link D at *x* engaging therewith.

5 The barrel B is adapted to be swung open as common, when by releasing the end *e* of the lever E the spring I forces the bolt, levers, &c., back to their normal position, after which the gun may be closed, the parts then appearing as shown in Fig. 1.

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

1. That improvement in breech-loading fire-arms which consists of a vertical crank-shaft 15 mounted in the gun-frame back of the hammer, the upper end of said shaft provided with a toothed lever, which latter engages a lever secured to the top snap-lever, the lower or crank portion of the shaft connected by means of a 20 link to the main locking-bolt, all combined and arranged substantially as shown, and for the purpose set forth.

2. In a breech-loading fire-arm, the combination, with the vertical crank-shaft and main 25 locking-bolt, of two segment gears or levers

having unequal radii, adapted to connect said shaft with the top snap-lever, whereby the angular motion of the latter in withdrawing the bolt is less than the angular movement of said shaft, substantially as shown and set forth. 30

3. In a top snap-lever breech-loading fire-arm, the crank-shaft H, connected by means of the crank-pin *h'* and link D with the main-spring locking-bolt C, in combination with the toothed lever G, secured to the shaft, and lever 35 F, secured to the top snap-lever, E, substantially as shown, and for the purpose set forth.

4. In a breech-loading fire-arm, the hammer K, link D, adapted to engage said hammer, and the main locking-bolt C, in combination with 40 the crank-shaft H, toothed levers F G, and top snap-lever, E, arranged and adapted for use substantially as shown, and for the purpose set forth.

In testimony whereof I have affixed my sig- 45 nature in presence of two witnesses.

WM. H. DAVENPORT.

Witnesses:

GEO. H. REMINGTON,  
CHARLES HANNIGAN.