F. WESSON & C. N. CUTTER.

BREECH-LOADING FIRE-ARM.

No. 193,060. Patented July 10, 1877.

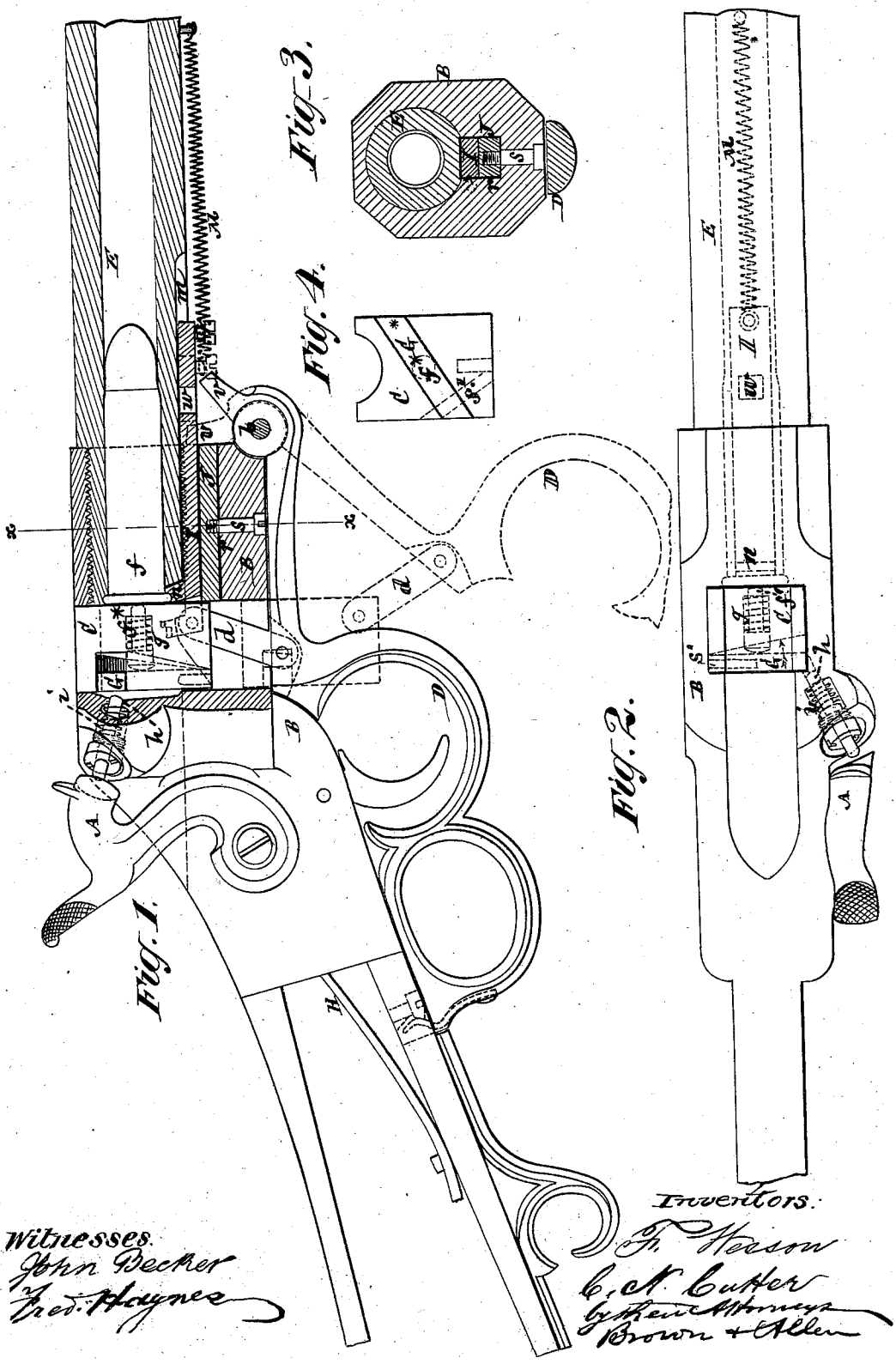


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

FRANKLIN WESSON AND CHARLES N. CUTTER, OF WORCESTER, MASS., ASSIGNORS TO SAID WESSON.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **193,060**, dated July 10, 1877; application filed May 7, 1877.

To all whom it may concern:

Be it known that we, FRANKLIN WESSON and CHARLES N. CUTTER, both of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

The invention consists in a combination, with a side hammer, of a transverse lever in the breech-block, and a direct-acting center firing-pin, the whole being arranged so that the side hammer, in firing, will act through the interposition of the transverse lever on the center firing-pin, thereby doing away with the disadvantages which accrue to an oblique firing-pin, as heretofore used in fire-arms, having their hammers arranged on one side of the breech-piece; also, whereby the force of the blow of the hammer is increased, thus admitting of a less powerful mainspring being used. The invention likewise consists in a novel mode or means of fitting to its place the cartridge-ejector, whereby the latter may be readily entered and removed as required, also securely retained in position, and facility is afforded for attaching the barrel to the breech-receiver by screwing it therein.

Figure 1 represents a mainly sectional side view of a breech-loading fire-arm having our invention applied. Fig. 2 is a top view of the same. Fig. 3 is a transverse section on the line *x x*; and Fig. 4 a rear view of the breech-block, with its attached transverse lever for operating the firing-pin.

A is the hammer arranged on one side of the breech-receiver B. C is the breech-block, which is constructed to slide up and down within the breech-receiver to open and close the breech as required. D is the lever by which said breech-block is operated, said lever, which is pivoted at *b*, being connected with the breech-block by a link, *d*. E is the barrel of the arm, the rear end of which forms the cartridge-chamber. The cartridges *f* are inserted within, and when exploded ejected from said chamber in a straight direction through a groove in the breech-receiver when the breech-block is lowered for the purpose.

Fig. 1 represents, by full lines, the breech-block as raised to close the breech, and, by dotted lines, as lowered to open the breech.

G is a transverse lever in the rear end of the breech-block, and arranged to work on a pivot, *s'*. Said lever occupies an oblique position across the back of said block, and crosses the axial line of the firing-pin *f** carried by said block, which pin is parallel with the barrel, and is a direct-acting center firing one. A spring, *g*, on the firing-pin serves to keep said lever pressed back or out, but not so as to interfere with the operation of the breech-block. When the side hammer A is operated to explode the cartridge, it acts, either directly or through the interposition of a pin, *h*, controlled by a spring, *i*, upon the transverse lever G, which in its turn, drives forward the center firing-pin *f** against the action of its returning-spring *g*. By this combination of the transverse firing-lever with the side hammer, and direct-acting center firing-pin, the force of the blow of the hammer is increased by said lever, so that a less powerful mainspring, H, suffices to control the hammer. Also, by using a direct-acting center firing-pin that objectionable opening in the face of the breech which is incidental to an oblique firing-pin is prevented, and the liability of the primer to catch in the breech-block is obviated, there being no sharp angle formed by the passage through said block for the primer to catch against, such as is unavoidable when an oblique firing-pin is used.

I is the cartridge-ejector, which is in the form of a slide or bar fitted to enter a longitudinal recess, *m*, in the under side of the barrel, and constructed with a rear turned-up lip, *n*, corresponding with the back end of the barrel, which receives the flange or head of the cartridge, said lip, which forms the acting portion of the ejector, fitting within a recess in the rear end of the barrel, when said ejector occupies its forward position. To provide for the entry or removal and retention in its working position of the ejector I, the breech-receiver B has a longitudinal groove, *r*, within it, back of the ejector, and within this groove a gib, J, is inserted. This gib, which, when in place, holds up the ejector to

its working position, is secured or locked by a screw, *s*, entered from the under side of the breech-receiver. This forms a very simple and efficient mode of fitting the ejector, and admits of the barrel E being screwed at its rear end into the breech-receiver, as shown in Fig. 1.

The ejector I, which projects through the front of the breech-receiver, is operated to expel the exploded cartridge by means of a spur, *v*, on the breech-block operating lever D, said spur entering a notch or recess, *w*, in the ejector in front of the breech-piece or receiver B. A spring, M, fastened at one end to the ejector in front, and at its other end to the barrel on its under side, serves to return the ejector to its normal position. These constitute very simple and efficient means for operating the ejector.

I claim—

1. The vertically-sliding breech-block C, provided with the independent spring center firing-pin *f**, in combination with the lever G arranged in a diagonal recess in the back end of the breech-block, and pivoted at its lower end to the breech-block, substantially as and for the purpose described.

2. The combination, with the cartridge-ejector I, fitted within a longitudinal groove in the breech-receiver B, of the removable gib J, fitting in a groove, *r*, in the breech-receiver, to provide for holding the ejector in place, while at the same time both can be readily removed, substantially as and for the purpose described.

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Witnesses:
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