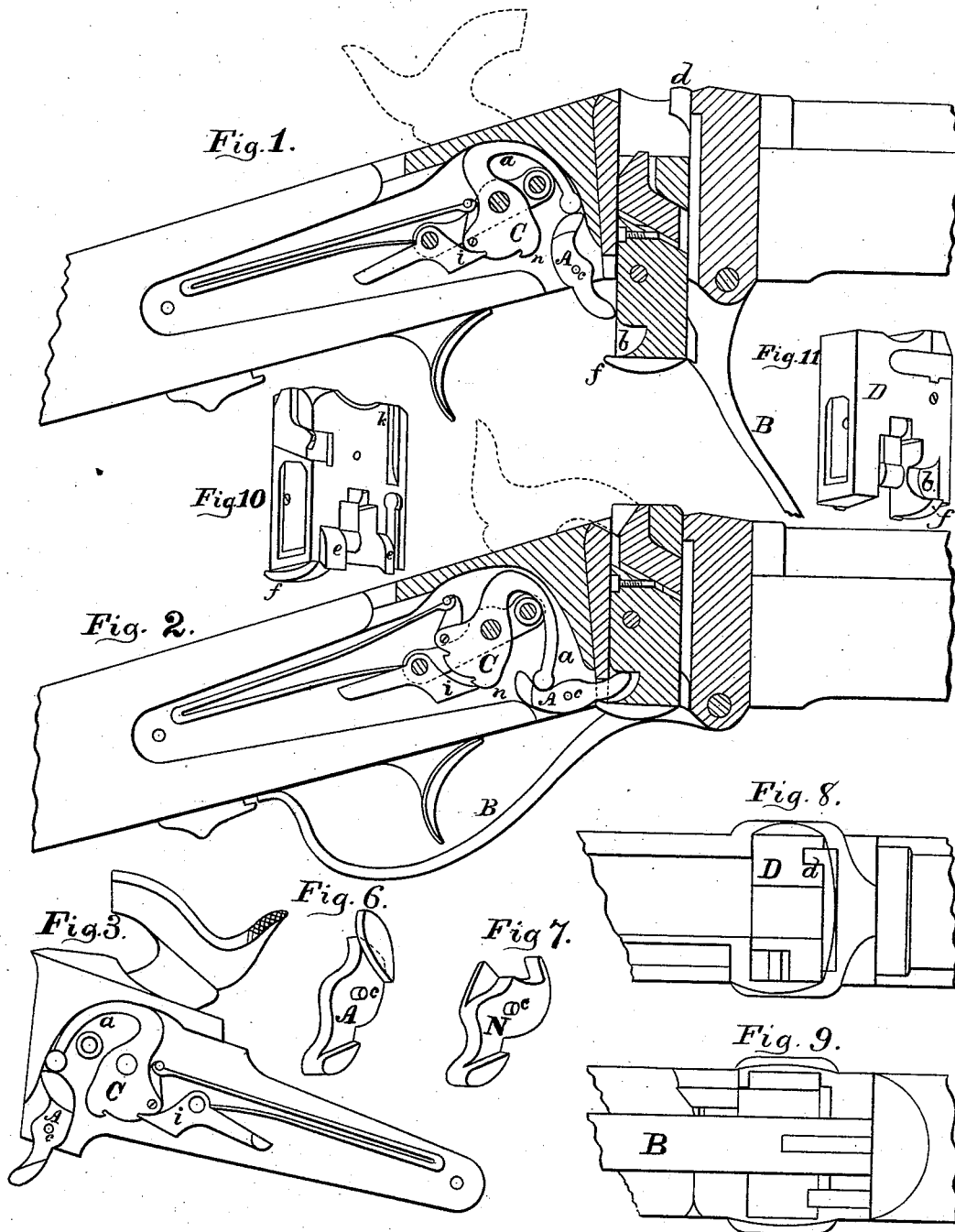


F. W. FREUND.  
Breech-Loading Fire-Arms.

No. 216,084.

Patented June 3, 1879.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **216,084**, dated June 3, 1879; application filed October 30, 1876.

### *To all whom it may concern:*

Be it known that I, FRANK W. FREUND, of Cheyenne City, in the county of Laramie and Territory of Wyoming, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following description, taken in connection with the drawings which form part of this specification, is sufficient to give a full and complete understanding.

The object of my invention is, first, to produce an arm that shall be automatically cocked or half-cocked by the operation of the breech-block in the act of opening and closing the breech; and, second, to construct the breech-block and the frame in which it operates in such a manner that when the breech is closed the parts shall fit tightly together, to prevent dirt or other foreign substances from entering; and to these ends it consists, first, in an intermediate lever placed between the breech-block and tumbler of the lock mechanism in such a manner that the breech-block in its downward movement to open the breech will operate said lever, and cause it to turn the tumbler upon its stem or arbor, and thereby cock or half-cock the hammer. In order to provide means for either half-cocking or full-cocking the arms, I provide two or more interchangeable levers of different lengths, either of which may be used at the will of the operator.

Second, in forming lugs or projections on both the front and rear faces of the breech-block, and in extending the upper part of the breech-frame backward, so as to close the spaces between the breech-block and the frame, all as will be hereinafter more fully set forth and described.

Figure 1 of the accompanying drawings represents a side elevation, partly in section, of a fire-arm embodying my invention with the lock-plate removed, but showing the operating parts of the lock mechanism in the positions they assume when the breech is opened. Fig. 2 is a similar view, showing the position of the parts when the breech is closed and the hammer down. Fig. 3 is an inner view of the lock-plate and its mechanism with the strap or stay for holding the parts in position rela-

tively to each other removed, but showing the operating parts in the position shown in Fig. 1. Fig. 4 is a view similar to Fig. 1, but showing a shorter intermediate lever which may be used when it is not desired to full-cock the gun by the operation of the breech-block. Fig. 5 is a similar view, showing the breech closed and the hammer cocked. Fig. 6 is a perspective view of the long lever shown in Figs. 1, 2, and 3 for full-cocking the hammer, and Fig. 7 is a similar view of the short lever shown in Figs. 4 and 5 for half-cocking the hammer. Figs. 8 and 9 are, respectively, a top and bottom view of the breech-frame, with the breech-block in position for closing the breech; and Figs. 10 and 11 are perspective views, showing, respectively, the front and rear faces of the breech-block.

Similar letters of reference indicate the same parts in all the figures.

A is the intermediate cocking-lever, pivoted in an opening in the trigger-plate in rear of the breech-block. In the normal position of the parts, or when the breech is closed, it occupies a horizontal position, with its front end projecting into an opening or cavity, *b*, formed in the lower part of the rear face of the breech-block D.

In lowering the breech-block to open the breech, the shoulder formed by the upper part of the cavity *b* presses upon the front end of the lever A and rocks it upon its pivot *c*, bringing it to the position shown in Figs. 1 and 3. This rocking motion of the lever causes its inner or rear end to press upward on the arm or extension *a* of the tumbler C, by which the latter is caused to turn upon its bearing, carrying with it the hammer, which is mounted upon the outer end of its shaft in the usual manner. This movement of the tumbler is sufficient to bring the full-cock notch into engagement with the sear *i*, and the arm is thus cocked by the single movement of the lever B for opening the breech, and is retained in this position when the breech is closed.

The arm *a* projects from the upper part of the tumbler, and extends forward and downward nearly or quite in a curve forming an arc of a circle struck from the center of the axis of the tumbler, and is of such length as

to bring its end very nearly or altogether into contact with the lever A when the breech is closed and the hammer down.

The cavity *b* in the breech-block is closed at the bottom by a rearward extension or hook, *f*, on the breech-block, which extends beyond the rear face of said block, and which, in the act of closing the breech, catches on the end of the lever A and carries it back into its normal position, as shown in Fig. 2.

When it is desired to only half-cock the arm by the operation of the breech-block, a short lever, N, (shown in Figs. 4, 5, and 7,) is substituted for the lever A, and, by reason of its rear end being shorter than the rear end of lever A, the tumbler is turned only a sufficient distance to bring it into the half-cock or safety notch. The full-cocking is afterward accomplished by the hand in the usual manner.

By reference to Figs. 4 and 5 it will be observed that when the short lever N is used the hammer cannot be full-cocked while the breech is open, by reason of the point *n* of the tumbler coming in contact with the rear end of the lever N, as shown in dotted lines, and being prevented from turning far enough to bring the full-cock notch into engagement with the sear; and also that when the hammer is full-cocked the breech cannot be opened, by reason of the rear end of the lever N coming into contact with the point *n* of the tumbler, (also shown in dotted lines,) and, being thus held from turning on its pivot *e*, its front end prevents the downward movement of the breech-block to open the breech.

With the use of either of the levers A or N, the hammers cannot fall far enough to strike the firing-pin until the breech is fully closed, by reason of the arm *a* of the tumbler striking the rear end of the lever, and thus either arresting the movement of the tumbler, or else closing the breech by the pressure exerted upon the lever, and through it upon the breech-block.

On the front face of the breech-block, at its lower part, and on either side of the opening in which the link by which it is connected to the guard-lever is pivoted, I increase the thickness of the breech-block by forming lugs or extensions *e e* sufficient to fill the space between the breech-block and the frame, and the upper part of the breech-frame is extended backward sufficiently to close the space at the top. The extension or hook *f* on the lower part of the breech-block extends backward to close the cavity *b* in the breech-block, and also to par-

tially close the opening in the trigger-plate in which the intermediate cocking-lever is pivoted.

In most arms of this character with which I am familiar the extractor extends to the full height of the frame, and there is therefore no opportunity for closing the channel or groove *k* in the front face of the breech-block, which is provided for the reception of the extractor when it is tripped to throw out the shell. In order to remedy this defect, and to give the arm a more finished appearance when the breech is closed, I propose to cut off the extractor immediately above the arm which engages the flange of the cartridge, and to provide a lug or extension, *d*, on the upper part of the breech-frame, as shown in Figs. 1, 4, and 8, to project into the upper part of said channel *k* when the breech is closed. Thus the arm not only presents a more complete and finished appearance, but all the parts of the breech are closed, and the entrance of dirt or other foreign substances is prevented.

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

1. The combination of the tumbler C, provided with arm *a*, the breech-block provided with an opening or recess in its rear face, and the intermediate and interchangeable levers A N, constructed substantially as described, whereby the arm may be adjusted to be either half or full cocked by the interchange of said levers, as shown and described.

2. The intermediate lever N, constructed with a rearward-extending portion, as shown, in combination with the tumbler having projection *n*, whereby the full-cocking of the hammer is prevented while the breech is open, and the opening of the breech is prevented while the hammer is at full-cock, in the manner shown and described.

3. The combination of the frame or receiver provided with lug *d*, and the breech-block provided with groove *k* for the extractor, the said lug *d* projecting into the groove *k* when the breech is closed, as and for the purpose described.

In testimony that I claim the foregoing as my invention I have hereunto subscribed my name in the presence of two witnesses.

FRANK W. FREUND.

Witnesses:

A. C. HAMMOND,  
L. C. STEVENS.