(No Model.)

J. M. & M. S. BROWNING.

BREECH LOADING FIRE ARM.

No. 346,021. Patented July 20, 1886.

Fig. 2.

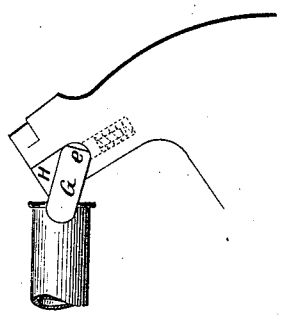


Fig. 4.

Fig. 3.

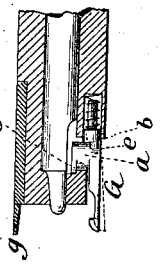
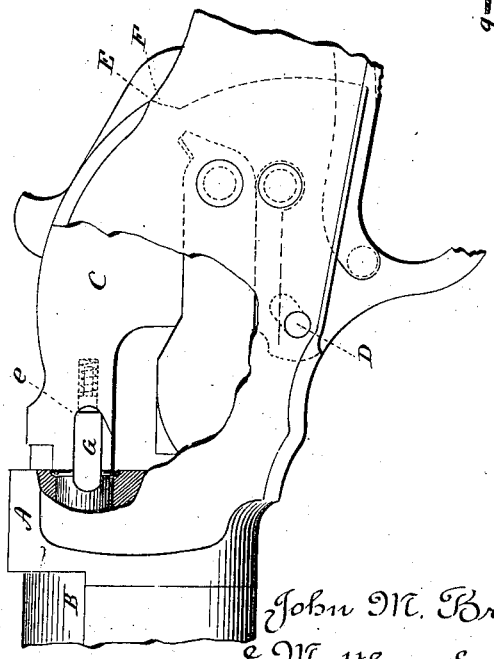


Fig. 1.



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UNITED STATES PATENT OFFICE.

JOHN M. BROWNING AND MATTHEW S. BROWNING, OF OGDEN CITY, UTAH TERRITORY, ASSIGNORS TO THE WINCHESTER REPEATING ARMS COMPANY, OF NEW HAVEN, CONNECTICUT.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 346,021, dated July 20, 1886.

Application filed January 2, 1886. Serial No. 187,351. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. BROWNING and MATTHEW S. BROWNING, of Ogden City, in the county of Weber and Territory of Utah, have invented a new Improvement in Breech-Loading Fire-Arms; and we do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view, a portion of the frame broken away, showing a side view of the breech-piece and the extractor, the breech-piece in the closed position; Fig. 2, the breech-piece and extractor as in the open position, the extractor engaged with the flange of the shell; Fig. 3, a horizontal longitudinal section through the breech-piece, showing a top view of the extractor; Fig. 4, the same as Fig. 3, showing a modification of the extractor.

This invention relates to an improvement in that class of breech-loading fire-arms in which the breech-piece is hung in the receiver in rear of and below the barrel, and so as to swing backward and downward in opening in substantially a circular path, and is specially adapted to the construction of breech-piece shown and described in our application for Letters Patent, Serial No. 168,738. In this class of arms we find it desirable to arrange the extractor upon the side of the breech-piece instead of making the extractor separate from and operated by the breech-piece, as in the more general construction of this class of arms. In so doing it is necessary that the extractor shall engage the cartridge in substantially the plane of its axis when the breech-piece is in its closed position, and to retain its hold in that position while the breech-piece is turned backward; hence it is necessary that the extractor shall be hung to the breech-piece so as to swing in a vertical plane, that it may retain its hold upon the flange of the cartridge until it be fully withdrawn from its place in the barrel. A lateral movement of the extractor is also necessary, in order that it may ride over the flange of the cartridge and fall in front of it as the breech-piece approaches its closed position.

The object of our invention is a simple construction of extractor which shall possess the two necessary movements; and it consists in an extractor-hook hung upon the side of the breech-piece, so as to swing up and down in a vertical plane, the pivot of the extractor also permitting a lateral swinging movement, combined with a single spring arranged to return the said extractor from either its vertical movement or its lateral movement or place of rest, and as more fully hereinafter described.

It will be unnecessary for us to give anything more than a general description of the arm.

A represents the receiver, to the forward end of which the barrel B is attached in the usual manner.

C represents the breech-piece, hung upon a pivot, D, below the barrel, and so that it may swing backward and downward in opening. The breech-piece at the pivot is constructed with a slot, as shown in broken lines, the said slot inclining upward and backward when the breech-piece is in the closed position.

Upon the upper side or back of the breech-piece is a shoulder, E, which engages a corresponding abutment when in its closed position, but from which it is dropped in the first part of the opening movement, because of the slot in the breech-piece at the pivot, that slot passing down over the pivot until it comes to a bearing upon its upper side, and at which time the shoulder E is free from the abutment F, and the breech-piece then is turned backward, as if hung upon the pivot in that position. When the breech-piece is returned, and as it arrives at its closed position, the slot in the breech-piece at the pivot permits the breech-piece to rise and bring the shoulder into engagement with the abutment to resist recoil.

G is the extractor-hook, arranged in a recess, H, in the side of the breech-piece. Its nose projects beyond the front face of the breech-piece, and is of usual form. It is constructed with a trunnion, *a*, which extends inward into a corresponding recess in the

side of the breech-piece, and so that the extractor may swing in a vertical plane, as from the position seen in Fig. 1 to that seen in Fig. 2, and return.

In rear of the extractor is a spring-follower, *b*, arranged to bear against the rear end of the extractor. The end of the follower is adapted to bear against a flat shoulder, *e*, on the rear end of the extractor when the extractor is in its up or normal position, as seen in Fig. 1, the spring-follower thus tending to hold the extractor in that position, but yield for the extractor to be turned from the position seen in Fig. 1 to that seen in Fig. 2, and so that when the extractor is free in that turned position the spring-follower will return it to its normal position.

In order that the extractor may have a lateral movement to permit it to pass over the flange of the cartridge and bring its hook in front of the flange, the inner end of the trunnion is constructed of hook shape, *f*, to engage a corresponding shoulder in the breech-piece, and this hook-connection is inside the bearing-line of the follower, so that while the extractor may be turned outward on the hook as a pivot, the follower, bearing against the rear end of the extractor and outside this pivot-point, will tend to return the extractor; hence when the breech-piece is closed the extractor may turn outward to pass over the flange. Then the spring will force it inward to engage the flange of the cartridge, and when the breech-piece is opened the extractor, retaining its hold upon the cartridge, will turn on its pivot until the shell is fully withdrawn, as seen in Fig. 2. Then, the shell being ejected or otherwise removed, the extractor returns under the action of the spring to its normal position. Thus the single spring acts upon the extractor both to facilitate its engagement with the flange of the cartridge, and to permit it to retain its hold upon the flange until the breech-piece is so far opened that the shell may be readily removed.

Upon the side of the breech-piece opposite the extractor we apply the usual projecting finger *g*, against which the extractor will bear the flange of the cartridge, in order to retain it in its grasp during the withdrawing movement.

While we prefer the hook-like connection between the trunnion on the extractor and the breech-piece to permit the lateral movement, and whereby we dispense with a pivot upon which the trunnion will turn, a pivot may be employed, as seen in Fig. 4, and so as to permit the lateral movement, as indicated in broken lines in that figure.

We claim—

1. In a fire-arm substantially such as described, the combination of the breech-piece hung upon an axis below the barrel and adapted to swing backward and downward from the barrel in opening, an extractor-hook hung in the side of the breech-piece and arranged upon a pivot to swing in a vertical plane, and also adapted to swing laterally—that is, in a plane at right angles to the said vertical plane—with a spring-follower in rear of said extractor, adapted to hold the said extractor in its normal position, but yield to both the vertical and lateral movement of the extractor, substantially as described.

2. In a breech-loading fire-arm, the combination of a breech-piece arranged to swing backward and downward in opening, the extractor G, arranged one side of the breech-piece, the said extractor constructed with a trunnion, *a*, extending inward into a corresponding recess in the side of the breech-piece, and also constructed with a hook-like forward projection, *f*, upon the inner end of the trunnion, to engage a corresponding shoulder in the recess in the breech-piece, and a spring-follower arranged to bear against the rear end of the extractor, substantially as and for the purpose described.

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