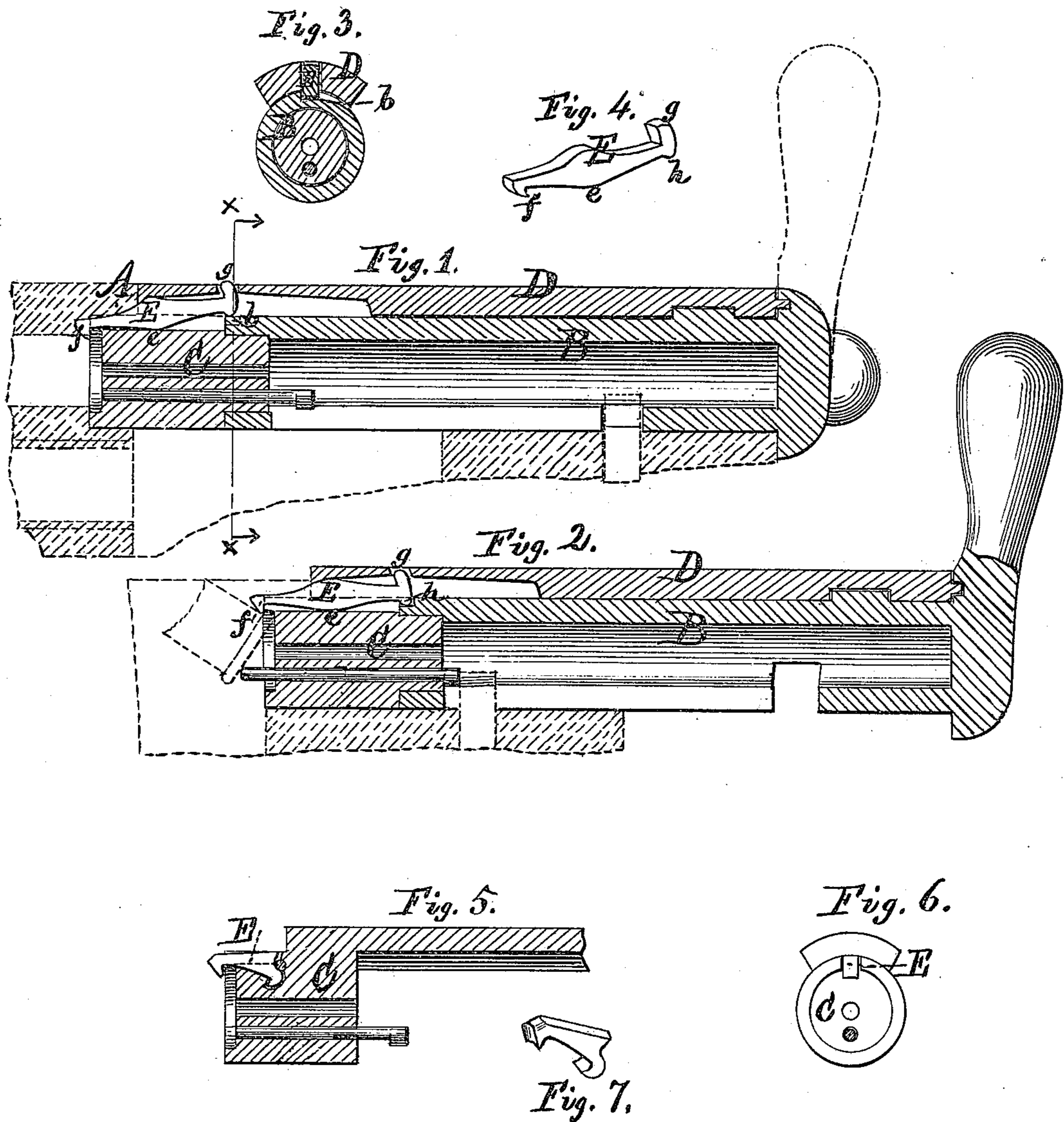


J. W. KEENE.
 CARTRIDGE-EXTRACTORS FOR BREECH-LOADING FIRE-ARMS.
 No. 172,448. Patented Jan. 18, 1876.



Witnesses.
 Thos. E. Lane
 Wm. A. Bennett

Inventor.
 J. W. Keene

UNITED STATES PATENT OFFICE.

JOHN W. KEENE, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN CARTRIDGE-EXTRACTORS FOR BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 172,448, dated January 18, 1876; application filed June 12, 1874.

To all whom it may concern:

Be it known that I, JOHN W. KEENE, of Newark, in the county of Essex and State of New Jersey, have certain Improvements in Cartridge-Extractors for Breech-Loading Fire-Arms, of which the following is a specification:

My invention relates to certain improvements designed more particularly for application to breech-loading fire-arms similar to those for which Letters Patent were heretofore granted to me—namely, February 24, 1874, and March 17, 1874—although they may be applied to breech-loaders of any suitable construction.

The invention consists in a rigid lever working in a recess in the recoil-block or front portion of the bolt or breech block, and pivoted or balanced near its center, the front portion of said lever being formed for engagement with the flanges of the cartridge, and the rear end for engagement with a cam on the bolt and with the cover of the receiver, so that when the bolt is moved forward to close the breech the front end of the lever does not catch over the flange until the bolt is rotated to the right to lock the gun, when the lever is locked in its engagement with the flange, and so remains until the backward motion of the bolt, when the lever is released from the flange by the contact of its rear end with the cover or other fixed point.

In the accompanying drawing, Figure 1 is a central longitudinal section of a bolt or magazine gun embodying my improvements with the breech closed. Fig. 2 is a similar view with the breech open. Fig. 3 is a transverse section in the line *xx* of Fig. 1. Fig. 4 is a perspective view of the extractor. Fig. 5 is a sectional view of a modification. Fig. 6 is a front view of the same. Fig. 7 is a perspective view of a modification of the extractor.

The several figures represent my improvements as applied to a single-loading or magazine gun, although said improvements may be applied to guns of any suitable construction.

The receiver A and bolt B are similar to those shown in my patents aforesaid.

In the recoil-block C and the under part of the strap D is a recess or cavity, in which

works a rigid lever, E, which is pivoted or balanced near its center by the engagement of a projection, *e*, on its under side, with a depression in the cavity in the recoil-block. The front end of the lever E is formed with a catch, *f*, of suitable form to enable it to ride over the rim of the cartridge. The rear end of the lever E is formed with a projection, *g*, on the upper side, and another projection, *h*, on the under side, the former working in an opening in the strap D, so as to extend slightly above the top of said strap, and the latter engaging with a cam, *b*, on the front end of the bolt B, formed by cutting away a portion of the metal on said front end.

When the bolt is moved forward to close the breech the catch *f* does not engage with the flange of the cartridge until the handle is turned to the right to lock the bolt or gun, when the cam *b* bears against the projection *h*, raising the rear end of the lever and depressing the front end, and thus locks the lever in its engagement with the rim of the cartridge. When the handle is turned up and the bolt moved back the friction of the lever in its recess or cavity is sufficient to retain it in position until, in the backward motion of the bolt, the projection *g* comes in contact with and passes under the cover of the receiver or some other fixed point, when the rear end of the lever is depressed, and the catch or front end raised and released from the rim, and left free to engage with the rim of another cartridge. The shell is ejected by means of the ejector pin *l*, or other suitable device.

In Figs. 5, 6, and 7 I have shown a modification of the form of the extractor, in which the lever E is hung or pivoted at its rear end, so that the hook *f* slips over the rim of the cartridge and drops of its own weight, and is locked by passing under the front portion of the cover of the receiver.

These modifications may be applied to guns the construction of which will not admit of the application of the lever in its elongated form, although they may be applied to bolt-guns without changing the principle of the invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. A cartridge-extractor for breech-loading

fire-arms, consisting of a rigid lever pivoted or balanced at a point between the ends, having its front end formed for engagement with the rim of the cartridge, and its rear end for engagement with the bolt or breech block to hold it to said rim, and with the cover of the receiver to release it from said rim, substantially as shown and described.

2. The combination of the extractor E and the front end of the breech bolt or block for locking the extractor in contact with the rim of the cartridge, as shown and described.

3. The combination of the extractor E and the cover of the receiver, or other fixed point, for unlocking the extractor on the backward motion of the bolt, substantially as described.

The foregoing specification of my invention signed by me.

J. W. KEENE.

Witnesses:

THEO. E. LANE,
W. H. BOWERS.