W. TRABUE.

Magazine Fire-Arm.

No. 206,279. Patented July 23, 1878.

Fig. 1.

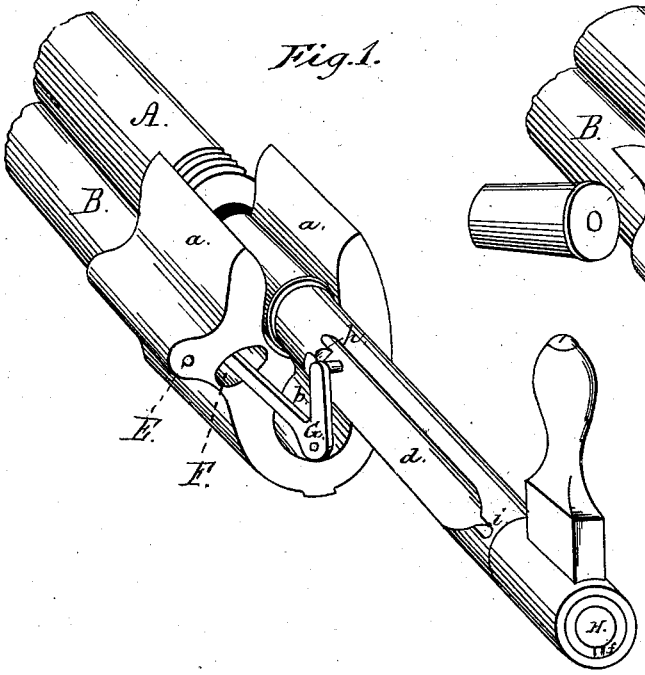


Fig. 2.

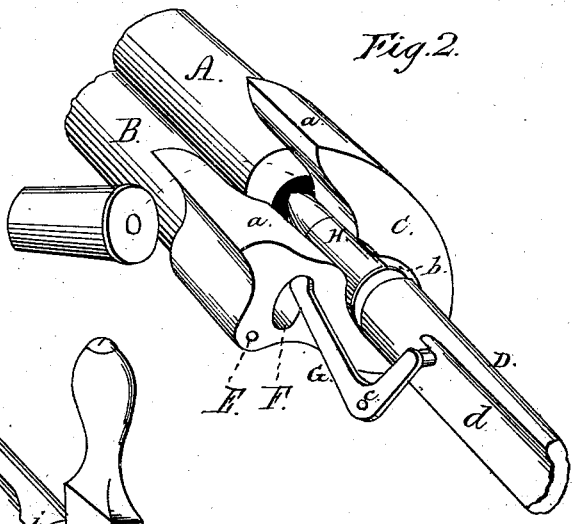


Fig. 3.

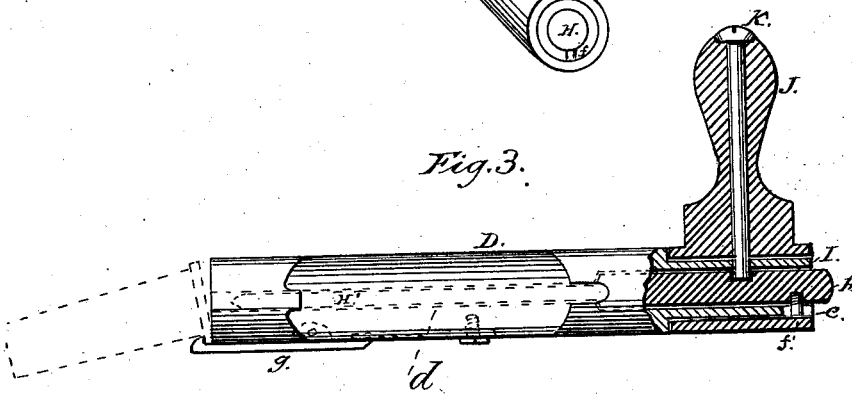


Fig. 6.

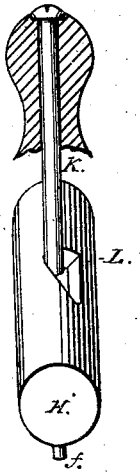


Fig. 4.

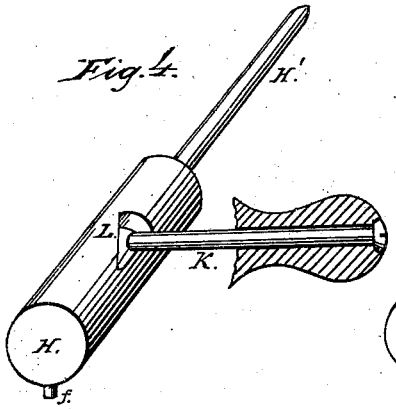
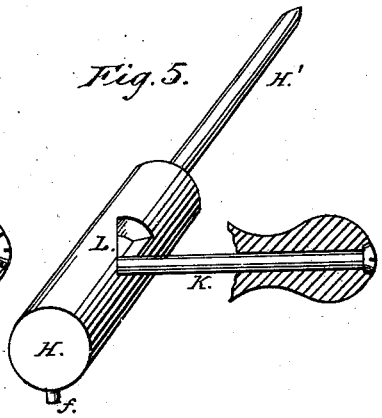


Fig. 5.



Witnesses;

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John Tyler

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UNITED STATES PATENT OFFICE.

WILLIAM TRABUE, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **206,279**, dated July 23, 1878; application filed March 14, 1878.

To all whom it may concern:

Be it known that I, WILLIAM TRABUE, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Bolt-Guns; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to that class of breech-loading guns known as "magazine bolt-guns," in which a series of charges of fixed ammunition are located within a magazine and automatically fed into a receiver and charged into the barrel by the reciprocation of a breech-closing bolt, and successively fired by a firing-pin arranged within said bolt.

The object of my invention is to simplify the construction of this class of fire-arms and to render the actions of the several parts positive and accurate, and to prevent premature discharges and accidents.

With these ends in view my invention consists of a double-chambered swinging carrier, hinged at one side, in combination with a reciprocating bolt and means for causing the required movement of the carrier to receive a charge and eject the exploded shell.

My invention also consists in the peculiar combination and arrangement of the firing-pin with the reciprocating breech-bolt, whereby the firing-pin is guarded against accidentally exploding the charged shell; and my invention also consists in the peculiar construction and arrangement of the several parts, all as will be hereinafter and in detail explained.

In the drawing I have only shown so much of a breech-loading gun as is necessary to illustrate the features of my invention. All parts not shown or described are such as are common and well known in this class of fire-arms.

Figure 1 represents a perspective view of so much of a gun as is necessary to show the shell brought into position to be discharged from the receiver after it has been retracted from the barrel by the rearward movement of the breech-bolt. Fig. 2 is a similar view, showing the parts in slightly different position, with the shell (shown at Fig. 1) just ejected, and a new shell from the magazine in position in the receiver to be charged to the barrel by the forward movement of the bolt. Fig. 3 is a side elevation of the bolt, with the rear portion in section, showing the arrangement of the handle and firing-pin; and Figs. 4, 5, and 6, perspective views, showing the bolt-handle and firing-pin in the different relative positions assumed in the ordinary movements of the breech-bolt.

Similar letters indicate like parts in the several figures.

A represents the gun-barrel, and B the ordinary magazine-tube arranged underneath the same. C is the receiver, formed with two chambers, *a b*. The former is designed to receive the exploded shell as it is withdrawn by the retractor from the barrel, and hold it in position to be "flipped" or ejected as the receiver is tilted or swung on its hinge-joint, and the latter to receive a new charge from the magazine and carry the same into alignment with the barrel as the exploded shell is thrown out. These two chambers connect by a channel, the walls of which are in parallel planes in arcs struck from the center of motion of the receiver, and the breech-bolt D is cut away correspondingly to enable the receiver to vibrate in an obvious manner.

The receiver C is hinged or pivoted at E, and has in its rear face a curved groove or cell, F, adapted to receive one end of a bell-crank lever, G, which is suitably hung upon a pivot at *c*.

The breech-bolt D is cut away centrally, as clearly seen at *d*, Figs. 1, 2, and 3, to permit the receiver C to drop back to the position shown at Fig. 1 from the position shown at Fig. 2 after the new shell H has been charged into the barrel. At each end of the cut-away portion *d* are formed cam-shaped projections or grooves, which, coming in contact with the upper end of the bell-crank lever G, cause it to alternately vibrate to lift and return the receiver C into the positions shown, respectively, at Figs. 2 and 1.

H′ is the firing-pin, which is arranged centrally within the bolt D, the rear end of which is cut away annularly to receive the bush or collar I of the handle J. The rear end or shell of the bolt is also cut at its lower side, as seen at *e*, to form a groove to receive a

short stud or teat, *f*, on the firing-pin, to prevent any rotation of the pin within the bolt.

K is a screw-pin passing down centrally through the handle J, and projecting into a triangular cell, L, in the firing-pin. This angular cell is of such shape that, as the handle J is swung up into position to unlock and withdraw the bolt, the contact of the pin K bearing against the left side of the angle will cause the firing-pin to travel slightly backward (as the teat *f* prevents its rotation) until the pin K reaches the position shown at Fig. 6, which will, as clearly seen, prevent the forward movement of the firing-pin and hold it in the position shown in dotted lines at Fig. 3.

When the bolt is moved forward to charge the shell, and the handle J turned down to lock the parts in position, the pin K moves from the position seen at Fig. 6 to the position shown at Fig. 4, so that when the rear end of the firing-pin is struck by the hammer it is free to be projected forward into the position shown at Fig. 5, a distance equal to one of the long sides of the triangle L.

The operation of the receiver is as follows: The bolt having been withdrawn, as seen at Fig. 1, the retractor-catch *g* has withdrawn the exploded shell into the top chamber *a* of the receiver. Continuing the rear movement of the bolt, the projection *h* strikes the upper arm of the lever G just as the front end of the bolt clears the rear face of the receiver, and, vibrating said lever, the arm within the curved cell in the rear face of the receiver throws it up on its pivot or hinge into the position seen at Fig. 2, which flips or throws out to the side the exploded shell, and at the same time carries the lower chamber, *b*, which has previously received a charge from the magazine, into alignment with the barrel A, the necessary movement of the handle J to retract the bolt having effected the firing-pin, as before described. As the bolt is now shot forward from the position seen at Fig. 2, it necessarily forces the shell in the chamber *b* into the barrel, and just about the time the shell is going home the projection or groove *i* at the rear end of the cut-away of the bolt, coming in contact with the free arm of the lever G, vibrates it in a reverse direction to that already described, and causes its other end to throw the receiver C back to the position seen at Fig. 1, the cut-away portion *d* of the bolt permitting this movement, as hereinbefore described.

It will be observed that all the movements are positive, and that there is but little friction, and that all lifting movements are in the arcs of circles and by leverage.

The bolt being cut away, as described, renders it less liable to become "buckled" by repeated discharges of the gun.

I am aware that bolts have been narrowed or cut away in order to permit vertical reciprocation of the carrier, and do not wish to be understood as claiming, broadly, the idea of cutting away the bolt.

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

1. The swinging carrier C, formed, as described, with the two chambers *a b*, and a communicating channel between said chambers, and having the groove F at one end, in combination with the reciprocating bolt and bell-crank lever G, substantially as and for the purposes set forth.

2. In combination with the bolt D, having the cut-away *d* and bevels *h i*, and the lever G, adapted to be vibrated by the reciprocation of the bolt, the curved groove or slot F, in the rear of the swinging carrier, substantially as and for the purposes set forth.

3. The bolt D, cut away on either side in concentric arcs, whereby the carrier is permitted to swing from a center, as set forth.

4. The carrier C, having the sides of the channel between the chambers *a b* in concentric arcs, coincident with the sides of the cut-away portion of the bolt, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 4th day of March, A. D. 1878.

WILLIAM TRABUE. [L. S.]

In presence of—

WM. C. MCINTIRE,

WALTER P. JENNEY.