

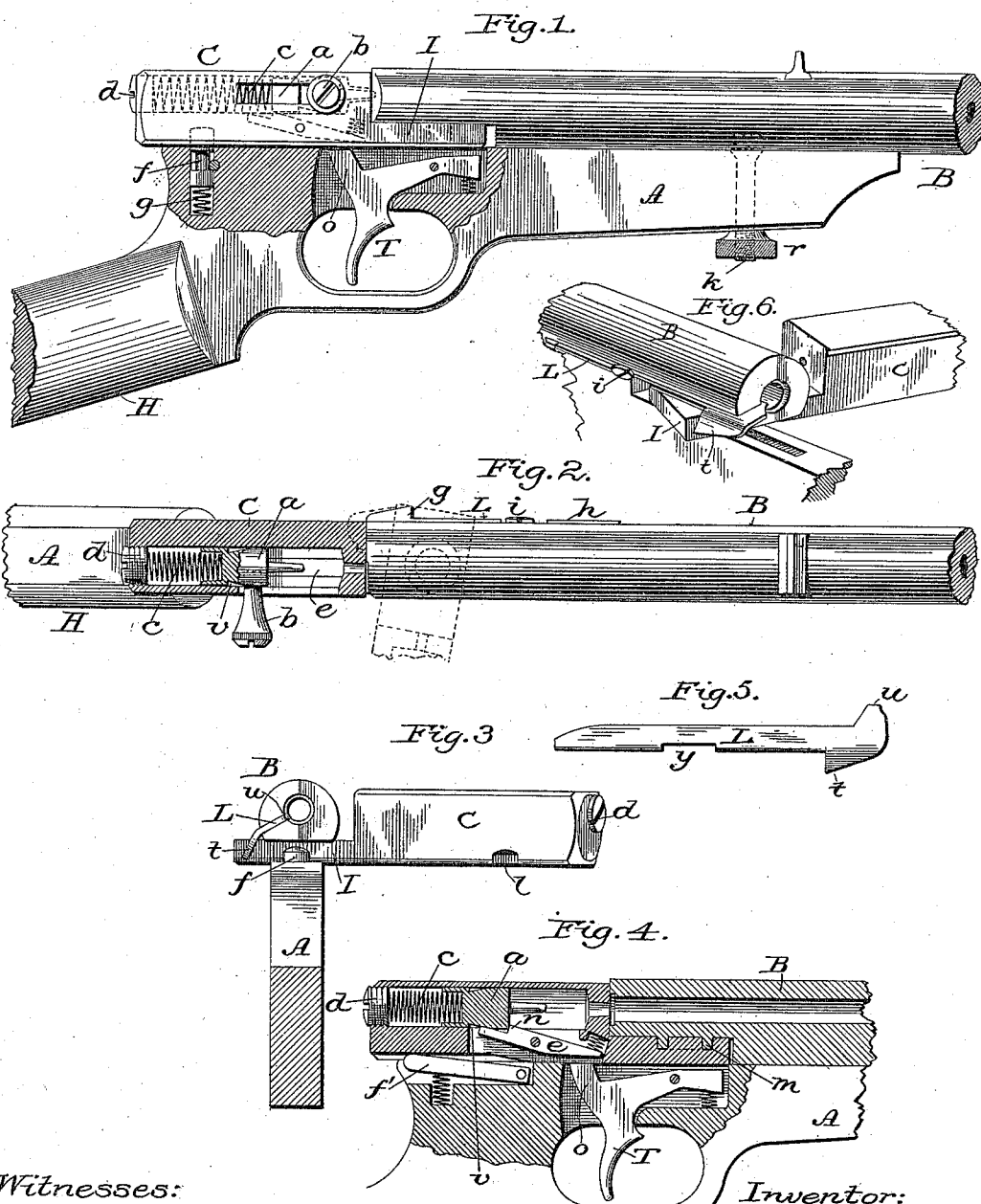
(No Model.)

H. M. QUACKENBUSH.

BREECH LOADING GUN.

No. 336,586.

Patented Feb. 23, 1886.



Witnesses:

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# UNITED STATES PATENT OFFICE.

HENRY MARCUS QUACKENBUSH, OF HERKIMER, NEW YORK.

## BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 336,586, dated February 23, 1886.

Application filed October 23, 1885. Serial No. 180,643. (No model.)

*To all whom it may concern:*

Be it known that I, H. M. QUACKENBUSH, of Herkimer, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Breech-Loading Guns, of which the following is a specification.

This invention relates to breech-loading firearms; and the invention consists in certain details of construction, as hereinafter more fully set forth.

Figure 1 is a side elevation with a portion broken away. Fig. 2 is a top plan view with a portion shown in section. Fig. 3 is a rear end view, showing the breech open; and Fig. 4 is a longitudinal vertical section of the same, showing a modification. Fig. 5 is a view of the extractor detached; and Fig. 6 is a perspective view, showing the manner of operating the same.

The object of this invention is to produce a gun for using the smaller sizes of metallic cartridges, that can be made very cheaply, and that is not liable to get out of order, and which shall be so very simple in its construction that any one can readily take it apart and put it together whenever required for any purpose.

To accomplish these results I make the frame or receiver A of a single piece of metal, which may be of cast metal of any suitable kind, and preferably of substantially the form shown in the drawings. To this frame A, I secure a barrel B, by means of a bolt or stud, *k*, welded or otherwise secured to the under side of the barrel, as shown in dotted lines in Fig. 1, and which projects down through a hole in the frame, where it is secured by a thumb-nut. The top of the frame, where the barrel rests on it, is grooved out longitudinally to correspond with the exterior surface of the barrel; and, if desired, additional fastenings in the form of lugs or pins may be used either on the barrel or the frame, and made to fit into corresponding recesses in the other part; but in practice I find this unnecessary in case the gun be made to use the smaller-sized cartridges, such as are ordinarily used in shooting-galleries. At the proper point a recess or hole is made in the frame A, in which is pivoted the trigger T, as shown clearly in Figs. 1 and 2, and near the rear end of the frame a small hole is bored, in which is secured a friction bolt, *f*, as shown in Fig. 1, which bolt

serves as a stop for the breech-block C when the latter is swung into line with the barrel, there being a notch or recess, *l*, cut in the side of the breech-block C, as shown in Fig. 3, in which the protruding end of the bolt *f* rests when the breech is closed, the inner end of said recess being preferably made slightly deeper into the block C than its main portion, so that the end of the bolt resting therein will hold the block more securely in position, though this is not absolutely necessary, as the friction of the bolt *f* against the block C should be sufficient to hold the block in position, but not so tightly but that the block can be readily pushed to one side by the thumb when it is desired to open the breech. In Fig. 4 I have shown this friction device made in the form of a pivoted spring-latch, *f'*, arranged to engage in a groove or recess in the under side of the block C, its function and operation being the same. It is obvious that any similar friction device may be used, it only being required to hold the block in position until the gun is ready to fire, when the projection *o* on the rear end of the trigger is forced up into a slot in the under side of the block C as the trigger is pulled, and thus locks the breech-block securely in place at the instant of firing.

The breech-block C consists of a simple block of metal, having a prolongation or arm, I, at its lower front end, by which it is pivoted to the under side of the barrel, the barrel having its lower side cut away, as shown in Figs. 1 and 2, to permit this arm I to pass under it, as shown. In Fig. 4 I have shown an annular stud, *m*, formed on the under side of the barrel, and arranged to fit in a corresponding groove cut in the upper face of the arm I to serve as a pivot for the block C; but it is obvious a simple solid stud or pin may be secured to the barrel or to the arm I, and be made to fit in a corresponding recess or hole in the opposite part and operate the same. By using the plan shown in Fig. 4 I secure a large bearing-surface and make a strong joint, amply sufficient to resist the force of the charge. By thus pivoting the breech-block centrally in line with the bore the force of the explosion is brought to bear equally on the breech-block at both sides of the central line, and thus all tendency to force the breech-block laterally, as is the case where the breech-block

is pivoted at the side instead of the center, is avoided.

A longitudinal hole is bored from the rear end of the block C, of proper size to receive a firing-pin, *a*, and a spiral spring, *c*, which are held in the hole by a screw, *d*, inserted in the rear end of the hole, as shown in Figs. 1, 2, and 4, the front end of this hole being reduced in diameter, as shown in Figs. 2 and 4, to correspond with the front portion of the firing-pin, which is also much less in diameter than the body of the same, it being made with a larger body, for the purpose of securing the weight necessary to impart the requisite blow to ignite the charge, and also to permit a hole of proper size to be bored into its side to receive the end of projecting thumb-piece *b*, which is screwed into it through a slot in the side of the block C, as shown in Figs. 1 and 2, this thumb-piece or pin *b* being used to draw back the firing-pin *a* and compress the mainspring *c* to cock the gun. The firing-pin *a* has a notch or annular groove, *v*, formed in it, as shown in Figs. 2 and 4, which answers to the half-cock notch of the ordinary tumbler. A sear, *e*, is pivoted in a slot in the lower side of block C, as shown in Fig. 4, its front end having a spring pressing it down, while its rear portion has a shoulder, *n*, formed on its upper side, some distance from its end, as shown in Fig. 4, the rearwardly-extending portion of the sear resting against the under side of the firing-pin *a*, and thus limiting the upward motion of the rear end of the sear.

The trigger T, as shown, is pivoted in a recess in the frame A in such a position that when pulled the arm or projection *o* on its rear end is thrown upward against the front end of the sear *e*, thereby depressing its rear end and releasing the firing-pin. To half-cock the arm, the firing-pin is drawn back until the shoulder *n* engages in the notch *v*, and to bring it to full-cock the pin *a* is drawn back until the shoulder *n* of the sear engages with the front shoulder of the firing-pin body, it being shown at full-cock in Fig. 4.

As shown in Figs. 1 and 4, the trigger-guard is formed integral with the frame A, which also has a rear extension for the attachment of the stock H, thus forming an exceedingly simple and cheap frame.

The extractor L consists of a simple strip of metal of the form shown in Fig. 5, its rear end being provided with an inwardly-projecting lip, *u*, to engage under the flange of the cartridge, and an outwardly-projecting lip or shoulder, *t*, for the arm I of the breech-block to strike against when the latter is swung around to open the breech, as shown in Fig. 6. This extractor is placed in a shallow groove cut in the side of the barrel, and is held in place by the head of a screw, *i*, (shown in

Fig. 6,) the outer edge of the extractor-body being cut away, as shown at *y*, Fig. 6, to permit it to be moved to and fro the required distance. The outer lip or shoulder *t* is inclined downward, as shown in Fig. 3, to bring it within the path of the front end of the arm I of the breech-block as the latter is turned around, the movement of these parts being indicated by the dotted lines in Fig. 2, and more clearly in Fig. 6.

By constructing the several parts as above described I am enabled to produce a very simple and cheap gun.

To dismount the arm it is only necessary to remove the nut *r*, when the barrel can be taken from the frame, and the breech-block, with its attachments, can be removed from the barrel.

To remove the firing-pin and mainspring it is only necessary to remove the thumb-piece *b* and the screw *d*, while the extractor is released by simply taking out the screw *i*.

I am aware that fire-arms have heretofore been made with a breech-block arranged to swing laterally, and therefore I do not claim such, broadly; but,

Having fully described my invention, what I do claim is—

1. The combination, in a gun, of the barrel B, having its under side cut away for the reception of the arm I of the breech-block, with the breech-block C, provided with the arm or projection I at its front end, said breech-block being pivoted to the barrel centrally in the line of the bore, substantially as described.

2. The combination, in a gun, of the metallic frame A, constructed as shown, the barrel B, secured to said frame by the stud *k* and nut *r*, and the breech-block C, pivoted to the barrel by means of its forwardly-projecting arm I, substantially as and for the purpose set forth.

3. In combination with the laterally-swinging breech-block C, having the firing-pin *a*, pivoted sear *e*, and spring *c* located therein, the trigger T, provided with the projection *o*, arranged to be thrown up into the slot in the under side of the breech-block, for the twofold purpose of releasing the firing-pin and securely locking the breech-block in position when the arm is fired.

4. The sliding extractor L, provided with the lip *u* and shoulder *t*, in combination with the barrel B, and the laterally-swinging breech-block C, having its arm I projecting beyond its pivot, whereby it is caused to operate the extractor when swung around, substantially as shown.

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Witnesses:

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