

W. R. LANDFEAR.
Breech-Loading Fire-Arm.

No. 44,099.

Patented Sept. 6, 1864

Fig. 1.

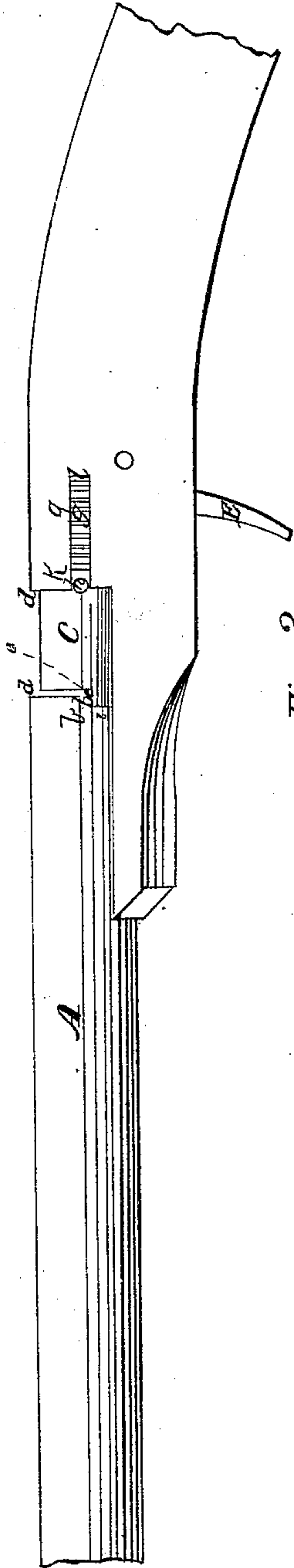


Fig. 2.

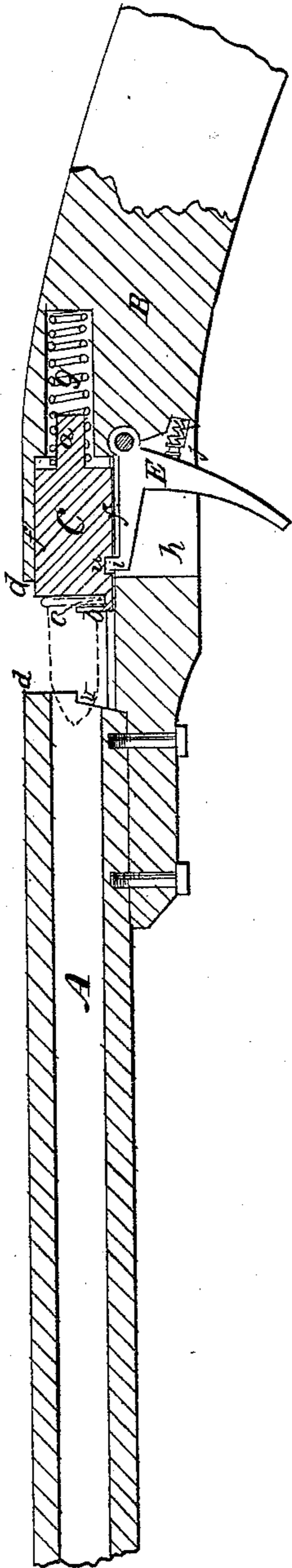
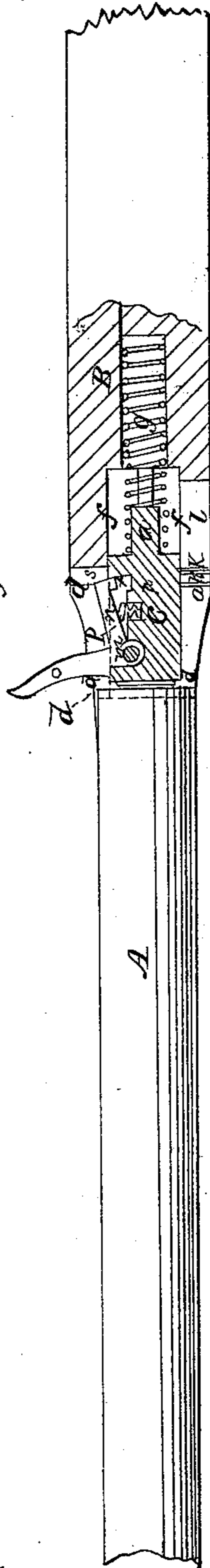


Fig. 3.



Fig. 4.



Witnesses:

J. W. Coombs
C. H. Ray

Inventor:

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UNITED STATES PATENT OFFICE.

WM. R. LANDFEAR, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 44,099, dated September 6, 1864; antedated August 19, 1863.

To all whom it may concern:

Be it known that I, WILLIAM R. LANDFEAR, of the city of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the breech and parts of the barrel and stock of a rifle with my improvements. Fig. 2 is a central vertical section of the same. Fig. 3 is a horizontal section of the same. Fig. 4 is a front view of the breech.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to the use of a breech which opens and closes by a movement directly from and toward the rear of the barrel and parallel with the bore thereof.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the barrel, and B the metal frame by which it is attached to the stock and which contains the lock.

C is the sliding breech, consisting of a solid cylinder having a central or concentric stem, *a*, at its rear end, and having on the lower half of its front end a semi-annular projection, *b*, in the interior of which is a groove, *c*, which is made to fit the flange of the metallic cartridges with which the piece is to be discharged, the inner semicircular face *e*, Fig. 4, of the said projection fitting to the body of the cartridge-case. A recess, *v*, is provided in the rear end of the barrel for the reception of the projection *b* when the breech is closed.

Between the rear end of the barrel A and the part of the frame B, directly behind it, there is an opening, *d d*, of sufficient length to permit the cartridge (when the breech is drawn back or open, as shown in Fig. 2) to be placed between the breech and the barrel, with its flange in the groove *c* of the projection *b*, in the manner illustrated in Fig. 2, by the representation of the cartridge in dotted outline. The breech is fitted into a cylindrical bore, *f*, provided for it in the frame B, the said bore being concentric with the bore of the

barrel, and there is applied within the said frame and around the stem *a* a spiral spring, *g*, by which the breech is driven forward and closed when liberated by the trigger E, which works in a slot, *h*, in the under part of the frame in the position commonly occupied by the triggers of fire-arms. This trigger has formed upon it a sear, *i*, which enters a notch, *u*, in the under side of the sliding breech, to cock it or hold it open when drawn back, and the said trigger has applied to it a spring, *j*, which operates in the manner common to trigger-springs.

To prevent the breech from turning, it is furnished on one side with a pin, *k*, which projects into a slot, *l*, in the side of the frame B, and the back of this slot, by acting as a stop to the said pin, serves as a stop to limit the backward movement of the breech.

To one side of the breech there is attached, by a fulcrum-pin, *m*, a small bent trigger-like lever, *n o*, the arm *n* of which has a groove, *r*, provided in the side of the breech, for its reception, and the arm of which projects from the right side of the opening *d d*, between the barrel and the frame, like the finger-piece of a trigger. The arm *n* has a spring, *p*, applied to it to force it outward from the groove *r*, so that when the rear of the barrel is closed the end of the said arm may protrude from the breech-piece far enough to catch against the rear of the opening *d d*, and so serve as a stop to sustain the breech against the tendency to recoil. The said opening *d d* has provided in it, close to where the arm *n* bears, as above described, a narrow groove, *s*, for the reception of the arm *o* when the breech is drawn back; but this groove is not wide enough to prevent the end of the arm *m*, which is wider than *o*, from having a good bearing.

The operations of loading, firing, and withdrawing the discharged cartridge-case are as follows: To prepare for loading, the finger-piece *o* of the lever *n o* is drawn backward, and so the arm *n* is first drawn within the groove *r* of the breech, and the breech, being thus unlocked, is then drawn backward till the sear *i* of the trigger enters the notch *u* and cocks it. The ball-cartridge is then placed in the opening *d d*, with the point of the ball entering the rear opening of the barrel, and with the flange at its rear containing the percussion-

priming in the groove *e* of the projection *b*, and the piece is ready for firing, which is effected by merely pulling the trigger *E* to liberate the breech, which is then driven forward by the spring *g*, and so caused to drive the cartridge into the chamber of the barrel. As the breech comes home—that is to say, as its projection *b* comes in contact with the front of the recess *v*—the end of the arm *n* of the lever *n o* passes out of the bore *f*, and is sprung out into the opening *d*, as shown in Fig. 3, to lock the breech, and the blow against the end of the barrel to which the flange of the cartridge is subjected by the breech coming home causes the explosion of the percussion-priming and the firing of the charge. This explosion may perhaps be rendered more certain by providing one or more sharp projections on the

surface of the rear end of the barrel. By drawing back the arm *o* of the lever *n o*, as at first described, to open the breech, the projection *b* on the latter is caused to withdraw the discharged cartridge-case from the barrel. The said projection also serves to prevent the cartridge from being forced too far forward into the barrel as the breech closes.

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

The lever *o n*, applied to the breech and in combination with the opening *d d* in the frame *B*, substantially as and for the purposes herein specified.

WM. R. LANDFEAR.

Witnesses:

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