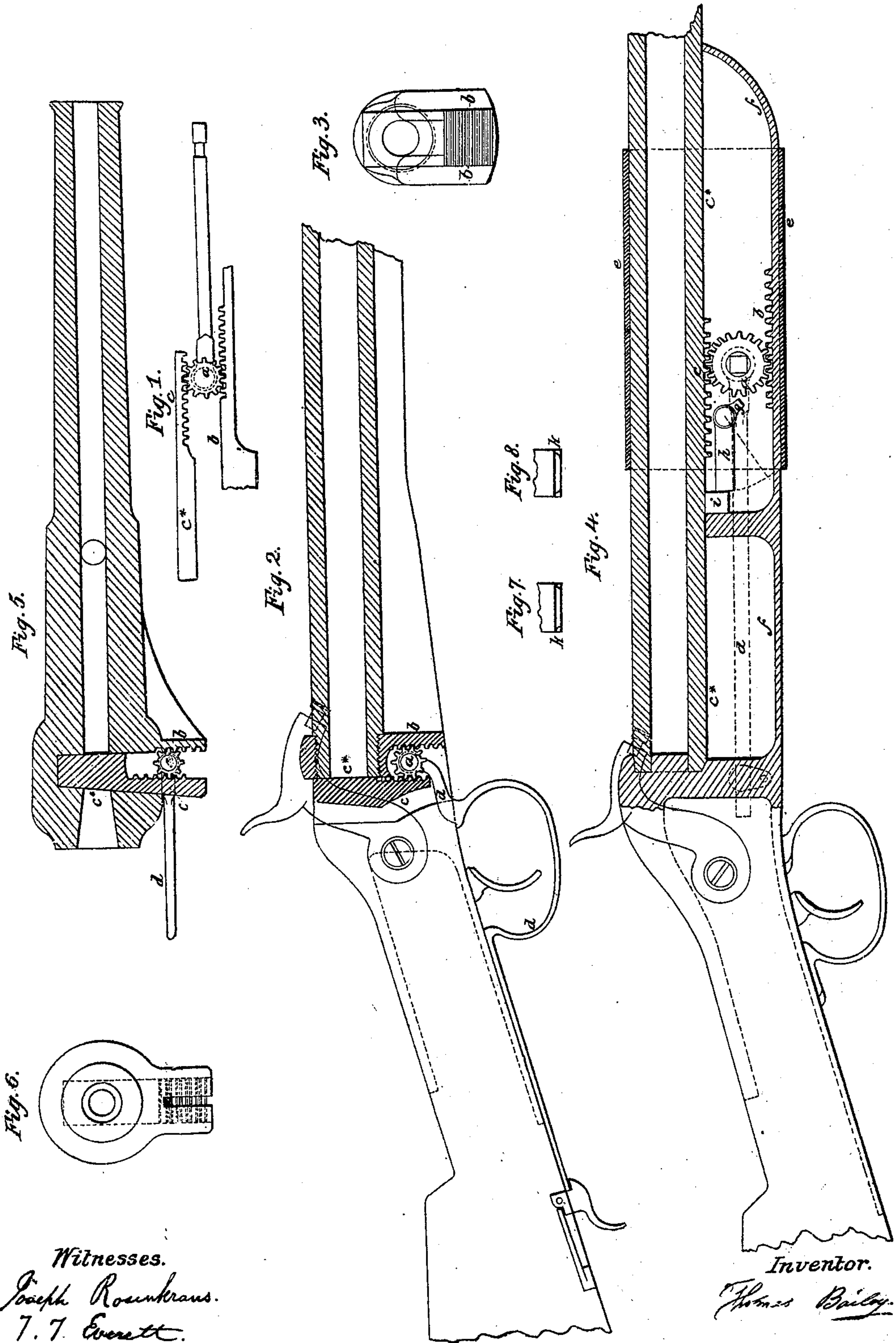


T. BAILEY.
Breech-Loading Fire-Arm.

No. 24,437

Patented June 14, 1859.



Witnesses.
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IMPROVEMENT IN MEANS FOR ACTUATING MOVABLE PARTS OF FIRE-ARMS.

Specification forming part of Letters Patent No. 24,437, dated June 14, 1859.

To all whom it may concern:

Be it known that I, THOMAS BAILEY, of the city of New Orleans, in the State of Louisiana, have invented a certain new and useful Improvement in Means for Actuating Movable Parts of Fire-Arms; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and marks thereon.

My invention consists in combining a toothed wheel or pinion on a traveling center and working between guides, with a pair of racks, one of which is stationary and the other movable, the center of the toothed wheel changing its position, or traveling in the same plane with the guides, as the wheel works in the teeth of the racks, such center not being fixed as usual. When applied to revolving fire-arms, the movable rack is connected to the rammer, the other rack being fixed, and an operating-lever attached to the wheel, the wheel being free to travel in the guides, and thereby, on its revolution in the racks, to give a length of motion to the rammer equal to the distance passed over by the wheel in its compound rotating and rectilinear motion. The arrangement is the same when applied to breech-loading fire-arms, and also to ordnance, in all cases the required movement being effected by acting on the toothed wheel or pinion on a traveling center through the operating-lever or other mechanical equivalent.

Having thus stated, in general, the nature of my invention, I will proceed to describe more particularly in what manner it can be carried into practical operation, referring to the several figures of the drawings, forming part of this specification, and representing different conditions of the application of the invention.

Figure 1 represents the invention applied to a loading-rammer. Figs. 2 and 3 show it as applied to the closing of the opening at the back part of the breech of a breech-loading gun. Fig. 4 shows its application to the moving of the barrel of a breech-loading gun, and Figs. 5 and 6 represent it as applied to the wedge for breech-loading ordnance.

In all these figures the same letters and marks of reference indicate corresponding parts.

a marks the toothed wheel or pinion on the traveling center; *b*, the fixed rack; *c*, the moving or sliding rack united or connected to the part of the arm required to be moved; *d*, the operating-lever fixed to the axis or traveling center of the toothed wheel or pinion *a*.

On reference to Fig. 1 it will be understood that by acting on the lever *d* the toothed wheel or pinion *a* will be caused to work in both racks *b* and *c*, and will communicate to the loading-rammer *c** a motion compounded of the revolution of the wheel *a* in gear with the racks *c* and *b*, and the traveling of the wheel carrying with it the rack *c*.

In Fig. 2 the sliding rack *c* is on the wedge *c**, which is slid vertically into its position, in order to close the opening at the back part of the breech, where the charge has been introduced. The operating-lever in this case is the guard, one end of which is fixed to the axis of the toothed wheel or pinion *a*, and the other end is passed into a catch on the stock. When loading, it is drawn out from the said catch and used as an ordinary lever. Fig. 3 is a transverse view of the breech, showing the wedge.

In Fig. 4 the sliding rack *c* is on the barrel *c**, which is made to slide, as required, within a tube or guide, *e*, and the fixed rack is on a stationary frame, *f*. In this case there is a cam on the traveling axis of the wheel or pinion *a*, which, by moving the lever, is brought into contact with the projecting end *g* of the bolt *h*, so as to turn the latter into the position shown by dotted lines and allow the projection *i* on the barrel to pass it when the barrel is slid forward, in order to make an opening at the breech for the insertion of the charge, and the bolt *h* is brought back into its horizontal position with its end resting against the projection *i*, when the barrel is slid home ready for the discharge of the gun.

In Fig. 5 the fixed rack *b* is on a part of the cannon, and the sliding rack *c* on the wedge *c**, for closing the breech, ready for firing. In this case the wedge *c** is firmly pressed into its required position by means of the lever *d*.

Fig. 6 is an end view of the cannon.

Having thus set out the construction and operation of my invention and shown how it may be applied to the different kinds of fire-

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

Combining a toothed wheel or pinion on a traveling center and working between guides with a pair of racks, one of which is stationary and the other movable, having connected to it the part of the fire-arm to be moved, the

toothed wheel changing its position or traveling in the same plane with the guides, substantially as herein set forth.

THOMAS BAILEY.

Witnesses:

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