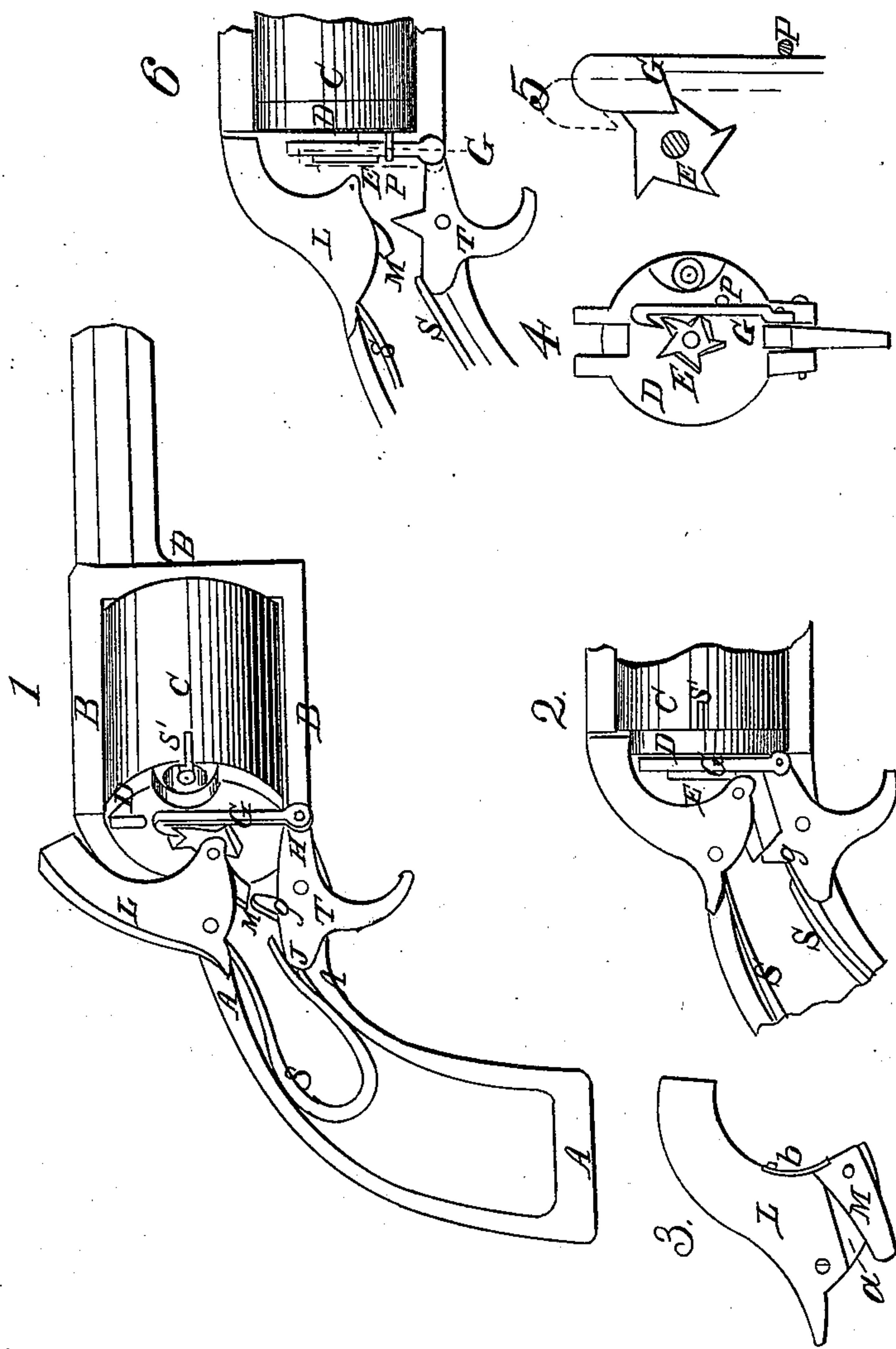


F. D. NEWBURY.

Revolver.

No. 19,327.

Patented Feb. 9, 1858.



Witnesses  
P. J. Van Hook  
John Ogden Lee

Signed F. D. Newbury

# UNITED STATES PATENT OFFICE.

F. D. NEWBURY, OF ALBANY, NEW YORK, ASSIGNOR TO RICHARD V. DE WITT, JR., OF SAME PLACE.

## IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. 19,327, dated February 9, 1858.

*To all whom it may concern:*

Be it known that I, FREDERICK D. NEWBURY, of the city of Albany, State of New York, have invented certain Improvements in the Class of Fire-Arms known as "Revolvers;" and I declare the following specification, with the drawings hereto appended as part of the same, to be a full and perfect description thereof.

Figure 1 represents a perspective view of a pistol with the outer casing of the stock removed to show the mechanism of the piece; Fig. 2, a vertical section through the center of the operating mechanism; Fig. 3, a vertical section of the hammer; Fig. 4, a rear view of the face-plate with part of the machinery; Fig. 5, a diagram of the ratchet-wheel and lever; Fig. 6, a diagram to show the position of the machinery just at firing.

Similar letters in all the figures indicate the same parts of the apparatus.

A is the stock-framing of a gun or pistol, expanding into B, the frame, which contains within it the usual revolving cylinder, C, turning between the front bar of said frame and the fire-plate D upon steel axles, the rear one passing through the fire-plate and carrying in the rear of and against the plate the ratchet-wheel E. By this wheel the cylinder C is turned through the ratchet-lever G. This lever has a hooked head, shaped so as to fit the spaces between the ratchet-teeth of the wheel, as shown in Figs. 4 and 5. The lever is made of spring-steel, and is guided in its movements by a pin, *p*, so placed that when the lever has brought the wheel E into its proper position for firing it shall rest against it, so that while the lever remains stationary the wheel cannot be turned round, serving in this respect as lever and pawl both. This lever is operated by the projecting limb H of the trigger T. The trigger is kept habitually with limb H in its upward position by the pressure upon its back limb J of the lower end of the mainspring S. The mainspring is formed loop-wise, as shown in the drawings, and lies free in its place, its upper end pressing under the back limb K of the hammer L, so as habitually to keep the hammer down upon the cone, as shown in Fig. 2.

The hammer (see Fig. 3) has within a slot in its lower front angle a dog, M, with its back end projecting a little backward and down-

ward beyond the bottom of the hammer, and so fitted that when, as shown in Fig. 3, the hammer is resting upon the cone, it can be moved no farther downward without carrying the hammer with it; but it can rise a short space in the recess *a* when pressed upward. Upon being released from its upward position it is restored to its habitual position by a small spring, *b*, attached to the front edge of the hammer. The trigger has a short upper limb, *g*, which, when the machinery is not in motion, lies against the back end of dog M.

The ratchet-wheel E has a tooth for every chamber in the cylinder in the drawing 5. Each chamber has fitted to it, projecting from it, a primary cone, which lies in a recess sunk in the rear end of the cylinder, the recess having a small slit, S, on its outer edge to permit the gas and smoke from priming to escape without the protrusion of fragments of the exploded caps, the cone, recess, and slit being as exhibited in my patent for priming-cap guard, issued July 12, 1855.

The piece standing as shown in Fig. 2, with the hammer down and in range externally with the upper line of the stock, the trigger projecting forward, the chambers are loaded and the cones capped in the usual manner. Upon the drawing of the trigger the pressure of the limb *g* against the end of the dog in the hammer throws the hammer upward, pressing its tail upon the upper end of the mainspring S until it assumes the position shown in Fig. 1, when *g* slips by the dog and the hammer falls upon the cone. During this movement of the trigger its forward limb has carried down the ratchet-lever, bringing the wheel with the cylinder into the proper position for firing, so that at the moment that the trigger slips by the dog the chamber and barrel are in line, and are kept so by the relative form and operation of the lever and ratchet-wheel teeth.

It must be noticed in reference to the action of the mainspring that at the moment before the drop of the hammer, in consequence of the approach of the back limbs of both hammer and trigger, it is at its greatest tension. Further, that as the trigger does not recede from its extreme back position till after the firing, the tension of the spring upon the hammer is kept up to near its maximum point at the



moment when the hammer hits the cap, and that as soon as the trigger is released from the pressure of the finger after fire, and it flies back to its first position, the entire tension of the spring is diminished to its maximum, so that when the trigger begins to act again in firing, the hammer and trigger both have to contend with a very slight pressure of the spring, while the leverage of the trigger is acting to its greatest disadvantage, and the maximum pressure of the spring on the hammer being at the time when the trigger is acting with its greatest mechanical effect.

In reference to the action of the lever G upon the ratchet-wheel teeth, it will be noted that when the wheel is in firing position, as shown in Diagram 5, its head is pressed slightly out of its natural position, which would be that shown by the dotted lines, and this its elastic stem of steel permits, and that when the lever is carried upward by the return action of the trigger, the head passing up beyond the tooth it rests against, springs over it, and is prepared to draw it downward with the succeeding movement of the trigger.

Although the above improvements are specially applicable to revolvers, yet I do not intend to limit myself to that class of fire-arms, but to apply my invention to all cases to which it may be applicable and prove advantageous.

I claim—

1. The mainspring S, arranged as described, to operate the hammer and trigger simultaneously where the hammer is cocked by the trigger.

2. The ratchet-wheel, lever, and pin, in combination, arranged as described, so as to revolve the cylinder, and to hold it firmly in the act of firing.

3. The combination of the mainspring, trigger, ratchet-wheel, lever, and pin, for the purpose of cocking the piece, revolving the cylinder, holding it in place, and firing the piece by one movement of the finger upon the trigger, substantially as set forth in the within specification.

F. D. NEWBURY.

Witnesses:

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