J. H. B. LATROBE.

Priming Cock.

No. 14,319. Patented Feb. 26, 1856

Fig. 1

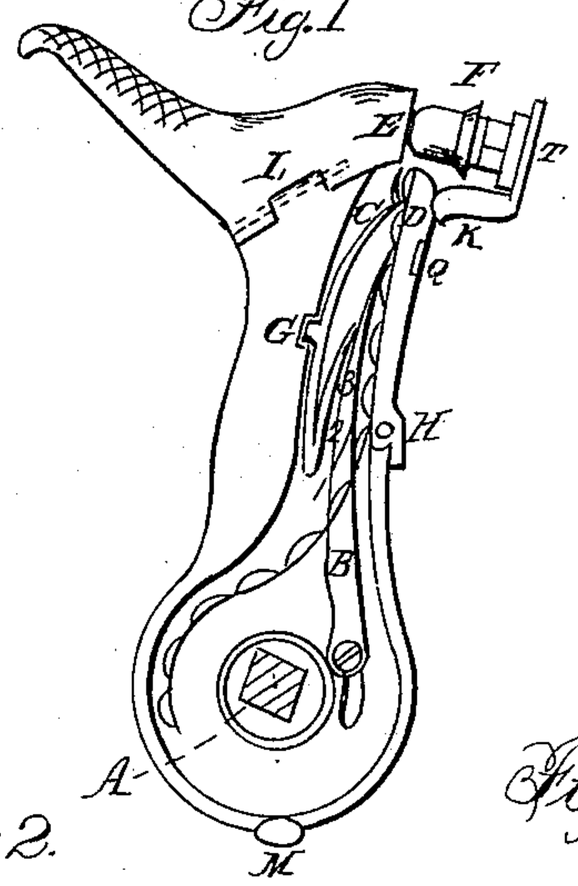

Fig. 2.

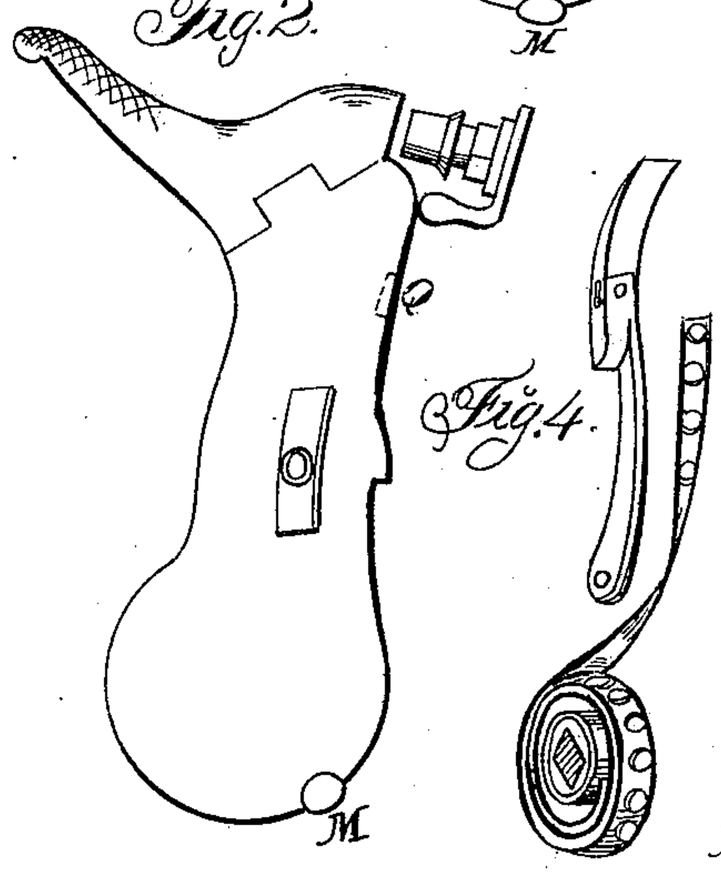

Fig. 3

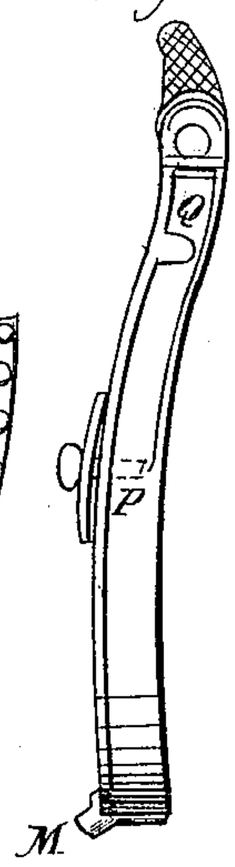

Fig. 4.

Witnesses:

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JNO. H. B. LATROBE, OF BALTIMORE, MARYLAND.

PERCUSSION-LOCK FOR FIREARMS.

Specification of Letters Patent No. 14,319, dated February 26, 1856.

To all whom it may concern:

Be it known that I, JOHN H. B. LATROBE, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Firearms; and I do hereby declare that the following is a full and exact description, to wit:

The object of my invention is to facilitate the application of the Maynard primer to firearms. At present, when it is desired to apply the primer to an existing arm, it is necessary to make a new lock, which, in its turn, requires a new stock to suit the form of the new lock, or, at all events, an alteration of the stock, or the use of a separate contrivance, in addition to the ordinary parts of the arm, to hold the primer.

In my invention, I place the primer in a chamber within the hammer, which chamber also contains the means of protruding the primer and of cutting off, at the proper time, the portion to be exploded upon the nipple.

All that is necessary to apply the Maynard primer where my invention is used, is to take the common hammer and substitute mine in its place, putting, at the same time, a washer with a projecting upright under the nipple, or fitting the fence to answer the purpose of such a washer; and the arm may be restored, at any time, to its former state, by replacing the old hammer and removing the washer.

The accompanying drawing Figure 1 represents the inside of the hammer, with the cover, presently to be described, removed. The chamber, there shown, is of a depth corresponding to the width of the primer. I leave in it a boss, or hub, of sufficient strength, around the square of the tumbler, as shown at A. There is a loose ferrule on this boss around which the primer is coiled when placed within the hammer—one end of the coil being carried forward as shown in the drawing under the pusher B and detent C, to be protruded between the edge of the movable cutter D, and the nose of the hammer at E, as the hammer descends, in time for the explosion. The pusher B is flat within the circular part of the chamber, so as to allow the primer to move over it without increasing too much the thickness of the hammer; beyond the circle, it stands, as it were, an edge, and is of the width of the primer. The detent C is a spring fastened to the hammer at G as shown in the drawing, the forward end of which prevents the primer from being drawn back by the pusher as the piece is cocked while the back part keeps the pusher down upon the primer. The claw at the forward end of the detent keeps the primer in the proper position to be pushed forward and prevents the cap from exploding in the event of the cutter being driven too far in.

Motion is given to the pusher in the following manner: A circular slot is cut in the bottom of the chamber, a little longer than the space between the centers of two caps on the primer, and so far from the center of motion of the hammer, that the arc described by the center line of the slot, when the hammer falls from full cock to the nipple, is just as great as the distance between two caps on the primer. Through this slot, the end of the pusher is attached, by a screw, to the lock plate, so that the screw shall touch the upper end of the slot, when the hammer is upon the nipple.

In order to find the exact distance of the center line of the slot from the center of motion of the particular hammer, I take, in a pair of dividers, the distance from this center to the orifice in the nipple as a radius, and draw an arc of a circle. I then cock the piece and take the distance from the center of the nose of the hammer to the orifice in the nipple and lay it off as a chord of the arc, drawing radii to the extremities; then taking the distance between the centers of two caps in my dividers I find between these radii, the chord which will correspond therewith, and the radius of the arc subtended by this chord, will be the distance of the center line of the slot from the center of motion of the hammer.

Cocking the arm, now, it will be seen, that the hammer under the end of the pusher which is stationary in the chamber will be drawn back just the distance between two caps, which is just the same in effect as though the pusher were drawn back that distance, and when the hammer falls, the pusher, will, of course, be virtually pushed forward just the same distance. If the front of the pusher is then resting on the back part of a cap, and is retained there by the detent spring, the primer will be pushed forward just the distance betwen two caps, and the cap under the claw of the detent will be protruded over the nipple completing its journey at the instant of the discharge.

Cocking the arm again, the pusher will pass over a cap and take position behind it, ready, on the trigger being pulled, to push a cap forward and so on until the whole primer is discharged.

The distance from the edge of the cutter to the detent, or the space under the claw, is just the width of a cap; the space between the detent and the front of the pusher is just the distance from the back of one cap to the back of the next behind it, or, which is the same thing, the distance between the centers of the caps. The use of the ferrule on the boss is to prevent the coil of primer from tightening around the boss as it is uncoiled by the pusher. But it is essential, that at the moment of explosion the cap exploded should be cut from the primer and the rest of the primer securely protected from the fire, otherwise the explosion of the entire primer may take place. To accomplish this, I make a cutter D Fig. 1 which is a prolongation of the front edge of the chamber and which is hinged at H. Over this cutter the primer is protruded by the pusher through an opening just wide enough for a cap to pass between its front edge and the nose of the hammer as shown in the drawing at *o* Fig. 1. When the hammer falls, this cutter strikes against the upright K on the washer T, the washer being held in place by the nipple. This upright is only long enough to force the edge of the cutter just past the edge of the nose of the hammer with which it is in contact as it passes, so as to cut the primer, while, at the same time, the chamber in the hammer containing the primer is securely closed by the cutter itself and all fire excluded from it. When the piece is cocked the spring of the detent presses the cutter back into its position and reopens the passage for the next cap for the next discharge.

The cutter may be kept in its place for the primer to pass over it by the shape of the hinge, or by a ledge Q on the cover which is hinged at L and caught when closed by the catch M.

Fig. 2 shows the hammer with the cover down—the ledge referred to being at Q and at the same letter in Fig. 3.

When the cover is raised the cutter recedes from the pusher and detent far enough to enable the soldier or party using the arm to insert a new primer without difficulty. To close the cover the cutter is pushed by hand within the ledge. The jaw shown at the hinge of the cutter regulates the extent of its motion outward when the cover is raised.

The drawing which is of full size shows that when there is no primer in the chamber the common cap may be used as well with this as with any other hammer. But it may be well to have the power to use the hammer with the common cap alone while it has a coil of primer within it or to cork and uncork the piece without protruding the primer. I have therefore added an arrangement for throwing the pusher in and out of gear.

I insert a pin P Fig. 3 within the chambers at 1 Fig. 1. This pin is moved backwark and forward by a button with a spring on the outside of the cover. To throw the pusher out of gear it is moved forward under an inclined plane on the pusher from 1 to 2 Fig. 1 raising the latter, which then passes backward and forward on the pin P from 2 to 3 Fig. 1 without touching the primer.

The arrangement by which the pusher is thrown out of gear is a most efficient guard against accidental discharge. Thus a sportsman may cock his gun in the field without danger while the pusher is out of gear and pushing down the button with his thumb throw the pusher into gear while in the very act of pulling the trigger.

Where the hammer requires to be much bent sidewise to strike the nipple the tape may not bend edgewise sufficiently to accommodate the form of the hammer, in which event it will be necessary to twist the primer between the boss and pusher and to put a joint in the pusher as shown in Fig. 4.

In the applications of the Maynard primer that I have seen, the primer, is protruded in the act of cocking the arm and remains exposed, afterward, until the discharge takes place. In my improvement, the primer is protruded as the hammer falls though it may also be protruded as the piece is cocked by placing the slot and fastening to the lock plate on the opposite side of the boss to that which is represented in the drawing.

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

1. The hammer chambered to receive the primer in combination with a pusher attached to the lock plate and protruding the primer as the hammer moves, substantially as described.

2. Also the movable cutter in combination with the chambered hammer and operating in combination with the projection on the piece as described herein, to cut off the cap to be exploded, while, at the same time, it closes the chamber and protects the rest of the primer from the fire of the explosion substantially as herein described.

3. Also the claw on the end of the detent to keep the primer always in place for protrusion.

4. Also the movable catch for throwing the pusher out of play in the manner described or any other substantially the same in combination with the pusher.

5. Also the ferrule around the boss in combination with the chambered hammer.

6. Also the twisting of the primer between the boss and pusher to permit of its being bent to suit the form of the hammer as described.

7. Also the arrangement of the parts above described so as to protrude the primer while the hammer is falling instead of while the piece is being cocked.

N. B.—In the foregoing specification I call the tape upon which the charges of percussion powder are placed the primer, and the charges thereunto the caps.

JNO. H. B. LATROBE.

Witnesses:

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JAS. B. WRIGHT.