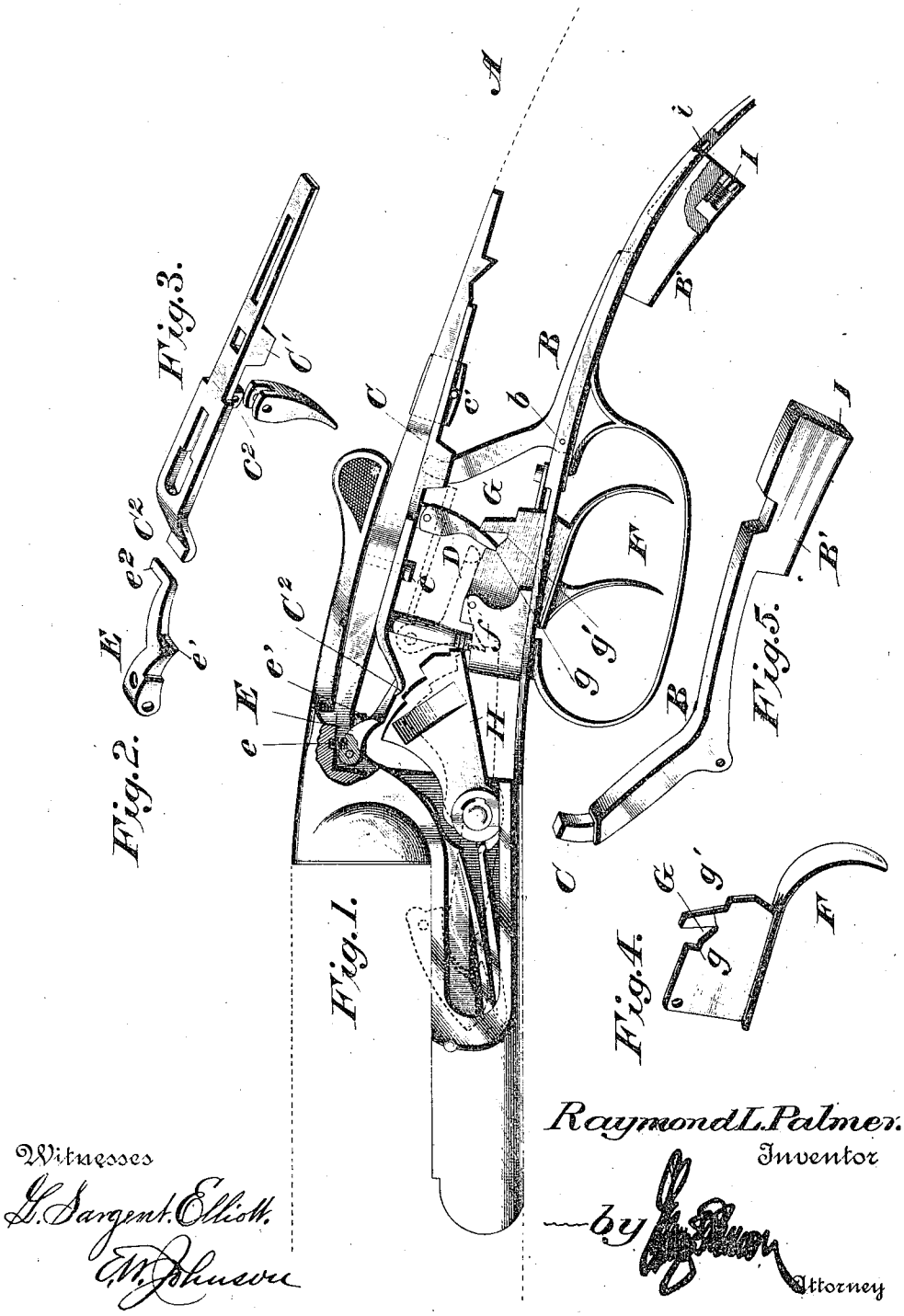
(No Model.)

R. L. PALMER.

SAFETY LOCK FOR HAMMERLESS GUNS.

No. 476,064. Patented May 31, 1892.



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SAFETY-LOCK FOR HAMMERLESS GUNS.

SPECIFICATION forming part of Letters Patent No. 476,064, dated May 31, 1892.

Application filed July 30, 1891. Serial No. 401,188. (No model.)

To all whom it may concern:

Be it known that I, RAYMOND L. PALMER, a citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Hammerless Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in breech-loading firearms.

The object of the invention is to provide a hammerless breech-loading firearm in which the safety mechanism is operated by a lever pivoted to the frame in rear of the trigger-guard, so that said lever can be operated by the fingers of the hand that grasps the stock to unset the trigger-locking or safety mechanism when the gun is at the shoulder and immediately prior to pulling the triggers.

In the accompanying drawings and specifications I have shown and described my improvement applied to the lock mechanism used with what is known as the "Lefever hammerless gun," in which—

Figure 1 is a side view of my improved safety attachment, showing the side plates of the frame removed. Figs. 2, 3, 4, and 5 are detail perspective views showing parts of the mechanism detached.

A designates the stock to which my improved lock mechanism is attached, the lock-casing being of the construction ordinarily used with hammerless guns, the lower plate rear of the trigger-guard having a slot to receive the end of the lever B, said lever being made of a single piece and presenting the enlarged end B′, which moves through the slot in the casing and is so positioned that it can be operated by the fingers of the hand that grasps the stock. This lever is pivoted to the lower portion of the lock-casing in rear of the triggers by a pin or bolt *b* and extends upwardly therefrom to loosely enter a recess in the safety-bar C, said safety-bar sliding on a screw and guide *c* and *c′*, attached to the casing. This safety-bar, in addition to the recess C′ and raised wall around the same, in which the end of the lever B lies, is provided with slots through which the fastening devices or screws *c* and *c′* pass for permitting a sliding movement when operated by the lever.

Immediately in front of the recess C′ in the safety-bar is located a depending lug c^2, to which is pivoted a dog D, adapted to engage with and lock the trigger-plates, as will be hereinafter described. The forward end of the safety-bar is inclined downwardly, as shown, the extreme end being further bent to present a rest C^2 for the trigger-sears E E, said sears when in this position locating the catch portions *e′* thereof in the path of the notches formed in the upper ends of the hammers H H. These sears are depressed by springs *e*, located to one side of their pivots, and they are elevated out of the path of the hammers by the inwardly-projecting ends e^2 thereof riding upon the inclined end of the safety-bar C when it is slid in a forward direction.

F F refer to the triggers, which have plates F′ F′ formed integral therewith, which are perforated to receive the pivot-pin *f*, these plates also having notches G, within which the end of the safety-dog D lies, the lower ends of said notches being inclined downwardly from front to rear, as shown, so that when the safety attachment is set the end of the dog will be at the upper end of the inclined base of the slot to lock the triggers in a depressed position, the projection *g′* of the trigger-plates bearing against the rear face of the dog to retain it in place. When the safety attachment is operated to unset the same, the lower end of dog will lie in the rear portion of the notches G and permit the triggers to be elevated to release the hammers. It will be observed that at the same time the dog is moved to permit the operation of the triggers the sears E E are elevated out of the path of the hammers. The rear end of the enlarged portion B′ of the lever B is recessed for the reception of a spring-retracted bolt I, adapted to enter a recess *i* in the lock-frame and hold the safety attachment out of engagement with the lock mechanism, the frictional con-

tact caused by the outward pressure of the spring-actuated lever B serving to keep the bolt projected.

I am aware that prior to my invention it has been proposed to provide a safety-lock for firearms, consisting of a lever pivoted in rear of the trigger-guard for operating releasing devices constituting a part of the lock, so that the triggers can be thrown to release the hammers, and such device is not claimed, broadly.

I am also aware that it is not new *per se* to operate a safety-bar by a thumb-piece attached to the upper part of the lock-casing rear of the lever used for locking the gun-barrels.

In the foregoing specification I have not deemed it necessary to show or describe the details of construction employed for throwing or setting the hammers, as such construction is well known and would only tend, if fully illustrated, to obscure the essential features of my invention, sufficient of the mechanism to render the device operative being shown in dotted lines, Fig. 1.

In operation, when it is desired to load the gun the lever in rear of the breech is moved to one side, which will permit the rear ends of the barrels to swing upward, and in so doing will set the hammers in a position for firing, and when said barrels are brought back into position they will be automatically locked in the usual manner. In firing the gun the lever B is pressed upon to project the safety-bar C, the inclined forward end of which engages with the safety-sears E to move them out of the path of the hammers, and the dog pivoted to said bar moves in the notches in the trigger-plates, so that the triggers can be pulled to release the hammers and fire the gun. When it is desired that the safety mechanism be placed in an inoperative position, the lever B is pressed within the gunstock and the spring-retracted bolt I projected into the recess *i*, which position will locate the dog D in the enlarged portion of the notch G and the sears E at the upper part of the inclined end of said bar.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a breech-loading firearm having concealed hammers, a sliding safety-bar C, the forward end of which is extended downwardly, safety-sears pivoted so as to be movable in and out of the path of the hammers, said sears having laterally-projecting portions with which the forward end of the sliding bar engages, and a lever B, having a portion B′, which extends beyond the stock in the rear of the trigger, said lever B engaging directly with the sliding bar C, substantially as set forth.

2. In a breech-loading firearm having concealed hammers, a sliding safety-bar C, having a downwardly-inclined front end, safety-sears E E, having portions movable in and out of the path of the hammers and extended laterally, with which the forward end of the safety-bar is adapted to engage, springs for holding the safety-sears normally depressed, and means for moving the safety-bar to place the same in or out of engagement with the safety-sears, substantially as shown, and for the purpose set forth.

3. In a breech-loading firearm having concealed firing-hammers and lock mechanism, a sliding safety-bar connected with a manually-operated lever having its end projecting beyond the gunstock rear of the trigger-guard, and a dog carried by the safety-bar and adapted to be moved by the action of the safety-bar to lock and unlock the triggers, said safety-bar simultaneously moving the safety-sears in or out of the path of the hammers, substantially as set forth.

4. In a firearm having concealed hammers, a sliding safety-bar connected to a pivoted lever for projecting or retracting the same, spring-actuated safety-sears adapted to be automatically moved in the path of the hammers and out of the path of the same by contact with the safety-bar, and a dog pivoted to the safety-bar and adapted to play in a notch in the trigger-plate to lock the trigger when said bar is retracted, substantially as set forth.

5. The combination, in a firearm, of a movable safety-bar carrying a pivoted dog, the forward end of said safety-bar being adapted to raise the safety-sears E out of the path of the hammers when moved forward, triggers having plates F′ F′, with notches G, in which the pivoted dog plays, said notches having inclined bottoms, substantially as set forth.

6. The combination, in a firearm constructed substantially as shown, of a lever B for projecting and retracting a safety-bar, said lever having a sliding bolt which is adapted to engage with an aperture in the stock for holding the lever B within the stock and the safety mechanism out of an operative position, substantially as set forth.

7. In combination with a firearm constructed substantially as shown, a safety-bar C, secured movably to the lock-casing and provided with an inclined forward end presenting a rest C^2, safety-sears E E, pivoted to the frame to move within the path of the hammers, said sears having inwardly-projecting portions e^2, with which the inclined end of the safety-bar engages when it is moved forward, substantially as set forth.

8. In combination with a firearm having a movable safety-bar C and mechanism for actuating the same, a pivoted dog carried by said safety-bar to engage with the trigger-plates when the bar is retracted and lie in the enlarged portion of the notch when the bar is projected, substantially as set forth.

9. The combination, in a firearm having concealed hammers, of a safety-bar carrying a pivoted dog, said dog engaging with notches

G G in the trigger-plates, spring-depressed safety-sears, E E, having portions e', adapted to lie in the path of the hammers, and extensions e^2, which engage with the forward end of the safety-bar, the parts being organized so that when the safety-bar is projected the dog carried thereby will be moved free of the trigger-plates and the sears elevated out of the path of the hammers simultaneously, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

RAYMOND L. PALMER.

Witnesses:
JOHN M. BOYLE,
JOHN LEO.