(No Model.)

A. STORER.

SAFETY TRIGGER FOR BREECH LOADING GUNS

No. 467,524. Patented Jan. 26, 1892.

Fig. 1.

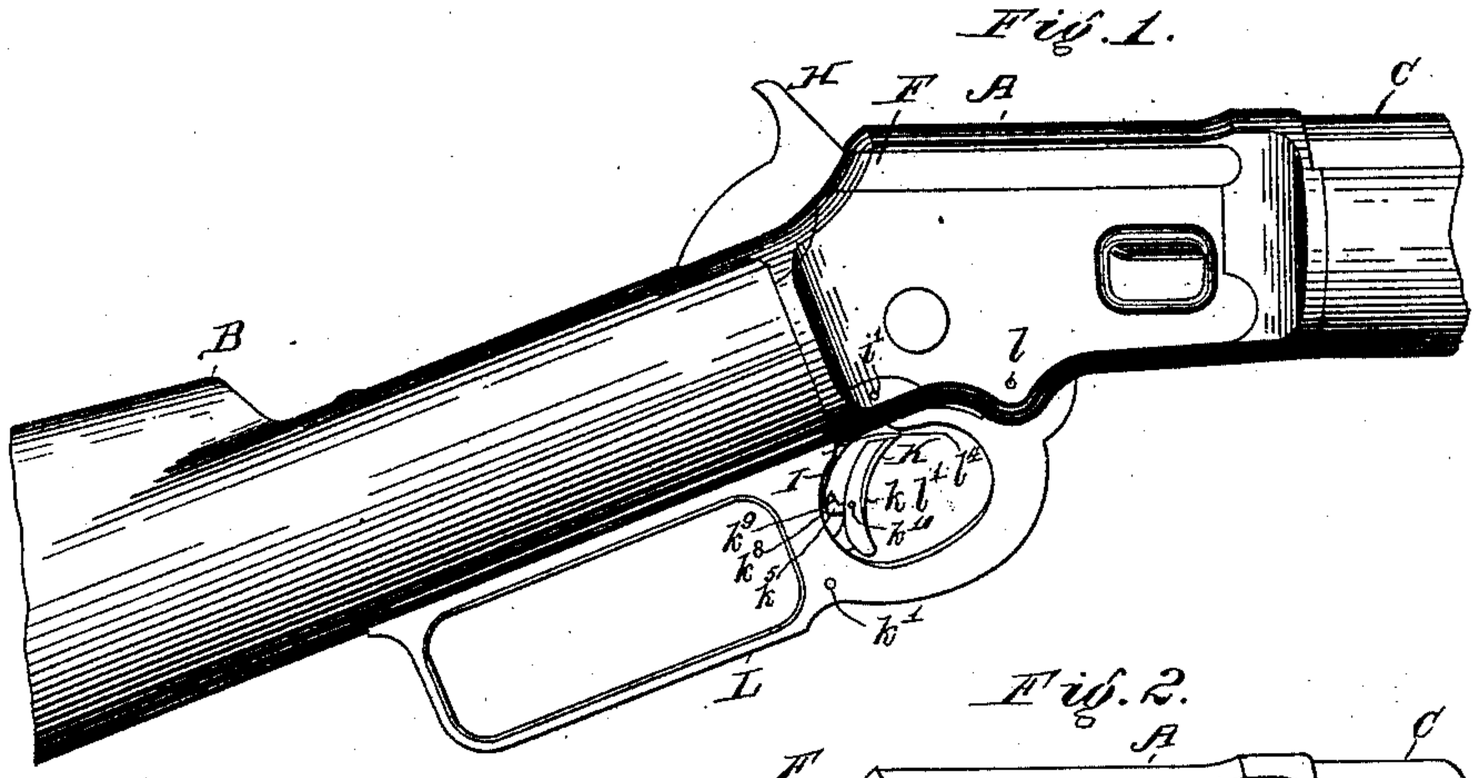

Fig. 2.

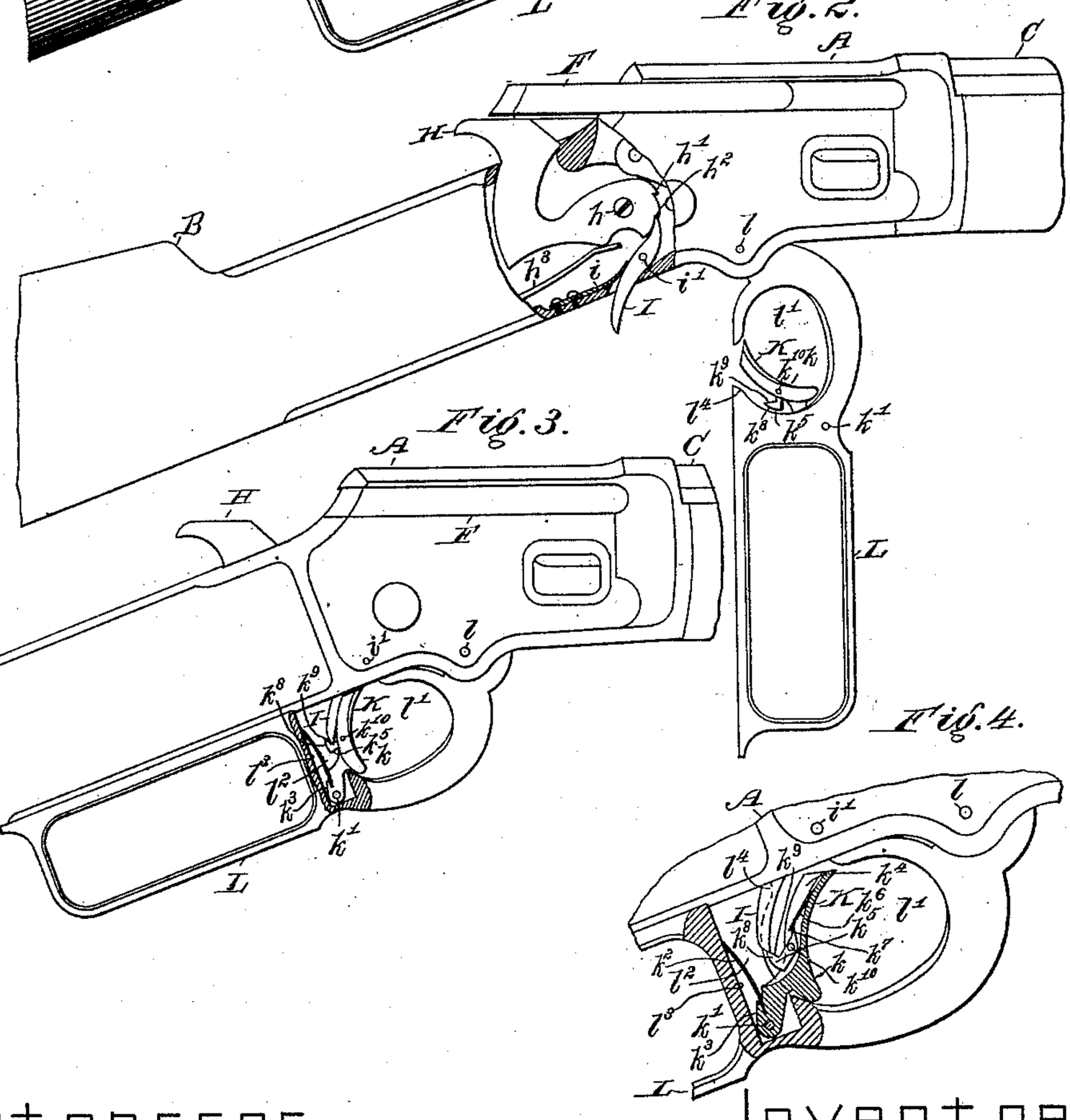

Fig. 3.

Fig. 4.

Witnesses—
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Inventor—
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By Albert M. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

ALBERT STORER, OF BOSTON, MASSACHUSETTS.

SAFETY-TRIGGER FOR BREECH-LOADING GUNS.

SPECIFICATION forming part of Letters Patent No. 467,524, dated January 26, 1892.

Application filed August 6, 1891. Serial No. 401,882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT STORER, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Breech-Loading Guns, of which the following is a specification.

My invention relates to breech-loading guns, and has for its objects to prevent accidental discharge of the gun and injury to the forefinger in restoring the finger-lever to position after cocking the gun by means of said finger-lever.

In breech-loading fire-arms provided with a finger-lever of the kind herein referred to the trigger is usually pivoted in the lock-case and a part of the finger-lever serves as the scroll or trigger-guard and receives the forefinger, the other fingers of the hand being applied to said finger-lever below or in the rear of said trigger-guard, according to the position of said finger-lever, the trigger projecting downward from the lock-case into said trigger-guard when the said finger-lever is in the position it occupies in the act of firing in such a manner that in restoring said finger-lever to position, after cocking the gun, the forefinger is apt to strike the trigger and discharge the gun or to be bruised between the free end of the trigger and the trigger-guard. I prevent these accidents by supporting the trigger on the finger-lever in such a manner as to be movable with said finger-lever and by constructing the trigger in two parts, so that one of said parts shall act as a shield to prevent contact of the finger with the sear and may be continuously pressed by the forefinger when the lever is being returned to its normal position without discharging the gun, said part never coming into contact with the sear, and so that the other of said parts shall remain out of engagement with the sear until the pressure of the finger upon said first-named part is released.

In the accompanying drawings are represented my improvement and such parts as may be necessary to the understanding of my invention of a breech-loading gun, such as is shown and described in United States Letters Patent No. 434,062, granted to Hepburn, August 12, 1890.

Figure 1 is a side elevation of a part of the barrel, a part of the stock, the frame, hammer, finger-lever, sliding breech-bolt, sear, and my improved trigger, the finger-lever being in its normal position; Fig. 2, a side elevation of the parts shown in Fig. 1, a part of the lock-case being broken away to show the tumbler portion of the hammer, its spring, the sear and its spring, and a part of the carrier, the gun being cocked and the finger-lever being in the position it assumes in cocking the gun; Fig. 3, a side elevation similar to what is shown in Fig. 1, except that in Fig. 1 the gun is not cocked, while in Fig. 3 the gun is cocked, and that in Fig. 1 the trigger is engaged with the sear, while in Fig. 3 the trigger is in its safety position or the position it occupies immediately after the finger-lever is restored to position and before the pressure of the finger upon the trigger is released, a part of the finger-lever being in section to show more fully the lower part of the sear, the trigger, and its mainspring; Fig. 4, a side elevation of a part of the frame, part of the handle-lever, the sear, a part of the trigger, and the trigger-springs, and a section of a part of the finger-lever and trigger, the trigger being represented as moving forward from its safety position.

In the patented magazine-gun above referred to the movement of the finger-lever from its normal position (shown in Fig. 1) to the position shown in Fig. 2 and back to its normal position opens the breech, cocks the hammer, ejects the empty shell, carries a new shell from a magazine to the breech, inserts said new shell in the barrel, and closes the breech. My improvement is applicable not only to such a magazine-gun, but also to single-shot guns, and, in brief, to all guns in which a finger-lever performs any of these functions, and at the same time serves as a trigger-guard when said finger-lever is in its normal position.

The frame A, stock B, barrel C, breech-bolt F, hammer H, pivoted at h and provided with notches h' h^2 to receive the point of the sear I, the hammer mainspring h^3, and the finger-lever L are of the construction and operation shown and described in said patent or of any usual construction, the movement of said finger-lever from the position shown in Fig. 1 to the position shown in Fig. 2 forcing the breech-bolt backward against the hammer

and turning said hammer against the resistance of its mainspring h^3 until the upper end of the sear I enters the full-cock notch h^2 of the lower or tumbler portion of the hammer, being forced therein by a suitable spring i in an obvious manner, as shown in Fig. 2.

The trigger in the patented gun referred to is usually pivoted in the frame A and extends below said frame into the trigger-guard l' of the finger-lever L, just in the rear of the pivot l of said finger-lever, and is frequently, as above stated, struck by the forefinger in the act of restoring the finger-lever to its normal position, thereby injuring the finger or discharging the gun. Instead of this construction I extend the sear I below its pivot i' for some distance and pivot the main part or body k of the trigger K at its lower end at k' to the finger-lever L within a recess l^2 in said finger-lever. The upper end of the body k of the trigger K is thrown forward by the main trigger-spring, (represented as a leaf-spring k^2, Figs. 3 and 4,) secured to the body k and pressing against the rear wall l^3 of the recess l^2, and said body is prevented in any convenient manner from being swung back far enough to come in contact with the sear I, as by the upper end of said body striking against the upper rear end l^4 of the guard l', or by a flat rear surface k^3 on said body striking the rear wall l^3 of the recess l^2. On the trigger-body k, within a recess k^4, is supported a movable finger or presser k^5, represented as a lever pivoted between its ends at k^{10}, a light spring k^6, secured to the body of the trigger, bearing upon the front end k^7 of said presser and normally raising the rear end k^8 of the same until said front end strikes against the front wall of the recess k^4, which serves as a stop to limit the rising of said rear end of said presser. The rear end k^8 of the presser is preferably bent upward, as shown, and (said presser being of sufficient length therefor) when the finger-lever is returned to its normal position, after cocking the gun, passes up behind the lower end of the sear I, as shown in Fig. 3, if during such return of said finger-lever the trigger-body k is held back by the forefinger, but in front of said sear if the trigger be not so held back. Inasmuch as the body of the trigger, as above stated, cannot be drawn back far enough to operate the sear by direct contact therewith, it is evident that the sear cannot be accidentally disengaged from the notch h^2 by the act of restoring the finger-lever to its normal position and that the body of the trigger, passing up in front of the sear, shields the forefinger placed on said trigger-body from any contact with said sear. When the gun is cocked and the presser is in the position shown in Fig. 3, the gun cannot be fired until, on releasing the pressure of the forefinger on the trigger, said trigger swings forward sufficiently to draw the rear end of said presser forward past the lower end of the sear, the front face of the bent rear end of the presser being beveled at k^9 to slide under the lower end of said sear, and said rear end of said presser yielding downward and subsequently rising in front of the lower end of said sear. The presser is of such a length that when said presser is wholly in front of the sear and the trigger is pulled in the usual manner the sear is disengaged from the full-cock notch h^2 by the pressure of the rear end of said presser on said sear.

Obviously the presser k^5 may be rigidly fixed on the trigger-body or formed in one piece therewith (the spring k^6 and pivot k^{10} being dispensed with) and accomplish the objects above stated of protecting the finger from injury and avoiding the accidental discharge of the gun by holding the trigger back when the lever is being restored to position; but if such a construction were used it would be necessary partially to depress said lever after cocking the gun to allow the presser to move forward sufficiently to rise in front of the sear.

I claim as my invention—

1. The combination of the hammer having a notch, the sear engaging said notch, the lever, and the trigger movable with said lever and acting as a finger-guard, as and for the purpose specified.

2. The combination of the hammer having a notch, the sear, the lever, the trigger pivoted thereon and movable therewith and having a body at all times out of contact with said sear, and a presser movable with said lever and adapted to be held back by pressure upon said trigger while said lever is being moved to its firing position and to rise behind said sear and when said pressure is released to move past said sear and into a position in front of said sear, as and for the purpose specified.

3. The combination of the hammer having a notch, the sear, the lever, the trigger pivoted thereon and movable therewith and having a body at all times out of contact with said sear, and a yielding presser movable with said trigger and adapted to be held by pressure upon said trigger in the rear of said sear and when said pressure is relieved to move past said sear and into a position between said sear and trigger, as and for the purpose specified.

4. The combination of the hammer having a notch, the sear adapted to engage said notch, the lever, the trigger pivoted on said lever, a presser pivoted on said trigger and having an upturned rear end adapted to extend in the rear of said sear, and a stop to prevent the body of said trigger from coming in contact with said sear, as and for the purpose specified.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 30th day of July, A D. 1891.

ALBERT STORER.

Witnesses:
ALBERT M. MOORE,
MYRTIE C. BEALS.