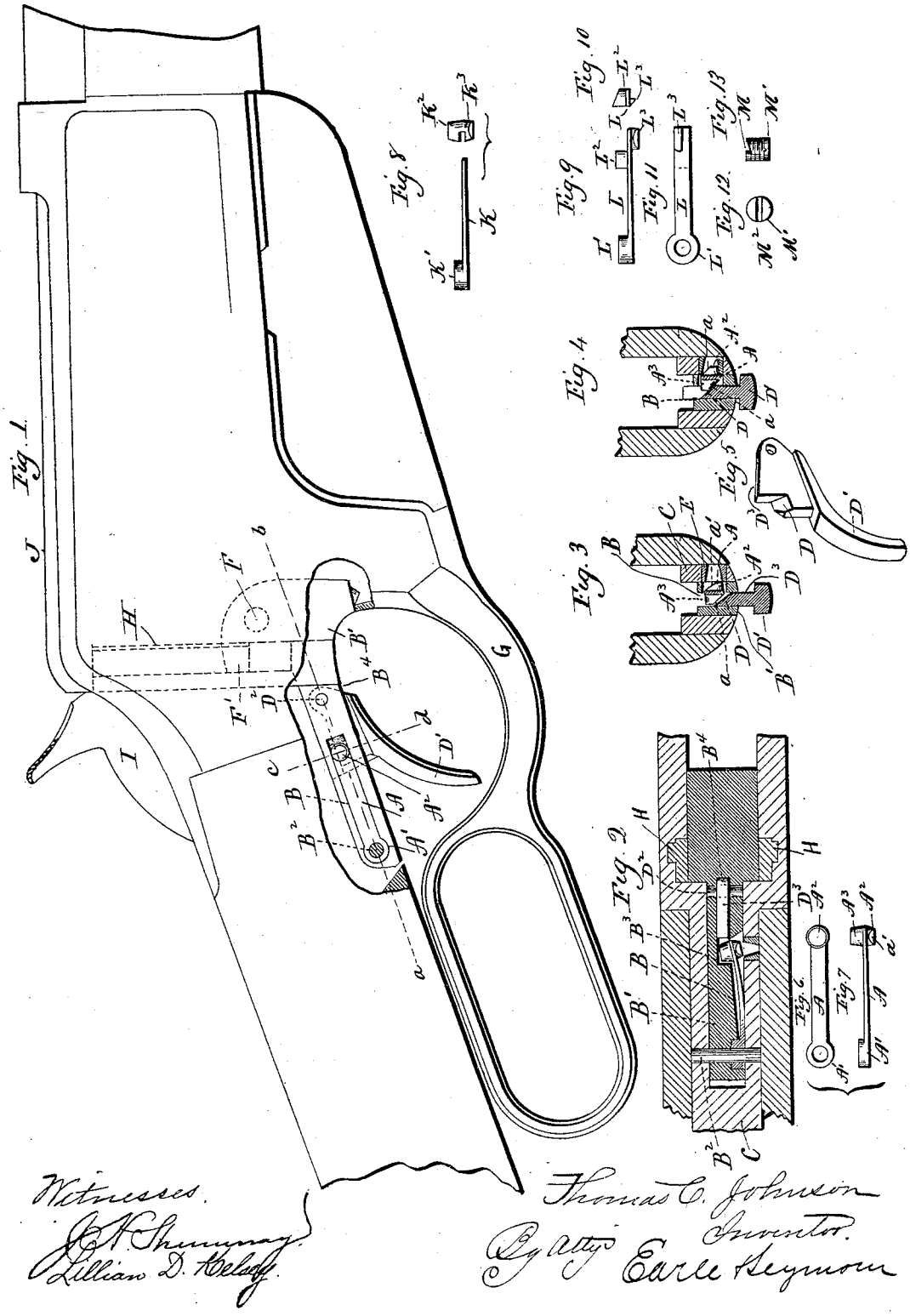
(No Model.)

T. C. JOHNSON.

SAFETY LOCKING DEVICE FOR LEVER GUNS.

No. 579,436. Patented Mar. 23, 1897.



Witnesses.
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UNITED STATES PATENT OFFICE.

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SAFETY LOCKING DEVICE FOR LEVER-GUNS.

SPECIFICATION forming part of Letters Patent No. 579,436, dated March 23, 1897.

Application filed December 7, 1896. Serial No. 614,738. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. JOHNSON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Safety Locking Devices for Breech-Loading Firearms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view, partly in elevation and partly in section, of a firearm provided with my improved safety device; Fig. 2, a broken view in longitudinal section on the line *a b* of Fig 1; Fig. 3, a view in transverse section on the line *c d* of Fig. 1, showing the locking device in its normal or inactive position; Fig. 4, a similar view showing the locking device in its active or locking position; Fig. 5, a detached perspective view of the trigger; Fig. 6, a detached view in outside elevation of the locking device; Fig. 7, a plan view thereof; Fig. 8, a plan view of one of the modified forms which the locking device may assume; Fig. 9, a plan view of another of the modified forms which the device may assume; Fig. 10, a view thereof in front elevation; Fig. 11, a view thereof in outside elevation; Fig. 12, an end view of the threaded plug designed to be used in conjunction with this device; Fig. 13, a side view thereof.

My invention relates to an improvement in safety locking devices for breech-loading firearms of the class in which the action mechanism is operated by means of a swinging operating or finger lever, which is connected with the frame of the gun by means of a link located in the rear of the lever, the object of the present invention being to positively lock the link, and through the same the lever, in its closed position against being thrown open by the recoil following the explosion of a cartridge in the gun-barrel and also against being thrown downward by rearward draft upon the trigger in handling the gun.

With these ends in view my invention consists in the combination, with a trigger, of a yielding locking device normally out of action, but acted directly upon and thrown into its locking position by the exertion of rearward draft upon the trigger, whereby the finger-lever is always unlocked and free to be opened except when rearward draft is exerted upon the trigger.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown the locking device consists of a slightly-bowed yielding shank A, a hub A′, located at the rear end thereof, an outwardly-projecting locking-tooth A^2, and an inwardly-projecting operating-tooth A^3, located at the forward end of the shank, the said shank, hub, and teeth being formed integral with each other. The under face of the operating-tooth is beveled as at *a*, while the upper face of the locking-tooth is beveled as at *a′*. The said locking device is located in a long, shallow, longitudinally-arranged recess B, formed for its reception in the outer side wall or face of the shank of the link B′, and is secured in place by means of the passage through its hub of the pin or pivot B^2, upon which the link swings and by which the link is secured to the tang C of the gun, the tang forming in the gun shown a portion of the gun-frame. It is not necessary to secure the locking-piece in place by means of the pin B^2, although that is a convenient and economical way of doing it. An opening B^3, leading inward from the forward end of the recess B, receives the operating-tooth A^3 and permits the same to be acted upon by the beveled operating-face D of the trigger D′, which may be of any approved construction and which is suspended in the link B′ by means of a transverse pin D^2, the said trigger being constructed with a nose or tooth D^3, by means of which it is engaged with the sear, which is not shown, but which is of ordinary construction. I should further explain that the upper portion of the trigger is located in a vertical longitudinal slot B^4, formed to receive it in the link and intersected at its rear end by the opening B^3 aforesaid. When rearward draft is exerted upon the trigger and the same is lifted, its beveled face D is lifted against the beveled under face *a* of the operating-tooth A^3 of the locking-piece, the

shank of which is then sprung outward, so as to carry its locking-tooth into a small hard-metal bushing E, mounted in right position in the tang C aforesaid, as clearly shown in Figs. 2, 3, and 4. Although I prefer to employ this bushing, it may be dispensed with and the locking-tooth entered directly into a hole or recess formed for its reception in the tang. It will be understood that normally the locking device stands inward, so as to clear its locking-tooth from the bushing, into which it is carried only when the device is sprung outward into its active or locking position by rearward draft upon the trigger, which is thus lifted sufficiently to impinge its beveled face against the beveled lower face of the operating-tooth of the device, as before described. The opening of the bushing is made slightly conical to conform it to the slightly conical shape of the locking-tooth, the opening and tooth being made conical to reduce the friction of their operation. Thus when the draft on the trigger is relieved or let off, allowing the locking device to spring inward again, its tooth is almost immediately cleared from any contact with the bushing. The beveling of the tooth and opening also assists in the entering of the tooth into the opening. By beveling the upper face of the locking-tooth A^2 of the device, as at a', the device is adapted to be readily crowded inward as soon as its tooth strikes the gun-frame in case the lever is suddenly brought into its closed position after rearward draft has been placed upon the trigger and the device has been therefore thrown into its active position. If there is no draft upon the trigger when the lever is closed, the device is retired by its own spring, so that it is as much out of the way as if it were not in the gun.

I may now explain that, as herein shown, the link B′ has mounted in its forward end a pin F, by means of which it is pivotally connected with the operating or finger lever G, which may be of any approved construction. The link is also formed at its forward end with a nose F′, which coacts with the vertically-movable recoil-block H. The hammer I is of any approved construction and located directly in the rear of the longitudinally-movable breech-bolt J, when the same is in its closed position.

It will be understood that the spring of the shank of the locking device will hold the same out of action under all conditions except the single condition of rearward draft upon the trigger, so that under ordinary conditions the lever is just as free to be operated as in any gun not provided with my locking device, but when rearward draft is imposed upon the trigger and the same is consequently lifted the beveled face of the trigger is impinged against the operating-tooth of the locking device, whereby the same is sprung laterally outward and its nose entered into the bushing E in the frame, whereby the link B′, in which the locking device is mounted, is positively locked in its closed position and prevented from being thrown downward, with the effect of positively locking the lever G in its closed position, so that the recoil following the explosion of a cartridge cannot throw the lever down into a partially-open position so long as draft is exerted upon the trigger, as it naturally is at the time of firing the gun. Furthermore, in carrying the gun with its hammer in its half-cocked position my improved safety locking device insures the retention of the lever in its closed position as long as any rearward draft is exerted upon the trigger, which brings the locking device into play. The gun is therefore in readiness to be fired by throwing the hammer back into its full-cocked position, after which the trigger may be pulled farther back for releasing the hammer, but without unlocking the lever, which is not unlocked for opening the gun until the trigger is released, when the spring-shank of the locking device immediately causes the device to spring inward and clear the locking-tooth from the bushing.

In the modified form shown by Fig. 8 of the drawings the locking device is made in two parts, one part comprising a shank K and a hub K′ and the other part comprising an operating-tooth K^2 and a locking-tooth K^3, these being in the form of a small slotted cylinder applied transversely to the forward end of the shank.

In the modification shown by Figs. 9 to 13, inclusive, the locking device comprises a shank L, a hub L′, an operating-tooth L^2, and a locking-tooth L^3, the latter being flattened in general form and adapted to take into a locking-notch M, formed in the inner face of a threaded plug M′, the outer end of which has a screw-slot M^2 at an angle to the notch M. The said plug is screwed into the tang in right position.

In view of the modifications shown and described and of others which may obviously be made I would have it understood that I do not limit myself to the exact construction set forth and indicated, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a firearm, the combination with the frame thereof, of an operating or finger lever, a link pivotally connecting the lever and frame, a trigger, and a yielding locking device normally out of action, but acted directly upon and thrown into its locking position by the exertion of rearward draft upon the trigger, whereby the finger-lever is always unlocked and free to be opened except when rearward draft is exerted upon the trigger.

2. In a firearm, the combination with the operating-lever thereof, of a link pivotally connecting the said lever with the frame of the arm, a trigger pivotally mounted in the

said link, and a yielding locking device also mounted in the link, and adapted to be acted upon by the trigger which springs it into its active or locking position and engages it with a portion of the gun-frame.

3. In a firearm, the combination with the operating-lever thereof, of a link pivotally connecting the said lever with the gun-frame, a trigger mounted in the said link, and a locking device also mounted in the link and provided with an inwardly-projecting operating-tooth which is engaged by the trigger, whereby the device is sprung from its retired into its active or locking position, and the said device being also furnished with a locking-tooth which, when the device is so sprung, engages with a portion of the frame to lock the link and hence the lever in their closed positions.

4. In a firearm, the combination with the lever thereof, of a link pivotally connected with the lever and with the frame, of a trigger mounted in the link, and a locking device comprising a yielding or spring shank, a hub located at the rear end thereof, and two teeth located at its forward end, and comprising an inwardly-projecting operating-tooth, and an outwardly-projecting locking-tooth, the former being engaged by the trigger for springing the shank to force the locking-tooth into engagement with the gun-frame.

5. In a firearm, the combination with the operating or finger lever thereof, of a link pivotally connecting the lever with the frame of the gun, a trigger pivotally suspended in the link and provided with a beveled operating-face and a locking device located in a recess formed for its reception in the link, and formed with an operating-tooth acted upon by the said face when rearward draft is exerted upon the trigger, and also furnished with a locking-tooth, which, when the device is sprung by the trigger from its retired into its active position, engages with a portion of the frame.

6. In a firearm, the combination with the operating-lever thereof, of a link pivoted to the said lever and to the frame, a trigger suspended in the link and provided with a nose and with a beveled operating-face, a locking device located in a recess formed in the link and comprising a hub, a spring-shank, an operating-tooth coacting with the beveled face of the trigger, and an outwardly-projecting locking-tooth; and a bushing located in the frame of the gun in position to receive the locking-tooth of the device when the device is sprung outward by the exertion of rearward draft upon the trigger.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOS. C. JOHNSON.

Witnesses:
D. H. VEADER,
W. S. BALDWIN.