(No Model.)

C. J. EHBETS.

SAFETY LOCK FOR FIRE ARMS.

No. 311,732. Patented Feb. 3, 1885.

Fig. 1

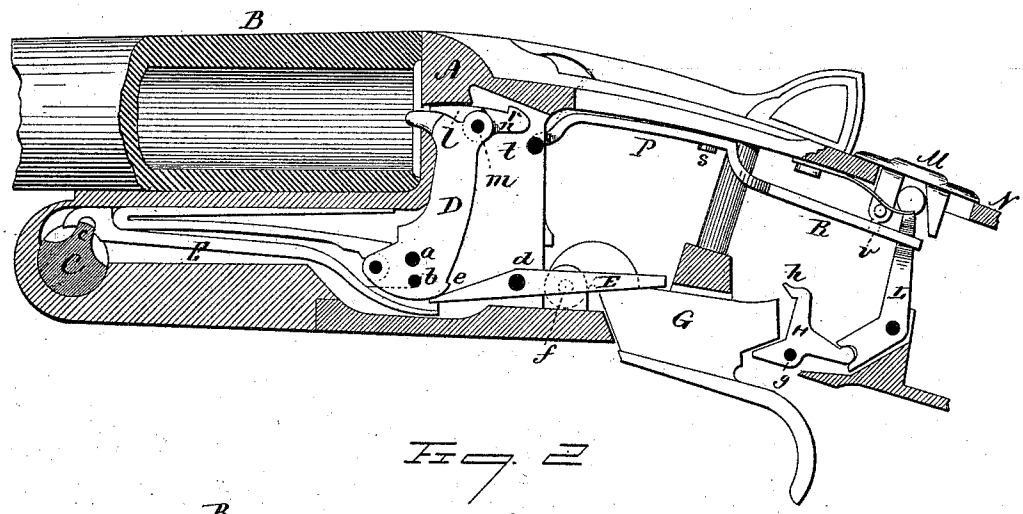


Fig. 2

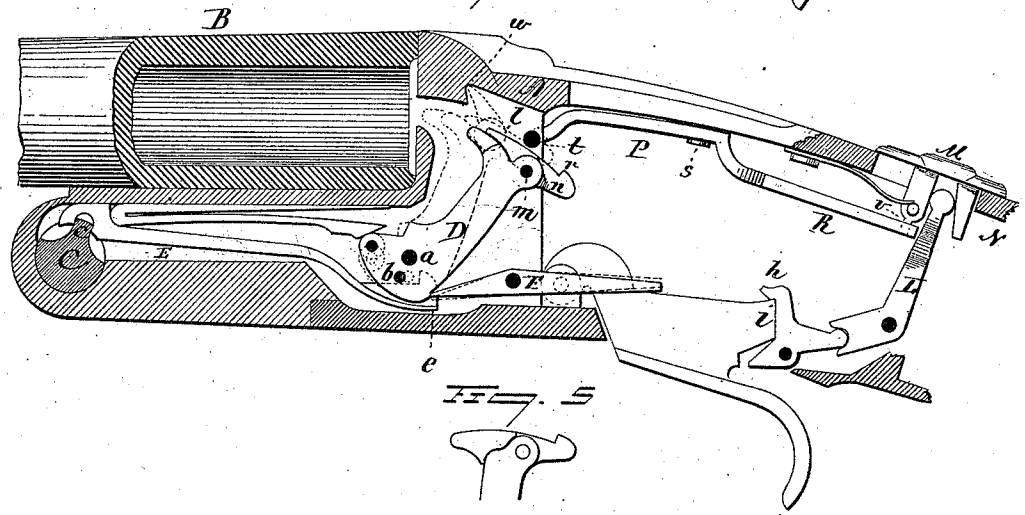


Fig. 5

Fig. 3

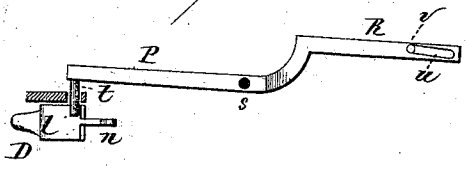
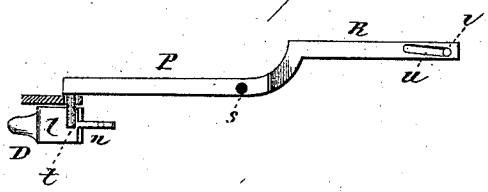


Fig. 4



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UNITED STATES PATENT OFFICE.

CARL J. EHBETS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE COLTS PATENT FIRE ARMS MANUFACTURING COMPANY, OF SAME PLACE.

SAFETY-LOCK FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 311,732, dated February 3, 1885.

Application filed December 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, CARL J. EHBETS, of Hartford, in the county of Hartford and State of Connecticut, have invented a new Improvement in Safety-Locks for Fire-Arms; and I do hereby declare the following, when taken in connection with 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 sectional side view showing the parts in their normal or working condition; Fig. 2, the same, showing the hammer in the cocked position, broken lines indicating the operation of the dog; Figs. 3 and 4, top view of the lever P R, showing its two positions with relation to the hammer and dog; Fig. 5, a modification showing the nose of the hammer made as the locking-dog.

This invention relates to an improvement in that class of breech-loading fire-arms in which the barrel is hinged to the fore end, so as to tip forward and downward, raising the rear end of the barrel to expose the chamber for the introduction of the cartridge, and commonly called "break-down fire-arms," and particularly to that class in which the hammer is inclosed within the receiver and is turned to full-cock in the act of turning down the barrel, commonly called "concealed hammers." In this class of arms a locking device of some character is necessary to prevent accidental discharge of the hammer. In the patent of Mason, No. 263,191, a mechanism is shown and described by which a slide on the upper tang of the receiver is moved to throw a dog into engagement with the trigger and lock the trigger, so as to prevent its possible action upon the sear to release the hammer when in the cocked position; but in locking the trigger the sear is left free, and is liable to disengagement by a sudden jar or shock brought upon the arm, and thereby produce premature or accidental discharge.

The object of my invention is to prevent such accidental disengagement of the sear with the hammer; and it consists in a dog hung to the back of the hammer, which, when uninterrupted, will permit the hammer to fly forward, so that its nose may strike the cartridge, combined with a stop arranged to be brought into the path of the said dog, and which, when so in the path of the said dog, will cause it to turn on its pivot and strike a stop before the nose of the hammer shall reach its extreme forward position, the nose being a fixed part of the body of the hammer, or may be a part of the dog, as more fully hereinafter described.

The mechanism of the arm which I show in illustrating my invention is the same as that in the before-mentioned Mason patent.

A is the receiver; B, the barrel, hung in the fore end upon a pivot, C; D, the hammer, hung upon a pivot, *a*. The pivot C is constructed with a tooth, *c*, which engages one end of a link, E, the other end of the said link being arranged to engage a stud, *b*, below the pivot of the hammer, and so that as the barrel is turned downward, thereby turning the pivot C, the hammer will be drawn to full-cock, as indicated in Fig. 2.

F is the sear, hung upon a pivot, *d*, in rear of the hammer, and so as to engage a shoulder, *e*, on the hammer when turned to full-cock, as seen in Fig. 2.

G is the trigger, hung upon a pivot, *f*, and over which the rear arm of the sear extends, so that as the trigger is pulled it will raise the rear arm of the sear and turn the forward end downward to discharge the hammer.

H is a dog hung upon a pivot, *g*, its nose *h* arranged to be turned over the end *i* of the trigger, as seen in Fig. 2, to lock the trigger and prevent its being turned to act upon the sear.

In connection with the dog H is a lever, L, one arm of which engages the dog. The other arm extends upward into engagement with a slide, M, on the upper tang, N, of the receiver, and so that when said slide is moved forward, as seen in Fig. 1, the dog H will be turned from its engagement with the trigger; but when the slide is moved rearward, as seen in Fig. 2, then the dog is brought into engagement with the trigger, to prevent its action.

This general description will be sufficient to describe the mechanism of the arm, as it is not material to my invention.

On the back of the hammer a dog, *l*, is hung upon a pivot, *m*, and so as normally to lie upon the hammer, as seen in Fig. 1, and so that the hammer may move backward into the position of full-cock, and then forward into the position of discharge, without effect upon the dog. In rear of the pivot the dog is constructed with an extension, *n*, which should be transversely elastic. This extension is constructed with a shoulder, *r*, upon its upper edge.

Upon the under side of the tang N a two-armed lever, P R, is hung upon a pivot, *s*, between the slide M and the hammer, one arm, P, of which extends forward, and on the side of the hammer and at its extreme forward end is constructed with a stud, *t*, which extends outward toward the hammer. The rear arm, R, of the lever extends rearward toward the slide, and at its rear end is provided with a diagonal slot, *u*. Into this slot a stud, *v*, on the slide M extends, and so that as the slide is moved forward and back it will work through the diagonal slot *u*. In the normal position of the parts the slide M, as before stated, stands forward, bringing the stud *v* into the forward end of the slot *u* in the arm R, and as seen in Fig. 3. In this condition the end of the stud *t* on the arm P of the lever is out of the path of the tail *n* of the dog, as seen in Fig. 3, and the hammer is free to be turned to its full-cock position, or discharged, as the case may be. The movement of the slide M to its rear position, as seen in Fig. 2, causes the stud *v* to work through the diagonal slot *u* in the arm R, and thereby turn the lever upon its pivot to the position seen in Fig. 4, which brings the end of the stud *t* into the path of the shoulder *r* on the tail of the dog. If in this condition the barrel be turned downward to throw the hammer to full-cock, the elasticity of the tail of the dog permits it to pass the stud and escape therefrom; but when the hammer is discharged the shoulder *r* will strike the stud *t*, as indicated in broken lines, Fig. 2, and thereby cause the nose of the dog to turn upward on its pivot and away from the head of the hammer. Then as the hammer continues its movement the nose of the dog will strike a shoulder, *w*, in the receiver in rear of the opening, through which the nose of the hammer passes, as indicated in broken lines, Fig. 2, and thereby arrest the hammer before its nose shall have passed through the aperture in the receiver, so as to strike the cartridge, and there the hammer will remain securely locked against possible contact with the cartridge; but upon again turning down the barrel the hammer will be brought to full-cock, as before, and then, if the slide M be returned to the position seen in Fig. 1, the stud *t* will be taken out of the path of the tail of the dog, so as to permit the hammer to act without interference of the dog. Therefore, if the trigger should be locked with the hammer at full-cock, and then the sear accidentally disengaged from the hammer so as to permit it to be thrown forward, its forward movement will be interrupted and stopped before the nose of the hammer can reach the head of the cartridge, and thus the results which might otherwise occur from accidental releasing of the hammer are avoided. The stud *t*, when out of the path of the tail of the dog, stands in the path of the nose portion of the dog, and so that in the rear movement of the hammer the nose portion of the dog comes beneath the stud, as seen in Fig. 2, and so that the nose of the dog will be held down upon the hammer while in that position, and thereby be prevented from accidentally turning upon its pivot while the hammer is in the cocked position, to unintentionally engage the shoulder *w* when the hammer is thrown forward.

I have thus far represented the invention as making the dog independent of the nose of the hammer—that is to say, so that the nose of the hammer is a fixed part of the body of the hammer and the dog alone arranged to swing. The nose of the hammer, however, may be constructed to perform the double function of striking the cartridge and to arrest the forward stroke of the hammer. This construction is illustrated in Fig. 5, in which the nose of the hammer is formed as a part of the dog, but hinged to the body of the hammer, the tail extending to the rear, constructed with a shoulder to engage the stud *t*, in the same manner as described for the dog in the foregoing illustration, and so that the nose of the hammer itself will be turned up to engage the shoulder *w* in the receiver, or permitted to pass forward through the aperture, as the case may be, and as indicated in Fig. 5. In this case the shoulder *w* in the receiver will be made as much farther forward than in the first illustration as the nose of the dog in that illustration stands in rear of the nose of the hammer.

The locking mechanism for the trigger may be omitted, as the dog itself prevents the effect of the discharge of the hammer if the trigger be pulled; yet some mechanism for locking the trigger is preferable; but it may be any of the various known mechanisms for this purpose, and the stud may be operated by connection with such mechanism, it only being essential to my invention that there shall be a dog hinged to the trigger, with a stop, which may be interposed in the path of said dog, to turn the dog into its position to arrest the forward movement of the hammer, or leave the dog free to permit the hammer to make its full forward movement, as the case may be.

I claim—

1. In a fire-arm having a hammer hung and inclosed within the receiver, the combination therewith of a dog hung to the hammer, a stop movable into or from the path of the said dog, and a shoulder in the receiver, against which the said dog may be turned by said stop when said stop is in the path of said dog, and from which shoulder the dog will escape when said stud is out of the path of the dog, substantially as described.

2. In a fire-arm substantially such as described, the combination of the hammer hung and inclosed within the receiver, the dog hinged to said hammer, the nose of the dog extending forward of its hinging-pivot, and the tail of the dog to the rear of said pivot, the said tail constructed with a shoulder, *r*, the receiver constructed with a shoulder, *w*, in rear of the aperture, through which the hammer strikes the cartridge, a slide, M, on the tang of the receiver, and a lever, P R, hung below the tang, one arm constructed with a diagonal slot, in which a stud from said slide M works, the other arm, P, of said lever constructed with a stud, *t*, substantially as described, and whereby said stud may be thrown into or taken from the path of the tail of the dog, substantially as specified.

3. In a fire-arm substantially such as described, the combination of the hammer hung and inclosed within the receiver, the dog hinged to said hammer, the nose of the dog extending forward from its hinging-pivot toward the nose of the hammer, and the tail of the dog extending to the rear of said pivot, the said tail constructed with a shoulder, *r*, the receiver constructed with a shoulder, *w*, in rear of the aperture, through which the nose of the hammer passes to strike the cartridge, a slide, M, on the tang of the receiver, and a lever, P R. hung below the tang, one arm constructed with a diagonal slot, in which a stud from the said slide M works, the other arm, P, of the said lever constructed with a stud, *t*, substantially as described, and whereby said stud may be thrown into or taken from the path of the tail of the dog, substantially as specified.

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