

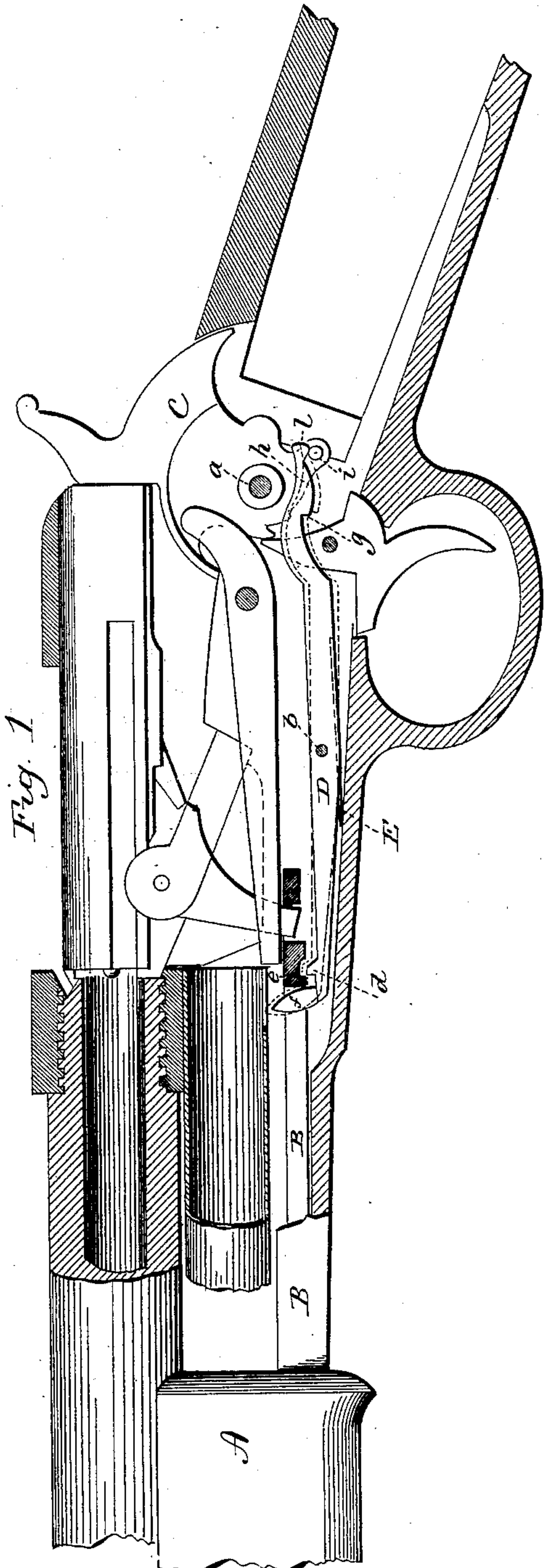
(No Model.)

F. W. WEATHERHEAD.

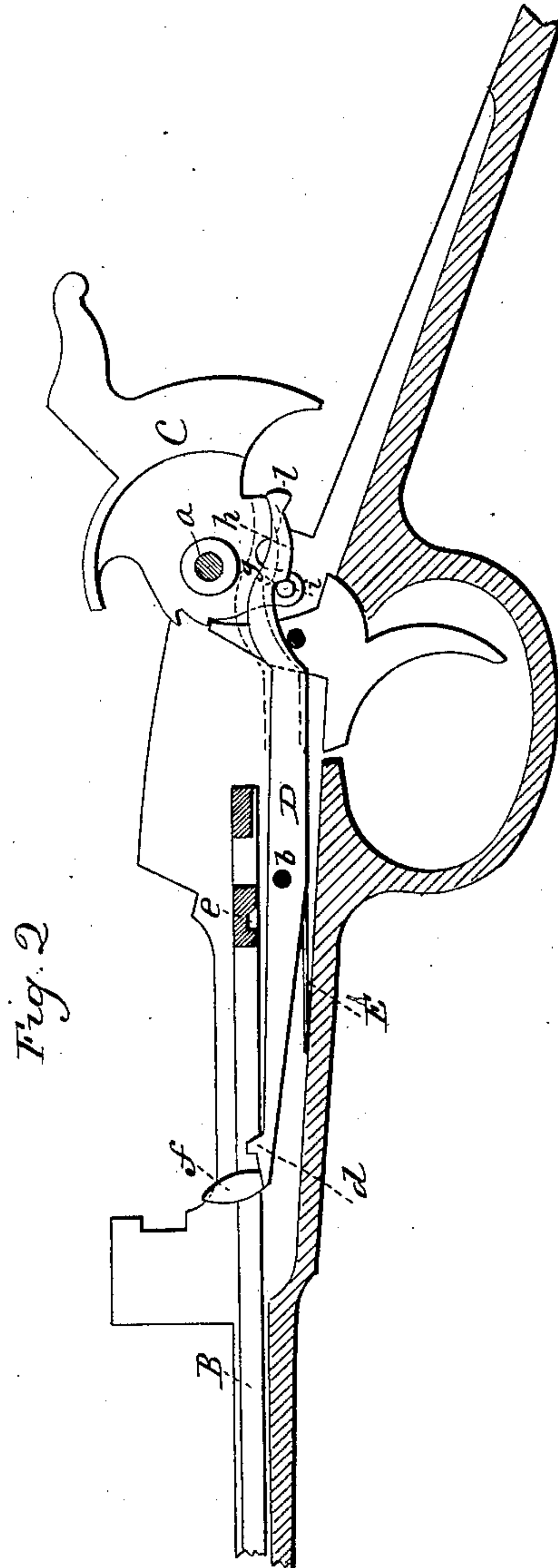
MAGAZINE FIRE ARM.

No. 358,237.

Patented Feb. 22, 1887.



Witnesses,
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UNITED STATES PATENT OFFICE.

FRANK W. WEATHERHEAD, OF HARTFORD, CONN., ASSIGNOR TO THE COLTS
PATENT FIRE ARMS MANUFACTURING COMPANY, OF SAME PLACE.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 358,237, dated February 22, 1887.

Application filed November 8, 1886. Serial No. 218,267. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. WEATHERHEAD, of Hartford, in the county of Hartford and State of Connecticut, have invented a new
5 Improvement in Magazine 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
10 same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a sectional side view showing the parts in the closed position; Fig. 2, a sectional side view of so much of the arm as illustrates
15 the locking-lever, slide, and hammer.

This invention relates to an improvement in that class of fire-arms which are loaded at the breech, and in which the breech-piece is actuated by means of a longitudinally-reciprocating handle forward of the receiver, with a slide extending from the handle rearward into the receiver, into connection with the operative mechanism of the arm, and whereby
20 under such reciprocating movement of the handle the breech-piece is opened and closed; and the invention is an improvement upon the arm described in Letters Patent of the United States, No. 285,020, granted to Wm. H. Elliot, dated September 18, 1883. In the
30 said invention of Elliot a lever (called in the patent a "feed-pawl") is arranged below the slide, which extends from the handle and hung upon a fulcrum, one arm extending forward and turned upward at its forward end, so as
35 to serve as a stop for the column of cartridges in the magazine, under certain circumstances, to prevent the column from moving rearward. The other arm extends rearward and is constructed with a shoulder or hook to engage a
40 shoulder or stud on the hammer when the hammer is thrown to full-cock. As described in the patent of Elliot, the slide and handle are free for movement without other obstruction than the natural friction of the parts, no device being provided to secure the handle in its
45 extreme forward position—that is, when the breech-piece is closed. From the fact of this freedom of the handle there is liability to accidental rear movement of the handle, so as to
50 unlock the breech-piece and permit its rear

movement should the hammer stand in either the cocked or half-cocked position.

The object of my invention is to make a positive lock for the handle in its extreme forward position, and which consequently locks the
55 breech-piece in its extreme closed position, and at the same time make the disengagement of the handle automatic as the hammer delivers its blow upon the firing-pin.

In Fig. 1 I show the magazine, barrel, and
60 breech-piece and its locking mechanism, substantially the same as in the Elliot patent before referred to; but it is unnecessary to describe particularly this mechanism, as it constitutes no part of my invention.

A represents the handle, which is arranged
65 beneath the barrel in the usual manner and properly guided, so as to be moved longitudinally backward and forward toward and from the receiver, and so that such a reciprocating
70 movement may be imparted to the handle by the forward hand of the operator, as in the Elliot and other arms of this class.

From the handle a slide, B, extends rearward into the receiver, and so as to engage
75 the breech-piece and its operative mechanism, that under the rear movement of the handle the breech-piece may be opened and under the forward movement the breech-piece may
80 be closed.

C represents the hammer, hung in the receiver in rear of the breech-piece upon a pivot, *a*, and so that as the breech-piece is thrown to the rear the hammer will be thrown to its full-cock position and caught by the
85 trigger, as seen in Fig. 2.

In the receiver and below the slide a lever, D, is hung upon a fulcrum, *b*, one arm extending forward under the slide B. The other arm extends rearward. The lever is provided
90 with a spring, E, the tendency of which is to raise the forward end of the lever. The lever at its forward end is constructed with an upwardly-projecting substantially right-angular shoulder, *d*, and upon the slide B is
95 a corresponding shoulder, *e*, with which the said shoulder *d* on the lever may engage when the slide is in its extreme forward position, as indicated in broken lines, Fig. 1. The
100 slide is constructed with a slot forward of the

shoulder *e*, into which the forward end of the lever may rise as the slide is moved rearward, as seen in Fig. 2. The forward end of the lever is also constructed with an upward projection, *f*, which serves as the dog for the feed, as in the Elliot patent. The rear arm of the lever is constructed with a hook or shoulder, *g*, upon its under side below the pivot of the hammer, and from the hook or shoulder *g* is a rear extension, *h*, of the lever. Upon the hammer below the pivot is a stud or shoulder, *i*, this stud or shoulder being beneath the rear extension, *h*, of the lever, and so that as the hammer is brought to full cock if the lever D be free, its spring will force it downward, to bring the shoulder or hook *g* into engagement with the shoulder or stud *i* on the hammer, as seen in Fig. 2, and thus hold the hammer in the full-cocked position, from which it cannot be released until the rear end of the lever is raised.

At the extreme rear end of the extension *h* is a downward projection, *l*, which the stud *i* on the hammer will strike as it comes to its closed position, and consequently raise the rear end of the lever, as seen in Fig. 1, so that when the parts are in the closed position, as seen in Fig. 1, the rear end of the lever is turned upward, so as to take the shoulder *d* at the forward end of the lever out of engagement with the slide B, and thus leave the slide B and the handle free for forcible rear movement. In this condition the handle is held in its extreme forward position, as well as the breech-piece, by means of the force of the mainspring upon the hammer bearing against the rear end of the breech-piece.

Immediately as the rear movement of the breech-piece commences under the rear movement of the slide B, the hammer commences its rear movement and the shoulder *i* passes from the downward projection *l*, and thus permits the rear end of the lever to drop and the forward end to rise; and this condition will continue until the hammer reaches the full-cocked position, as seen in Fig. 2, when it will be caught by the shoulder *g*, and there held both by the trigger and by the lever. On the closing of the breech-piece and return of the slide B, as the slide B approaches its extreme forward movement it strikes the back of the shoulder *d*, which is inclined, as shown, and acts as a cam thereon to force the forward end of the lever downward, so that the shoulder *e* of the slide may pass forward of the shoulder *d* on the lever to the position seen in Fig. 1, the lever yielding for this purpose; but as soon as the extreme forward position of the slide is reached, then the lever is forced upward by its spring to bring the shoulder *d* of the lever to the rear of the shoulder *e* of the slide, and thus produce a positive locking of the slide in its extreme forward position, and consequently a locking of the breech-piece in its closed position. This movement of the lever in the closing action of the breech-piece raises the rear end of the lever so high that

the shoulder *g* will escape from the stud *i* on the hammer, as indicated in broken lines, Fig. 2, thus leaving the hammer caught by the trigger in its full-cocked position. The hammer being discharged flies forward under the action of its mainspring, the stud *i* passing rearward beneath the rear extension, *h*, of the lever, until after the half-cock notch has passed the nose of the sear. Then the shoulder *i* strikes the projection *l* at the rear end of the extension *h* and raises the rear end of the lever, as seen in Fig. 1, thus depressing the forward end of the lever, so as to take the shoulder *d* out of engagement with the shoulder *e*, and this disengagement will remain so long as the hammer stands in its extreme closed position; but if the hammer be turned rearward by hand, so as to bring it to either the half or full cock notch, then the stud *i* passes forward from the projection *l*, so as to leave the rear end of the lever free to fall, and under the action of the lever-spring the forward end of the lever will be thrown up to bring the shoulders *d* and *e* again into engagement and relock the breech-piece in its closed position; but if while the hammer is in its extreme forward position the handle be moved rearward to start the breech-piece, and consequently the hammer, the lever D will be left free from the hammer directly as the shoulder *e* of the slide passes to the rear of the shoulder *d* on the lever, and ready to engage the slide when it shall again be brought to its extreme forward position.

It will be understood by those skilled in the construction of fire-arms that the lever, with its locking devices, may be employed in single breech-loaders, in which case the nose *f* of the lever will be omitted, there being no use for this part F, excepting as a stop for the magazine.

Because the shoulder or stud on the hammer cannot engage the projection *l* on the lever until after the hammer has passed forward beyond the half-cock notch, it follows that the slide and handle will not be unlocked until after the hammer is in such position that it necessarily must be brought to a bearing against the firing-pin, and so as to support the breech-piece and the parts of the arm in a closed position under the force of the mainspring, and the locking of the slide by the lever must therefore occur before the hammer has been turned rearward to the half-cock notch.

I am aware that the lever D, in the same relation to the slide and hammer, and having a device at the forward end to make engagement with the slide and with the rear extension beyond the hook, is the subject of the application of another, filed in even date herewith; and I make no claim, broadly, to this construction of the lever, the essential feature of my invention being the downward projection *l* at the rear end of the rear extension of the lever and a positive locking-shoulder on the forward end of the lever, whereby positive locking of the parts in the closed position is permissible,

and such locking automatically disengaged as the hammer reaches its extreme forward position; but by the term "downward projection *l*" I wish to be understood as including
5 any projection on the extension of the lever which will stand in the path of a corresponding projection or shoulder on the hammer as the hammer approaches its extreme closing movement.

10 I claim—

In a fire-arm in which the barrel opens into the receiver at the rear, and in which the breech-piece is arranged in rear of the barrel, with the hammer hung in the receiver in rear
15 of the breech-piece, and in which the breech-piece is operated by a longitudinally-reciprocating handle forward of the receiver, and with a slide extending from said handle into engagement with the operative mechanism of the
20 breech-piece, whereby the opening and closing movement of the breech-piece is produced through said handle, the combination therewith of a lever, *D*, hung upon a fulcrum in the receiver below the said slide, one arm of said

lever extending forward beneath said slide 25 and at its forward end constructed with a substantially right-angular shoulder, *d*, the said slide constructed with a corresponding shoulder, *e*, with which the said shoulder *d* on the lever may engage, the other arm of said lever 30 extending to the rear, constructed with a hook or shoulder, *g*, with an extension therefrom rearward, the rear end of said extension constructed with a downward projection, *l*, the hammer constructed with a stud or shoulder, 35 *i*, arranged to work beneath the said rear extension of the lever and adapted to be engaged by said shoulder *g* when in its full-cocked position, the said projection *l* on the lever standing in the path of the stud *i* on the hammer as 40 it delivers its blow, substantially as described, and whereby as the hammer so delivers its blow the said stud *i* will raise the rear end of said lever and unlock the slide.

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Witnesses:

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