

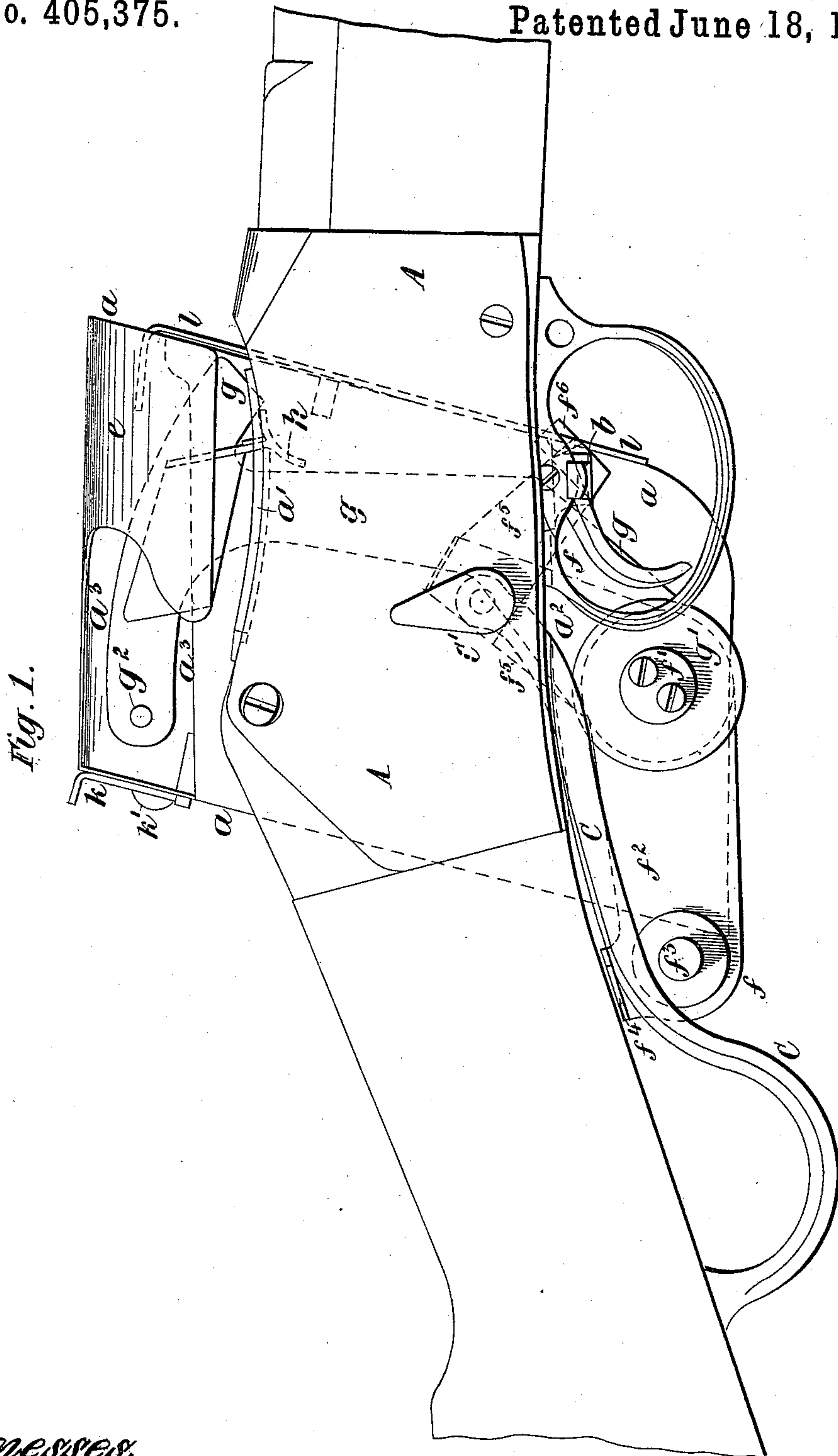
(No Model.)

3 Sheets—Sheet 1.

L. SILVERMAN.
MAGAZINE FIRE ARM.

No. 405,375.

Patented June 18, 1889.



Witnesses,
Geo. H. Pea.
Robert Everett.

Inventor,
Louis Silverman.
By James L. Norris.
Atty.

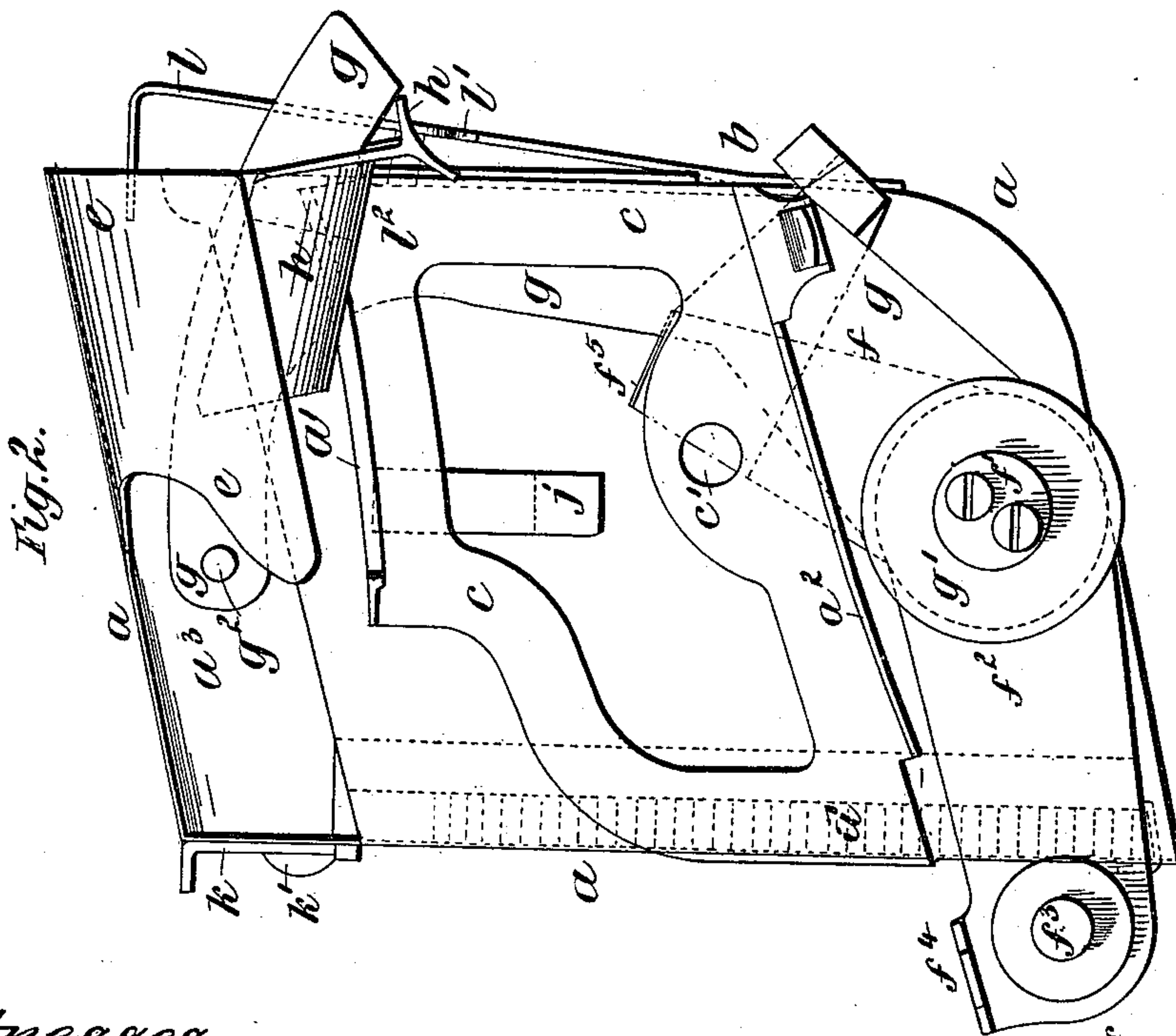
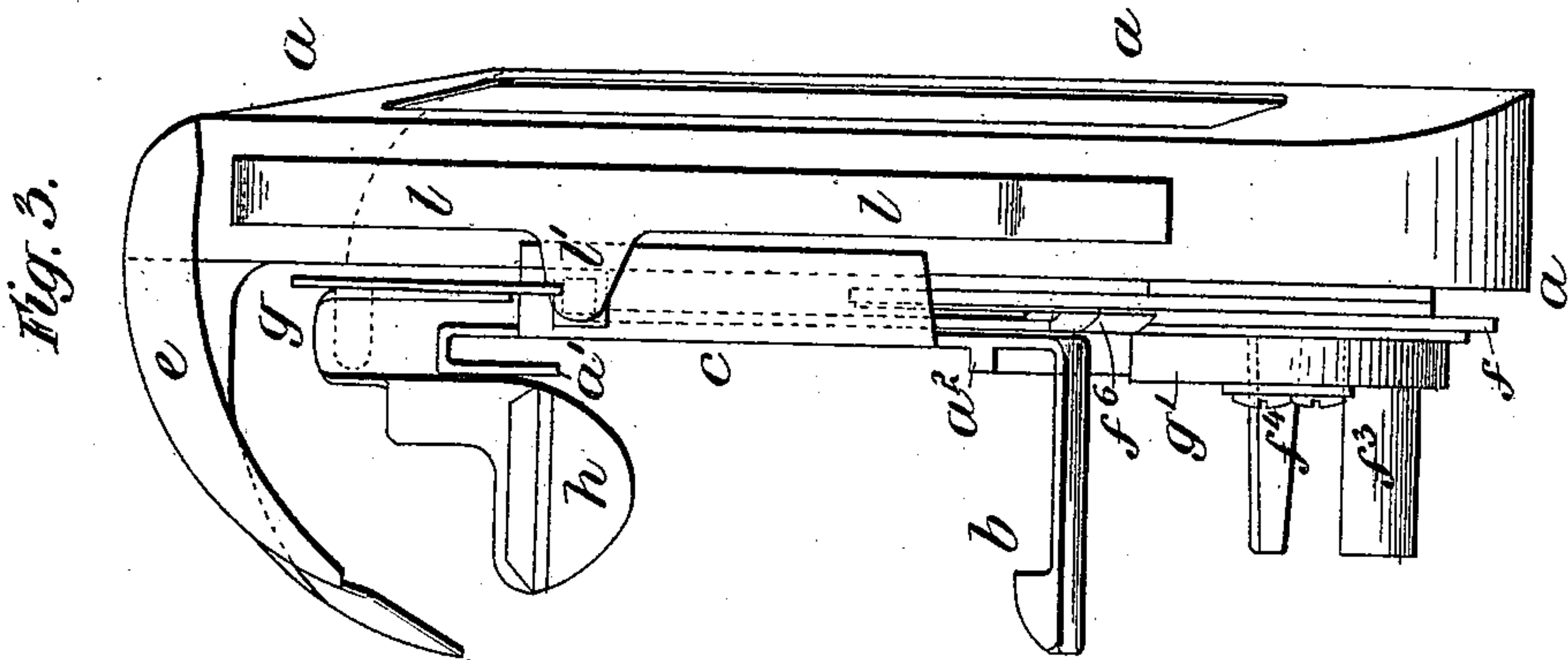
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3 Sheets—Sheet 2.

L. SILVERMAN.
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No. 405,375.

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Robert Emmett

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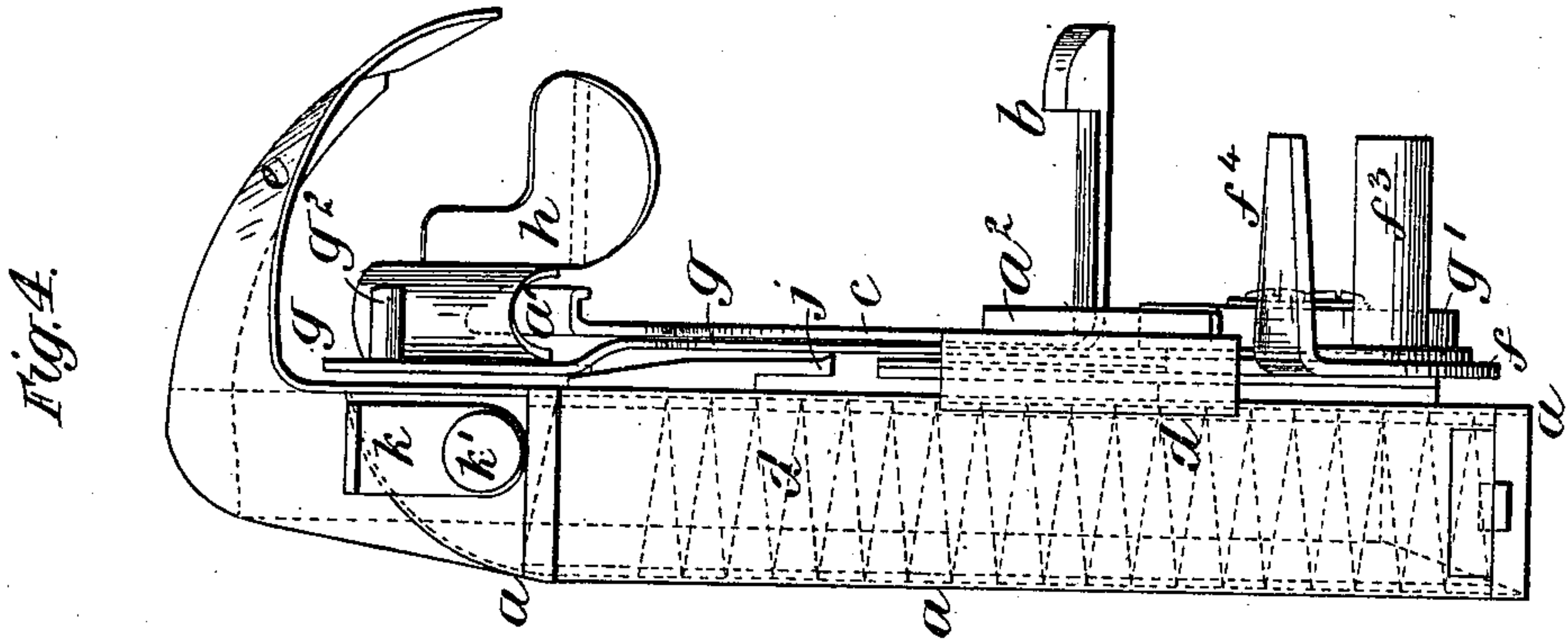
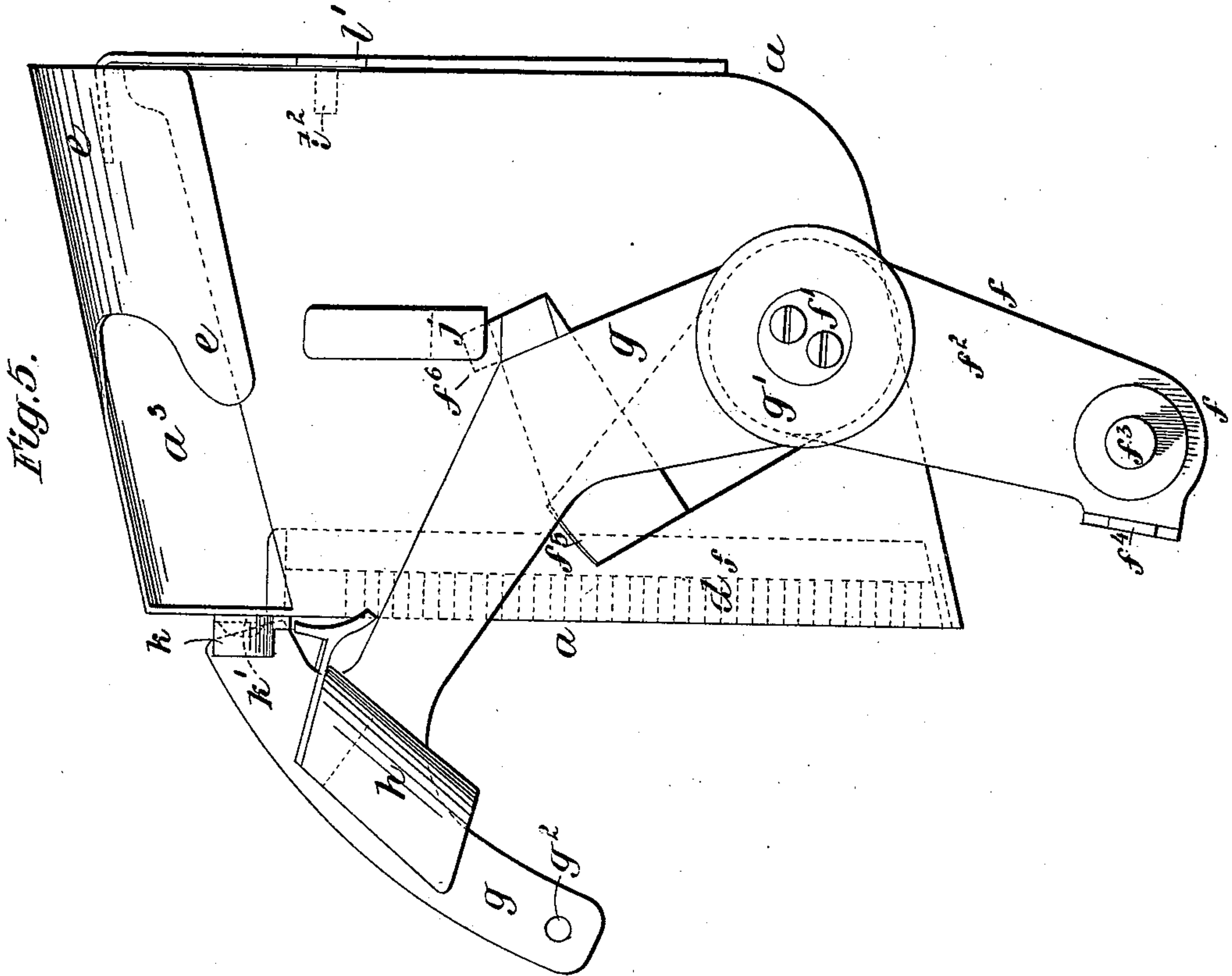
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3 Sheets—Sheet 3.

L. SILVERMAN.
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Witnesses:

Geo. W. Rea

Robert Garrett

Inventor:

Louis Silverman,

By James L. Norris,

Atty.

UNITED STATES PATENT OFFICE.

LOUIS SILVERMAN, OF LONDON, ENGLAND.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 405,375, dated June 18, 1889.

Application filed September 11, 1888. Serial No. 285,102. (No model.)

To all whom it may concern:

Be it known that I, LOUIS SILVERMAN, engineer, a subject of the Queen of Great Britain, and a resident of London, England, have
5 invented new and useful Improvements in and Relating to Magazine or Repeating Fire-Arms, of which the following is a specification, reference being had to the accompanying drawings.

10 My invention relates to magazine or repeating fire-arms of the kind or class wherein a falling breech-block is used—that is to say, wherein the breech-block is pivoted at its rear end and is connected with an operating-lever
15 arranged beneath the gunstock, so that by moving the said lever downward the breech may be opened, the empty cartridge-shell extracted, and the gun cocked, and by the upward movement of the said lever the breech
20 may be closed.

My said invention has for its object to provide novel, simple, and efficient means whereby when the breech has been opened and the empty cartridge-shell extracted the transfer
25 of a fresh cartridge from the magazine into the shoe or body of the gun and its insertion into the barrel will be automatically performed.

An important feature of my said invention
30 is the provision of a magazine and feeding and loading mechanism which can be readily attached to a "Martini-Henry" rifle without any alteration in the construction of the said rifle and can be readily detached therefrom.
35 My improved feeding and loading mechanism is, moreover, so constructed that it will be actuated through the medium of the lever ordinarily employed for operating the breech mechanism of the rifle.

40 In the accompanying drawings I have shown a magazine provided with feeding and loading mechanism in accordance with my said invention and designed for use with a Martini-Henry rifle.

45 Figure 1 is a side elevation of part of the rifle with the magazine attached thereto. Fig. 2 is a side elevation of the said magazine detached. Fig. 3 is a front elevation, and Fig. 4 a rear elevation, of the said magazine. Fig.
50 5 is a side elevation thereof, the side plate, hereinafter referred to, being removed.

A is the shoe or body of the gun; B, the

trigger-guard; C, the lever for operating the breech mechanism, which lever is pivoted at C' to the shoe or body A, and is hereinafter 51
termed the "block-lever."

a is the casing of the magazine, which is formed with lips or flanges a' a^2 , adapted to engage, respectively, with the upper and under sides of the shoe or body A. 60

b is a spring-catch adapted to engage with the trigger-guard B to secure and retain the magazine upon the gun. To prevent displacement of the magazine on the gun, the side plate c, which is next the gun when the magazine is attached thereto, is made with a hole 65
c', which fits upon the projecting end of the indicator-pin or block-lever pin C' of the gun, and thus constitutes a very rigid connection between the magazine and the gun. 70

The magazine may be provided with any well-known or suitable spring for elevating the cartridges therein. I prefer, however, to employ for this purpose a spring d, the convolutions of which are of rectangular shape, 75
and which is arranged in the rear end of the magazine, so that it will act upon the rear ends or bases of the cartridges, the forward end of the magazine being so inclined that the bullet ends of the cartridges will slide up 80
the same as the bases thereof are raised by the spring d.

The magazine is curved at the top, and has at the side next the gun an opening a^3 , through which the cartridges elevated by the spring 85
will successively fall into position to be thrust into the chamber of the gun, as hereinafter described. The said magazine is moreover provided with a shield e, which prevents the escape of the cartridges and insures their 90
falling into the shoe or body of the gun.

To the side of the magazine is pivoted, at f' , a bent lever f, the arm f^2 of which is provided with studs or projections f^3 f^4 , adapted to engage with the block-lever C when the magazine is applied to the gun, so that in the downward movement of the said block-lever to open the breech the said bent lever f will be turned upon its pivot f' , as and for the purpose hereinafter described. The other arm f^5 100
of the said bent lever is provided with a projection f^6 , for the purposes hereinafter specified.

Upon the pivot-pin f' of the said bent lever

is also pivoted an elbow-lever g , with which is combined a coiled spring inclosed in a casing g' . A peculiarly-shaped bent plate h is firmly attached to the upper end of the said elbow-lever g . This plate is so shaped that its lower edge will fit into the hollow or cavity in the upper side of the breech-block. The lever g is sometimes provided with a pin or projection g^2 , to facilitate the backward movement of the same by hand. When the block-lever C is moved down to open the breech, the projection f^6 on the bent lever f engages with the edge of the elbow-lever g and forces the said lever backward, thus winding up or compressing its spring. In this backward movement of the two levers the projection f^6 passes over a catch or projection j on the side of the magazine. In the first portion of the return movement of the levers f g the said projection f^6 slides upon an inclined surface of the said catch or projection j , as shown in Fig. 5, and is thus disengaged from the elbow-lever g , the forward or return movement of which is then completed by its coiled spring. When the elbow-lever g is moved backward, as above described, it allows a cartridge to fall from the magazine into the space in front of the said bent plate h , and in the return movement of the said elbow-lever the said cartridge is thrust into the barrel by the said plate h acting upon the rear end or base of the cartridge.

In the Martini-Henry rifle the block-lever, after it has been moved downward through the required angle to open the breech and has been released, returns automatically through a small angle by reason of the peculiar construction and arrangement of the return movement of the said block-lever as follows: In such partial return movement of the said block-lever the bent lever f is turned upon its pivot, and the projection f^6 on the said bent lever, sliding upon the inclined surface on the catch j , is disengaged from the said elbow-lever g . The coiled spring then reacts and moves forward the elbow-lever g , which passes over the projection f^6 on the bent lever f , and during this forward movement of the elbow-lever the bent plate h , pivoted thereto, acting upon the base or head of the cartridge in front of it, forces the said cartridge into the chamber of the gun, as above described. When the block-lever C is moved upward to close the breech, the bent lever f is moved back to its normal position and again engages with the elbow-lever g .

The elbow-lever in its normal position covers or partly covers the aperture a^3 in the side of the magazine, so that the cartridges are prevented from being pushed out by the spring until the breech is opened and the said elbow-lever moved back, so as to be clear of the said aperture. A stop k is pivoted at k' to the rear end of the magazine, so that it can be turned down in front of the lever g when

the latter is at the rear end of its movement, so as to hold the said lever back and thus permit the filling of the magazine with cartridges through the aperture a^3 , or the use of the rifle as a single-loader. The said stop can, when desired, be turned back into the position shown in Fig. 4 to permit the action of the said lever g .

To provide for holding down the cartridges in the magazine and permitting the raising thereof by means of the spring, so that they are successively fed into position to be thrust into the barrel, a spring stop or catch l is attached to the forward end of the magazine, its upper end being bent so that it enters a hole in the said magazine, as shown in Figs. 1, 2, 3, and 5, and holds down the cartridges therein. The spring l is formed with a projection l' , having fixed therein a pin or stud l^2 , upon which the lever g will act when moved forward, thus withdrawing the spring stop or catch l from the magazine, so that the cartridges may be raised therein by the spring d . The uppermost cartridge cannot, however, escape from the magazine until the lever g is moved back clear of the aperture a^3 . In this backward movement the spring stop or catch l is allowed to enter the magazine between the uppermost cartridge therein and the one next below it, so that while the said uppermost cartridge is free to fall into or upon the shoe or body of the gun the remaining cartridges in the magazine are held down by the said stop or catch l .

In fire-arms of the kind or class above referred to, wherein there is no automatic return or partial return of the block-lever, I sometimes provide a spring or springs for effecting a partial automatic return movement of the bent lever f for the purpose above specified. The said bent lever is sometimes connected with the block-lever C by other means than those above described. For example, the said lever may be provided with a stud and friction-rollers working in a slot in the said block-lever. Moreover, the construction and arrangement of the parts are in some instances otherwise modified to suit fire-arms differing in construction from the Martini-Henry rifle.

In some instances I make the spring-catch of the magazine to enter the screw-hole of the trigger-pivot and engage with the bottom of the shoe, which projects partly over the said hole, or the magazine is provided with a catch adapted to engage with any other suitable part of the gun.

What I claim is—

1. The combination, with a breech-loading fire-arm, of a pivoted block-lever, a detachable cartridge-magazine arranged on the fire-arm and having a side discharge-opening at its top, a spring located in the magazine for raising the cartridges, a bent lever pivoted between its ends on the inner side of the magazine and engaged at its lower end by the block-lever, and an elbow-lever pivoted

on the innerside of the magazine and engaged and disengaged by the upper end of the bent lever, and having a plate at its upper end to fit a breech-block and advance a cartridge into the gun-barrel, substantially as described.

2. The combination, with a breech-loading fire-arm, of a pivoted block-lever, a cartridge-magazine secured to the fire-arm and having a curved top, a lateral top discharge-opening, and a laterally-projecting curved shield to overhang the shoe of the fire-arm, a spring located in the magazine to elevate the cartridges, a bent lever pivoted between its ends to the inner side of the magazine and engaged at its lower end with the block-lever, and a lever pivoted at its lower end to the inner side of the magazine, engaged and disengaged by the upper end of the bent lever, and having at its upper end a plate to advance a cartridge along a breech-block into the gun-barrel, substantially as described.

3. The combination, with a breech-loading fire-arm, of the pivoted block-lever, a magazine secured to the fire-arm and having a side opening at the top of its inner side, a spring in the magazine for elevating the cartridges, an elbow-lever pivoted to the inner side of the magazine and having at its upper end a laterally-projecting plate to fit the groove in a breech-block and advance a cartridge into the gun-barrel, and a lever pivoted to the inner side of the magazine, connected with and swung by the block-lever, and having a projection to engage and disengage the elbow-lever to swing it rearward when the block-lever is depressed, substantially as described.

4. The combination, with a breech-loading fire-arm having a pivoted block-lever for operating the breech-block, of a magazine having a side opening and a curved upper end for directing the cartridges laterally through the side opening, a spring for moving the cartridges toward said curved end, a pivoted elbow-lever having a plate at its upper end for advancing the cartridges into the barrel, a bent lever connected with the block-lever and having a projection f^6 , engaging the elbow-lever, and a catch j , for disengaging the projection from the elbow-lever, substantially as described.

5. The combination, with a breech-loading fire-arm having a shoe A and a block-lever C for moving the breech-block, of the magazine-casing a , having a side opening a^3 and the upper and lower lateral flanges $a' a^2$, engaging, respectively, the upper and lower edges of the shoe, a spring in the casing for moving the cartridges to the side opening, and a lever actuated by the movement of the block-lever to advance the cartridges into the barrel, substantially as described.

6. The combination, with a breech-loading fire-arm having a shoe A, of a pivoted block-lever C, a magazine-casing a , having upper and lower lateral flanges $a' a^2$, respectively, engaging the upper and lower edges of the shoe, and a lateral spring-catch b , detachably

engaging a part of the fire-arm, a bent lever pivoted between its ends to the side of the magazine-casing and engaged at its lower end by the block-lever, and an elbow-lever pivoted to the side of the magazine-casing, engaged by the upper end of the bent lever, and having at its upper end a lateral plate to advance a cartridge along a breech-block into the gun-barrel, substantially as described.

7. The combination, with a breech-loading fire-arm, of a magazine detachably secured thereto and having a curved top, an inclined portion, a top side opening, and an overhanging curved top shield, a spring d , located wholly in the rear part of the magazine to act only on the rear ends or bases of the cartridges, a pivoted block-lever, a bent lever pivoted on the magazine and engaged by the block-lever, and an elbow-lever pivoted on the magazine, engaged by the bent lever, and having a plate to advance the cartridges into the gun-barrel, substantially as described.

8. The combination, with a breech-loading fire-arm having a pivoted block-lever for operating the breech-block, of a magazine having a side opening and a spring for moving the cartridges to said opening, a spring-impelled elbow-lever g , movable past the said side opening, and a bent lever f , connected with and operated by the block-lever and engaging and disengaging the spring-impelled lever, substantially as described.

9. The combination, with a breech-loading fire-arm having a pivoted block-lever for operating the breech-block, of a cartridge-magazine having a side opening and an upper curved end for directing the cartridges laterally through the opening, a spring for moving the cartridges toward the said curved end, the pivoted elbow-lever swinging past the side opening and serving to hold the cartridges in the magazine when said lever is in the forward position, and a pivoted bent lever loosely connected with the block-lever and engaging the elbow-lever to swing the latter rearward when the block-lever is operated to open the breech, substantially as described.

10. A cartridge-magazine for a breech-loading gun having a block-lever for operating the breech-block, consisting of a casing having a side opening, upper and lower flanges $a' a^2$, to engage the upper and lower edges of the gun-shoe, and a lateral catch b , to detachably engage a part of the gun, an elbow-lever g , for advancing the cartridges to the gun-barrel, and a bent lever f , engaging the elbow-lever and having studs $f^3 f^4$ to loosely engage the block-lever, substantially as described.

11. A cartridge-magazine for a breech-loading gun, having a pivoted block-lever for operating the breech-block, consisting of a casing a , having a side opening a^3 , a curved upper portion for directing the cartridges laterally through the opening, a spring d , for moving the cartridges upward, the upper and

lower flanges a' a^2 , for engaging the upper
and lower edges of the gun-shoe, a lateral
catch b , for detachably engaging a part of the
gun, an elbow-lever g , pivoted on the casing
5 and having the bent plate h at its upper end,
a bent lever f , mounted on the pivot of the
elbow-lever, provided with a projection f^6 ,
and having studs f^3 f^4 , for loosely engaging
the block-lever, and a catch j on the casing
10 for disengaging the projection on the bent

lever from the elbow-lever, substantially as
described.

In testimony whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

LOUIS SILVERMAN.

Witnesses:

JNO. DEAN,

HERBERT E. DALE.