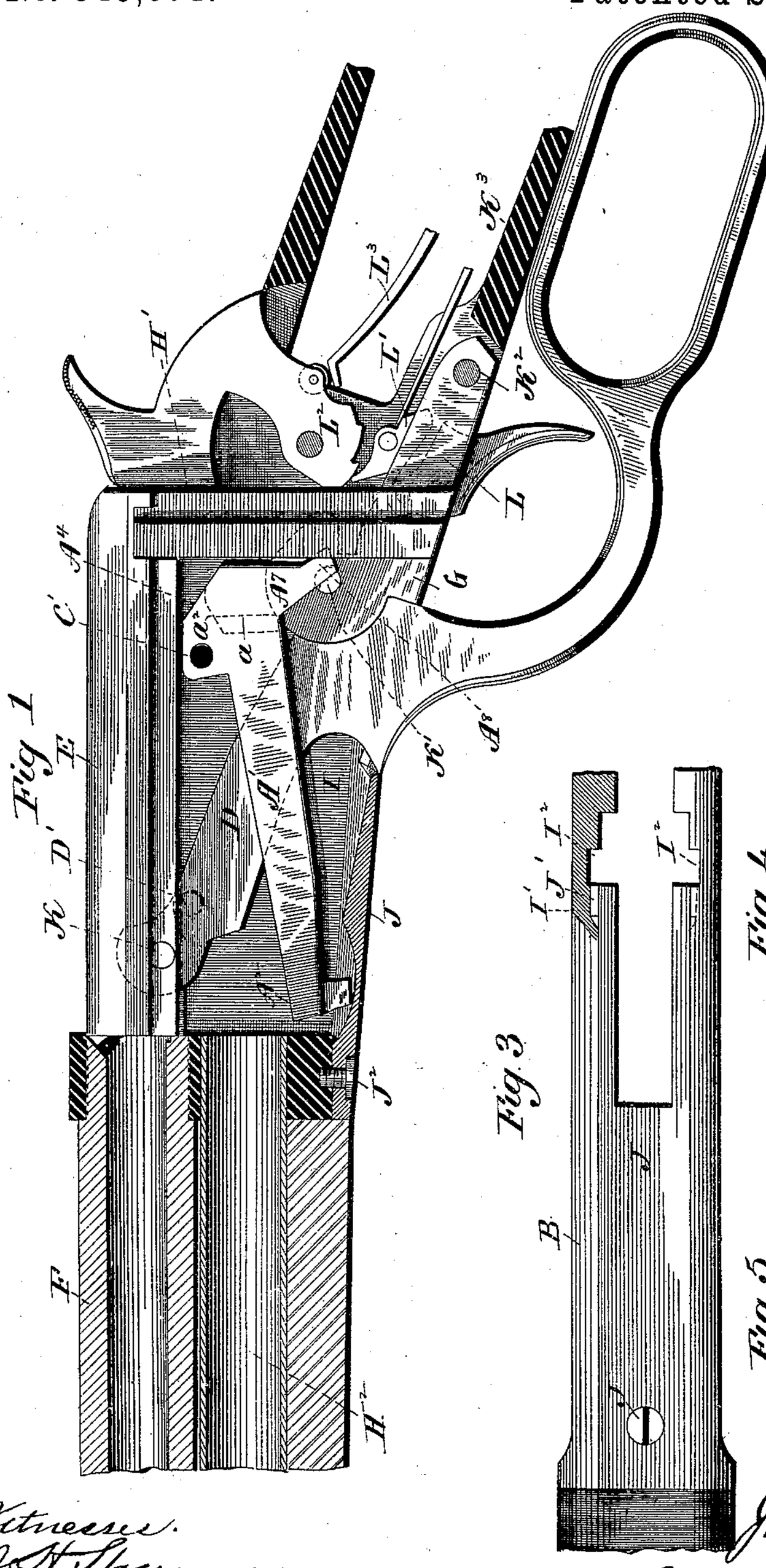
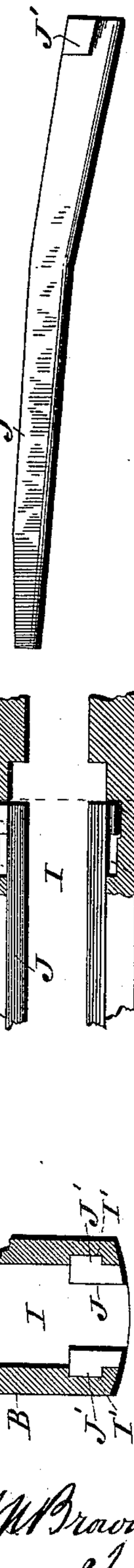
(No Model.) 3 Sheets—Sheet 1.

J. M. BROWNING.

MAGAZINE FIREARM.

No. 545,671. Patented Sept. 3, 1895.





Witnesses.
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(No Model.) 3 Sheets—Sheet 2.

J. M. BROWNING.

MAGAZINE FIREARM.

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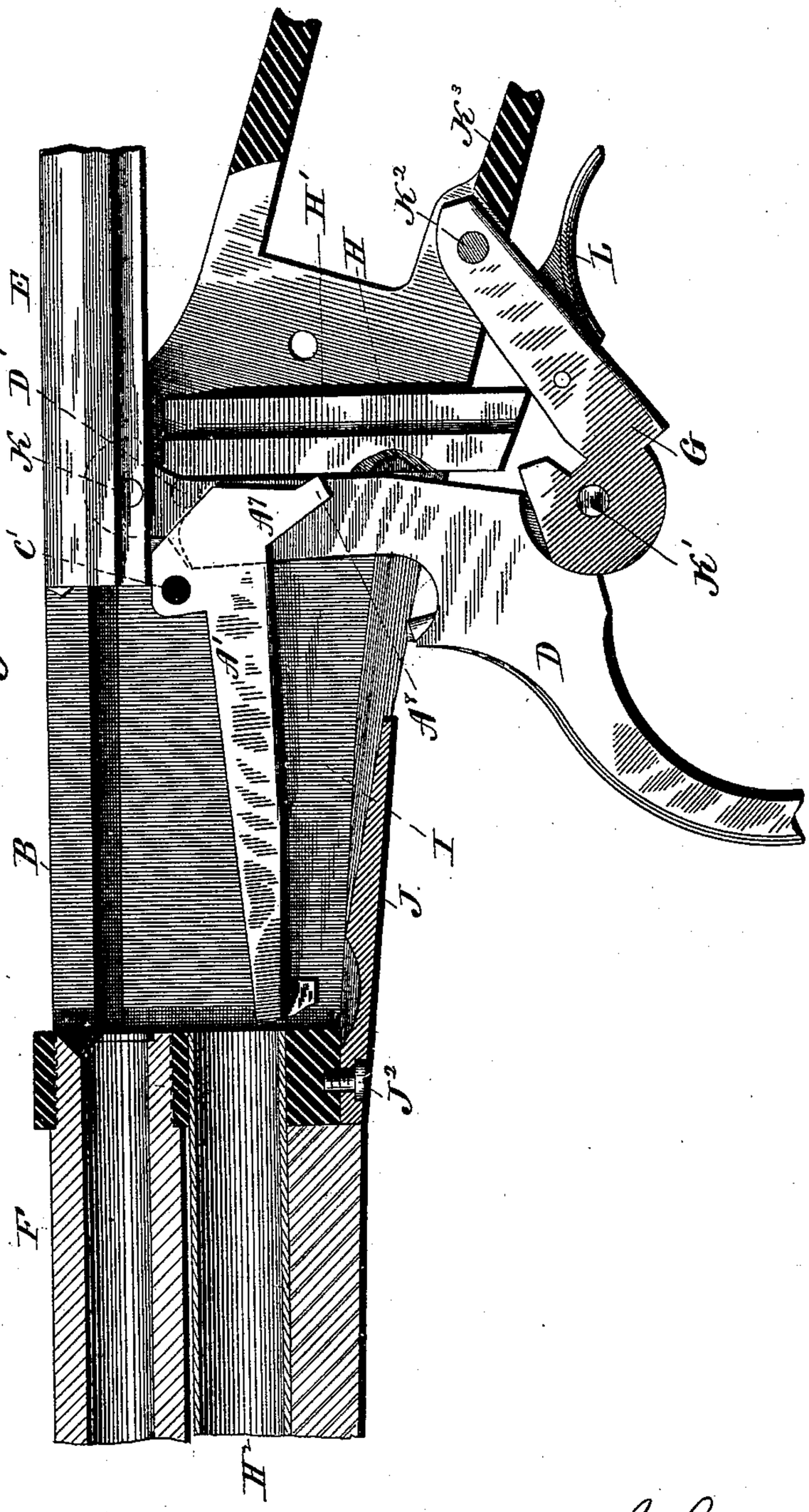
Fig 2



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(No Model.) 3 Sheets—Sheet 3.

J. M. BROWNING

MAGAZINE FIREARM.

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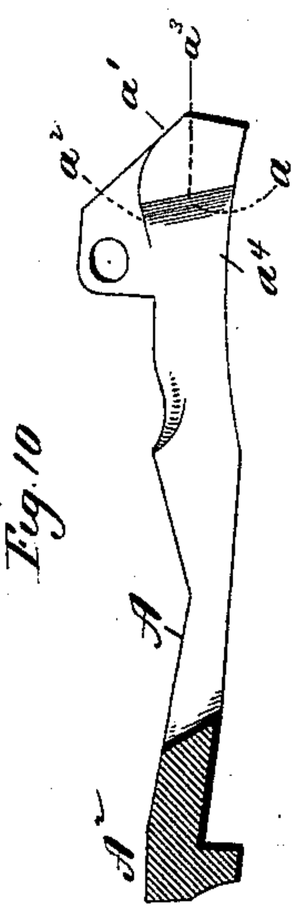

Fig. 10

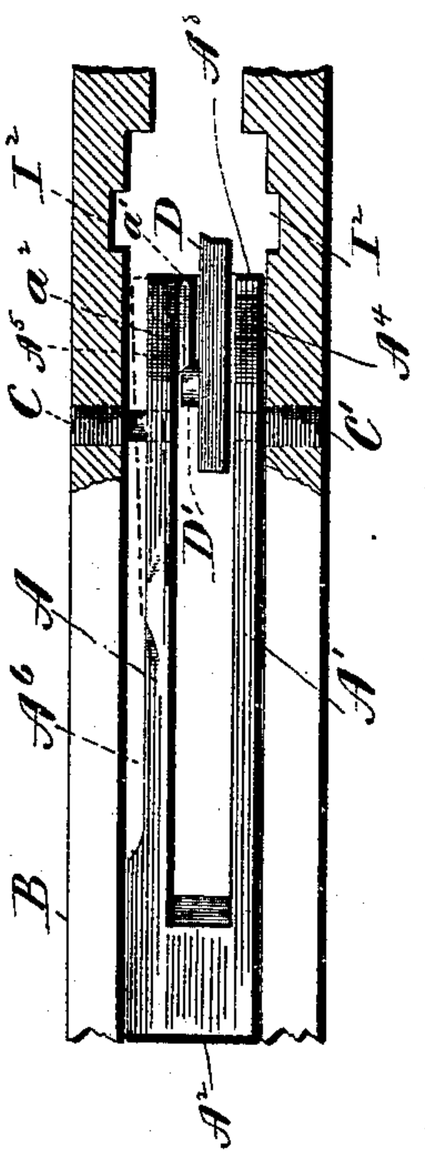

Fig. 7

Fig. 12

Fig. 8

Fig. 9

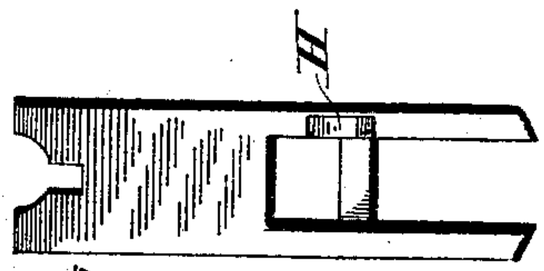

Fig. 11

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH TERRITORY, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF NEW HAVEN, CONNECTICUT.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 545,671, dated September 3, 1895.

Application filed April 29, 1895. Serial No. 547,518. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, of Ogden, in the county of Weber, Utah Territory, have invented a new Improvement in Breech-Loading Magazine-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 said drawings constitute part of this specification, and represent, in—

Figure 1, a view partly in elevation and partly in vertical section of one form which a gun constructed in accordance with my invention may assume, the action mechanism being represented as in the closed position of the arm; Fig. 2, a similar but less comprehensive view showing the arm open with the carrier in the position in which it forms a cartridge-stop; Fig. 3, a broken reverse plan view, partly in section, showing the construction for the connection with the frame of the cover or plate which closes the bottom of the chamber therein; Fig. 4, a broken view in horizontal section showing a portion of the frame and the rear end of the plate with the locking-lugs thereof inserted into the recoil-block grooves of the frame preparatory to being shoved forward into the locking-grooves thereof; Fig. 5, a broken view in vertical transverse section on the line *a b* of Fig. 4, and showing the rear end of the cover or plate in rear elevation; Fig. 6, a detached view, in side elevation, of the cover or plate; Fig. 7, a broken view, partly in horizontal section and partly in plan, showing the pivotal carrier and the finger-lever with the projection or pin of the lever engaged with the beveled inner edge of the cam of the carrier preparatory to springing the elastic member of the carrier aside to provide for the rearward passage of the pin or projection of the lever beyond the end of the carrier; Fig. 8, a detached view, in side elevation, of the carrier; Fig. 9, a detached plan view thereof; Fig. 10, a view of the carrier in central longitudinal section on the line *a b* of Fig. 9; Fig. 11, a detached view in front elevation of the recoil-block; Fig. 12, a plan view of the inner end of the operating or finger lever.

My invention relates to an improvement in breech-loading magazine-firearms, the object being to produce a comparatively simple, compact, strong, durable, and effective arm, constructed with particular reference to the positive operation of its action mechanism and to convenience of assemblance and dismemberment.

With these ends in view my invention consists in the combination, with a bifurcated carrier constructed upon the inner face and at the rear end of one of its legs with a cam, of a finger-lever provided near its upper end with a pin or projection to coact with said cam.

My invention further consists in the combination, with a pivotal carrier, of a vertically-movable recoil-block, one of the said parts having an operating-notch and the other a toe adapted to enter the said notch, whereby the recoil-block in the beginning of its downward movement lifts the pivotal carrier into position to form a cartridge-stop.

My invention further consists in the combination, with a chambered frame, of a cover or plate adapted to close the lower end of the chamber therein, and constructed at its rear end with two outwardly-projecting corresponding locking-lugs, which take into horizontal locking-grooves formed in the opposite walls of the frame and at their rear ends intersecting vertical grooves formed in the frame for the reception of the edges of the recoil-block.

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 rear end of the bifurcated carrier (detail views of which are shown in Figs. 8, 9, and 10) is cut into, so that the carrier is virtually composed of two long legs or members A and A′, separated at their rear ends, and joined at their forward ends by a transverse tie or web A^2. The said leg A of the carrier is laterally elastic, and is capable of being sprung away from the leg A′. A cam A^3 is located upon the inner face of the extreme rear end of the leg A of the carrier and constructed with a beveled forward edge *a*, with

a curved lifting edge a' and a straight sustaining-edge a^2. The carrier is pivotally mounted in the frame B of the arm by means of two horizontally-arranged screw-pivots C C′, located directly opposite each other and extending horizontally inward and entering pivot-openings formed in lugs A^4 A^5, respectively, formed at the rear ends of the two legs A and A′ of the carrier.

By reference to Fig. 7 of the drawings it will be seen that the inner end of the screw-pivot C is longer than the inner end of the screw-pivot C′, the object being to provide for the play of the leg A in the operation of the arm, as will be described hereinafter, and for the further accommodation of the leg A in springing back and forth the pivot-opening provided in its lug A^4 for the reception of the inner end of the screw-pivot C is made large enough to permit the deflections of the leg A. It will be also seen by reference to Fig. 7 of the drawings that the leg A′ of the carrier bears against the left-hand wall of the frame B and is prevented from springing outward thereby, while it is prevented from springing inward by the engagement with its inner face of the inner end of the finger or operating lever D, which, on the other hand, does not engage directly with the inner face of the leg A of the carrier, the outer face of the said leg A being cut away, as at A^6, to clear it from the inner face of the right-hand wall of the frame B and to give it space in which to spring.

The cam A^3, before mentioned, coacts with a pin D′, arranged horizontally and projecting to the right from the inner end of the lever D, as shown, for instance, in Figs. 7 and 12 of the drawings. The particular form of this pin may be varied, and, if preferred, it may be made integral with the lever, in which case it would be more properly described as a projection therefrom. When the gun is closed the pin or projection D′ will have the position shown in Fig. 1, and when the lever is thrown downward and forward in opening the gun the projection D′ will be brought into engagement with the beveled edge a of the cam A^3 of the carrier, which has by this time been lifted into the position shown in Fig. 2, in which it forms a cartridge-stop. The forward movement of the lower end of the operating-lever D being continued, its upper end is moved backward, causing the pin D′ to impinge against the beveled edge a and spring the leg A of the carrier outward into the position shown by broken lines in Fig. 7, whereby space is secured for the rearward passage of the pin beyond the extreme rear end of the carrier, the pin moving over the face of the cam substantially on the broken line a^3 of Fig. 10, and assuming substantially the position in which it is shown in Fig. 2. It will be understood, of course, that as soon as the pin clears the rear end of the cam the resiliency of the leg A causes it to at once spring back into its normal position, whereby it presents its lifting edge a' and sustaining edge a^2 in front of the side of the pin. Now, when the gun is closed, by grasping the finger or operating lever by its lower end and drawing the same rearward and upward, whereby its inner or upper end is caused to be moved forward, the pin will be forced against the curved lifting edge a' of the cam in such a manner as to cause the carrier to be quickly and positively lifted into its extreme elevated position, in which it presents the cartridge borne by it into position to be forced by the breech-bolt E into the gun-barrel F. This movement of the carrier takes place while the pin D′ is moving over the curved lifting edge a' of the cam; but the carrier is sustained in its elevated position until the cartridge has been well entered into the gun-barrel by means of the coaction of the pin and the straight sustaining edge a^2 of the cam. Then, after the pin passes off from the straight edge a^2 of the cam and releases the carrier from the sustaining effect of the lever the carrier is engaged at about the point marked a^4 in Fig. 10 by the upper edge of the hooked link G, which is lifted as the finger or operating lever D is drawn backward and upward. As soon, therefore, as the pin D′ releases the carrier, the same is positively thrown down into its receiving position in front of the magazine H, as shown in Fig. 1.

It will be seen from the foregoing description that the carrier is positively raised into its discharging position and maintained there as long as required by the positive action upon it of the finger or operating-lever and without the use of or reliance upon any springs, whereby reliability of operation is secured. I might, if preferred, locate the cam A^3 upon the leg A′ of the carrier and the pin or projection D′ upon the left-hand side of the operating finger or lever D, and, furthermore, the particular construction of the lever and carrier may be considerably varied, though the carrier must be constructed so that it shall have a spring portion for the carriage of the cam A^3.

Coming now to the second feature of my invention, the same relates to the primary lifting of the carrier into position to form a cartridge-stop. For this purpose the leg A′ of the carrier is constructed at its rear end with a depending lug A^7, having a rearwardly-projecting toe A^8, which at the proper time takes into an operating-notch H, formed to receive it in the front face of the vertically-movable recoil-block H′. When the gun is closed the said toe is entered into the said notch by the positive throwing of the carrier into its receiving position by means of the engagement of the link with it, as already described. At the beginning of the opening of the gun, the recoil-block moves downward and forces the toe A^8 of the carrier out of its notch H, whereby the carrier is swung on the screws C and C′ and lifted into the position shown in Fig. 2, where it forms a car-

tridge-stop, being sustained in this position by the riding of the point of the toe upon the plain forward face of the recoil-block, as shown in said Fig. 2. It will thus be seen that this movement of the carrier into position to form a cartridge-stop is also positive and wholly independent of the action of springs. If desired, the notch might be arranged in the carrier and the toe upon the recoil-block, though I prefer the construction illustrated. In this connection I would say that, while a toe and notch acting as described, for positively lifting the carrier into position to form a cartridge-stop, coact well with the cam and pin described for positively lifting the carrier into its discharging position and sustaining it therein, I do not limit myself to using these features in combination, for the cam and pin might be combined with other means for lifting the carrier into position to form a cartridge-stop, and vice versa.

The third feature of my invention relates to the cover or plate which closes the bottom of the chamber I of the frame B. In carrying out this part of my invention I provide the extreme rear end of the cover J with two corresponding oppositely-projecting locking-lugs J′ J′, which are adapted to be received by shallow substantially horizontal locking-grooves I′ I′, formed opposite each other in the side walls of the chamber I and opening at their rest ends into the vertical slots I^2 I^2, formed in the said walls of the chamber at points opposite each other for the reception of the edges of the recoil-block H′. In order to secure the cover or plate in place it is applied to the bottom of the frame in position for the entering of its locking-lugs into the lower ends of the vertical recoil-block grooves I^2 I^2, after which the rear end of the plate is pressed inward until the locking-lugs J′ J′ are brought into line with the rear ends of the locking-grooves I′ I′, after which the plate is moved horizontally forward to cause the said locking-lugs to enter the said locking-grooves. The rear end of the plate having thus been firmly united with the frame, its forward end is secured thereto by means of a screw J^2, which may, if desired, be replaced by a pin. I prefer to employ two locking-lugs and grooves, as shown and described, although one of each will answer the purpose. Of course the particular construction of the frame and lever may be varied as desired, as the principle which I have described of securing the plate or cover in place is not limited to the construction shown.

It has not seemed to me necessary to describe the general construction or operation of the arm nor to specify all the parts thereof, as its operation and construction will be understood by any one familiar with the art, and I will only add that the inner end of the finger-lever is connected by horizontal pin K with the forward end of the breech-bolt E, and that the hooked link G is connected at its hooked forward end by a pin K′ with the finger-lever, the rear end of the link being connected by a pin K^2 with the lower tang K^3 of the frame. The trigger L is pivoted in the link G and coacts with a sear L′, which in turn coacts with the hammer L^2, which is furnished with the usual hammer-spring L^3.

In view of the foregoing suggestions of changes and alterations and of others which may obviously be made, I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such 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 breech-loading magazine fire-arm, the combination with a pivotal bifurcated carrier having one of its members or legs adapted to be sprung laterally, and provided at its rear end with a cam, of a finger or operating-lever constructed at its inner end with a projection to co-operate with the said cam in positively raising the carrier into its discharging position and sustaining it therein temporarily when the said lever begins its closing or forward movement and co-operates with the said cam in pushing the said member laterally to one side at the end of the outward or opening movement of the lever for clearing the member and cam from the path of the lever, substantially as set forth.

2. In a breech-loading magazine fire arm, the combination with a pivotal, bifurcated carrier having one of its legs or members adapted to be sprung laterally and provided with a cam, of a finger or operating lever constructed at its inner end with a pin or projection coacting with the said cam in positively lifting the carrier into its discharging position and temporarily sustaining it therein, substantially as set forth.

3. In a breech-loading magazine fire arm, the combination with a carrier having a spring leg or member constructed with a cam having a beveled forward edge and also having a curved lifting and a straight sustaining edge; of a finger or operating lever, the inner end of which is constructed with a pin or projection coacting with the beveled edge of the cam to spring the same aside for the rearward passage of the pin, and coacting with the curved and straight edges of the cam for lifting the carrier into its discharging position and sustaining it therein temporarily, substantially as set forth.

4. In a breech-loading magazine fire-arm, the combination with a pivotal bifurcated carrier having one of its legs adapted to swing laterally, provided with a cam, and constructed with an elongated pivot-opening and having its other leg also constructed with a correspondingly located pivot-opening, of a finger or operating lever constructed at its inner end with a pin or projection to coact with the said cam, and two screw-pivots re-

spectively located in the opposite walls of the frame of the arm, and entering the pivot-openings in the respective ends of the legs or members of the carrier for supporting the same pivotally within the said frame, substantially as described, and whereby the elongated pivot-opening permits the elongated leg or head of the carrier to be sprung laterally.

5. In a breech-loading magazine fire-arm, the combination with a pivotal carrier, of a vertically movable recoil block, one of the said parts having an operating notch and the other a toe adapted to enter the notch when the block is in its closed position, whereby the block in the beginning of its downward movement is caused to lift the carrier into position to form a cartridge-stop, substantially as set forth.

6. In a breech-loading magazine fire arm, the combination with a carrier, constructed at its rear end with a toe, of a vertically movable recoil-block, having an operating notch formed in its forward face to receive the said toe in position to effect the lifting of the carrier into position to form a cartridge stop at the beginning of the downward movement of the recoil-block, substantially as set forth.

7. In a breech-loading magazine fire arm, the combination with a chambered frame, having recoil-block grooves formed in the inner faces of its side walls and locking grooves leading forward out of the lower ends of the recoil-block grooves; of a cover or plate adapted to close the bottom of the chamber in the frame, and constructed at its rear end with lugs adapted to enter the said locking grooves, into which they are introduced through the clearance afforded by the recoil-block grooves, substantially as set forth.

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

JOHN M. BROWNING.

Witnesses:
JOHN E. RAMSDEN,
KATE LINEHAN.