(No Model.) 2 Sheets—Sheet 1.

W. MASON.

MAGAZINE FIRE ARM.

No. 354,327. Patented Dec. 14, 1886.

Fig. 1

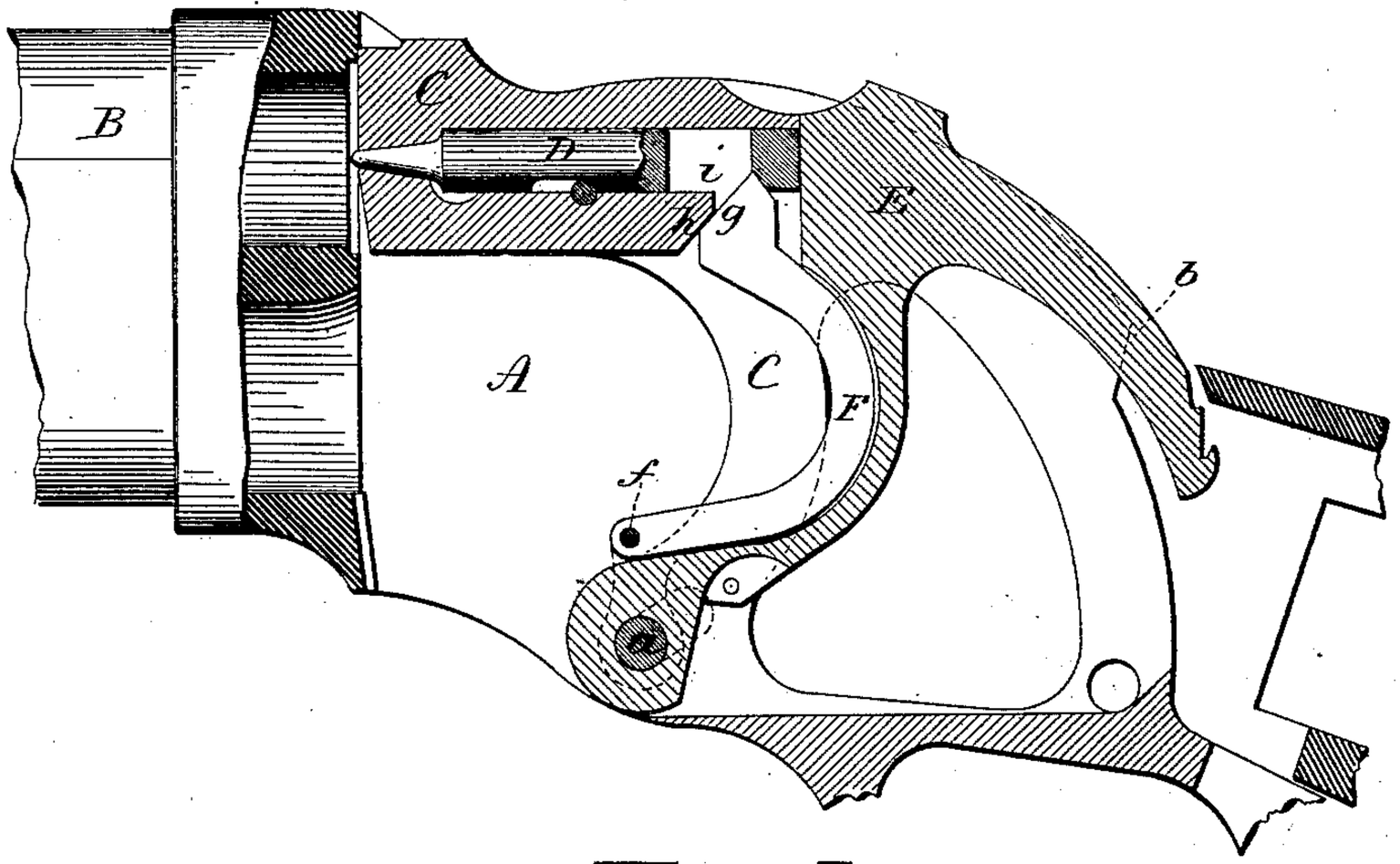

Fig. 2

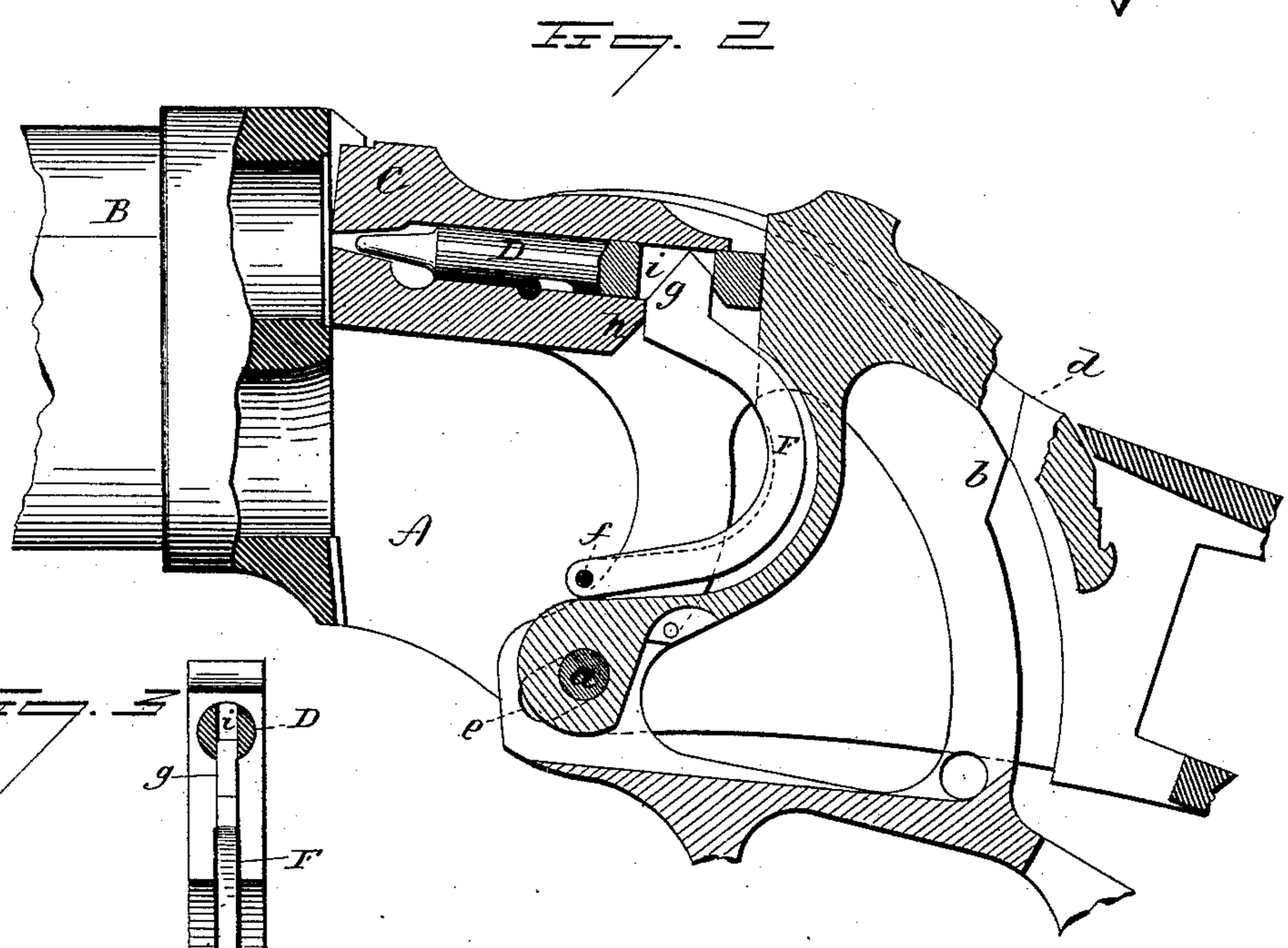

Fig. 3

Witnesses.
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Wm. C. Earle.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4

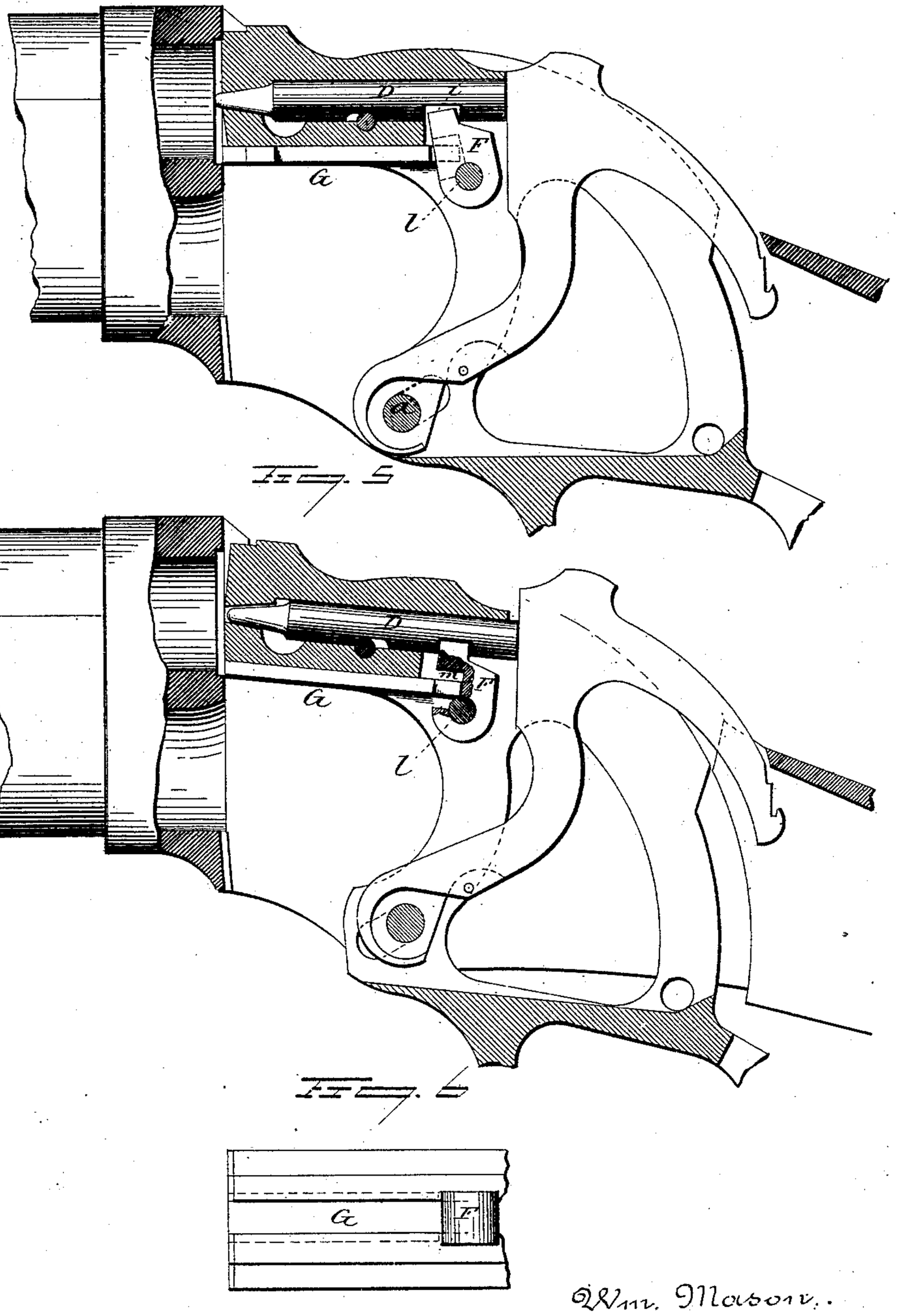

Fig. 5

Fig. 6

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UNITED STATES PATENT OFFICE.

WILLIAM MASON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 354,327, dated December 14, 1886.

Application filed May 3, 1886. Serial No. 200,938. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MASON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new 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 same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal section through the receiver and breech-piece, showing the firing-pin and retracting-lever, the parts being in their closed position; Fig. 2, the same view showing the parts in the position of just unlocked or about to be locked; Fig. 3, a front view of the lever F and the hammer, with a transverse section of the firing-pin; Figs. 4 and 5, views like Figs. 1 and 2, showing a modification of the retracting-lever; Fig. 6, an under side view of the breech-piece illustrating the modification.

This invention relates to an improvement in that class of breech-loading fire-arms in which the breech-piece is hung upon a pivot below the barrel, and adapted to swing downward and backward in opening, and in which in the first part of the opening movement of the breech-piece the breech-piece, because of a slot at its pivot, makes a descending movement at the rear to disengage it from the shoulder which locks it in the closed position to resist recoil, such construction of breech-piece being the same as that shown in the patent of Browning, No. 336,287. In this arm the hammer is hung upon the same axis as the breech-piece, and so as to be turned backward in the opening of the breech-piece. The firing-pin is arranged longitudinally through the breech-piece and adapted to be struck by the hammer.

The object of the present invention is a positive automatic retraction of the firing-pin during the unlocking movement of the breech-piece; and the invention consists in a lever arranged in the breech-piece in connection with the firing-pin, and so that under the unlocking movement of the breech-piece a retracting movement will be imparted to the firing-pin through said lever.

A represents the receiver, to the forward end of which the barrel B is attached, the receiver being constructed with a recess in which the operative mechanism of the arm is arranged.

C represents the breech-piece, which is hung upon a pivot or axis, *a*, below and in rear of the barrel, and so that it may be turned backward and downward to open. The breech-piece is constructed with a locking-shoulder, *b*, (see Fig. 2,) which is adapted to engage a shoulder, *d*, on the receiver when the breech-piece is in its closed position, as seen in Fig. 1, and thereby support the breech-piece against recoil.

In order that the unlocking movement may be made before the actual opening of the breech-piece commences, the breech-piece is constructed with a slot, *e*, at the pivot, (indicated in broken lines, Fig. 1,) extending from the pivot, inclined upward and backward, and so that in the first part of the opening movement of the breech-piece the breech-piece will be thrown down upon the pivot *a* until the upper end of the slot *e* comes to a bearing thereon, as seen in Fig. 2. This downward movement takes the shoulder *b* away from the shoulder or abutment *d* on the receiver, and so that the breech-piece is free to be opened. Then when the breech-piece is returned to the same position as that seen in Fig. 2 the final closing movement of the breech-piece brings the shoulders *b d* into engagement, as seen in Fig. 1, and as in the Browning gun, before referred to.

In the breech-piece the firing-pin D is arranged in the usual manner, and so that the hammer E, which, as here represented, is hung upon the same pivot, *a*, as the breech-piece, may strike, as seen in Fig. 1, to impart the blow of the hammer to the cartridge in the barrel.

In the unlocking movement of the breech-piece its front face rocks, as it were, upon the rear end of the barrel, so that while its lower edge substantially rests against the rear end of the barrel the upper edge is turned away therefrom—that is to say, the lower edge of the front face of the breech-piece forms a fulcrum or center upon which the breech-piece turns in the unlocking movement—consequently the part of the breech-piece at the rear end of the firing-pin drops to a consider-

able extent—that is, as from the position in Fig. 1 to that in Fig. 2. I take advantage of this rocking movement of the breech-piece to retract the firing-pin, and such retracting is best done by means of a lever, F, its lower end hung to the hub of the hammer, as at *f*, the lever extending upward, its upper end terminating in a rearward incline, *g*, adapted to bear against a corresponding surface, *h*, on the breech-piece, and above the end of the lever F the firing-pin is constructed with a vertical opening, *i*, into which the upper end of the lever F may pass and into which it extends when in the closed position, as seen in Fig. 1, but so that the firing-pin may be thrown to its extreme striking position, as indicated in that figure, before the firing-pin comes to a bearing against the rear face of the upper end of the lever F. The lever F turns with the breech-piece and hammer in the opening movement; but because the breech-piece has first a descending movement at its rear end before the hammer will have moved to any considerable extent it follows that the breech-piece will be thrown down onto the upper end of the lever F, as seen in Fig. 2, and in such movement the cam-like surface *g* of the lever, riding over the surface *h* of the breech-piece, imparts to the lever F a rear swinging movement to the extent of the cam action, and so that the upper end of the lever may pass into the recess *i* in the firing-pin. This movement of the lever forces the firing-pin rearward and locks it in that retracted position, as seen in Fig. 2; then when the breech-piece is returned the firing-pin is still held retracted until it arrives at the locking position, as seen in Fig. 2; then in the locking movement of the breech-piece it rises so as to take the firing-pin out of control of the end of the lever and so as to leave the firing-pin free for the blow; but this unlocking of the firing-pin cannot occur until after the locking movement of the breech-piece has commenced; hence accidental discharge of the cartridge in the closing movement of the breech-piece is avoided, because the blow cannot reach the cartridge until the breech-piece is in the extreme closed position, and then all the parts are locked to resist such explosion.

Instead of hanging the retracting-lever upon the hammer, as I have described, it may be arranged as seen in Figs. 4 and 5. In this case the lever F is hung upon a pivot, *l*, in the breech-piece, directly below the firing-pin, the lever extending up into a recess, *i*, formed in the breech-piece, then upon the under side of the breech-piece a longitudinally-moving slide, G, is arranged, extending to the extreme front face of the breech-piece, and at its rear end bearing against the lever F, preferably above its pivot, and preferably entering a recess on the forward side of the lever, as shown in Fig. 5.

When the parts are in the closed position, as seen in Fig. 4, the slide and lever F being free, the firing-pin may be thrown forward to its striking position. On the first part of the opening or unlocking movement of the breech-piece it turns as before, but the forward end of the slide G comes to a bearing against the rear end of the barrel, and the turning of the breech-piece imparts a rearward movement to the slide G, which is communicated to the lever F, and so as to turn the lever rearward, as seen in Fig. 5, and correspondingly retract the firing-pin.

In closing the breech-piece, as it arrives at the locking position (seen in Fig. 5) the slide G bears against the rear end of the barrel, (or what is the same thing, the front end of the recess in the receiver,) and so as to prevent forward movement of the lever F until the locked position, Fig. 4, is reached, when the firing-pin is free to be struck and communicate its blow to the cartridge. In either case it is the unlocking movement of the breech-piece which actuates the firing pin-retracting lever and the locking movement of the breech-piece which releases the firing-pin.

Instead of hanging the lever upon the hub of the hammer, as indicated in Figs. 1 and 2, it may be hung upon the same axis as the hammer, as indicated in broken lines, Fig. 1.

Other modifications of the retracting-lever will readily suggest themselves to those skilled in the art. I therefore do not wish to be understood as limiting my invention to any particular construction of the lever, the essential feature of my invention being the arrangement of a lever in connection with the firing-pin, whereby in the unlocking of the breech-piece, produced by a descending movement of the breech-piece on its axis, the firing-pin is retracted.

I do not illustrate the mechanism whereby the breech-piece is operated, as it is not essential to my invention, it being sufficient for illustration to say that it may be by means of an arm extending from its under side, and as indicated by the broken portions in the respective figures, and substantially the same as that in the Browning patent, before referred to.

I claim—

1. In a fire-arm, the combination of the barrel open at its rear end, a breech-piece hung in the receiver in rear of said barrel upon an axis at right angles to the barrel and so as to swing downward and backward in opening, the breech-piece constructed with a slot inclined upward and backward from its pivot when the breech-piece is in its closed position, the breech-piece also constructed with a shoulder, and the receiver with a corresponding shoulder against which the said shoulder on the breech-piece will abut when the breech-piece is in its closed position to resist recoil, a firing-pin extending longitudinally through said breech-piece, and a lever hung upon its axis, so as to swing in a plane substantially parallel with the plane of the axis of the firing-pin, and arranged to swing with the breech-piece in its opening and closing movement, the firing-pin constructed with a recess into

which the free end of the said lever enters, to make engagement with the firing-pin, and a bearing arranged to engage said lever in the first part of the opening movement of the breech-piece, substantially as described, and whereby there is imparted to said free end of the lever a rear movement, and corresponding retracting movement to the firing-pin during the unlocking movement of the breech-piece, substantially as described.

2. In a fire-arm, the combination of the barrel open at its rear end, a breech-piece hung in the receiver in rear of said barrel upon an axis at right angles to the barrel, and so as to swing downward and backward in opening, the breech-piece constructed with a slot inclined upward and backward from its pivot when the breech-piece is in its closed position, the breech-piece also constructed with a shoulder, and the receiver with a corresponding shoulder against which the said shoulder on the breech-piece will abut when the breech-piece is in its closed position to resist recoil, the hammer hung upon the same axis as the breech-piece, the firing-pin D, arranged longitudinally in said breech-piece, the lever F, one end hung to the hub of said hammer, the other extending into a recess in the firing-pin, substantially as described, and whereby, under the unlocking movement of the breech-piece, a rear movement is imparted to said lever, and a corresponding retracting movement to the firing-pin, substantially as described.

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Witnesses:
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