

(No Model.)

2 Sheets—Sheet 1.

J. M. BROWNING.
BREECH LOADING FIREARM.

No. 511,677.

Patented Dec. 26, 1893.

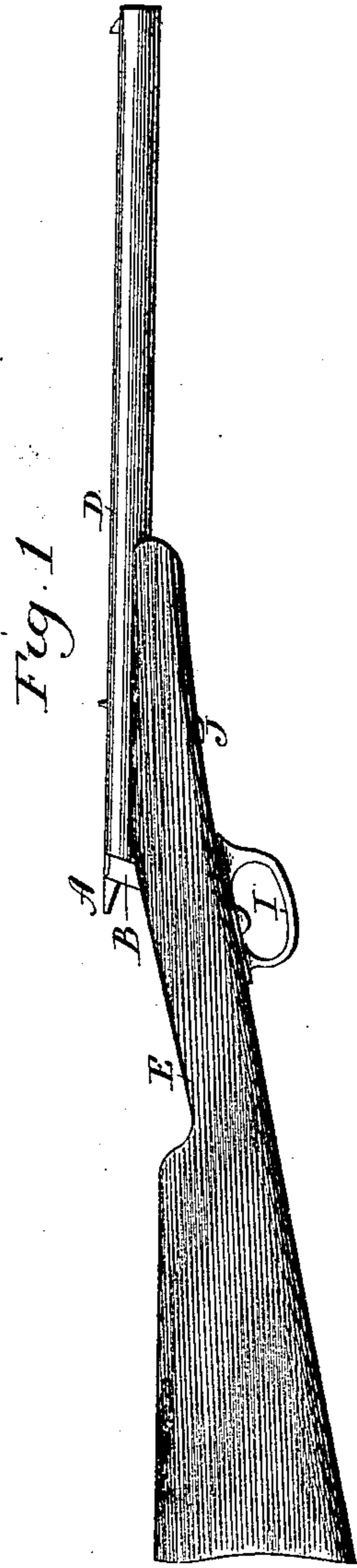


Fig. 2

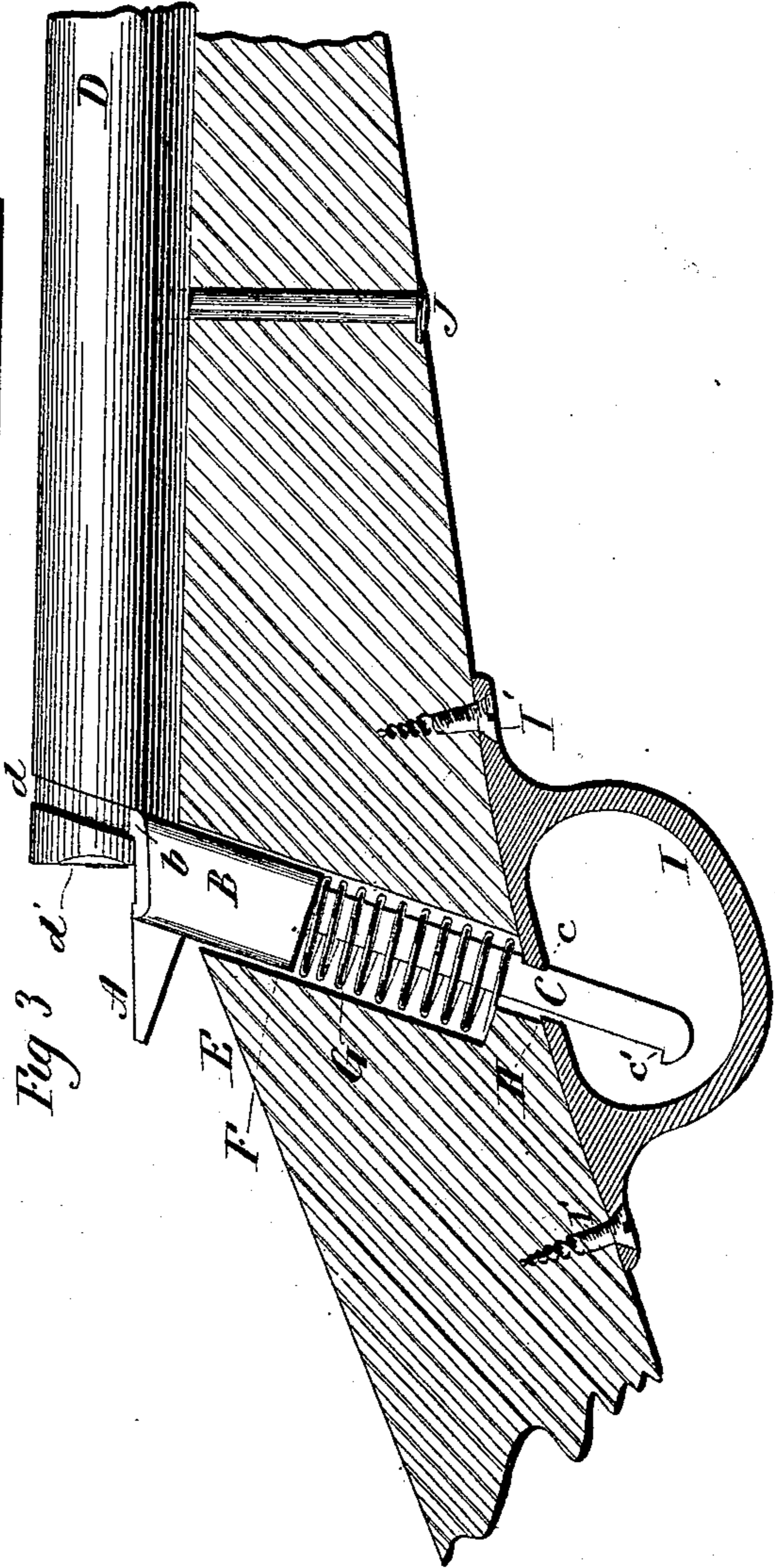
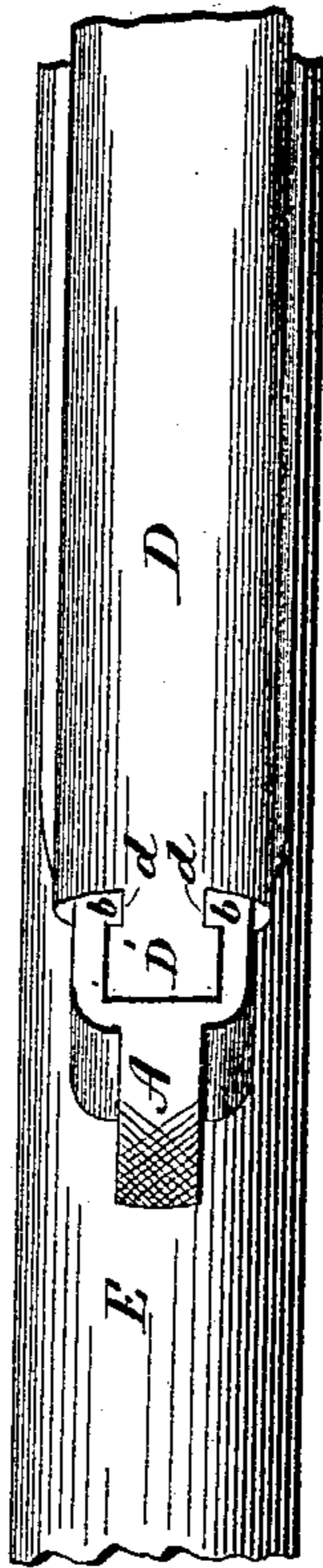
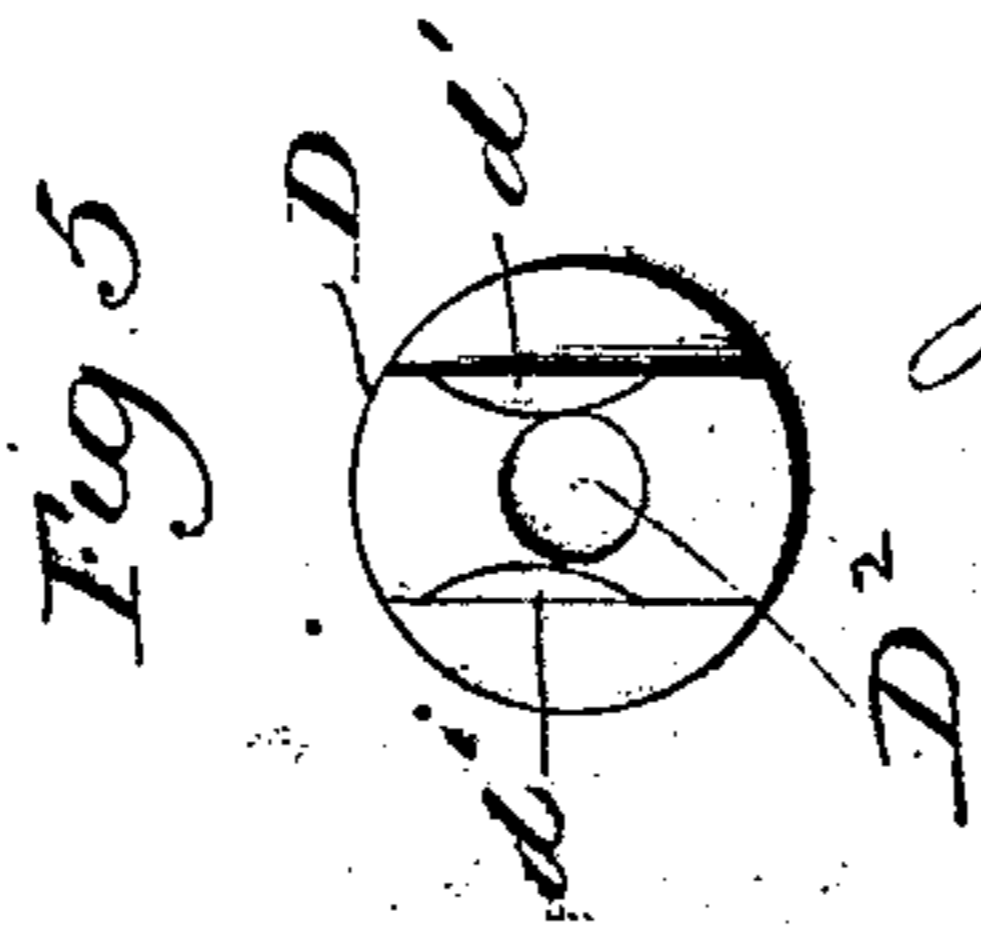


Fig. 3

Witnesses
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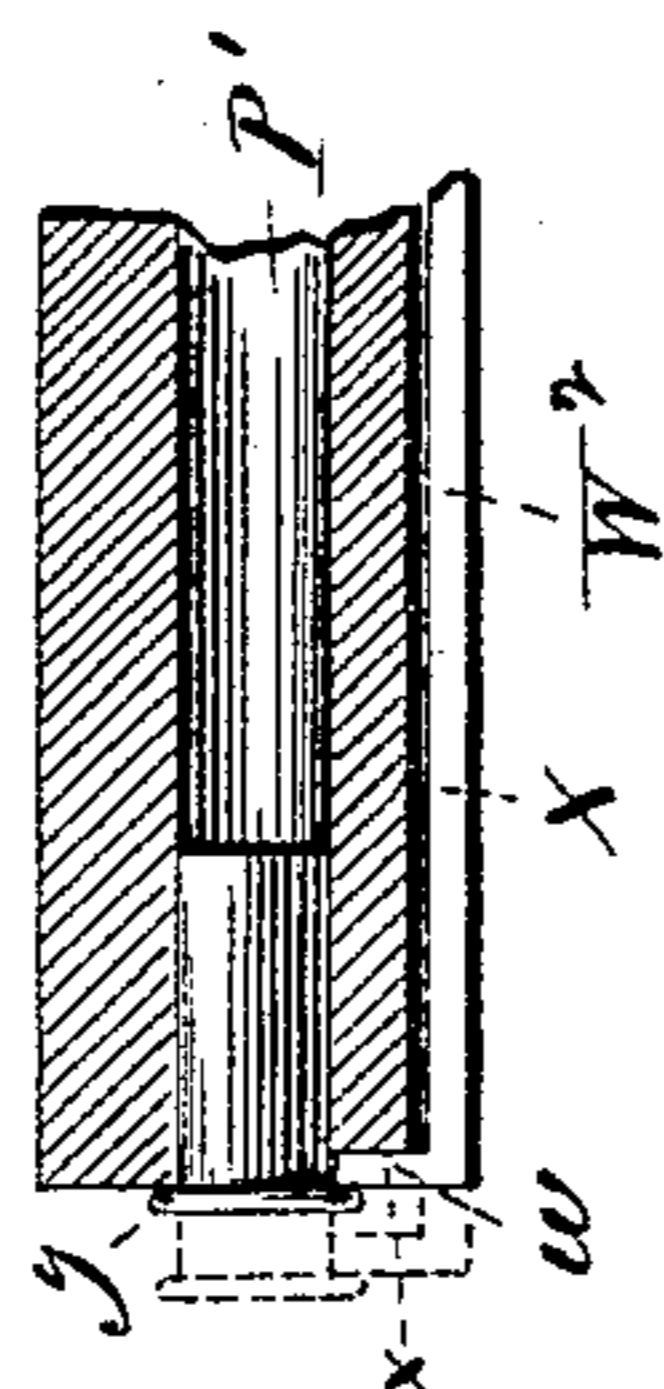
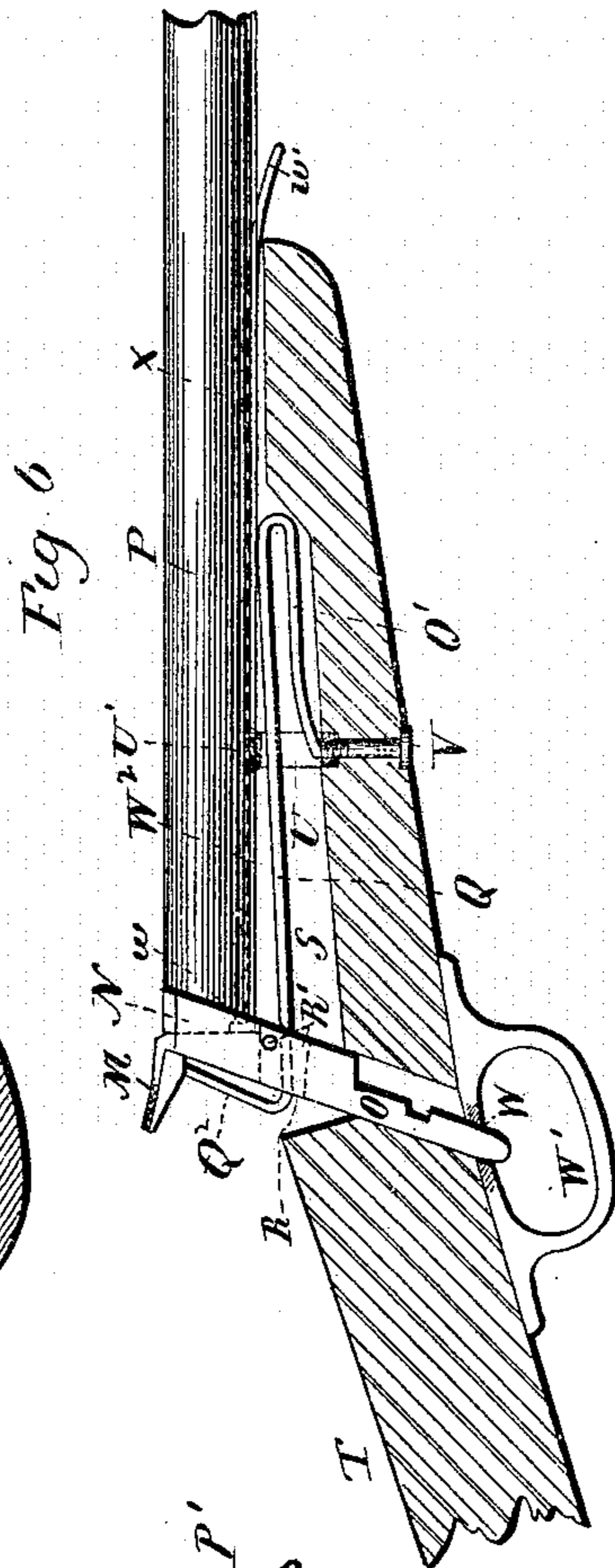
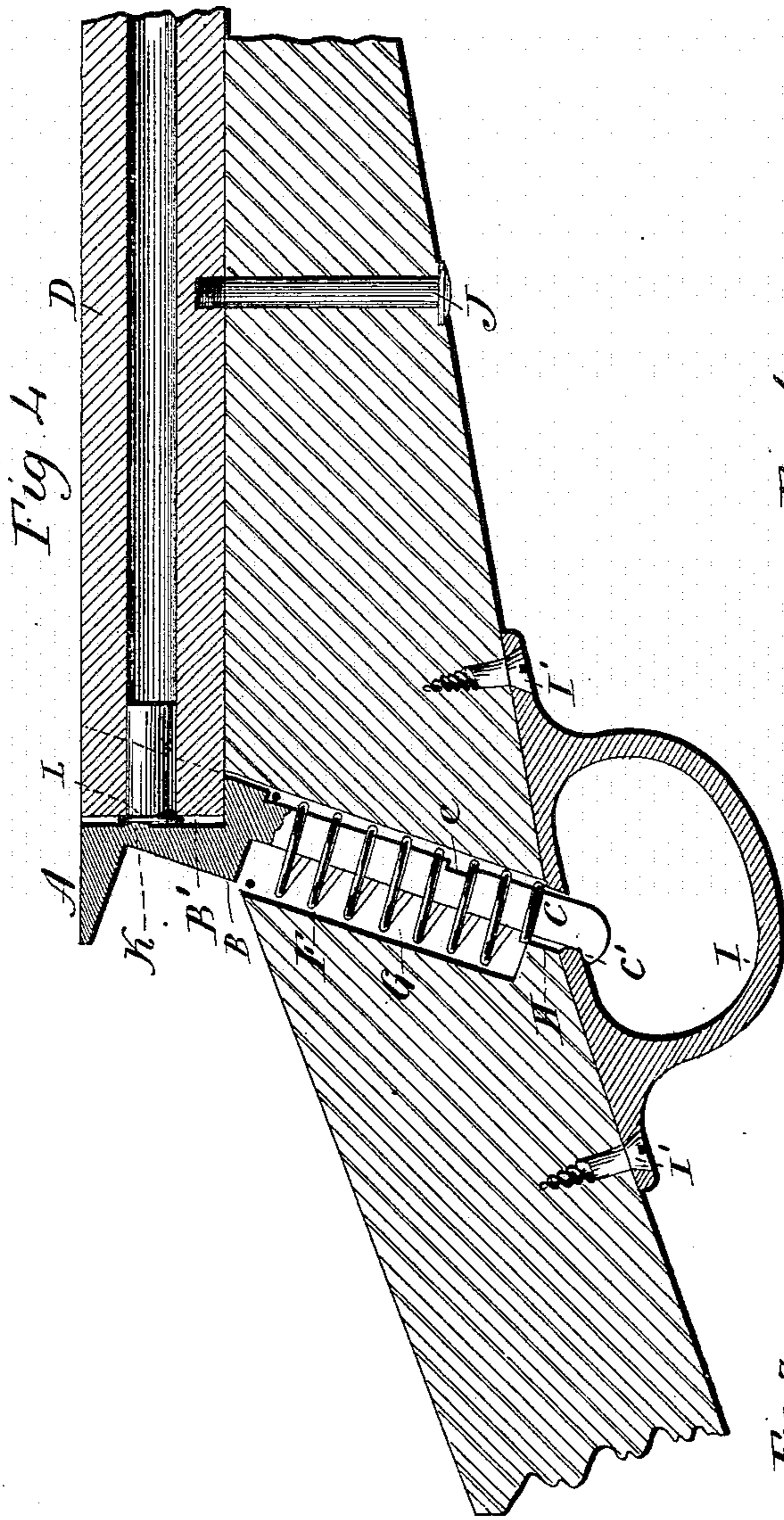
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 Inventor

By *atty*
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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.

BREECH-LOADING FIREARM.

SPECIFICATION forming part of Letters Patent No. 511,677, dated December 26, 1893.

Application filed December 23, 1892. Serial No. 456,166. (No model.)

To all whom it may concern:

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

Figure 1, a view in side elevation of one form which a breech-loading, single-shot rifle constructed in accordance with my invention, may assume; Fig. 2, a broken plan view thereof, drawn on a larger scale; Fig. 3, a broken view partly in side elevation and partly in vertical section, on the same scale as Fig. 2, and showing my improved combined part cocked and ready for firing; Fig. 4, a similar view showing the position of the said part after the gun has been fired; Fig. 5, a detached end view of the barrel, showing how the opposite faces of the coupling-head at its butt-end are cut away to enable the spent shells to be taken hold of and removed by the fingers; Fig. 6, a broken view partly in side elevation and partly in vertical longitudinal section, of another gun containing my invention, this one being provided with my improved extractor and having a different form of spring for operating the combined part; Fig. 7, a broken view of the barrel and extractor of the gun showing by the preceding view and illustrating the operation of the extractor.

My invention relates to an improvement in breech-loading fire-arms of the single-shot rifle type, the object being to produce a very reliable and convenient arm, in which the number of parts is reduced to the minimum, and which may be produced at a very low cost for manufacture.

With these ends in view, my invention consists in a breech-loading fire-arm having its breech-block and trigger made in one combined part or piece located in line and rigid with respect to each other, and forwardly inclined with respect to the butt end of the gun-barrel, and the breech-block being adapted to fire the

cartridge when impinged against the same by a spring thereto provided.

My invention further consists in certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

The first feature of my invention consists in a combined part comprising a breech-block B, having a finger-piece A and a trigger C, made in one piece, or constructed rigid with respect to each other so as to virtually form one piece so far as their operation is concerned. The breech-block B of the said combined part not only closes the breech, but also acts as the hammer for exploding the cartridge, being thereto adapted, as will be described farther on. In this combined part the finger-piece A, offsets rearwardly from the rear portion of the upper edge of the breech-block, while the trigger C, is extended in a straight line from the inner portion of the lower edge of the same. This combined part has as shown direct sliding connection with the butt-end of the barrel D, which is thereto constructed to form a coupling-head D', which may be described as T-shaped in plan view, and wedge-shaped in side view. That appearance is given to it by forming at its inner end two corresponding grooves *d d*, which incline forward from their lower ends. The chamber B', of the breech-block conforms to the shape of the said head D', the inner or forward edge of the block having flanges *b b* which take into the said grooves, and thus couple the barrel and combined part together in such a way that the said part is free to slide in the plane of the grooves but is firmly held against movement in other directions. The stock E, of the gun is constructed with a deep chamber F, entering it from its upper edge, and extending almost to its lower edge in the plane of the said grooves, being adapted in form to receive the lower end of the breech-block B, and the trigger C. A spiral spring G, interposed between the lower end of the breech-block and the bottom of the said chamber, is employed to operate the said combined part in firing the arm. The trigger C, projects downward through the stock E, and through an opening H, formed to receive

it in the guard I, which is of ordinary construction, and fastened to the stock by two screws I' I'. The combined part is held in its cocked position against the tension of the
 5 spring G, by the engagement of a cocking-notch *c*, formed in the forward edge of its trigger C, with the forward wall of the opening H, in the guard, as shown by Fig. 3 of the drawings. The gun is fired by drawing
 10 back on the trigger until the said notch is cleared from the said wall of the opening, when the spring G, will at once operate to throw the combined part into the position in which it is shown by Fig. 5 of the drawings,
 15 where, it will be observed that a retaining-notch *c'* formed in the rear edge of the trigger at the lower end thereof, is engaged with the rear wall of the said opening H in the guard. When the barrel D, is in place, the
 20 retaining-notch is not necessary, for the barrel then prevents the combined part from being forced out of the chamber F, in the stock, by the spring G; but when the barrel has been taken off from the stock by the removal
 25 of the long screw J, the combined part would be thrown out of place if it were not for the provision of its trigger with the retaining-notch *c*, as described. A small projection or
 30 teat K, formed in the center of the outer wall of the breech-block B, takes the place of the firing pin ordinarily employed to explode the cartridge in breech-loading fire-arms. When the combined part leaps forward under the
 35 action of its operating spring, the said projection strikes the head of the cartridge L, at a point at or near its center, and is then forced on a forward slant to the rim of the cartridge, which contains the fulminate. The
 40 position of the combined part after the gun has been fired, is well shown by Fig. 5 of the drawings. The opposite, vertical walls of the coupling-head D, are correspondingly cut
 45 away, to form clearance grooves *d' d'* on opposite sides of the bore D² of the barrel, as shown by Fig. 4 of the drawings, to permit the cartridge to be seized by the fingers and removed after it has been fired, for the head of the cartridge does not enter the bore of
 50 the gun. I find that in this way most all the cartridges can be readily removed by the fingers, but if preferred I may provide the gun with an ejector, as will be described at another time.

In Figs. 6 and 7 I have shown another form
 55 in which my improved combined part may be constructed and arranged for operation. In this other form it comprises, a breech-block N, having finger-piece M and a trigger O, both having the same general construction
 60 and arrangement as the corresponding parts of the construction already described, and is designed to have sliding connection with the butt-end of the gun-barrel P, in the same manner. In this construction, however, instead of employing a spiral spring, I employ
 65 a long wire rod Q, having its forward end Q' bent downward and under it, and its rear end

Q² bent upward at an acute angle to engage with the under face of the hammer M, at the base thereof. To permit the use of this spring,
 70 the combined part is constructed with a transverse opening R, through which it passes, and is furnished with a pin R', against the under face of which the rod Q bears. The said
 75 spring is located in its main-portion, in a horizontal chamber S, formed in the upper edge of the gun stock T. Its looped forward end passes through a vertical opening U, formed in a stud U', depending from the rear
 80 end of the gun-barrel B, and receiving the screw V, by means of which the barrel is retained in place. The trigger O, of the combined part of this gun is furnished with a cocking-notch *o'*, which engages with the forward wall of the opening W, of the guard W'.
 85 This trigger, however, has no retaining-notch corresponding to the notch *c'* before referred to, because the spring will hold the combined part in place when the gun barrel P is removed. This other form which a combined
 90 breech-block and trigger may assume, operates in the same way as the combined part shown in the other figures of the drawings.

In Figs. 6 and 7 of the drawings I have also shown an ejector, which may, if desired, be
 95 used in an arm constructed in accordance with my invention. It consists of a long rod W², preferably rectangular in cross section, and located in a longitudinal groove X, formed in the center of the lower face of the rear end
 100 of the gun barrel P, the rear end of the said rod being upturned to form a finger *w*, which enters a radial recess *x*, formed in the rear end of the barrel, and extending from the said groove X, into the bore P' thereof. The
 105 finger *w*, of the ejector fits down flush into the recess *x*, so that the rim *y* of the cartridge Y will extend over the extreme end of the finger *w*, as clearly shown by Fig. 7 of the drawings. The forward end of the rod W²,
 110 is bent down as at *w'*, at a point just in front of the forward end of the gun stock T, whereby it is adapted to be readily engaged by the fingers to be drawn back, as shown by broken lines in Fig. 7, so that the cartridge will be
 115 sufficiently displaced to enable it to be readily grasped by the fingers and removed from the gun-barrel. It is not now necessary to push the ejector forward into place, because when the gun is again loaded, the rim of the
 120 cartridge must engage with the finger and push the ejector ahead of it into position for operation. In case the gun is not loaded again the combined part will push the ejector back into position when the gun is uncocked for
 125 handling.

In a gun constructed in accordance with my invention, the number of parts is reduced to the minimum, and they are so simple in character that it may be produced at a low cost
 130 for manufacture. It is, moreover, a convenient arm to use, and is safe and reliable. Thus the breech-block so incloses the cartridge at the time the same is fired, that there can be

no possibility of a back discharge of the cartridge, nor can any particles of burning powder or of grease be thrown back into the eyes. Furthermore, the danger of an accidental discharge of the gun is very slight, as that can only occur when the lower end of the trigger receives a blow in a certain direction in which it is well protected by the guard.

I do not limit myself to using my combined part in direct sliding contact with the gun barrel, as it might have similar connection with a receiver attached thereto in a manner too obvious to need explanation or description. It is obvious also from the illustration and description herein, that I am not limited to forming my combined part exactly as shown, and I would therefore 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 changes and 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 fire-arm, a combined part located in an inclined position, and comprising a breech-block and a trigger, rigid with respect to each other, and located in line, and a spring constructed and arranged to throw the said part upward and forward to close the breech, and explode the cartridge, and means for sustaining the said part in its depressed or open position against the force of the said spring substantially as described.

2. In a breech-loading fire-arm, a combined part located in an inclined position, and comprising a breech-block and a trigger, rigid with respect to each other, and located in line, and the breech-block being furnished at the outer edge of its upper end with a finger-piece; and a spring constructed and arranged to throw the said part upward and forward to close the breech and explode the cartridge, and means for sustaining the said part in its depressed or open position against the force of the said spring, substantially as described.

3. In a breech-loading fire-arm, a combined part located in an inclined position, and comprising a breech-block and a trigger, rigid with respect to each other, and located in line, and the trigger having a cock-notch formed

in its forward edge; and a spring constructed and arranged to throw the said part upward and forward to close the breech and explode the cartridge, substantially as described.

4. In a breech-loading fire-arm, a combined part located in an inclined position, and comprising a breech-block and a trigger rigid with respect to each other, and located in line, and the trigger having a cock-notch formed in its forward edge, a spring constructed and arranged to throw the said part upward and forward to close the breech and explode the cartridge, and a guard adapted to receive the lower end of the trigger, and to co-operate with the cock notch thereof in holding the part in its depressed or open position against the force of the said spring, substantially as described.

5. In a breech-loading fire-arm, a combined part comprising a breech-block and trigger, rigid with respect to each other and located in line, the breech-block being provided with an inwardly projecting firing teat or projection, and a spring constructed and arranged to throw the said part upward and forward to close the breech-piece and explode the cartridge, and means for sustaining the said part in its depressed or open position against the force of the spring, substantially as described.

6. In a breech-loading fire-arm, the combination with the barrel, stock and guard thereof, of a combined part located in an inclined position, comprising a breech-block and a trigger, rigid with respect to each other and located in line, the said block having sliding connection with the barrel with which it is interlocked, and furnished with an inwardly projecting firing-teat or projection, and the trigger being constructed with a cock-notch for engagement with the guard, and a spring constructed and arranged to throw the said part forward and upward, whereby the breech is closed and the said teat or projection impinged against the rim of the cartridge in the barrel, substantially as described.

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

JOHN M. BROWNING.

Witnesses:

T. S. BROWNING,
W. G. WRIGHT.