(No Model.) 2 Sheets—Sheet 1.

J. M. & M. S. BROWNING.

MAGAZINE CATCH FOR MAGAZINE FIREARMS.

No. 499,006. Patented June 6, 1893.

Fig 1

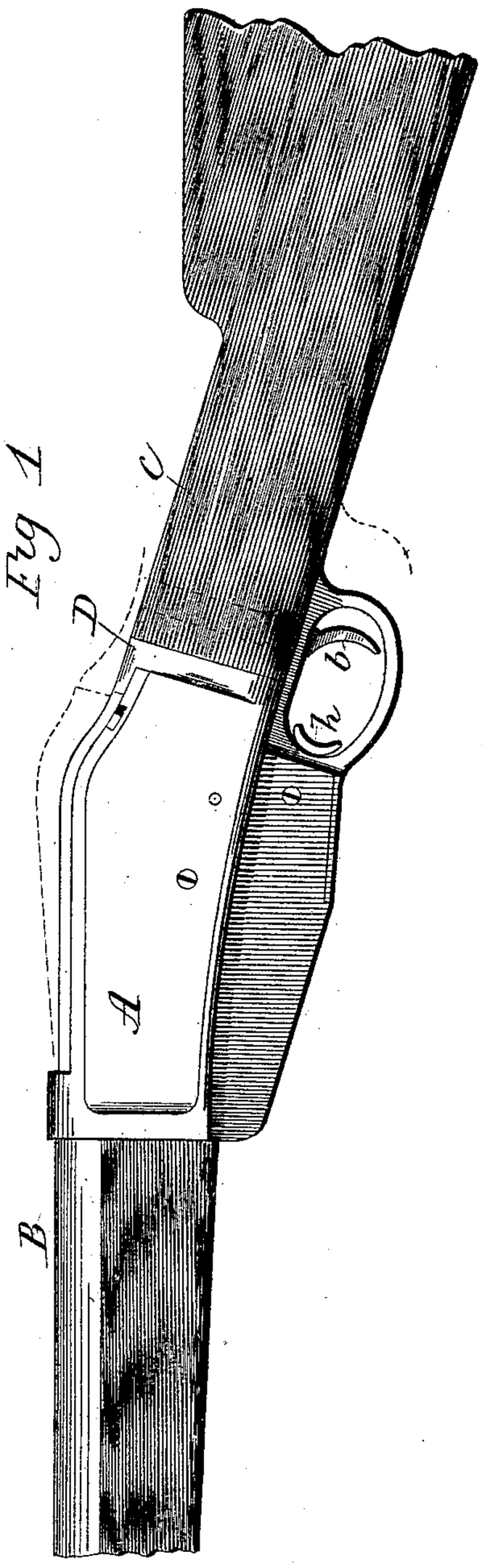


Fig 2

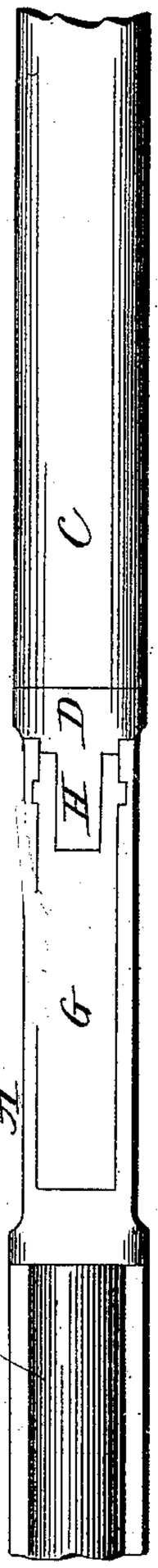
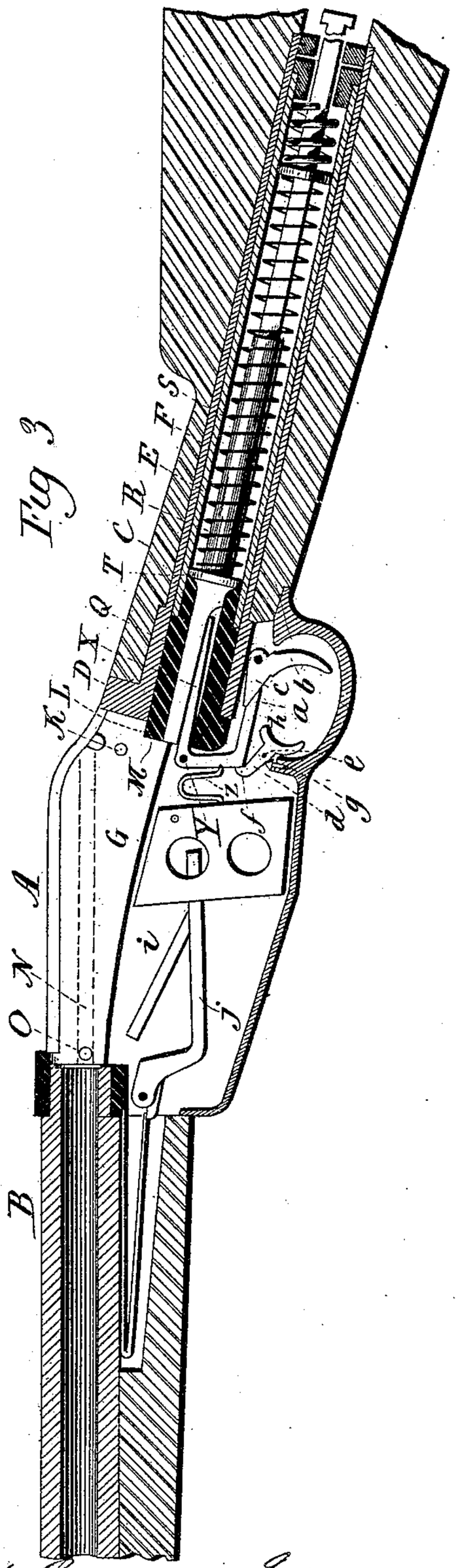


Fig 3



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(No Model.) 2 Sheets—Sheet 2.

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Fig 5

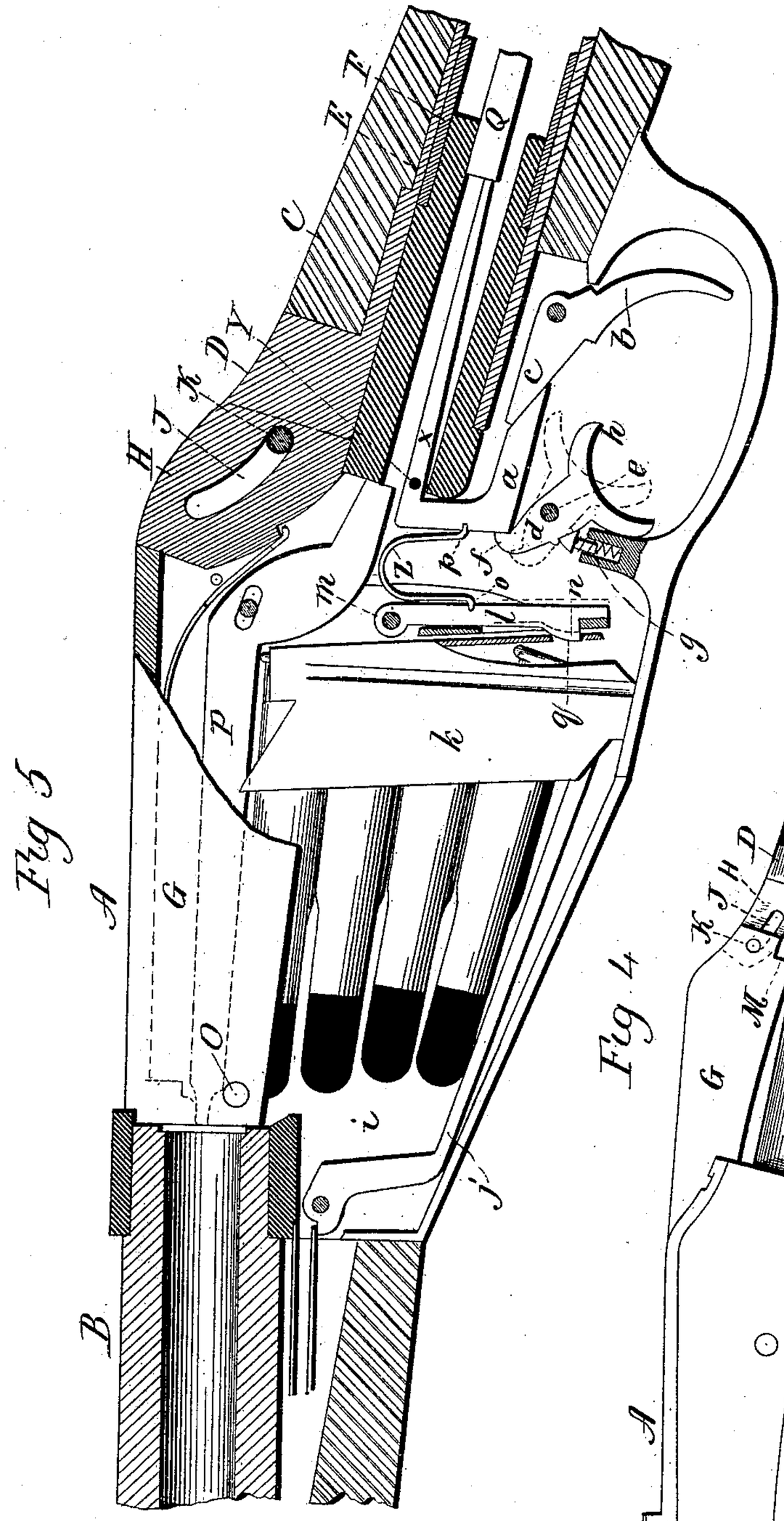
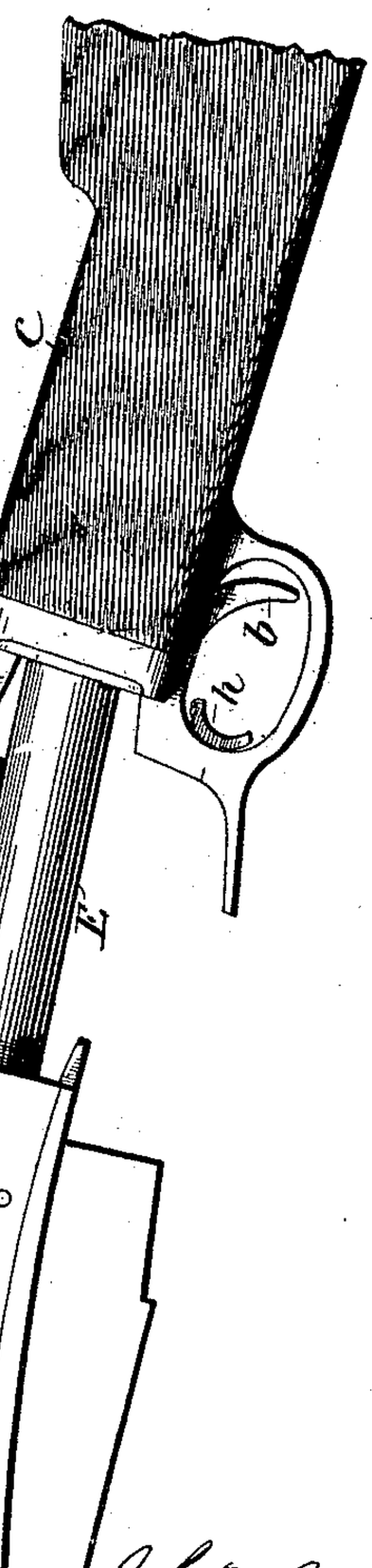


Fig 4



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UNITED STATES PATENT OFFICE.

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MAGAZINE-CATCH FOR MAGAZINE-FIREARMS.

SPECIFICATION forming part of Letters Patent No. 499,006, dated June 6, 1893.

Application filed September 19, 1892. Serial No. 446,249. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. BROWNING and MATTHEW S. BROWNING, of Ogden, in the county of Weber and Territory of Utah, have invented a new Improvement in Magazine-Firearms; and we 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 side view of the arm complete; Fig. 2, a top view of the same; Fig. 3, a longitudinal sectional side view of the arm complete, all the parts in the closed or normal position; Fig. 4, a side view of the arm complete showing the receiver and stock portions separated, so as to bring the breech-piece into the open position; Fig. 5, a longitudinal central section showing parts in side view, with the mechanism in the closed position, and with the cartridge-holder and cartridges in place, the hammer standing at full cock.

This invention relates to an improvement in that class of magazine fire-arms in which the cartridges for the magazine are contained in a holder, and the chamber for the magazine is formed in the receiver below the breech-piece, and so that when the breech-piece is opened, the holder with the cartridges may be introduced through the open top of the receiver into the chamber below, the magazine being provided with a spring, the operation of which is to successively raise the cartridges, and so that as the breech-piece moves forward, its forward end will strike the uppermost cartridge, and force it forward into the barrel. Then on the re-opening of the breech-piece the column of cartridges will be raised by the follower to present the next cartridge forward of the breech-piece, and particularly to those arms of this class in which the holder for the cartridges is adapted to be forced down through an opening in the receiver, so that when cartridges from one holder in the magazine have been exhausted, the introduction of the next holder and cartridges will force the previous holder down through an opening in the bottom of the receiver.

The object of the invention is a simple construction of dog for securing the holder in its place in the magazine-chamber, and combined with the sear which holds the hammer at full cock, whereby a single spring will serve for the dog and sear, the invention being an improvement upon the construction shown and described in our application for Letters Patent, Serial No. 438,105.

While the invention is specially applicable to the particular construction of the breech-opening and closing mechanism shown in the said application, it is alike applicable to other arrangements of breech mechanism.

For convenience of illustration the invention is shown as applied in the same construction and arrangement of breech-operating mechanism as that in the said application, and it will be sufficient to briefly describe the said mechanism.

A, represents the receiver, to the forward end of which the barrel B, is attached, in the usual manner, and so as to open into the receiver at the rear. The receiver is detached from the stock, and so that the receiver, with the barrel which it carries, may be drawn forward from the position seen in Fig. 1, to that seen in Fig. 4. The forward end of the stock C, is provided with a plate D, against which the rear end of the receiver A, abuts when the receiver is in the rear position, as seen in Figs. 2 and 3. The receiver is constructed with a spindle E, projecting from its rear end, and downwardly inclined according to the downward inclination of the stock. The spindle is made tubular, and within the stock is a tube F, opening through the plate D, at the forward end, and corresponding to the spindle E, and so that the spindle E, may slide longitudinally therein, as a guide for the forward and backward movement of the receiver and barrel, and as from the position seen in Fig. 3 to that seen in Fig. 4 and return.

G, represents the breech-piece, which is arranged longitudinally in the receiver, and so as to be free longitudinally, but the breech-

piece G, stands between the two sides of the receiver, and so as to allow the receiver to move forward and back, to take the barrel away from the forward end of the breech-piece and return. From the plate D, is an upward and forwardly projecting arm H, which is constructed with an upwardly and forwardly inclined slot J, see Fig. 4. The rear end of the breech-piece is slotted corresponding to the arm H, and into which slot the arm H, extends when the parts are in the closed position, as seen in Fig. 2, and through the breech-piece and through the slot J, in the arm H, is a pin K, which forms a connection between the breech-piece and the arm H, so that the slot limits the forward and backward movement of the breech-piece. In the normal or closed position of the parts, the pin K, stands at the lower end of the slot J, as seen in Fig. 5, and so that a forward movement imparted to the breech-piece will cause the pin K, to ride forward and upward in the slot J, and so as to raise the rear end of the breech-piece as it is thus moved forward, and as indicated in broken lines Fig. 1.

In the receiver below the breech-piece a shoulder L, is formed, see Fig. 3, represented as at the forward end of the spindle, and the breech-piece is constructed with a corresponding shoulder M, so that when the breech-piece is in its closed position, as seen in Fig. 3, the shoulder M, on the breech-piece abuts against the shoulder L, of the receiver, and so that the breech-piece is locked in its closed position, so as to resist recoil.

The stock being held, and the barrel moved forward, the receiver, spindle and breech-piece will all move together, because the shoulder L, of the receiver engages the shoulder M, of the breech-piece, but in the forward movement of the breech piece, its rear end will rise, because of the movement of the pin K, in the slot J, as before described, and so as to cause the shoulder M, of the breech-piece to rise above the shoulder L, of the receiver, by the time the pin K, has reached the upper end of the slot in the arm H, so that the breech-piece being there arrested, the shoulder L, of the receiver may pass forward under the breech-piece, leaving the breech-piece stationary with the stock, and with its rear end in the raised position, the rear end of the breech-piece resting upon the upper side of the spindle, as seen in Fig. 4. When the barrel is returned, the breech-piece still remains with its rear end in the up position, and rides upon the upper side of the spindle until the receiver is returned so far as to take the shoulder L, to the rear of the shoulder M, of the breech-piece. Then as the barrel, or forward end of the receiver, strikes the forward end of the breech-piece, the completion of the closing movement will force the breech-piece rearward, and its rear end will be drawn down because of the inclination of the slot J, until the shoulder M, of the breech-piece has passed down forward of the shoulder L, of the receiver in the fully closed position of the breech-piece, and so as to lock the breech-piece in that closed position against recoil.

The breech-piece is supported at its forward end, and so as to maintain it in its proper relation to the barrel, by means of longitudinal grooves N in the receiver, seen in broken lines Fig. 3, and into which corresponding trunnions O, on the forward end of the breech-piece extend, and so as to run backward and forward in the said grooves in longitudinal line, and yet permit the vertical swinging movement of the breech-piece before described.

Within the breech-piece the firing-pin P, is arranged, extending from the forward end of the breech-piece through to the rear end, as seen in Fig. 5.

Q, represents the hammer, the spindle R, of which extends into the tubular spindle E, and within the tube a spiral spring S, is arranged around the spindle, adapted to bear forward against the shoulder T, on the hammer, the rear end of the spring supported to resist rearward pressure upon the hammer. The nose of the hammer stands in such relation to the firing-pin that when the parts are in the closed position, as seen in Fig. 3, the hammer may strike the rear end of the firing-pin, as usual in the arrangement of hammers in other arms. The hammer being supported in the spindle, would naturally move backward and forward with it, but the hammer is stopped in the cocked position by means of the sear X, hung upon a pivot Y, near the rear end of the receiver and below the hammer, as seen in Fig. 3, the sear being provided with a spring Z, the tendency of which is to force the nose or rear end of the sear upward against the hammer. In the opening movement the nose of the hammer passes to the rear of the sear, and so that the sear spring will force the sear up forward of the hammer, as seen in Fig. 5, or a suitable shoulder formed on the hammer. Then in the closing movement of the receiver, the sear holds the hammer in the cocked position while the closing movement of the breech-piece is completed, and until the engagement of the sear with the hammer shall be released. The sear is constructed at its forward end with a projection forming a rearwardly projecting finger *a*, and in the receiver the trigger *b*, is hung, its nose *c*, extending forward, and so as to engage the said finger of the sear, as seen in Fig. 5, that a pull upon the trigger may depress the sear and release the hammer.

To hold the sear in the locked position so as to prevent accidental disengagement, a latch *d*, is hung upon a pivot *e*, which is adapted to be turned so as to bring the nose *f*, of the latch forward of the finger *a*, as seen in Fig. 5, and while this engagement exists, the sear cannot be turned from its engaged position. The latch extends into the trigger-guard, and is there provided with a finger-piece *h*, by which the latch may be conveniently turned to either the engaged or disen-

gaged position, as shown in broken lines Fig. 5. The latch is provided with a spring *g*, tending to hold it in either its engaged or disengaged position.

The receiver below the breech-piece is constructed with a chamber *i*, adapted to receive several cartridges, one upon another, they lying substantially parallel with each other, with their heads at the rear, and in the chamber a spring-follower *j*, of any suitable character, is arranged, adapted to raise the column of cartridges as they are successively transferred by the breech-piece to the barrel, it being understood that as the breech-piece is opened the cartridges rise, so as to bring the uppermost cartridge into position with its head forward of the front face of the breech-piece, in order that when the breech-piece returns, it will strike the head of the uppermost cartridge, and force it forward into the barrel. Followers and chambers for this arrangement of cartridge are too well known to require detailed description.

The cartridge-holder *k*, is a common and well known construction, and adapted to be introduced through the top of the receiver when the breech-piece is opened, so that the holder, after the cartridges are removed, may pass down through a corresponding opening in the bottom of the receiver, and so that a second holder with its cartridges being introduced, the said second holder will force the preceding holder downward, outward, and from the receiver. As the force applied to the cartridges is upward, it is necessary that the holder or magazine shall be held against such upward force; to accomplish this object a latch *l*, is hung upon a pivot *m*, in the receiver, in rear of the cartridge chamber or magazine, but forward of the sear. The latch extends downward, and is constructed with a tooth *n* which normally projects into the magazine chamber and has its upper edge beveled and its lower edge made square, whereby it is adapted to be forced back or retired for the downward movement of the cartridge-holder and to engage with the same and prevent the upward movement thereof.

Between the sear and the hinged latch *l*, a V-shaped spring Z, is arranged, one leg *o*, of which bears in a corresponding notch in the back of the latch, while the other end *p*, in like manner bears against the projection on the sear, but below the pivot on which the sear is hung, and so that the spring acts upon the sear to throw it into its hammer engaging position, and also upon the latch *l*, to yieldingly hold the said latch in its forward or normal position.

When a cartridge-holder is introduced into the chamber, it passes down, and striking the beveled-back shoulder of the latch, will force the latch backward, as seen in broken lines Fig. 5, until a corresponding opening or notch *q*, in the back of the holder, reaches the shoulder of the latch. Then the latch will be forced forward by its spring, and make engagement with the holder, as seen in Fig. 5, which will prevent the holder from rising under the action of the follower spring. When the next holder is introduced, it will force the preceding holder downward, the latch *l*, yielding for such downward movement of the preceding holder, but will engage the next succeeding holder in the same manner as described for the first holder. This arrangement of the hinged latch to engage the cartridge holder forward of the sear, and combining therewith a spring between the sear and latch adapted to bear on the two but in opposite directions, is simple and effective, and not liable to derangement or breakage.

The arrangement of the sear, cartridge-holder, latch and spring combined therewith, while specially applicable to the construction of breech mechanism described, it will be evident to those skilled in the art that the arrangement of the sear, latch and spring is applicable to other breech-operating mechanism, as, for illustration, any longitudinal reciprocating breech-piece in which the hammer is forced rearward by the rear movement of the breech-piece so that the hammer may engage the sear when in the cocked position. The invention is therefore not to be understood as limited to the particular construction of breech-mechanism described.

The spring between the sear and latch, while preferably of a V or U-shaped character, this shape is not essential to the invention, as other kinds of springs may be employed, as, for illustration, a spiral spring introduced between the two bearing points, and so that one end of the spring would rest against the sear, while the other would rest against the back of the latch, the spring being compressed under the operative movements of either the latch or the sear, its reaction serving to return those parts, this substitution of one kind of spring for another is too apparent to require illustration, or further description.

We are aware that it is not broadly new in guns of the type described, to employ a single spring to operate both the sear which holds the hammer at full cock, and the latch which holds the cartridge-holder in the chamber formed in the receiver to contain it. We are also aware that it is old to adapt the receiver of a magazine-gun to have a cartridge-holder inserted into it from its upper edge and withdrawn from it through its lower edge. We do not, therefore, claim, such constructions broadly but only our particular construction.

We claim—

In a magazine fire-arm, the combination with the barrel and stock thereof, of a longitudinal reciprocal breech-piece, a hammer adapted to be thrown rearward in the rear movement of the breech-piece, a sear to engage the hammer at full cock, a receiver having a magazine-chamber open above and be-

low for the introduction of a cartridge-holder through the upper edge of the receiver and its removal through the lower edge thereof, a latch hung on a pivot in the receiver and located entirely within the same, and constructed with a tooth having its upper edge beveled and its lower end made square to take into the rear edge of the holder which it holds against upward but not downward movement, and a spring interposed between the said latch and sear, and operating both of them, substantially as set forth.

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

JOHN M. BROWNING.
MATTHEW S. BROWNING.

Witnesses:
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W. G. WRIGHT.