No. 675,253. Patented May 28, 1901.

J. E. SWINK.

MAGAZINE FIREARM.

(Application filed Jan. 6, 1900.)

(No Model.) 3 Sheets—Sheet 1.

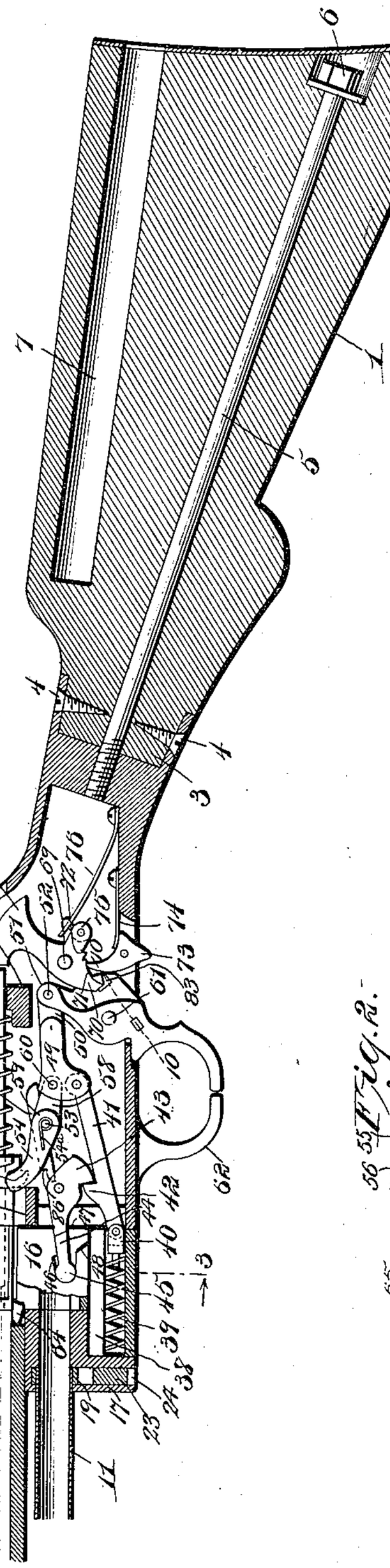

Fig. 1.

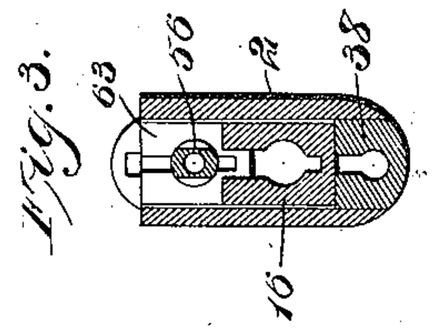

Fig. 3.

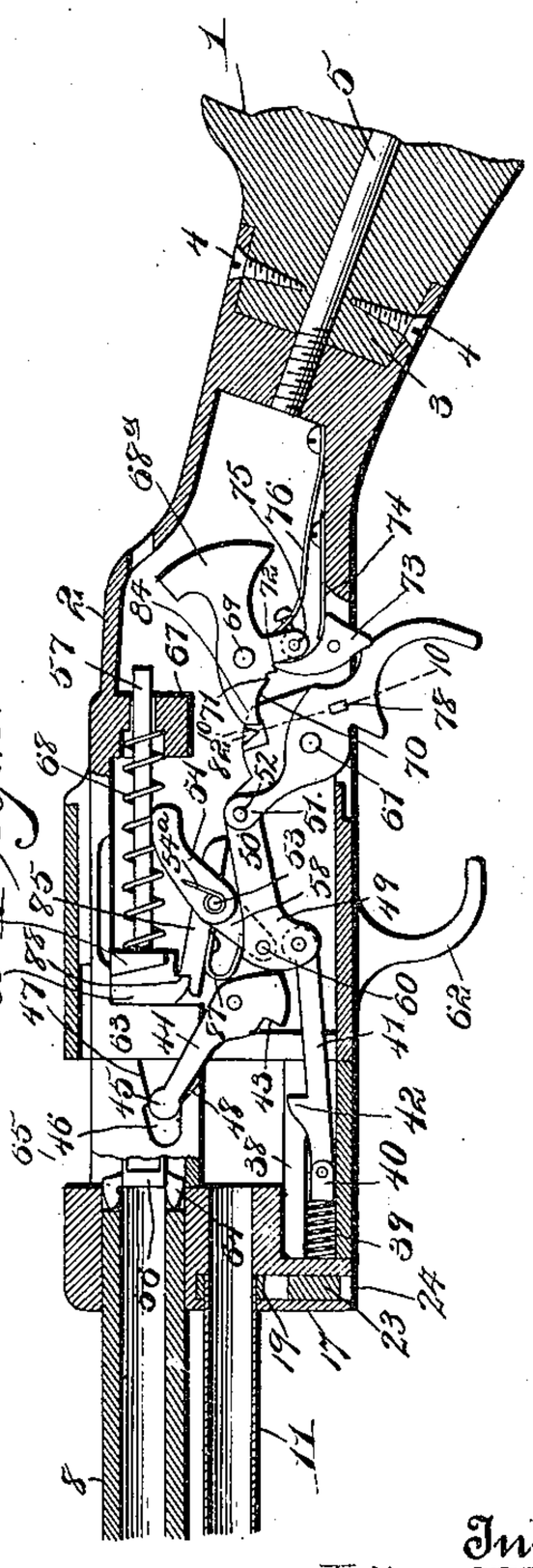

Fig. 2.

Witnesses
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Fig. 7.

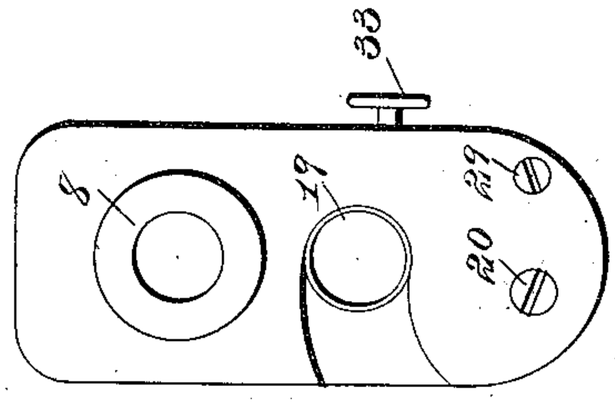


Fig. 6.

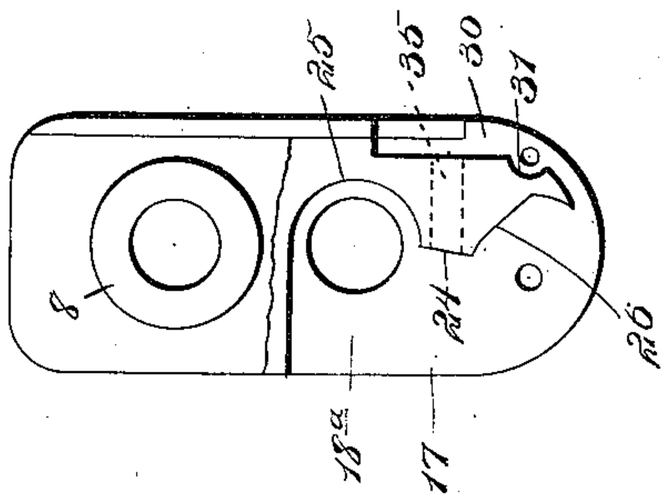


Fig. 5.

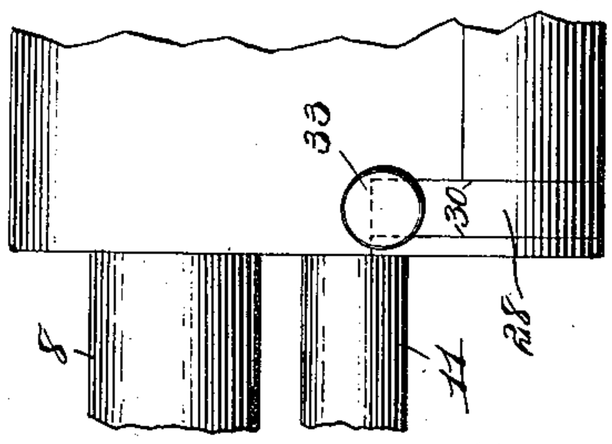


Fig. 4.

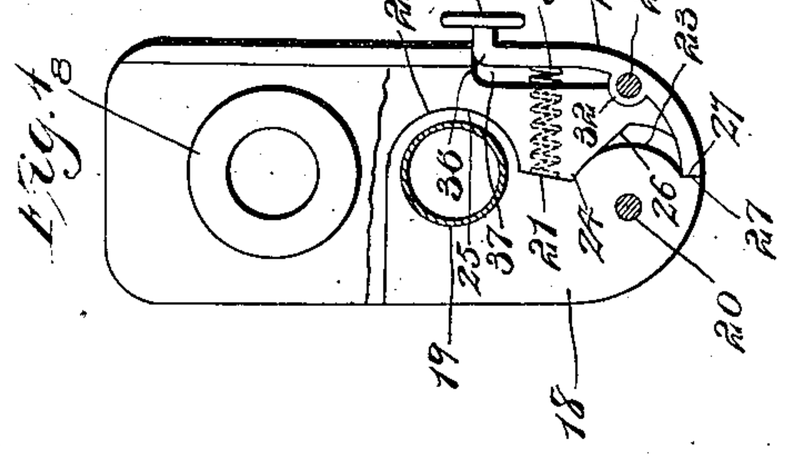


Fig. 10.

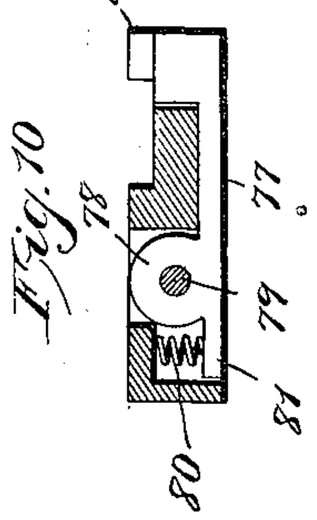


Fig. 11.

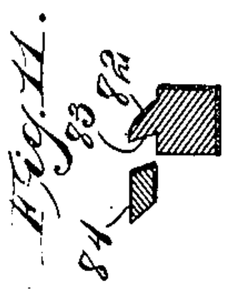


Fig. 9.

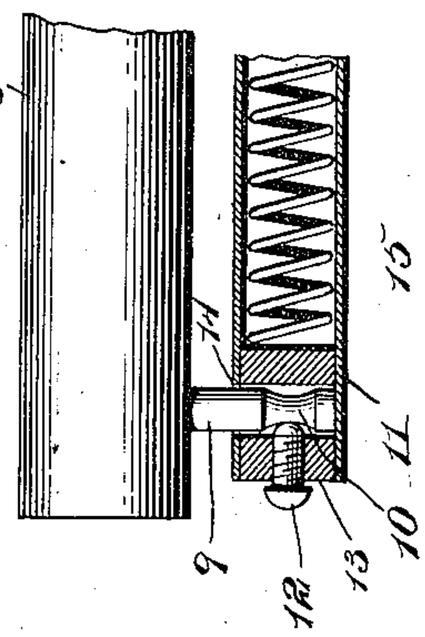
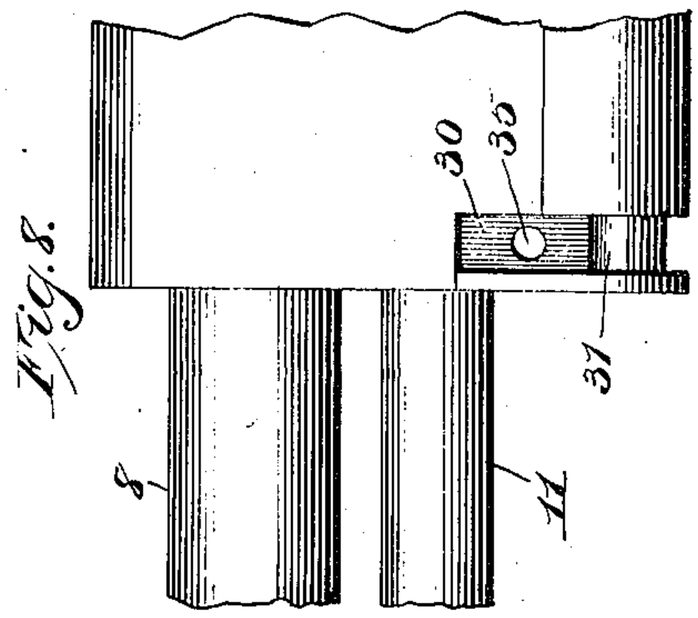


Fig. 8.



Witnesses

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3 Sheets—Sheet 3.

Fig. 12.

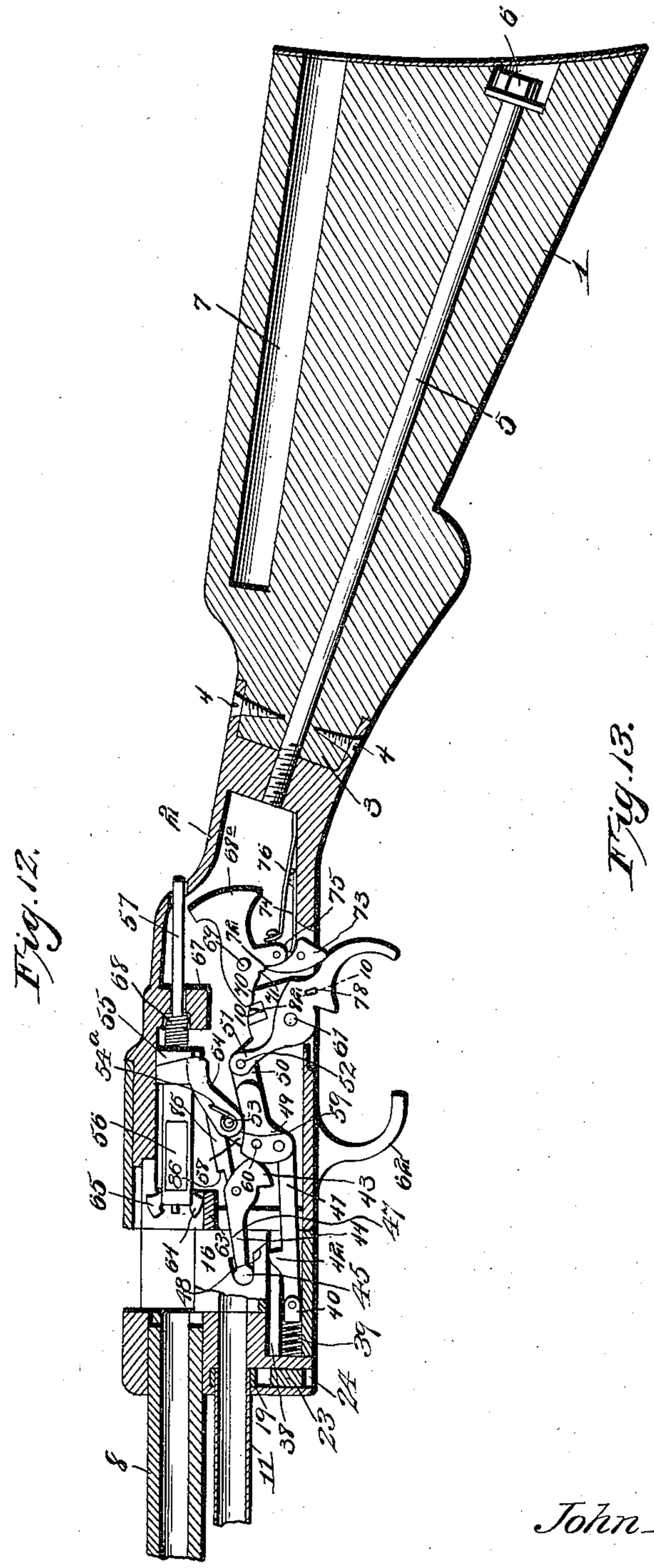
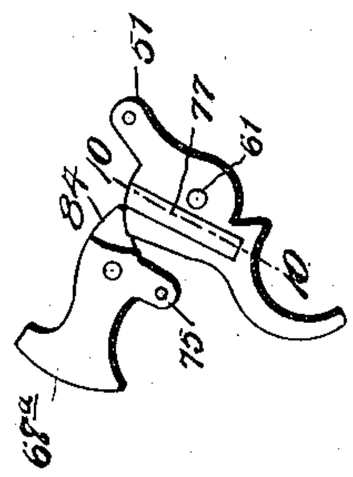


Fig. 13.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN EDWARD SWINK, OF NEW ALBANY, INDIANA, ASSIGNOR OF ONE-THIRD TO JOHN SANDERS, OF SAME PLACE.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 675,253, dated May 28, 1901.

Application filed January 6, 1900. Serial No. 563. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDWARD SWINK, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Firearms, of which the following is a specification.

My invention relates to firearms; and its primary object is to provide a single-barrel magazine repeating-gun of simple, inexpensive, and durable construction which will combine safety with speed and accuracy of firing.

A further object of the invention is to provide simple and effective means for controlling the feed of the cartridges from the magazine and the ejection of the empty shells from the gun after firing by the movement of the trigger.

An important characteristic of the invention is that the cartridge-carrier block and the shell-ejecting mechanism may be operated by the trigger independently of the hammer, so that there will be no danger of an accidental discharge of a cartridge during its movement to the firing position.

A further characteristic of the invention is that the entire work of withdrawing the cartridge from the magazine, raising it to position, ejecting the empty shell of a previously-fired cartridge, moving the firing-pin to firing position, and, finally, operating the hammer are all performed successively by the simple drawing back of the trigger.

Other objects of the invention will be disclosed in the following description.

The construction of the invention will be fully described hereinafter and defined in the appended claims in connection with the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal section of a single-barrel gun embodying the invention, showing the operative mechanism in elevation, the latter being in normal position. Fig. 2 is a similar view showing the trigger partly drawn back and the mechanism in position ready for firing. Fig. 3 is a transverse section on the line 3 3 of Fig. 1 looking toward the stock. Fig. 4 is a front elevation, partly in section and with a part of the front plate of the frame broken away to show the pivoted plate which secures the inner end of the magazine. Fig. 5 is a detail side elevation. Fig. 6 is a front view similar to that shown in Fig. 4, but with the pivoted securing-plate of the magazine removed. Fig. 7 is a front elevation showing the front slotted plate of the frame. Fig. 8 is a partial side elevation similar to Fig. 5, but slightly enlarged and with the spring-pressed catch for securing the magazine removed. Fig. 9 is a side elevation, partly in section, of the front ends of the barrel and magazine. Fig. 10 is a detail section on the line 10 10 of Figs. 1, 2, 12, and 13. Fig. 11 is a detail section of the hammer and trigger. Fig. 12 is a similar view to that shown by Figs. 1 and 2, showing the breech-block in retracted position. Fig. 13 is a detail view of the trigger and hammer looking at the inner side thereof, the parts being in the position shown in Figs. 2 and 12.

The reference-numeral 1 designates the stock of the gun, and 2 the frame thereof, formed with a socket at its rear end to receive the reduced end 3 of the stock, which is secured by screws 4, as shown, and by a brace-rod 5, threaded into the rear end of the frame and held at its outer end by a nut 6. The stock is preferably provided with the usual chamber 7, adapted to contain a cleaning-rod.

The barrel 8 is secured in the usual manner to the front end of the frame 2 and is provided on its under side, near its front end, with a depending pin 9, having an annular groove or depression 10.

The front end of the tubular magazine 11 is pivotally secured to the pin 9 by means of a set-screw 12, which passes through the front end wall 13 of the magazine and projects into the groove 10 of the pin 9, the magazine being provided with an opening 14, through which the pin 9 extends.

The magazine is provided with the usual coil-spring 15, adapted to bear against the row of cartridges contained in the magazine to automatically feed them successively to

the carrier-block 16, which is adapted to be moved into and out of alinement with the magazine, as will be further explained.

The rear end of the magazine is movably secured to the front wall 17 of the frame 2 by a plate 18, which is provided with an opening 19 for the end of the magazine. The plate 18 is pivotally secured within a transverse opening 18ª in the front wall of the frame by a suitable pivot 20, and the inner side of said plate is recessed at the point 21 and rounded at the points 22 and 23 to coincide with the projecting lug 24 and recessed seats 25 and 26, formed on the side wall of the opening of the front wall 17. The pivoted plate 18 is recessed at its lower end to form a shoulder 27, against which bears the lower end of a curved catch-lever 28, secured by a pivot 29 within a slot 30 in the side of the front wall of the frame, the inner wall of said slot being formed with a semicircular recess 31 to accommodate the perforated lug 32 of the catch-lever. The upper end of the catch-lever 28 is provided with a push-button 33, and between the inner side of said catch-lever and the adjacent edge of the plate 18 is interposed a coil-spring 34, said spring extending through an opening 35, formed in the front wall of the frame. (Shown by dotted lines in Fig. 6.) The catch-lever 28 is bent outward at its upper end to form a shoulder 36, which fits within the slot 30, the space 37 between the inner side of the catch-lever and the wall of the slot 30 affording sufficient inward movement for the catch-lever to permit the spring 34 to force the magazine outward in position for charging it with cartridges.

38 designates a block formed with a keyhole-slot and closing the lower side of the frame 2, below the carrier-block 16, and within said block 38 is arranged a coil-spring 39, secured at one end to the front wall of the frame and at its rear end to a follower 40, to which is pivotally secured the front end of a link 41, formed on its upper surface with a lug 42, which is adapted to contact with the rear shouldered end 43 of a bell-crank lever 44. The forward end of the long arm of the bell-crank lever 44 is formed with a head or enlargement 45, which extends into a recess 46, formed in the adjacent side of the carrier-block 16. This recess 46 is of the peculiar shape shown in the drawings, having the oppositely-beveled sides 47 and 48 to permit of a free movement of the bell-crank lever 44 therein. The rear end of the link 41 is pivotally connected to the lower side of a bifurcated cam-shaped link 49, the rear end of which is reduced to form a tongue 50, which projects within the bifurcated upper end of the trigger 51, to which it is pivoted by a pin 52.

53 designates a transversely-arranged rod or shaft supported in bearings of the frame and serving as a fulcrum for a curved lever 54, the upper free end of which has a cam end, as indicated in Fig. 12, and is adapted to contact with the beveled shoulder 55, formed on the adjacent side of the rear end of the hollow sliding breech-block 56, through which the firing-pin 57 extends.

54ª is a spring secured to the rod or shaft 53 and connected with the curved lever 54 for returning the latter to its seat in front of the beveled shoulder of the rear end of the breech-block when thrown outward by its yielding end coming in contact with the beveled shoulder of the breech-block.

An arm 58 projects rearwardly from the enlarged portion or hub 59 of the lever 54, and the rear end of said arm is pivoted to the bifurcated cam-shaped link 49 by a pin 60, above the rear end of the link 41.

The trigger is pivotally supported upon a cross-pin 61, supported in suitable bearings of the frame, and a curved trigger-guard 62 depends from the under side of the frame.

The hollow breech-block 56 is slidably supported in a guide-block 63. From opposite sides of the front end of the slidable breech-block 56 project the extractor-fingers 64 and 65, one of which is fixed and the other resilient or yielding. These ejector-fingers, however, are not novel features of the invention, except in so far as they coöperate with the other elements of the mechanism.

The rear end of the firing-pin 57 is slidably supported within a guide or keeper 67, depending from the upper side of the frame, while its forward end projects through the hollow breech-block 56. A coil-spring 68 surrounds the firing-pin, the ends of said spring bearing against the breech-block 56 and guide 67, respectively, as clearly shown in Figs. 1, 2, and 3.

68ª designates the hammer, adapted to strike the rear end of the firing-pin and pivotally supported upon a cross-pin 69. The under surface 70 of the hammer is rounded out and formed with two notches 71 and 72, adapted to be engaged by a sear 73, controlled by a flat spring 74. The hammer is provided with a rearwardly-extending arm 75, to which is loosely secured the forward end of the mainspring 76, the rear end of said mainspring being firmly secured within the frame.

As shown in Figs. 10 and 13, the trigger is recessed to receive a pivoted tripping-catch 77, provided with an eye 78, as shown in Figs. 1, 2, 10, and 12, to receive a pivot-pin 79. A spring 80 is interposed between the outer end 81 of the tripping-catch 77 and the adjacent side of the trigger. The inner end of the tripping device 77 is formed with a lip or projection 82, which, as shown in Fig. 11, is cam-shaped on one surface and flat on its other surface 83 to coact with the forwardly-projecting point 84 of the hammer, which, as shown in Figs. 11 and 13, is slightly beveled on its inner side to insure an easy sliding contact with the lip on the trip-catch 77.

Upon the pivotal support 53 of the lever 54 is mounted a recoil bar or block 85, notched at its forward end 86 and provided with a

bent spring 87, adapted to be struck by the inner side of the front end of the link 49 to engage a shoulder 88 at the rear end of the slidable breech-block 56 to lock the same against backward movement.

The operation of the mechanism when constructed as above described is as follows: Assuming the mechanism to be in normal position, as shown in Fig. 1, a pull upon the curved lower end of the trigger operates to tilt the upper end of the trigger forward, forcing the cam-shaped link 49 forward and moving the link 41 forward to compress the spring 39. The contact of the forward cam-shaped end of the link 49 with the short arm of the bell-crank lever 44 tilts the forward end of said lever 44 upward, carrying with it the carrier-block 16, containing a cartridge and raising said carrier-block to the position shown in Fig. 2. Before the bell-crank lever raises the carrier-block the forward movement of of the trigger through the medium of the link 49 and arm 58 has caused the free end of the lever 54 to contact with the beveled projection 55 of the slidable breech-block 56, forcing the latter back to the position shown in Fig. 12 and withdrawing the exploded shell if one is present in the barrel. The upward movement of the carrier-block 16 forces the withdrawn shell out of the frame. The movement of the link 49 also forces the recoil bar or block 85 into engagement with the shoulder 88, firmly locking the slidable breech-block. The continued rearward movement of the trigger releases the lever 54 from the rear end of the breech-block, permitting the latter to force the cartridge into the barrel. The hammer is cocked by tripping the catch, and the trigger trips the sear 73, causing it to release the hammer, when the mainspring forces the hammer against the rear end of the firing-pin to fire the cartridge. The trigger being released the coil-spring returns the parts to normal position, the lever 54 being thrown over toward the front part, slipping past the beveled shoulder on the rear end of the breech-block. The contact of the lip 82 with the hammer tilts the latter slightly rearward away from the firing-pin, thus rendering it impossible for the hammer to operate against the pin until the trigger is drawn back fully.

The yielding lip 82 quickly passes around the inner side of the hammer when the gun is fired, returning to its normal position.

I claim—

1. A firearm comprising a frame, a barrel having a depending pin formed with an annular groove and located at the front end of the barrel, a tubular cartridge-magazine having an opening through which the pin extends and an outer end wall, a set-screw adjustable in the end wall and projecting into the annular groove of the pin, a coil-spring within the magazine whereby the cartridges are fed, and means for detachably fastening the rear end of the magazine to the front end of the frame.

2. A firearm comprising a frame having at its front end a transverse opening and recessed seats in one side, a slot in the other side and a lug formed with a spring-opening connecting the transverse opening and the slot, a barrel, a tubular cartridge-magazine pivoted at its outer end to the barrel beneath the latter so as to swing laterally, a plate formed with a shoulder at its lower end, and a recess and rounded projections at its inner side, and provided with an opening for the inner end of the magazine, pivoted to the front end of the frame and fitting in the transverse opening, a curved catch-lever pivoted in the slot and adapted to engage the shoulder of the plate for locking the latter, and a coil-spring located in the spring-opening and bearing at its inner end against the plate, and at its outer end against the catch-lever.

3. A firearm comprising a frame, a barrel, a tubular cartridge-magazine located beneath the barrel, a keyhole-block closing the lower side of the frame, a carrier-block located over the keyhole-block, and formed with a recess with diverging sides, a coil-spring within the keyhole-block, a follower on which the coil-spring bears, a trigger, a cam-shaped lever pivoted to the trigger, a link having a lug and connecting the follower with the cam-shaped lever, and a bell-crank lever having a long arm formed with a head occupying the recess in the carrier-block and a short arm formed with a shouldered end engaged by the lug on the connecting-link.

4. A firearm comprising a frame, a guide-block, and a keeper depending from the top of the frame, a slidable hollow breech-block supported in the guide-block and having a beveled shoulder at the side at its rear end, and a pair of extractor-fingers at its front end, a keyhole-block closing the lower side of the frame, a coil-spring within the keyhole-block, a follower on which the coil-spring bears, a trigger, a cam-shaped lever pivoted to the trigger, a link connecting the follower with the cam-shaped lever, a shaft extending across the frame, a curved lever mounted on the shaft adapted to contact with the beveled shoulder of the breech-block, and having an arm pivoted to the cam-shaped lever, a firing-pin extending through the breech-block and keeper, and a coil-spring surrounding the firing-pin between the breech-block and the keeper.

5. A firearm comprising a frame, a guide-block and keeper depending from the top of the frame, a slidable hollow breech-block supported in the guide-block and having a pendent shoulder at the bottom thereof at its rear end and a pair of extractor-fingers at its front end, a keyhole-block closing the lower side of the frame, a coil-spring within the keyhole-block, a follower on which the coil-spring

bears, a trigger, a cam-shaped lever pivoted to the trigger, a link connecting the follower with the cam-shaped lever, a shaft extending across the frame, a recoil-bar mounted on the shaft having a notch at its front end adapted to receive the pendent shoulder on the breech-block, and provided with a bent spring adapted to be struck by the inner side of the front end of the cam-shaped lever, a firing-pin extending through the breech-block and keeper and a coil-spring surrounding the firing-pin between the breech-block and keeper.

6. A firearm comprising a frame, a guide-block and keeper depending from the top of the frame, a slidable hollow breech-block supported in the guide-block, a keyhole-block closing the lower side of the frame, a coil-spring within the keyhole-block, a follower on which the coil-spring bears, a trigger, a cam-shaped lever pivoted to the trigger, a link connecting the follower with the cam-shaped lever, a firing-pin extending through the breech-block and keeper, a coil-spring surrounding the firing-pin between the breech-block and keeper, a cross-pin, a hammer mounted on the cross-pin and having two notches on its under edge, a rearwardly-extending arm, and a forwardly-extending point engaged by the trigger, a spring bearing on the arm of the hammer, and a spring-sear adapted to engage in the notches of the hammer.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN EDWARD SWINK.

Witnesses:

F. O. McCLEARY,

JOHN SANDERS.