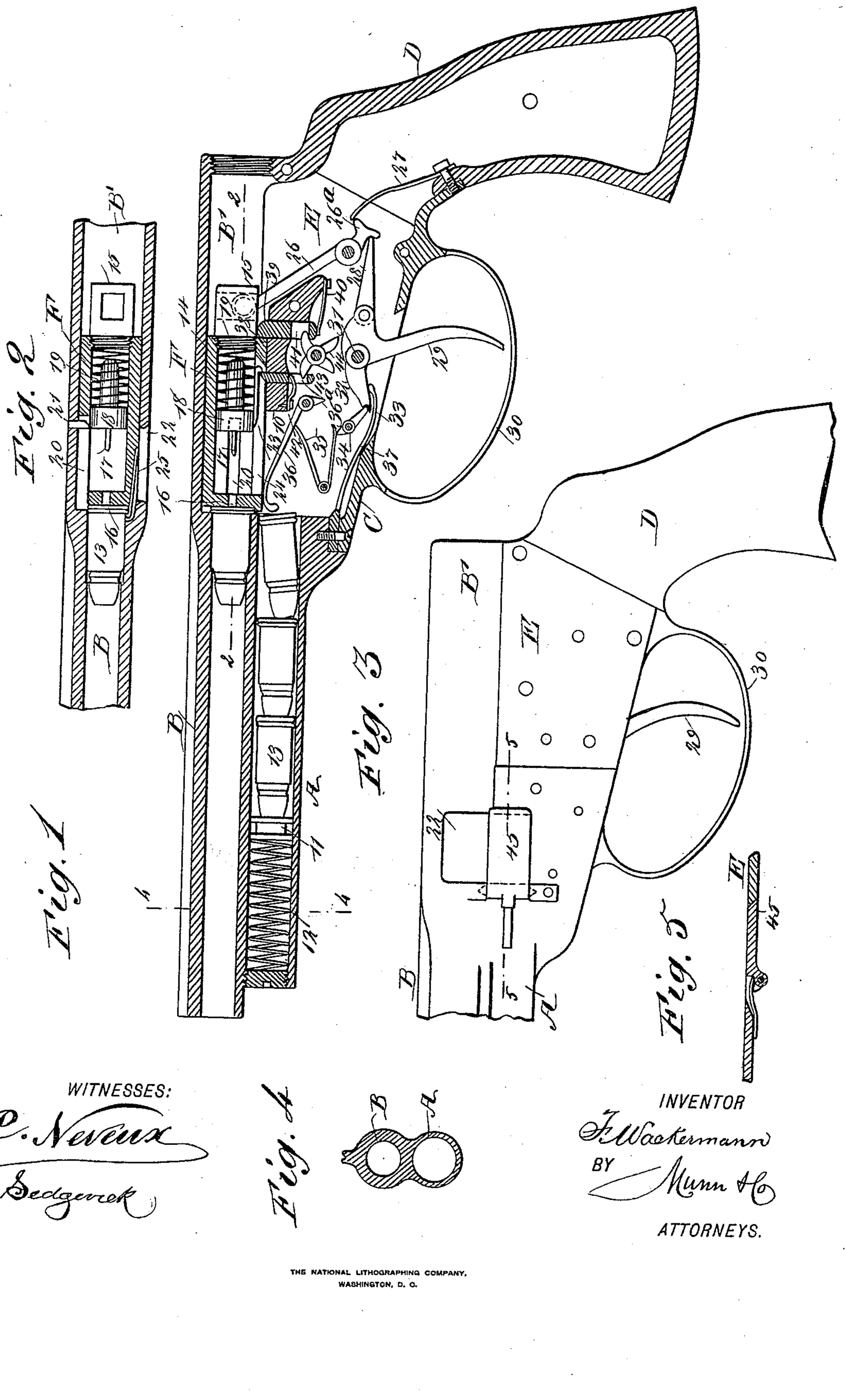
(No Model.)

2 Sheets—Sheet 1.

F. WACKERMANN.

RECOIL OPERATED FIREARM.

No. 516,417. Patented Mar. 13, 1894.



THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

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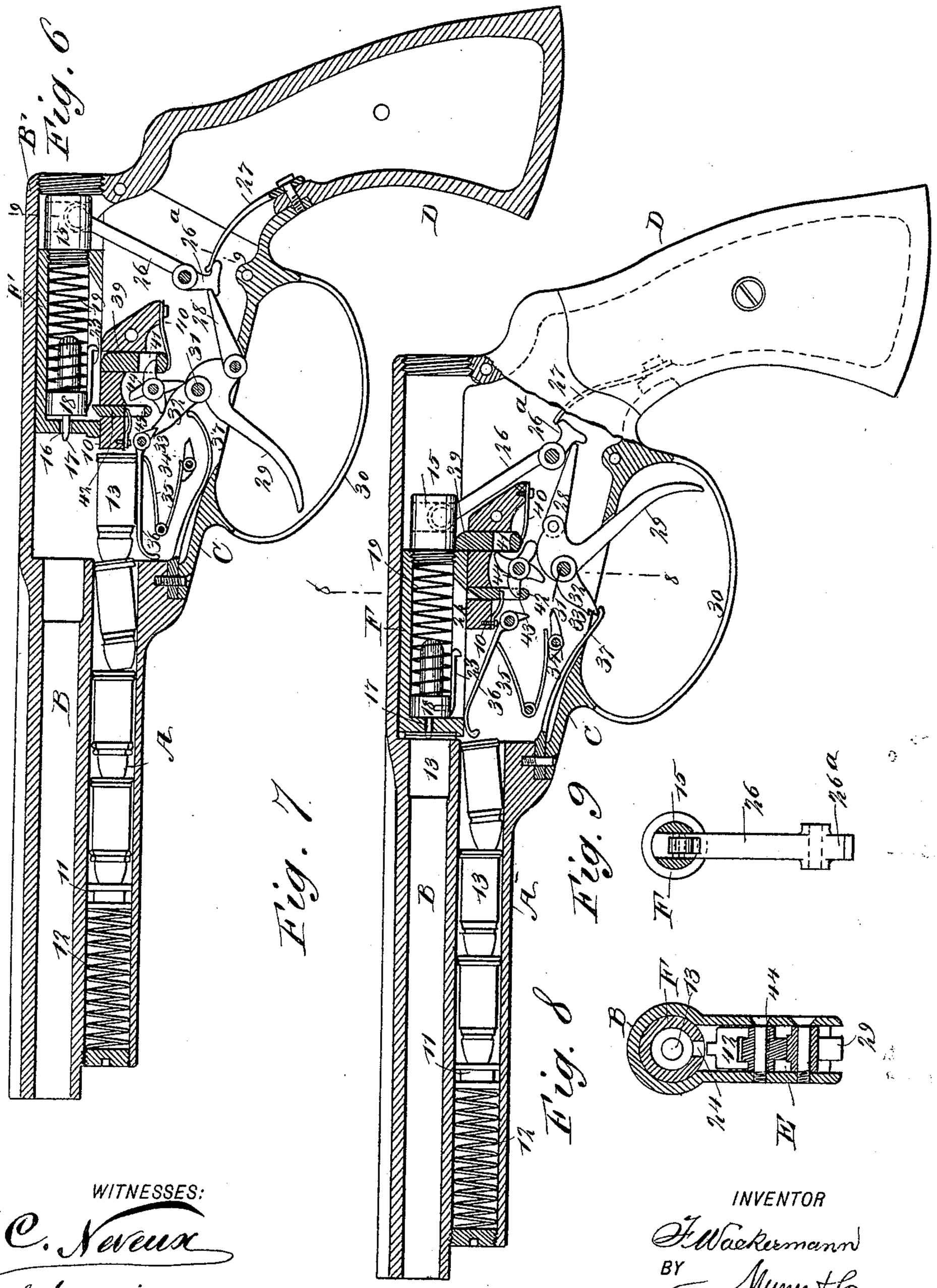

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FRANK WACKERMANN, OF PITTSBURG, PENNSYLVANIA.

RECOIL-OPERATED FIREARM.

SPECIFICATION forming part of Letters Patent No. 516,417, dated March 13, 1894.

Application filed September 29, 1893. Serial No. 486,785. (No model.)

To all whom it may concern:

Be it known that I, FRANK WACKERMANN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Magazine-Firearm, of which the following is a full, clear, and exact description.

My invention relates to an improvement in magazine fire arms, and it has for its object to provide a gun or a pistol of exceedingly simple, durable and economic construction, the said fire arm being provided with a magazine beneath the main barrel, and a means for feeding a charge from the magazine to the firing barrel in an expeditious and reliable manner.

Another feature of the invention consists in so constructing the fire arm that when the magazine has become empty the charge may be entered from one side of the firing arm into the barrel, thus providing a fire arm which will be as effective as a single loader as when used as a magazine loader.

The invention will first be described in the specification and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal vertical section through the fire arm in pistol form, the breech block being in firing position. Fig. 2 is a horizontal section taken essentially on the line 2—2 of Fig. 1, being a partial horizontal section through the breech end of the barrel and the breech block. Fig. 3 is a side elevation of the left-hand side of the fire arm. Fig. 4 is a transverse section through the firing barrel and magazine, the section being taken essentially on the line 4—4 of Fig. 1. Fig. 5 is a horizontal section through the gate through which the cartridges are fed to the magazine. Fig. 6 is a longitudinal vertical section through the fire arm, the breech block and operative parts being in loading position. Fig. 7 is a section similar to Fig. 6, in which the breech block and parts are in fired position. Fig. 8 is a vertical transverse section through the fire arm, taken practically on the line 8—8 of Fig. 7; and Fig. 9 is a transverse section taken practically on the line 9—9 of Fig. 6, through the breech block, showing in rear elevation the actuating lever thereof.

In carrying out the invention a magazine barrel A, is located beneath the main or firing barrel B, and at the rear of the main or firing barrel an extension B′, is provided, which is located over the body C of the firing arm, to which body the stock or handle D, is secured. The magazine barrel A, has communication with a chamber E, which is formed in the body C, and the extension B′ of the main barrel B is in communication with the chamber E to the extent that a slide-way is provided, the slide-way being divided into two parts by a transverse bridge 10, as is shown in the sectional views of the fire arm.

The magazine barrel A, is provided with a follower 11, controlled by a spring 12, located forward of it and bearing against the forward end of the barrel and against the follower. In this barrel the cartridges 13, are located, one abutting against the other, and the magazine barrel may be made of sufficient size to contain any desired number of cartridges. The slide way communicating between the body chamber E and the extension B′ of the firing or main barrel, forward of the bridge 10, is of such width as to accommodate a cartridge, since in loading the cartridge is to be drawn upward in the said extension of the firing barrel.

In the extension of the firing barrel a breech block F, is fitted, having sliding movement therein. The breech block consists of a hollow cylindrical casing 14, permanently closed at its forward end and temporarily closed at its rear by a plug 15, usually screwed therein. The forward end of the breech block is provided with an opening 16, through which the firing pin 17, is adapted to extend, said firing pin being fast to a head 18, neatly yet loosely fitting in the casing 14; and the said head is provided with a rear extension or shank encircled by a spring 19, which has bearing against the head and against the plug 15. In one side, the right-hand side of the breech block, a longitudinal slot 20, is produced, and

a pin 21, is horizontally secured in the right-hand side wall of the firing barrel extension, as shown in Fig. 2, the pin being adapted to enter the slot 20 in the breech block; and in the left-hand side of the firing extension of the barrel an opening 22, is provided, of sufficient size to permit the exit of a cartridge shell.

The head 18 in which the firing pin 17 is located is provided upon its lower face with a horizontal hook 23, which hook extends rearward, and is adapted to slide in a longitudinal slot 24, made in the bottom of the breech block; while at the left-hand side of the breech block an extracting hook 25, is secured, as shown in Fig. 2, which hook is preferably of a springy character and is located upon the same side as the opening 22 in the extension of the main barrel, as shown in Fig. 2. This hook is adapted for engagement with the rim of the cartridge shell when the breech block is in firing position.

A lever 26, has a slotted connection with the plug 15 of the breech block, and is fulcrumed near its lower end in the body chamber E, the lower extremity of the lever 26, being practically T-shaped; and upon the upper member of the T-head of the lever a spring 27, has constant bearing, which is secured to the handle or stock D.

Against the lower end or member of the T-head 26^a of the lever 26 an arm 28 is in constant engagement, which arm is pivotally connected with the rear side of the trigger 29, which trigger extends through the usual slot in the bottom of the body chamber and is surrounded by a guard 30. The arm 28, is connected with the trigger through the medium of what may be termed a rule joint; and the trigger is fulcrumed upon the stud 31, which passes through the forward end of the body of the said trigger; and at its fulcrum the trigger is provided with a forwardly-extending arm 32, rigid therewith, the forward extremity of which arm is provided with a recess 33.

A short lock lever 34, is fulcrumed at one side of its center in the body chamber in such manner that its longer end may be engaged with the recessed portion of the rigid arm 32 of the trigger, and a V-spring 35, secured in the said chamber E, has bearing at times against the end near its fulcrum. While one member of the V-spring 35 engages with the lock lever, the other member is in constant engagement with what may be termed a loading lever 36. This lever is fulcrumed beneath the forward portion of the bridge 10, and is provided at its fulcrum with a short, downwardly extending spur 36^a. The forward end of the lever, which is adapted for engagement with the shell of the last cartridge in the magazine barrel A, is preferably downwardly curved.

A spring 37, rigidly secured at one end in the forward portion of the body chamber E, has constant bearing against the forwardly-extending rigid member 32 of the trigger, and the tendency of the spring is constantly to force said member upward. The slot 24, in the lower end of the breech block does not extend entirely to the rear thereof, leaving thereby a wall 38; and in the bridge 10, near the rear thereof, a lock latch 39, has vertical sliding movement, which when the breech block is in firing position engages with the rear of the wall 38 thereof, as shown in Figs. 1 and 7. This lock latch is normally forced upward through the medium of a spring 40, and is provided near its lower end with an opening 41. A second lock latch 42, has a vertical movement in the forward portion of the bridge 10, and is adapted for engagement with the hook 23 of the firing pin 17, and holds the said pin in position to be fired. The latch 42, is controlled by a spring, and is provided with an opening 43 near its lower end. A stellated wheel 44, is pivoted in the body chamber E above the fulcrum of the trigger 29, and one of the members of the said stellated wheel is adapted to be constantly within the opening 41 of the breech latch 39, while another member is constantly within the opening 43 of the firing pin latch 42, and other members are located over the upper edge of the body portion of the trigger, which edge is of convexed contour.

Beneath the opening 22 in the left-hand side of the body of the fire arm, a spring-controlled door 45, is located, which when opened will permit cartridges to be entered into the magazine chamber A.

In the operation of the fire arm, when the trigger is carried to the position shown in Fig. 6, that is, when it assumes a forward position, the breech block will be at the rear of the extension B′ of the firing barrel, and the loading lever 36, will be carried to a horizontal position by the forward rigid arm 32 of the trigger. By opening the door 45, the magazine chamber may be filled with cartridges, and the last cartridge entered is placed upon the loading lever 36, as shown in the said Fig. 6. Upon carrying the trigger forward the spring 27 will force the breech block rearward and the fore arm 32 of the trigger will engage with the short end of the loading lever 36, and so depress the long end of the lever as to disengage it from and carry it below the inner cartridge in the magazine. The lever will now serve as a table and will receive the inner cartridge as shown in Fig. 6. Upon carrying the trigger rearward its fore arm will in passing downward elevate the long end of the loading lever and force the cartridge into its chamber in the exterior of the main barrel and at that time the rear arm 28 of the trigger will act upon the lever 26 in a manner to force the breech F forward to carry the cartridge in position to be fired, as shown in Fig. 1. When the trigger is in the

second position it will be in locking engagement with the lock lever 34 and said lever will force the spring 35 to sustain the loading lever in its upper position which is against the forward bottom portion of the breech block. When the breech block was in its rear position, the breech latch 39, was held down by one of the members of the stellated wheel 44, the opposite member, as shown in Fig. 6, being out of engagement with the firing pin latch 42, which is pressed by its spring in its upper position. When the trigger is carried backward to the position shown in Fig. 1, it will so act upon the lower members of the stellated wheel as to cause the member in the breech latch to permit the latch to fly upward and assume a position back of the wall 38 of the breech block, while one of the members of the stellated wheel will at the same time enter the opening 43 in the firing pin latch, and the said firing pin latch being in its upper position will engage with the hook 23 of the firing pin, and place the spring 19 under pressure, as shown in Fig. 1, keeping the firing pin in position for firing. When it is intended to fire, the trigger is carried rearward to the position shown in Fig. 7, and in assuming this position the stellated wheel will be so turned that the latch of the firing pin will be drawn downward, releasing that pin and permitting its spring to act to force the pin to a firing contact with the cartridge. The spring 37 of the trigger will be depressed by the latter action of the trigger, and upon releasing the trigger the action of the spring 37 thereon will cause it to assume its first or normal position; while the spring 27, acting on the lever 26 of the breech block will serve to draw the breech block rearward, and the lock latch 39 of the breech block will be drawn downward by the stellated wheel, acted upon by the convex surface of the trigger; at the same time, the extracting hook 25, which when the breech block was in firing position engaged with the flange of the cartridge, will, when the breech block is carried rearward, take the cartridge shell with it; and the shell upon striking the pin 21, will be forced outward through the opening 22 in the body of the fire arm. When the trigger has assumed its normal position, the loading lever 36 will be brought to a horizontal position, and the next cartridge in the magazine barrel will be forced by the spring 12 upon said lever, and the operation of firing is repeated.

It will be understood that the fire arm may be fired by drawing the trigger rearward with one movement; and that when the magazine is empty the cartridges may be placed directly in the firing barrel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a magazine fire arm, a magazine located beneath the firing barrel, provided with a spring-pressed follower, a breech block held to slide in an extension of the firing barrel, a loading lever located beneath the breech block and acting as a check upon the cartridges in the magazine, a lock latch adapted for engagement with the breech block, a firing pin contained in the breech block, and a trigger having actuating connection with the breech block, firing pin and loading lever, substantially as shown and described.

2. In a magazine fire arm, the combination, with the magazine chamber, a firing barrel located above the same, a rear extension of the firing barrel, and a body chamber in communication with the magazine and with the extension of the firing barrel, of a breech block held to slide in the extension of the firing barrel, a spring-controlled firing pin located in the breech block, a spring-pressed actuating lever fulcrumed in the said chamber and connected with the breech block, a latch adapted for engagement with the firing pin, a second latch adapted for engagement with the breech block, a loading lever located beneath the forward portion of the firing barrel extension, and a trigger operating the latches, the lever of the breech block and the loading lever, substantially as shown and described.

3. In a magazine fire arm, the combination, with a firing barrel, a magazine located beneath the same, an extension at the rear of the firing barrel, a chamber located beneath the said extension, in communication therewith and with the magazine, a trigger provided with a forward and a rear extension, and a stellated wheel located above the trigger and adapted to be operated thereby, of a breech block held to slide in the extension of the firing barrel, a spring-pressed firing pin located in the breech block, a spring-pressed lever fulcrumed in the chamber beneath the extension of the firing barrel, and connected with the rear of the breech block and acted upon by the rear extension of the trigger, a breech block latch and a firing pin latch both acted upon by the stellated wheel, and a spring-pressed loading lever operated from the forward extension of the trigger, substantially as shown and described.

4. In a magazine fire arm, the combination, with the firing barrel, a magazine, an extension at the rear of the firing barrel, a chamber beneath the same, communicating with the extension and with the magazine, an extracting opening produced on one side of the barrel extension, and a gated opening located below the extracting opening, of a breech block held to slide in the extension of the firing barrel, provided with a spring-pressed firing pin, an extracting hook, and a slot adapted to receive a pin fixed in the barrel extension opposite the extracting hook, a trigger having a forward and a rearwardly extending arm, a spring-pressed lever fulcrumed

within the chamber beneath the firing barrel and connected with the rear of the breech block, said lever being engaged by the rear arm of the trigger, a spring-pressed latch adapted for engagement with the rear of the breech block, a second latch adapted for engagement with an extension of the firing pin, a stellated wheel operated from the trigger and adapted to act upon each latch, and a spring-controlled loading lever, operated from the forward arm of the trigger, substantially as and for the purpose set forth.

FRANK WACKERMANN.

Witnesses:
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CHAS. V. FOERSTER.