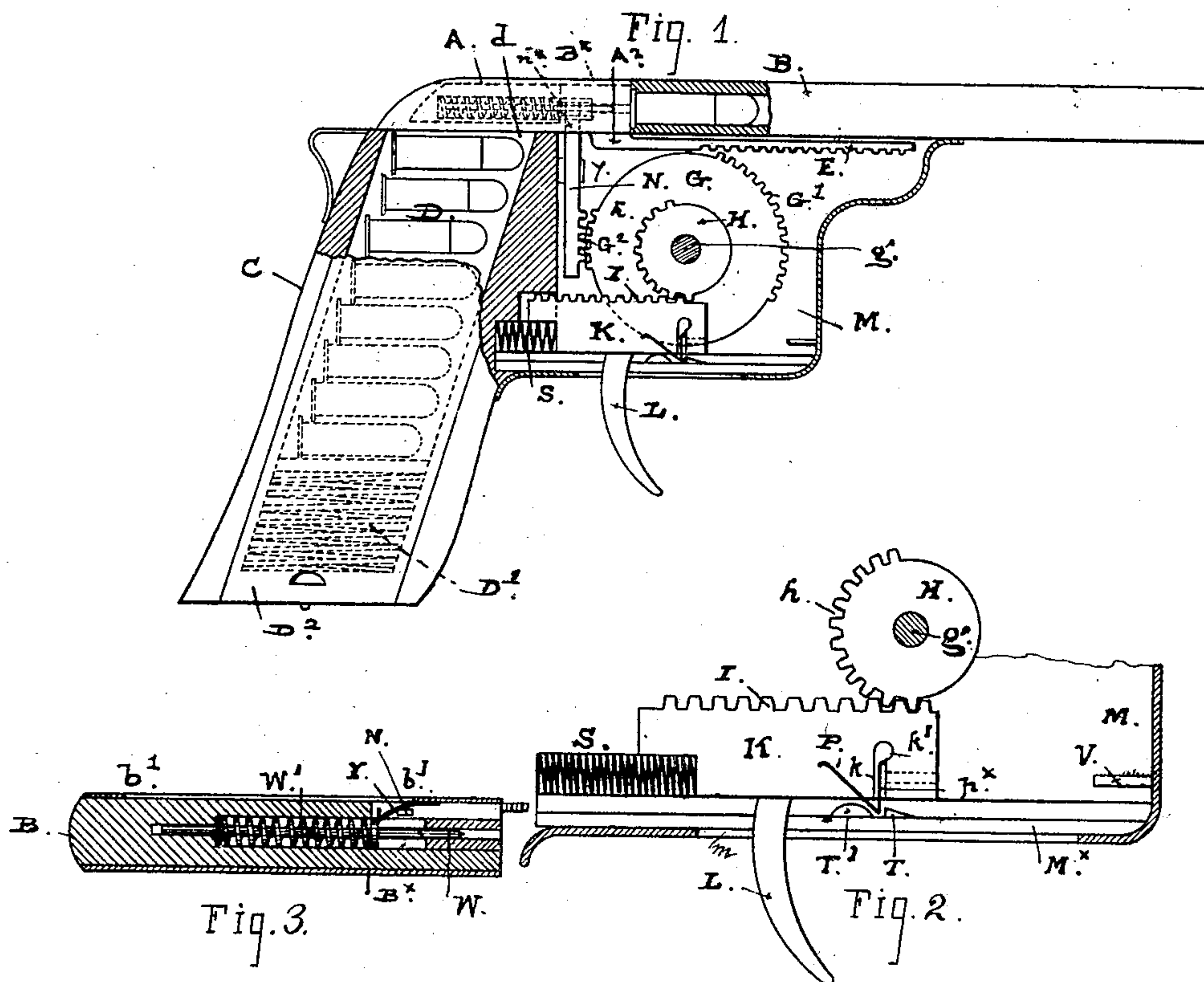


(No Model.)

H. W. WHITE LAW.
BREECH LOADING GUN.

No. 449,988.

Patented Apr. 7, 1891.



Witnesses:

Wm. Mayer

G. M. Charlot

Inventor

Henry W. Whitelaw

By Smith & Cabana

his Atty.

UNITED STATES PATENT OFFICE.

HENRY W. WHITELAW, OF SAN FRANCISCO, CALIFORNIA.

BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 449,988, dated April 7, 1891.

Application filed June 4, 1890. Serial No. 354,218. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. WHITELAW, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

My invention relates to improvements in loading and firing mechanism for breech-loading small-arms; and it consists in certain novel parts and combination of parts as hereinafter fully described, producing a breech-operating and cartridge-firing mechanism of considerable simplicity.

The nature of these improvements and the manner in which I proceed to construct and apply the same will be understood from the following description and the accompanying drawings, in which the improvements are shown as applied to the construction of a repeating-pistol carrying a number of cartridges in the handle.

Figure 1 is a side view of the pistol, with a portion of the handle and adjacent parts in section to show the internal construction. Figs. 2 and 3 show details of the mechanism in section and on an enlarged scale.

The mechanism operates both the breech-block and the firing-pin from a single trigger or finger-piece, and the movement that opens the breech-block to expel the empty shell and feed in a fresh cartridge is produced by the recoil of a spring, which is compressed by the force or pressure of the finger that brings back the breech-block into place. An increase or continuation of pressure on the finger-piece in the same direction throws the firing-pin into action, and thus by the same movement of the finger the weapon is charged and fired.

The breech-block A is fitted to slide smoothly in a chamber B^x, which is a rearward extension of the barrel B, and is open at one side, as from b' to b', Fig. 2, for discharge of the empty shell. The block slides on the top of the stock C and covers and uncovers the opening d, through which the cartridges pass from the receptacle D into the chamber.

A² is a slide-bar carrying a rack E to engage a toothed disk G and connected at the end to

the front of the breech-block. The disk is mounted for rotation on a stud or axle g, and portions of its rim have toothed segments, while the remaining portions are cut away. On the same center g and fixed to the segment-disk is a similar disk H of smaller diameter, having a toothed portion h to engage the teeth I of the slide-bar K, while it is held in guides in the bottom of the casing M, in line with the smaller toothed segment, and is fitted therein to slide smoothly.

L is a trigger or finger-piece rigidly fixed to the bottom of the slide K and setting through the slot m in the opening to be seized by the forefinger of the hand that grasps the stock for drawing back the slide-bar, and S is a spring in a chamber in the stock or the casing behind the slide-bar so arranged that it will be compressed by the pull on the finger-piece, and is of suitable strength when released to impel the slide-bar forward. These two movements, acting upon the disk G through the smaller disk, open and close the breech-block, the long throw of the breech-block being produced from a short movement of the slide-bar by suitably proportioning the diameters of the two disks.

At the extreme forward position of the slide K the breech-block should be full open and the spring relaxed, so that the return movement of the slide brings forward the breech-block into place against the barrel and at the same time compresses the spring, that by subsequent reaction when released throws the slide forward and opens the breech-block.

The slide is held back against the spring in readiness for firing by a lock or catch, which I apply directly to the slide as the simplest mode of controlling the slide, and one that is operated in firing by the same pressure of the finger that actuates the firing-pin. In the present construction the spring-catch P is fixed to the bottom of the slide-bar to engage the stops T T' on the bottom guide-rail M^x, and while one end of the spring is fixed in the slide the free end p* plays in a slot k in the slide and has a bent end that engages with the shoulder k' at the top of the slot. This end of the spring holds it clear of the notches when it is set up on the shoulder, and in that

position the slide is free to move. The rear stop T' sets above the line of the front stop, so that when the slide-bar is drawn back over it the spring is thrown up into the slide-bar and locked in that position. It will then clear the front stop when the pressure is taken from the trigger and the spring allowed to act. The stop V at the front end of the casing sets in line with the upright end of the spring-tongue and acts to throw it clear of the shoulder at the moment that the slide reaches the extreme end of its forward throw. The catch is then free to engage with the front notch when the slide is drawn back. As the catch drops behind the front stop the breech-block is closed and the parts are in position for firing; but as the rear stop is higher than the front stop it offers sufficient resistance to the catch to indicate that the slide-bar has reached the end of movement necessary to close and lock the breech-block. Now by increasing the pressure on the finger-pull the firing-pin is operated, and this additional movement of the slide brings the catch over the rear stop and sets it clear of both stops, so that the slide is well forward when the finger is taken from the trigger.

The firing-pin W is set in a recess in the breech-block, and consists of the pin with a broad head, behind which a spring W' is set in the recess of suitable strength to throw the pin forward. The pin is held back by a spring-tongue Y at one side of the breech-block chamber, with its free end projecting in the path of the head W of the pin, and this end is so arranged with respect to the end of a bolt N that the spring is drawn away from the firing-pin by the upward throw of the bolt, and is released and caused to engage the firing-pin by a contrary movement. The bolts work in the guides y in the casing and have a toothed portion to engage the toothed segment G² on the disk. These parts are adjusted to come into gear in the backward movement of the slide-bar just before the catch reaches the front stop and throw the bolt into the slot n² in the bottom of the breech-block just as the latch comes into place between the two stops. An additional upward movement of the bolt is required to reach the firing-pin, and this is produced by the next movement backward of the slide, the segment G² being in gear with the bolt at such time, and the longer segment G' being clear of the rack E.

The receptacle D has a spring-follower D' to feed the cartridges upward, and the opening in the side of the stop is fitted with a sliding cover D².

It will be noticed that the bolt N locks the breech-block when closed and also operates the firing mechanism. It is fitted in its guide to move with some friction, so that it remains stationary wherever set.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a repeating fire-arm, the combination, with the sliding breech-block, of a rack attached thereto, a toothed disk having geared segments of two different diameters, the larger one of which is adapted to engage the rack of the breech-block, a slide-bar having a toothed portion adapted to engage the toothed segment of smaller diameter, a trigger or finger-piece on said slide-bar, a spring applied behind said slide-bar, and a catch or lock arranged to hold back said slide-bar when the spring is compressed, substantially as described.

2. In combination with the toothed disk and sliding breech-block geared into said disk and adapted to be opened and closed by the rotation thereof, the bolt N, geared into said disk and entering a recess in the breech-block to lock the same when closed.

3. In combination with the slide and breech-block having a spring firing-pin, the spring-latch Y, and the sliding bolt N, geared into the toothed disk G, in combination therewith and adapted to be rotated by the operation of said disk, substantially as set forth.

4. In a repeating fire-arm, a stock having a receptacle D, in combination with the sliding breech-block having movement across the top of receptacle and in a chamber partially inclosing it, and breech-operating mechanism consisting of toothed disks G II, rack E, slide-bar K, having a trigger K L, the spring S, the latch P, the stops T T', and the releasing-stop V, arranged for operation substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

HENRY W. WHITELOW. [L. S.]

Witnesses:

C. W. M. SMITH,
OTIS V. SAWYER.