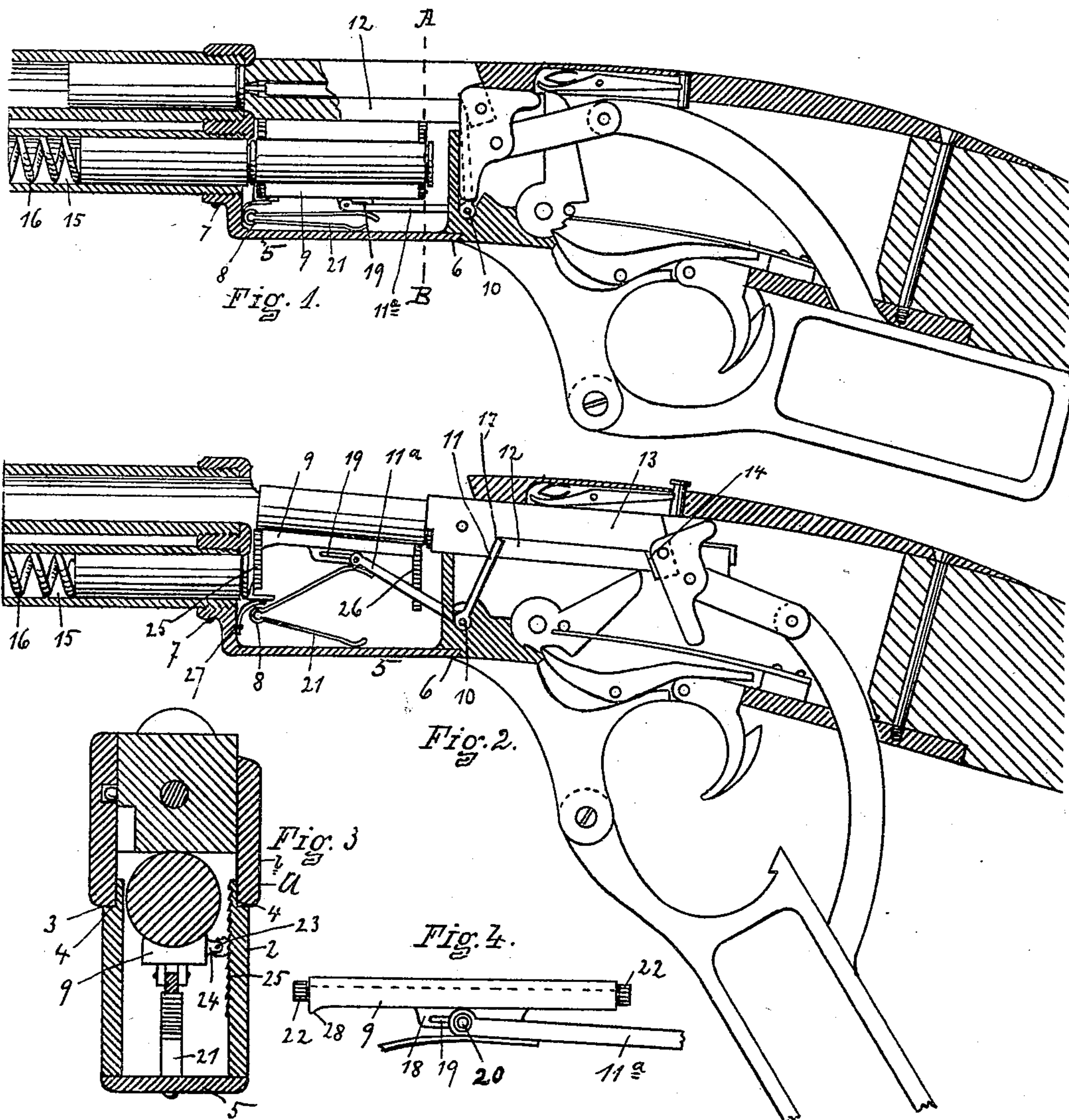


No. 819,801.

PATENTED MAY 8, 1906.

M. P. RICHARDS.
MAGAZINE IN SMALL ARMS.
APPLICATION FILED MAY 14, 1903.



WITNESSES
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MAGAZINE IN SMALL-ARMS.

No. 819,801.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed May 14, 1903. Serial No. 157,058.

To all whom it may concern:

Be it known that I, MORRIS P. RICHARDS, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Magazines in Small-Arms, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to an improvement in small-arm magazines; and it consists, essentially, in suitable mechanism confined within the walls of the frame and arranged to receive the cartridges from the magazine proper and automatically feed the same to the operative plane of the breech-bolt.

The preferred embodiment of the details of the invention are clearly illustrated in the accompanying drawings, wherein—

Figure 1 is a broken vertical section of a gun, illustrating my invention, the action being shown closed and a shell on the carrier-platform. Fig. 2 is a similar view, the action being shown opened and the carrier-platform with supported shell in elevated position. Fig. 3 is a transverse section of the gun on line A A of Fig. 1. Fig. 4 is a side elevation of the carrier and connected operating mechanism.

Referring to the drawings, 1 and 2 represent the lower and upper sections of the frame, the meeting edges of which sections are connected by a rabbeted joint 3 and 4, as shown in Fig. 3. The bottom of the frame is closed by a detachable shoe 5, having a beveled rear end 6 entering a suitable notch in the frame and secured at its forward end to the frame by a screw 7. This construction provides for the convenient removal of the shoe when desired.

The carrier comprises a platform and suitable operating mechanism. The platform 9, fitting within the receiver of the gun, is provided on its lower side with a rib 18, formed with a longitudinally-arranged slot 19. A bell-crank lever pivoted at 10 in the frame has one end 11^a slidably engaging the platform through a pin 20 entering slot 19, while the other arm 11 of the lever projects into a groove 12 in the breech-bolt 13. The front and rear walls 17 and 14 of the groove serve as the operating means for the lever in a manner to be described.

To assist in the elevating or upward movement of the platform, I provide a two-armed spring 21, secured at its end to the frame, as

at 8, with one end bearing against the shoe 5, while the other arm rests beneath the end of arm 11^a of the bell-crank lever, as clearly shown in Figs. 1 and 2.

In order to accurately maintain the proper position of the platform during its operation, some means must be provided to insure the constant and uniform movement of its respective ends. I accomplish this result by journaling a shaft 23 in ears 24, projecting laterally from the platform, and rigidly securing pinions 22 on the ends of the shaft. A pair of racks 26 are formed or provided on the inner side of frame-section 2, being arranged to be engaged by respective pinions 22 in the movement of the platform. As these pinions are fast on their shaft, and consequently must revolve together, it follows that the respective ends of the platform must have a uniform movement, thereby maintaining the platform in proper position—that is, substantially horizontal during its elevation and depression.

15 represents the magazine, being the usual tubular magazine secured beneath the barrel of the gun and arranged to successively receive the shells through the breech-chamber when the action is open, as is well understood. A coil-spring 16, secured within the magazine, serves as a feeding means to force the shells from the magazine as desired.

To guard against ejection of a shell when the platform is elevated, I provide the forward end of the platform with a depending lip 28 of sufficient length to project below the upper edge of the magazine-mouth when the platform is in elevated position and form a stop to prevent escape of the shells. I also form a stop for the lower portion of the magazine-mouth by securing a leaf-spring 27 to the frame with its free end normally projecting across the mouth of the magazine. The arrangement is such that the descending platform will contact with the free end of this spring and force it from its position across the mouth of the magazine, permitting the desired escape of the shells.

Assume the magazine loaded and the action closed. The operation of the parts is as follows: In this situation the platform is in its extreme lowered position—that is, on a level with the mouth of the magazine—being so held by contact of wall 14 of the groove 12 of the breech-bolt with the end of arm 11 of the bell-crank lever, as seen in Fig. 1. Spring

16 operates to eject a shell from the magazine onto the platform 9. When on opening the action, the wall 17 of groove 12 will contact with the end of arm 11 of the lever and
 5 move the same in a rearward direction, rocking the lever on its pivot and through arm 11^a elevating the platform and supported shell into a position to permit the shell being forced into the firing-chamber by the breech-
 10 bolt, as shown in Fig. 2. During the elevation of the platform the pinions 22, in cooperation with racks 25, serve to guide and maintain steady and accurate movement of the platform, as will be evident. Spring 21
 15 serves to assist in the elevation of the platform, but is mainly efficient to prevent rattling or sticking of the parts. After elevation of the platform the stop 28 and spring 27 are positioned across the mouth of the
 20 magazine and prevent discharge of the next shell until the platform has been returned to normal or lowered position, which is effected by the reversal of the above-described operation, as will be fully apparent from the
 25 drawings.

The invention described is readily applicable to any firearm having a tubular magazine in which a breech-bolt is used for loading and extracting, and I contemplate all
 30 such mechanical changes as may be necessary to adapt the invention to different types of breech-loading guns.

Having thus described my invention, what I claim is—

35 1. In a tubular-magazine firearm, the combination of a pivoted bell-crank lever, a movable carrier-platform within the receiver, pinions rotating in unison and carried by said platform, racks supported by the gun-frame

to be engaged by said pinions, and mechanism for engaging and operating the bell-crank lever for moving said carrier-platform, substantially as set forth. 40

2. In a bolt tubular-magazine gun, the combination of the frame recessed to receive 45 a carrier-platform, a bell-crank lever pivoted in the frame, one arm of the lever engaging stops on the bolt and the other arm connected with the platform, the platform having pinions rotating in unison and engaging racks 50 in the receiver, whereby the platform is elevated or depressed by opening and closing the bolt.

3. In a bolt tubular-magazine gun, having a frame, a carrier-platform below the bolt, 55 the front end of the platform having a downwardly-projecting lug, a bell-crank lever pivoted in the frame, one arm of the lever constructed to engage stops on the bolt and the opposite arm of the lever mounted to elevate 60 and depress the platform, pinions connected to rotate in unison and mounted on the platform to engage racks provided on the inside of the frame.

4. In a bolt tubular-magazine gun, the 65 combination of a carrier-platform within the frame, mechanism for raising and lowering the same, pinions mounted rigidly on a shaft supported on said platform, and racks in the frame for engaging said pinions, substantially 70 as set forth.

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

MORRIS P. RICHARDS.

Witnesses:

EDWIN H. RISLEY,
 E. T. DE GIORGI,
 GEORGE L. ROBERTS.