July 13, 1943. E. G. REISING 2,324,238

LOADING MECHANISM FOR FIREARMS

Filed March 20, 1939

Fig. 1.

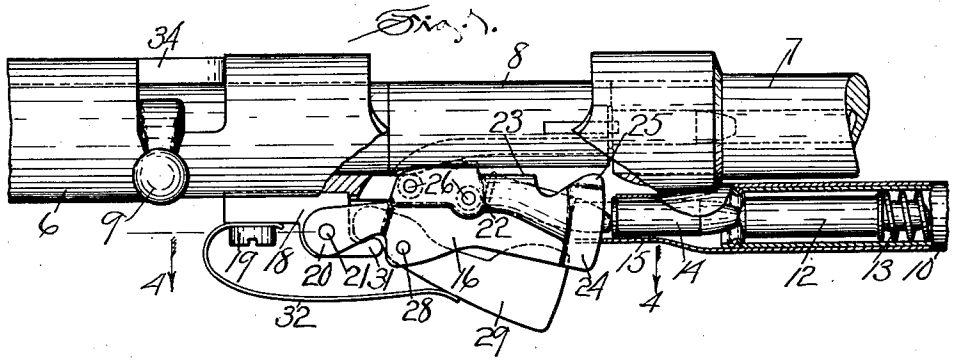


Fig. 2.

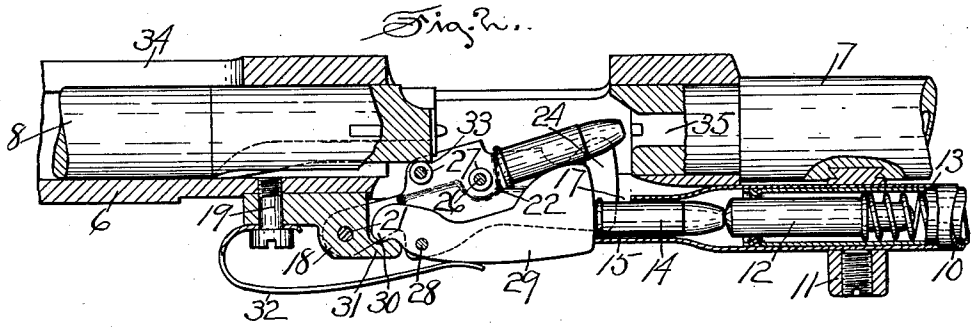


Fig. 3.

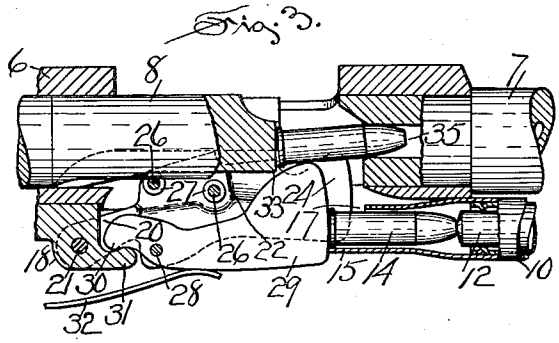


Fig. 4.

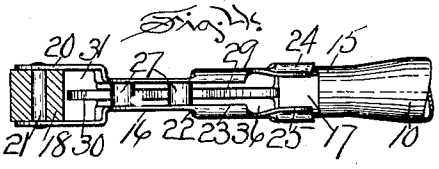
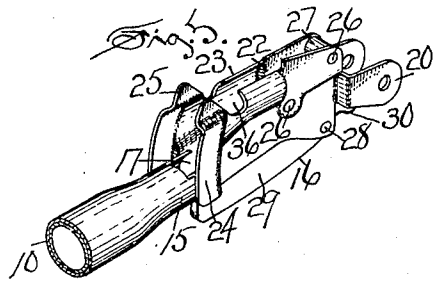


Fig. 5.



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LOADING MECHANISM FOR FIREARMS

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Application March 20, 1939, Serial No. 262,874

4 Claims. (Cl. 42—17)

My invention relates more particularly to that type of firearms that are supported on the human body while being discharged, and an object of my invention, among others, is the production of a loading mechanism for firearms of this type that shall be simple in construction and operation and most efficient in the results obtained in use.

One form of a loading mechanism for firearms embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing, in which—

Figure 1 is a view in side elevation of a portion of the receiver, barrel and magazine of a firearm equipped with my improved loading mechanism, the breech bolt being closed.

Figure 2 is a similar view but in lengthwise section and with the breech bolt in its rearward or open position.

Figure 3 is a view similar to Fig. 2 but showing the breech bolt partially closed.

Figure 4 is a view in horizontal section on a plane denoted by the dotted line 4—4 of Fig. 1.

Figure 5 is an isometric perspective view of the loading unit.

This invention is not limited in its application to a firearm of any particular type so far as the firing mechanism is concerned and therefore the firing mechanism has not been shown herein, and it will be understood that many types of firing mechanisms may be employed. In the accompanying drawing the numeral 6 denotes the receiver of a firearm having a barrel 7 secured to its front end in any suitable manner and with the breech bolt 8 slidably and rotatably mounted therein to be actuated as by means of a handle 9 in a manner common to many types of firearms. A magazine tube 10 is secured to the under side of the barrel in any well-known manner, a clip 11 commonly employed for such purpose being shown herein. This tube contains a follower 12 pressed rearwardly by a spring 13 to eject cartridges 14 from the rear end of the tube in a manner common to firearms of this type. This tube has a reduced end 15 the interior of which quite closely fits the cartridges, as shown in Fig. 2, and it is of a size to nicely fit within the front end of a cartridge carrier 16 now to be described, the tube having an opening or notch 17 at the top of its rear end, as shown in Figs. 4 and 5 of the drawing.

The cartridge carrier is composed of two side pieces stamped to shape from thin metal, and both of the same shape except that one is a right-hand and the other a lefthand piece. This carrier is pivotally mounted at its rear end on a lug 18 secured to the under side of the receiver as by means of a screw 19, each of the side parts of the carrier having an ear 20 and said ears being located on opposite sides of the lug and pivotally attached thereto as by means of a pivot pin 21. Cartridge stops in the form of shoulders 22 are formed on each of the side pieces of the carrier, the cartridges being forced into the carrier by the follower 12 and coming to rest against the stops 22, as shown in Fig. 1 of the drawing, lips 23 on the side pieces preventing the cartridges from rising out of the carrier. Guides 24 extend vertically along the front ends of the side pieces, the upper ends of the guides terminating in retainers 25 to resist the nose of a cartridge from rising out of the carrier as it is forced thereinto out of the magazine tube.

The two sides of the carrier are rigidly secured together by means of pins or rivets 26 and strut collars 27. The pivot pin 21 also aids in this respect as well as the pivot pin 28 for a lifter 29 pivotally mounted in the carrier between the side parts, as shown in Fig. 2. The lifter has a heel 30 engaged with a lip 31 projecting from the lug 18, and a lifter spring 32 secured at one end by the screw 19 presses with its forward end against the lifter to swing it on its pivot within the carrier.

A nose 33 on the front end of the breech bolt is positioned to pass between the side parts of the carrier to engage a cartridge therein and to force the cartridge into the breech of the barrel when the breech bolt is moved forward, the cartridge being located in the path of movement of said nose at this time. As hereinbefore explained firing mechanism of any suitable type may be employed together with extracting and ejecting mechanism of any suitable sort, the details of which are not mentioned herein.

In the operation of the mechanism the breach bolt is unlocked by lifting the handle 9 in the ordinary manner into a slot 34 in the receiver and the breech is then opened by moving the handle rearwardly along said slot, before this operation the parts having been in the position shown in Figure 1 with a cartridge as shown in dotted lines in the carrier having its butt end resting against the stops 22 and the spring 32 exerting pressure against the lifter. The pressure of said spring against the lifter is transmitted to the cartridge carrier and as soon as the breech bolt in its rearward movement clears the carrier and the cartridge therein the carrier and lifter are simultaneously raised to the position

shown in Fig. 2, the lifter acting as a lever with its heel 30 constituting its fulcrum pressed against the lip 31 of the lug 18. By this arrangement of parts while the lifter acts to raise the cartridge carrier the latter has a slower movement than the lifter so that the latter although it is well down in the carrier at the beginning of the loading operation, by reason of its accelerated movement, passes through the moving carrier to the upper edge thereof to properly position the cartridge for entry into the chamber 35.

This simultaneous movement upward of the cartridge carrier and lifter raises the cartridge to the position shown in Fig. 2 with its nose in position to enter the chamber 35 in the barrel, the retainers 25 resisting the cartridge from rising out of the carrier. The breech bolt 8 now being forced forward to close the breech opening, the nose 33 on said bolt striking the upper edge of the cartridge rim acts to force the cartridge into the chamber 35, the side parts of the carrier spring apart sufficiently to permit the cartridge to rise from the carrier under the force thus applied and the handle 9 being forced down into the position shown in Fig. 1, the breech bolt is securely locked in its closed position. As the cartridge moves out of the carrier the rim on its shell passes through the opening 36 in the top of the carrier.

When the lifter 29 moves upwardly from the position shown in Fig. 1 to raise the cartridge out of the carrier the end of the lifter is presented in the path of movement of the next cartridge from the magazine and the line of cartridges in said magazine is therefore restrained from backward movement until the breech bolt is moved forward to closed position, thereby lowering the lifter out of the path of movement of the cartridge, permitting movement of the line to locate the cartridge at the end of the line within the carrier ready for succeeding loading operation in the manner just described.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim:

1. In a firearm having a receiver and a breech bolt slidably mounted in said receiver to open and close it, the combination of a loading mechanism including a slotted and chambered carrier pivotally supported at its rear end by the receiver, a lifter of substantially the length of the carrier pivotally attached to the carrier to lift the cartridges within the carrier, means for applying power to the lifter to raise it, and means engaged with said lifter to transmit partial movement thereof to the carrier to effect simultaneous movement of the latter at a slower speed than that of the lifter to cause the latter to raise the cartridges into the path of the breech bolt.

2. In a firearm having a receiver and a breech bolt slidably mounted therein, the combination of a loading mechanism including a cartridge carrier pivotally mounted on the receiver for movement to carry a cartridge into the path of the breech bolt, said carrier comprising two similarly shaped right and left hand members stamped from sheet metal and united in spaced relation by cross members secured to the sides, said sides including spaced apart oppositely shaped guides for directing movement of a cartridge into the path of the breech bolt, a lifter pivotally mounted on the carrier between said sides, and a feed tube projecting into the space between said sides.

3. In a firearm having a receiver and a breech bolt slidably mounted therein; the combination of a loading mechanism including a cartridge carrier pivotally mounted on the receiver for movement to carry a cartridge into the path of the breech bolt, said carrier comprising two similarly shaped right and left hand members stamped from sheet metal having, when secured together, a widened space at one end to form a cartridge guide and also having a narrow space for a lifter, a lifter pivotally mounted in said narrow space, and a feed tube projecting into said widened space.

4. In a firearm having a receiver and a breech bolt slidably mounted in said receiver to open and close it, the combination of a loading mechanism including a slotted and chambered carrier pivotally supported at its rear end by the receiver, a lifter of substantially the length of the carrier pivotally attached to the carrier and extending into the chamber in the latter to lift the cartridges therein, the front end of said lifter being constructed and arranged to temporarily stop backward movement of the cartridges to the carrier as the latter is being raised, means for applying power to the lifter to raise it, and means engaged with said lifter to transmit partial movement thereof to the carrier to effect simultaneous movement of the carrier and lifter to cause the latter to raise the cartridges into the path of the breech bolt and without material change in the relative positions of the carrier and the lifter.

EUGENE G. REISING.