Dec. 8, 1931. E. McCOY 1,835,715

FIREARM

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Fig. 1.

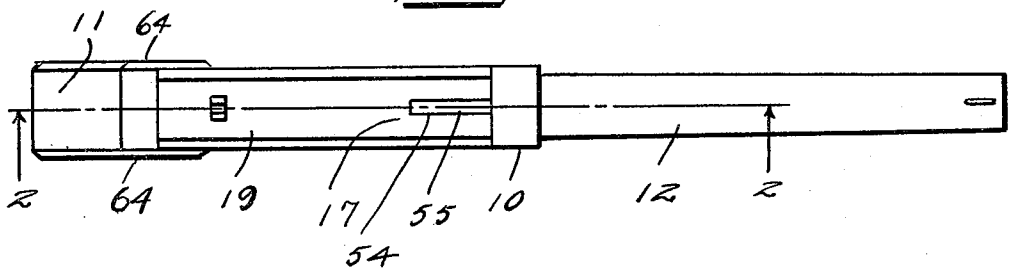


Fig. 9.

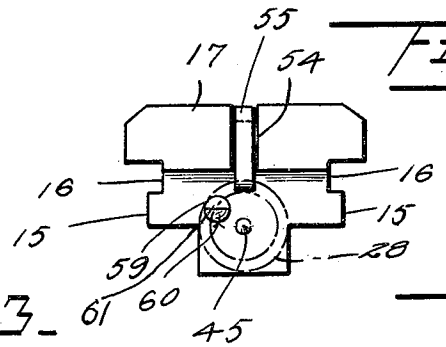


Fig. 3.

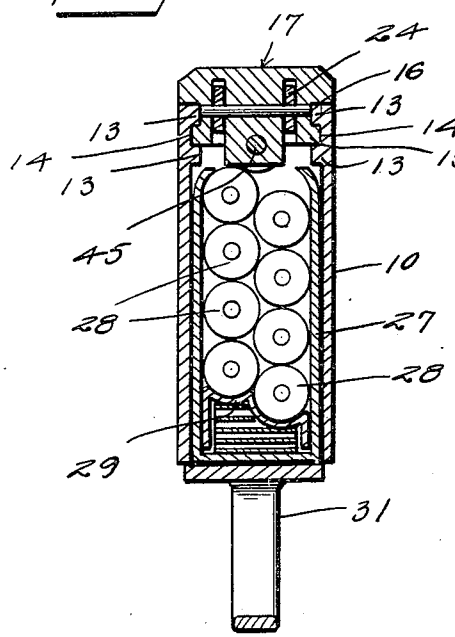
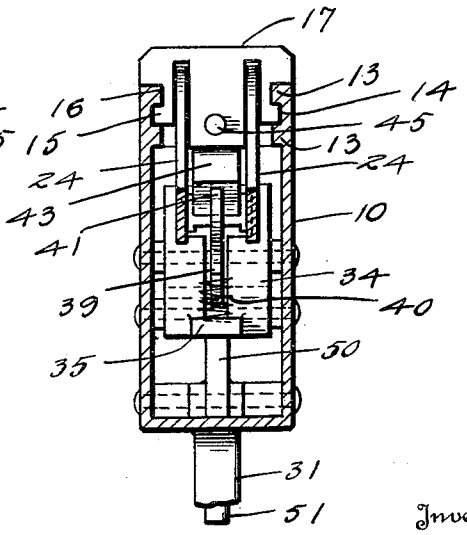


Fig. 5.



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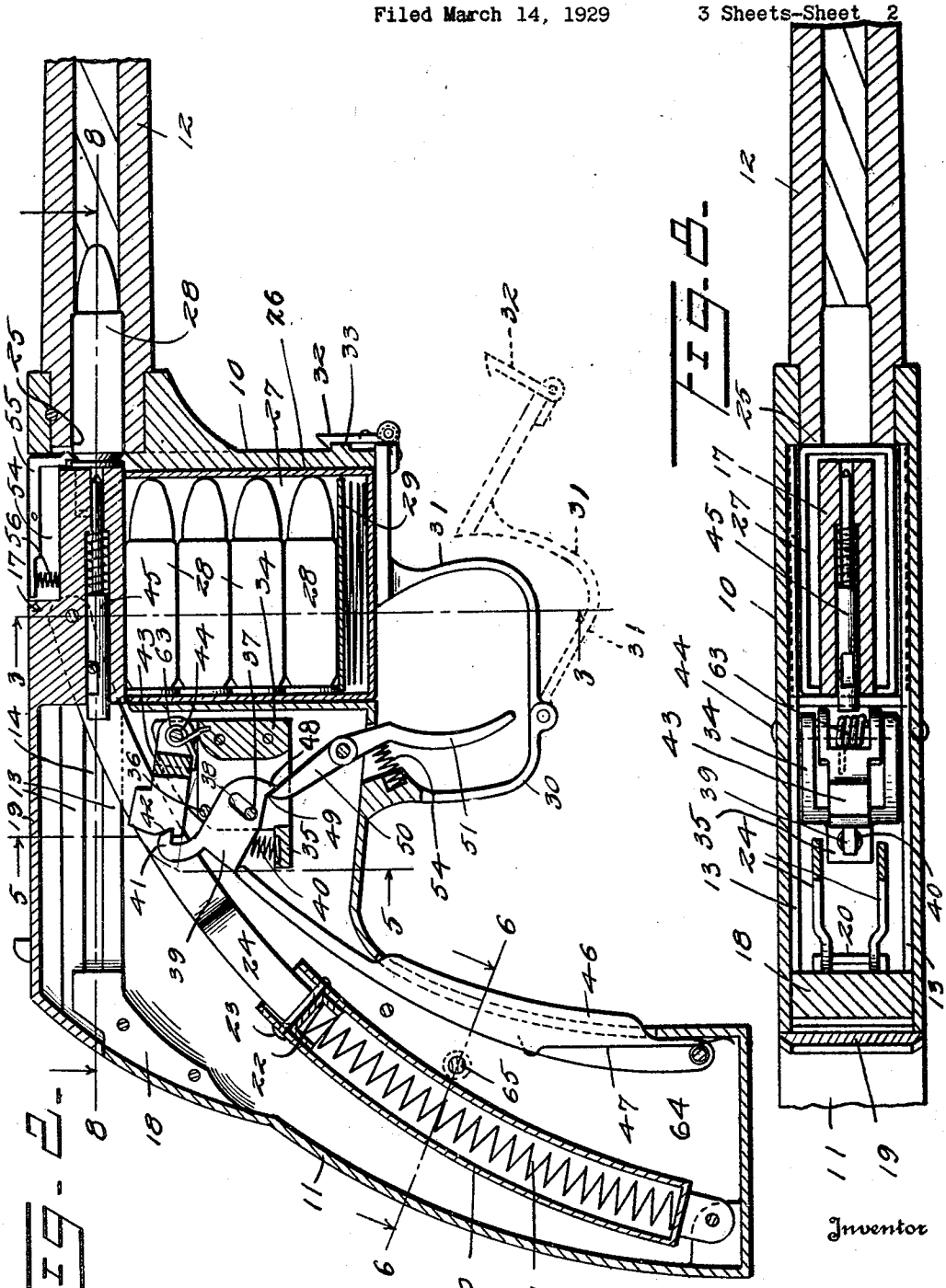


FIG. 2.

FIG. 4.

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FIREARM

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Fig. 4.

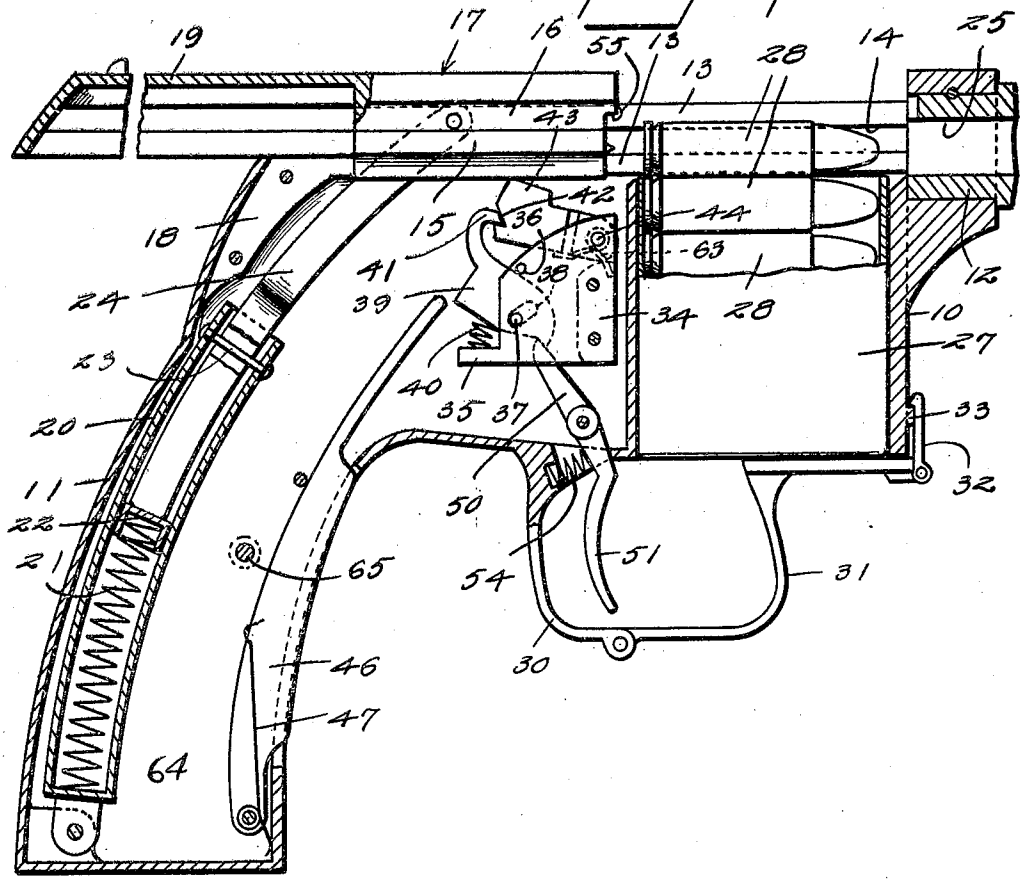


Fig. 6.

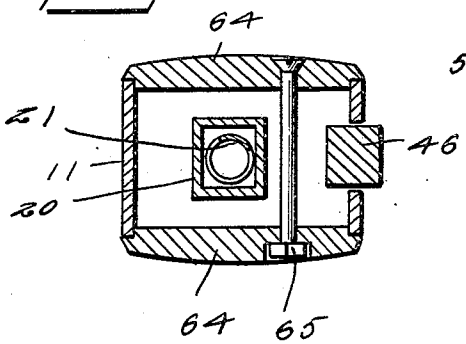
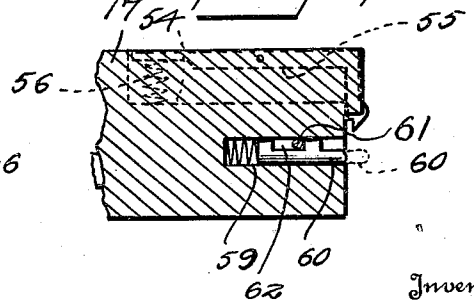


Fig. 7.



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1,835,715

UNITED STATES PATENT OFFICE

EARL McCOY, OF DEER LODGE, MONTANA

FIREARM

Application filed March 14, 1929. Serial No. 347,049.

This invention relates to new and useful improvements in firearms, and particularly to firearms of the pistol type.

One object of the present invention is to provide a firearm which is of simple construction, and which is formed of the minimum number of parts.

Another object is to provide a firearm of this character wherein the magazine is so located that it may be easily and quickly removed and replaced.

Another object is to provide an automatic pistol which has the general contour of the ordinary revolver, whereby to render the same more easily handled than the ordinary form of automatic pistols.

Another object is to provide a novel and improved form of sear, and a novel form of safety device, for engaging said sear, said safety device being so arranged that it is automatically released upon grasping the grip of the pistol.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawings.

In the drawings:

Figure 1 is a top plan view of an automatic pistol made in accordance with the present invention.

Figure 2 is a vertical longitudinal central sectional view on the line 2—2 of Figure 1.

Figure 3 is a vertical transverse sectional view on the line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 2, showing the parts in the position of the recoil.

Figure 5 is a transverse sectional view on the line 5—5 of Figure 2.

Figure 6 is a transverse sectional view on the line 6—6 of Figure 2.

Figure 7 is a vertical longitudinal sectional detail view through the breech block.

Figure 8 is a horizontal sectional detail view on the line 8—8 of Figure 2.

Figure 9 is a front elevation of the breech block removed from the firearm.

Referring particularly to the accompanying drawings, 10 represents the main frame of the pistol to which is detachably connected the grip frame 11, and the barrel 12. The upper part of the frame 10 is open throughout its entire length, and in the inner faces of the side walls of said upper part are formed the longitudinal ribs and grooves 13 and 14, with which are engaged the grooves and ribs 15 and 16, of the slidable breach block 17. Secured within the rear end of the frame 10 is the stop block 18, against which the breech block strikes, upon reaching the rearward limit of its recoil movement, as will be explained later herein. Carried by the rear end of the breech block is a cover plate 19, which, when the said block is in its normal forward position, covers the upper open side of the frame 10. In the lower rear portion of the frame 11 there is pivotally connected the lower end of the upwardly and forwardly curved tubular member 20, within which is disposed the recoil spring 21. Carried by the upper end of the spring 21 is a cap member 22 which is urged against the transverse pin 23, in the upper end of the tube, by the force of said spring. Pivotally connected to each side of the breech block is an arm 24 which has the same longitudinal curvature as the member 20, and has its other end disposed in said member, bearing on the upper surface of the said cap 22. When the breech block moves rearwardly these arms 24 are driven into the tubular member 20, whereby to compress the spring 21, which spring expands, when the breech block reaches the stop member or block 18, whereby to project the breech block forward into its normal position against the breech 25. Within the frame 10, just below the breech block, is a chamber or cavity 26, within which is removably disposed the cartridge containing box magazine 27, said box magazine containing two vertical rows of cartridges 28, urged upwardly by the spring pressed plate 29, within the box magazine case. Secured to the lower face of the frame 10, adjacent its rear portion, is the rear part 30 of the trigger guard, and pivotally connected to the lower end of said part 30 is the forward part 31, of the guard, said forward portion bearing against the lower face of the front part of the frame 10, and being provided with a spring pressed latch 32, which

engages with a keeper 33, on the front face of the said frame, below the rear end of the barrel 12. Mounted in the central portion of the frame 10, between the curved recoil arms 24, is a block 34, said block being bifurcated in its rear portion and having a transverse ledge 35, in the bottom of said bifurcation. Extending transversely of the bifurcation are two vertically alined pins 36 and 37, and pivotally mounted on the lower pin 37, by means of the slot 38, is the sear 39, a coil spring 40 being disposed between the intermediate portion of the sear and the said ledge 35, for normally urging the sear upwardly for engagement of its hook 41, in the notch 42, of the outer end of the hammer 43. The upward movement of the sear is limited by contact with the upper pin 36. The hammer is pivotally mounted in the upper end of the forward portion of the block 34, by means of the pin 44, carried transversely by said block. In the breech block 17 is mounted the spring pressed firing pin 45.

Pivotally mounted in the lower portion of the front of the grip frame 11 is the lower end of an upwardly and forwardly curving safety arm 46, the upper end of which is arranged to be engaged beneath the outer end of the sear 39 to hold the same against release from the hammer, said arm being normally urged into such position by means of the spring 47. It will be noted that the forward edge of the safety arm 46 projects through a slot in the forward portion of the grip frame 11, so that when the hand which grasps the said grip may push the arm inwardly, to disengage its upper end from beneath the sear, upon a slight squeeze given thereto.

The forward end of the lower edge of the sear 39 is formed with a downwardly projecting point 48, with which is engaged the upper pointed end 49, of the upper portion 50, of the trigger 51, said trigger being pivotally mounted in the lower portion of the frame 10, and projecting down within the trigger guard, as clearly seen in the drawings. The portion 50, of the trigger, which extends upwardly into the frame 10, has its point arranged for engagement with the point 48, of the sear, for the purpose of releasing said sear from the hammer, when the lower portion of the trigger is pulled rearwardly, as will be readily understood, from an inspection of the drawings. A spring 54, located between the rear of the trigger 51, and the rear portion of the trigger guard resiliently urges the trigger into the position shown in Figure 3, whereby its upper end or nose 49 engages behind the point 48 of the sear, so that upon pulling rearwardly upon the lower portion of the trigger, the sear will be released from the hammer.

In the forward portion of the upper face of the breech block 17, there is formed a longitudinal groove 54, the forward end of which opens through the forward end of the block. Pivotally mounted in said groove is the longer arm of an L-shaped member 55, the shorter arm of which depends on the forward face of the block. A spring 56, within the groove 54, bearing against the bottom thereof, and against the lower face of the rear end of said longer arm of the L-shaped member 55, to normally rock said member so that the lower end of the depending arm thereof engages in the circumferential groove 57, of the rear end of the cartridge 58, while said cartridge is within the chamber of the firearm. Formed in the forward face of the breech block 17, below the forward end of the member 55, and at one side of the center of said face, is a recess 59, and arranged in said recess is a spring pressed ejector pin 60, said pin being held in limited sliding movement by the transverse pin engaged in the longitudinal recess 62, in the pin 60, said transverse pin being indicated by the numeral 61. When the breech block is driven rearwardly by the recoil, the lower end of the depending arm of the member 55, which engages in the groove of the cartridge, holds the empty shell, while the spring pressed pin 60 exerts a forward pressure on the lower portion of the rear end of the shell, so that the instant the forward end of the empty shell is free of the chamber of the firearm, such shell will be ejected upwardly and laterally through the opening in the upper side of the frame 10. As the breech block 17 moves rearwardly it engages the hammer and moves the same rearwardly and downwardly on its pivot, against the tension of its spring 63, so that the hook 41, of the sear 39 may engage in the notch 42, to hold the hammer in cocked position. At the same time, the arms 24 are driven into the member 20, whereby to compress the spring 21, which quickly expands, when the breech block strikes the stop block 18, so that the breech block is projected forwardly again. When the block 17 strikes the block 18, the ejector throws out the empty shell, whereupon the spring pressed plate 29 urges a fresh cartridge up into the breech, in position to be driven into the chamber of the firearm, when the block again comes forward. As the trigger is returned to its normal position, by the spring 54, the end 49 thereof engages with the point of the sear and moves the latter rearwardly on the pin 37, as a sliding pivot, until the said end 49 snaps past the point of the sear and is disposed behind the same, ready to release the same again upon pulling the trigger.

It will be noted that the forward end of the portion 31, of the trigger guard, is arranged in supporting relation to cartridge box magazine 27, so that upon release of the latch 32, the said portion of the guard may be

swung down, so that the empty box may be quickly withdrawn and a new clip inserted.

Cover plates 64 are secured to opposite sides of the grip frame 11, by means of the transverse screw 65.

What is claimed is:

1. An automatic firearm of the pistol type including an action containing portion having a cartridge box receiving chamber in advance of the action, a barrel, a grip portion, and a trigger guard for holding the box in said chamber.

2. An automatic firearm of the pistol type including a frame having a space for the action of the firearm and a space for the cartridge box, and a movable trigger guard for holding the box in said space.

3. An automatic firearm of the pistol type including a frame containing the action of the firearm, a grip connected with the frame, a slidable breech block in the frame, a cylinder movably supported in the grip and having a spring therein, the upper end of the cylinder being open, a stop member in the open end of the cylinder, a follower in the cylinder held against the stop member by said spring, and arms connected with the breech block and engaged with the said follower.

4. An automatic firearm of the pistol type including a frame containing the action of the firearm, a grip connected with the frame, a slidable breech block in the frame, a longitudinally extending curved cylinder in the grip having its lower end pivotally connected thereto, a coil spring in the cylinder, a transverse stop pin in the upper end of the cylinder, a follower on the upper end of the spring and held against the pin thereby, and longitudinally curved arms pivotally connected with the breech block and having their other ends bearing on said follower on opposite sides of said stop pin.

In testimony whereof, I affix my signature.

EARL McCOY.