O. F. MOSSBERG.

FIREARM.

APPLICATION FILED AUG. 28, 1919.

1,348,035. **Patented July 27, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.

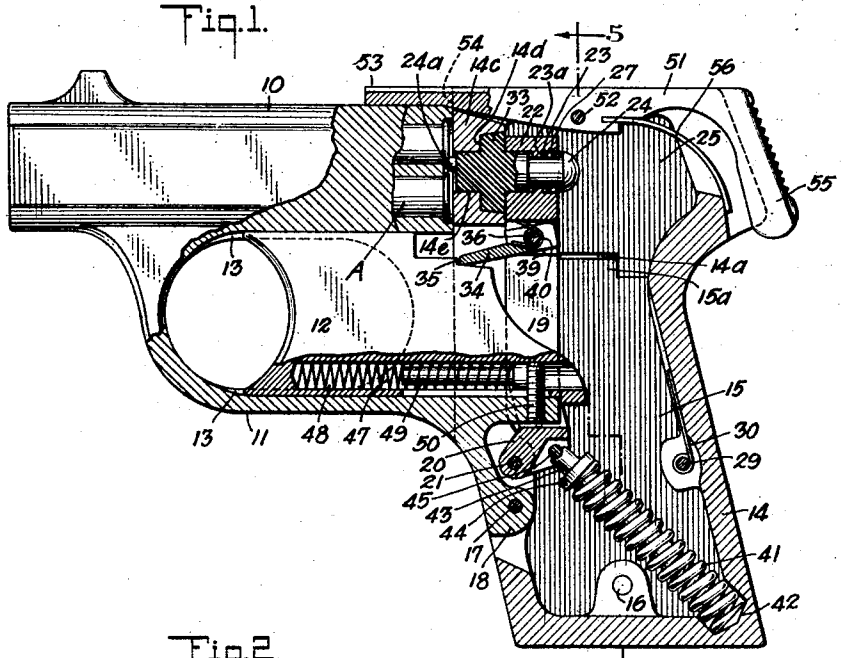
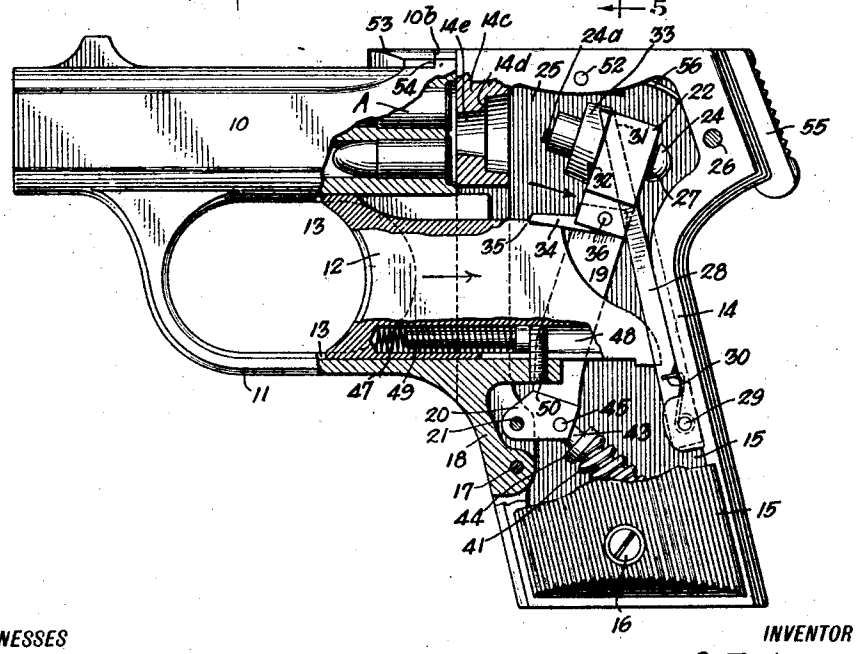


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig.3.

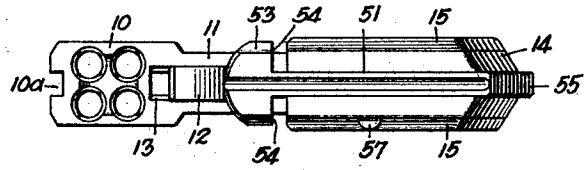


Fig.4.

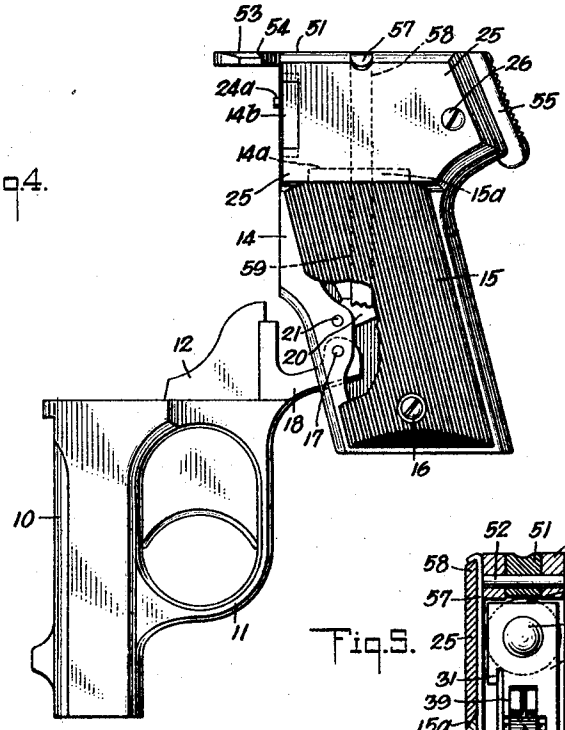


Fig.6.

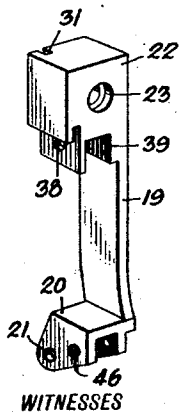


Fig.7.

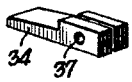
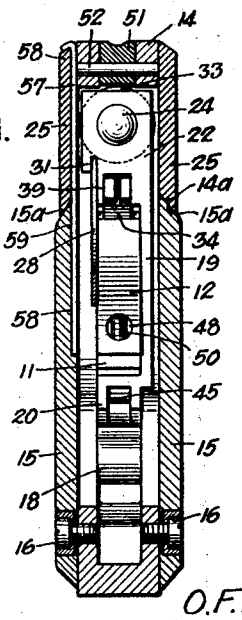


Fig.5.



WITNESSES

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FIREARM.

1,348,035. Specification of Letters Patent. Patented July 27, 1920.

Application filed August 28, 1919. Serial No. 320,494.

To all whom it may concern:

Be it known that I, OSCAR F. MOSSBERG, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Firearm, of which the following is a full, clear, and exact description.

My invention relates to a small firearm or pistol, and more particularly to a firearm in which the barrel with the plural bores is stationary in the firing operation while the firing pin is revolved and its firing member, which is off the center of the pin, is caused to contact with the successive cartridges. While the invention in all of its phases is not limited to a firearm of the particular type indicated, the invention lends itself more particularly to that type.

The general object of my invention is to provide a firearm improved in various particulars to possess certain distinctive features and characteristics, among which are the following:

The trigger is arranged to have a sliding movement as distinguished from a pivotal movement, and serves to actuate a pivoted hammer; the barrel and elements appurtenant thereto are so arranged on the frame that when the firearm is "broken," the trigger will swing entirely clear of the frame and out of possible engagement with the hammer so that the hammer cannot be operated and strain the face plate of the pin housing in the broken condition of the firearm, and thereby cannot strain or buckle said face plate; novel latch means is provided for holding the barrel in the firing position; a novel arrangement of spring means is provided for the hammer and for the trigger to move the hammer to firing position and to return the trigger to forward position; and the frame to which the barrel is pivoted and parts appurtenant to said frame, have a novel construction and arrangement, so designed as to afford accessibility to moving parts, and provide a simple and strong construction promoting convenience of assemblage and repair.

The above and other objects are attained by the novel construction and arrangement of parts hereinafter particularly described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a sectional side elevation of the firearm embodying my invention, showing the trigger in the forward position and the hammer in position for the firing pin to engage a cartridge;

Fig. 2 is a similar view showing the parts in position with the hammer cocked and about to be released;

Fig. 3 is a plan view of the firearm broken;

Fig. 4 is a side elevation of the firearm broken;

Fig. 5 is a transverse vertical section on the line 5—5, Fig. 1;

Fig. 6 is a perspective view of the hammer; and

Fig. 7 is a perspective view of a pawl for establishing the releasable engagement of the trigger with the hammer.

In carrying out my invention in accordance with the illustrated example, the barrel 10 having bores to receive a plurality of cartridges, and here shown as having four bores, has rigid therewith a frame 11, at the under side, in which a slidable trigger 12 has longitudinal movement, said frame having guideways 13 at the top and bottom engaged by the trigger. The frame 14 of the firearm advantageously has at the sides, wooden stock elements 15 secured to said frame at the lower end by screws 16, and presenting at the upper ends beveled projections 15^a, which are accommodated in correspondingly formed undercut recesses 14^a in said frame. The frame 11 is pivoted to the frame 14 by a transverse pin 17 at the forward side of the frame 14, the pivotal connection with the frame 11 being through a depending arm 18 formed rigid with said frame, so that when the firearm is "broken," the frame 11 and trigger 12 will swing clear of the frame 14, and the trigger be out of possible engagement with the hammer 19 of the firearm, so that the hammer cannot be operated to cause the firing pin to strain the face plate of the housing in which the pin has movement in the firing operation, the arrangement making it impossible to operate the hammer and firing pin except when the barrel is in position with the breech against the face plate of the firing pin housing.

The hammer 19 is pivoted at its lower end to the frame 14 above and adjacent to the pivot 17, the pivot pin 21 of the ham-

mer passing through the forked lower end 20 of the hammer. The head 22 of the hammer has a longitudinal pin-hole 23 in which the firing pin 24 is turnable and yieldable longitudinally. The chamber in which the head 22 of the hammer has movement is preferably closed at the sides by separate plates 25 secured to the frame 14 at the rear end by screws 26, said plates at the forward end being notched to receive the laterally extending members 14^b of the face plate 14^c of said chamber, there being a dovetailed engagement between the members 14^b and the front ends of the plates 25. The plates 25 are detachable by removing the screws 26 and sliding the plates rearwardly out of engagement with the frame members 14^b. A coil spring 27 encircles the firing pin 24 adjacent to the headed rear end thereof, said spring bearing against the head of the pin and against an opposed internal shoulder 23^a in the pin-hole 23, and serving to create friction between the firing pin and the hammer whereby said pin is held in position during the forward stroke of the hammer or until the pin is positively turned by the means hereinafter described.

In the rearward firing movement of the trigger 12, which engages the hammer 19 in a manner hereinafter described, swinging the hammer rearwardly on its pivot pin 21, the firing pin 24 is given a partial turn by the action of an elongated dog 28 pivoted at its lower end, as at 29, to the rear portion of the frame 14, said dog being acted on by a spring 30, tending to maintain it in the forward position. The upper end of the dog 28 extends freely through an oblique slot 31 in the head 22, the point of the dog engaging in one of an annular series of notches 32 formed in the enlarged portion or flange 33 of the firing pin, there being notches corresponding in number with the bores of the barrel 10. The dog 28 and the hammer 19 having different pivotal centers, in the rearward movement of the hammer 19, it will vary its angle to the dog 28, the latter yielding rearwardly, and, at the same time, by engagement with a notch 32, give a turning movement to the firing pin. When the hammer is released, the firing pin contacts with the rearwardly facing shoulder 14^d produced by counterboring of the pin-hole 14^e in the face plate 14^c, and it will be seen that the blow delivered against the face plate at the shoulder 14^d by the enlarged portion or flange 33 of the firing pin, would tend to strain said face plate if the hammer were operated when the firearm is "broken" and the breech of the firearm removed from said face plate. The straining of analogous parts in known forms of firearms is produced by the trigger being operated, thus causing the hammer to operate when the gun is "broken," whereas with my described construction, the swinging of the frame 11 and trigger 12 entirely out of the frame 14 and wholly out of operative relation to the hammer, prevents the operation of the latter if the trigger be operated when the gun is "broken."

The engagement between the trigger 12 and the hammer 19 is produced by a pivoted dog on the one engaging a shoulder on the other, there being a catch or dog 34 in the illustrated example engaging an opposed shoulder 35, produced by notching the upper edge of the trigger 12. The dog 34 is secured by a pivot pin 36 passing through a transverse pin-hole 38 in the hammer, said dog being accommodated in a recess or pocket 39 in the under side of the head 22, and acted upon by a spring 40 coiled about the pin 36, the ends of the spring bearing, respectively, against the dog 34 and against the upper wall of the pocket 39, as seen in Fig. 1.

The hammer is thrown to the firing position when released by a compression spring 41, disposed obliquely in the frame 14, at the bottom, the rear end of said spring being accommodated in a pocket or depression 42 in the frame 14, while the upper forward end encircles a pin or core 43 having a flange 44 against which the spring abuts. The concave upper end of the forward portion of the pin 43 bears against the pin 45 extending transversely through holes 46 in the sides of the fork 20 of the hammer 19, said pin 45 being so positioned that it will move through an arc as the hammer 19 moves rearwardly on its pivot 21, thereby placing the spring 41 under tension so that its reaction will throw the hammer forwardly upon release of dog 34 from the trigger.

The trigger 12 is returned to the forward position after rearward sliding movement for firing by the action of a coil spring 47 in a longitudinal pocket 48 extending forwardly from the rear end of the trigger, said spring abutting at its rear end against the head of a pin 49, about which said spring is coiled, said pin abutting at its rear end against a transverse screw 50 in the frame 11 and extending across the pocket 48 in the rear of the pin 49.

The latch 51 for holding the barrel 10 in firing position is disposed longitudinally of the frame 14 at the top, and is pivoted between its ends, as at 52, having vertical rocking movement. At the forward end, the latch 51 has a broadened latch head 53 presenting shoulders 54 at the rear of said head that engage against forwardly facing shoulders 10^b on the barrel 10 at the breech of the latter, the shank of the latch adjacent to the latch head 53, being accommodated in a notch 10^a in the top of the barrel. The rear end 55 of the latch extends downwardly

preferably obliquely, and it closes the rear end of the chamber, the sides of which are formed by the plates 25. A spring 56 secured at its forward end to the latch 51, rearwardly of the pivot 52, bears at its rear end against a rearwardly facing surface on the frame 14, so that when the rear end 55 of the latch is pressed downwardly and forwardly, the spring 56 will be stressed tending to restore the latch to the latching position.

The numeral 57 indicates a tool in the form of an elongated strip having a hooked upper end and said tool is accommodated in a vertical slot 58 in the frame adjacent to a side plate 25 at the inner side of the latter, there being a complementary slot 59 in the adjacent stock element 15. The tool 57 is thus made accessible for use in cleaning the firearm or in testing any of the moving parts, such as the firing pin 24 and the dog 34.

In practice, it will be seen from Fig. 1, that with the barrel structure in the normal position, the trigger 12 extends into the frame structure 14 and overlaps the hammer 19, the arrangement making for compactness and still providing a clearance for the longitudinal movement of the trigger. When the trigger is moved rearwardly, the shoulder 35 engages the forward end of the dog 34 and swings the hammer rearwardly until the hammer reaches a predetermined position in which the relative movements of the hammer and trigger will cause the dog to slip from and disengage the shoulder 35, thereby releasing the hammer, and, at the same time, the relative movements of the hammer and the operating member 28 of the firing pin will give a turning movement to the pin for locating the firing projection 24^a thereof in line with the cartridge to be fired. In the snapping of the hammer, the bearing relation between the spring-pressed pin 43 and the transverse pin 45 on the hammer, permits the hammer to be operated by the spring without undue straining on the pin 43 or the hammer. When the firearm is "broken," the trigger 12 swings with the barrel structure entirely out of operative relation to the hammer, and thereby the operation of the trigger when the firearm is "broken" cannot snap the hammer to strain the face plate 14^c.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the mechanical details herewith illustrated since manifestly the same can be considerably varied without departure from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim—

1. A firearm including a frame presenting a fixed face plate at the front, a barrel pivotally mounted on said frame, said barrel normally presenting its breech against said face plate at the front and swingable away from the face plate upon a breaking of the firearm, a hammer mounted on said frame and adapted to be snapped to have impact against the back of said face plate when the barrel is in normal position, said hammer having a firing pin adapted to be projected through the face plate for firing a cartridge in the barrel, actuating means for said hammer and in operative relation thereto when the barrel is in normal position presenting its breech to the face plate, and means carrying said actuating means and subject to a movement of the barrel from its position against the face plate for carrying the actuating means out of its position for snapping the hammer against the face plate when the barrel moves away from the face plate.

2. A firearm including a frame, a hammer supported by the frame, a barrel, means pivotally mounting the barrel to swing to and from normal position, and a trigger carried by the barrel and swingable therewith outwardly away from the hammer when the barrel is swung from its normal position.

3. A firearm including a frame, a barrel having a plurality of bores, means swingably mounting the barrel on the frame so that the firearm may be "broken," a pivoted hammer in said frame, a revoluble firing pin carried by the hammer, means to turn said pin with the operation of the hammer to successively fire cartridges in the respective bores, and a trigger slidably mounted and movable rearwardly to actuate the hammer, said trigger normally extending at its rear end into said frame, and the path of movement of the trigger overlapping the arcuate path of movement of the hammer.

4. A firearm including a frame, a barrel having a plurality of bores, means swingably mounting the barrel on the frame so that the barrel may be "broken," a pivoted hammer in said frame, a revoluble firing pin carried by the hammer, means to turn said pin with the operation of the hammer to successively fire cartridges in the respective bores, and a trigger slidably mounted and movable rearwardly to actuate the hammer, said trigger normally extending at its rear end into said frame, the path of movement of the trigger overlapping the arcuate path of movement of the hammer, and the said trigger being swingable with the barrel to and from the operative position.

5. A firearm including a frame, a hammer supported by the frame, a barrel swingably mounted on the frame, and a trigger for actuating said hammer, said trigger being carried by said barrel to partake of

the swinging movements thereof and being movable out of operative relation to the hammer upon movement of the barrel to any angular position relatively to its normal position.

6. A firearm including a frame, a barrel swingable on the frame to operative and inoperative positions, a hammer in the frame, a trigger normally extending at its rear end into said frame in operative relation to the hammer and means mounting said trigger and subject to the movements of the barrel to be swingable with the barrel to carry said trigger out of the frame and into inoperative relation to the hammer.

7. A firearm including a pivotally mounted hammer and a trigger, the one having a dog and the other presenting a shoulder to be engaged by the dog in the operation of the trigger for actuating the hammer; together with a barrel, said trigger being slidably mounted to have rectilineal forward and backward movement approximately parallel with the bore of the barrel, said dog being yieldable upon a rearward movement of the trigger to slip from the shoulder for releasing the hammer from the trigger when the hammer has been moved through a given arc.

8. A firearm including a hammer and a trigger, the one having a yieldable dog thereon and the other presenting a shoulder to be engaged by said dog; together with a barrel, said trigger being slidably mounted to have rectilineal forward and backward movement approximately parallel with the bore of the barrel, said trigger and hammer having relative paths of movement to release the dog and permit firing movement of the hammer.

9. A firearm including a frame, a hammer therein, a barrel, frame elements rigid with the barrel and swingable on the frame so that the firearm may be "broken," longitudinal guides on said rigid frame members, and a trigger slidable in said guides and adapted to swing with the barrel outwardly, away from the hammer out of operative relation to the latter, and to swing with the barrel inwardly toward the hammer with the restoring of the barrel to normal position.

10. A firearm including a frame, a hammer therein, a barrel, frame elements rigid with the barrel and swingable on the frame so that the firearm may be "broken," longitudinal guides on said rigid frame members, and a trigger slidable in said guides and adapted to swing with the barrel into and out of operative relation to the hammer; together with spring-pressed means on said rigid frame members to return the trigger to the forward position after an operation of the hammer by the trigger.

11. A firearm including a frame, a barrel swingably mounted on the frame, a hammer pivoted at its lower end in the frame, a compression spring obliquely disposed in the frame at its lower end, a bearing member acted on by said spring at its forward end and pressing said hammer, normally tending to throw it forwardly, the rearward movement of the hammer serving to compress said spring, a trigger, and means swingable with the barrel and slidably mounting said trigger.

12. A firearm including a chambered frame, a hammer pivotally mounted in the chamber of the frame, detachable plates at the sides of said chamber at the upper portion thereof, a face plate at the front of said chamber, said face plate presenting laterally projecting dove-tailed members at the sides, and said side plates having each a dove-tailed recess receiving the dove-tailed members of the face plate, a barrel swingable on the frame to and from its normal position, and a latch pivoted between the sides of the chamber at the upper portion thereof and adapted to engage the barrel in the normal position.

13. A firearm including a chambered frame, a hammer mounted in the chamber of said frame and carrying the firing pin, a barrel swingable relatively to the frame to and from normal position, and a latch pivotally mounted on said frame and adapted to latch the barrel in normal position, the rear end of said latch forming a closure for said chamber in the rear of the firing pin.

14. A firearm including a chambered frame, a hammer mounted in the chamber of said frame, a barrel structure swingable on the frame to and from normal position, and a latch pivoted between the sides of the chamber and adapted to engage said barrel structure in its normal position, the rear end of said latch extending downwardly and forming a closure for the adjacent portion of said chamber.

15. A firearm including a hammer, a barrel having plural bores, a firing pin carried by the hammer and revolubly mounted therein to be turned successively to positions for firing cartridges in the respective bores, means to turn said pin by a movement of the hammer, and a spring to create friction between the firing pin and hammer and hold the pin against turning movement until positively turned by said means, said spring being coiled about the firing pin within the pin hole of the hammer.

16. A firearm including a frame, a hammer supported by the frame, a barrel, and a trigger for actuating said hammer, said barrel being pivoted to the frame at a point below the trigger, so that the latter swings away from the hammer with the swinging of the barrel from the normal position.

17. A firearm including a frame, a ham-

mer pivoted in the frame, a barrel pivotally mounted to swing relatively to the frame to and from the normal position, said frame presenting a fixed element in the rear of the normal position of the barrel and directly adjacent to the forward position of said hammer to be thus interposed between the barrel and the firing position of the hammer, a trigger movable relatively to the barrel into operative engagement with the hammer when the barrel is in normal position, and means mounting said trigger and subject to a movement of the barrel from its position adjacent said fixed element, for carrying the trigger out of its position for snapping the hammer against said element when the barrel moves away from said element.

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