

Feb. 7, 1933.

C. J. JOLIDON

1,896,820

FIREARM

Original Filed May 16, 1927 6 Sheets-Sheet 1

Fig. 1.

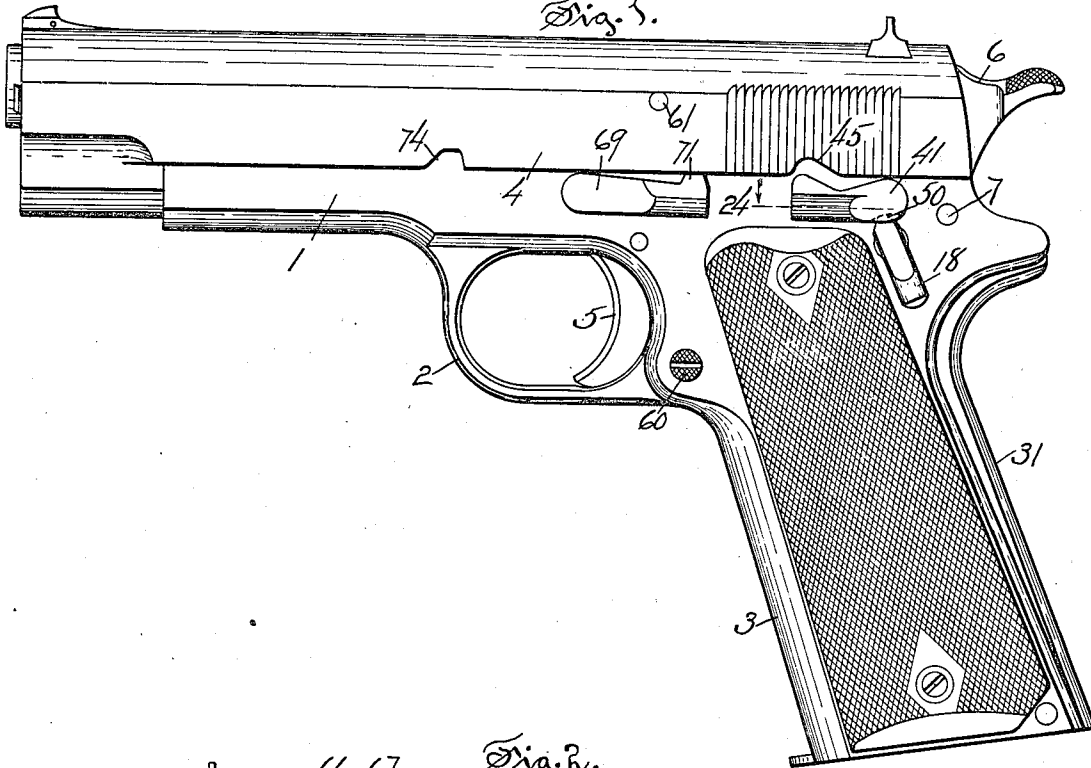
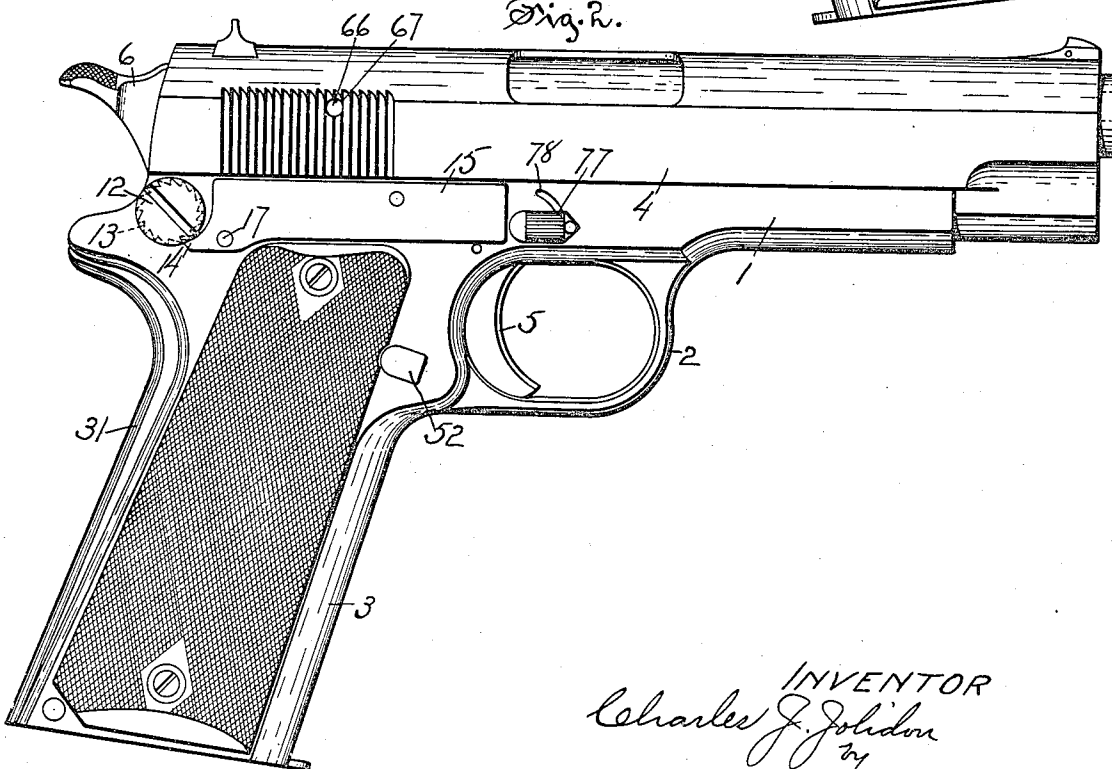


Fig. 2.



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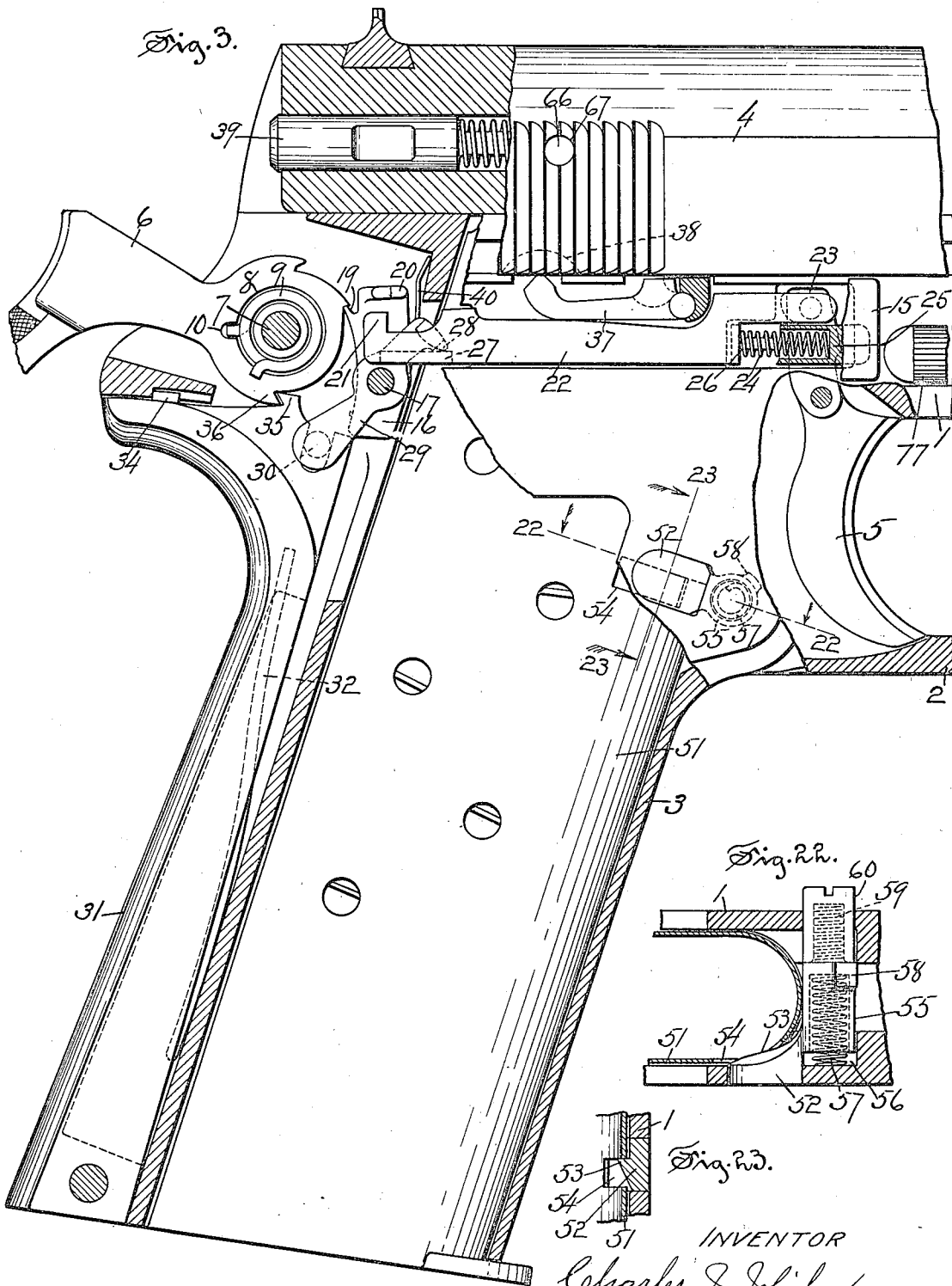


Fig. 2b.

Fig. 2c.

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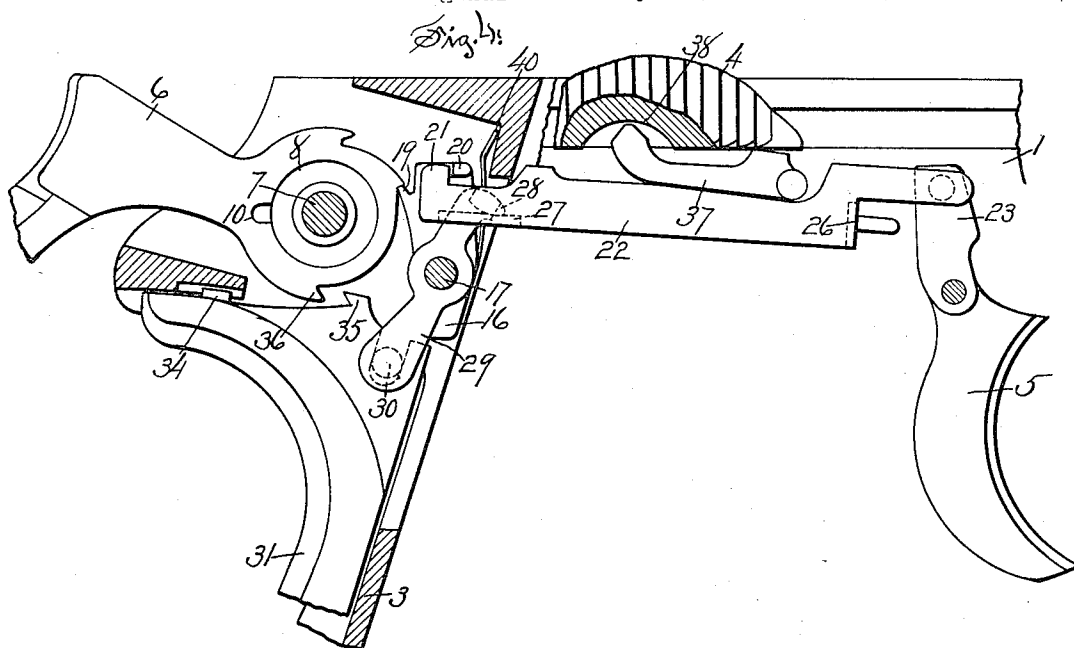
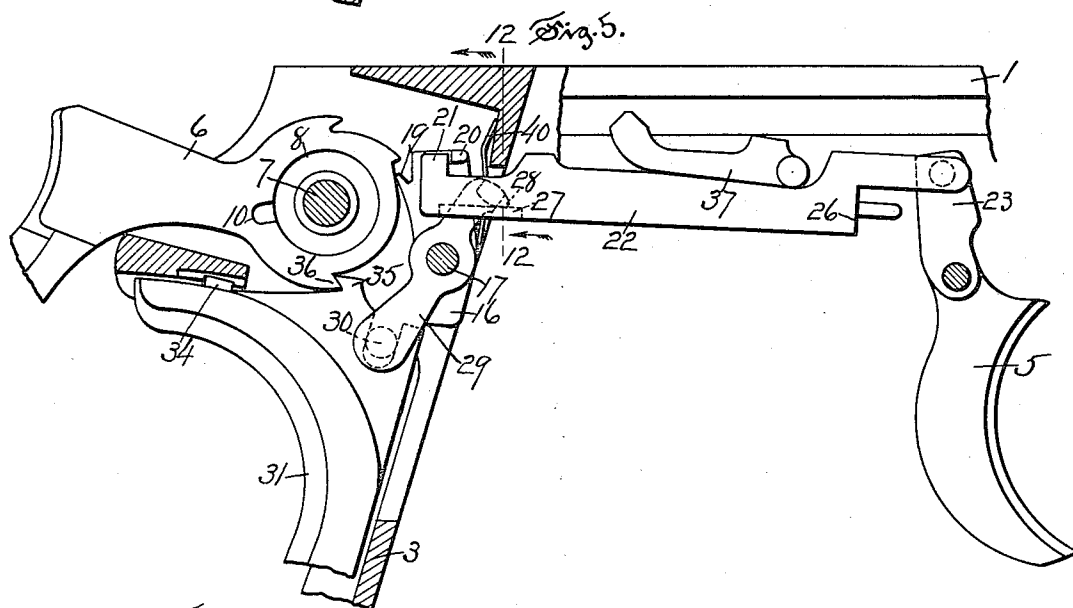
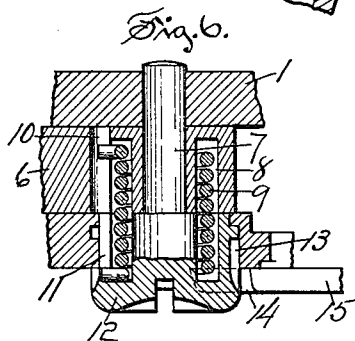
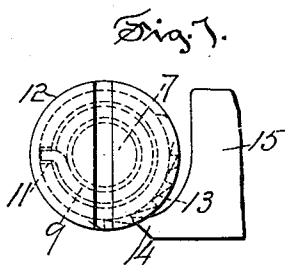
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Fig. 8.

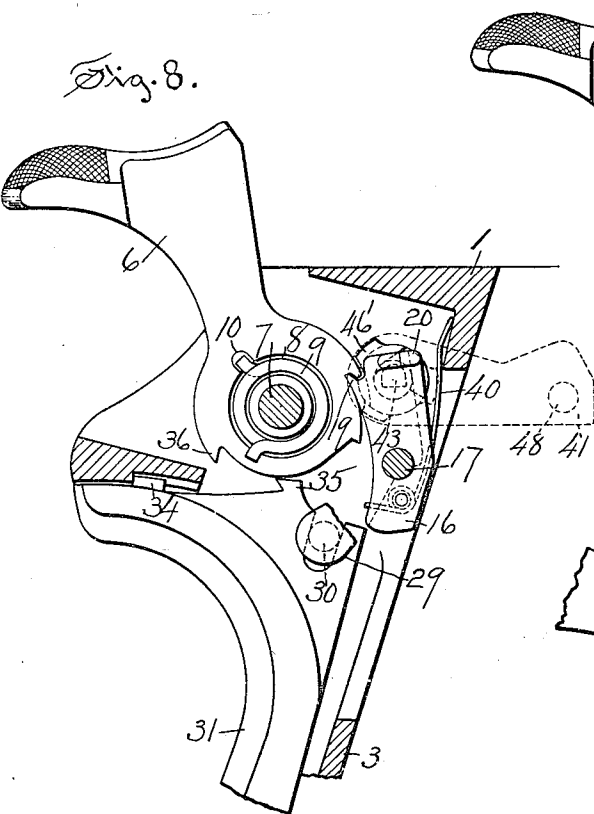


Fig. 10.

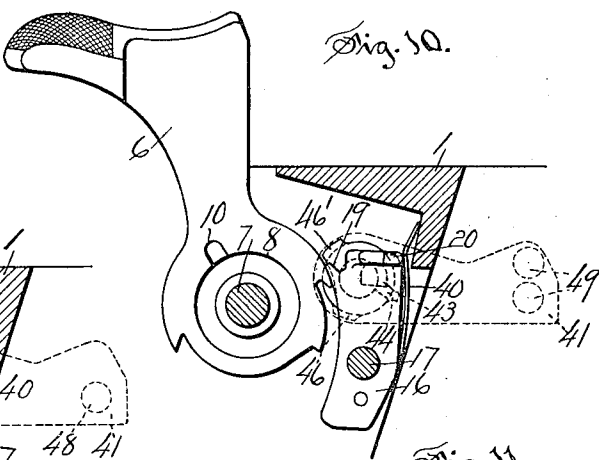


Fig. 11.

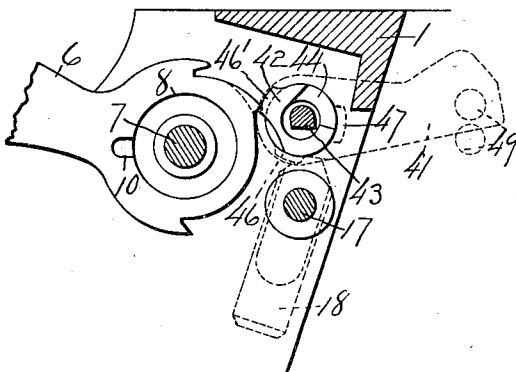


Fig. 9.

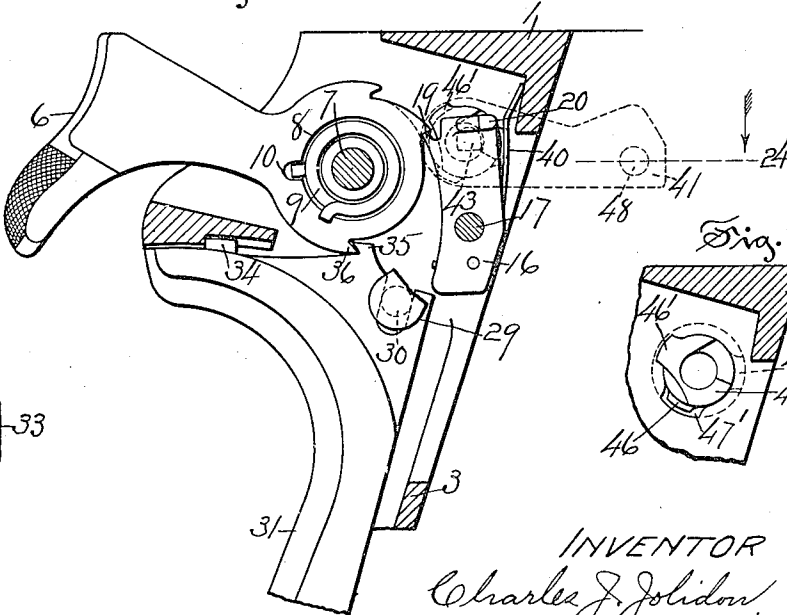
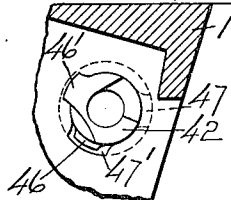


Fig. 24.



Fig. 25.



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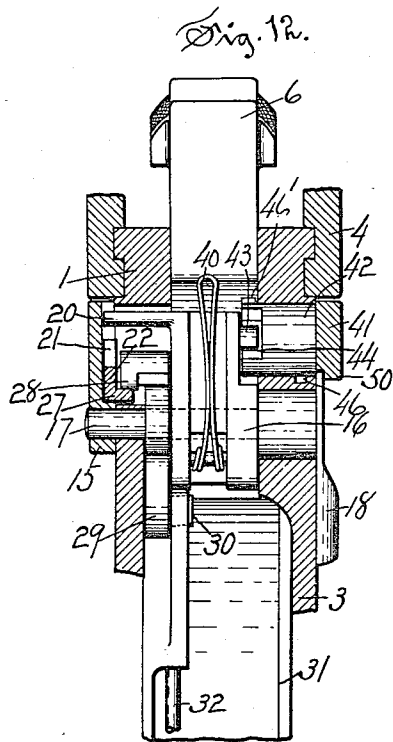
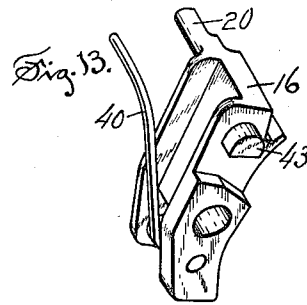
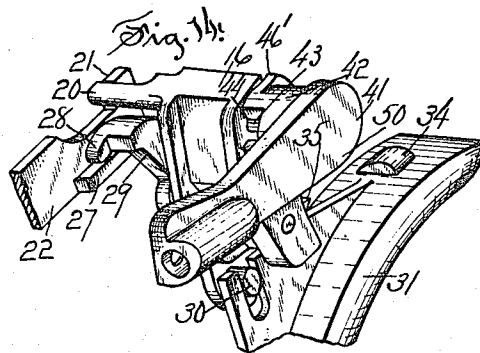
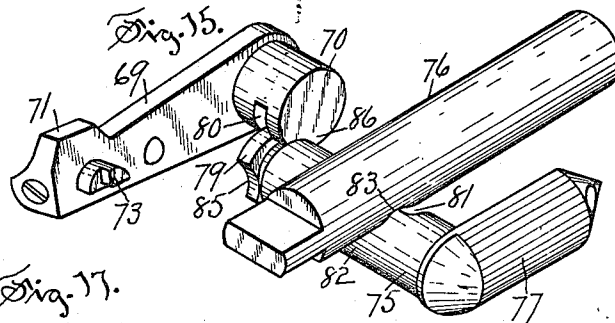
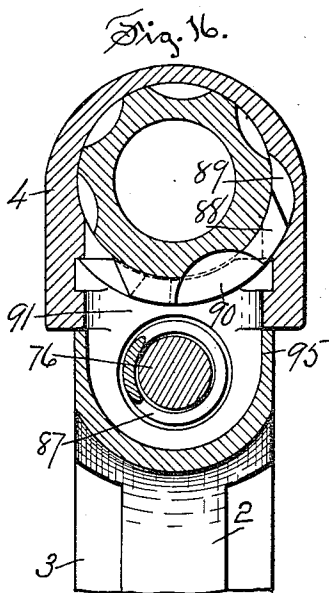
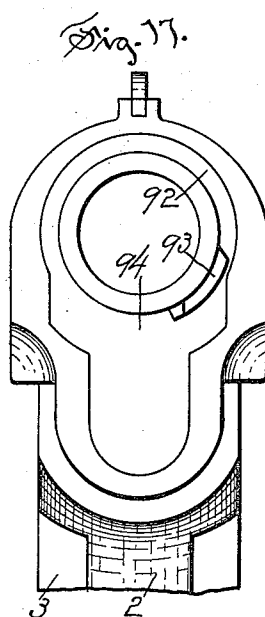
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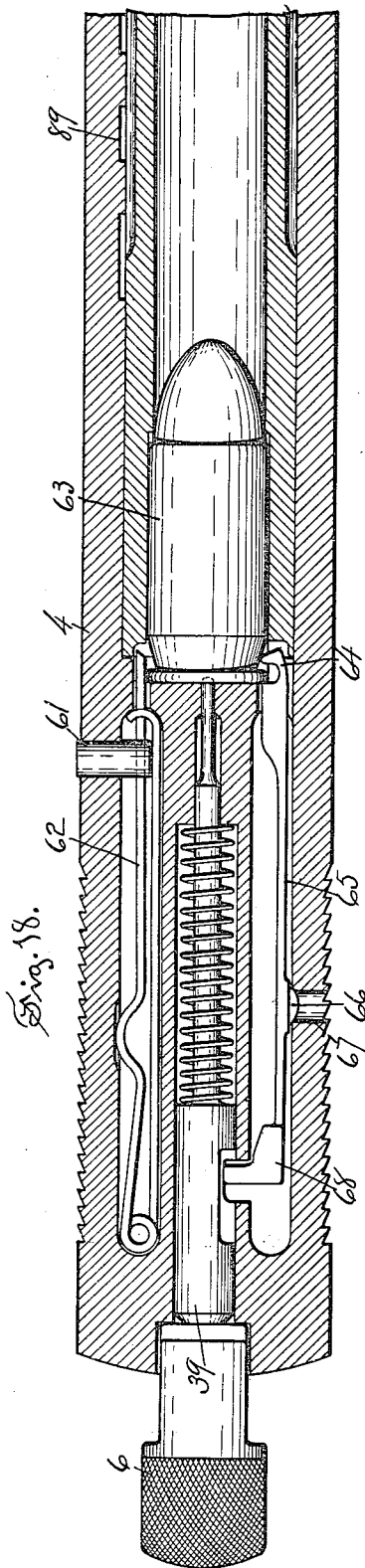
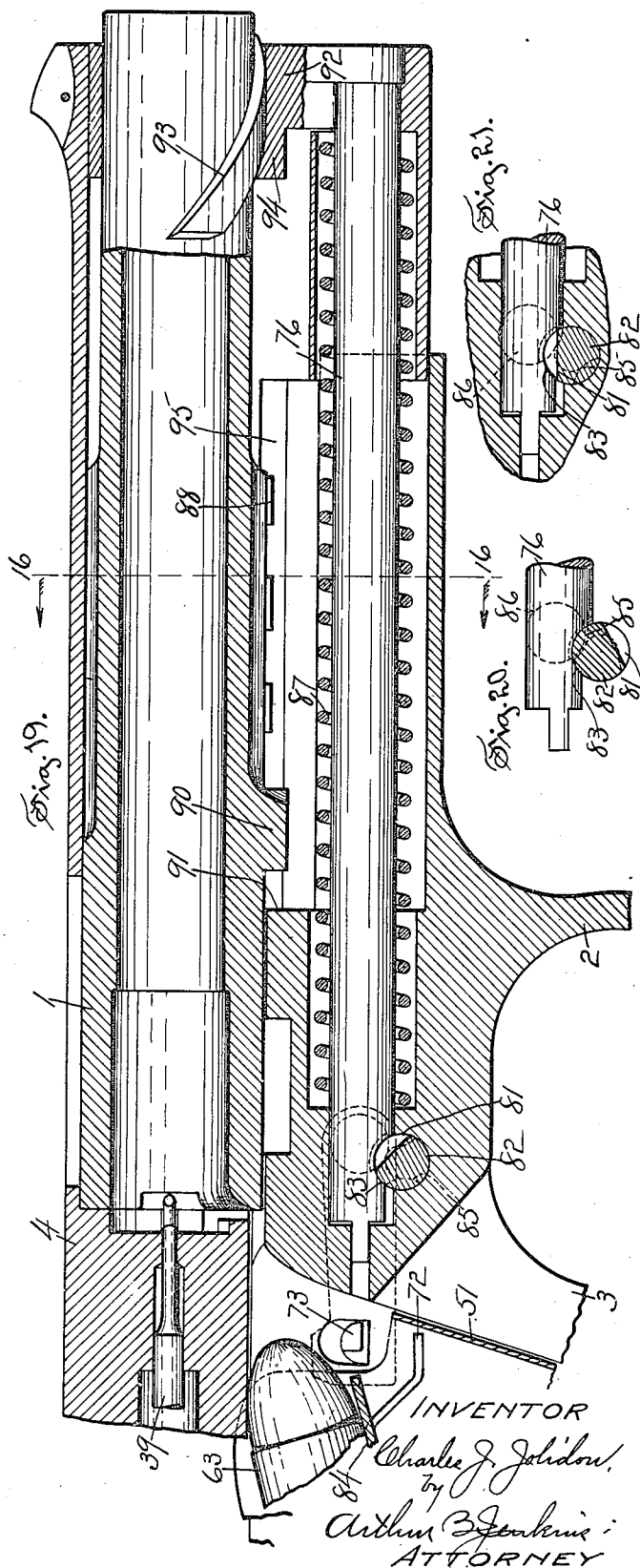
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FIREARM

Original Filed May 16, 1927

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UNITED STATES PATENT OFFICE

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FIREARM

Refiled for application Serial No. 191,776, filed May 16, 1927. This application filed December 24, 1930.
Serial No. 504,617.

My invention relates to that class of firearms that are commonly held in one hand, when being discharged, and without other support, and an object of my invention, among others, is to provide a firearm of this class with means for insuring its safety while being handled, and also having means whereby it may be readily manipulated under varying conditions.

One form of a firearm 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 drawings, in which—

Figure 1 is a view of my improved firearm looking at the left hand side thereof.

Figure 2 is a similar view but looking at the right hand side thereof.

Figure 3 is a view, scale enlarged, of the stock or handle and the rear end of the frame and breech slide with parts broken away to show construction, the hammer being in its rearward position ready for firing but the sear being disconnected from the trigger bar and trigger.

Figure 4 is a view illustrating a part of the firing mechanism in position for firing.

Figure 5 is a similar view but illustrating the operation of the butt piece by the hammer to permit lowering of the latter without firing.

Figure 6 is a view in horizontal section through the center of the hammer supporting pin and illustrating the mounting of the hammer.

Figure 7 is an end view of the hammer supporting pin and tensioning detent.

Figure 8 is a view of the upper rear end of the frame illustrating the hammer and parts for controlling its movement, said hammer being in its half-cocked position.

Figure 9 is a similar view showing the hammer in its full cocked position.

Figure 10 is another similar view showing the hammer in its uncocked position.

Figure 11 is still another similar view showing the hammer in its full cocked position.

Figures 8 to 11 illustrate the operation of the safety lever.

Figure 12 is a view in section substantially on the dotted line 12—12 of Figure 5, but with the sear actuating bar disconnected from the sear.

Figure 13 is an isometric view of the sear.

Figure 14 is a similar view of the sear and parts immediately connected therewith.

Figure 15 is an isometric view of the breech slide and barrel holders.

Figure 16 is a view in cross section on a plane denoted by the dotted line 16—16 of Figure 19.

Figure 17 is an end view of the barrel and supporting parts.

Figure 18 is a view in lengthwise horizontal section through the rear ends of the breech slide and barrel on a plane passing through the center of the latter, and illustrating the extractor and the indicator for denoting whether or not a cartridge is in the barrel.

Figure 19 is a view in vertical lengthwise section through the forward ends of the breech slide and frame and centrally through the barrel to a point near its forward end and illustrating the means for mounting and securing the barrel in place.

Figure 20 is a detail view of the rear end of the barrel holder rod shown in position to release the breech slide holder.

Figure 21 is a similar view showing said holder rod unlocked to permit removal of the barrel.

Figure 22 (sheet II) is a detail view illustrating the means for locking the magazine and on a plane denoted by the dotted line 22—22 of Figure 3.

Figure 23 (sheet II) is a similar view on a plane denoted by the dotted line 23—23 of Figure 3.

Figure 24 (sheet IV) is a detail view in section through a part of the safety lever on a plane denoted by the dotted lines 24 in Figures 1 and 9, and illustrating the detent of said lever in position, this also illustrating a similar arrangement of detents for the breech slide holder and thumb piece for the retainer for the barrel holder rod.

Figure 25 is a detail view showing the manner of inserting the sear controller to secure the safety lever in place.

Figures 3 to 25 are to a scale substantially twice the actual size of the firearm.

This application is for the same invention as that involved in applicant's former application of Serial Number 191,776, filed May 16, 1927, said application having been discontinued, this application being a refiling of the former application.

In the accompanying drawings the numeral 1 indicates the frame of my improved firearm that may be of any ordinary and well known construction and including a trigger guard 2, a stock or handle 3, a breech slide 4 and a trigger 5.

A hammer 6 is pivotally mounted on a hammer supporting pin 7 extended into the frame, said hammer having a spring recess 8 of annular form within which a main or hammer spring 9 is located, one end of said spring projecting into a groove 10 in the wall of the recess 8 and the other end of said spring engaging a groove 11 in a head 12 on said pin. Said head is provided with ratchet teeth 13 that are engaged by a detent 14 on a detent bar 15 attached to the side of the frame 1. The head 12 is provided with a slot to receive a screw driver as a means for tensioning the spring 9, the detent 14 holding said head against turning movement and in maintaining the tension of the main spring.

A sear 16 is mounted on a sear supporting pin 17 extending through the frame and having on one end a finger piece 18 as a means for removing the pin when desired. A sear lip 19 projects from the sear in position to engage the cocking notches in the hammer, and a sear lug 20 projects from the side of the sear in position for engagement with a sear actuating finger 21 on a sear bar 22 pivotally mounted at one end on a trigger extension 23 from the trigger 5, and as shown in Figures 4 and 5 of the drawings. A sear bar spring 24 extends with one end in a spring housing 25 formed on the inner face of the detent bar 15, the other end of said spring thrusting against a shoulder 26 on the bar 22 to force the actuating finger 21 upwardly. The spring has the double function of a trigger spring and a sear bar spring.

A ledge 27 is formed on the side of the bar 22 for engagement with a nose 28 on a sear bar controlling lever 29 pivotally mounted on the pin 17 and having a lever actuating pin 30 projecting from its side into a notch in the upper end of a butt piece 31 pivotally mounted at its lower end in the stock or handle 3, and as shown in Figure 3 of the drawings. A butt piece actuating spring 32 secured to the butt piece and pressing with its free end against said stock holds the upper end of said butt piece at the outer limit of its play and with a stop 34 resting against a shoulder on the frame 1.

A butt piece actuating lip 35 extends from the upper end of the butt piece in position for

engagement with a similar lip 36 on the hammer 6 whereby the butt piece may be actuated by the hammer in a manner and for a purpose to be hereinafter described. A sear bar disengaging lever 37 is pivotally mounted on the bar 15 in position for contact with the edge of the sear bar 22, the upturned end of said lever being adapted to pass into a sear bar disengaging recess 38 in the under side of the breech slide 4.

The operation of the mechanism thus far described is as follows:

With the hammer in its cocked position, as shown in Figure 3 of the drawings, the sear bar 22 is disconnected from the sear 16 and connection between said parts is effected by a grip of the hand around the handle 3 which presses the upper end of the butt piece 31 inwardly. This actuates the lever 29 to disengage the nose 28 from the ledge 27, permitting the sear bar, under the influence of the spring 24, to engage with the lug 20 on the sear. The trigger being now pulled the hammer will be freed and will be forced into contact with the firing pin 39 and the firearm will be discharged.

In this operation of engaging the sear bar with the sear the end of the lever 37 was moved into the recess 38, the sear bar thus having been permitted movement for engagement with the sear. As the breech slide is forced backwardly upon discharge of the firearm and in a manner common to structures of this class, the lever 37 is forced out of the recess 38 and contacts with the under surface of the breech slide. This movement of the lever 37 forces the sear bar from engagement with the sear, and reengagement of said parts cannot take place, even though pressure on the trigger be retained, until the breech slide has again reached its forward position, movement to said position being effected by means of a spring, not herein shown, but in a manner that will be readily understood by those skilled in the art. The parts will now be in the position shown in Figure 3 with the exception that the hammer will be down.

The lips 35 and 36 enable the hammer to be released from its cocked position by the use of one hand only, in which operation pressure upon the butt piece cannot be effected. In accomplishing this purpose the hammer is pulled back by the thumb of the operator, engaging said lips, thereby forcing the upper end of the butt piece inwardly and from the position shown in Figure 3 to the position shown in Figure 5 and thereby actuating the lever 29 to permit engagement of the sear bar with the sear in the manner hereinbefore described. A pull upon the trigger when the hammer is thus moved backwardly will disengage the sear therefrom and the hammer may be lowered to its half cocked position, in which position it will be reengaged by the sear for the reason that when the lip 36 moves

backward it will be followed by the lip 35 under the influence of the spring 32, tending to move the butt piece backward, in which movement of the butt piece the lever 29 will be actuated to press the sear bar 22 downward, thereby disengaging the actuating finger 21 from the lug 20, but this disengagement will not be completed until the full cocking notch on the hammer has passed downwardly beyond the sear lip 19.

Upon disengagement of the finger 21 from the lug 20 the sear will be forced by its spring into position to engage the half cocking notch on the hammer, in this movement the sear engaging the hammer at the edge of but just above the full cocking notch therein.

In order to prevent accidental firing of the piece when the hammer is in its cocked position I provide a safety device comprising a safety lever 41 pivotally mounted on the side of the frame just underneath the breech slide and having a sear controller 42 in the form of a hub projecting from the side of the safety lever into the frame and having a recess extending into the hub from its end to receive therein a sear locking lug 43 projecting from the side of the sear opposite the lug 20, and as shown in Figure 11. A sear releasing opening 44 is formed in the end of the hub to permit passage of the lug 43 when the safety lever is in one position, but to obstruct movement of said lug when said lever is in another position.

For instance; when the lever is in its safety position, as shown in dotted lines in Figure 11, the wall of the recess in the hub is in the path of movement of the lug 43 and the sear cannot be moved and disengaged from the hammer, but when the safety lever is in its unlocked position, and as shown in Figure 1, and in dotted lines in Figures 8, 9, and 10, the lug 43 may pass from the position shown in Figure 8 through the opening 44, as shown in Figure 10, thereby permitting disengagement of the sear from the hammer, as by a pull upon the trigger. When said lever 41 is in its locking position its edge will engage a safety notch 45 in the lower edge of the breech slide, thus locking said slide in its closed position.

The safety lever 41 is removably attached to the frame and is held in place by means of a retaining lug 46 on said lever normally located within a groove in the frame, as shown in Figure 12. Said lever also has a safety lug 46' located just inside of the wall of the opening in the frame in which the hammer and sear are located, said lugs being adapted to be passed into and through a releasing notch 47 in the side of the frame terminating in said groove and the lug 46' to be passed from said groove through a notch 47' extending from said groove to the inside of the frame, all as shown in Figures

8 to 11 and 25 of the drawings, the lever 41 covering the notch 47 when said lever is in its normal position on said frame. To attach the lever it is placed in position for insertion of the lug 46' in said notch which is passed into said notch and into said hereinbefore mentioned groove. The lever is then turned to register the lug 46' with the groove 47' and the lug 46 with the groove 47 whereupon said lever is pushed into place and is then turned into position, as shown in Figures 8 and 25 of the drawings, to secure it in place.

The lever 41 has a rib on its outer face to provide for a recess in which a ball detent 48 is located against a spring plunger 33, as shown in Figure 24, which plunger has its end beveled to force said detent into a hole from said recess to engage recesses 49 in the side of the frame to yieldingly hold the lever in its locked or unlocked position. The ball is inserted through a receiving opening into the recess and the beveled end of the plunger prevents the ball from escaping through said opening.

This lever 41 is also provided with a recess in its under surface forming a retaining lip 50 that overlies the finger piece 18, as shown in Figure 1, and prevents removal of said finger piece. The pin 17 projecting from the finger piece fits its hole in the frame sufficiently close to provide enough friction to retain the finger piece in the position shown in Figure 1, but by swinging said finger piece to the right its end will be swung out from underneath the lip 50 and the pin 17 may then be removed from the frame, thus releasing the parts mounted thereon.

A magazine 51 is held in the stock or handle 3 as by means of a magazine catch 52 having an upwardly extending lip 53 adapted to engage the upper edge of an opening 54 in the side of the magazine, and as shown in Figures 22 and 23 of the drawings. The catch 52 is preferably formed integral with and as an extension from the magazine catch support 55 located in an opening 56 in the stock or handle and having a recess for the reception of a spring 57 that projects out of said recess and against the wall of the opening 56 as shown in Figure 22. The support 55 has a lug 58 on one side adapted to engage a wall of the opening 56 and oppose thrust of the spring 57, a threaded tang 59 extending from the support 55. An actuating tip 60 fits the threaded tang 59 and also an opening in the side of the handle 3. By pressing inward on the tip 60 the lip 53 may be disengaged from the magazine for removal of the latter.

An indicator to denote whether or not a cartridge is in the chamber in the barrel is located in the side of the breech slide, and as shown in Figures 1 and 18, this indicator being in the form of a pin 61 projecting slightly beyond the side surface of the breech slide

when a cartridge is in place, but having its end not projecting beyond said surface when there is no cartridge in the chamber in the barrel. In the latter instance, preferably the pin is flush with the side surface of the breech slide so that a smooth surface is presented. A presser 62 extends with its end in position to engage the rim of a cartridge 63, when the latter is in a chamber in the barrel, this presser being preferably in the form of a U-shaped spring and having one arm engaged with a groove in the inner end of the pin 61, and as shown in Figure 18 of the drawings. From this it will be seen that by rubbing the thumb or finger along the surface of the breech slide it may be at once determined whether the pin is or not projecting beyond the surface of said slide and, therefore, whether or not there is a cartridge in the barrel.

An extractor 64 is formed preferably as a part of a spring bar 65 that extends along a cut away portion on the inner surface of the breech slide, the extractor being formed to engage the rim of a cartridge in a manner common to structures of this class. A retaining button 66 is formed on the side of the bar to engage within an opening 67 in the side of the breech slide, and the end of the bar 65 is formed as a firing pin retainer 68 comprising a lip extending into a recess in the side of the firing pin 39 to retain said pin against backward movement under the force of its spring.

The bar 65 is normally of bowed shape and when strained to be placed in position it has considerable spring tension causing the button 66 to be forced into the opening 67, retaining the bar in place with sufficient resiliency to enable it to satisfactorily perform its function and the rounded end of this button also serving to position the bar should it be slightly moved from its position through the striking of a shell or otherwise. This prevents any liability of the parts being jammed during the movements of the breech slide.

A breech slide holder 69 is mounted on the side of the frame or receiver 1 as by means of a hub 70 projecting into a hole in said frame. A nose 71 on this holder is adapted to engage a notch 74 in the lower edge of the breech slide, and as shown in Figure 1, to retain the breech slide in its rearward position when the last cartridge has been fired. This holder has a recess containing a ball detent to engage recesses in the outer surface of the receiver, as hereinbefore described with respect to the lever 41, said detent being inserted and retained in the same manner as in the lever 41.

When the last cartridge has been removed from the magazine 51 an actuating lip 72 on a magazine follower 84 that was held down by said cartridge is permitted to rise against

the pin 73 projecting from the side of the holder 69, thus exerting a pressure against said pin, which pressure is caused by the spring located underneath the follower 84 in the magazine in the usual manner. This pressure causes said holder to be forced upwardly to engage the nose 71 in the notch 74 in the breech slide when said notch comes opposite said nose in the backward movement of the breech slide.

A retainer 75 for a barrel holder rod 76 is rotatably mounted in a hole in the frame or receiver 1 and has a thumb piece 77 secured to one end and against the side of the frame, as shown in Figure 2. A spring pressed ball detent, similar to that hereinbefore described with respect to the detent 48, is located in a recess in the thumb piece and is pressed by its beveled plunger, as in the case of the plunger 33, into a guide groove 78, and into a recess in the bottom of said groove when the thumb piece is in the position shown in Figure 2, to yieldingly retain said thumb piece in this position. The detent is inserted in its recess through a hole in the end of the thumb piece shown in Figures 2 and 15 and corresponding to that in the safety lever 41 hereinbefore described.

A holding lip 79 on the inner end of the retainer 75 is adapted to engage a notch 80 in the end of the hub 70, this engagement of said lip and notch holding both the retainer 75 and breech slide holder 69 in place.

The retainer 75 is cut away on one side as at 81 to permit removal of the rod 76 when the thumb piece 77 is moved upwardly so that the ball detent therein is in the upper end of the slot therein, the parts then being in the positions shown in Figure 21. The body part 82 of the retainer is adapted to be turned into a notch 83 in said rod and thereby hold it against endwise movement, and as shown in Figures 15 and 19, this when the thumb piece 77 is in the position shown in Figure 2.

If the thumb piece 77 be moved downwardly from the position shown in Figure 1, by forcibly disengaging the detent from the notch 78, by considerable pressure upon the thumb piece, the lip 79 will be moved out of the notch 80, that is, the rounded notch 85 on the lip 79 will be located opposite the rounded edge of the lip 86, as shown in Figure 20, thereby permitting either the holder 69 or retainer 75 to be removed from the frame or receiver.

A very material consideration in the construction of firearms at the present time is the weight, and efforts are constantly being made to reduce this weight to a minimum degree within the bounds of safety and efficiency. In the construction of this improved firearm I have found means to materially decrease this weight without sacrificing the elements of safety or efficiency. I accomplish this purpose in the following manner:

This firearm is of the well known type referred to commonly as a recoil gun, that is the breech slide is opened by the explosion of gases and their expansion, said slide being locked against backward movement when the discharge first takes place. The barrel is locked to the breech slide by means of locking lugs 88 located in grooves 89 in the inner wall of the breech slide and therefore both the barrel and breech slide move backwardly a slight distance together, this movement effecting rotation of the barrel to unlock it from the breech slide that is opened to its full extent by the expansion of gases within the breech of the barrel. Backward movement of the barrel is stopped by contact of a stop lug 90 with an abutment 91 on the frame, as shown in Figure 19.

A breech slide unlocking nut 92 is secured to the front end of the rod 76 and a breech slide unlocking rib 93 on the under side of the barrel and in the form of a portion of a thread fits a helical groove in a thickened portion 94 of said nut, said rib being of sufficient length, breadth and thickness to provide the requisite strength, and the thickening of the nut providing sufficient material for a groove of proper size to receive said rib. This enables me to take advantage of metal heretofore unused for this purpose and thereby to materially reduce the thickness of the nut on the sides, which in prior structures has been thickened to provide sufficient metal for grooves to receive locking lugs on opposite sides of the barrel. I thus reduce the amount of metal and consequently the weight to a material degree as hereinbefore pointed out.

As the barrel moves backwardly with the breech slide its rotation, effected by the nut 92 and rib 93, will turn the lugs 88 out of the grooves 89 and into the chamber 95 under the barrel in the forward end of the frame, and the slide is therefore free to move backward as hereinbefore 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. A firearm including a hammer, a pivot shaft therefor, a helical spring of substantially uniform diameter from end to end surrounding said pivot shaft, extending in successive coils therearound and therealong for substantially the entire length of the pivot shaft and engaged at one end with the hammer and at its opposite end with a fixed part, means for holding said hammer against the

tension of said spring and to release said hammer for the action of said spring.

2. A firearm including a hammer with a recess, a pivot shaft in said hammer recess, a helical spring of substantially uniform diameter from end to end within said recess and extending in successive coils therearound and therealong, surrounding said pivot shaft for substantially the entire length thereof and engaged at one end with the hammer and at its opposite end with a fixed part, and means for holding said hammer against tension of said spring and to release it for action of said spring.

3. A firearm including a hammer, a pivot shaft therefor, a helical spring surrounding said pivot shaft within a recess in the hammer to the entire length of the recess and engaged at one end with the hammer and at its opposite end with said pivot shaft, means for turning the pivot to tension the spring, a detent to engage said pivot and prevent turning movement thereof under force of said spring, and means for holding said hammer against the tension of said spring and to release it for the action of said spring.

4. A firearm including a hammer, a pivot in said hammer, a helical spring engaged at one end with said hammer and at its opposite end with said pivot, means for turning the pivot to tension said spring, a detent plate engaged with said pivot to prevent turning movement thereof under the tension of said spring, a sear to control movement of said hammer, a sear bar for actuating said sear, a sear bar disengaging lever mounted on said detent plate, and means for actuating said sear bar.

5. A firearm including a hammer, a sear for controlling movement of said hammer, a longitudinally slidable sear bar, means for actuating said bar, a pivotally mounted sear bar controlling lever engaged with the end thereof adjacent the sear, a separately mounted butt piece for operating said lever, and interfittingly engaged therewith, and a connection between said butt piece and hammer for actuation of the former by the latter.

6. A firearm including a hammer, a sear for controlling movement of said hammer, a longitudinally slidable tensioned sear bar, a trigger for actuating said sear bar, a pivotally mounted sear bar controlling lever, means separately mounted and independent of the trigger for actuating said lever, and a connection between said bar and trigger for operation of the former by movement of the latter.

7. A firearm including a frame, a pin removably mounted in the frame, an operating member pivotally mounted on said pin, a finger piece extending from said pin and located outside of the frame, a pivotally mounted lever located outside of the frame,

- and a lip on said lever overlying said finger piece to retain said pin in place.
8. A firearm including a frame, a sear controller rotatably mounted therein and having a recess extending inwardly from the end of its pivot with a sear releasing opening in the form of a notch extending through the side of said pivot into said recess, a sear having a lug projecting from one side into said recess, a safety lever rigidly connected with said controller for operating it, and means for operating said sear.
9. A firearm including a frame, a sear pivotally mounted therein to control operations of a hammer, an actuating finger projecting from one side of the sear, means to engage said finger to operate the sear, a sear locking lug projecting from the opposite side of the sear, a sear controller having a recess to receive said lug and an opening therefrom to release said lug, and a safety lever rigidly connected with said controller for operation thereof.
10. A firearm including a pivotally mounted hammer, a sear for controlling movement of the hammer, a pivotally mounted lever for controlling operations of the sear, means for operating the sear, a butt piece pivotally mounted independently of said lever and interlockingly connected with said lever, and engaging means between the hammer and butt piece for actuation of the latter by the former.
11. A firearm including a sear bar notched at one end to form a shoulder, a detent bar having a housing formed on its side, each pivotally mounted, and a spring located in said housing and thrusting with its opposite ends against both of said bars to retain them in their normal positions.
12. A firearm including a frame, two actuating members located on opposite sides of the frame and projecting in opposite directions thereinto, interengaging parts on said projections to interlock said members, means for unlocking said members in a relative rotation thereof, and a holder operatively connected with each of said members.
13. A firearm including a frame, a barrel holder rod extending into the frame and operatively engaged with the barrel, said rod having a cutaway notch in its surface, a retainer rotatably mounted to engage said notch in one position to removably secure the rod, and means for rotating said retainer to retain or to release said rod.
14. A firearm including a frame, having a locking recess, an actuating member pivotally supported on the outer surface of said frame and having a chamber with a detent receiving opening and a detent retaining opening, the latter adapted to register with said recess, a detent insertable through said receiving opening into said retaining opening, and a spring in said chamber thrusting against said detent to hold it in said retaining openings.
15. A firearm including a breech slide and a barrel, an extractor yieldingly movably mounted in the slide to engage a cartridge shell in the barrel, and a cooperating button and recess upon the breech slide and extractor for returning the latter to its normal position whenever it is shifted from said position, said button being of greater diameter than the recess to engage one end of the recess.
16. A firearm including a breech slide and a barrel, and an indicator movably mounted in the slide and comprising a leaf spring having one end in position to press against the rim of a cartridge and accessible at the outer surface thereof and arranged to be moved when a cartridge shell is extracted from the barrel.
17. A firearm including a hammer having a recess opening from one side thereof, a projection from the bottom of said recess forming an annular space and having a hole therethrough, a pivot extending into said hole, and a helical spring located in said space and engaged at one end with the hammer and at the opposite end with a fixed part to hold said hammer against tension of said spring.
18. A firearm including a hammer having a recess opening from one side with a tubular projection from the bottom of the recess forming an annular space, a helical spring located in said space with one end extending through the side of said projection and engaged with said hammer, a shouldered supporting pin extending through said projection into the frame of the firearm with its shoulder resting against the end of said projection, said pin being turnable to tension said spring, and means for holding the pin from turning under the tension of said spring.
19. A firearm including a frame having a recess in the side thereof, a sear bar located in said recess, a detent plate recessed on its inner surface to receive said sear bar and forming a cover for said recess, and a member mounted on the frame to be held by said detent plate.
20. A firearm including a frame having a recess in the side thereof, a sear bar located in said recess and having a notch in its upper edge, a disengaging lever located in said notch in said recess, a detent plate having a recess on its inner surface to receive said sear bar and disengaging lever and forming a cover for said recess, and means to be held by said detent plate.
21. A firearm including a frame having a recess, a sear bar located in said recess, a detent plate having a recess within which said sear bar is received, said detent plate forming a cover for said recess, a disengaging lever secured to the frame for engagement

with said sear bar, and means on said frame to be held by said detent plate.

22. A firearm including a breech slide and a barrel, an extractor mounted on the slide to engage the rim of a cartridge shell to remove it from the barrel, and means on said extractor to yieldingly resist forward movement thereof under pull of a cartridge shell and thereby avoid application of sudden force to the rim of said shell during the extracting operation.

23. A firearm including a breech slide and a barrel, an extractor mounted on the slide to engage the rim of a cartridge shell to move it from the barrel, and a button formed on said extractor and pressed by resiliency of the extractor into an opening in the slide and disengageable from said opening by force applied therethrough to said shell.

24. A firearm including a handle, a magazine mounted in the handle and having an opening, a magazine catch to engage said opening, a catch support to which said catch is rigidly attached, the end of said support being located opposite a wall of the handle to prevent endwise movement of the support in one direction, a stop on said support to engage said handle to prevent movement of the support in the opposite direction, and an actuating tip removably attached to said support and projecting through the side of the frame of the firearm.

25. A firearm including a handle having an opening extending inwardly from one side terminated in a shelf and an opening in the opposite side adjacent to said shelf, a magazine mounted in the handle and having an opening, a magazine catch to engage said opening, a catch support to which said catch is rigidly attached at one side thereof to locate said support opposite said shelf, a spring resting against said shelf and projecting into said support, and an actuating tip removably attached to said support and projecting through the side of the frame.

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