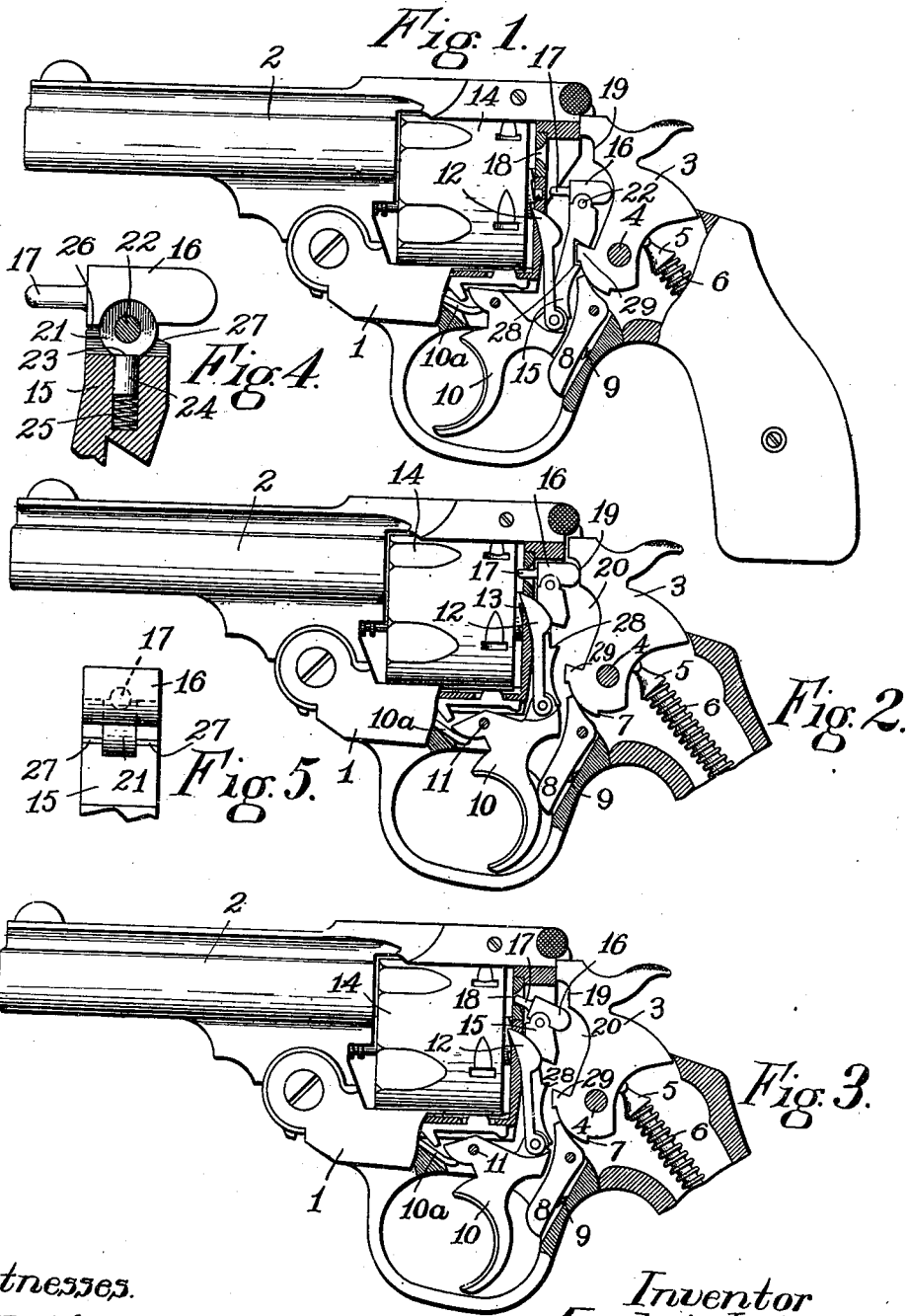


F. I. JOHNSON,  
 FIREARM,  
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996,252.

Patented June 27, 1911.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

FREDERIC I. JOHNSON, OF FITCHBURG, MASSACHUSETTS.

FIREARM.

996,252.

Specification of Letters Patent. Patented June 27, 1911.

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To all whom it may concern:

Be it known that I, FREDERIC I. JOHNSON, a citizen of the United States, residing at Fitchburg, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Firearms, of which the following is a specification, accompanied by drawings forming a part of the same.

My present invention relates to certain improvements in the firing mechanism of fire arms, and it has for its objects to render the operation of the fire arm more certain, to simplify the construction of the firing mechanism, to reduce friction in the operative parts, and to safeguard against accidental firing. These objects, among others, I accomplish by means of the construction and arrangement of parts as hereinafter described and illustrated in the accompanying drawings, the novel features being pointed out in the annexed claims.

In the accompanying drawings, Figure 1 represents a side view of a fire arm of the type known as revolvers, having a portion of the framework broken away to disclose the lock mechanism in its normal position. Fig. 2 is a similar view to Fig. 1 showing the parts of the lock mechanism in their position at the moment of firing. Fig. 3 is a side view similar to Figs. 1 and 2, but showing the position of the lock mechanism during the withdrawal of the firing pin. Fig. 4 is an enlarged side view of the firing pin. Fig. 5 is an enlarged rear view of the firing pin.

Similar reference characters refer to similar parts in the different figures.

Referring to the accompanying drawings 1 denotes the frame of a revolver, 2 the barrel, 3 a hammer pivoted on a pin 4 and actuated by a thrust pin 5 and spiral hammer spring 6. The hammer is provided with a notch 7 adapted to be engaged by a pivoted sear 8 which is actuated to engage the notch 7 when the hammer is cocked by means of a sear spring 9.

10 is a trigger pivoted at 11 and actuated by a trigger spring 10<sup>a</sup> to normally hold the trigger in its forward position, as shown in Fig. 1.

When the trigger is retracted it is brought against the tip of the sear 8 as shown in Fig. 2, to rock the sear and release the hammer 3. Pivoted to the trigger 10 is a pawl 12 which by the rearward mo-

tion of the trigger is made to engage a ratchet 13 on a revolving cylinder 14, in that class of fire arms known as revolvers. The above mentioned parts of the fire arm are now in common use and form no part of my present invention which relates particularly to the firing mechanism as hereinafter described.

Pivoted to the rear end of the trigger 10 is a lifting bar 15, upon the upper end of which is pivoted a block 16 having a cylindrical forward extension 17 forming the firing pin adapted to pass through an opening 18 into contact with the cartridge held in the revolving cylinder 14. The hammer 3 is provided with a face 19 adapted to contact with the rear end of the block 16 when the latter is raised in proper position for firing, as shown in Fig. 2. Below the firing face 19 of the hammer the hammer is cut away or recessed, as shown at 20, to provide space for the firing pin when the latter is depressed into its lowest position, as shown in Fig. 1, which shows the normal position of the lock mechanism. The block 16 is provided with an ear 21 which is pivotally held by a pin 22 in the bifurcated upper end of the lifting bar 15. The lower edge of the ear 21 is flattened as shown at 23, Fig. 4, and against the flattened surface 23 a plunger 24 is pressed by means of a spiral spring 25, the plunger and spring being held in a recess in the lifting bar 15. The pressure of the plunger against the flattened surface of the ear 21 serves to normally hold the block 16 in a horizontal position. The forward end of the block 16 also contacts at 26 with the forward end of the lifting bar 15, when the block 16 is in a horizontal position.

The lifting bar is cut away upon the rear side to form beveled surfaces 27 to provide for and limit the slight rocking movement of the firing pin. The lifting bar 15 is notched at 28 and adapted to engage a projection 29 on the hammer, so that as the lifting bar 15 is raised it will engage the projection 29 and cock the hammer, and at the same time carry the firing pin from its lowest position, as shown in Fig. 1, to its raised position, as shown in Fig. 2, bringing the firing pin in alinement with the opening 18, and the block 16 in alinement with the firing face 19 of the hammer. The continued rearward movement of the trigger 10 then presses against the lower end of the

sear 8 to release the hammer and allow the hammer spring 6 to carry the hammer forcibly against the block 16 and explode the charge, the parts then being in the position shown in Fig. 2.

As soon as the trigger is released the trigger spring 10<sup>a</sup> reverses the movement of the trigger, thereby depressing the lifting bar 15 and block 16. As the lifting bar 15 begins its downward movement with the firing pin still resting in the opening 18, a rocking motion will be imparted to the block 16 and firing pin, bringing them into the position shown in Fig. 3. As the lifting bar 15 continues its downward movement to the position shown in Fig. 1, the block 16 and firing pin are restored to their normal position by the pressure of the spiral spring 25 acting through the plunger 24 upon the flattened surface 23 of the ear 21. The lifting bar 15 in the present instance is notched to engage the hammer as the lifting bar is raised, but a separate notched bar may be employed for cocking the hammer, if desired.

I claim,

1. In a fire arm, a hammer, a firing pin, means for vertically reciprocating said firing pin to carry it into and out of operative position in alinement with the firing face of the hammer, and means for maintaining said firing pin in a horizontal position when it is withdrawn below the firing face of said hammer.

2. The combination with the frame of a fire arm having an opening for the firing pin to pass through into contact with the cartridge, of a firing pin adapted to pass through said opening, means for vertically reciprocating said firing pin, thereby withdrawing it from said opening, and means for restoring said firing pin to a horizontal

position after it has been withdrawn from said opening.

3. The combination with the frame of a fire arm having an opening for the firing pin to pass through into contact with the cartridge, of a firing pin adapted to pass through said opening, means for vertically reciprocating said firing pin, thereby withdrawing it from said opening and imparting to it a slight rocking movement during such withdrawal, and means for restoring said pin to a horizontal position after such withdrawal.

4. The combination with the frame of a fire arm having an opening for the firing pin to pass into contact with the cartridge, of a firing pin comprising a block having a portion adapted to pass through said opening, a lifting bar pivotally connected with said firing pin, a spring actuated plunger held in a recess in said lifting bar in contact with said firing pin, thereby holding said firing pin normally at right angles to said lifting bar, and means for moving said lifting bar vertically to bring said firing pin level with and below the plane of said opening.

5. In a fire arm, a hammer, a firing pin, means for vertically reciprocating said firing pin to carry it into and out of operative position in alinement with the firing face of said hammer, means for maintaining said firing pin in a horizontal position when it is withdrawn below the firing face of said hammer, and a recess in said hammer below said firing face to receive the rear end of said firing pin.

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Witnesses:

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