No. 897,806. PATENTED SEPT. 1, 1908.

J. H. WESSON.

SAFETY FIRING PIN.

APPLICATION FILED DEC. 20, 190

Fig. 1.

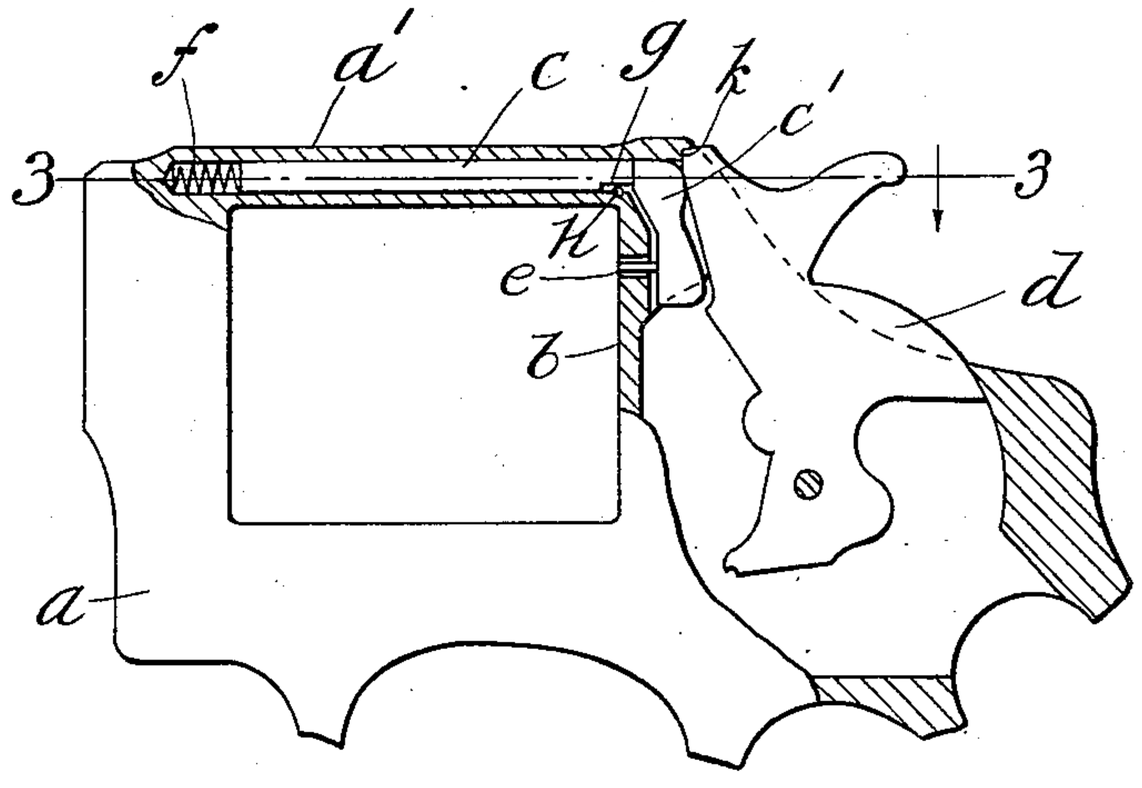


Fig. 2.

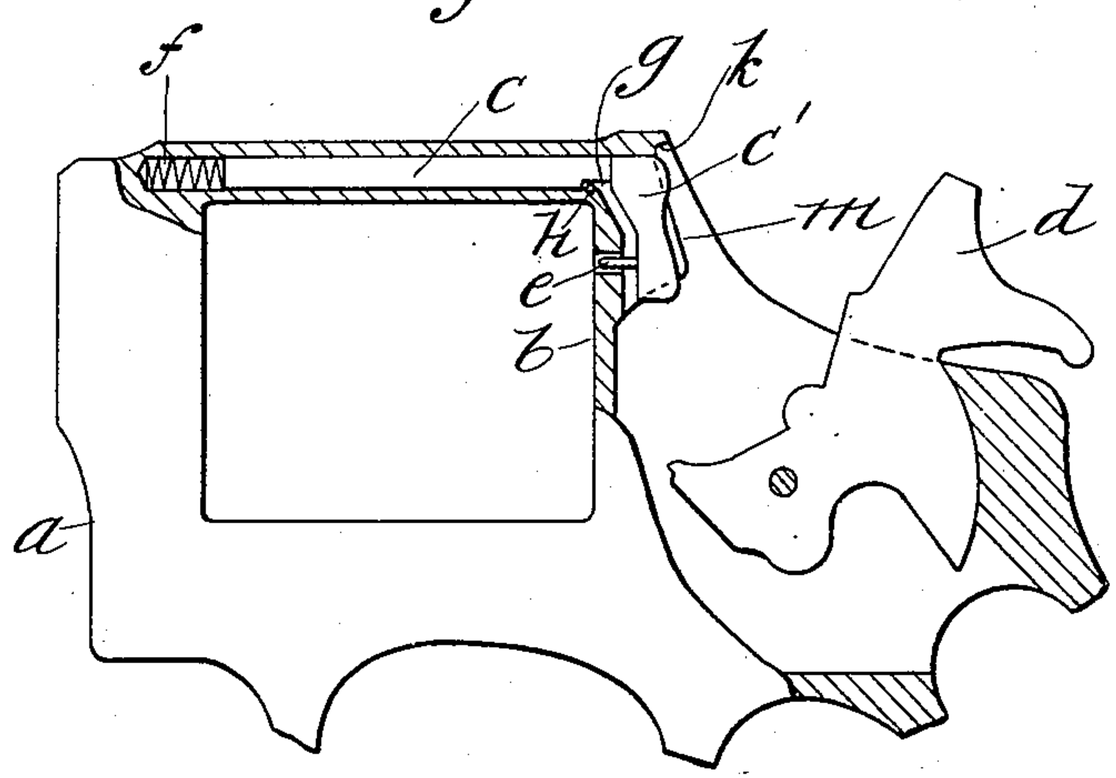
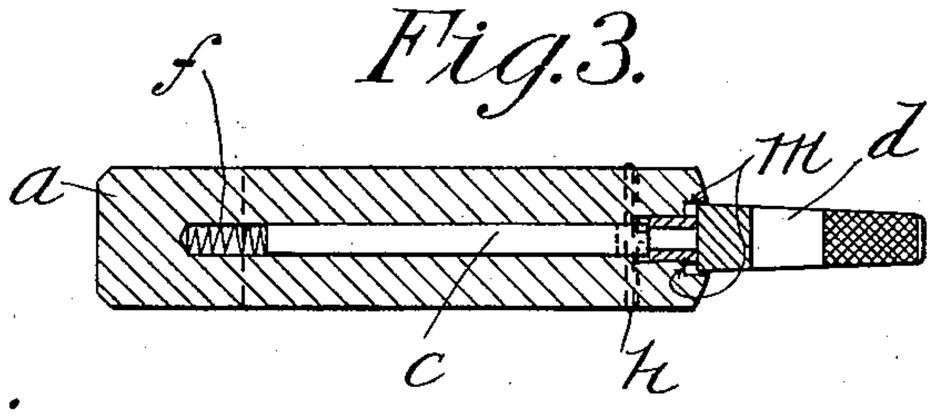


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SAFETY FIRING-PIN.

No. 897,806. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed December 20, 1907. Serial No. 407,391.

To all whom it may concern:

Be it known that I, JOSEPH H. WESSON, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Safety Firing-Pins, of which the following is a specification.

This invention relates to firearms and has particular reference to a safety device therefor, the object of the invention being to provide a firing pin and hammer so constructed that when the hammer is down it will come to a bearing on the frame without forcing the firing-pin through the recoil plate far enough to cause the latter to bear on the primer of a cartridge, the firing-pin at such times having a free play between the face of the hammer and the primer and being held out of contact with the latter by a light spring, the firing movement of the firing-pin being the result of its momentum imparted thereto by the fall of the hammer, which momentum is sufficient to impel it forward against the action of its retracting spring after the hammer comes to its seat on the frame. The result of this construction is that no rebounding device is necessary to bring the hammer back to a position of safety after its fall, for after the firing movement of the firing-pin the retracting spring of the latter will throw it backward retracting the pin within the recoil-plate, the hammer, when down, cutting off all access to the firing-pin whereby it could be accidentally thrown forward to ignite a primer, and the hammer itself bearing on the frame, so that no blow thereon, as in dropping the firearm, could have any effect on the firing-pin to move the latter into contact with the primer.

The invention is clearly illustrated in the accompanying drawings, in which the invention is shown as applied to a revolver of the solid frame type.

Figure 1 is a side elevation, partly in section, of a part of a revolver-frame showing the invention applied thereto and showing the hammer down and showing the relation of the firing-pin thereto when the hammer is in this position. Fig. 2 is a similar view showing the hammer at full cock. Fig. 3 is a sectional plan view on line 3—3, Fig. 1, showing, in connection with the other views, the preferred location of the firing-pin, and showing the seat for the hammer on the frame, at each side of the recess in which the firing-pin is located.

Referring to the drawings, *a* indicates the frame of a revolver of the "solid frame" type to which this invention is especially adapted, and *b* the recoil-plate thereof, the latter being pierced as usual to receive the nose of the firing-pin. The hammer is indicated by *d*,—other active parts of the arm not being shown.

The firing-pin is substantially L-shape, the long arm *c* thereof being in the form of a stem which lies in a hole drilled in the top bar a^1 of the frame, and which stem plays freely therein endwise. The short arm c^1 of the firing-pin is substantially at right angles to the long arm *c* thereof, and may be integral therewith or not, as desired. On the face of the short arm c^1 of the firing-pin is the nose *e* thereof which extends in a hole drilled through the recoil-plate of the frame in the usual manner. The hole in the frame in which the member *c* of the firing-pin is located exceeds in depth the length of said member, thus permitting the introduction of a light coiled spring *f* between the end of said member *c* and the bottom of the hole which receives it, the function of the spring being to normally hold the firing-pin with its nose retracted within the hole in the recoil-plate.

When the hammer is down, as in Fig. 1, the abutment of the firing-pin is against the face of the hammer, and to limit the movement of the firing-pin towards the hammer, when the latter is cocked, a part of the member *c* of the firing-pin is milled off, as at *g*, and a pin *h* extends through the frame and the milled off part *g* to serve as a stop for limiting said endwise movement of the firing-pin towards the hammer, as described, the short arm c^1 of the firing-pin coming to a bearing on the frame back of the recoil-plate to limit the movement in the opposite direction. The engagement of the nose of the hammer with the hole made therefor in the recoil-plate prevents any swinging of the firing-pin on its long member *c*.

Referring to Figs. 1 and 2, it is seen that the upper end of the hammer comes to a bearing on the frame at *k*, and reference to Fig. 3 shows that the two sides of the face of the hammer come to a bearing at the points *m* on the frame, when the hammer falls, and reference to Fig. 2 shows that when the hammer is cocked the spring *f* will move the firing-

pin rearwardly toward the hammer until the outer face of the short arm c^1 thereof extends a short distance beyond these seats k and m for the face of the hammer, and thus when the hammer falls it will first strike this part of the firing-pin and then come to a seat on the frame, the momentum of the firing-pin carrying it forward away from the face of the hammer and with sufficient force to effect the ignition of the primer of a cartridge, whereupon the spring f will then retract the firing-pin to the position shown in Fig. 1.

A firing-pin as ordinarily constructed is not heavy enough to be projected against a primer with sufficient force to explode the latter and there is not room enough in revolvers, as generally constructed, to provide a firing-pin of the ordinary type having sufficient weight to insure the ignition of a primer when dependent alone on the momentum of the firing-pin.

The firing-pin, as herein constructed, provides sufficient weight, properly distributed, to make it most effective and provides means to support it slidably in the frame without resorting to pivoting it therein, a pivoted support for any member receiving sharp blows, as does the firing-pin of a revolver, being mechanically impractical, as it would result in frequent breakage.

What I claim, is:—

A revolver frame having a cylinder-opening therein and having a recoil-plate at one end of said opening, there being on the frame a seat for the hammer when it is down; a hammer, an L-shaped firing-pin one arm of which is located in the frame over said opening and the opposite end of which is located in a space between the hammer and the recoil-plate, and a spring to press the firing-pin towards the hammer, the firing-pin being movable towards and from the hammer when the latter is seated on the frame.

JOSEPH H. WESSON.

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