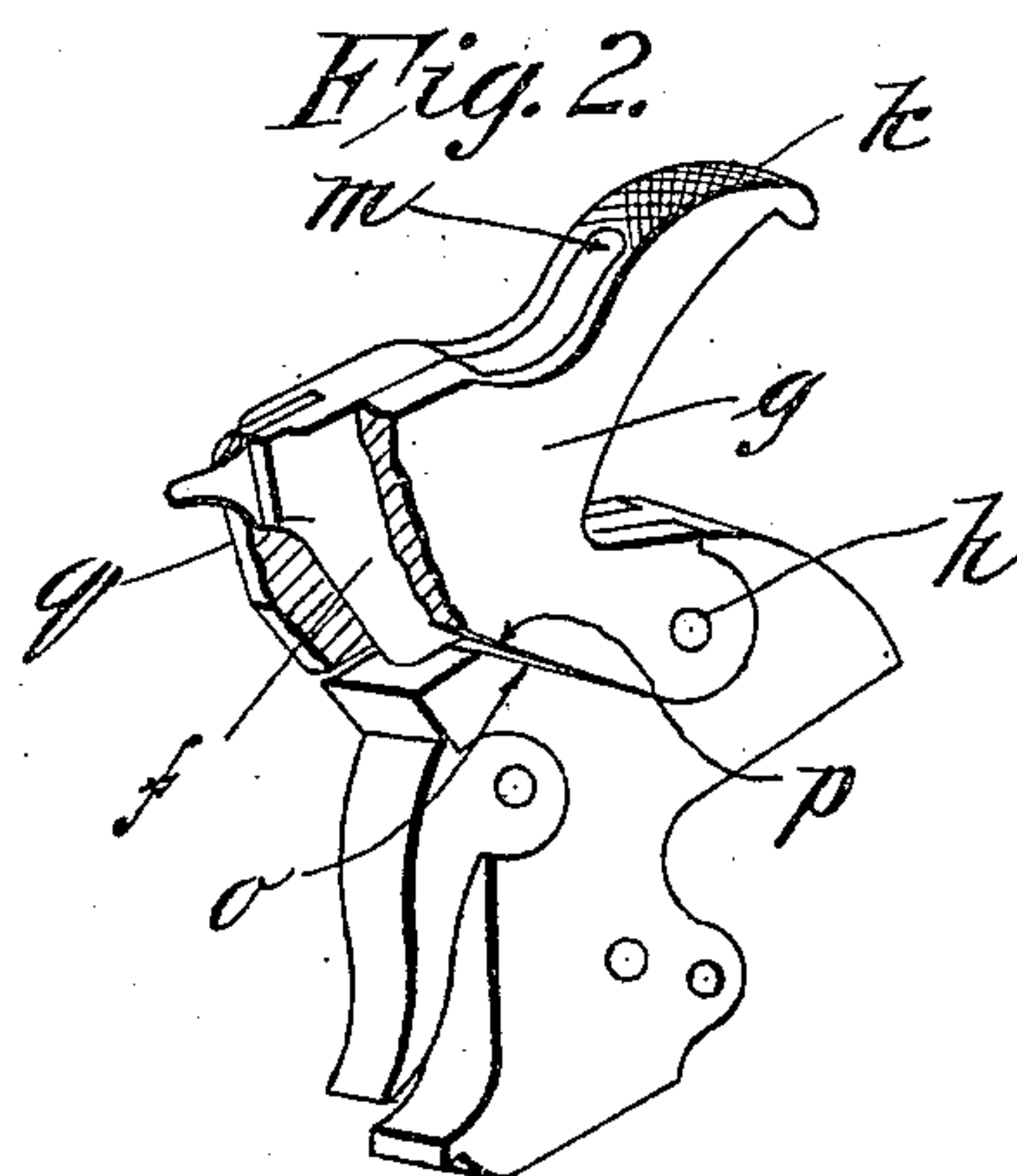
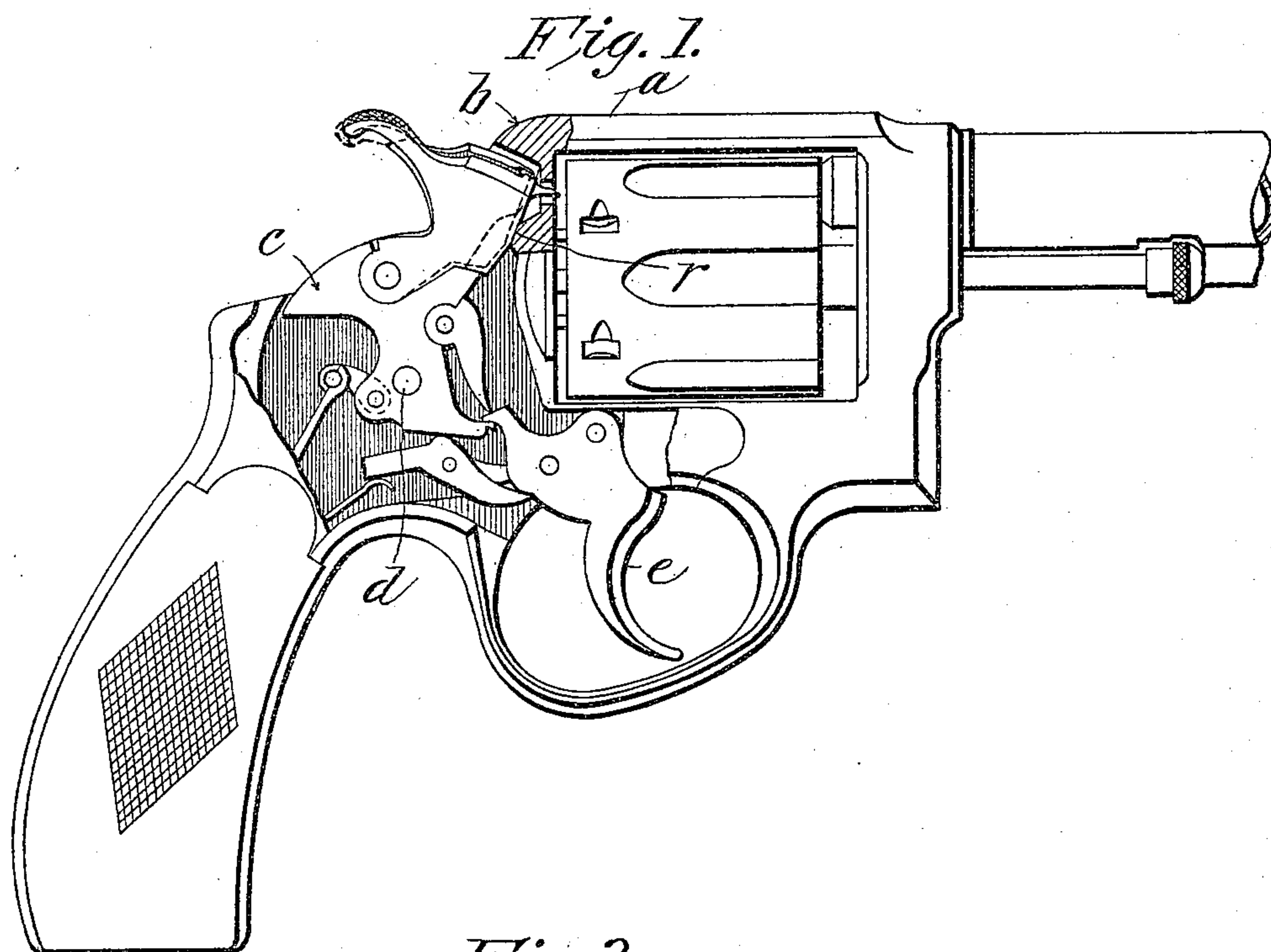


No. 824,197.

PATENTED JUNE 26, 1906.

E. E. NEAL.
FIREARM.

APPLICATION FILED MAR. 5, 1906.



Witnesses:
H. L. Sprague
E. H. Seaborn

Inventor.
Elmer E. Neal.
by *Chapman Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

ELMER E. NEAL, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO
SMITH & WESSON, OF SPRINGFIELD, MASSACHUSETTS, A FIRM.

FIREARM.

No. 824,197.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed March 5, 1906. Serial No. 304,253.

To all whom it may concern:

Be it known that I, ELMER E. NEAL, 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 Firearms, of which the following is a specification.

This invention relates to firearms, and has special reference to a safety device for preventing the accidental discharge of the arm by a blow on the hammer, the object of the invention being to provide a safety device capable of being used in connection with any type of rebounding mechanism for the hammer; and the invention consists in providing the hammer with a loosely-swinging member thereon, practically covering the exposed part of the hammer and capable of swinging in the plane of the movement of the hammer into contact with the frame in front of the hammer, whereby any blow on the latter in the direction of the cartridge will be received by this swinging member, which, pivoting on the hammer, will swing forward toward and in contact with the frame, thus preventing the force of the blow from being imparted to the hammer. When the hammer falls, however, by pulling the trigger this loose-swinging member brings up against the frame, the hammer swinging through it into contact with the cartridge, and being immediately rebounded by means of any of the well-known rebounding devices. By means of this invention it is possible to use the spring-rebounded hammer, which is cheap and efficient, but which has generally been abandoned at the present time, owing to the fact that the hammer can by a blow be forced forward into contact with the cartridge, and this characteristic has necessitated the substitution of means to positively retract the hammer, the application of which is far more expensive.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a revolver, partly in section, showing my invention applied to the hammer, the side plate of the frame being broken away. Fig. 2 is a perspective view of the hammer, showing the swinging member thereon, being partly broken away to show more clearly the construction and arrangement of the parts.

In the drawings, *a* indicates the frame of a

revolving firearm, this type of arm having been selected to illustrate the invention merely as a matter of convenience and not because the invention is especially applicable to this particular type.

The frame is shown broken away at the upper end *b* of the recoil-plate for the purpose of more clearly illustrating the invention. The hammer *c* is pivotally supported at *d* in the usual manner, the trigger being indicated by *e*.

As shown in Fig. 2, the upper portion of the hammer is milled off, as at *f*, preferably on both sides thereof, to receive the swinging member *g*, which is pivotally secured to the hammer at *h*, provision being made in the milling operation above referred to to adapt the hammer to receive this swinging member or cap *g*, the thickness of the side walls of which is the same as the depth of the milling-cut taken on each side of the hammer, whereby the outer surface of this member and the outer surface of the hammer will lie in the same place. This swinging member or cap is preferably in the form of a saddle which fits over the top of the hammer and follows the contour of the latter and is provided with a projection *k*, extending rearwardly therefrom, constituting a thumb-piece and which constitutes the only solid portion of the cap *g*. The shape of the hammer proper directly under this thumb-piece is such that when the cap is swung to the rear—that is to say, to the right, as the parts appear in Fig. 2—it will come to a bearing on the hammer at the point *m*, whereby the cocking of the hammer may be effected.

It will be observed that in the milling operation a straight shoulder *o* is formed on the hammer, and the lower edges of the cap *g* are so proportioned that when the cap is swung back, as in the cocking operation, it will open up a space *p* between its lower edge and said shoulder *o*, this space being the measure of the distance which the cap can swing on its pivot-pin *h*. The forward edges *q* of the cap (only one of which is shown in Fig. 2) will when the hammer is down, as in the moment of firing, be substantially flush with or a little back of the face of the hammer, and this is the relative position of the parts when the thumb-piece is swung rearwardly, as in the act of cocking. When the hammer has been retracted or rebounded by any suitable device for this purpose, the cap *g* may swing

freely thereon toward and from the seat *r* of the hammer on the frame, as shown in Fig. 1. It is obvious, therefore, that any blow which may be struck upon the hammer which could
 5 move the latter in the direction of the recoil-plate of the arm must be received by the swinging member or cap *g*, and the latter being free to swing in the direction of the recoil-plate will, under such a blow, be thrown over
 10 in contact with the seat *r* on the frame, thus preventing in any degree the communication of the blow to the hammer. In fact, it will be apparent that it will be necessary to crush the forward edges *q* of the cap *g* before any
 15 movement could be imparted to the hammer by a blow which would move it in the direction of the recoil-plate. Thus while the cap serves as a perfect safety device it in no wise interferes with its function as a part of the
 20 hammer.

The space *p*, which indicates the limit of movement of the cap *g*, should be so proportioned that when the hammer is rebounded to a considerable degree this space would be
 25 proportionately increased to permit of a correspondingly-increased forward movement of the cap, whereby under any conditions the forward edges of the cap will come to a seat on the frame before the space *p* is closed, and
 30 in this way the hammer will be absolutely protected from any shock to which the cap might be subjected, and, as stated, the cap so completely covers the hammer at those points where a blow might be applied thereto
 35 which would tend to swing it in the direction of the recoil-plate as to make it impossible to impart any movement thereto in the direction of the recoil-plate by a blow.

In the drawings a well-known rebounding
 40 or hammer-retracting device has been shown; but any other may be substituted for it, and, as already stated, this invention makes it possible to use any of the well-known simple rebounding devices actuated by the mainspring
 45 or other spring. This is very desirable, as these simpler forms of rebounding devices are far less expensive than the devices which positively retract the hammer by the movement of a wedge-block or the like. Obvi-

ously the invention is operative only in connection with a hammer rebounding or retracting device of some sort.

The word "cap" as used in this specification and claims is used in a generic sense, and it is intended that it shall include any form
 55 of member coacting with the hammer in the manner described and having the same function as the swinging member *g*.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a firearm, the combination with a hammer and a rebounding mechanism therefor, of a member covering the exposed portion of the hammer and movable in the direction
 65 of the movement of the latter toward and in contact with the seat of the hammer on the frame.

2. In a firearm, the combination with a hammer and a rebounding mechanism therefor, of a cap substantially covering the exposed portion of the hammer and movable relative thereto rearwardly into cocking engagement with the hammer and forwardly
 75 into contact with the frame of the arm.

3. In a firearm, the combination with a hammer and a rebounding mechanism therefor, of a cap pivotally supported on the hammer in overlapping relation to the exposed portion thereof and movable relative thereto
 80 rearwardly into cocking engagement with the hammer, and forwardly into contact with the frame of the arm.

4. In a firearm, in combination with a rebounding mechanism, a hammer consisting
 85 of two parts, viz., the hammer proper and a cap pivotally supported thereon in overlapping relation to the exposed part of the hammer and constituting a part of the latter, said cap having a swinging movement relative to
 90 the hammer rearwardly into cocking engagement therewith, and forwardly to a position beyond the face of the hammer.

ELMER E. NEAL.

Witnesses:

HENRY A. CHAPIN,
 HARRY W. BOWEN.