

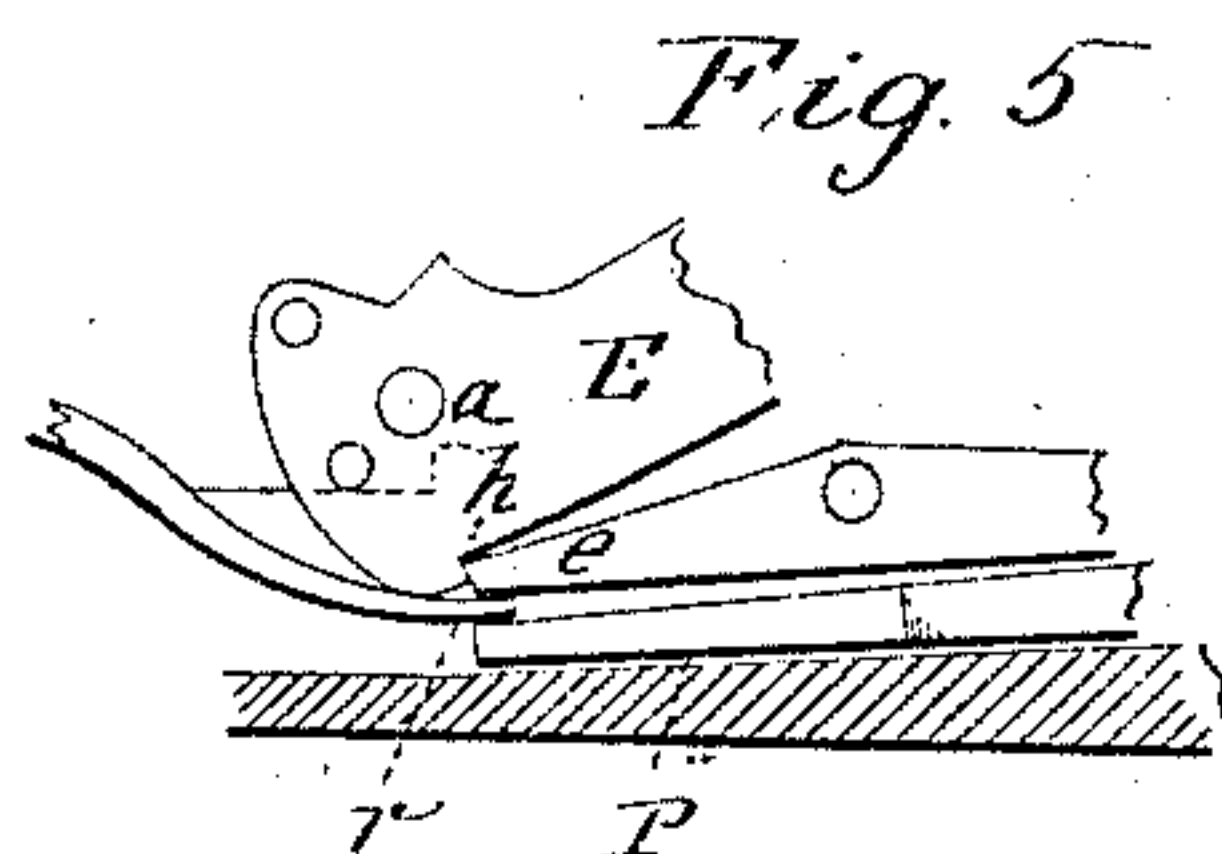
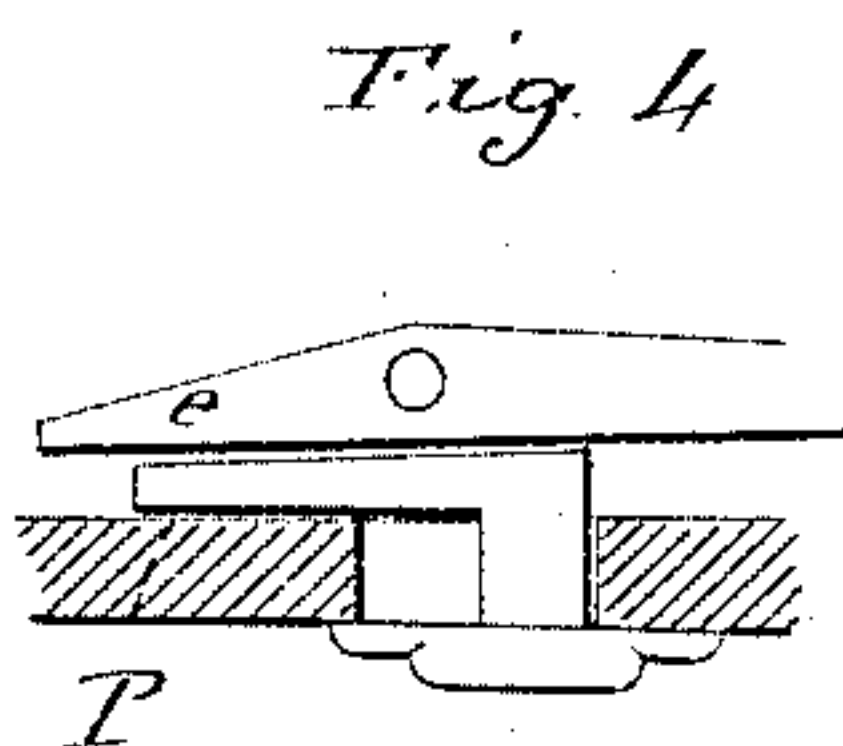
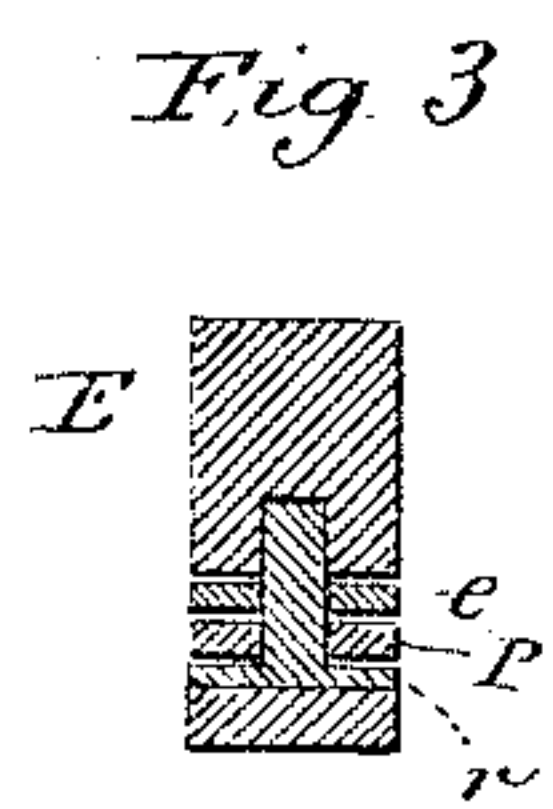
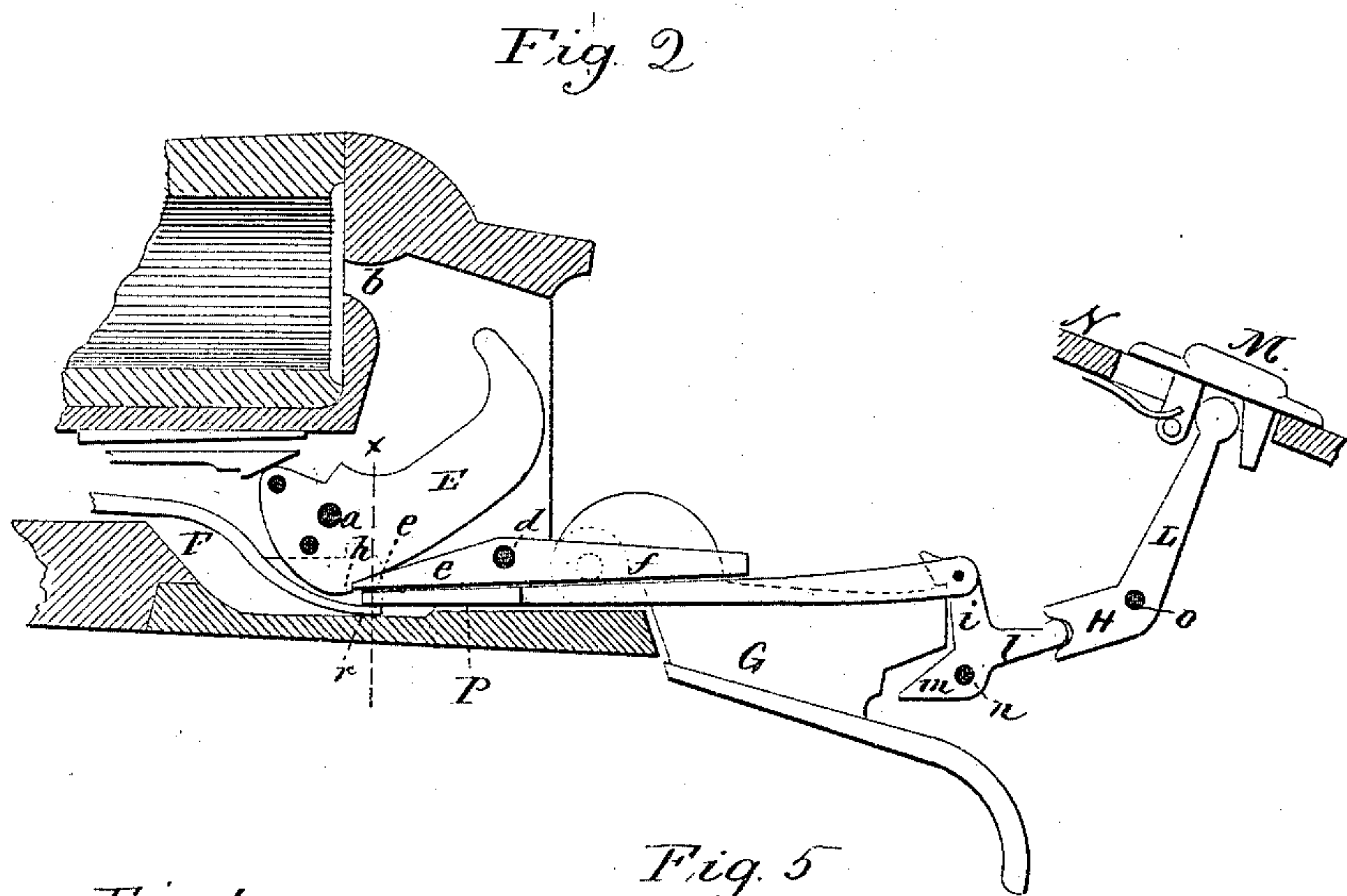
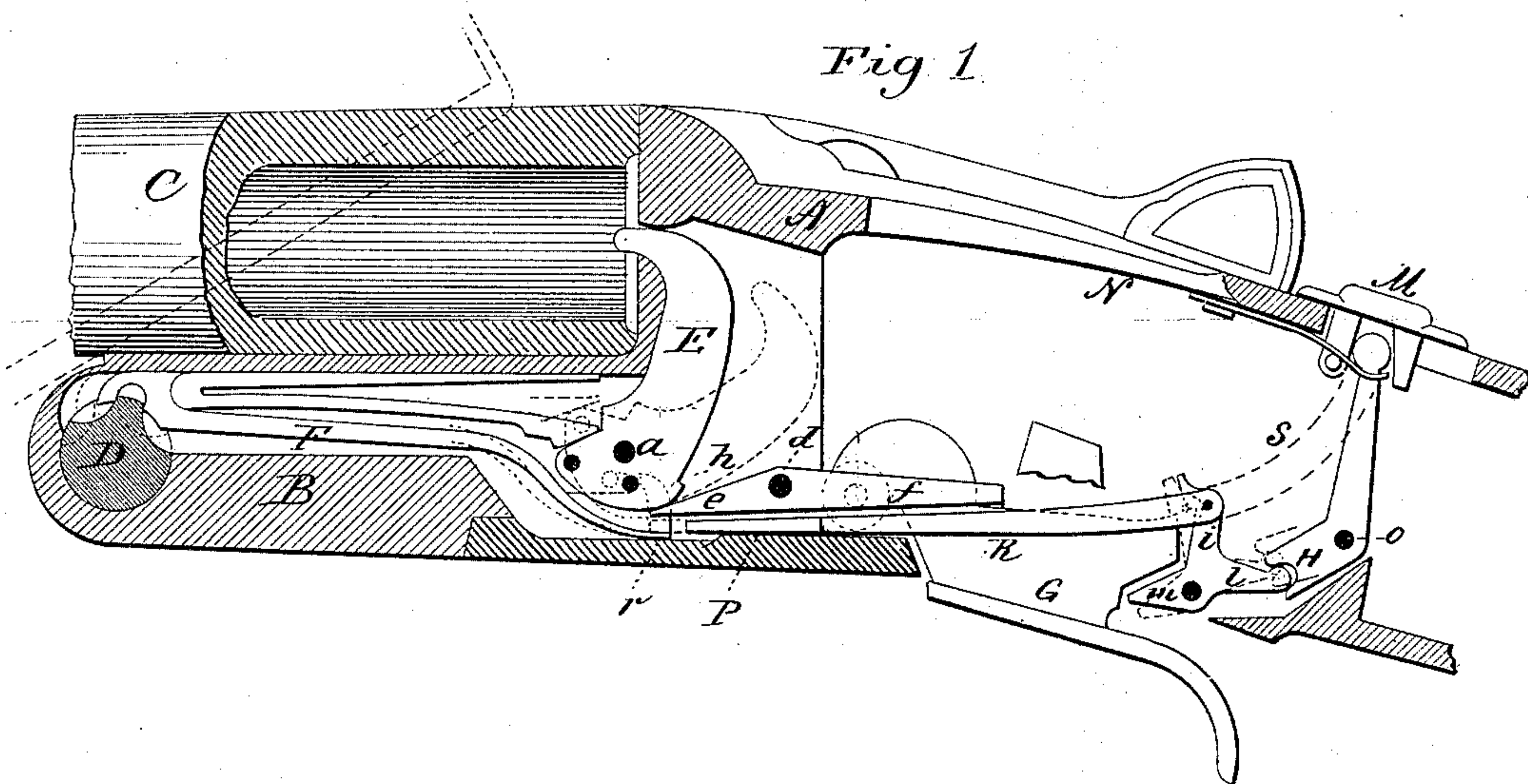
(No Model.)

F. F. KNOUS.

SAFETY LOCK FOR CONCEALED HAMMER GUNS.

No. 313,001.

Patented Feb. 24, 1885.



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UNITED STATES PATENT OFFICE.

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PATENT FIRE ARMS MANUFACTURING COMPANY, OF SAME PLACE.

SAFETY-LOCK FOR CONCEALED-HAMMER GUNS.

SPECIFICATION forming part of Letters Patent No. 313,001, dated February 24, 1885.

Application filed December 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN F. KNOUS, of Hartford, in the county of Hartford and State of Connecticut, have invented a new Improvement in Break-Down Fire-Arms; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal sectional view showing a side view of the lock mechanism, the parts in their normal condition; Fig. 2, the same, showing the hammer at full-cock and locked; Fig. 3, a transverse section on line *x x* of Fig. 2; Figs. 4 and 5, modifications of the locking mechanism.

This invention relates to an improvement in that class of fire-arms in which the barrel is hinged to the fore end of the receiver, and so that in opening the breech the rear end of the barrel turns up from the receiver to expose the cartridge-chamber above the receiver, and particularly to that class in which the hammer is hung entirely within the receiver, commonly called "concealed hammers." In this class of arms the hammer is thrown to its full-cock position as the barrel turns downward, because of a connection between the hammer and the hinge-pin upon which the barrel turns. When brought to full-cock, the hammer engages the sear. To prevent accidents the trigger has been locked, so as to prevent its possible action upon the sear; but with such locking a difficulty is experienced, due to the fact that the sear is liable to be thrown out of engagement with the hammer upon any blow or shock upon the receiver.

Locking devices have been applied to act upon the tail of the sear under the action of a spring; but such devices are uncertain, for the reason that if the sear do not happen to fall close upon the shoulder in the hammer, the sear itself will prevent the proper locking. In any case the locking is uncertain, because dependent upon the spring.

The object of my invention is to make the locking of the sear at its nose, and also to make it positively automatic by the action of closing the barrels, so that the sportsman may know

positively whether or not the sear is locked. To this end my invention consists in the introduction of a locking-piece beneath the nose of the sear, combined with the mechanism by which the hammer is thrown to its cocked position, and whereby on the closing of the barrels the said cocking mechanism will positively lock the sear at its nose end, and as more fully hereinafter described.

The mechanism of the arm in connection with which I illustrate my invention is that for which Letters Patent of the United States were granted to the Colts Patent Fire Arms Manufacturing Company, assignees of William Mason, also assignees in this application, said Patent No. 263,191, and in which A represents the receiver; B, the fore end, to which the barrel C is hinged upon a pintle, D, the said pintle being arranged to turn with the barrel E, the hammer hung entirely within the frame upon a pivot, *a*, and so that the hammer in delivering its blow strikes forward through an opening, *b*, in the receiver.

Between the pintle or hinge-pin D a connection, F, is made, one end of which engages the pintle and the other end arranged to engage the hammer, and so that as the barrel is turned downward the connection F will be drawn forward, and in such forward movement will throw the hammer to the full-cocked position, as indicated in broken lines, Fig. 1, and as also indicated in Fig. 2. The sear is hung upon a pivot, *d*, in rear of the hammer, its nose *e* extending forward and its tail *f* rearward, and so that the nose may engage the shoulder *h* on the hammer when set at full-cock and the tail lie over the trigger G. In rear of the trigger is a three-armed lever, *i l m*, hung upon a pivot, *n*. The one arm, *l*, is in connection with one arm, H, of a bent lever, hung upon a fulcrum, *o*, the other arm, L, of the lever extending up into connection with a slide, M, working through an opening in the upper tang, N. The arm *m* of the three-armed lever stands beneath a projection on the trigger. The other arm, *i*, turns forward over the same projection on the trigger. When the slide M is thrown forward, the trigger is free from engagement with the lever *i l m*, and as seen in Fig. 1. In this condition, if the hammer be cocked and the trigger pulled, the trigger will turn the sear

and disengage the hammer; but if the slide M be drawn to the rear then a shoulder on the upper arm, *i*, is turned over the projection on the trigger, so as to prevent the trigger rising under a pull to act upon the sear. This construction is substantially the same as in the Mason patent before referred to.

To positively lock the sear at its nose end when the hammer is at full-cock, I arrange a sliding bar P, beneath the sear. An extension, R, therefrom, running back, is hung to the arm *i* of the trigger-locking lever, and so that as the slide is moved backward from the position in Fig. 1 to that in Fig. 2, thereby turning the arm *i* of the trigger-locking lever forward, the slide P will be moved forward beneath the nose of the sear, or, moved in the opposite direction, will be drawn back to the disengaged condition, as seen in Fig. 1.

On the side of the connection F, between the hammer and the hinge-pin of the barrel, and at its rear end, is a flange, *r*, which extends beneath the nose of the sear when the barrel is in its closed condition, and as seen in Fig. 1, but so as to leave a space between the nose of the sear and the flange substantially equal to the thickness of the slide P.

Before the barrels are opened the sportsman throws the slide M backward to lock the trigger, as seen in Fig. 2. This movement of the slide or of the trigger-locking mechanism may be produced by the drawing of the bolt which locks the barrels, as in the Mason patent before referred to; but such connection between the trigger-locking mechanism and the barrel constitutes no part of my invention and does not require to be shown in this application. In this movement of the slide M the slide P is moved forward, as indicated in broken lines, Fig. 1, and so that its forward end comes between the nose of the sear and the flange *r* of the connection F. Then as the barrel is turned downward in the act of opening it draws the connection F forward, taking the flange *r* from beneath the forward end of the slide P, as indicated in broken lines, Fig. 1, and turns the hammer to full-cock, where it is engaged by the sear, as seen in Fig. 2. Then as the barrels are returned the flange *r* of the connection F passes beneath the forward end of the slide P and wedges it hard against the nose of the sear, then holding the hammer, and so that disengagement of the sear from the hammer with the parts in this condition is impossible.

The sportsman, when he desires to fire, moves the slide M forward from the position seen in Fig. 2 to that seen in Fig. 1, thereby withdrawing the slide P from its wedging position between the nose of the sear and the flange *r*, and, as seen in Fig. 1, leaving the sear free for the action of the trigger. By this arrangement the sear is automatically and positively locked without the intervention of a spring, and the sportsman can always be certain whether or not the hammer is locked.

While I prefer to make the arrangement of

levers whereby the trigger is also locked, the trigger-locking mechanism may be omitted and the sear-locking mechanism employed as the only locking device, and instead of introducing the levers between the slide M and the locking-slide P the connection between the slides may be made direct, as indicated by broken lines at S, Fig. 1; but in this case the movement of the slide M would be reversed—that is, would be forward to lock and rearward to unlock; or the slide P may be otherwise operated—as, for illustration, (see Fig. 4,) by a thumb-piece, T, extending down through the bottom of the receiver, and by which the slide may be moved forward or backward to lock or unlock.

Instead of making the slide to pass between the nose of the sear and the rear end of the connection F, the rear end of the connection may enter between the sear and the slide, as seen in Fig. 5, the slide and the connection performing the same wedge-like action upon the nose of the sear, it only being essential to this part of my invention that there shall be a lock under the nose of the sear, forced into action by the mechanism which cocks the hammer, and after the hammer has been turned to the cocked position.

I claim—

1. In that class of breech-loading fire-arms in which the barrel is hung to the receiver so as to turn downward and forward in opening, and in which the hammer is hung concealed within the frame, the combination therewith of a connection between the hammer and barrel, whereby the hammer is thrown to full-cock in the opening of the barrel, a sear hung in rear of the barrel, the nose extending forward to engage the shoulder on the hammer at full-cock, and a slide arranged beneath the nose of the sear, the rear end of the connection between the hammer and the barrel constructed to form a wedge in connection with said slide to lock the sear when engaged with the shoulder on the hammer, substantially as described.

2. In a fire-arm in which the barrel is hung to the receiver to turn forward and downward, and in which the hammer is hung concealed within the receiver, with a connection between the barrel and hammer, whereby the hammer is thrown to full-cock in opening the barrel, the combination therewith of a sear hung in rear of the hammer, its nose extending forward to engage a shoulder on the hammer in the full-cocked position, and a slide arranged beneath the nose of the sear and extended rearward to an opening in the tang of the receiver, and through which opening the said slide may be moved backward and forward, the rear end of the connection between the hammer and the barrel constructed to form a wedge in connection with said slide, substantially as described, and whereby when said slide is in its forward position the said connection serves as a wedge to lock the nose end of the sear in engagement with the hammer, substantially as described.

3. In a fire-arm in which the barrel is hung

to the receiver so as to be turned downward
and forward in opening, and in which the ham-
mer is hung concealed within the receiver, and
a connection between the hammer and barrel,
5 whereby in the opening movement of the bar-
rel the hammer will be turned to full-cock, the
combination therewith of a sear hung in rear
of the hammer, the forward or nose end of the
sear arranged to engage a shoulder on the
10 hammer when at full-cock, the slide P, arranged
beneath the nose of the hammer and extended
rearward, and a lever arranged to engage and
lock the trigger, the said extension from the said

slide in connection with said lever, and where-
by in the act of locking the trigger the said 15
slide will be moved forward and in unlocking
will be drawn rearward, the connection be-
tween the hammer and the barrel constructed
with a bearing, r, to engage the forward end of
the slide when in its forward position, and so 20
as to lock the nose of the sear in engagement
with the hammer, substantially as described.

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