

(No Model.)

A. E. WHITMORE.
LOCK FOR FIRE ARMS.

No. 259,445.

Patented June 13, 1882.

Fig. 1.

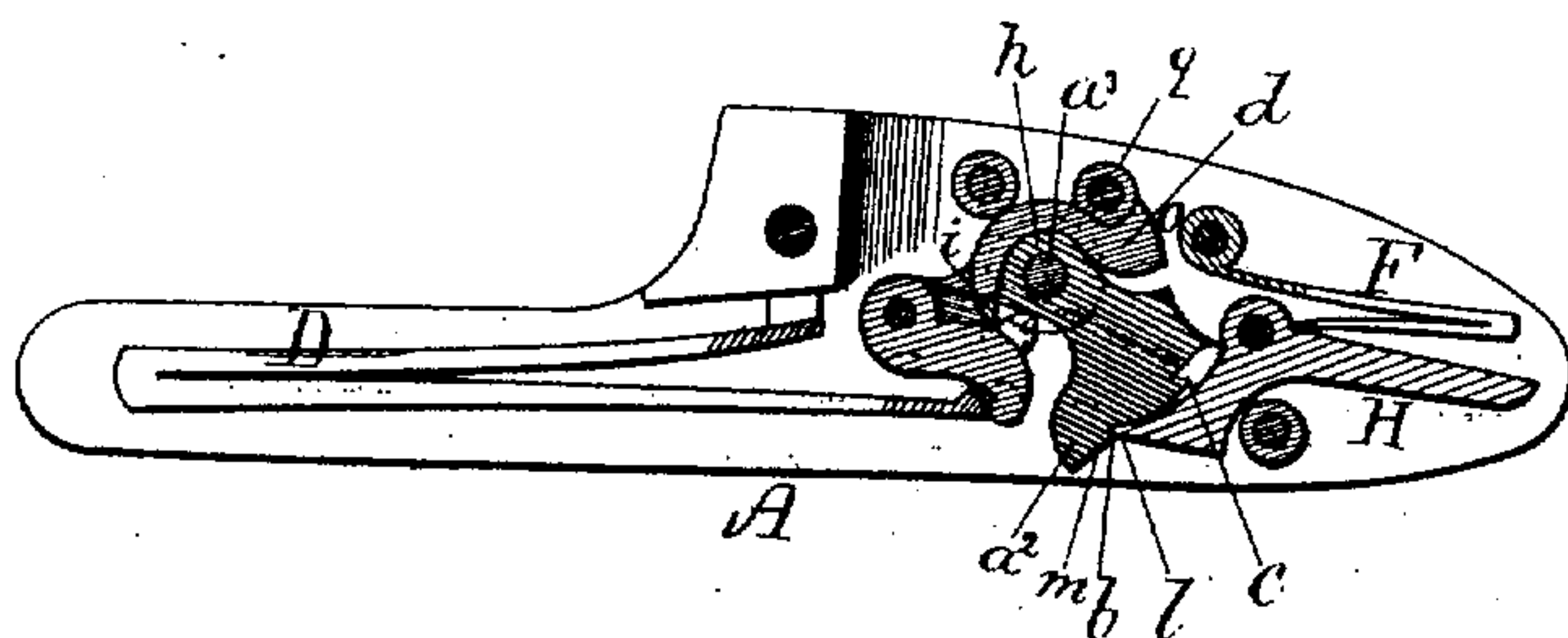


Fig. 2.

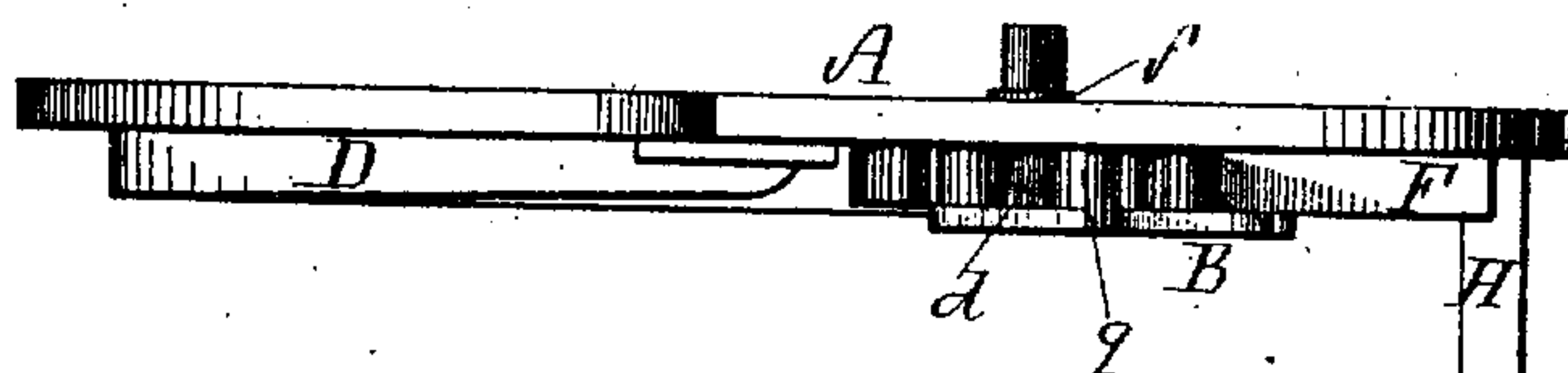


Fig. 5.

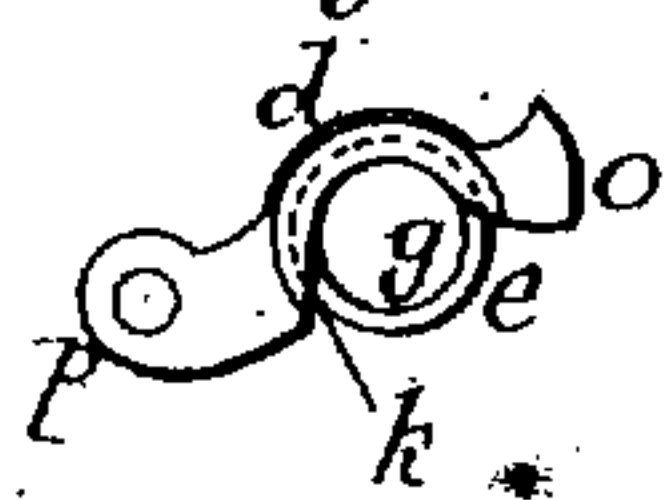


Fig. 6.



Fig. 3.

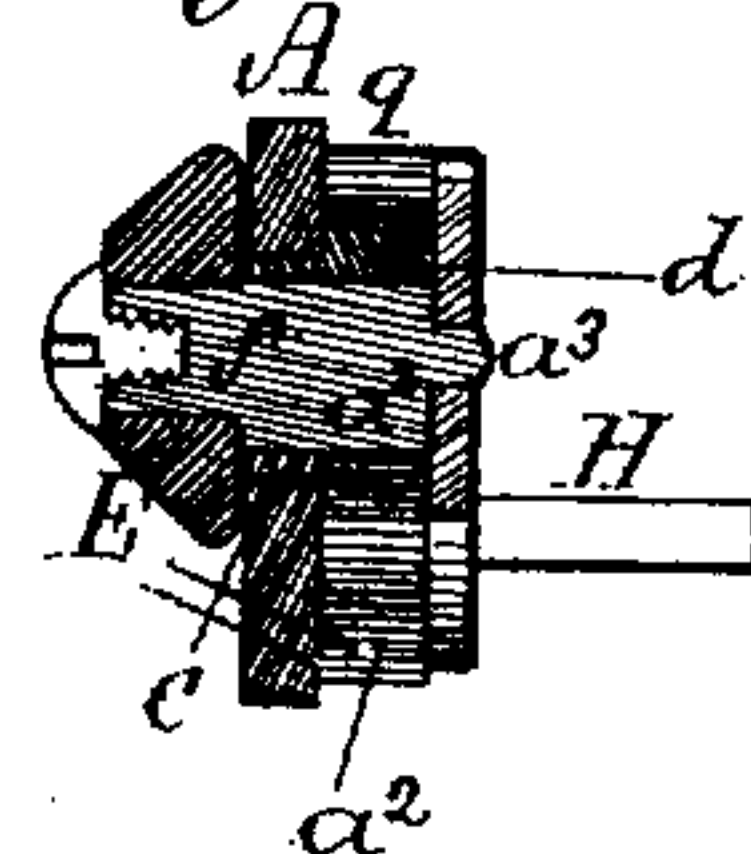
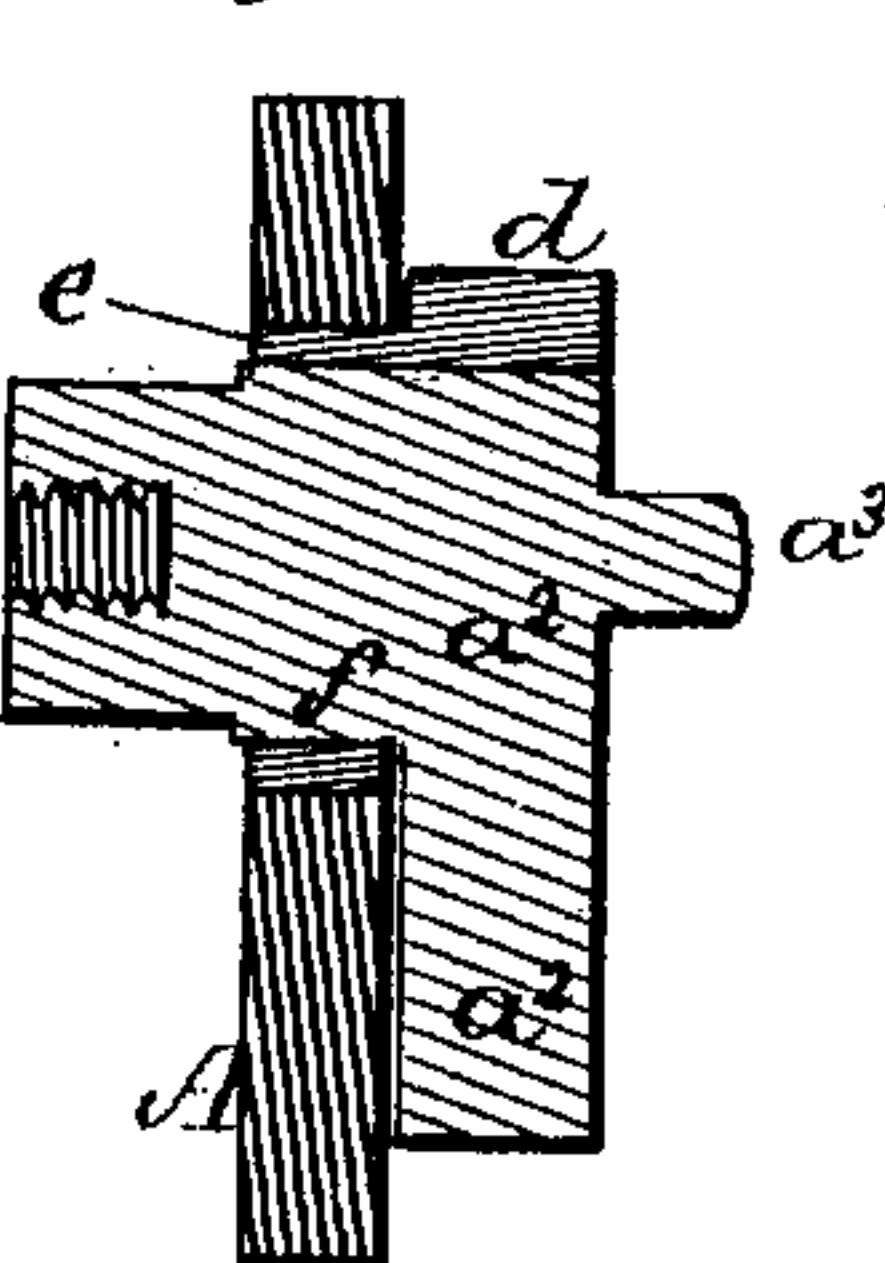


Fig. 4.



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ANDREW E. WHITMORE, OF EAST BOSTON, MASSACHUSETTS.

LOCK FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 259,445, dated June 13, 1882.

Application filed March 18, 1880. Renewed March 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, ANDREW E. WHITMORE, late of Springfield, at present residing in East Boston, county of Suffolk, and State of Massachusetts, have invented certain Improvements in Rebounding-Locks for Fire-Arms, of which the following is a specification.

This improvement relates to "rebounding-locks," so called, for fire-arms—that is, locks in which the hammer is returned automatically to half-cock after its descent upon the firing-pin by the stress of a spring, and so that it cannot again descend upon the firing-pin, except by a pull upon the trigger. In this lock the hammer is returned to half-cock by the return of the spring-impelled sear impinging against a carrier-plate intervening between the sear and tumbler, thus avoiding the necessity of employing a special spring for the purpose, and utilizing the present waste of power of the mainspring in overcoming the stress of this special spring during the descent of the hammer from half-cock to the firing-pin. In lieu of connecting the main-spring with the tumbler, it is connected to an intermediate plate, which I term a "carrier," such carrier constituting an agent to transmit the power of the mainspring to the tumbler, and serving in its descent to carry the hammer with it until the half-cock is reached, when further movement of the carrier is arrested by a suitable stop, and the hammer completes its descent from the half-cock notch to the firing-pin of the arm by the momentum imparted to it by the mainspring, the tumbler being returned to a bearing with the carrier and to half-cock when the pull upon the trigger is removed. When the hammer and tumbler are drawn back to full-cock the tumbler carries the carrier with it, the two moving as one piece against the stress of the mainspring until the full-cock notch, which is common to the two, is reached, and when the sear is removed from such notch they descend as one under the impulse of the mainspring; but this impulse is interrupted or arrested at a certain point by the stoppage of the tumbler, and the hammer allowed to complete its descent by its own momentum, unaided by the mainspring, and to be returned to half-cock unopposed by such mainspring; the half-cock notch of the tumbler being so situated as to take effect

at the point where the mainspring ceases its function upon the tumbler, and the hammer begins to move by its own momentum, impelled by the mainspring acting upon the carrier, which carries the hammer with it until the movement of the carrier is arrested, as stated—that is, at half-cock of the tumbler—when the hammer descends alone.

The drawings accompanying this specification represent in Figure 1 a vertical section, in Fig. 2 a plan, and in Fig. 3 a cross-section, of a lock embodying my improvements. Fig. 4 is a section of the tumbler or carrier enlarged. Figs. 5 and 6 are views, respectively, of the carrier.

The plate of the lock is shown at A, the bridge at B, the mainspring at D, the lower portion of the hammer at E, the tumbler at a^2 , the sear-spring at F, and the sear at H, the half-cock or safety notch of the tumbler being shown at b and its full-cock notch at c , the tumbler having an integral pivot, a^3 , to enter the bridge, as shown in Fig. 4 of the drawings.

In carrying out my invention I provide a plate, (shown at d in the drawings,) which I term "the carrier," this plate having a tubular pivot, e , which surrounds the pivot f of the tumbler, and in common with such pivot f extends through the lock-plate, as shown in Fig. 4 of the drawings, the lower central part of the carrier d being cut away or notched, as shown at g in Figs. 1 and 6 of the drawings, to receive the upper part or head h of the tumbler, the notch g being flaring at bottom in order to permit of slight play of the tumbler upon its axis—that is, a distance equal to that described by the hammer in the latter's descent from half-cock to the firing-pin. In other words, the play of the head of the tumbler in the notch permits of this descent of the hammer, a spur or horn, i , (see Figs. 5 and 6,) extending from the front part of such head to bring up against the rear boundary, k , of the notch, and prevent rattling or loose play of the hammer while at half-cock, the tumbler being forced up to the bearing by the stress of the sear-spring through the medium of the nose l of such sear wiping against the rear face, m , of the lower part of the tumbler, this face being arranged obliquely with respect to the axis of the tumbler, in order that the pressure of

the sear upon it shall crowd the spur *i* up to its bearing *k*, when the sear is released from the pull of the trigger at the same time that the nose of the sear enters the half-cock notch of the tumbler. The said half-cock notch *b* of the tumbler is situated at the top of the oblique face *m* of the tumbler, and in such position relatively to the nose of the sear, the lip *i* of the tumbler, and the abutment *k* of the carrier that as the hammer is thrown back to half-cock by the wiping of the sear upon the tumbler, and such sear enters the half-cock notch, the lip *i* brings up against the said abutment, and, as before stated, prevents forward loose play of the hammer while at half-cock. During this movement of the tumbler—that is, while the hammer is falling by its own momentum from half-cock to the firing-pin, while the pull is upon the trigger, or, being returned by the wiping action of the sear when the pull upon the trigger is relaxed, the tumbler and hammer (the two latter are connected in the usual manner) are free from or unacted upon by the mainspring, for the reason that the rear end, *o*, of the carrier *d* (the front end, *p*, of such carrier being pivoted to the free end of the mainspring) brings up against a post or stop, *q*, Figs. 1 and 2, located at the upper part of the lock-plate.

As the hammer is carried from half to full cock the pressure of the mainspring is exerted upon the carrier and by the latter transmitted to the tumbler, so that the carrier and tumbler act together as one during this movement of the hammer to overcome the stress of the mainspring until the sear enters the half-cock notch *c*. When the trigger is pulled and the sear released from the full cock notch the tumbler and carrier descend together under the impulse of the mainspring upon the latter until the hammer reaches the half-cock point, when the rear end of the carrier brings up against the stop *q* and the tumbler and hammer are released from the stress of the mainspring, and the hammer moves independently of the carrier and completes its descent by its own momentum. So long as the pull upon the trigger is maintained the tumbler is free from the stress

of both the sear and mainspring and the hammer is loose upon its axis. When the pull upon the trigger is relaxed the sear, by the stress of its spring, settles back to place into the half-cock notch, and in so doing crowds its nose against the oblique face of the tumbler and forces the lip of the tumbler into contact with the carrier, so that the two again become virtually one, and the hammer stands at safety or half cock and cannot reach the firing-pin of the arm, except by a combined lowering of it and pull upon the trigger.

The rebounding feature in this lock consists in the provision for loose play of the tumbler upon its pivot independently of the agent which connects it with the mainspring when the pull is upon the trigger and the stress of the mainspring arrested, and the return of the tumbler to a bearing with the carrier when the pull upon the trigger is relaxed.

I am aware that it is not new to construct a lock for fire-arms so that the sear-spring will throw back the tumbler and hammer to half-cock, this being shown, for instance, in a patent granted to J. C. Dane, March 26, 1872, No. 124,939. I do not broadly claim such a lock.

What I do claim is—

1. In combination with a mainspring, tumbler, and sear, a plate or carrier pivoted concentrically with said tumbler and inclosing the same, said carrier having a flaring recess to allow the independent movement of said tumbler, substantially as set forth.

2. In combination with mainspring *D*, sear *H*, sear-spring *F*, and tumbler *h*, having an inclined face beyond the safety-notch, the carrier *d*, pivoted concentrically with said tumbler and inclosing the same, said carrier being provided with a projection, *i*, and stopped by a post, *q*, said devices causing the independent forward action of said tumbler and the immediate rebound thereof to the safety position, substantially as set forth.

ANDREW E. WHITMORE.

Witnesses:

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