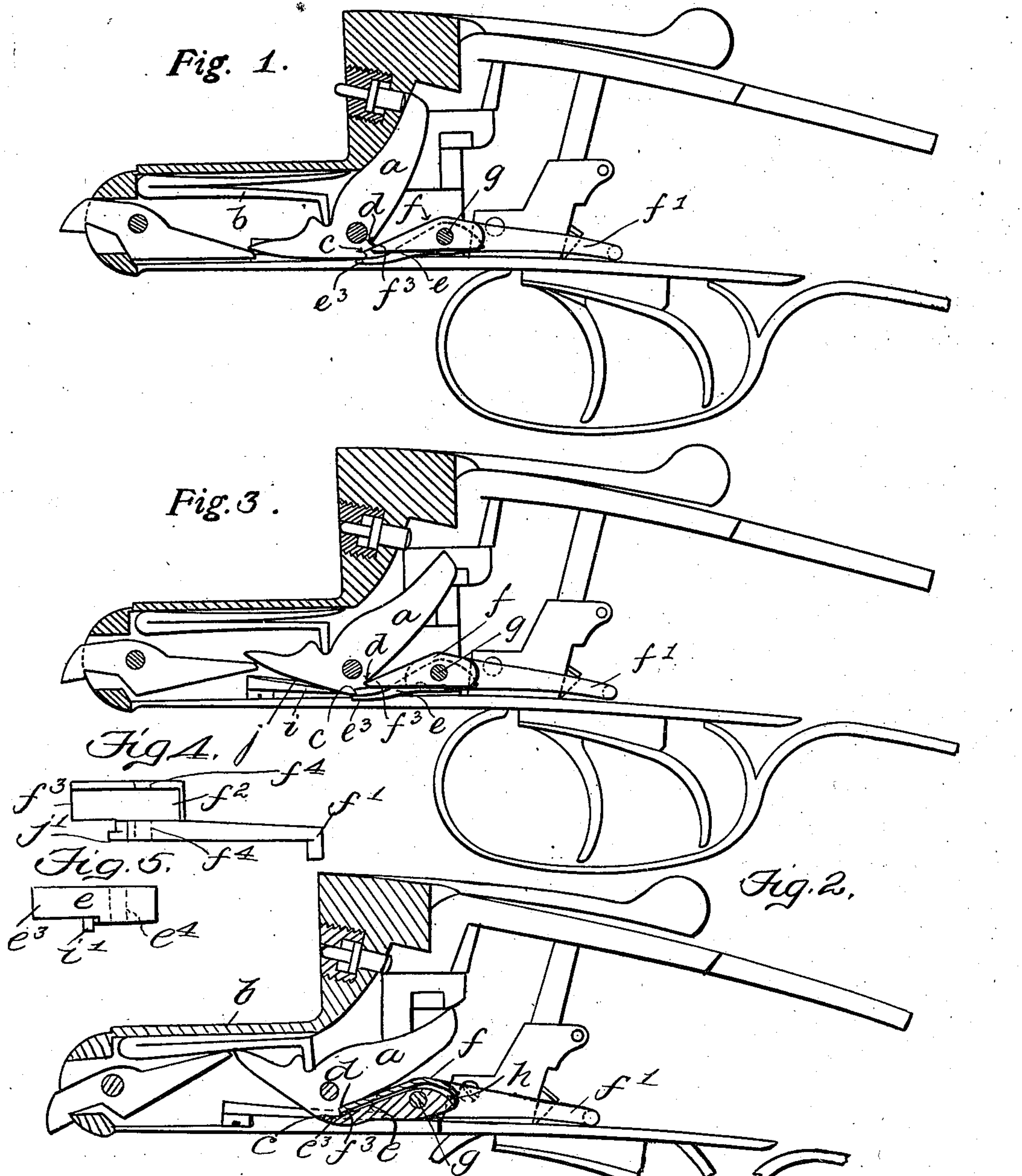


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R. BLOOMER.
SAFETY SEAR FOR FIREARMS.
APPLICATION FILED AUG. 30, 1902

NO MODEL.



WITNESSES

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SAFETY-SEAR FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 728,791, dated May 19, 1903.

Application filed August 30, 1902. Serial No. 121,675. (No model.)

To all whom it may concern:

Be it known that I, ROLAND BLOOMER, gun-maker, a subject of the King of Great Britain, residing at Arden House, Balsall street, Temple Balsall, in the county of Warwick, England, have invented certain new and useful Improvements in Safety-Sear Mechanism for Firearms, of which the following is a specification.

This invention has relation to tumbler safety or intercepting sear mechanism for guns, rifles, and other small-arms the said improvements being applicable to both single and double barrel small-arms which are provided with safety-sear mechanism in order to prevent the accidental discharge or jar-off in the case of double-barrel weapons of the second barrel by the firing of the first barrel and also to prevent accidental discharge in the case of the gun or rifle (whether single or double barreled) being dropped or from other causes; and the objects of the present invention are to simplify the construction of the safety or tumbler intercepting devices and to render the same more certain and rapid in their action, as well as to reduce the number of parts required to make up an intercepter-lock mechanism.

According to one form of my invention as applied to a safety-sear mechanism for double-barrel drop-down guns I arrange in connection with the tumbler of each lock a pair of separate or independent sears, so disposed relative to the tumbler (which has two bents) that the main or firing sear is always in bent when the tumbler is cocked, while the secondary or intercepting sear normally lies just clear of but in the path of the secondary or back bent in the said tumbler, the arrangement of the several parts being such that the primary sear can only be cleared from its bent to release the tumbler by motion communicated to it from the secondary sear after the latter has been moved out of its normal or intercepting position. Both sears are worked by a single tail, which is lifted by the trigger and is carried by the secondary sear. Thus when the trigger is pulled and the single sear-tail lifted in the ordinary way the secondary sear is first moved independently

out of its normal or intercepting position, after which both sears are moved collectively and the nose of the primary sear is taken out of the front bent and the tumbler is free to fall for firing; but should the main sear be accidentally jerked out of its bent by the jar-off occasioned by the discharge of the barrel or from any other causes, then the tumbler is arrested after having made only a slight movement and is prevented from falling against the firing-pin by being immediately caught by the secondary sear, whose nose is then engaged by the back bent of the tumbler. The secondary sear thus takes the place of the primary one and remains fast in bent until the gun is recocked.

Figure 1 of the accompanying drawings represents partly in longitudinal vertical section and partly in elevation the lock mechanism of a double-barreled hammerless gun of the Anson and Deeley type fitted or provided with an arrangement of intercepting or safety sears in accordance with one form of my invention. This view shows one of the tumblers and its primary and secondary series in elevation, and the several parts are shown in the positions which they assume after the gun has been fired. Fig. 2 is a similar view of the lock mechanism to that represented in Fig. 1, but shows the tumbler held at full-cock, ready for firing, by the engagement of the nose of the primary sear with the forward tumbler-bent, while the secondary sear is in its normal or intercepting position within the path of the back bent. The sears in this figure are represented in section to show the clearance provided to allow for the independent movement of the primary and secondary parts. Fig. 3 is a similar view to that shown in Figs. 1 and 2, but represents the tumbler caught and held by the engagement of the nose of the intercepting-sear with the back bent of the tumbler, as would occur if the primary sear should be inadvertently jarred out of bent. Fig. 4 is an under side plan of the intercepter or secondary sear separately. This intercepter carries the single tail, which is acted upon by the trigger of the gun for taking the secondary sear out of its intercepting po-

sition and the primary sear out of bent with the tumbler. Fig. 5 is an under side plan of the primary sear separately.

The same letters of reference indicate corresponding parts in all the drawings.

In the lock mechanism shown in the said figures, *a a'* are the tumblers, and *b* the main springs. Each of the tumblers has two bents *c d*, of which the former is the full-cock bent and is engaged by the primary sear *e* when the tumbler is at full-cock, while the other or back bent is adapted to be engaged by the secondary sear or interceptor *f* in the event of the primary sear being inadvertently jarred out of bent with the tumbler.

The two sears are disposed one above the other at the back of the tumbler and are mounted and rock upon the same center-pin *g*, and the secondary sear or interceptor has a rearward extension or tail *f'*, which comes over and is acted upon by the trigger-blade of the lock, while the forward part is boxed out or recessed from the under side at *f²* to form a chamber for the reception of the primary sear *e*, whose nose end *e³* extends a little beyond the nose end *f³* of the interceptor. The opposite sides of the boxed or chambered part of the said interceptor have holes *f⁴* coinciding with the hole *e⁴* in the primary sear, and through these holes the joint-pin *g* is passed, and both the sears may turn bodily thereon; but a clearance *h* is arranged behind the said joint and between the top of the primary sear and the roof of the chambered part of the secondary sear in order to admit of a slight vertical play or independent rocking movement between the two sears, which on the tail *f'* being raised will allow the nose of the secondary sear to be taken quite clear and out of its intercepting position in the path of back bent before any movement is communicated to the primary sear, it being understood that the said primary sear is tilted downward and taken out of its bent solely through the medium of the secondary sear, which at the completion of its limited independent movement bears upon the top side of the primary sear at a point forward of their common joint, and thus the two sears are constrained to move together or collectively by the tilting motion which is communicated from the secondary to the primary one. It will also be understood that no movement can be imparted to the primary sear so long as the secondary sear remains in its intercepting position and that the initial movement given to the sear mechanism by the lifting of the trigger is expended in taking the said secondary sear clear, after which both sears move collectively and the tumbler is released.

When the gun is recocked, the sears are automatically returned to and retained in

their normal positions, as indicated in Fig. 2, by means of suitably-arranged springs, such as those shown in the drawings and respectively marked *i* and *j*, the former of which bears against the under side of a stud *i'*, disposed on the edge of the primary sear forward of the joint, while the latter bears underneath a similarly-located ear or extension *j'* of the secondary sear. A separate or independent spring may be provided for each sear or a single spring split into two side-by-side limbs may be used, as shown in the drawings.

The back bent is formed of such an angle that when the tumbler is caught or intercepted by the secondary sear it cannot be disengaged therefrom by pulling the trigger, and the gun will require to be opened to recock the said tumbler before it can be discharged.

Instead of both the sears being mounted upon a single pin, which is the preferable and most convenient arrangement, it is obvious that they may be pivoted upon separate axes disposed one above the other or in dissimilar planes.

The application of the invention to single-barrel guns and rifles, whether of the drop-down or fixed-barrel type, and to other small arms, such as pistols, differs in no essential respect from its application to a double-barrel drop-down hammerless gun as herein described.

Having described my invention, I declare that what I claim, and desire to secure by Letters Patent, is—

1. The combination with the tumbler of a gun; and the mainspring; of an interceptor arranged to engage with said tumbler, said interceptor having a recess therein, and having a tailpiece; a trigger in engagement with the tailpiece of said interceptor; and a sear mounted in the recess of said interceptor and arranged to engage with said tumbler and to be thrown out of engagement therewith by said interceptor.

2. The combination with the tumbler of a gun; and the mainspring; of a pivoted interceptor arranged to engage with said tumbler, said interceptor having a recess therein, and having a tailpiece; a trigger in engagement with the tailpiece of said interceptor; and a sear, in the recess of said interceptor, mounted upon the pivot thereof, and arranged to engage with said tumbler and to be thrown out of engagement therewith by said interceptor.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROLAND BLOOMER.

Witnesses:

ARTHUR T. SADLER,
EDITH HELLABY.