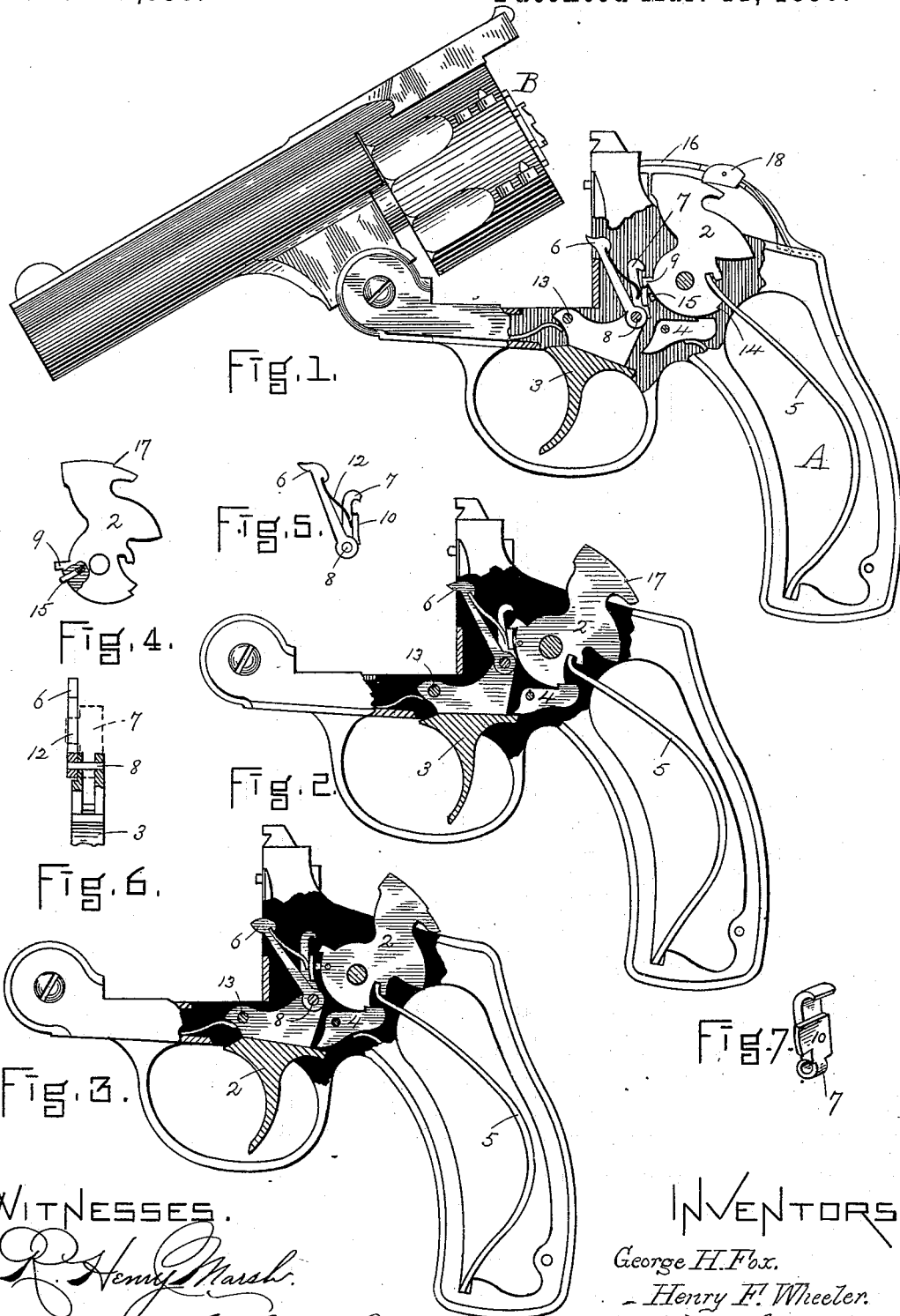


(No Model.)

G. H. FOX & H. F. WHEELER.
LOCK FOR FIRE ARMS.

No. 422,930.

Patented Mar. 11, 1890.



WITNESSES.

R. Henry Marsh.
Francis C. Stanwood

INVENTORS.

George H. Fox.
Henry F. Wheeler.
by *H. E. Lodge Atty.*

UNITED STATES PATENT OFFICE.

GEORGE H. FOX AND HENRY F. WHEELER, OF BOSTON, MASSACHUSETTS.

LOCK FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 422,930, dated March 11, 1890.

Application filed April 17, 1889. Serial No. 307,577. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. FOX and HENRY F. WHEELER, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Locks for Fire-Arms; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in locks for fire-arms, particularly that class termed "double-acting," in which the trigger serves as a means both to cock the hammer as well as to release the latter from the sear in the act of discharging the weapon.

Our invention consists, in combination with a trigger and sear, of a "fly," so called, hung upon the rear of the trigger, and which serves to swing and cock the hammer when a backward pull is exerted upon the trigger; furthermore, in mechanism attached to the hammer adjacent to the fly, whereby upon engagement of the sear in the full-cock notch, and when the pressure of the mainspring is transferred to the sear, said mechanism shall operate to release the fly from the hammer simultaneously with any diminution in the pull then existing upon the trigger. By such arrangement a very important result is accomplished. The weapon with such mechanism is provided with a "double-action lock," so termed—that is, one in which a pull upon the trigger cocks the hammer, while a further continued pull releases said hammer to discharge the weapon; or, if desired, an ordinary cocking of the hammer can be produced, when a subsequent pull on the trigger will discharge the weapon, as generally desired in target practice, where precision of aim is necessary.

The general relation and operation of the parts as a complete organization will herein-after be fully explained and described.

The drawings accompanying this specification represent in Figure 1 a sectional elevation of a revolving fire-arm embodying my

invention with the lock mechanism as positioned after the discharge of the weapon or prior to the cocking of the hammer. Fig. 2 represents the stock portion, showing the position of the lock mechanism immediately after the sear has engaged the hammer without the pull upon the trigger being diminished. Fig. 3 represents a similar view when the pull on the trigger has ceased, showing the fly disengaged from the hammer. Fig. 4 is a sectional elevation of the hammer with the fly-releasing mechanism. Fig. 5 is a side elevation of the fly and the pawl for actuating the cylinder. Fig. 6 is an end view showing the manner of uniting the pawl and fly with the trigger. Fig. 7 is a perspective view of the fly.

In the annexed drawings, A represents the stock portion, and B the barrel portion, including the cylinder and other co-operating parts, of a revolving fire-arm.

Our invention in the present instance pertains solely to the lock mechanism, in which the hammer is indicated at 2, the trigger at 3, sear at 4, and mainspring at 5, while the cylinder-actuating finger or pawl is shown at 6 and the fly at 7. Said parts are arranged and bear the same relation as hitherto generally adopted in weapons of this class, which contain "double-action lock mechanism," so termed.

By our improvements the hammer can be cocked by a pull upon the trigger and then left in engagement with the sear at full-cock. A pull on the trigger at any convenient subsequent time will then release the hammer, or the hammer can be cocked by a pull on the trigger, while a continued further pull will release the hammer, as in ordinary double-action weapons. This is a great advantage, as it enables the weapon to be used, as desired, either for rapid continued firing or for intermittent firing, as in target practice.

By reference to Figs. 5, 6, and 7 it will be seen that the cylinder-pawl 6 is pivoted on pin or stud 8, attached to the upper rear end of the trigger-head, the latter formed with ears, which straddle the lower end of the fly, also mounted upon said pin; further, the fly is vertically disposed, and the upper end terminates in a hook. Beneath the latter and upon that portion adjacent to the ham-

mer, which is furnished with a lip 9, is an abutment or shoulder 10. Laterally of said shoulder is a projection engaging a spring 12, which is common to the fly and to the pawl, serving to thrust the latter against the ratchet on the cylinder, while the fly is oppositely pressed against the hammer.

The pivot of the trigger is at 13, the full-cock notch at 14. Within the front lower portion of the hammer is located a spring-actuated pin 15, which is so situated as to contact with the face of the abutment 10 on the fly, as will now be described.

The operation of the lock mechanism in cocking the hammer is as follows: The various operating parts being in the several positions shown in Fig. 1, with the hammer down, a backward pull on the trigger swings its rear portion upwardly, as likewise the pawl 6 and fly 7. The abutment 10 is in contact with the hammer, the lip 9 of the latter resting above it. By this means the hammer is actuated, swinging back until the sear 4 has entered the full-cock notch 14. Should the pull on the trigger be continued, the trigger wipes the tail of the sear, when the hammer is released and falls by the action of the mainspring. This describes the relation and operation of the parts when the lock mechanism is used as a "double-action" one, the trigger-spring forcing the trigger with its fly and pawl to resume their former positions. Assuming, however, that the weapon is to be employed for target practice and it is desired to simply cock the weapon, the operation of the parts, as above described, is the same until the sear has engaged the full-cock notch of the hammer. The pull on the hammer is now removed in lieu of being continued. The result is that when the sear has locked the hammer the pressure of the mainspring is transferred from the fly, which then upheld the hammer and the opposing mainspring, to the sear as a support. When the fly is thus relieved from such pressure, the actuating bolt or pin 15 is then free to perform its duty, advancing outwardly from the hammer against the fly, and disengages the abutment 10 on the latter from the lip 9 on the hammer, the fly rising up and standing clear from said hammer, as shown in Fig. 3. The weapon is now cocked and the parts remain in the same relative positions until a renewed pull upon the trigger causes the latter to release the sear and the hammer falls.

The advantages derived from this improved lock mechanism are obvious, as before premised. We do not, therefore, desire to be limited to the precise form of device for releasing the fly from the hammer, as many modified forms will readily suggest themselves to those skilled in the art.

In the weapon above described is shown an internal-hammer pistol—one which can be readily thrust in a pocket or holster without danger of catching the hammer and thereby causing accidental discharges. The hammer is concealed beneath a removable cap 16; further, in connection therewith, the hammer is provided with a shoulder 17, engaged by a safety locking-bolt 18. The latter is spring-actuated to remain in either an active or inactive position and projects in part exteriorly of the cap sufficient to enable said safety-bolt to be readily operated by the hand.

Fig. 1 represents the hammer locked, while the lock mechanism is completely inoperative so long as the safety-bolt remains in the position shown.

What we desire to claim is—

1. The improved lock mechanism for fire-arms, consisting of a hammer, a sear, and a trigger, combined with a fly operated by the trigger to cock the hammer and a spring affixed to the hammer, which operates to release the fly from the hammer immediately after the sear enters the full-cock notch, substantially as described.
2. The improved lock mechanism for fire-arms, consisting of a hammer, a sear, and a trigger, combined with a fly operated by the trigger to cock the hammer, and a movable projection carried by the hammer, but operated by means disconnected therefrom to release the fly from the hammer, substantially as set forth.
3. In revolving fire-arms, a trigger, a spring-actuated fly pivoted thereon, and a sear which holds the hammer at full-cock, combined with a hammer provided with spring-actuated mechanism which operates the fly to disengage the latter from the hammer immediately after the sear enters the full-cock notch, substantially as and for the purposes herein stated.
4. The combination, with the hammer, the sear, and the trigger pivoted in the stock portion of a fire-arm, a pawl and fly pivoted to the trigger, and a spring actuating said pawl and fly oppositely, of the abutment 10 on the fly, the lip 9 on the hammer, which interlock at certain definite times, and a spring-actuated pin carried by the hammer and serving to disengage said abutment and lip, substantially as herein specified.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. H. FOX.
HENRY F. WHEELER.

Witnesses:

H. E. LODGE,
FRANCIS C. STANWOOD.