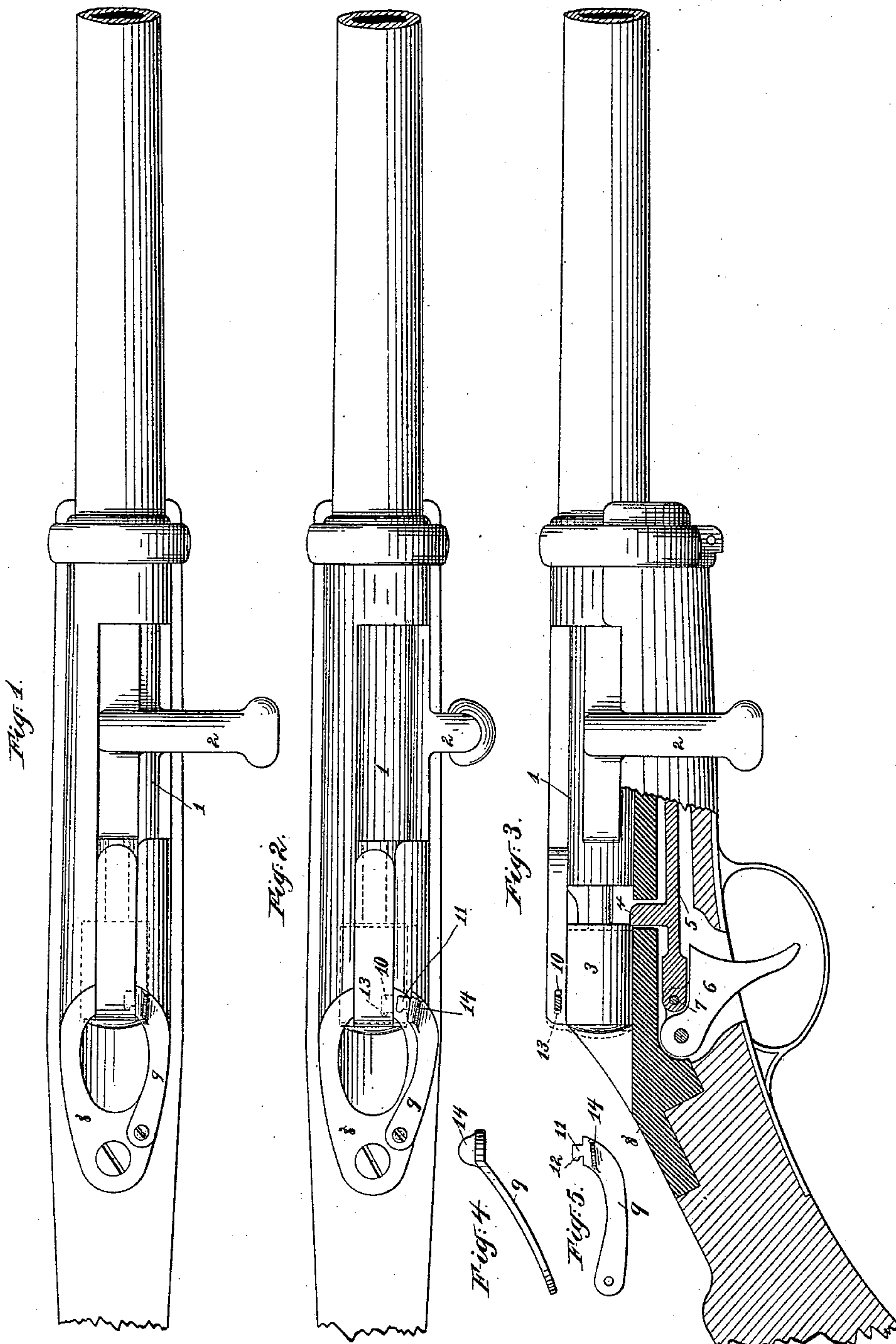


(No Model.)

J. D'A. IRVINE.  
FIRING PIN LOCK FOR SMALL ARMS.

No. 471,122.

Patented Mar. 22, 1892.



Witnesses:  
Charles R. Searle.  
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# UNITED STATES PATENT OFFICE.

JOHN D'ARCY IRVINE, OF HOWTH, IRELAND.

## FIRING-PIN LOCK FOR SMALL-ARMS.

SPECIFICATION forming part of Letters Patent No. 471,122, dated March 22, 1892.

Application filed September 1, 1891. Serial No. 404,402. (No model.) Patented in England January 6, 1891, No. 236.

*To all whom it may concern:*

Be it known that I, JOHN D'ARCY IRVINE, a citizen of the United Kingdom of Great Britain and Ireland, residing at Howth, in the county of Dublin, Ireland, have invented certain new and useful Apparatus for Locking the Striking-Gear of Small-Arms, (for which I have obtained provisional patent in Great Britain dated January 6, 1891, No. 236;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fire-arms, more especially to that class which are provided with a bolt-action, such as the Châssepot and magazine rifle, and has for its object to securely and effectually lock the striking-gear of such arms in such a way that while the striking-gear remains thus locked the charge cannot be exploded by accident or otherwise.

In carrying out my invention, I propose to increase the usual length of the striking-bolt if it should be found necessary to do so for the purposes of my invention in the weapon to which it is applied, so as to cause a portion of its base or rear end to project through the breech of the barrel, and in one side of this projecting portion a suitable hole or recess is formed, for the purpose to be presently described. The stock is provided with framework, to which is pivoted a suitable pawl provided at its free end with a stud, which is adapted to engage the aforesaid hole or recess in the striking-bolt, and which may be locked therein by the slight forward movement of the striking-bolt in closing the bolt action, as will be hereinafter more fully described. As long as the said pawl engages in said hole or recess the striking-gear is securely locked and cannot be acted upon by the trigger. To unlock the striking-gear it is only necessary to disengage the pawl, to effect which the striking-bolt must first be moved rearward a little, and then the pawl being turned out of engagement the trigger may be brought to bear in the ordinary manner.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is plan view of the striking-gear and bolt action of a rifle of the ordinary Châssepot or magazine type, showing the application of

my invention when the striking-bolt is locked. Fig. 2 is a plan view of the same showing the striking-bolt unlocked and the operating-lever depressed or lowered. The piece is now ready for firing. Fig. 3 is a side elevation, partly in section, the strong lines showing the striking-bolt locked by means of the locking-pawl, which constitutes a part of my invention. The dotted lines show the striking-bolt moved back to allow the locking-pawl to be engaged or disengaged. Fig. 4 is a side elevation of the locking-pawl detached. Fig. 5 is a plan view of the same.

Similar numerals of reference indicate like parts in all the figures where they appear.

1 designates the breech-block, and 2 the locking-lever for the same. 3 is the striking-bolt, and 4 is the trigger-check adapted to engage the latter, and which in this instance forms part of the spring 5, which is secured at its forward end in the breech of the gun. 6 designates the trigger, which is connected pivotally at 7 with the spring 5 of the trigger-check. 8 designates the frame-work at the forward end of the stock. All of these parts are of the usual or any well-known construction.

Suitably pivoted to the frame-work 8, near the rear end of the same, is a pawl 9, which is bent or curved upwardly and laterally, so as to be adapted to engage the recess in the striking-bolt. The latter is provided with a lateral recess 10, adapted to receive the stud or lateral projection 11 at the front end of the pawl 9, which projection has a rearwardly-extending lip 12 adapted to fit in an undercut space 13 at the rear end of the recess or opening 10. The engagement of this lip hookwise in said opening 13 serves to lock the stud 11 in said recess. The pawl 9 is also provided near its front end with an upwardly-extending thumb-piece 14, by means of which it may be conveniently manipulated.

In operating my invention the loading and firing mechanism is operated in the manner usual to this class of fire-arms—that is, the operating-lever 2 is raised and moved rearwardly, so as to force the striking-bolt in a rearward direction, thus opening the magazine or breech, enabling the empty shell to be discharged and replaced by a new cartridge. Said new cartridge is then forced into the



chamber of the barrel by pressing or forcing the operating-lever in a forward direction. At the same time the pawl 9 may be manipulated by the thumb of the operator, so as to throw the stud 11 into engagement with the recess 10, on doing which and turning the operating-lever 2 down it is locked by the lip 12, engaging the opening 13 at the inner end of said recess. The striking-bolt will then occupy the position shown in Fig. 1 of the drawings, and also in strong lines in Fig. 3, by reference to which latter figure it will be seen that the said striking-bolt is held or retained a little distance in rear of the trigger-check. When retained in this position, the gun cannot be fired. The cartridge cannot be discharged by accident or otherwise, because it is impossible for the striking-bolt to come in contact therewith.

To put the arm in condition for being discharged, the operating-lever is raised and drawn back until the striking-bolt is moved slightly in a rearward direction, and the locking-pawl 9 is then easily disengaged from the recess 10, as will be seen in Fig. 2 of the drawings. The operating-lever is then again carried forward and lowered or depressed, so as to lock the breech. The striking-bolt will thus be permitted to pass forward until it engages the trigger-check, by which it is held until the trigger 6 is pulled to move it out of the path of the striking-bolt when the latter will be carried forward by the action of the usual operating-spring, and the piece will be discharged.

From the foregoing description, taken in connection with the drawings, the operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. In bolt-action fire-arms the objection has heretofore usually existed that they could not be conveniently secured at half-cock, or in such a manner as to pre-

vent accidental discharge. By my invention this objection is entirely overcome in a simple and convenient manner and by means which may be conveniently applied to all ordinary bolt-action fire-arms without altering the general construction of the same in any way.

While I have herein described the preferred construction of my invention I desire it to be understood that I do not limit myself to the details of the same, as herein described, but reserve the right to any changes and modifications of the same to which recourse may be had without departing from the spirit and scope of my invention.

Having thus described my invention, I claim—

1. In a bolt-action fire-arm, the combination, with the striking-bolt having a recess in its side, of a pawl pivoted in rear thereof and arranged to engage said recess and hold the striking-bolt out of action when desired, substantially as set forth.

2. In a fire-arm of the class described, the combination, with the striking-bolt having an undercut recess, of a pawl pivoted in rear thereof and having a stud and lip adapted to engage hookwise in said recess, substantially as set forth.

3. The combination, with the striking-bolt having a suitable recess provided with a rearwardly-extended opening at its inner end, of a suitably-arranged pivoted pawl having a stud adapted to engage said recess, and a thumb-piece, by means of which it may be conveniently manipulated, substantially as herein specified.

Dated this 14th day of July, 1891.

JOHN D'ARCY IRVINE.

Witnesses:

EDWARD FOTTRELL,

W. A. REID,

*U. S. Deputy Consul, Dublin.*