

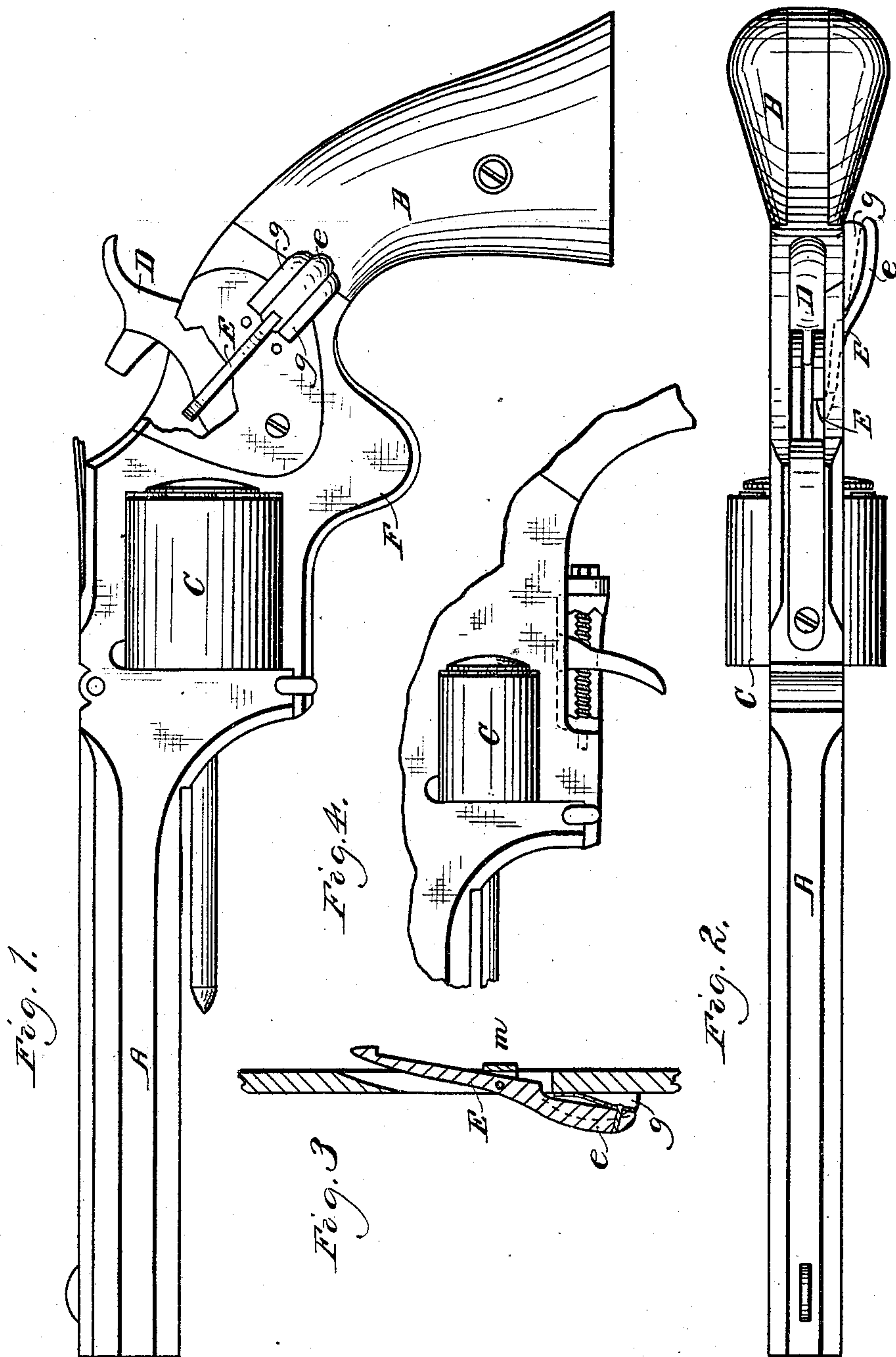
(No Model.)

L. HILL & T. S. E. DIXON.

SIDE TRIGGER FOR FIRE ARMS.

No. 249,240.

Patented Nov. 8, 1881.



Witnesses,
Henry Frankfurter, per.
C. J. Hill
Inventor,
L. Hill & T. S. E. Dixon
Attorneys.

UNITED STATES PATENT OFFICE.

LYSANDER HILL AND THERON S. E. DIXON, OF CHICAGO, ILLINOIS.

SIDE TRIGGER FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 249,240, dated November 8, 1881.

Application filed August 29, 1881. (No model.)

To all whom it may concern:

Be it known that we, LYSANDER HILL and THERON S. E. DIXON, both of Chicago, in the county of Cook and State of Illinois, have jointly invented a new and useful Improvement in Side Triggers for Fire-Arms; and we do hereby declare that the following is a full, clear, and exact description and specification thereof, sufficient to enable any one skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a side view of a revolver-pistol containing our improvements, a portion of the lock-plate having been broken away. Fig. 2 is a top view of the same. Fig. 3 is a detached sectional view, showing one form of trigger that may be employed; and Fig. 4 is a detached view, showing one form of adjustment that may be employed for the finger-rest.

Similar letters of reference indicate the same parts.

In firing a pistol the weapon is grasped by the right hand, with the thumb resting against the left-hand side of the upper part of the stock, and the forefinger extending under the stock and forming a support for the barrel. The movement of the finger in pulling the trigger is therefore a movement or displacement of the barrel-support, and necessarily tends to disturb the aim by either drawing the muzzle down, throwing it up, or otherwise deflecting it at the moment of firing, and the leverage of the trigger upon the barrel tends to increase this deleterious result. Great experience and careful practice may enable some persons to guard against this deflection of the barrel, but others are never able to overcome the difficulty, and consequently can never become skillful in the use of the instrument. Inexperienced persons are almost invariably liable to fire too high or too low, from the cause referred to.

The first object of our invention is to so improve the pistol as to avoid this defect in its construction by enabling it to be fired by an easy, natural, and normal movement of those parts of the hand which do not perform any important function in the support of the barrel. To this end we arrange the trigger at the upper left-hand side of the stock or lock in

such position that the thumb naturally and without effort rests upon it or immediately contiguous to it when the pistol is grasped for firing, and we construct it to yield in the direction of the easiest and most powerful movement of the thumb thus resting upon or near it. By this means the forefinger, which supports the barrel, is required to make no movement in firing, and the slight movement of the thumb disturbs no muscles required for the support or aim of the pistol. The thumb-piece of the trigger is arranged preferably at the point shown in the drawings; but it may be arranged above or below that point, or forward or back of it, without departing from the principle of the invention. It should not be arranged so high as to be in vertical line with the middle of the stock, as that would, in firing, cause the thumb to be twisted sidewise so far as to cramp or distort the muscles of the hand and interfere with the steadiness of the aim, and, besides, would bring the thumb in line with the sights and interfere with sighting the piece. The proper position of the thumb-piece is therefore at the side of the stock or lock, and within the range of the thumb when resting easily against such side.

For left-handed persons the pistol may be arranged with the trigger on the right side instead of the left.

It will be observed that the above-described arrangement of the trigger leaves the forefinger perfectly free to perform the single function of supporting the barrel and steadying the aim.

Our second improvement is designed to assist it in the performance of this function; and to that end it consists in providing the under side of the pistol with a rigid finger-rest, arranged at such a distance forward of the bend of the stock that the forefinger, when hooked around its front side, will be held to a certain extent in tension, so as to clamp the piece between the palm or ball of the hand and the forefinger without the necessity for substantially any retraction of the muscles in holding and aiming the pistol. To illustrate our meaning, the trigger as heretofore constructed was arranged under the stock, so near the bend thereof that the finger had to be positively re-

tracted in order to bear strongly against it—a necessary provision in that class of pieces, because if the firing-trigger were arranged so far forward as to normally bring the tensional pressure of the finger upon it the piece would be liable to premature discharge; but in our invention the forefinger, having no firing function, can be arranged well forward, and the only effect thereof will be to relieve the muscles to a very great extent from positive retraction in holding the piece, enabling the hand to grasp and hold the pistol as in a vise, and with so trifling an effort as to cause no muscular tremor whatever. In carrying this part of our invention into practice the finger-rest should, in the ordinary revolver-pistol, be arranged under the rear portion of the cylinder, in which position the forefinger will be put in an easy but positive tension when hooked around it. If desired, the finger rest can be made sliding or adjustable in line of the barrel by any suitable means, (for example, like that employed to adjust the jaw of a monkey-wrench,) to enable it to be adjusted and fixed in position to suit the hand of the user.

In the drawings, A indicates the barrel, B the stock, C the cylinder, and D the hammer, of a common form of revolver-pistol.

The ordinary trigger under the breech is dispensed with, and a thumb-trigger, E, is employed in its stead. The end *e* of the trigger, which is pressed in firing, projects from the side of the stock or lock within range of the easy natural movement of the thumb when resting over the back and side of the piece. The piece is fired by pressing the projection *e* inward toward the stock or lock, although if it were arranged to be pressed backward, forward, downward, upward, or in any oblique direction it would still be an inferior equivalent of our arrangement and come within the limits of our invention.

The trigger may consist of a simple spring-lever arranged at the left side of the hammer, pivoted at *m*, and hooking over or around the front edge of the hammer, above the pivot of the latter; or it may be made in any other form and engage with the hammer at any other point, either directly or through any suitable connection, as the taste or judgment of the manufacturer may prefer, such possible modifications of arrangement or structure being so numerous and so obvious that it is not necessary here to describe them.

The finger-rest above referred to is shown at F, and is arranged in ordinary revolver-pistols under the rear portion of the cylinder, and in other pistols in an equivalent position or at an equivalent distance from the bend of the stock. The screw-rod and head for adjusting it are shown at *o v*, the former passing through the sliding rest.

We prefer to employ the ordinary and well-known forms of pivoted hammer D in connection with our improvements, as thereby the pistol can be easily and quickly cocked by the thumb without lowering the fire-arm from its

aim. This improved effect, which gives substantially the same advantage as by the employment of a cocking-trigger, is mainly due to the use of the rigid finger-rest, which enables the instrument to be so firmly grasped independently of the thumb. The pistol thus constructed can be fired much more rapidly than as heretofore constructed and used. If preferred, however, a firing-pin, needle, or other known means of exploding the fulminate may be substituted for the hammer.

The above-described improvements are applicable to other fire-arms than pistols, although in arms which are to be grasped by both hands in firing the advantages of our construction would not be so great as in pistols.

Our several improvements may be used independently of or in connection with each other. The finger-rest, even when not advanced, as above described, will be of assistance in connection with the thumb-trigger arranged at the side for holding the piece steadily while firing; but when advanced, as described, its efficiency is greatly increased, and when so advanced it will perform a very useful service, whatever may be the arrangement or location of the thumb-trigger. When used in connection with both the thumb-trigger and pivoted hammer it also enables the piece to be cocked as well as fired by the thumb; and some other forms of hammer are or may be made capable of the same advantage in connection with it. The trigger, partially sunk in a recess in the stock or lock-plate, or protected by side guards, *g g*, is in no danger of being broken or injured, and further guards will not be needed, although any form of guard may be used, if preferred.

The improvements add nothing to the cost of the instrument, do not in any way affect the manner or results of its use, except advantageously, as above set forth, render it as convenient for carrying in the pocket or in a holster as any other form of pistol, and, if anything, render it less liable to accidental discharge than the old forms of pistol, inasmuch as the trigger is protected by the thumb, and there is less tendency to press it with the thumb by accident than to press the old-fashioned finger-trigger by accident when raising the fire-arm to aim. The improvements may readily and cheaply be applied to old pistols of the forms generally in use by alterations which any skillful machinist can easily make from the information herein given.

Having thus described our invention, we claim as new—

1. A fire-arm having the hammer combined with a firing-trigger which is arranged at the side of the stock or lock within easy range of the thumb when the piece is grasped for firing, whereby the piece, when cocked, is discharged by simply pressing the thumb against said trigger, substantially as and for the purposes described.

2. A fire-arm having the hammer combined

with a laterally-moving firing-trigger which is arranged at the side of the stock or lock within easy range of the thumb when the piece is grasped for firing, whereby the piece, when
5 cocked, is discharged by simply pressing the thumb inward against said trigger, substantially as and for the purposes described.

3. In a pistol, the combination of a side thumb firing-trigger, which, when pressed, dis-
10 charges the piece, with a projecting rigid finger-rest under the piece, to be grasped by the forefinger, and with the barrel, stock, and lock, substantially as and for the purposes described.

4. In a pistol, the combination of a side
15 thumb firing-trigger, which, when pressed, dis-

charges the piece, with an advanced forefinger-rest arranged under the rear portion of the cylinder, or in an equivalent position, and with the barrel, stock, and lock, substantially as
20 and for the purposes described.

5. In a pistol, a projecting forefinger-rest arranged under the piece, and adjustable forward and backward to accommodate its position to the hand of the operator, substantially as and for the purposes described.

LYSANDER HILL.

T. S. E. DIXON.

Witnesses:

GEO. B. JOHNSON,

C. T. HALL.