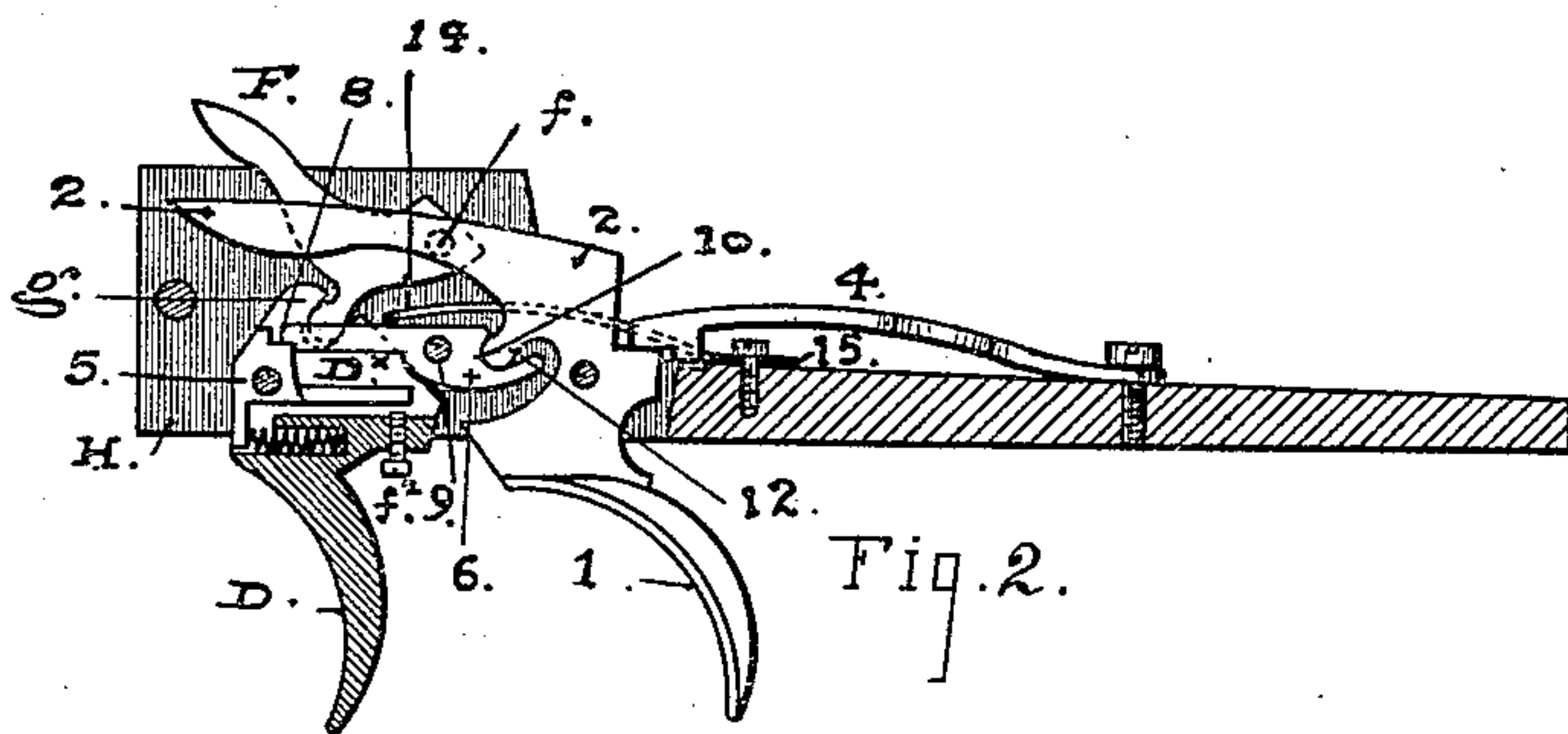
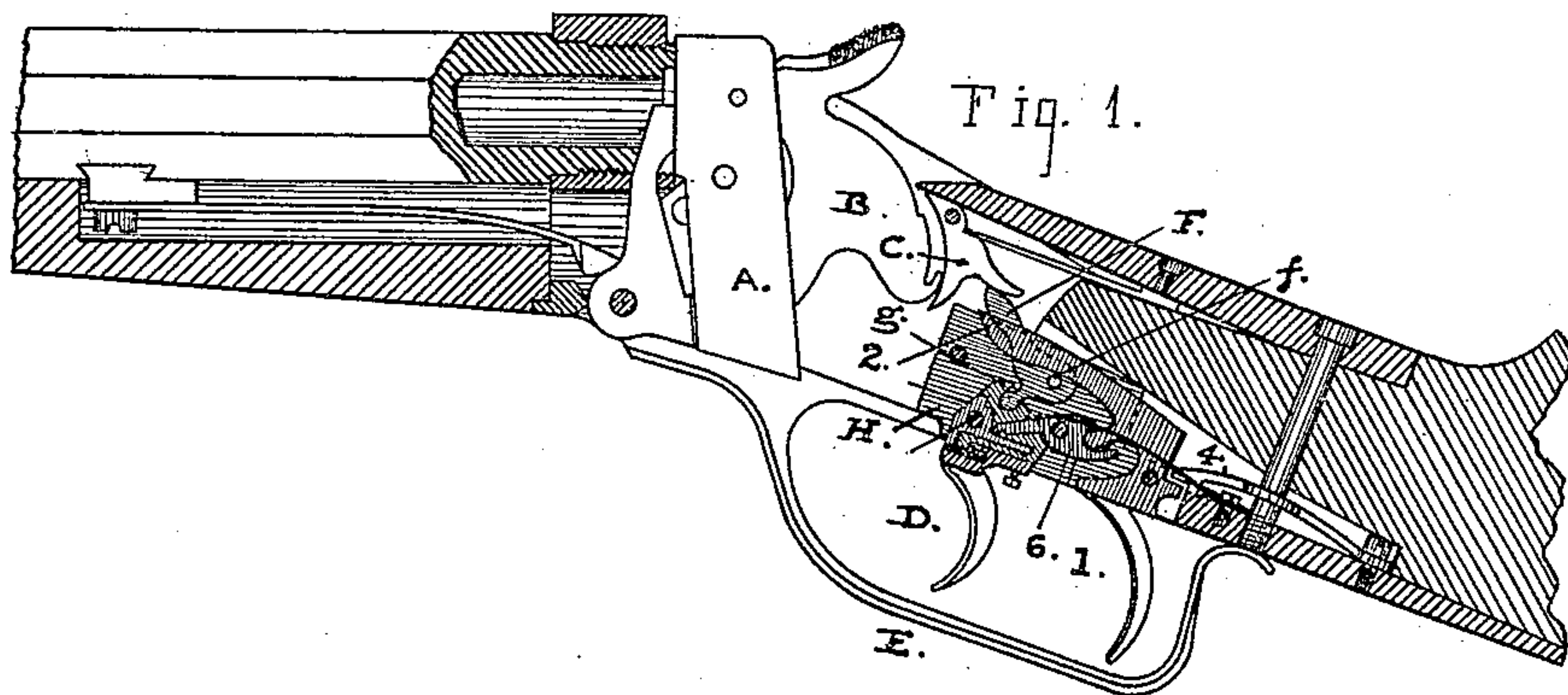


(No Model.)

O. A. BREMER.  
SET TRIGGER.

No. 446,912.

Patented Feb. 24, 1891.



Witnesses:

*Wm. Mayer*

*A. M. Charlot*

Inventor:

*Otto A. Bremer*

*By Smith & Aborn*  
his *Attys*



# UNITED STATES PATENT OFFICE.

OTTO A. BREMER, OF SAN FRANCISCO, CALIFORNIA.

## SET-TRIGGER.

SPECIFICATION forming part of Letters Patent No. 446,912, dated February 24, 1891.

Application filed June 4, 1890. Serial No. 354,272. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO A. BREMER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Set-Triggers for Breech-Loading Fire-Arms, of which the following is a specification.

This invention relates to improvements in set-triggers for fire-arms, and more especially to the production of a combination plain and set trigger for the Winchester rifle and fire-arms of that class.

It consists of a novel construction and combination of parts and mechanism with the ordinary trigger and parts of the lock, as hereinafter fully described, whereby certain advantages are secured over the present set-trigger provided in the fire-arms of the class mentioned, particularly in lightness and delicacy of action when set, rapidity of adjustment in changing from the ordinary trigger, and safety in handling the gun.

The following description explains the nature of the said improvements and the manner in which I proceed to produce and apply the same, the accompanying drawings being referred to by figures and letters.

Figure 1 represents the improvements applied to the Winchester single-shot rifle and shows the parts in side view, the side of the receiver being cut away to expose the parts within. In this view the parts are in position either for ordinary firing or ready to adjust the set-trigger for action. Fig. 2 shows the parts adjusted to use the set-trigger.

No change is made in the general construction of the loading and firing mechanism, and therefore the breech-block A and connected parts, the hammer B and sear C, and the adjacent parts remain the same. Space is required, however, behind the ordinary trigger or finger-piece D for the set-trigger 1, and the guard E is lengthened to extend behind this second trigger. In addition to the knock-off F, there is an auxiliary knock-off 2, which I shall call the "set knock-off," so arranged at one side of the main knock-off that it sets under the end of the sear in position to strike it when thrown up. This second knock-off is in one piece with the set-trigger 1, and is of suit-

able length and shape to extend over the main trigger and not interfere with that part or with the main knock-off in the ordinary operation of those parts. The knock-off F is pivoted at *f*, and is reduced in thickness in order to accommodate the piece 2, which plays alongside of it. Connection of the main trigger is made with its knock-off by the connection *g* in the usual manner, and the hammer is released directly by the throw of this knock-off with an ordinary pull of the main trigger. The same trigger, however, is arranged to work the second knock-off, and in such adjustment it holds down that part against the reaction of a flat spring 4, which throws up the set knock-off against the sear and releases the hammer when the main trigger is touched.

The connection between the main trigger and the second trigger affords such delicate adjustment or set of the parts that a light touch is sufficient to fire the gun, while the arrangement of the two triggers is such that the change from ordinary trigger to set trigger is made at the time of firing when the gun is up to the shoulder and can be done quickly. By such means I avoid the necessity of adjusting the set-trigger before bringing the gun into position, and thus remove a common source of danger. This connection is made by the pivoted hook or catch-piece 5 in the block of the main trigger and a toggle-lever 6, pivoted at 9 in the plate H between that catch and the head of the second trigger. The front end of this lever is suitably formed to engage with the notch 8 in the catch 5 when raised up into substantially horizontal position, while the rear end of the lever has a recess or socket 10 to take a projecting knuckle-piece 12 on the second trigger. These two points of connection between the main and set triggers and the pivot 9 of the lever are in the same line and above the line of the two pivots on which the triggers are hung when the set-trigger is drawn back. Consequently the second knock-off when depressed by the movement of the trigger is held down by the toggle-lever and cannot spring up until the lever is released from the catch 8. The flat spring 14, fixed at the end 15 and bearing on the front end of the toggle-lever presses down that end of the lever, and thus throws



the toggle out of line when the main toggle is pulled.

The catch 5 is pivoted in a slot in the block D<sup>x</sup> of the main trigger and is held in position by a coil-spring, the tail of the catch resting on a set-screw *f*<sup>2</sup>, by which the "set" can be adjusted to work with more or less delicacy. As thus constructed and arranged for operation, this trigger is set for delicate action by pulling on the set-trigger and is fired by a light touch on the forward trigger, and as both the movement of the finger to adjust and that to fire are made in the same direction the set-trigger can be quickly brought into action at any time when the gun is in position and immediately at the time of firing.

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

20 1. In a rifle, the combination, with a main trigger and a sear, of a main knock-off to op-

erate said sear, having connection with the main trigger, as described, a second knock-off and second trigger connected thereto, and a toggle-lever having bearings upon the second knock-off and main trigger, as set forth. 25

2. In a rifle, the combination of a main trigger and knock-off operated thereby, a catch-piece pivoted on the block of the main trigger, a toggle-lever having one end engaged by said catch, a second knock-off having engagement with the opposite end of the toggle-lever, a second trigger connected to the second knock-off, and a spring pressing upon the said knock-off back of its pivot, as set forth. 30 35

In testimony that I claim the foregoing I have hereunto set my hand and seal.

OTTO A. BREMER. [L. S.]

Witnesses:

EDWARD E. OSBORN,

OTIS V. SAWYER.