

(No Model.)

A. DICKERMAN.  
BREECH LOADING SHOTGUN.

No. 369,437.

Patented Sept. 6, 1887.

Fig. 1

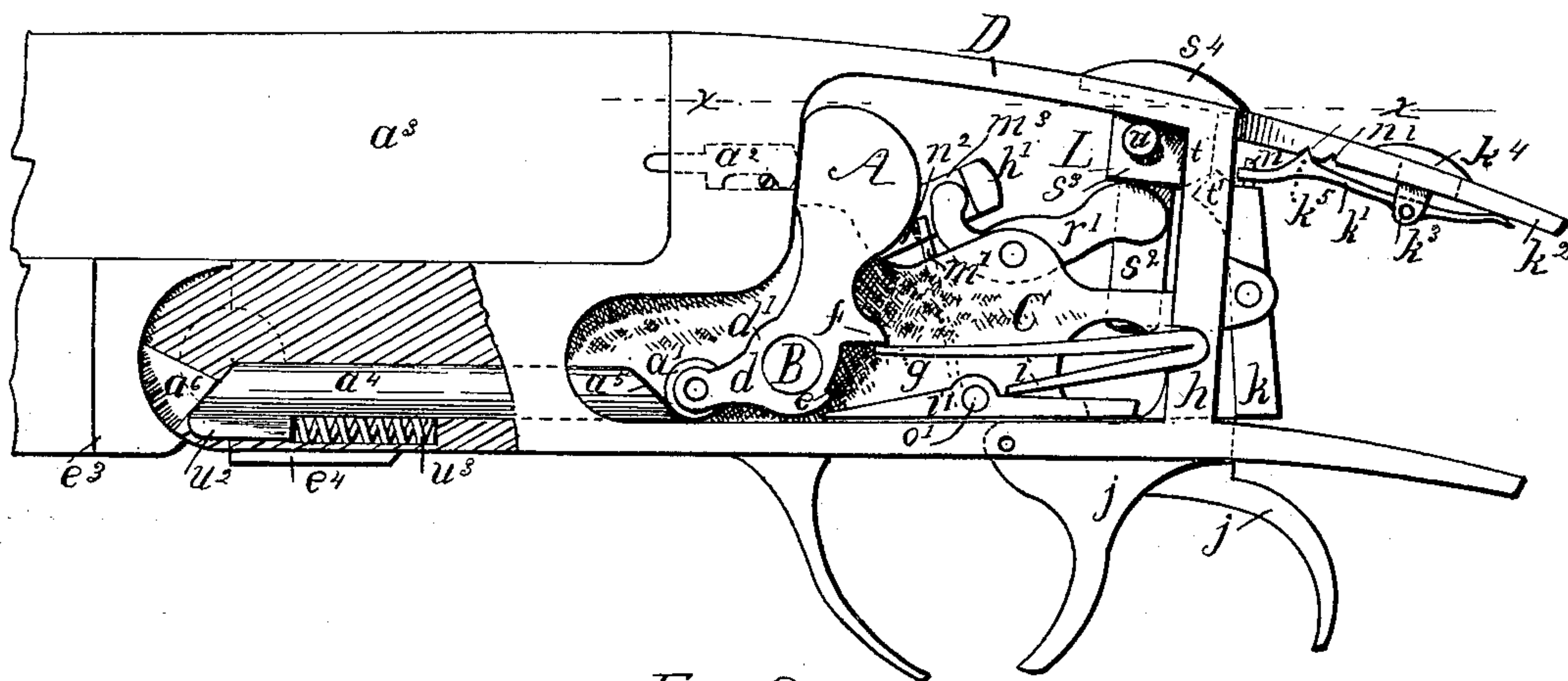


Fig. 2

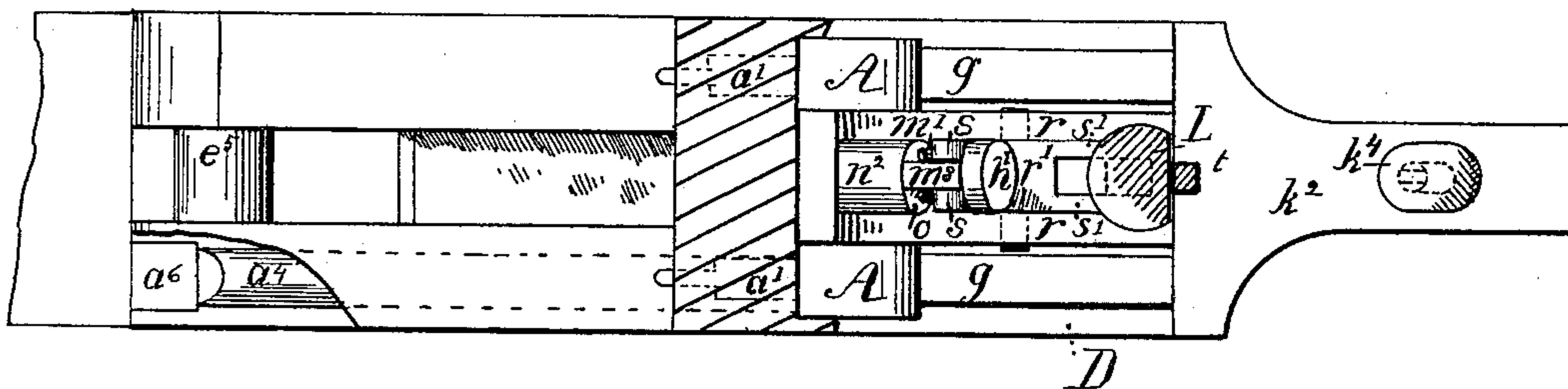


Fig. 3

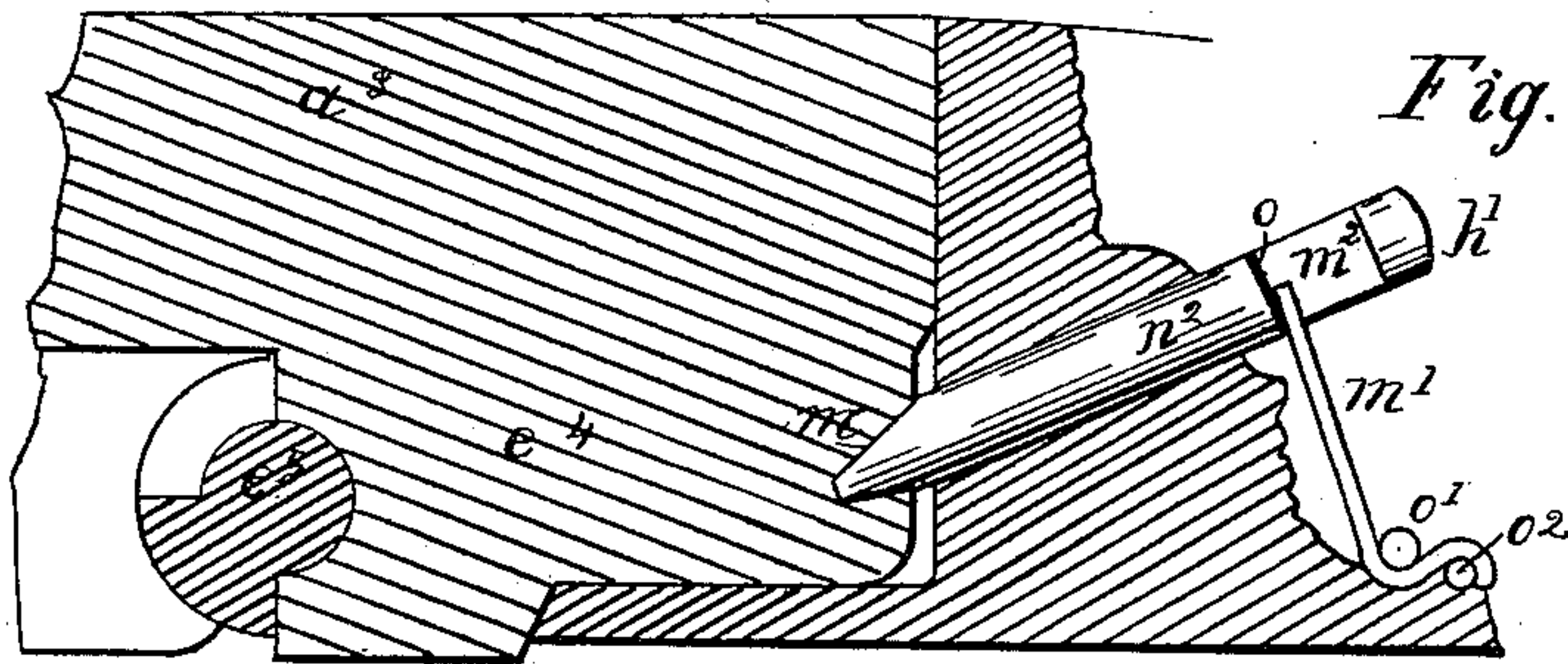


Fig. 5

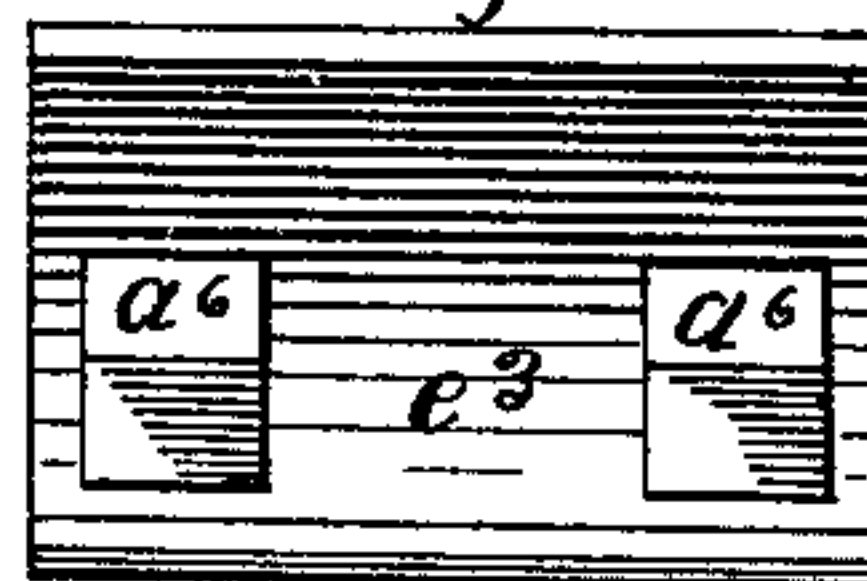
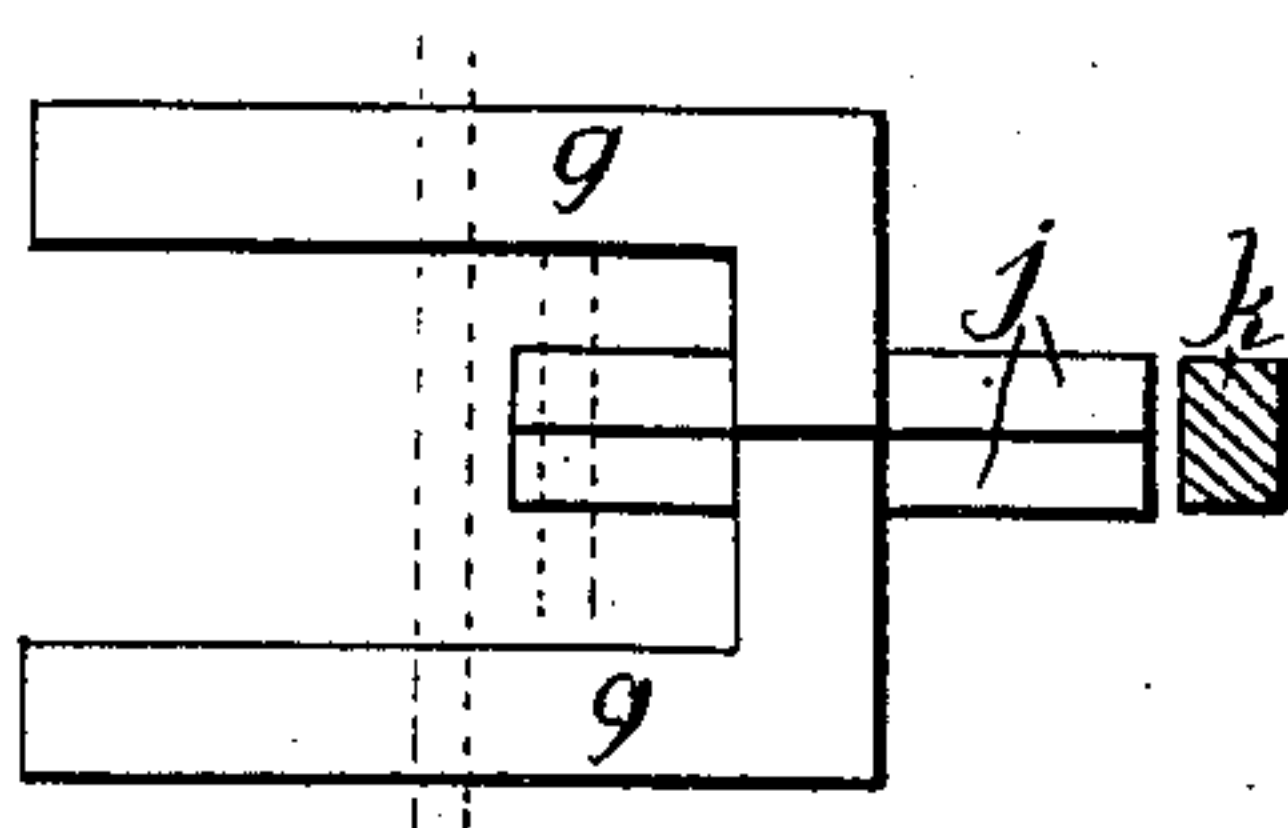


Fig. 4



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AMOS DICKERMAN, OF NEW HAVEN, CONNECTICUT.

## BREECH-LOADING SHOTGUN.

SPECIFICATION forming part of Letters Patent No. 369,437, dated September 6, 1887.

Application filed May 13, 1887. Serial No. 238,139. (No model.)

*To all whom it may concern:*

Be it known that I, AMOS DICKERMAN, residing in the town of New Haven, Connecticut, have invented new and useful Improvements in Breech-Loading Shotguns, of which the following is a specification.

My invention has for its object to provide improved firing mechanism for breech-loading shotguns.

10 The invention consists in the novel arrangement and means for drawing the locking-bolt, and in the mechanism for cocking the hammers and locking the triggers as the barrel is thrown open, as hereinafter more particularly  
15 described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the receiver or case with the cover removed to show the mechanism. Fig. 2 is a horizontal section on the line  $x$  of  
20 Fig. 1 with the barrels removed, showing the hinge upon which the barrels turn. Fig. 3 is a central vertical section longitudinally of the case. Fig. 4 is a plan view of the triggers, and Fig. 5 is an end view of the fore-arm.

25 This invention is especially applicable to double-barrel shotguns, and in Fig. 1 is shown the firing mechanism for one barrel, the mechanism for the opposite barrel being an exact duplicate thereof.

30 A designates the hammers, which are hinged to swing in a vertical plane upon a stud, B, driven through the central wall or partition, C, in the middle of the case D. The stud is nearly vertically under the rear end of the firing-pin, and an arm,  $d$ , projects forward from the hub  $d'$  of each hammer, and is preferably provided at its end with a vertical roller,  $d'$ , suitably pivoted thereon. Each hammer is provided with a rear projection,  $f$ , against the  
40 under side of which the end of the mainspring  $g$  bears and has a trigger-bent,  $e$ . The mainsprings are arranged nearly horizontal, and are held at their rear looped ends by being received in a cavity in the rear wall,  $h$ , of the case. The lower and short arm,  $i$ , of each mainspring bears upon the trigger-bar  $i'$ , and thus serves also as a trigger-spring. The trigger-bar is pivoted at the bottom of the case about midway of its length, with its forward  
45 end in position to engage the bent  $e$  upon the hammer.

The rear ends of the trigger-bars are bent in-

ward, as shown in Fig. 4, and bear, respectively, upon the upper surfaces of the triggers J, which are pivoted at their forward ends to the lower wall of the case. The rear ends of the triggers project beyond the rear wall of the case, and a vertical bar,  $k$ , is pivoted to the wall, so that its lower end may be swung in over the ends of the triggers for a safety device to prevent the gun from being accidentally discharged. The upper end of the safety-bar has a vertical pin,  $n$ , fastened at its upper end, to which is connected one end of a spring,  $k'$ , the opposite end of which bears against the underside of the tang  $k^2$  of the case. The spring is attached to a projection,  $k^3$ , on a sliding button,  $k^4$ , the projection being inserted through a longitudinal slot in the tang. The button is adapted to slide back and forth on the tang and thus oscillate the safety-bar. The spring is provided with a projection,  $k^5$ , near its forward end, and two notches,  $n'$ , are cut in the tang in position to be engaged by the spring at each extremity of its throw, and the safety-bar is thereby held securely. The button on the outside of the tang may be pushed in either direction to move the bar, the projection  $k^5$  in such cases being adapted to slip out of the notches  $n'$ . The notches may be dispensed with and the bar held by means of the friction of the spring, if desired.

The locking-bolt  $n^2$ , which secures the barrels in place, is a straight cylindrical bar arranged obliquely in a bearing in the central wall or partition of the case. The lower end of the bolt is wedge-shaped, and a corresponding notch,  $m$ , is formed in the breech of the barrel to receive it. At the upper or rear end of the bolt two notches,  $m^2$ , are formed, one in each side thereof, thus leaving a central flat portion,  $m^3$ , and a head,  $h'$ . The bolt is held down in engagement with the notch in the barrel by means of a double or U-shaped spring,  $m'$ , which has its ends bearing upon the shoulders  $o$  at the forward side of the notches, and is held fast at the opposite or looped end by passing under the pivot  $o'$ , which supports the trigger-bars, and over a pin,  $o^2$ .

The central partition, C, is cut out to form two sides,  $r$ , separated by a space in which the U-shaped spring is arranged. A bent lever,  $r'$ , is pivoted between the sides  $r$ , and hav-

100



ing its ends slotted vertically to form ears S S'. The forward ears, S, fit upon each side of the part  $m^3$  and bear against the head  $h'$ .

A vertical stud, L, is arranged in the rear part of the case, with its upper part guided in the upper part of the case and its lower part received in a socket in the central wall, C. The lower part,  $S^2$ , of the stud is rectangular and fits between the rear ears,  $S'$ , of the lever  $r'$ . Above the ears the bolt is enlarged to form a shoulder,  $S^3$ , against which the ears of the lever bear. A stop,  $u$ , is inserted in the large part of the bolt, which is adapted to stop the upward movement of the stud by impinging against the upper wall of the case. The upper end of the stud is formed into a button or head,  $S^4$ , projecting above the case, and the button may be pressed downward to draw the bolt through the interposition of the lever.

On the rear side of the upper part of the vertical stud L is a projection,  $t$ , which bears, as the button  $S^4$  is depressed, against an inclined projection,  $t'$ , on the upper end of the safety-bar. Hence, when the button is depressed, the safety-bar locks the trigger and the gun cannot be discharged until the button  $k^4$  is pushed forward again. The firing-pins  $a^2$  are arranged in the usual manner in the case in the axis of the barrel  $a^3$  in position to be struck by the hammers.

In the lower forward part of the case underneath the barrels are two rods,  $a^4$ , which have an incline,  $a^5$ , at their rear ends adapted to slide under the roller  $a'$  on the arm  $d$  to raise the hammer. At the front end of each rod is a projection,  $a^6$ , on the fore-arm  $e^3$ , which, as is well known, is secured on the under side of the barrels and turns with them. The barrel has a lug,  $e^4$ , which hooks over a hinge or trunnion,  $e^5$ , in the case, and as the barrel is swung on the trunnion or hinge the projections  $a^6$  on the fore-arm swing therewith concentric to the axis of the hinge, and the rods  $a^4$  force them rearwardly, thus raising the hammers by the insertion of the wedge-shaped ends  $a^5$  under the rollers  $a'$ .

The rear sides of the projections  $a^6$  are preferably made radial to the axis of the hinge, and each rod, where it bears upon it, is correspondingly shaped. The rods have a projection,  $u^2$ , on their under sides at their forward ends, and springs  $u^3$  are arranged back of the projections in suitable recesses to actuate the rods forward.

In operation, as the button  $S^4$  is depressed, the bolt  $n^2$  is withdrawn by the lever  $r'$ , and as the barrels are then swung open on the hinge  $e^5$  the projections  $a^6$  on the fore-arm force the rods  $a^4$  back under the rollers  $a'$  and arm  $d$  of the hammers, thus cocking the hammers. When the barrels are swung back again to place, the mechanism is ready for firing, and by releasing the safety-bar  $k$  from

off the triggers by pushing the button  $k^4$  forward the triggers may be pulled and the gun discharged. By dispensing with the projection  $t$  on the depressing-pin L and projection  $t'$  on the safety-bar the safety-bar will not act automatically, but may be thrown in and out as desired. Both methods will be used, according as the safety device is required to act automatically or independently.

I claim as new and desire to secure by Letters Patent—

1. In a breech-loading shotgun, in combination with the case which contains the firing mechanism, the vertical hammers, each provided with a horizontal arm,  $d$ , carrying a cam-roller at its extremity, the spring-actuated cocking-rods  $a^4$ , arranged parallel to the barrels, having their rear ends wedge-shaped and adapted to be forced under the arms of the hammers to raise the hammers, and the fore-arm having the projection  $a^6$ , which bears upon the forward ends of the rods  $a^4$  and actuates the rods rearwardly as the breech of the barrels is swung upward upon its hinge or trunnion, thereby cocking the hammers, substantially in the manner described.

2. In a breech-loading shotgun, the combination, with the barrels having a locking-notch,  $m$ , in the rear face of the breech-lug, of the spring-actuated locking-bolt  $n^2$ , having its forward end wedge-shaped to fit into the notch of the lug, and provided with a head upon its rear and upper end, the lever  $r'$ , fulcrumed in the case, with its forward end engaging the head of the locking-bolt, and the vertical stud L, provided with the exterior button-head  $S^4$ , and having a shoulder,  $S^3$ , which bears upon the rear end of the lever and operates to draw the locking-bolt and disengage it from the barrel as the stud is depressed, substantially as specified.

3. In a breech-loading shotgun, the combination, with the triggers pivoted at their forward ends and having their rear ends projecting beyond the rear wall of the case, of the vertical safety-bar  $k$ , hinged to the rear wall of the case, with its lower end in position to swing over the rear ends of the triggers, and provided with a stud,  $n$ , and projection  $t^2$  at its upper end, the sliding exterior button,  $k^4$ , provided with a projection received through a slot in the tang, the spring  $k'$ , secured to the projection on the button and acting upon the tang, with its forward end attached to the safety-bar, and the vertical stud L, provided with the rear projection,  $t$ , adapted to engage the projections on the safety-bar and operate the same to lock the trigger, substantially as described.

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Witnesses:

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