

(No Model.)

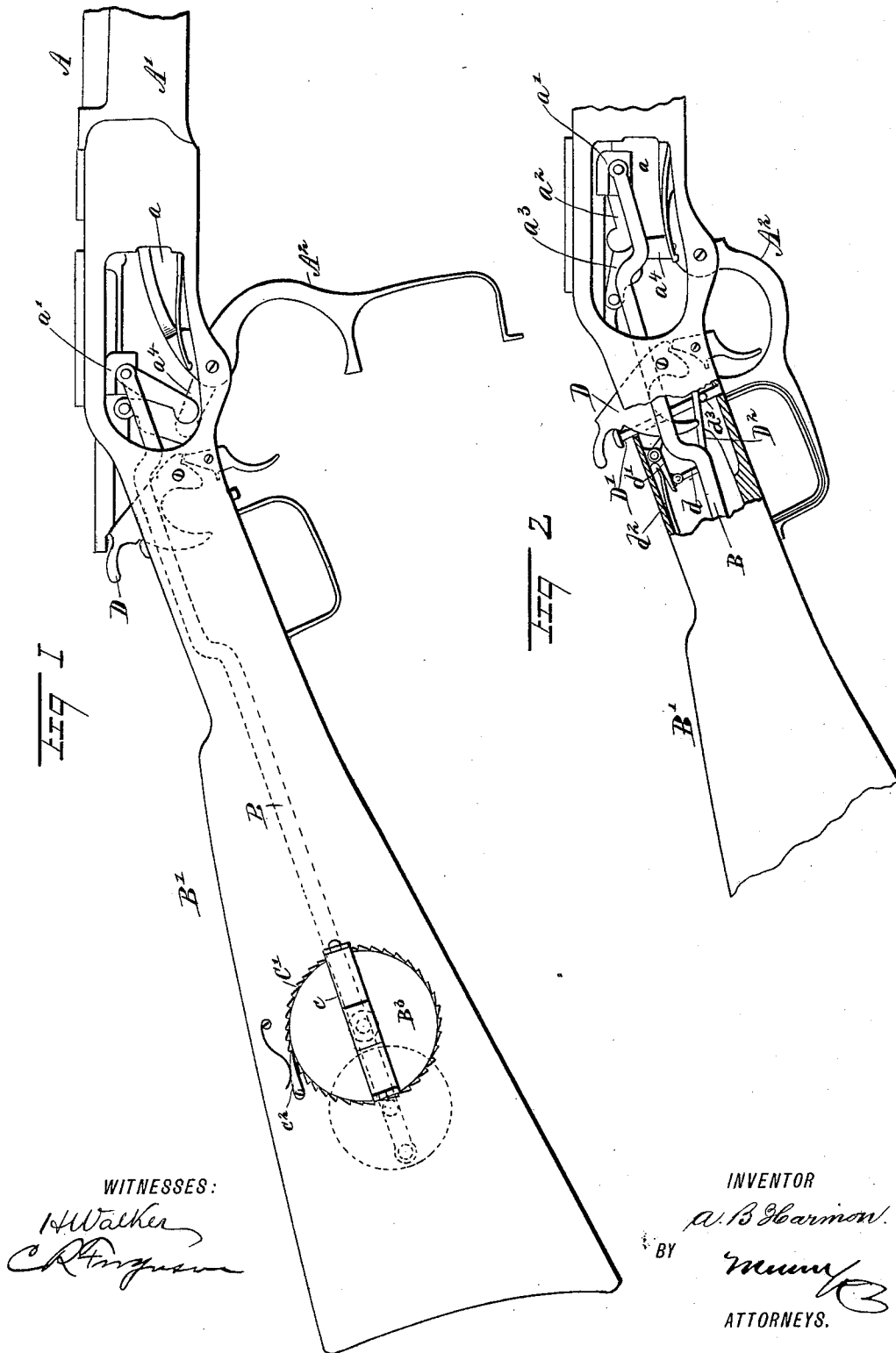
2 Sheets—Sheet 1.

A. B. HARMON.

AUTOMATIC LOADING MECHANISM FOR FIREARMS.

No. 583,744.

Patented June 1, 1897.



WITNESSES:

H. Walker
C. H. Ferguson

INVENTOR

A. B. Harmon

BY

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ATTORNEYS.

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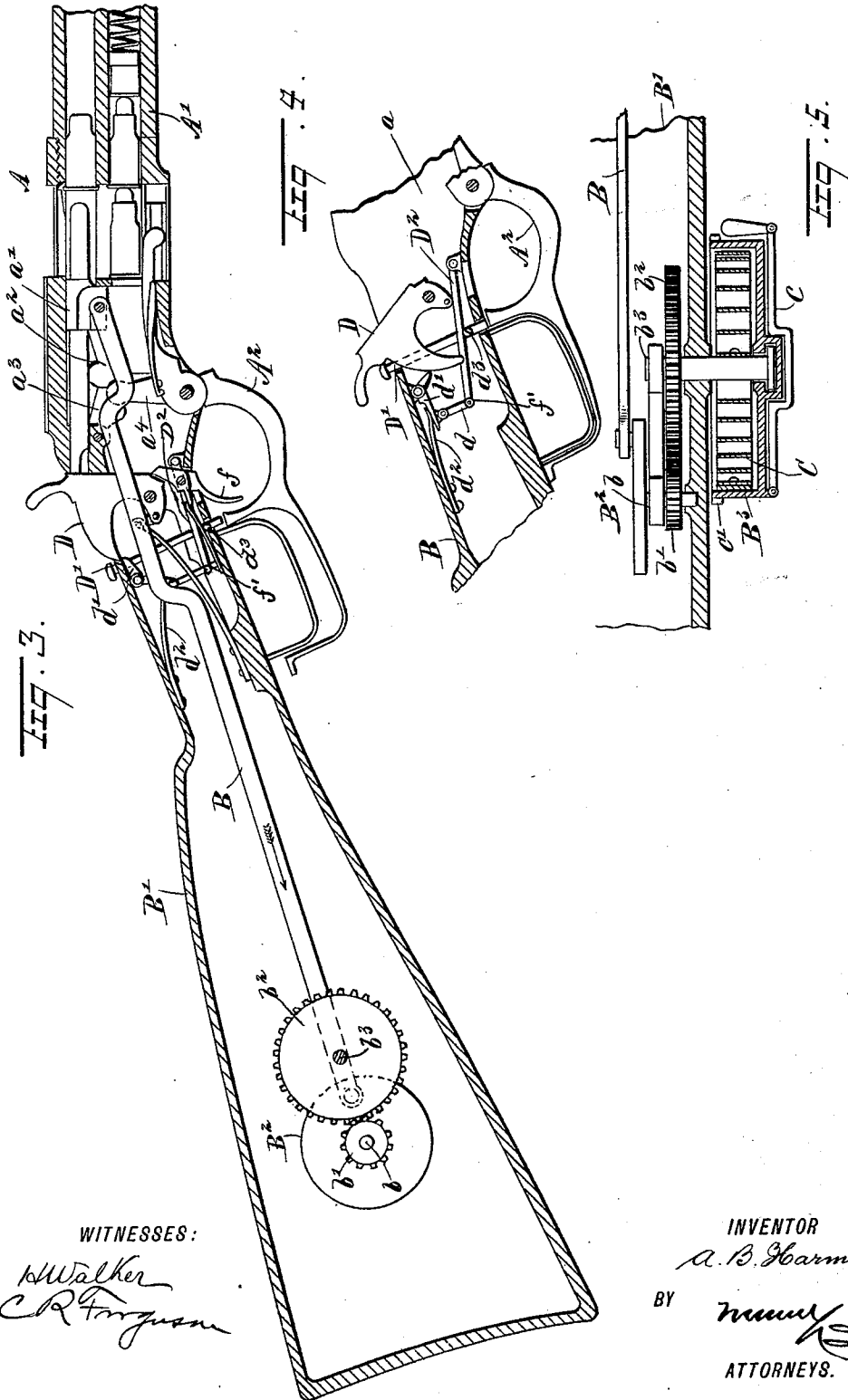
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UNITED STATES PATENT OFFICE.

ALPHEUS B. HARMON, OF HAVELOCK, IOWA.

AUTOMATIC LOADING MECHANISM FOR FIREARMS.

SPECIFICATION forming part of Letters Patent No. 583,744, dated June 1, 1897.

Application filed April 30, 1896. Serial No. 589,669. (No model.)

To all whom it may concern:

Be it known that I, ALPHEUS B. HARMON, of Havelock, in the county of Pocahontas and State of Iowa, have invented a new and Improved Automatic Loading Mechanism for Firearms, of which the following is a full, clear, and exact description.

This invention relates particularly to mechanism for automatically loading small-arms, such as repeating rifles and shotguns; and the object is to provide a mechanism for this purpose of simple construction and positive in its action and which may be easily applied to any of the firearms as now constructed.

I will describe my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a portion of a firearm embodying my invention and showing the parts in position for loading. Fig. 2 is a similar view showing the parts in position ready for firing. Fig. 3 is a longitudinal section. Fig. 4 is a sectional elevation with certain parts omitted to more clearly show other parts. Fig. 5 is a partial section and partial plan of a portion of the operating mechanism.

Referring to the drawings, A designates a gun-barrel, and A' is the magazine connected therewith in the usual manner, and in the rear of which is the receiver-chamber *a*. In the receiver-chamber is the breech-block *a'*, having connection in the usual manner with the links *a*² *a*³, which are in engagement with the finger *a*⁴ on the pivoted carrier-operating lever A².

To the breech-block *a'* is pivoted one end of a pitman B, which extends rearward through a hollow stock B' to a connection with the wrist-pin of a crank-wheel B², mounted on a shaft *b* within the hollow stock. On the shaft *b* is secured a pinion *b*¹, meshing with a gear-wheel *b*² on a shaft *b*³, extended outward through the stock. Mounted to rotate on the outer portion of the shaft *b*³ is a boxing B³, within which is arranged a spring C, one end of which is secured to the boxing and the other end secured to the shaft *b*³. Attached to the boxing B³ is a folding crank *c*, and the

boxing is provided with ratchet-teeth *c'*, engaged by a spring-pressed pawl *c*² on the outer side of the gun-stock, as plainly shown in Fig. 1.

In operation after charging the magazine the spring is to be wound by turning the boxing or spring-barrel B³. The pawl-and-ratchet mechanism will prevent a backward rotation of the casing, and therefore the force of the spring will be exerted upon the shaft *b*³ to rotate the crank-wheel, and consequently reciprocate the pitman B. This operation will take place after the firing of a cartridge when the parts are in the position shown in Fig. 2. Immediately after firing the crank-wheel will be rotated, drawing the breech-block *a'* back to the position shown in Fig. 1, which movement will eject the exploded shell and place a cartridge in position in the usual manner, and of course the backward movement of the breech-block will move the hammer D to a cocked position. Thus it will be seen that the firearm is automatically reloaded, and the hammer is at the same time automatically cocked and ready for the next firing upon pulling the trigger, which holds it in its normal position.

As the pivotal connection between the finger *a*⁴ and the links *a*² *a*³ is in a position slightly forward of the pivotal point of the lever A² when the parts are in position for firing and also after firing, and therefore in a locked position, I provide means for throwing the finger rearward after the firing and thus allow the pitman to be drawn rearward by means of its operating-spring. The means for this purpose, as here shown, consists of a vertically-movable pin D', having bearings through the stock B' and adapted to engage its lower end with a portion of the lever A². A lever D² has one end pivotally connected to a lug within the gun-stock, its opposite end having a link connection *d* with one arm of a pivoted angle-lever *d'*, the other arm of which is designed to be engaged by the rear side of the hammer D. The longer arm of the angle-lever *d'* is engaged by the free end of a spring *d*², secured within the gun-stock. The lever D² engages with a shoulder *d*³ on the pin D'. After firing a cartridge the hammer D will be in the position shown in Fig. 3

and out of engagement with the angle-lever d' , so that the spring d^2 may operate to force the pin downward and start the lever A^2 , which movement of the lever will move the finger a^4 out of its locked position, and then the spring C will operate the parts as before described.

I have shown my invention as applied to a Winchester repeating-rifle mechanism, but it is to be understood that I do not limit it thereto, as it may easily be applied to other forms of rifle mechanism.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a firearm, the combination with a breech-block, of a spring-actuated motor, a pitman extended from the motor to the breech-block, a hammer engaging with and operated in one direction by the breech-block, a carrier-operating lever pivoted on the outer side of the gun-stock, and means within the gun-stock for imparting an initial downward

movement of said lever, substantially as specified.

2. In a firearm, the combination with a breech-block, of a spring-actuated motor, a pitman extended from said motor to the breech-block, a carrier-operating lever pivoted on the outer side of the gun-stock, a pin extended vertically through the gun-stock and engaging its lower end with said lever, a lever pivoted within the gun-stock and having a connection with the said pin, an angle-lever pivoted within the gun-stock, a link connection between one arm of said angle-lever and the lever engaging with the pin, the other arm of said angle-lever being adapted to engage with the hammer of the gun, and a spring for operating said angle-lever to move the pin downward and rock the carrier-lever, substantially as specified.

ALPHEUS B. HARMON.

Witnesses:

C. R. FERGUSON,
JNO. M. RITTER.