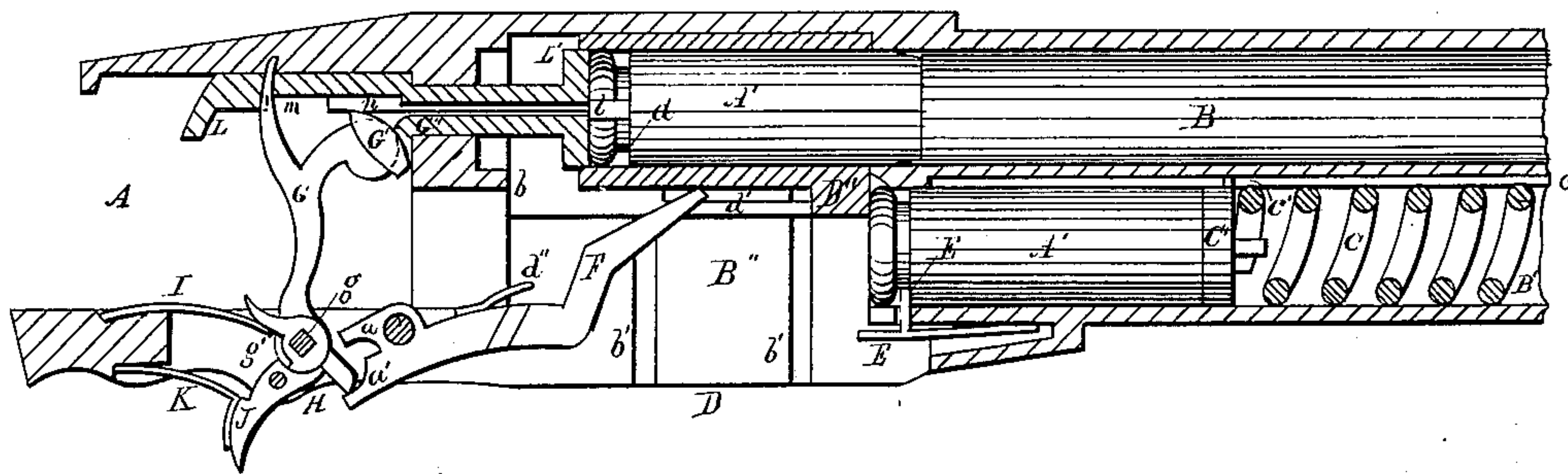


**A. ASSMUS.**  
**Magazine Fire-Arms.**

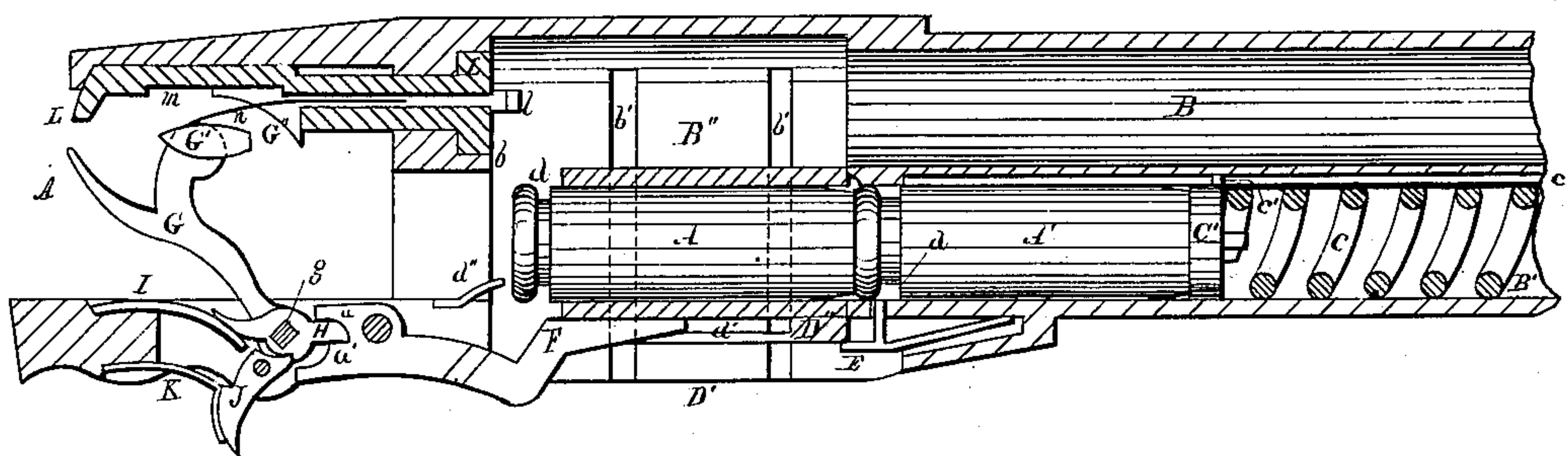
No. 145,478.

Patented Dec. 16, 1873.

*Fig. 1.*



*Fig. 2.*



WITNESSES

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INVENTOR

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# UNITED STATES PATENT OFFICE.

ADOLPH ASSMUS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS  
RIGHT TO CHARLES ASSMUS, OF SAME PLACE.

## IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. 145,478, dated December 16, 1873; application filed  
February 11, 1873.

*To all whom it may concern:*

Be it known that I, ADOLPH ASSMUS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Breech-Loading Repeating Guns, of which improvements the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 represents a vertical central longitudinal section of a gun in which my improvements are embodied, and indicates the position of the operating mechanism when the gun has been discharged; and Fig. 2, a like view, showing the position of the same mechanism when the hammer is cocked.

Like letters of reference indicate like parts.

The object of my invention is to improve the construction and operation of breech-loading repeating guns; and it relates to the construction, combination, and arrangement of the mechanism employed for the purpose of rendering the gun operative as a breech-loader and repeater; and consists in certain novel features, hereinafter fully described and particularly set forth.

In the drawing, A represents a gun of the class referred to. B is the barrel, and B' is the magazine or cartridge-chamber. C is a spiral spring, one end of which rests against the forward end of the chamber B'. C' is a head-block attached to the rear end of the spring C, the pressure of which is rearward. c is a longitudinal groove in the chamber B', and terminating near the rear end thereof, as shown. c' is a pin projecting from the block C', and extending into the groove c. The rearward movement of the block C' is limited by the contact of the pin c' against the rear face of the groove c. D is an opening through which the cartridge is introduced into the chamber B'. A' is the cartridge. The cartridge is provided with a button-shaped head, and with an annular groove, d. The forward outer edge of the cartridge-shell is sloping and rounded off, as shown. E is a spring-catch, engaging the groove d, by means of which engagement the cartridge is prevented from pass-

ing out of the chamber B' until the proper time. B'' is a chamber at the rear of the barrel and magazine, and somewhat longer than the cartridge, and of a depth about equal to twice its diameter. b is the rear wall of the chamber B'', and all the walls of this chamber are vertical. b' b' are vertical grooves in the lateral walls of the chamber B''. D'' is a cartridge-carriage, somewhat shorter than the cartridge, and provided with vertical ribs, extending into the grooves b' b', as indicated by the dotted lines in Fig. 2, so that the carriage may be moved up and down freely in the chamber B''. The cartridge-carriage is also provided with a slotted rib, as shown at d'. The upward movement of the carriage ceases when its bore is continuous with the barrel, and its downward movement is limited when its bore is continuous with the magazine. Just before the carriage reaches the limit of its downward movement, it strikes the projecting free end of the spring E, and releases the latter from its engagement with the rear cartridge in the chamber B', which cartridge, owing to the action of the spring C, is pushed into the carriage as soon as the latter and the magazine are continuous. d'' is a spring, which terminates the rearward movement of the cartridge after it has entered the carriage, and this rearward movement is terminated just before the cartridge has wholly left the chamber B'. The sloping rounded edge of the cartridge (or a rounded or beveled inner edge of the rear end of the magazine, as shown) admits of the carriage being moved upward slightly, and this slight movement carries the cartridge away from the spring d''. The cartridge is then pushed entirely from the chamber B', and strikes the wall b, and the spring E engages the next succeeding cartridge. A downward movement of the carriage will now bring the cartridge against the upper face of the spring d'', which yields as the cartridge moves downward. When the cartridge in the carriage has passed below the wall b, and the spring E has been reached, the cartridge is expelled from the carriage into the stock and a succeeding one received, the spring d'' moving upward as the empty shell leaves the carriage, so as to engage each succeeding loaded cartridge in the manner described.



The carriage is operated in the following manner: F is a bent pivoted lever, the forward end of which passes into the horizontal slot of the rib  $d'$ , and plays freely therein. G is a hammer rigidly attached to the bar  $g$ , which latter has suitable bearings in the part  $g'$ , and at a short distance rearward of the lever F. H is a lever rigidly attached to the bar  $g$ . I is a spring, having an upward pressure, and on the free end of which the rear end of the lever H rests. The forward end of the lever H engages the rear end of the lever F, from which the arms  $a a'$  extend. J is a trigger, which engages a shoulder on the lever H, as shown, and K is a spring to hold the trigger to its engagement with the said shoulder. Fig. 1 represents the position of the operating parts when the gun has been discharged. When the hammer G is drawn back, the forward end of the lever H moves upward until it strikes the arm  $a$ , and by this means the carriage is drawn down, it being understood that the cartridge-shell is first drawn from the barrel, which operation will be hereinafter described.

When the carriage has reached its lowest point, the trigger engages the lever H, and retains the parts in the position indicated in Fig. 2. When the trigger is drawn back, the lever H is released, and the action of the spring I throws the forward end of the lever H down and the carriage up. As soon as the carriage reaches the limit of its upward movement, the forward end of the lever H drops from the upper face of the arm  $a'$ , and moves along the curved end of the latter, thus retaining the carriage in its position, and admitting of a continued forward movement of the hammer.

The operation of discharging the contents of the cartridge is accomplished in the following manner: L is a sliding bar, which enters the chamber  $B''$  at a point opposite the rear end of the cartridge when the latter is in a position to be fired.  $L'$  is a head on the forward end of the bar L.  $l l$  are clasps on the head  $L'$ , between which clasps the head of the cartridge rides as the carriage is moved upward. The hammer G has a lateral arm,  $G'$ , which rests against the shoulder  $G''$  of the bar L, thus preventing the rearward movement of the latter.  $m$  is a groove cut across the bar L, and  $n$  is a needle attached to the hammer and passing freely through the bar L, so as to ignite the cartridge at the proper time.

When the hammer is cocked, the bar L and needle  $n$  occupy the position shown in Fig. 2. When the hammer was drawn back it struck the rear shoulder formed by the groove  $m$ , and drew the bar L backward until the cartridge was drawn from the barrel. The carriage was then lowered, the shell discharged, and a succeeding cartridge conveyed into the carriage, in the manner already described.

When the trigger is drawn back, the movements are also the same as before described,

until the cartridge is presented to the barrel. The continued forward movement of the hammer brings the latter in contact with the forward shoulder of the groove  $m$ , and the bar L is thereby carried forward, thus pushing the cartridge into the barrel until the joint between the latter and the carriage is lapped by the cartridge and a tight joint formed, as shown in Fig. 1. The hammer then slips off from the forward shoulder of the groove  $m$ , and the continued forward movement of the hammer carries the needle to the cartridge, and causes the explosion of the latter.

It will be perceived from the foregoing description that the ordinary operation of cocking or setting the hammer and drawing the trigger will load the cartridge-carriage, carry the cartridge into the barrel, discharge the load and the empty cartridge-shell, and reload the gun for another firing, and that all this may be repeated without other manipulation as long as any cartridges remain in the magazine.

It will also be perceived that the empty cartridge-shells pass into the stock, from which they may be readily removed and used again.

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

1. A breech-loading and repeating gun wherein the exit for the empty cartridge-shells is arranged in a line with the mouth of the magazine for the loaded shells or cartridges, and wherein the empty cartridge-shells are conveyed to the said exit by means of the cartridge-carriage operated upon through the medium of levers actuated by the hammer, and are then expelled into the stock by means of the automatic action of the loaded shells or cartridges, substantially as specified.

2. In a breech-loading repeating gun, the sliding bar L, provided with the clasps or hooks  $l l$ , shoulder  $G''$ , and groove  $m$ , in combination with the hammer G, provided with the arm  $G'$ , constructed and arranged to engage the shoulder  $G''$  and the shoulders of the groove  $m$ , and with the needle  $n$ , carried by the hammer G, and arranged to impinge the cartridge, all substantially as shown and described, and for the purposes set forth.

3. In a breech-loading and repeating gun, the stop-spring  $d''$ , having its free end arranged in the cartridge-exit and forward of the wall  $b$ , and for contact with the end and body of the cartridge, substantially as and for the purposes specified.

4. In a breech-loading and repeating gun, the combination, construction, and arrangement of the pivoted lever F, the lever H, hammer G, and trigger J, in connection with spring for operating the same, substantially as and for the purposes specified.

Witnesses: ADOLPH ASSMUS.

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