

(No Model.)

2 Sheets—Sheet 1.

F. A. HOLLENBECK.  
BREAKDOWN GUN.

No. 505,794.

Patented Sept. 26, 1893.

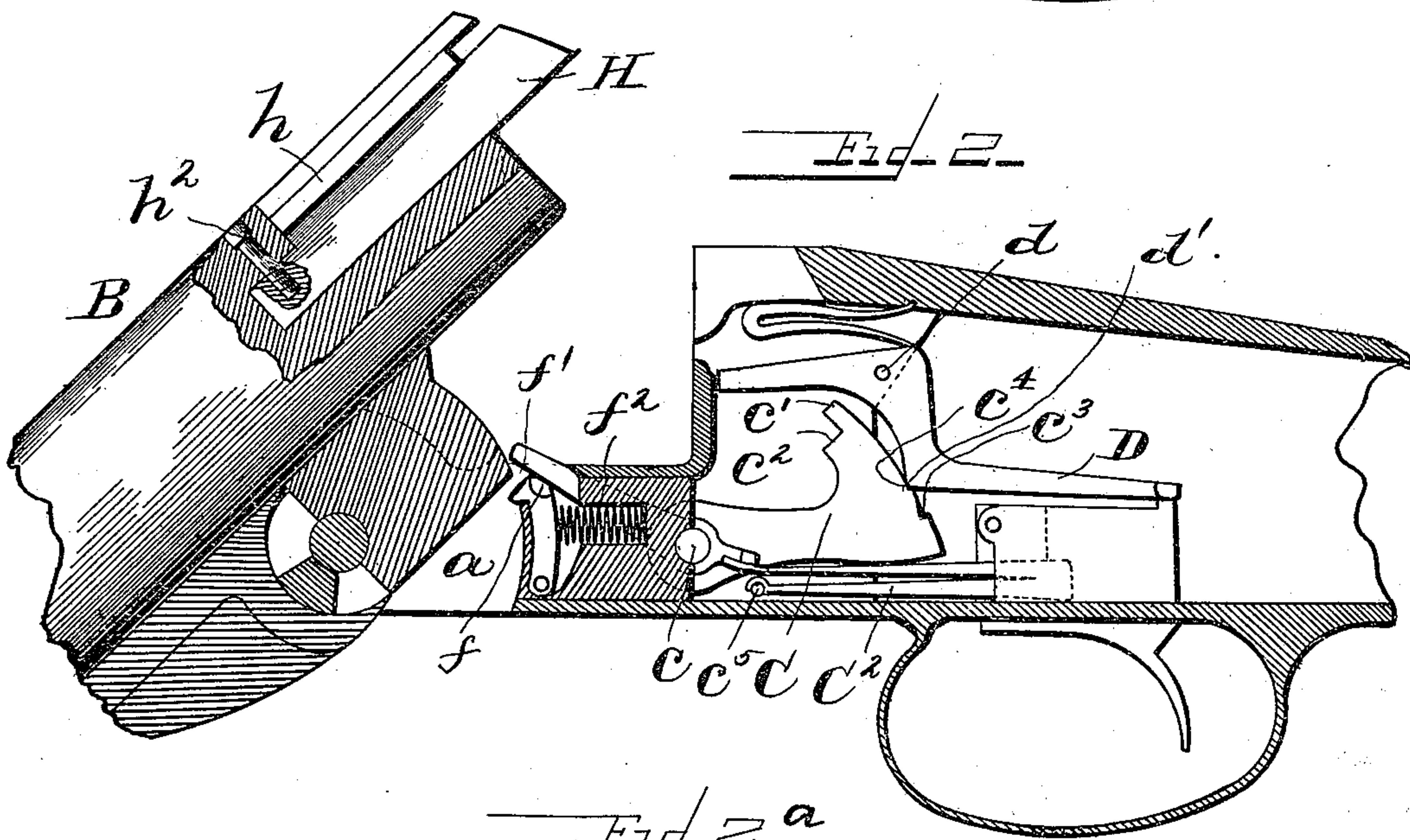
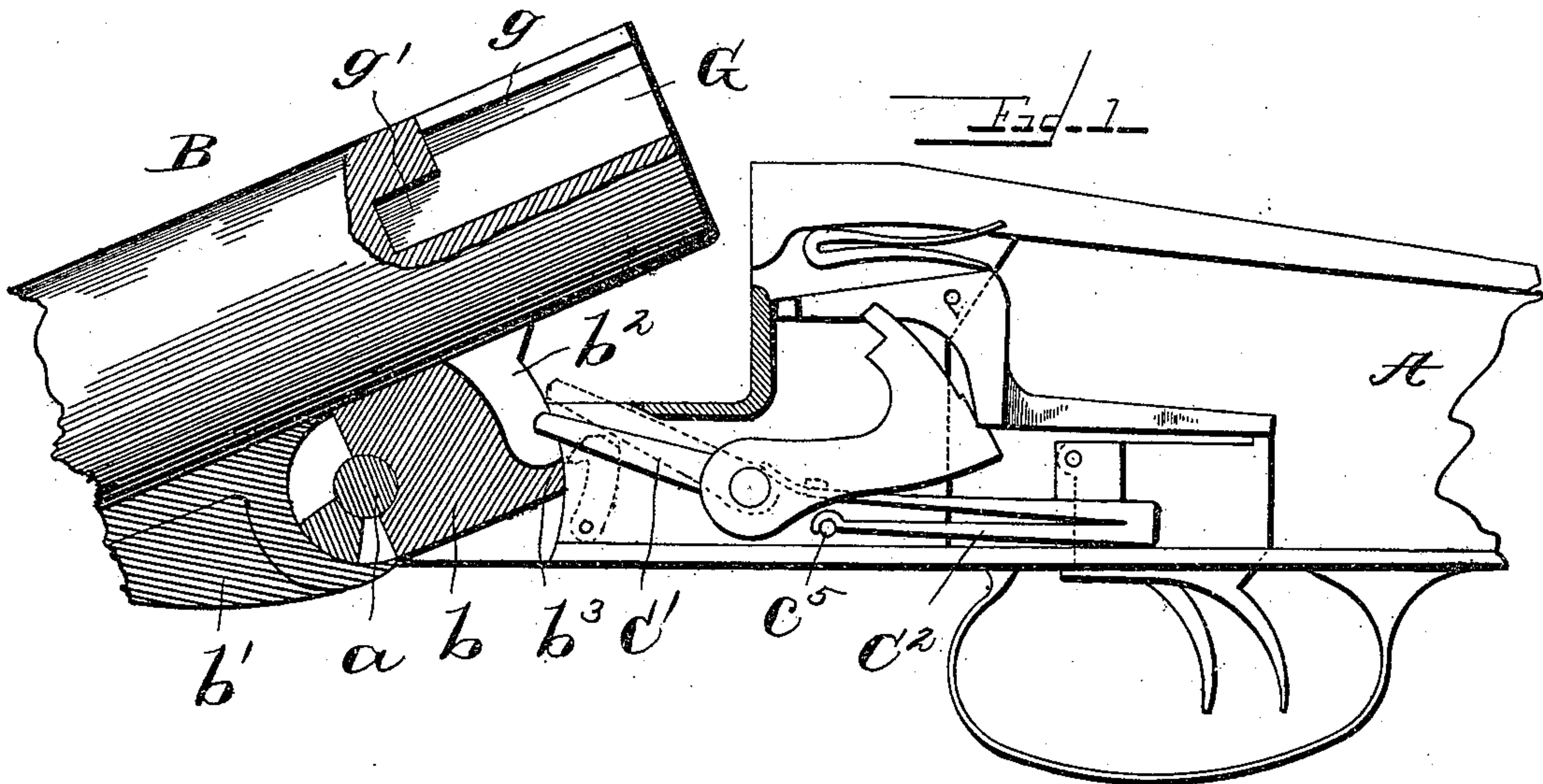
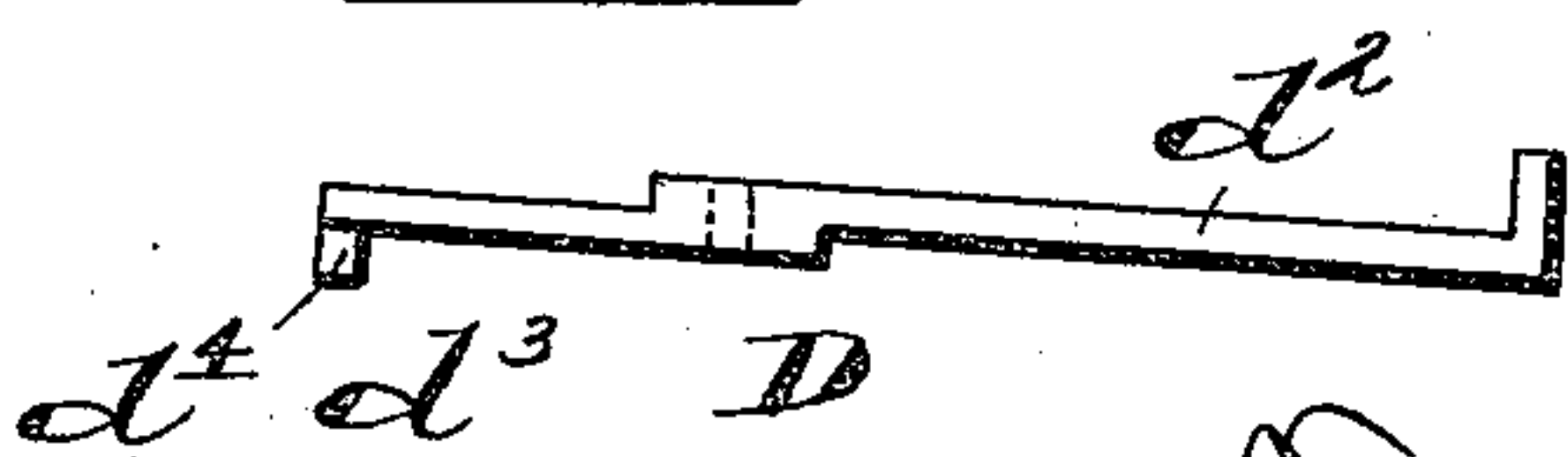


Fig. 2<sup>a</sup>



Witnesses  
G. A. Taubenschmidt,  
Jesse Kingberry

Inventor  
Frank A. Hollenbeck  
By  
Whitaker & Prevor Attorneys.

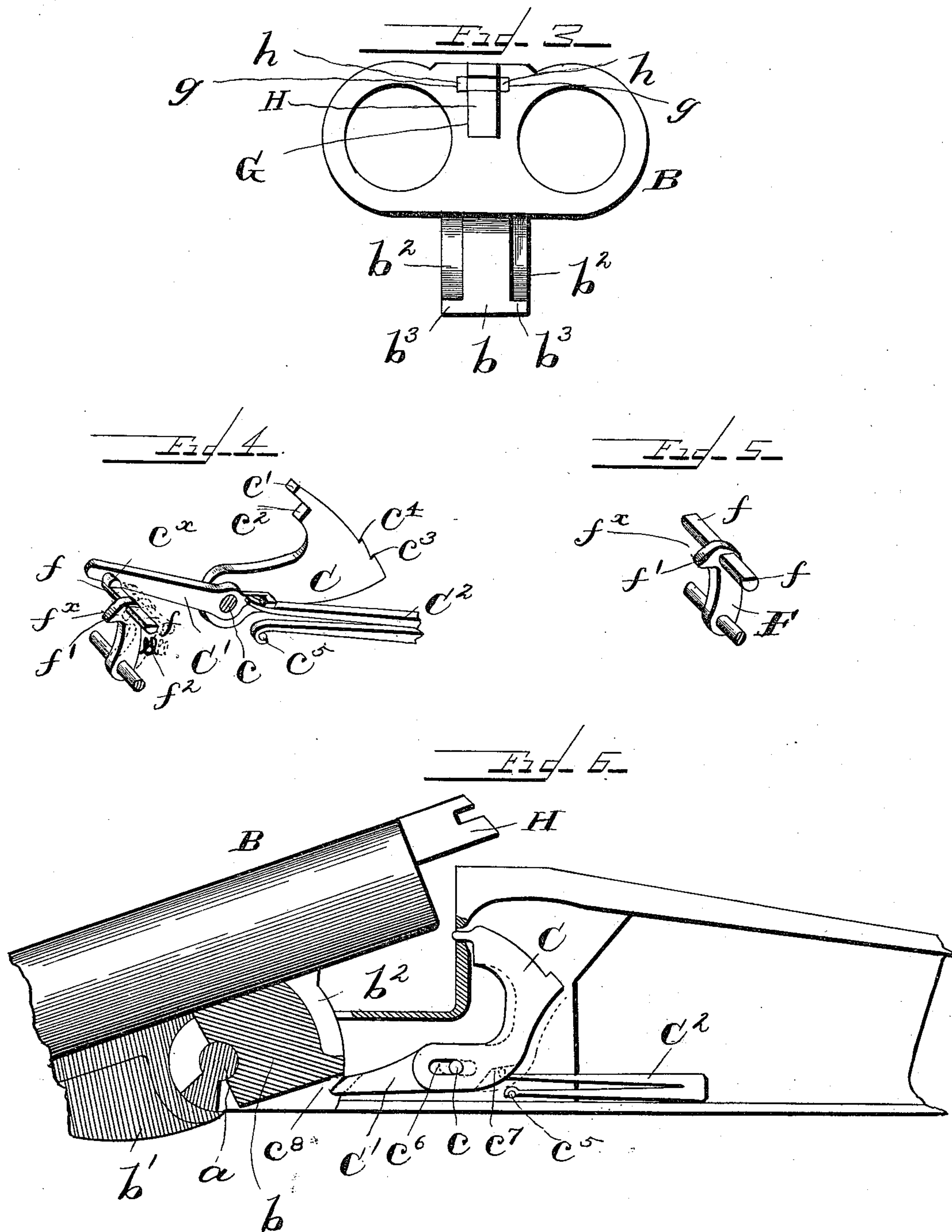
(No Model.)

F. A. HOLLENBECK.  
BREAKDOWN GUN.

2 Sheets—Sheet 2.

No. 505,794.

Patented Sept. 26, 1893.



Witnesses  
G. A. Taubenschmidt,  
Jesse Kingberg.

Inventor  
Frank A. Hollenbeck  
By  
Whitaker & Trewest Attorneys



# UNITED STATES PATENT OFFICE.

FRANK A. HOLLENBECK, OF BATAVIA, ASSIGNOR TO THE SYRACUSE ARMS COMPANY, OF SYRACUSE, NEW YORK.

## BREAKDOWN GUN.

SPECIFICATION forming part of Letters Patent No. 505,794, dated September 26, 1893.

Application filed July 25, 1892. Serial No. 441,209. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK A. HOLLENBECK, a citizen of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Firearms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in hammerless breech loading fire arms and consists in the novel features of construction and combination of parts hereinafter fully described.

In the accompanying drawings I have illustrated one form in which I have contemplated embodying my invention and a modification thereof and said invention is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents a sectional view of a part of a fire arm embodying my invention. Fig. 2 is a view similar to Fig. 1 with the parts in different positions. Fig. 2<sup>a</sup> is a top view of one of the sears. Fig. 3 is a rear elevation of the barrels. Figs. 4 and 5 are details of parts of the mechanism. Fig. 6 is a view similar to Fig. 1 showing a slightly modified arrangement and construction of parts.

In the said drawings reference being had to the letters marked thereon, A represents the stock portion of the gun and B the barrels of ordinary construction provided with the stock engaging lug *b* as usual. The stock portion A is provided with a pivot pin or bolt *a* which is engaged by lug *b* of the barrels and *b'* is the fore end of ordinary construction for holding the parts in operative condition. The stock A is provided with a suitable lock casing in which is supported the pivot pin *c* of the hammers C, C, which are constructed preferably as shown.

In the drawings each hammer is provided with the firing projection *c'* beneath which is a shoulder *c*<sup>2</sup> slightly in rear of said firing projection and the upper face or edge of the hammer is provided preferably with two locking notches *c*<sup>3</sup>, *c*<sup>4</sup> adapted to be engaged by the sear. Each hammer is provided with a forwardly extending cocking arm C' which is adapted to engage a recess *b*<sup>2</sup> in the side of

the lug *b*, and said lug is provided with solid portions *b*<sup>3</sup> which I term cocking shoulders, below said recesses *b*<sup>2</sup> to operatively engage the forward ends of the cocking arms C' as clearly shown in Figs. 1 and 3.

In order that the arms C' may properly engage the lug *b* and yet that the hammers may have their firing projections in line with the bores of the barrels, I prefer to locate the hammers C and arms C' in different vertical planes and the two parts may be formed in one piece or in two pieces suitably joined together. It will thus be seen that the lowering of the barrels will cause the cocking shoulders of the lug *b* to raise the cocking arms C' C' and depress the hammers C C.

C<sup>2</sup> is the main spring (there being one for each hammer) engaging a fixed pin or resistance at *c*<sup>5</sup> and having its opposite end engaging the hammer.

D represents one of the sears, there being one of course for each hammer, which is pivoted to the lock casing at *d*, and has a shoulder *d'* adapted to engage one of the notches *c*<sup>3</sup>, *c*<sup>4</sup> in the upper edge of the hammer. The sear D is shown in detail in Fig. 2<sup>a</sup> which represents a top view of the same. Each sear is provided with a rearwardly extending arm *d*<sup>2</sup> having a lug or arm at its end to engage one of the triggers E, and the said sear is also provided with a forwardly extending arm *d*<sup>3</sup> having at its end an arm or lug *d*<sup>4</sup> which is normally in the path of the hammer C and will be engaged by the shoulder *c*<sup>2</sup> of the same thereby preventing the hammer from striking the cartridge. A spring D' engages the lock casing and also the sear and holds it normally in the position shown in Figs. 1 and 2 with the rear arm in engagement with the trigger E. It will thus be seen that the sear itself is provided with a safety attachment, for if by accident the hammer is released in any manner other than by a proper operation of the trigger the hammer will strike the projection *d*<sup>4</sup> of the sear and will be prevented from striking the cartridge. When however, the trigger E is pulled back, the rear end of the sear is raised, and the forward arm with the projection *d*<sup>4</sup> depressed so that when the hammer is released the stop or safety device *d*<sup>4</sup> will have been removed from the path of



the hammer and the point  $c$  of the hammer will be able to strike the cartridge. When the hammers are cocked by lowering the barrels as shown in Fig. 1, the sear will engage the first notch  $c^3$  of the hammer. When how-  
 5 ever, it is desired to separate the barrels from the stock, the fore end will be removed and the barrels further depressed until the sear engages the second notch  $c^4$ .

10 In order to allow the barrels to be properly placed in engagement with the stock so that the lug  $b$  will resume its operative relation with the cocking arms  $C' C'$  of the hammers I have shown in Figs. 1 to 5 a construction  
 15 for engaging the said cocking arms, when the barrel is removed from the stock, and holding the same positively thus preventing the hammers from being dropped even if the triggers are operated.

20 In the forward part of the stock is pivoted a pawl or catch shown in Figs. 1, 2, 4 and 5 which consists of a stem  $F$  having its upper end provided with laterally extending arms  $f f$ . This pawl is pivoted in a suitable recess  
 25 in the lower part of the stock and it has a forwardly extending nose or projection  $f'$  which is adapted to project into the recess  $a'$  of the stock and engage the portion of the lug  $b$  intermediate the recesses  $b^2$ , said nose having a curved, beveled or cam face  $f^x$ .  
 30 In rear of the stem  $F$  of the pawl I provide a recess in the stock in which is located a spring  $f^2$  which engages the trip and tends to press it forward. Each of the arms  $C' C'$  is  
 35 provided adjacent to its forward end with a lug or projection  $c^x$  (see Fig. 4). When the barrels are depressed as shown in Fig. 2, prior to removing them from engagement with the stock, at the moment when the sears engage  
 40 the notches  $c^4$  of the hammers, the lug  $b$  of the barrels has risen above the nose or projection  $f'$  of the pawl so as to disengage the same, and said pawl is pressed forward by its spring thereby moving the laterally project-  
 45 ing arms  $f f$  of the pawl beneath the projections  $c^x$  of the cocking arms and securely maintaining the hammers in their raised positions so that the barrels may be readily re-  
 50 placed and the lug  $b$  placed in operative relation with the cocking arms. The action of pawl  $F$  is automatic and when the barrels are placed in engagement with the stock and raised, the lug  $b$  will engage the cam face  $f^x$  and push in the nose  $f'$  of the pawl, thus re-  
 55 moving the arms  $f$  from beneath the projections of the cocking lever so that the gun may be fired by pulling the triggers in the ordinary manner.

60 In Fig. 6 of the drawings I have shown another construction for enabling the barrels to be connected with the stock and the lug  $b$  placed in operative relation with the cocking arms. In this form which is my preferred construction, the portion of the hammers and  
 65 cocking arms which engage the pivot bolt  $c$  are slotted as shown at  $c^6$  so as to permit a rear-

ward movement of said parts bodily. The rear of each hammer is recessed to receive the end of the main spring  $C^2$ , and said main spring engages an inclined face  $c^7$  which construction  
 70 forces the parts forward so that the bolt  $c$  engages normally the rear end of the slot  $c^6$  and the parts operate as if there were no slot. The forward ends of the cocking arms  $C' C'$  are provided with beveled or inclined faces  
 75  $c^8$  which are adapted to be engaged by the lower edge of the lug  $b$ . If the barrels have been separated from the stock and the hammers have been allowed to fall, when the barrels are again placed in engagement with the  
 80 stock, as shown in Fig. 6, and are raised, the lower edge of the lug  $b$  will engage the inclined or cam portions of the cocking arms and move said arms and the hammers rearwardly with respect to the pivot bolt  $c$  (such  
 85 movement being allowed by the slot  $c^6$ ) until the portions  $b^3$  of the lug  $b$  pass beneath the ends of the cocking arms when the main springs  $C^2$  acting upon the inclined faces  $c^7$  of the hammers will return the parts to their  
 90 normal positions, and the ends of the cocking arms will engage the recesses  $b^2$  of the lug  $b$ . I also provide a construction by which the locking extension  $H$  of the barrels, by means of which the barrels are locked in firing po-  
 95 sition, by any usual form of locking device (not shown), may be made separate from the barrels, and thoroughly hardened and then secured rigidly in position so as to be better  
 100 able to stand the great wear and strain to which it is subjected than it would be were it formed integrally with the barrels.

Reference being had to Figs. 1, 2 and 3 it will be seen that the rear end of the barrel portion of the gun is provided with an open  
 105 slot  $G$  having lateral grooves  $g$  extending longitudinally of the slot. The extension  $H$  is formed of steel suitably hardened and is of a size to fit the slot  $G$  in the barrels, and is provided with laterally extending webs or flanges  
 110  $h$  to engage the grooves of said slot. The forward end of said slot  $G$  is provided with a recess  $g'$  and the extension  $H$  is provided with a projection  $h'$  to engage said recess. It will thus be seen that the grooves  $g$  and  
 115 flanges  $h$  will hold the extension rigidly against upward movement, and the projection  $h'$  extending beneath a portion of the barrels, will prevent the forward end of the extension from being raised or its rear end depressed. The  
 120 extension  $H$  is secured in place by means of a retaining device consisting in this instance of the screw  $h^2$  and this construction will be found cheap and more durable than those in which the extension forms an integral por-  
 125 tion of the barrels.

While I propose to use a sear of the construction herein shown and described as a safety device, a sear of other construction could be used in lieu thereof. No claims are  
 130 therefore made herein to that feature of construction and such sear will be claimed in a



divisional application which will be filed as soon as the necessary papers therefor can be prepared.

I do not desire to be limited to the exact details of construction herein shown and described as variations may be made therein without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a breech-loading "break-down" gun, a hammer, a cocking lever connected therewith and operated by the barrel lug, and a cam device throwing the lug and cocking lever into operative connection in the act of assembling the parts, substantially as described.

2. In a fire arm the combination with the barrel, provided with a cocking shoulder, of a hammer provided with a forwardly extending cocking arm movable longitudinally and having a cam face adapted to be engaged by said shoulder, substantially as described.

3. In a fire arm the combination with the barrel, having a cocking shoulder, of a hammer mounted on a support, one of said parts being slotted and the other being provided with a part engaging said slot, said hammer having a portion provided with a cam face adapted to be engaged by the cocking shoulder of the barrel, substantially as described.

4. In a fire arm the combination with the barrel having cocking shoulders, of the hammers provided with slotted portions engaging their supporting bolt, springs engaging said hammers and holding them in fixed relation

with said bolt, said hammers having parts provided with cam faces adapted to be engaged by said cocking shoulders substantially as described.

5. In a fire arm the combination with the barrel having a cocking shoulder, of the hammer provided with a slotted portion engaging its supporting bolt, the main spring engaging a cam face on said hammer and holding it normally in fixed relation with said bolt and a cocking arm connected with said hammer and having a cam face for engaging the said shoulder, substantially as described.

6. In a fire arm a cocking arm moving with the hammer in both directions in combination with a sear for retaining the hammer in cocked position and a sear notch in position to be engaged by the sear when the barrel or barrels are in position to be removed and thereby retain the cocking lever in position to permit the removal and return of the barrel or barrels, substantially as described.

7. In a breech loading fire arm, the combination with the barrels provided with the slot having grooves and a recess as described of the locking extension adapted to engage said slot having portions to fit said grooves and recess, and the retaining device, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK A. HOLLENBECK.

Witnesses:

L. P. WHITAKER,  
JESSE KINGSBERRY.