

(Model.)

2 Sheets—Sheet 1.

W. W. GREENER.  
Breech Loading Fire Arm.

No. 242,529.

Patented June 7, 1881.

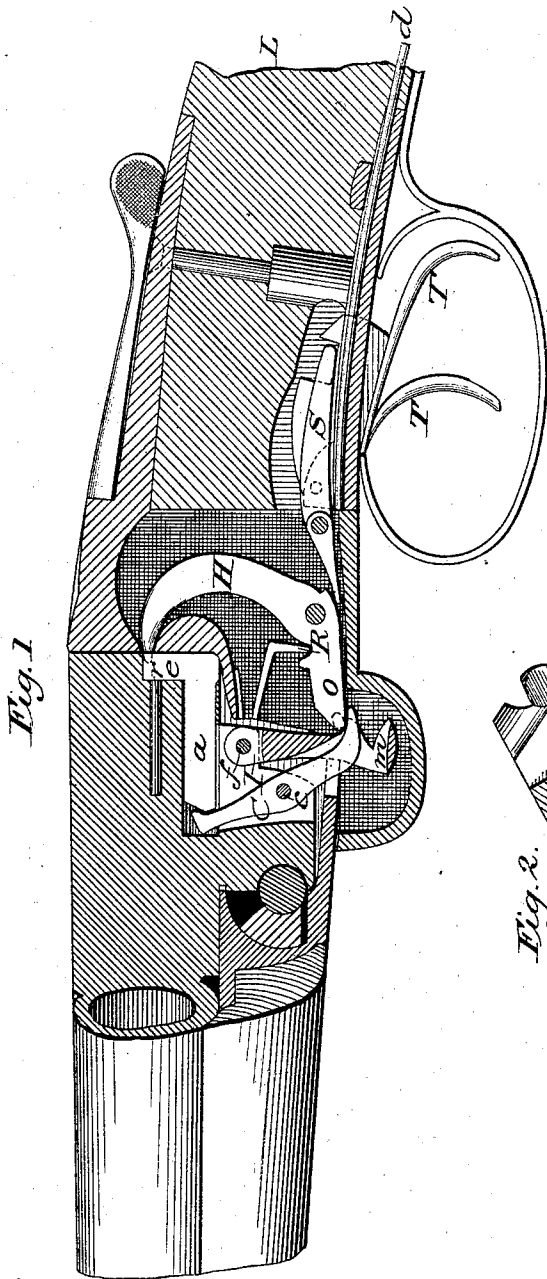


Fig. 1

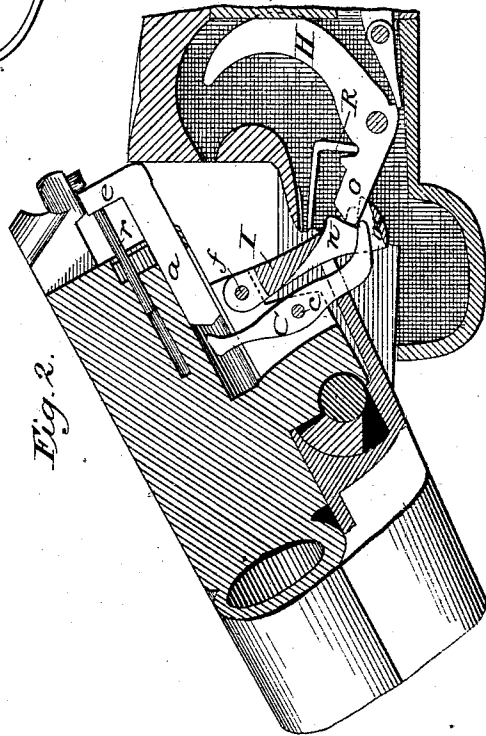


Fig. 2.

Witnesses.

*Sidney P. Hollingsworth.*  
*Robert L. Miller*

*Inventor.*  
*W. W. Greener.*  
*by Dodgesson*  
*Atty*

(Model.)

2 Sheets—Sheet 2.

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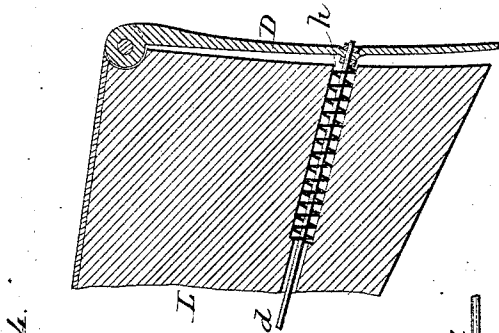


Fig. 4.

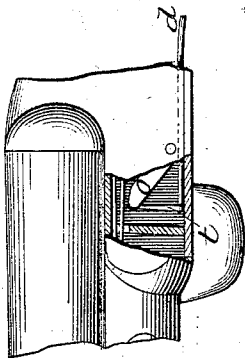


Fig. 3.

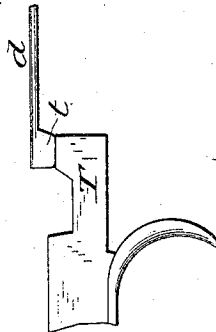
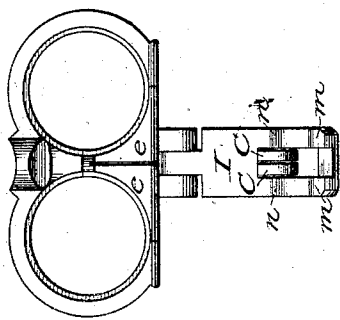


Fig. 6.

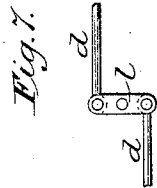


Fig. 7.

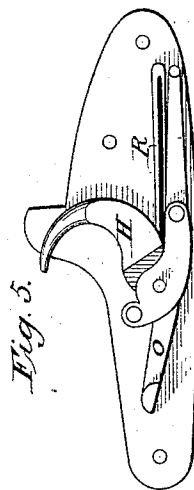


Fig. 5.

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM W. GREENER, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 242,529, dated June 7, 1881.

Application filed April 4, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM W. GREENER, of Birmingham, county of Warwick, England, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

My invention relates to that class of breech-loading guns known as "drop-down" guns; and the invention consists in the construction and arrangement of certain devices, whereby the lock mechanism is made to operate upon the extractor in such a manner as to eject the shell that has been fired, all as hereinafter more fully set forth.

Figure 1 is a side elevation, partly in section, of a gun embodying my improvements, the parts being represented in the position they will occupy when the gun is closed and uncocked. Fig. 2 is a similar view, showing the gun opened and cocked. Fig. 3 is a rear-end view of the barrels dismounted; and Figs. 4, 5, 6, and 7 represent certain details.

For the purpose of illustrating my invention I have shown it in this case as applied to the gun described in my Patent No. 229,604, dated July 6, 1880, and which belongs to that class of arms known as "hammerless" guns, and in which the tumbler is made to serve as a hammer and is cocked by means of a hook pivoted to the lug underneath the rear end of the barrels, the general construction being the same in this case as is described in said patent, with the exception of certain features, which I will now proceed to describe.

In the first place the extractor is made double, as indicated at *e*, Fig. 3—that is to say, each barrel has a separate extractor, each being so constructed that it can be operated independently of the other, they being, in effect, the same as the ordinary double extractor, divided or separated longitudinally through the center, so that each can be moved without disturbing the other. These extractors *e* each have a separate stem, *a*, as shown in Figs. 1 and 2, these stems *a* being made flat on their adjoining faces, so that the two together will form a round stem, both fitting and moving in one and the same hole, and each extractor is provided with a separate guide-pin, *r*, to prevent it from getting out of position. To operate these extractors I provide a lever, *C*, which is pivoted in a recess formed in the rear lump of the barrels, as shown in

Figs. 1 and 2, it being located just in front of the hook *I*, which lifts the tumblers to the cocked position, with its upper end projecting through a slot into the hole occupied by the stems *a* of the extractors, while its lower end is curved backward and projects through an opening in the hook *I*, as shown in Figs. 1, 2, and 3. This lever *C*, which I term the "ejector," is made in duplicate, as shown in Fig. 3, so that each one may operate upon its corresponding extractor *e* independently of the other. In this case I have shown the stems *a* of the extractors as extending only far enough to reach the ejectors *C*; but it is obvious that the stems *a* may be made to extend through to the joint on which the barrels turn, and be operated by a projection located at that point, in the usual manner, it only being necessary in such case to provide a suitable recess at the proper point on the stems *a* for the upper end of the ejectors *C* to engage in.

I also change the construction of the lifting or cocking hook *I* by providing it with additional shoulders or projections, *n*, as shown in Fig. 2, these shoulders *n* being so located that when the barrels begin their movement in dropping they will engage with the arms *o* of the tumblers, as represented in Fig. 1, and will raise the tumblers until the barrels are moved far enough to permit the extractors to be operated, when the arms *o* of the tumblers slip off of the shoulders *n*, and by the pressure of the main springs are thrown suddenly downward upon the lower portion of hook *I*, as shown in Fig. 2, at the same time striking upon or carrying with them the lower curved end of the ejectors *C*, thereby causing their opposite ends to strike against the stems *a* of the extractors and impart to them a sudden movement, which is sufficient to throw the shells entirely out of the barrels. It will thus be seen that by the simple act of dropping the barrels the gun is cocked and the empty shells are thrown out; but in case the gun has not been fired, then the dropping of the barrels will not eject the shells, because the arms *o* of the tumblers, being held up to the cocked position by the engagement of their sears, will not be acted upon by the shoulders *n* or the hook *I* at all; but as the barrels are tipped the curved end of the ejectors *C* will, just before the barrels complete their motion, come in

contact with the arms *o* of the tumblers, which will thus cause the ejectors to press gradually on the stems of the extractors, thereby causing them to move in the ordinary manner and to the ordinary extent, thus withdrawing the shells the usual distance without ejecting them. Hence it will be seen that only the shell which has been fired will be ejected, whether one or both, and that unless the tumblers are let down they will not act to eject the shells, but simply to withdraw them in the usual manner. Thus, if one barrel only has been fired, then the dropping of the barrels will eject the shell from that barrel only, while the loaded shell of the other barrel will simply be moved the usual distance and left in such a position that it will be shoved to its seat in the chamber by the pressure of the recoil or breech-piece in closing the gun again.

It will be observed that to effect the ejection of the shells I make use of the springs of the locks, and that to do so in this style of gun I simply change somewhat the construction of the lifting or cocking hook *I*, add the lever or ejector *C*, and make the extractor for each barrel separate from the other. It is obvious, however, that the ejector may be used with the ordinary extractor—that is to say, with an extractor which is made in one piece for both barrels—but such an arrangement would not be as good, for the reason that in such case if either shell was fired then both would be ejected upon dropping the barrels, which would be objectionable.

In Figs. 1 and 2 the lock is represented with its mainspring *R* located in front, after the style of what are denominated “front bar locks;” but in Fig. 5 I have shown the lock with its mainspring *R* located in rear of the tumbler. Either form of lock is equally well adapted for use with my improvements.

I propose to use in connection with this gun the safety device which is shown in Figs. 4, 6, and 7, and which consists of a rod, *d*, connected to the heel-plate *D*, which, as shown in Fig. 4, is hinged to the butt of the stock *L*, so as to have a little movement independent of the stock, there being a spiral or other spring, *h*, so applied as to hold the heel-plate away from the butt, except when pressed forward. The

rod *d* extends forward through a hole in the stock *L* to the lock mechanism, and on its front end is rigidly secured a vertical arm, *t*, Fig. 4, which is arranged so that when the gun is cocked it will be drawn back and rest under the raised arm *o* of the tumbler *H* and on the plate below, thus preventing the gun from being fired until, by pressing the heel-plate *D* against the shoulder, the arm *t* is shoved forward out of the way of the tumbler, which is then free to move whenever the trigger is pulled.

The above arrangement is specially adapted to what are known as “hammerless guns,” as it can be applied to such without any change in or addition to the tumblers. In Fig. 6 I have shown it applied to lock the trigger, the part *t* in that case being shoved forward over a notch in the rear arm of the trigger to release the latter; or, by making the rod *d* in two parts, and connecting them by a pivoted lever, *l*, as shown in Fig. 7, the part *t* will be made to slide backward, and thus release the trigger.

It is obvious that the safety device may be arranged to lock the sear instead of the trigger, and that instead of the hinged heel a small lever may be used for operating the rod *d*, said lever being located in a slot or recess in the heel-plate; or the end of rod *d* may simply protrude through the heel-plate, so as to be shoved forward when the gun is brought to the shoulder, these all being mere modifications and equivalents of the hinged heel-plate.

Having thus described my invention, what I claim is—

One or more extractors, *e*, in combination with the ejector lever or levers *C*, and the lifting-hook *I*, provided with the shoulders *m* and *n*, arranged to operate in connection with the arm *o* of the tumbler *H* or other part of the lock for ejecting the spent shell, substantially as described.

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Witnesses:

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*Solicitor, Birmingham, England.*  
JOHN KIDMAN,  
*Clerk to Mr. Holden.*