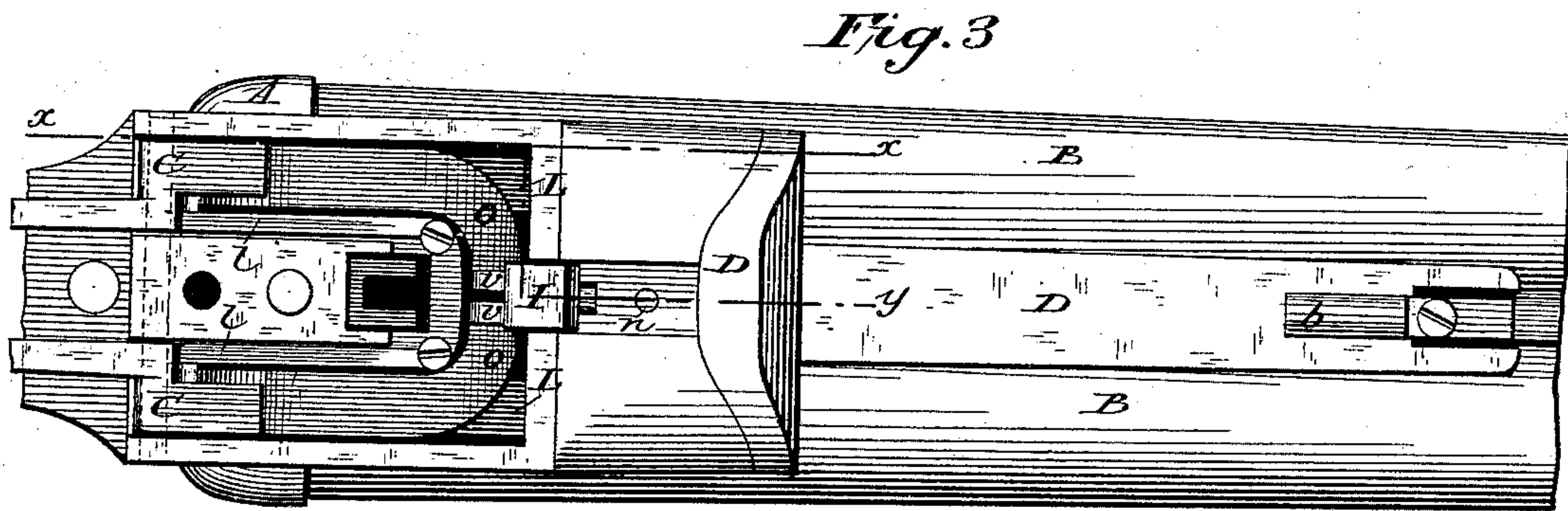
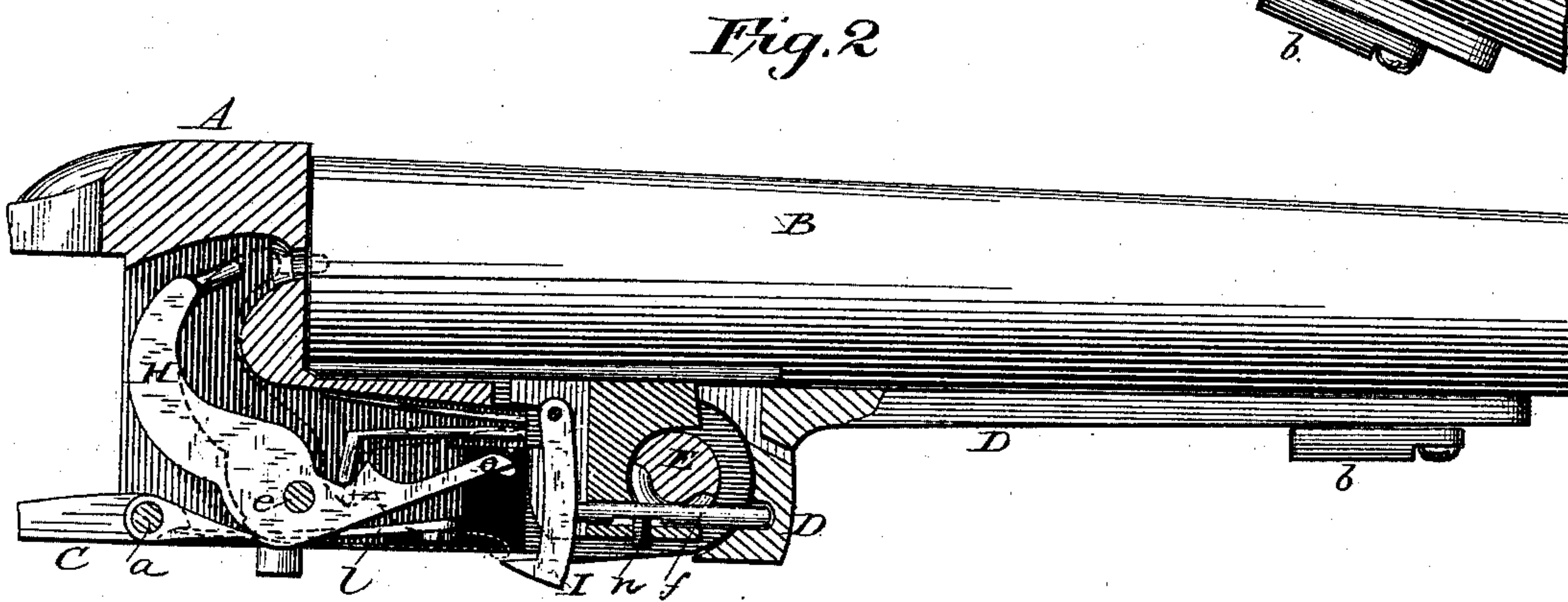
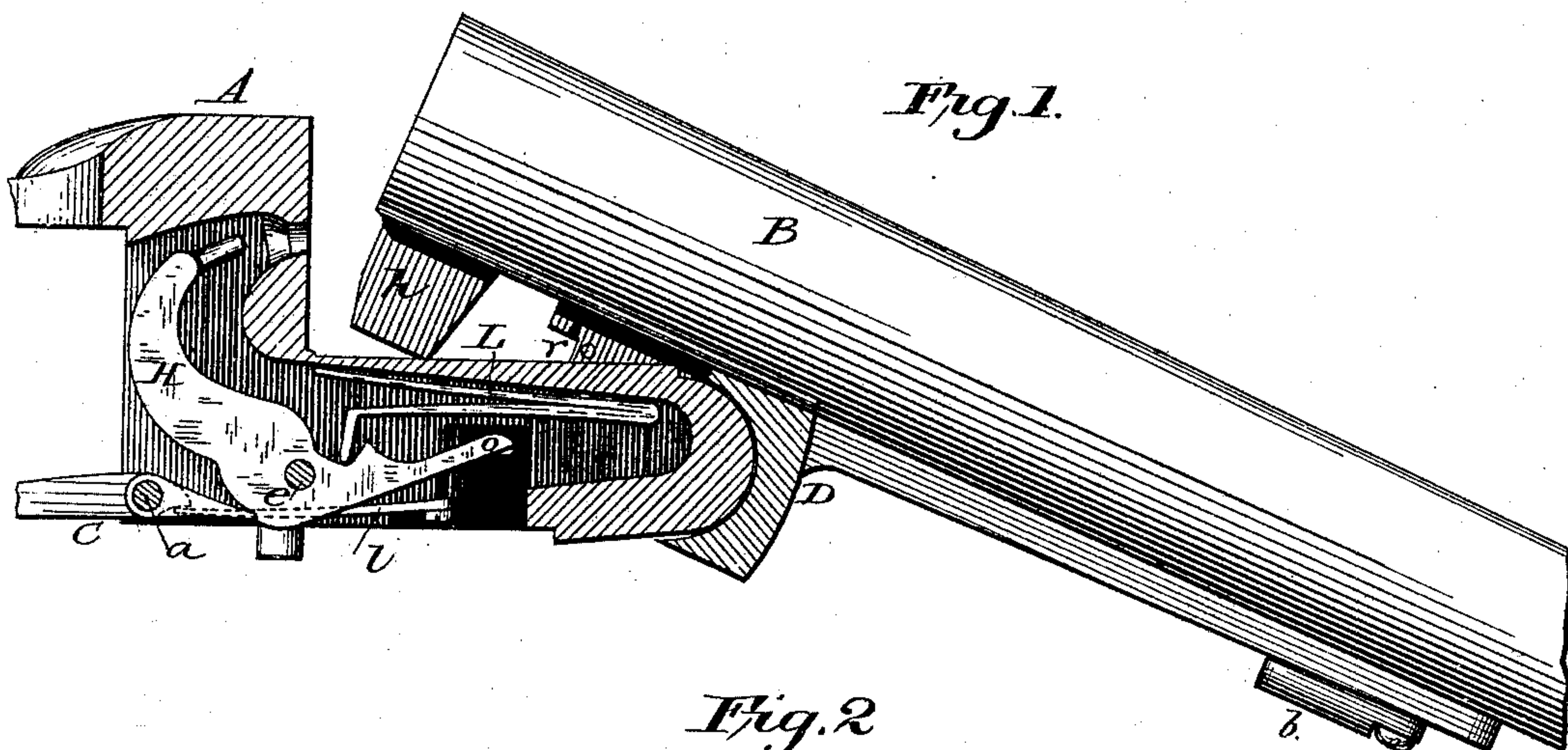


(No Model.)

W. W. GREENER.
Breech Loading Fire Arm.

No. 229,604.

Patented July 6, 1880.



Attest

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UNITED STATES PATENT OFFICE.

WILLIAM W. GREENER, OF BIRMINGHAM, ENGLAND.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 229,604, dated July 6, 1880.

Application filed May 27, 1880. (No model.) Patented in England March 2, 1880.

To all whom it may concern:

Be it known that I, WILLIAM W. GREENER, of Birmingham, 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 fire-arms usually known as "hammerless drop-down guns;" and the invention consists in so constructing the tumblers that they will act as hammers for firing the charge, and so arranging them in connection with a hook, cam projection, or similar device connected to and moving with the barrels that the dropping of the barrels shall cock the arm, as hereinafter more fully described.

Figure 1 is a side elevation, with the breech-frame shown in section, on the line *xx* of Fig. 3. Fig. 2 is a similar view on the line *xy* of Fig. 3; and Fig. 3 is a bottom plan view, the front portion of the barrels and the rear portion of the breech-frame being broken away in each of the figures.

In constructing a gun on my plan the barrels *B* are hinged to the breech-frame *A* in the usual manner; but instead of the ordinary gun-lock without side hammers, I construct the tumblers *H* nearly in the form of an elbow-lever, as shown in Figs. 1 and 2. These tumblers, which are pivoted on a pin, *e*, have their upper ends curved forward, and are provided with a small rounded point, which is arranged to strike through a small hole at the center of the breech-piece, in lieu of the firing-pin ordinarily used for igniting the charge, as shown by dotted lines in Fig. 2.

The lower front portions of the tumblers *H* are extended forward in the form of a flat arm, *o*, as shown clearly in Figs. 1 and 2, and these arms are curved laterally inward, so that their inner ends nearly meet at the center, as shown in Fig. 3, each arm terminating with a small rounded projection, *v*, on its lower side, as shown in the several figures. As shown in Figs. 1 and 2, these tumblers *H* are each located in a suitable recess extending from the rear forward in each side of the breech-frame, said recesses being suitably formed to permit the front arm, *o*, of the tumbler to vibrate therein, and also to permit the location therein of the mainspring *L*, as represented.

To one of the lumps in rear of the joint I pivot a pendant, *I*, which plays loosely in a vertical slot in the center of the front arm of the breech-frame, directly in front of the converging arms *o* of the tumblers, this pendant *I* having a hook-shaped projection of proper size and form to engage under the front ends of the arms *o* of the tumblers, as represented in Fig. 3 and in dotted lines in Fig. 2, so that when the rear ends of the barrels are raised this hook *I* raises the arms *o* of the tumblers far enough to permit the sears *C* to engage in a notch in the tumblers, as shown in Figs. 1 and 2, thus automatically cocking the arm.

In order to hold this hook *I* back far enough to engage with the arms *o* of the tumblers, I insert a pin, *f*, in a horizontal hole in the lump affixed to the under side of the barrels, as shown in Fig. 2, this pin *f* being held in position by a set-screw, *n*, the end of which engages in an elongated recess in one side of the pin, thus preventing the latter from dropping out when the barrels are dismounted, and yet permitting it to move endwise a short distance. At its front end this pin *f* bears against the detachable piece or fore end, *D*, which can be removed by merely turning the button *b*, so that when this piece *D* is in position it holds the pin *f* back with its rear end bearing against the hook *I*, thereby keeping it in a position to engage with the arms *o* of the tumblers whenever the barrels are tipped to open the breech.

When it is desired to dismount the barrels, the fore end or piece, *D*, is detached, which permits the pin *f* to move forward, when the hook *I* can swing forward so as to clear the ends of arms *o*, thus permitting the barrels to be tipped far enough to unhook the lump from the joint-pin *E*, and the barrels to be dismounted. By removing the fore end, *D*, before tipping the barrels, the hook *I* will swing away from the ends of the arms *o*, and, as the barrels are tipped, will pass by them, thus leaving the arm uncocked, when the barrels are detached.

There is a sear, *C*, pivoted on a pin, *e*, in rear of each tumbler, and a sear-spring, *l*, arranged to bear on the under side of a shoulder on the sear, as shown in Fig. 3, by which the nose of the sear is made to engage in the notch in the tumbler whenever the latter is thrown to the cocked position.

Although not shown in the drawings, it will be understood, of course, that the usual style of triggers are arranged to operate upon the rear arms of the sears for firing the arm.

5 In this case I have shown the hook I pivoted to the rear part of the forward lump, *r*, of the barrels; but it is obvious that it may be pivoted to either side of the rear lump, *h*, and be made to operate the same.

10 So, too, it is obvious that the same cocking motion may be obtained by making the hook with its lower end of T form, thus obviating the turning in of the arms *o*, the lateral arms of the T in that case extending out far enough
15 to engage under the ends of the straight arms *o*; or I can construct the horizontal pin or rod *f* of sufficient strength and of the proper shape at its rear end to engage with the arms *o* direct, and thus dispense with the intermediate
20 hook, I; or I can pivot a cam to the lump in such a manner that when the fore end, D, is secured in place it will, by bearing against the front side of the cam, cause its rear edge to protrude so as to engage with the arms *o*, and
25 thus produce the same effect in substantially the same manner and for the same purpose, these various plans or devices being merely modifications of the same general plan or idea.

30 It is obvious that the shorter the arms *o* of the tumblers are and the farther back the hook I or other lifting device is located the greater will be the distance through which the tumblers will be moved in tipping the barrels, and these may be varied at the will of the constructor. All that is required in this respect
35 is, that the tumblers shall have sufficient move-

ment to strike the cap with the force requisite for its explosion.

By making the front arms, *o*, of the tumblers long and locating the lifting-hook I near the 40 axis on which the barrels turn, much less force will be required to cock the arm, though the weight of the front portion of the barrels will always be sufficient to cock the arm, whichever of the above arrangements may be adopted, 45 or, if not, a very slight pressure on the barrels will do so.

I also contemplate the use of a spring of any suitable form to keep the hook I, or whatever form of device may be used in its stead, up to 50 its work, and thus dispense with the aid of the fore end, D, in cocking the arm.

I am aware of the patent to Anson & Deeley, of February 1, 1876, and also of English patent No. 461 of 1877, and also that various plans 55 had been previously devised for cocking guns by opening the breech, and therefore I do not claim, broadly, the idea of cocking the hammers by dropping the barrels or opening the breech; but 60

What I do claim is—

The tumblers H, having their front arms, *o*, curved laterally inward, so as to nearly meet at the center, in combination with the hook-shaped pendant I and pin *f*, or equivalent de- 65 vices, secured to the lump on the barrels and arranged to operate upon the tumblers, substantially as and for the purpose set forth.

WILLIAM WELLINGTON GREENER.

Witnesses:

THOMAS REEVES,

WILLIAM OLIVER GREENER.