

(No Model.)

J. DEELEY, Jr.

CARTRIDGE EXTRACTOR FOR BREAKDOWN GUNS.

No. 348,452.

Patented Aug. 31, 1886.

FIG. 1.

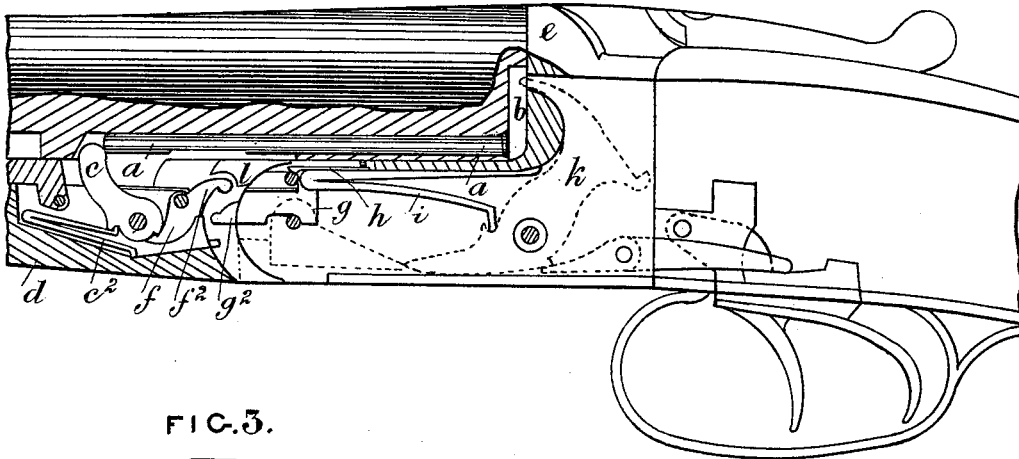


FIG. 3.

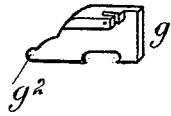
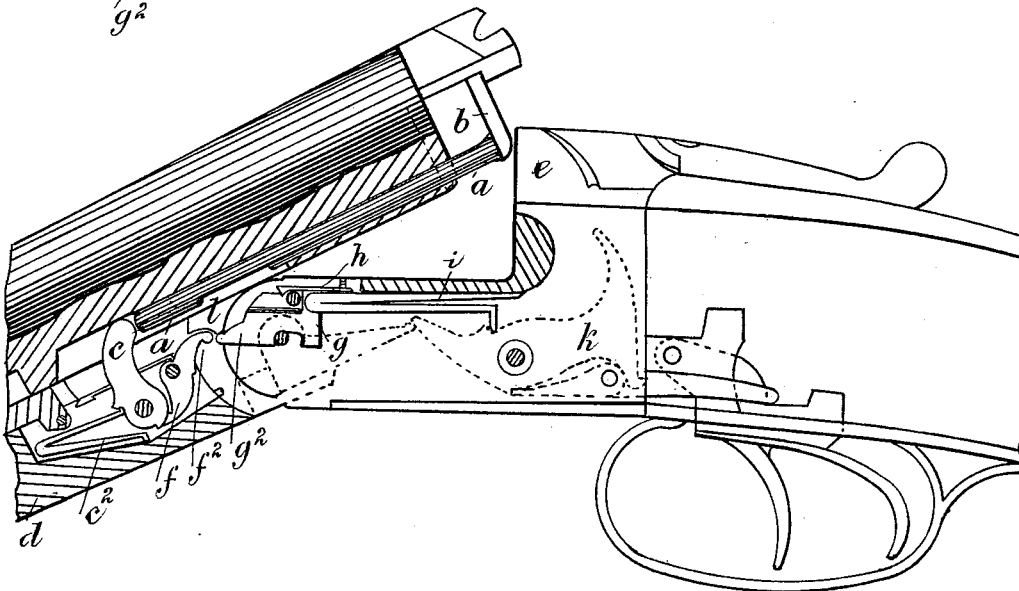


FIG. 2.



Witnesses:

George Shaw
Richard Merrett

Inventor:

John Deeley Junior.

UNITED STATES PATENT OFFICE.

JOHN DEELEY, JR., OF ASTON, COUNTY OF WARWICK, ENGLAND.

CARTRIDGE-EXTRACTOR FOR BREAKDOWN GUNS.

SPECIFICATION forming part of Letters Patent No. 348,452, dated August 31, 1886.

Application filed May 12, 1886. Serial No. 201,977. (No model.) Patented in England March 26, 1886, No. 4,289.

To all whom it may concern:

Be it known that I, JOHN DEELEY, the younger, of Aston, in the county of Warwick, England, a subject of the Queen of Great Britain, have invented Improvements in the Extracting Mechanism of Dropdown Small-Arms, (for which I have made application for Letters Patent in Great Britain, No. 4,289, dated March 26, 1886,) of which the following is a specification.

My invention consists of improvements on an invention for which a patent was granted to me in the United States on the 26th day of January, 1886, No. 335,021. In the specification of the said patent I have described, represented, and claimed mechanism for ejecting the cartridge-case of an exploded cartridge from the barrel by mechanism operated by the raising of the breech end of the barrel from the break-off, for the purpose of charging. This mechanism has considerable resemblance to the ordinary gun-lock mechanism, consisting of a hammer-like arm urged by a spring and retained in its cocked position by a sear, and bent until by the raising of the breech end of the barrel the sear is withdrawn from the bent, when the arm is urged forward by the spring, and, striking the extractor-rod suddenly, ejects the cartridge-case. The liberation of the sear from the bent of the said mechanism is effected by the action of the front of the hammer on a sliding rod. By my present invention I dispense with the rod described, and operate the extracting mechanism in the following manner: I bend nearly at right angles the extreme end of the lower branch of the mainspring, and make the said bent end of the mainspring engage in a notch or recess in the breast of the hammer, the other or upper branch of the mainspring bearing against the upper side of the recess in the body of the gun. By the position described of the mainspring the fall of the hammer on the discharge of the gun urges forward the mainspring through a short distance toward the muzzle end of the gun. The bend of the mainspring bears against a short slide working in a recess in the abutment for the fore-end, and the fall of the hammer, acting through the mainspring, causes the front end of the said slide to project into the said abutment. The ejecting mechanism is carried by

the fore-end, and when, after discharge, the breech end of the barrel is raised the fore-end is depressed, and the sear of the ejecting mechanism striking against the projecting end of the said slide the sear is liberated from the bent, and the cartridge-case is ejected by the fall of the hammer-like arm. The restoration of the parts of the ejecting mechanism to their normal positions on the shutting down of the barrel and the cocking of the hammer is effected in a way substantially the same as that described in the specification hereinbefore referred to.

Figures 1 and 2 represent in longitudinal section the breech end of a dropdown gun containing extracting mechanism constructed according to my invention, and Fig. 3 represents the slide separately. In Fig. 1 the barrel is represented shut down, the hammer in its fallen position, and the ejecting mechanism held in its cocked position, and in Fig. 2 the barrel is represented raised and the hammer cocked, and the ejecting mechanism in its discharged position and the cartridge-case ejected from the barrel.

a is the extractor-rod, and *b* the hook of the extractor.

c is the nearly vertical arm carried by the fore end *d*, for acting upon the front end of the extractor-rod *a* and giving the ejecting motion to the said extractor, the said arm *c* being forced toward the break-off *e*, when at liberty to move, by the strong spring *c*².

*f f*² is the sear-lever, by which the arm *c* is held in its cocked position and released for ejecting the spent cartridge. The upper part, *f*², of the said lever has the form represented, and the lower part takes into a bent or notch in the vertical arm *c*, to hold it in its cocked position.

*g g*² is the slide, (shown detached in Fig. 3,) by which the extracting mechanism is operated on opening the gun. The slide *g g*² works in the body of the gun, and its nose *g*² passes into a recess in the abutment of the fore-end *d*. The motion of the slide *g g*² is limited by a pin and slot at the lower side of the slide, and the slide is held in its advanced and withdrawn positions, respectively, by the V-shaped end of the spring *h*, bearing on either side of the roller carried by the said slide. The slide *g g*² is advanced by means of the mainspring

5 i of the hammer k , the extreme end of the lower branch of the said mainspring engaging in a notch in the hammer, and the upper branch of the mainspring bearing against the upper side of the recess in the body of the gun. The bend of the mainspring i bears against the slide g g^2 . When the barrel is shut down, the slide g g^2 has the forward position represented in Fig. 1, and when the breech end of the barrel is lifted to open the gun the slide takes the backward position represented in Fig. 2, by the action of the incline l on the abutment of the fore-end bearing against the projecting nose g^2 of the said slide. The advance of the slide g g^2 into the position Fig. 1 is effected by the fall of the hammer k , acting through the mainspring i , which is slightly advanced by the said fall of the hammer, so as to cause the front end or nose, g^2 , of the slide to be projected into the recess in the fore-end d . On closing the gun after it has been reloaded the pushing inward of the extractor b and rod a causes the latter to operate upon and cock the vertical arm c , which is retained in its cocked position by the sear-lever f f^2 , as seen in Fig. 1. The cocking of the hammer gives a slight backward motion to the mainspring, so as to permit, on the opening of the gun, of the retiring of the slide g g^2 . When the slide g g^2 is in the advanced position represented in Fig. 1, the nose g^2 is under the upper sear-arm, f^2 , of the sear-lever f f^2 , ready for releasing the ejecting mechanism.

35 The ejecting of the spent cartridge is effected in the following manner: The ejecting parts a b c and slide g g^2 being in the respective positions represented in Fig. 1, and the gun having been discharged, the breech end of the barrel is raised, the fore-end d depressed, and the hammer k cocked. As the fore-end d is depressed, the spent cartridge is started from the barrel in the ordinary way, and the upper sear-arm, f^2 , of the sear-lever f f^2 striking against the projecting end or nose g^2 of the slide g g^2 the said sear-lever is liberated. The arm c is now urged forward by its spring c^2 , and strikes against the end of the extractor-rod a , urging backward or outward the extractor-hook b with a sudden motion, and thereby ejecting the spent cartridge from the barrel. The descent of the fore-end d also causes its incline l , acting upon the nose g^2 , to force back the slide g , the mainspring i , by the cocking of the hammer, permitting of the back motion of the slide, the several parts now occupying the respective positions represented in Fig. 2. As the slide g g^2 remains in its back position until the hammer has been discharged, the opening of the gun for the removal of a cartridge or for other purpose does not cause the ejecting mechanism to be brought into operation. On closing the barrel the ejecting-arm c is again cocked, and on the discharge of the gun the slide is again advanced by the hammer acting through the mainspring, and the several parts occupy the respective positions represented in Fig. 1,

ready, on the lifting of the barrel, to effect the ejection of the spent cartridge.

The slide g g^2 may be used in conjunction with a spring-rod or spring-bolt for acting upon the front end of the extractor-rod instead of the spring-arm c , the said spring-rod or spring-bolt being held in its pressed-back position by a sear or sear-lever, which is released by the nose of the slide on opening the gun.

My invention is applicable to single and double barrel dropdown guns and small-arms. In double guns or small-arms an extractor for each barrel is used, mechanism of the kind described being applied to the independent extractor of each barrel.

In Letters Patent No. 335,021, granted to me the 26th day of January, 1886, the sear-lever of the extracting mechanism is released by a sliding rod, which is thrown forward by the impact of the breast of the hammer and backward by a projection or shoulder on the fore-end, said rod being held in both positions by an angular lever actuated by a spring having an angular bearing. I make no claim in this application to anything shown in said patent.

Having now described the nature of my invention and the manner in which the same is to be performed, I declare that I claim as my invention—

1. In a dropdown fire-arm, the combination, with the extractor-rod and the spring-actuated lever operating the same, of the sear-lever, the releasing-slide g , having nose g^2 , and the mainspring i , having its bend engaging with a recess in the slide g , substantially as described.

2. The combination, with the extractor-rod a , of the lever c , bearing thereon, spring c^2 , sear-lever f f^2 , controlling lever c , the slide g , having a nose, g^2 , the projection l on the fore-end, and the mainspring of the piece, having its end engaging with the slide g , substantially as described.

3. The combination, with the extractor-rod a , lever c , operating the same, and sear-lever f f^2 , controlling lever c , of the slide g , having nose g^2 , the projection l on the fore-end, with which the slide engages, and the mainspring i , having its end engaging with said slide, substantially as described.

4. The combination, with the extractor-rod a , lever c , operating the same, sear-lever f f^2 , controlling lever c , and the slide g , having a pin or roll mounted thereon and provided with the nose g^2 , of the projection l on the fore-end, with which the slide engages, the mainspring i , having its bend engaging said slide, and the spring h , having an angular or wedge-shaped bearing on its end, substantially as described.

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Witnesses:

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 RICHARD SKERRETT.