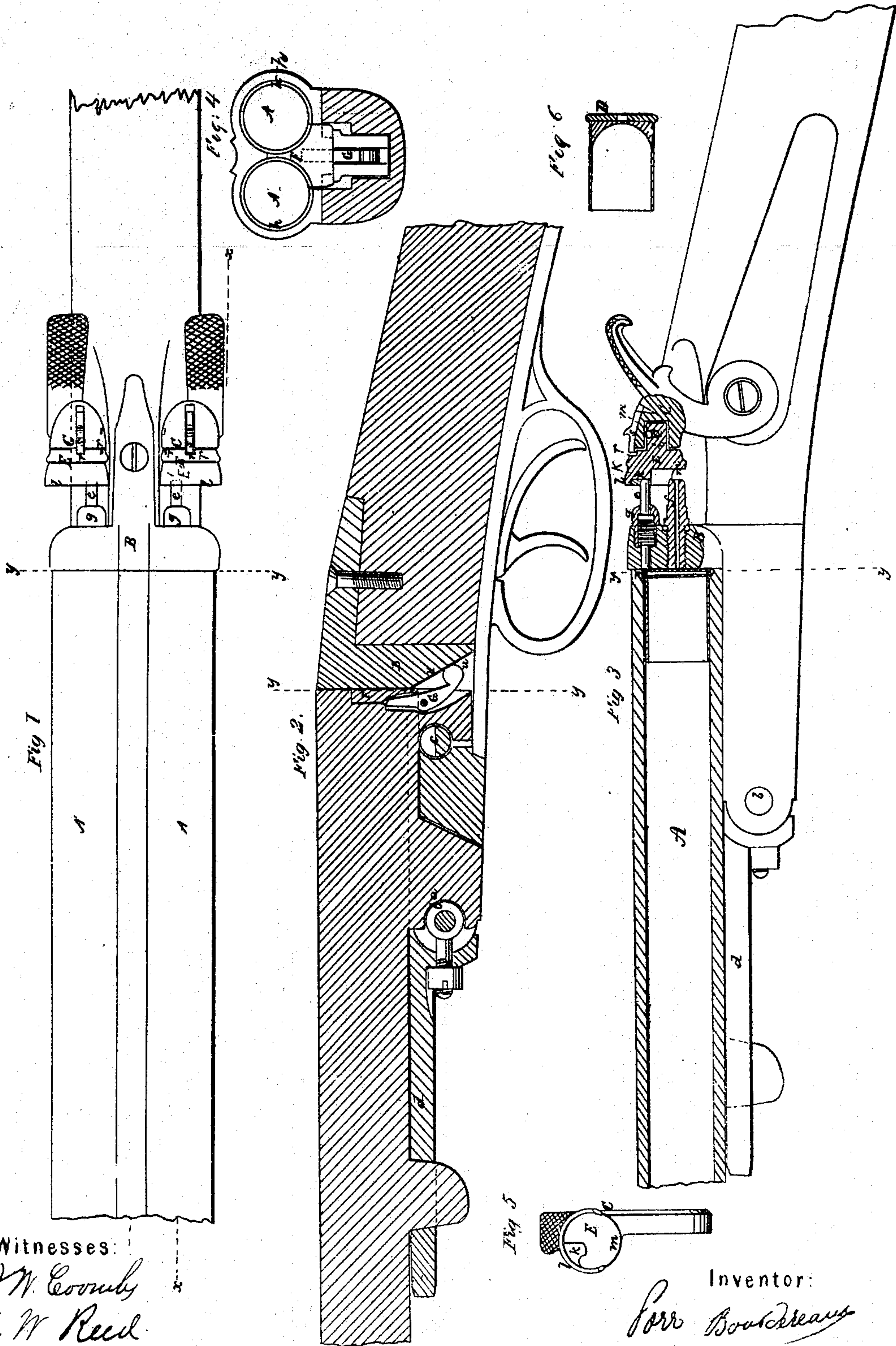


P. Bourdereaux Breech Loader

No 59706.

Patented Nov 13, 1866



Witnesses:

J. W. Coombs
G. W. Reed

Inventor:

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UNITED STATES PATENT OFFICE.

PIERRE BOURDEREAUX, OF NEW YORK, N. Y., ASSIGNOR TO JOSEPH MERWIN AND EDWARD R. BRAY.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 59,706, dated November 13, 1866.

To all whom it may concern:

Be it known that I, PIERRE BOURDEREAUX, of the city, county, and State of New York, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view of the breech part of a double-barreled gun with my improvements; Fig. 2, a central longitudinal vertical section of the same. Fig. 3 is a longitudinal vertical section of the same in the planes indicated by the line *x x* in Fig. 1. Fig. 4 is a transverse vertical section in the plane indicated by the line *y y* in Figs. 1, 2, and 3. Fig. 5 is a face view of the hammer. Fig. 6 is a central longitudinal section of a shell that is inserted in the barrels when the gun is to be used as a muzzle-loader.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is more especially applicable to double-barreled breech-loading shot-guns, but is also applicable to double-barreled breech-loading rifles.

It consists in a certain novel provision for the firing of metallic cartridges inserted at the breech and having fulminate priming in the hollow flanged heads of their shells, or for the firing either of center-fire cartridges inserted at the breech, or of charges inserted at the muzzle, by means of percussion-caps applied to fixed nipples secured in the breech; and it further consists in a novel mode and means of operating the cartridge-shell extractor for withdrawing the discharged shells from the chambers of the barrels.

To enable others skilled in the art to apply my invention to use, I will proceed to describe it with reference to the drawings.

A A' in the drawings represent the barrels of a double-barreled gun, suspended or supported in a readily-detachable manner by a clip, *a*, on a pin, *b*, so that when locked down by a suitably-constructed key, *c*, as represented in Fig. 2, they will form a tight junction at the breech, but admitting of such barrels, on turning the key, being upset, as in the case of

"break-down" guns, or of the barrels being removed, a detachable locking-strap, *d*, serving to complete the hold, or tightening and facilitating the removal of the parts. As this mode of hanging, however, and mode of opening and closing at the breech may be varied, I shall not here more minutely describe it.

To make a gun readily adaptable to firing metallic cartridges inserted at the breech and having fulminate priming in the hollow flanged head of their shells, and at another time for the firing either of center-fire cartridges, likewise inserted at the breech, or of charges entered at the muzzle, I use and arrange one above or alongside the other, in line with the barrel and in rear of it, (duplicating such arrangement for two barrels,) a sliding firing-pin, *e*, for the hollow-flange-primed cartridge, and for the center-fire cartridges, or of charges inserted at the muzzle, a fixed percussion-cap nipple, *f*, and suitably construct the hammer so as to adapt the hammer to act upon either of these attachments to the breech B, in which they are or may be secured—the one (that is, the cap-nipple *f*) by screwing it into the breech, and the other (the sliding firing-pin *e*) by locking it through a collar on which a spring acts to throw said pin out within a box or cap, *g*, likewise secured into the breech, it not being designed to remove either the cap-nipple or firing-pin from their places when changing the action of the hammer to strike either, so that neither will be exposed to being lost or misplaced, but always be in place. This will be advantageous, especially in the case of a double-barreled gun acting, the one hammer, say, on a percussion-cap, and the other hammer on a firing-pin, where the division of the ammunition at hand renders such alternate use especially desirable, or when it is desired to continue, say, a series of rounds from one or both barrels, first of one description of ammunition and then of the other, without losing time to change the nipple or firing-pin. This, then, be it understood, is a fixed provision of cap-nipple and firing-pin, only necessarily detachable for renewal or repair, in contradistinction to a removable one requiring change or detachment accordingly as either of said devices is in-

tended to be used, the hammer, in the present instance, being depended upon to operate either one at pleasure. Prior to describing a hammer construction for such purpose, I would observe that whatever mode of adjustment be adopted it is all-important that the hammer C of either barrel should be so hung, and its range so applied, that it strikes and operates fair or straight from behind the firing-pin or cap-nipple in line with the barrel, or as nearly so as it is practicable, so as to produce as little down thrust or pressure as possible, either in the explosion of the cap or projection of the firing-pin against the hollow flange forming the priming-head of the cartridge; and this remark applies prominently to the sliding firing-pin, which the hammer has not only to strike, but follow up the movement of. The barrels A A', too, it may be observed, have an annular groove, *k*, only interrupted where cut away for the exploded cartridge-shell extractor, as hereinafter described, at their rear ends, to receive alike the hollow-flanged head of the cartridge or perforated solid head of a loose shell or chamber, D, which may be similarly entered at the breech to receive the charge of powder inserted at the muzzle. When this last-named mode of firing is used, the cap-nipple may be slightly screwed farther inward, so as to enter at its tapered inner end a flared mouth to the orifice in the back or head of the loose shell or chamber.

The following will suffice to describe a mode of constructing the hammer so as to make it strike at pleasure either the firing-pin or cap-nipple. Pivoted by a shank, *i*, to the head of the hammer C, so as to be capable of turning in or on it, is a face-piece, E, having a striking-projection, *k*, eccentrically situated on its face, which is further surmounted by an ordinary partial flange or border, *l*, cut away, as at *m*. This face-piece E is limited in its turning action in or on the head of the hammer by a stop-pin, *n*, which, fitting in a groove, *o*, cut partially round the shank *i*, arrests the movement of the face-piece, both when it is turned so as to bring the projection *k* opposite the firing-pin *e* and when it is turned so as to take the projection *k* out of line with said pin for the action of the face-piece on the cap-nipple *f*; said projection *k* serving to strike fair and follow up the sliding firing-pin without any contact of the hammer or its face-piece on the cap-nipple, and, on turning the face-

piece so as to free the projection *k* from contact with said pin, permitting of the general surface of the face-piece acting upon the cap on the nipple *f* without touching or striking the firing-pin, by reason of the arrangement of the latter above the cap-nipple and hang of the hammer, which brings the general surface of the face-piece into contact with the cap on the nipple before it could touch the firing-pin. To lock the adjustable face-piece E at either of the points named, it may have notches *r* cut in its rear edge, into which a thumb-slide, *s*, may be shot or withdrawn from at pleasure. Thus a fair and straight action of the hammer is, or may be, got on either the firing-pin or cap-nipple.

Supposing the gun to open at the breech, as described, by tilting or tipping up the rear ends of the barrels, then may such motion be advantageously employed in extracting the shell of the exploded cartridge, or, it may be as well, projecting the head of the loose chamber D by introducing into the rear ends of either barrel a grooved sliding extractor, F, the groove in which corresponds with the broken annular groove *k* in the end of either barrel, and the inner raised portion or collar of it with the bore of the barrel. This sliding extractor is operated by a lever, G, pivoted to a projection connected with the barrels, and so that the lower arm of said lever, when the barrels are shut down and the extractor pushed inward by the breech in closing, lies freely in a space, *u*; but on tilting up the end of the barrel a positive motion is communicated to the lever G by an inclined-plane surface, H, causing to be pressed inward the lower arm of the lever, and its upper arm outward, which latter, acting against the extractor F, projects it more or less outward, and with it, to facilitate removal, the discharged cartridge-shell, by reason of the collar of the extractor clipping the flanged head of said shell.

What I claim herein as new and useful, and desire to secure by Letters Patent, is—

The breech B, provided with a fixed center-fire nipple, *f*, and a sliding firing pin or pins, *e*, in combination with the adjustable face-piece E of the hammer, substantially as and for the purpose specified.

PIERRE BOURDEREAUX.

Witnesses:

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