3 Sheets--Sheet 1.

W. M. SCOTT.

Breech-Loading Fire-Arm.

No. 161,559. Patented March 30, 1875.

FIG 1

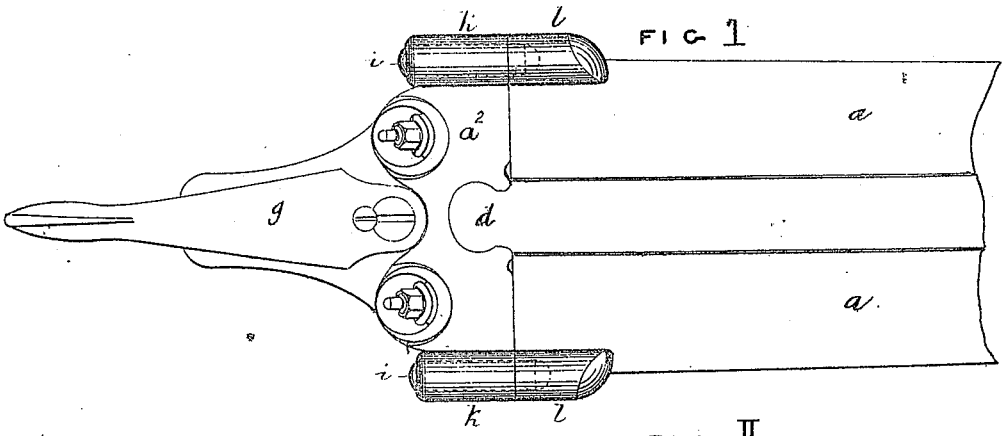


FIG II

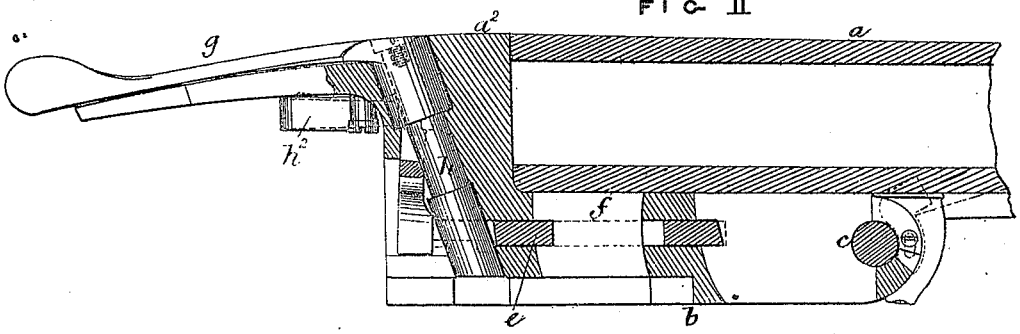
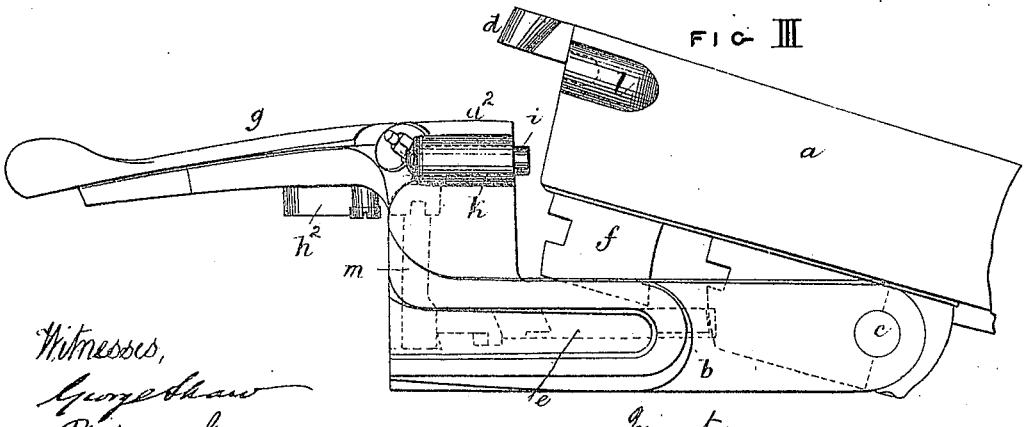


FIG III



Witnesses,
George Shaw
Richard Skerrett

Inventor
William Middlebush Scott.

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W. M. SCOTT.

Breech-Loading Fire-Arm.

No. 161,559. Patented March 30, 1875.

FIG-IV

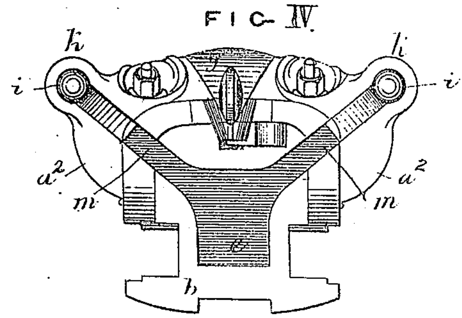


FIG-V

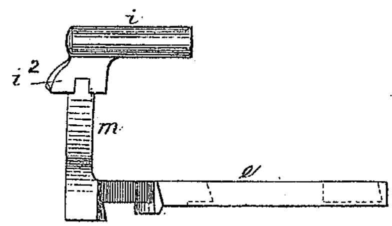


FIG-VI

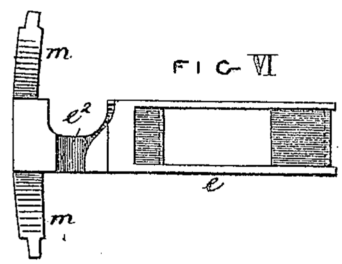


FIG-VII.

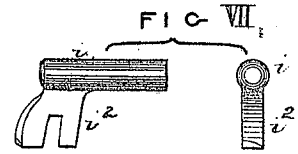
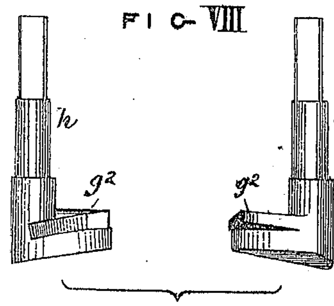


FIG-VIII



Witnesses,
George Shaw
Richard Skerrett.

Inventor
William Middleditch Scott.

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3 Sheets--Sheet 3.

W. M. SCOTT.

Breech-Loading Fire-Arm.

No. 161,559. Patented March 30, 1875.

FIG IX.

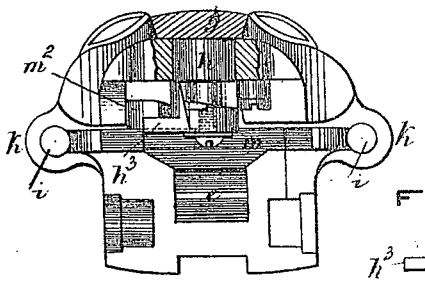


FIG XII.

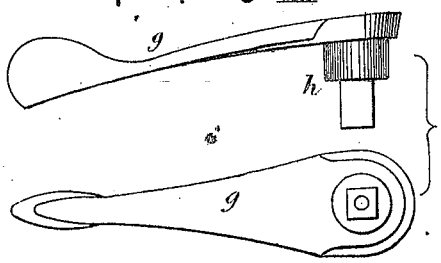


FIG XIII.

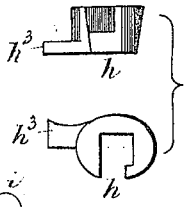


FIG XIV.

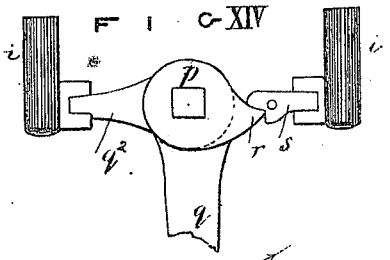


FIG X.

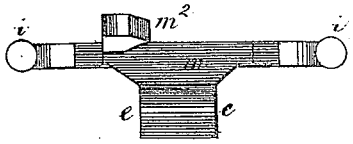


FIG XV.

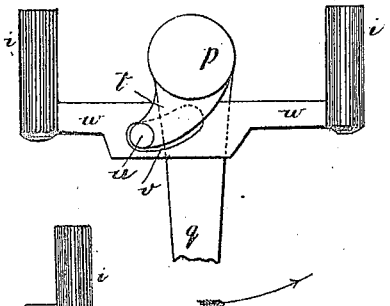


FIG XVI.

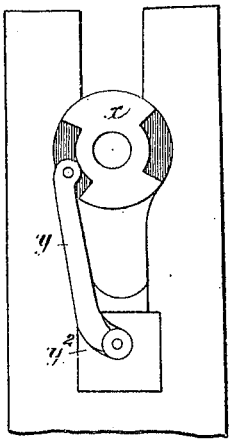
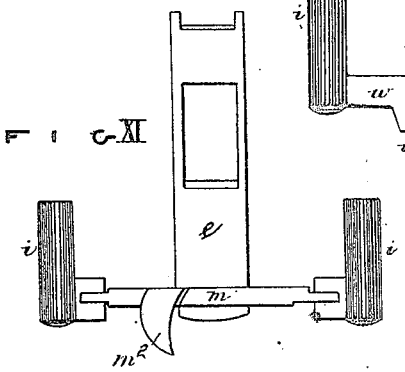


FIG XI.



Witnesses,
George Shaw
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UNITED STATES PATENT OFFICE.

WILLIAM MIDDLEDITCH SCOTT, OF BIRMINGHAM, ENGLAND.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 161,559, dated March 30, 1875; application filed February 23, 1875.

To all whom it may concern:

Be it known that I, WILLIAM MIDDLEDITCH SCOTT, of the firm of W. & C. Scott & Son, of Birmingham, in the county of Warwick, England, gun manufacturers, have invented certain Improvements in Breech-Loading "Small-Arms," of which the following is a specification:

My invention has reference to breech-loading small-arms of the kind called drop-down guns; and has for its object to bolt down the barrels of the said guns more securely for discharge than is effected by the mechanism at present in use.

In addition to the ordinary sliding bolt, which takes into the lump on the under side of the barrels, I employ two outer bolts, symmetrically arranged on either side the middle or ordinary bolt. The said outer bolts are not quite parallel, their rear ends being somewhat nearer to each other than their acting ends, which engage with the barrels. The said outer bolts work in suitably-formed holes or recesses in the break-off, and are actuated by a cross-bar carried by a vertical part of the central bolt. The ends of this cross-bar engage, respectively, in slots in the rear ends of the outer bolts, and the advancing and retiring of the central or ordinary bolt effect the advancing and retiring of the said outer bolts. The slots in the outer bolts perform a slight sliding motion on the ends of the cross-bar during their motion, owing to their want of parallelism. The ends of the said outer bolts engage in recesses at the outer sides of the breech ends of the barrels, the said recesses being formed in enlargements made at the breech ends of the barrels. The outer bolts may be made parallel, with the same effect.

The rear ends of the outer bolts may be made to strike on the retiring motion of the said bolts against the breasts of the hammers, and raise the said hammers to half-cock.

My improvements may be worked, as hereinbefore described, by the ordinary or central bolt, the said central bolt being actuated by a lever either on the tang of the break-off, or by a lever situated at the side or under side of the gun; or the said bolts may be worked independently of or without the central bolt, and may be used in conjunction with the Lefaucheux action, as well as with an ordinary central-bolt action.

Having explained the nature of my invention, I will proceed to describe, with reference to the accompanying drawings, the manner in which the same is to be performed.

Figure 1 represents in plan, Fig. 2 in longitudinal vertical section, Fig. 3 in side elevation, and Fig. 4 in end elevation, the breech end of a drop-down gun containing fastening mechanism constructed according to my invention. The barrels of the said gun are represented fastened down for discharge in Figs. 1, 2, and 4, and unfastened and lifted from the break-off in Fig. 3. In the said Figs. 1, 2, 3, and 4 the stock, locks, and other parts of the gun are omitted. Fig. 5 represents, in side elevation, the principal or central bolt, and the outer or side bolts detached from the gun. Fig. 6 represents, in plan, the said central bolt, and the cross-bar for connecting it to the outer bolts. Fig. 7 represents one of the outer bolts detached; and Fig. 8 represents the axis by which the compound bolt is worked.

The same letters indicate the same parts in the several figures of the drawings.

a a are the barrels, jointed to the body *b* at *c*, as usual. a^2 is the break-off, against which the face of the breech ends of the barrels *a a* shut for discharge, a prolonged part, *d*, of the rib between the barrels taking into a correspondingly-shaped recess in the break-off. *e* is the central bolt, taking into the lump *f* on the under side of the barrels. The said bolt is worked by the cam g^2 on the lower end of the long axis *h*, passing through the break-off, the said cam taking into the recess e^2 in the said bolt *e*. h^2 is the spring, acting on the axis *h* for giving the snapping action to the bolts. *g* is the hand-lever on the tang of the break-off, by means of which the axis *h* is partly rotated for withdrawing the bolts. *i i* are the side or outer bolts, arranged on either side the middle bolt *e*. The said outer bolts *i i* are parallel, or nearly parallel, and their rear ends work in holes or recesses made in

projections k on the break-off a^2. (See the plan, Fig. 1.) The front or acting ends of the outer bolts $i\ i$ engage with the barrels $a\ a$, by taking into holes or recesses made in the pockets or enlargements $l\ l$ on the sides of the said barrels. The two outer bolts are connected to the central bolt e by the cross-bar $m\ m$, the shape of which is best seen in the end elevation, Fig. 4. The upper end of each of the inclined arms of the cross-bar $m\ m$ is reduced in size, and the said reduced end takes into a slot or recess in the lump i^2 on the under side of the rear end of the bolt i. (See Figs. 5 and 6.) By means of the cross or connecting bar $m\ m$ on the central bolt e, the advancing and retiring motions of the said bolt e effect the advancing and retiring of the outer bolts $i\ i$.

By turning aside the hand-lever g the three bolts $e\ i\ i$ are simultaneously withdrawn, the central bolt being removed from the lump f, on the under side of the barrels $a\ a$, and the outer bolts $i\ i$ being withdrawn from the enlargements on the sides of the said barrels. The barrels $a\ a$ are thereby unfastened, and may be turned on their joint c and lifted from the break-off for charging, as represented in Fig. 3. As the outer bolts $i\ i$ are withdrawn their rear ends may be made to strike against the breasts of the hammers of the gun and raise the said hammers to half-cock. On shutting down the barrels after charging the lump f presses back the central bolt e, and, through the said bolt e, the bolts $i\ i$ are made to retire into the projections on the break-off. On the complete shutting down of the barrels the three bolts $e\ i\ i$ simultaneously snap, by the action of the spring h^2, into their respective recesses, and the said barrels are very securely fastened in their places.

Instead of employing a long axis passing through the break-off for working the compound bolt, as already described, a short axis may be employed, as represented in end elevation, partly in section, in Fig. 9. Fig. 10 represents, in end elevation, and Fig. 11 in plan, the central bolt e and outer bolts $i\ i$ of the arrangement, Fig. 9, detached from the gun. Fig. 12 represents the hand-lever detached, and Fig. 13 represents the arm which is fixed on the axis h of the hand-lever for working the central bolt e and outer bolts $i\ i$.

In this arrangement the cross-bar m, on the central bolt e, is provided with a tooth or arm, m^2, against which a short arm, h^3, on the axis h of the hand-lever g bears to withdraw the bolts $e\ i\ i$. The cross or connecting bar m, which connects the outer bolts $i\ i$ with the central bolt e, is straight instead of having inclined arms, as in the arrangement first described, and the projections $k\ k$ on the break-off, and the corresponding enlargements on the barrels for the outer bolts $i\ i$ to work in and engage with, are situated below the centers of the barrels instead of above them, but the action of the bolting mechanism of the gun is precisely the same as that first described.

Figs. 14 and 15 represent arrangements for working the outer bolts $i\ i$ independently of the central bolt e.

In the arrangement, Fig. 14, the axis p of the hand-lever q, which works the central bolt, has on one side of it an arm, q^2, the free end of which arm takes into one of the outer bolts $i\ i$, and on the opposite side of the said axis p is a cam or projection, r, which acts against the arm of a short lever, s, the opposite arm of the said lever s engaging with the other of the said bolts $i\ i$, as represented. When the hand-lever q is turned to the right, as indicated by the arrow, the two bolts $i\ i$ are made to move in the same direction, so as to withdraw them from the barrels simultaneously, or nearly so, with the withdrawal of the central bolt from the barrels.

In the arrangement, Fig. 15, the arm t on the axis p, working the central bolt, has a pin or stud, u, on its end, which works in the curved or oblique slot v in the cross-bar w, which connects the two bolts $i\ i$ together. When the hand-lever q is turned to the right, as indicated by the arrow, the action of the pin u on the oblique slot v of the bar w causes the two bolts $i\ i$ to be withdrawn, the advance or snapping action of the said bolts being effected by a spring operating against the axis p or cross-bar w.

Fig. 16 represents, in plan, an arrangement for working the outer bolts by means of the Lefaucheux action. x is the head of the gripe or bolting-lever of the said Lefaucheux action, to which head is jointed a rod or arm, y, and the latter is jointed to the part y^2 of the cross or connecting bar of the outer bolts. As the gripe or bolting lever x is partly rotated to fasten down the barrels, the outer bolts are, at the same time, advanced by the rod or arm y acting upon the cross or connecting-bar and made to shoot into their projections on the sides of the barrels, and on the reverse motion of the gripe-lever x to unfasten the barrels, the said outer bolts are withdrawn.

Although I have represented the outer bolts $i\ i$ in conjunction with a central sliding bolt or with the Lefaucheux action, yet I wish it to be understood that the said outer bolts may be used alone for fastening down the barrels.

When the said outer bolts are used without the central bolt they may be worked from the tang of the break-off by the arrangements of parts hereinbefore described and illustrated in Figs. 14 and 15; and although I prefer to work the combined central bolt and outer bolts, or outer bolts alone, from the tang of the break-off, yet the said bolts may be worked from the side or under side of the gun with the same effect.

Having now described the nature of my invention, and the manner in which the same is

to be performed, what I claim, and desire to secure by Letters Patent, is—

1. In drop-down breech-loading fire-arms, the combination, with the barrel or barrels, formed with side enlargements, as described, of two outer sliding locking-bolts carried by the break-off, and taking into sockets formed in said side enlargements, substantially as shown and set forth.

2. In fire-arms such as specified, the combination, with the ordinary central sliding bolt, of the two outer sliding locking-bolts arranged to take into side enlargements on the barrel or barrels, substantially in the manner shown and set forth.

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RICHARD SKERRETT,

of 37 Temple street, Birmingham.