



A.D. 1883, 6th JUNE, N° 2813.

S P E C I F I C A T I O N

OF

JAMES WOODWARD

AND

FREDERICK BEESLEY.

BREECH LOADING SMALL FIRE ARMS.

PRINTED BY ORDER OF THE COMMISSIONERS OF PATENTS FOR INVENTIONS.

L O N D O N :

PUBLISHED AND SOLD AT

THE COMMISSIONERS OF PATENTS' SALE DEPARTMENT,

38, CURSITOR STREET, CHANCERY LANE, E.C.

Price 6d.

1883.

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Breech Loading Small Fire Arms.

LETTERS PATENT to James Woodward of St James' Street, in the City of Westminster, Gunmaker, and Frederick Beesley of Queen Street, Edgware Road, both in the County of Middlesex, Gunmaker, for an Invention of "IMPROVEMENTS IN OR APPLICABLE TO BREECH LOADING SMALL FIRE ARMS".

PROVISIONAL SPECIFICATION left by the said James Woodward and Frederick Beesley at the Office of the Commissioners of Patents on the 6th June 1883.

JAMES WOODWARD, of St James' Street, in the City of Westminster, Gunmaker, and FREDERICK BEESLEY, of Queen Street, Edgware Road, both in the County of Middlesex, Gunmaker, "IMPROVEMENTS IN OR APPLICABLE TO BREECH LOADING SMALL FIRE ARMS"

This Invention which relates to certain improvements in or applicable to breech loading small fire arms, has especial reference to self cocking lock actions of break
10 down guns of the hammerless class.

A principal object of the present improvements, is to cause the weight of the barrels in opening the same for re-charging after firing to be instrumental in automatically effecting the cocking of the locks ready for a renewed discharge, by a novel and improved combination of parts of a simplified and easy action.

15 In one modification of the Invention, the stand side of the mainspring of a bar action lock is prolonged beyond its normal point of bearing as in the case of what are known as rebounding locks, but it is done so in a much reduced and lightened form, until it comes under a forward part of the tumbler or cock against which it is brought to bear in such a manner as will permit of its lifting the tumbler to full
20 cock, when the latter is relieved in the manner hereinafter described of the greater pressure exerted upon it in the contrary direction and in the usual manner by the ordinary playing side of the spring. Under the playing side of the spring adjacent to its free end there is pivotted either to the lock plate or in the body of the breech action a tumbling lifter having a forward toe and a rear extension. The
25 lifter of each lock is turned upon its centre, when depressing or opening the barrels

Woodward & Beesley's Improvements in Breech Loading Small Fire Arms.

to insert the cartridges, by means of a cam piece which is flattened on its upper edge to bear along the under side of the barrels and works round the joint pin in a recess cut in the fore end of the breech action and has a notch with which engages the fore end of a bar or rod which slides in a way drilled through the belly of the action rearward from the knuckle joint, and is both thrust back and withdrawn by the cam piece. When the barrels are thus depressed or opened, the rod of each lock is thrust back and pushing the forward toe of its lifter causes it to turn in such a manner as that its rear extension cramps the playing side of the mainspring up to the stand side, when, the cock, being relieved from the pressure of the playing side of the spring, is lifted to full cock by the said extension of the stand side of the spring, and the sear of the lock drops into its bent or notch in the usual way. On the barrels being closed or returned to the position for firing the gun, the playing side of the spring is released from pressure by the withdrawal of the rod and the fall of the lifter and is free to act on the tumbler or cock in the ordinary manner for discharging the cartridge when the tumbler is released from the sear by the action of the trigger.

In another modification, a separate light spring may be used for cocking the lock in lieu of extending the mainspring: but in all modifications of the present improvements, it constitutes a principal feature that the tumbler or cock should be cocked not directly by any main thrust of the bar or rod as has been previously effected, but by a light extension of the mainspring or its equivalent when by the depression or lowering of the barrels the cock is released in the manner herein described or in any equivalent manner from the pressure of the playing side of the spring.

The lifters, springs, and such parts of the improved lock action which have any bearing against each other may be fitted with friction rollers to minimise the friction and give ease to the action.

Woodward & Beesley's Improvements in Breech Loading Small Fire Arms.

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said James Woodward and Frederick Beesley in the Great Seal Patent Office on the 6th December 1883.

JAMES WOODWARD, of St James' Street, in the City of Westminster, Gunmaker,
5 and FREDERICK BEESLEY, of Queen Street, Edgware Road, both in the County of Middlesex, Gunmaker. "IMPROVEMENTS IN OR APPLICABLE TO BREECH LOADING SMALL FIRE ARMS"

This Invention which relates to certain improvements in or applicable to breech loading small fire arms, has especial reference to self cocking lock actions of break
10 down guns of the hammerless class.

A principal object of the present improvements is to cause the weight of the barrels when being opened for charging to be instrumental in automatically effecting the cocking of the locks ready for a renewed discharge, in a more advantageous way than has been hitherto effected, and by novel and improved combinations of
15 means of simple and easy action, and in all modifications of which it constitutes a principal feature that the tumblers or cocks should be cocked by light extensions of the mainsprings, or by separate springs (the equivalent of such extensions), when by the depression or lowering of the barrels the tumblers or cocks are released in the manner herein described or in any usual or other manner from the
20 pressure of the playing sides of the mainsprings.

On the accompanying drawings, Figs 1 to 4 represent one modification of carrying the present Invention into effect, and show sufficient of a break down gun of the hammerless class to illustrate the application of the improvements to the self cocking lock actions thereof, the locking details for securing the barrels,
25 and the fore part, and other parts of the gun to which the improvements do not particularly relate, are omitted from the drawings for facility of comprehension.

1, represents the mainspring of one of the locks, and 2, represents its stand side, and 3, represents the prolongation thereof beyond the normal point of bearing 4; the prolonged part 3, is made of a much reduced and lightened form, (as seen best
30 in Fig 3), and its extremity is hooked or otherwise formed, as shown at 5, to engage with a stud 6, projecting from a forward part of the tumbler or cock 7. In lieu of prolonging the mainspring as described, a separate light spring may be carried by the lock plate 8, and used as the equivalent of the said prolonged part 3, of the mainspring. The parts are thus combined in such a manner as that the pro-
35 longation 3, or the equivalent separate spring, will effect the lifting of the tumbler to full cock, when the tumbler is re-relieved in the manner hereinafter described of the greater pressure exerted upon it in the contrary direction and in the usual manner by the ordinary playing side 1, of the mainspring. The playing side of the main-
40 spring is linked to the tumbler at 9, in a usual manner, and under it and adjacent to its linked end, there is pivotted at 10, either to the lock plate, or in the body of the breech action, as shown, a tumbling lifter 11, having a forward toe 12, and a rear extension 13, fitted with a friction roller 14. When depressing or opening the barrels in the usual manner to insert fresh cartridges, the lifters 11, of the locks are turned upon their pivots 10, by means of bars or rods 15, which slide in
45 ways 16, drilled through the belly of the action rearward from the knuckle joint 17, and these bars are both thrust back in opening the barrels, and withdrawn in closing them, by means of cam pieces 18, which are flat on their upper edges and bear along the under side of the barrels 19, and are centred on the joint pin 17, or on an independent centre, and work in recesses 20, cut in the fore end of the

Woodward & Beesley's Improvements in Breech Loading Small Fire Arms.

breech action 21, their positions being seen best in Fig 4, and each cam has a notch 22, with which the projecting fore end 23, of its bar or rod 15, engages. Thus, in depressing or opening the barrels, the bars 15, of both the locks are thrust back, and each lifter 11 is thus turned on its pivot in such a manner as to cramp the playing side of the mainspring of its lock up or nearly up to the stand side; 5 the tumbler of each lock is thus relieved from the pressure of the playing side of its mainspring, and is thereupon lifted to full cock by the extension of the stand side of the spring, or by the equivalent separate spring, and the sear 24, of each lock then drops into the bent or notch 25, in the tumbler in the usual way. On the barrels being closed or returned to the position for firing, the playing sides of 10 the mainsprings of both locks are released from being cramped by the withdrawal by means of the cam-pieces 18, of both the rods 15, and by the fall or withdrawal of the lifters, and are therefore free to act on the tumblers in the ordinary manner for discharging the cartridges (and in so doing the playing sides of the mainsprings overcome the resistance offered by the said light extensions thereof, 15 or by the said equivalent light springs,) when the tumblers are released from their respective sears by the pulling of the respective triggers 26.

According to another modification, the campieces may be placed so as to turn next to the front steel lump of the barrels, and may be connected at a lower part by a cross bar, which acts on the front end of a single flat bar which slides in a 20 recess cut along the belly of the action from the front to the rear, where it is formed with projecting parts or extended arms so that as the barrels drop on being opened the bar is driven backward by the cross bar of the connected cams and its projecting parts or arms act upon the lifters of both the locks in the same 25 manner as the separate rods do in the modification previously described. The bar may be withdrawn out of the way of or together with the lifters on the closing of the barrels by means of the forward end of the said front steel lump which may be caused to engage with a slot made in the single part of the bar. With such an arrangement of the single bar, the cams may be dispensed with, and the bar may be extended through the front of the knuckle, and may then be thrust back for 30 cramping the playing sides of the mainsprings by the forepart, on the barrels being opened.

The lifters, springs, and such parts of the improved lock action which have any bearing against each other may be fitted with friction rollers to minimise the 35 friction and give ease to the action.

Having thus particularly described and ascertained the nature and object of our said Invention, and in what manner the same is to be or may be performed or carried into practical effect, we would observe in conclusion that what we consider to be novel and original and therefore claim as constituting the Invention 40 secured to us by the hereinbefore in part recited Letters Patent is:—

The novel and improved combination of means hereinbefore described for utilizing the weight of the barrels of break down guns of the hammerless class on their being opened for charging in automatically effecting the cocking of the tumblers of the lock actions thereof, such means consisting of the following parts 45 or of their respective equivalents, namely, a cam or cams directly actuated by or partaking of motion with the barrels, a bar or bars extending rearward through the breech action and directly acted upon by the said cams, pivotted tumbler lifters acted upon by the said bar or bars for cramping the playing sides of the mainsprings of the lock action, and light extensions of the stand sides of the mainsprings or separate light springs for effecting the cocking of the tumblers or 50 locks when the playing sides of the mainsprings are cramped; such parts being combined and operating substantially in the manner hereinbefore described with reference to the accompanying drawings.

We also claim as a principal feature of our Invention.

The improved method and means hereinbefore described of lifting the tumblers 55 of such lock actions to full cock, namely, by cramping the playing sides of the

Woodward & Beesley's Improvements in Breech Loading Small Fire Arms.

mainsprings, and by applying and using light extensions of the stand sides of the springs, or separate light springs, for cocking the tumblers.

In Witness whereof we the said James Woodward and Frederick Beesley have hereunto set our hands and Seals this 6th day of December in the year of our Lord,
5 One thousand eight hundred and eighty three

JAMES WOODWARD (L.S.)
FRED^{CK} BEESLEY. (L.S.)

Witness. CHARLES AUBREY DAY. Fel. Inst. P.A ;
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LONDON : Printed by EYRE AND SPOTTISWOODS,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

1883.