



A.D. 1880, 3rd JANUARY. N° 31,

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

OF

FREDERICK BEESLEY.

—
BREAK-DOWN GUNS.
—

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Break-down Guns.

LETTERS PATENT to Frederick Beesley, of Queen Street, Edgware Road, in the County of Middlesex, Gun Maker, for an Invention of "IMPROVEMENTS IN THE CONSTRUCTION OF BREAK DOWN GUNS."

PROVISIONAL SPECIFICATION left by the said Frederick Beesley at the Office of the Commissioners of Patents on the 3rd January 1880.

FREDERICK BEESLEY, of Queen Street, Edgware Road, in the County of Middlesex, Gun Maker. "IMPROVEMENTS IN THE CONSTRUCTION OF BREAK DOWN GUNS."

The object of this Invention is to improve the action of self cocking "break down" guns, and also to render it impossible for the hammers to drop while the gun is open (even though they should be released from the "sears") by reason of the main springs being rendered powerless so long as the gun is open.

10 In carrying out my Invention I use a main spring constructed on the principle of that described in the Specification of a Patent granted to John Stanton, and bearing date February 9th 1867, No. 367, the "stand side" of which spring is elongated to serve as a cocking spring. This spring I further elongate in the case of "back action" locks, so that it may extend over the bridle piece or some other
15 fixed point of the lock and rest thereon. While this extension of the spring is thus resting on the bridle piece the other end of the main spring, which is connected as usual to the hammer, is powerless to act, the extension piece pressing down upon the tail end of the tumbler.

Below the extremity of the "stand side" of the main spring, but somewhat in
20 advance of it, is a tumbling lever, which is pivotted to the "action" of the gun. This tumbling lever receives a rocking motion from the thrust of a horizontal sliding rod, which fits loosely in a hole drilled through the "action," and terminates in a recess made to receive a cam projection on the "lump." As the gun is closed by
25 the raising of the barrels into line this cam projection will enter the recess in the "action," and pressing upon the forward end of the sliding rod will thrust back that rod, cause it to rock the tumbling lever, and thereby to raise the extended end of the main spring off the bridle or other fixed point and clear of the tumbler, thereby "cramping" the main spring.

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The other end of the main spring or that which is linked to the hammer will then be free to answer the action of the trigger, the barrels being at this time securely locked in place.

After the firing of the gun the hammers will remain down, but so soon as the gun is unlocked and the barrels are dropped, the sliding rod being released from 5 the pressure of the cam projections on the lump will allow the rebound of the hammers to take place. The means described for cramping the main spring or withdrawing it from its bearing point or rest may be varied as desired.

In the foregoing description the Invention has been explained as applied to a "back action" lock. It is however equally applicable to forward action locks, the 10 main spring being in such case turned end for end and inverted so that the extension of the "stand side" of the main spring will lie against the underside of its rest.

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SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said Frederick Beesley in the Great Seal Patent Office on the 3rd July 1880.

5 FREDERICK BEESLEY, of Queen Street, Edgware Road, in the County of Middlesex, Gun Maker." "IMPROVEMENTS IN THE CONSTRUCTION OF BREAK DOWN GUNS."

The object of this Invention is to improve the action of self cocking "break down" guns, and also to render it impossible for the hammers to drop while the gun is open (even though they should be released from the "sears") by reason of
10 the main springs being rendered powerless so long as the gun is open.

In carrying out my Invention I use a mainspring constructed on the principle of that described in the Specification of a Patent granted to John Stanton, and bearing date February Ninth, One thousand eight hundred and sixty seven, No. 367, the
15 "stand side" of which spring is elongated to serve as a cocking spring. This spring I further elongate (in the case of "back action" locks) so that it may extend over the bridle piece or some other fixed point of the lock, and rest thereon.

While this extension of the spring is thus resting on the bridle piece the other end of the main spring, which is connected as usual to the hammer, is powerless to act, the extension piece pressing down upon the tail end of the tumbler. This state
20 of things occurs when the gun is open or the barrels are dropped. So soon however as the barrels are raised into position and the gun is closed the stand side of the main springs will be lifted clear of the tail of their respective hammers, the springs will be cramped, and they will thereby regain their power to throw down the hammer.

25 In carrying out my Invention I have found that the principle of action admits of embodiment in various forms, both as respects the cramping of the main springs and the cocking of the hammers, whether a "forward" or a "back action" lock has the Invention applied thereto.

In the accompanying Drawing Fig. 1 shews in partial side section a "break
30 down" double barrelled gun fitted with back action locks according to my Invention; and Fig. 2 is a plan view of the "action" or breech block detached from the gun.

A are the barrels pivotted, as usual, to the breech block or "action" B.

The mechanism for locking the barrels is omitted from the Drawing, as it has
35 no reference to the present Invention. C indicates the lock plate, one only being shewn in the Drawing; D is the main spring pivotted to the lock plate, and connected at its upper end permanently by a link or swivel *e* to the hammer E, which is pivotted as usual to the lock plate; F is the bridle piece, which carries the inner end of the pivot pin of the hammer, and also the inner end of the pivot pin of the
40 sear G.

Below the extremity of the "stand side" of the main spring D, but somewhat in advance of it, is a tumbling lever H, which is recessed into and pivotted to the
45 "action" B of the gun. This tumbling lever receives a rocking motion from the thrust of a horizontal sliding rod I, which fits loosely in a hole drilled longitudinally through the "action," and terminates in a recess K made to receive a cam projection on the "lump." This cam projection (one for each lock) is shewn at L, Fig. 1. As the gun is closed by the raising of the barrels into line the cam L will enter the recess K in the "action," and pressing upon the forward end of the rod I will thrust back that rod, cause it to rock the tumbling lever H, and thereby to
50 raise the extended lower end of the main spring D off the bridle or other fixed point and clear of the tumbler, thereby "cramping" the main spring. The other

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end of the main spring or that which is linked to the hammer will then be free to answer the action of the trigger, the barrels being at this time securely locked in place.

After the firing of the gun the hammers will remain down, but so soon as the gun is unlocked and the barrels are dropped, the sliding rods I being released from the pressure of the cam projections L on the opposite sides of the lump will allow the rebound of the hammers to take place. 5

Fig. 3 shews in partial longitudinal sectional elevation so much of a gun as will explain the mode of applying the Invention where the trigger plate is used to carry the various portions of the locks. As the same letters of reference are used on this 10 as on the preceding Figures no further explanation will be required.

Fig. 3* shews an arrangement for cramping the main springs similar in action to but somewhat simpler in construction than those just described. H represents a pair of rock levers recessed into the breach block B, and connected at their forward ends by a cross bar H¹, which lies in the path of the lump below the 15 barrels.

These rock levers H project rearwards so as to underlie the stand sides of their respective main springs; thus on closing the gun the lump will bear upon the cross bar H¹, tip the levers H, and cramp the springs, as already explained, but so soon as the gun is opened the springs will be free to throw back the hammers to the 20 cocking position.

At Figs. 4 and 5 I have shewn in longitudinal section a modification of the back action lock for a double barrellled break down gun in two positions, the stand side of the spring D in this case being connected with the hammer E by an extension of the link or swivel e, by which the free end of the main spring is connected 25 to the hammer. In this case also the stand side of the spring rests upon the trigger plate instead of upon the bridle. The underside of the spring D is formed with an incline at d, which is under-run by a pin projecting from the lower end of the extension portion of the link or swivel e.

The mode of cramping the main spring is similar to that above described, and the 30 pressure of the main spring to effect the cocking action is transmitted to the hammer through the pin underlying the inclined portion of the spring.

Fig. 5 shews the hammer down and the main spring D cramped by the under pressure of the tumbling lever H, and Fig. 4 shews the hammer cocked, the spring having been released from the upward pressure of the lever H to permit of this 35 action. When the main spring is cramped the free end of the spring will in this, as in the preceding arrangements, be ready to act upon the hammer so soon as it is released from the "sear," and by moving upwards throw the hammer forward. In doing this it will cause the lower pin of the link or swivel I to rise into contact with the forward part of the incline d of the main spring, and rest in the position 40 shewn in Fig. 5.

So soon however as the main spring is released from the pressure of the tumbler lever H, it will press upon the lower pin of the swivel and cause it to slide backwards down the incline, drawing back with it the hammer to the cocked position, 45 as shewn at Fig. 4.

Figs. 6 and 7 shew the application of the Invention to a forward action lock.

In this case it will be seen that the main spring D is inverted, and to provide for this a somewhat different arrangement for cramping the spring is employed. The sliding rod I, which is actuated as before by a cam projection on the lump that underlies the barrels, is bevelled at its rear end to act upon a bowl d¹ carried by the 50 stand side of the main spring D. As therefore this rod I is forced rearwards it will depress the stand side of the spring, and thereby give efficiency to the free end, which is connected as before with the hammer E by the swivel e. The stand side of the spring terminates in an incline, which bears upwards against a projection on the hammer, and thereby serves to cock it, as shewn at Fig. 6. This will take place 55 so soon as the main spring is released from the pressure of the sliding rod I.

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A modification of this arrangement is shewn at Fig. 6*. In this case instead of bevilling the rear end of the sliding rod I, I cause it to bear against a cam *i* recessed and pivotted in the breech block or action of the gun. This cam bears against the roller on the main spring D, and as the gun is closed for firing the cam *i* will be
 5 caused to turn on its pivot pin and cramp the main spring as in the former instance.

Figs. 8, 9, and 10 illustrate a modification of the arrangement for cramping the main spring of forward action locks. In place of the sliding rods I the breech block B is fitted with a sliding bar I*, which extends from the rear of the breech
 10 block to the front of the joint pin, and is slotted longitudinally at its forward end to receive the toe or forward angle of the lump as the gun is closed. The sliding bar I* is also slotted at its rear end to receive the toe of a tumbling lever H connected by a link *h* to the ends of the stand sides of the main springs, and as the bar I* is drawn forward in the act of closing the gun it will rock the tumbling
 15 lever H, and the springs will be cramped, as explained with reference to Figs. 6 and 7.

Figs. 11 shew in longitudinal vertical section a portion of a break down gun with a forward action lock, in which the back movement of the locking bolt is used to cramp the main springs of the locks.

20 M is the locking bolt forked at its forward end to embrace the lump, and present bearing surfaces for the cam projections L of the lump to act upon. The rear end of this bolt carries a vertical projection *m*, which bears against a transverse bar N recessed into the rear face of the breech block, and held in place by guide pins *n* which pass through the breech block and project beyond the front vertical face
 25 thereof.

The transverse bar N is bevilled on its underside at its opposite ends to act upon the bowls *d*¹ of the main springs D, and by depressing them to cramp the springs.

The action of this arrangement is as follows:—When by the closing of the gun
 30 the locking bolt M is forced back, the cam projections L on the lump will by pressing on the prongs of this bolt give it a further backward motion, the projection *m* on the rear end of the bolt M will thus be caused to force back the cross bar N a sufficient distance to enable it to cramp the main springs D and prepare them for driving forward the hammers.

35 The breech end of the barrels by dropping into place in the breech block will offer an obstruction to the back motion of the guide pins *n*, and the transverse bar N will thereby be retained in its backward or acting position while the locking bolt is free to return and lock the barrels in place. So soon however as the gun is opened for loading, the obstruction to the return of the bar N to its recess will
 40 be removed, and the stand side of the main springs will return the bar to the position shewn in the Drawing. In place of forming the lump with the cam projections L for working the sliding rods I, I may fit the breech block as shewn at Fig. 12 with cam pieces O, O, which are dropped into recesses in the breech block, and rock upon the joint pin as on a fulcrum. These cam pieces by bearing
 45 against the inner ends of the sliding rods I, are caused to project above the horizontal face of the breech block. In the act of closing the gun the barrels will force down the cam pieces O into their recesses, and thereby drive back the sliding rods I and cramp their respective main springs. This arrangement it will be understood is applicable to both forward and back action locks.

50 Having now set forth the nature of my Invention of "Improvements in the Construction of Break Down Guns," and explained the manner of carrying the same into effect, I wish it to be understood that under the above in part recited Letters Patent I claim as my improvements in break down guns,—

Cramping the main springs by the act of closing the gun (whereby the springs

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will be made effective for firing the gun) and releasing the main springs from compression by the act of opening the gun, whereby their stand sides will be enabled to cock the hammers, as and for the purpose above set forth.

In witness whereof, I, the said Frederick Beesley, have hereunto set my hand and seal, this Second day of July, in the year of our Lord One 5 thousand eight hundred and eighty.

FRED^K. BEESLEY. (L.S.)

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