



*Date of Application, 2nd Aug., 1889*

*Complete Specification Left, 14th Jan., 1890—Accepted, 22nd Mar., 1890*

PROVISIONAL SPECIFICATION.

**Improvements in the Ejecting Mechanism of Breech-loading Double-barrelled Guns.**

I, THOMAS SOUTHGATE of 6 Burton Crescent in the County of London, Gun Maker do hereby declare the nature of this invention to be as follows:—

My invention relates to certain improvements in ejector breech loading double guns and rifles and is composed of a pair of ejecting tumblers in the fore-part pivotted at 5 or near the centre of the knuckle joint therein, of a double spring on the fore-part, and a pair of rods running through the action from the ejecting tumblers in the fore-part, to the tumblers in the locks at the back of action and a split or divided extractor in the barrels.

According to my invention I fit a pair of extractors in the barrels and make them 10 move freely independently of each other in the usual way. There are three vertical slots cut in the back of the knuckle part of the forepart one wide slot being in the centre and a narrow slot on each side near to the centre slot. Into these said slots a pair of ejecting tumblers are fitted in such manner that the said tumblers are kept separate so that they do not touch each other and they work on a pin running 15 through them as well as through the knuckle of the forepart in such manner that the long arms of the ejecting tumblers passing through the forepart are extended into the extractor holes while the other ends of the said ejector tumblers pass through the knuckle joint at back of the forepart where they are actuated by the double spring. These said ejector tumblers are filed circular at the back and flat at top or cut away 20 at a sharp angle in the direction of the centre, and it is on these circular parts that the active ends of the double spring, bear, when the gun is closed, and the long arms of ejecting tumblers are pushed back by the extractor legs. Holes are drilled through the action preferably below the bolt hole from the tumbler in the forepart to the tumbler in the lock, these said holes are widened out vertically at the back, 25 tapering to the front end, where the said hole is left round, in such manner that the rods which work in or through them may be moved up and down, while the front of said rods remain stationary by reason of the hole being round. Through these said holes are fitted two rods in such manner that the front ends are opposite the short arms of the ejecting tumblers and the back ends of said rods opposite a projection on 30 the tumbler or hammer in the lock in such manner that when the gun is fired the hammer falling pushes the rods forward and the shape of projection on the tumbler in the lock keeps them forward in such manner that when the gun is opened the front ends of the rods press against the short arms of the tumblers in forepart the front surfaces of which tumbler are filed sloping and inclined so that when the gun is 35 opened the front ends of rods push back the short ends of ejecting tumblers and starts the cartridge extractor pushing the latter out until the cartridge chamber is clear of the top of the action at which time the spring in forepart which has been pressing or bearing against the circular parts of ejecting tumblers now reaching the flat top and getting its freedom the tumbler is by it jerked round and the long arms bearing 40 against the extractor leg drive the extractor rapidly before it thus causing the fired cartridge to fly out of the chamber while the loaded cartridge remains in its chamber, the locks being cocked the back ends of rods fall into a bent made in the tumblers to receive them, thus when the locks are cocked the rods are allowed to remain a little back so that when the gun is opened the rod presses out the extractor somewhat less 45 than when fired so as not to allow the spring to reach the flat surface at the top of the

[Price 8d.]

*Southgate's Impts. in the Ejecting Mechanism of Breech-loading Double-barrelled Guns.*

circular part of ejecting tumbler but to retain its bearing on the circle, thus allowing the extractor to be pushed out only sufficiently for unloading purposes.

Dated this 2nd day of August 1889.

THOMAS SOUTHGATE.

By Brewer & Son,  
33, Chancery Lane, London, Patent Agents.

5

## COMPLETE SPECIFICATION.

**Improvements in the Ejecting Mechanism of Breech-loading Double-barrelled Guns.**

I, THOMAS SOUTHGATE, of No. 6, Burton Crescent, London, W.C. in the County of London, Gunmaker, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to certain improvements in the ejecting mechanism of breech-loading double-barrelled guns. My improved mechanism consists of a pair of ejecting tumblers in the fore-part pivoted at or near the centre of the knuckle joint therein, of a double spring on the forepart, and a pair of rods running through the action from the ejecting tumblers in the fore-part to the tumblers in the locks at the back of the action, and a split or divided extractor in the barrels.

According to my invention I fit a pair of extractors in the barrels and make them move freely independently of each other in the usual way. There are three vertical slots cut in the back of the knuckle part of the forepart, one wide slot being in the centre and a narrow slot on each side near to the centre slot. Into these said slots a pair of ejecting tumblers are fitted in such a manner that the said tumblers are kept separate, so that they do not touch each other and they work on a pin running through them as well as through the knuckle of the forepart in such a manner that the long arms of the ejecting tumblers, passing through the forepart, are extended into the extractor holes, while the other ends of the said ejecting tumblers pass through the knuckle joint at the back of the fore-part, where they are actuated by the double spring. These said ejecting tumblers are made circular at the back and flat at the top or cut away at a sharp angle in the direction of the centre. On these circular parts of the ejecting tumblers the active ends of the double spring bear, when the gun is closed, and the long arms of the ejecting tumblers are pushed back by the extractor legs. Holes are drilled through the action, preferably below the bolt hole, from the ejecting tumbler in the forepart to the tumbler in the lock. These holes are widened out vertically at the back, tapering to the front end, where the said holes are left round in such a manner that the rear ends of the rods, which work in or through them, may be moved up and down while the front ends of the rods remain stationary by reason of the holes being round. Through these said holes are fitted two rods in such a manner that their front ends are opposite the short arms of the ejecting tumblers and their rear ends opposite the projections on the tumblers or hammers in the locks. When both barrels of the gun are fired these projections on the tumblers push the rods forward and keep them forward in such a manner that when the gun is opened the front ends of the rods press against the short arms of the tumblers in the forepart. The front surfaces of the ejecting tumblers are shaped to an incline so that when the gun is opened the front ends of the rods push back the short arms of the ejecting tumblers and start the twin extractors, pushing the latter out until the cartridge chamber is clear of the top of the action at which time the springs in the forepart which have been pressing against the circular parts of the ejecting tumblers now reach the flat top and the tumblers are jerked round and the long arms, bearing against the extractor legs drive the twin extractors rapidly backwards thus causing the fired cartridges to fly out of the chamber.

*Southgate's Impts. in the Ejecting Mechanism of Breech-loading Double-barrelled Guns.*

If only one barrel has been fired the ejecting action will be confined to that barrel. The locks being cocked the rear ends of the rods fall into a bent made in the tumblers to receive them and thus when the locks are cocked the rods are allowed to remain a little back so that when the gun is opened the rod presses out the extractor somewhat less than when fired so as not to allow the spring to reach the flat surface at the top of the circular part of the ejecting tumbler but to retain its bearing on the circle, thus allowing the extractor to be pushed out only far enough for unloading purposes.

It will be seen that the ejecting tumbler in my improved ejecting mechanism requires neither scear nor scear spring.

The accompanying drawings shew my improved ejecting mechanism as applied to a well known type of hammerless breechloader.

Fig. I. shews the gun after firing but remaining closed; and Fig. II, shews the gun when opened after firing. In each Fig. the mechanism pertaining to the right hand barrel only is shewn in the drawings. The various parts of the mechanism are also shewn separately under Fig. I.

Passing through the action is the rod *a* having its rear end *a*<sup>1</sup> bearing against the projection *b* on the tumbler in the lock and its front end *a*<sup>2</sup> bearing upon the short limb of the ejecting tumbler *c*. The form of the tumbler *c* is clearly shewn by the separate drawings *c*<sup>2</sup>, *c*<sup>3</sup>, *c*<sup>4</sup>, *c*<sup>5</sup>, which separate drawings shew the forms of the tumblers for the right and the left hand barrels of the double guns, and *d*<sup>2</sup> and *d*<sup>3</sup> shew the springs which act upon the ejecting tumblers. *b*<sup>2</sup> and *b*<sup>3</sup> show the firing tumbler with the projection *b* and the bent in this projection. The gun having been fired and the firing and ejecting mechanisms being in the positions shewn in Fig. I. the following operations will take place on opening the gun. As the barrels are turned downwards the rod *a* is jammed between the short arm of the ejector tumbler *c* and the projection *b* on the firing tumbler, and therefore as the firing tumbler is being cocked the rod *a* is carried slightly upwards at the rear end *a*<sup>1</sup>, and thus prevented from sliding into the bent *b*<sup>1</sup> in the projection *b* on the firing tumbler, therefore the rod *a* is held forward by the projection *b* during the whole time of opening the gun. The rod *a* being thus held forward will cause the ejector tumbler *c* to turn on its axis, and as a first result the extractor *f* will be pushed backwards; while this movement is taking place the rotation of the ejector tumbler on its axis causes the end of the spring *d* to slide along the circular part of the ejector tumbler towards the flat part. The effect of the spring passing on to the flat part of the ejector tumbler is to smartly jerk the said tumbler and to give that rapid motion to the extractor which causes ejection of the cartridge case. This action and the then position of the parts will be understood by an examination of Fig. II. The rod *a* will now fall into the bent *b*<sup>1</sup>.

Should the gun be opened without having been fired the bent *b*<sup>1</sup> in the projection *b* will be in a such a position as to allow the rear end of the rod *a* to move backwards into the said bent, hence the rod *a* will yield to that extent to the pressure of the ejector tumbler *c* as the gun is being opened that although the ejecting tumbler will be caused to turn on its axis sufficiently to move the extractor backwards far enough for unloading purposes the ejecting tumbler *c* will not be turned round far enough for the spring *d* to pass from the round part of the tumbler to the flat and no ejecting action will ensue. On closing the gun the extractor will push back the ejecting tumbler to the position shewn in Fig. I. whether ejection or only extraction has accompanied the previous opening of the gun.

Having now particularly described and ascertained the nature of my said Invention, and in what manner the same is to be performed, I declare that what I claim is:

First. The form of ejector tumbler described and illustrated.

Secondly. The projection *b* and bent in the same on the firing tumbler for the purposes described.

---

*Southgate's Impts. in the Ejecting Mechanism of Breech-loading Double-barrelled Guns*

---

Thirdly. The combination of mechanism described and illustrated consisting of the projection *b* on the firing tumbler, the communicating rod *a*, the ejecting tumbler *c* and ejecting spring *d*, acting upon and with the extractor *f* in the manner and for the purposes set forth.

Dated this January 14th 1890.

THOMAS SOUTHGATE.

5