E. F. FLUES

SINGLE BARREL FIREARM OF THE BREAKDOWN TYPE

Filed Sept. 18, 1919
2 sheets - sheet 2

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Emil F. Flues
Inventor

By A. A. Sparkes,
his attorney.
To all whom it may concern:

Be it known that I, EMIL F. FLUES, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Single-Barrel Firearms of the Breakdown Type, of which the following is a specification.

The invention relates to improvements in single barrel shot guns, and the principal object is to improve various parts of the mechanism, not alone so as to improve those particular operations controlled by the parts, but also so as to better the entire gun for the purpose of trap shooting and use by experts.

One of the objects is to provide means for locking the barrel of the gun into the sides of the frame upon closing the gun, said means operating to positively draw the barrel and frame into proper seating relationship.

Another object is to provide the means for automatically locking the rear end of the gun to the barrel upon bringing the two parts into proper relationship.

Another object is to provide a new and improved sighting rib.

Another object is to provide new and improved means for automatically locking the sighting rib to the barrel, together with a ready means for unlocking said barrel and rib.

Another object is to provide a top lever which is automatically centralized, and which operates to unlock the barrel from the frame upon moving said top lever in either direction from its normal or central position.

Another object is to provide an adjustable trigger whereby the "reach" of the gun may be varied without the necessity of shortening the stock.

Other objects will appear hereinafter.

I accomplish all of these results by mechanism shown in the accompanying drawings consisting of two sheets, and in which:

Fig. 1 is a fragmentary top plan view of a gun embodying my invention.

Fig. 2 is a fragmentary sectional detail view taken substantially on line B—B, Fig. 4, looking up, and showing the top lever in its normal or centralized position.

Fig. 3 is a view similar to Fig. 2, but showing the top lever operated.

Fig. 4 is a fragmentary sectional view taken substantially in line A—A, Fig. 1.

Fig. 5 is a fragmentary detail view with parts broken away to show clearly the means for drawing the barrel and frame into locked relation, and also showing the compensating bolt for taking up wear in the hinge.

Fig. 6 shows in a fragmentary sectional detail, the mechanism for maintaining the fore end in proper relationship with the barrel.

Fig. 7 is a similar view showing the device for automatically locking the fore end to the barrel.

Fig. 8 is a sectional detail view of the sighting rib and its locking and releasing means.

Fig. 9 is a fragmentary sectional detail view of the sighting rib locking mechanism, on line B—B, Fig. 10.

Fig. 10 is a fragmentary side elevation of the sighting rib locking mechanism.

Fig. 11 is a fragmentary sectional detail view of the sighting rib locking mechanism taken substantially on line A—A, Fig. 10.

Like reference characters refer to like parts throughout the several views.

Referring more particularly to the drawings, 1 represents the frame, 2 the stock, and 3 and 4 the front and rear portions of the barrel of a single barrel shot gun. The two portions 3 and 4 of the barrel are provided with registering screw threads so that if either portion is injured, the same may be replaced by a new part without the necessity of replacing the entire barrel.

The rear end of the rear portion 4 of the barrel is provided with two rearwardly extending flanges 5, and each of the flanges 5 is provided with a locking seat 6 and with a downwardly facing locking tooth or cam element 7. The frame is provided with a recess 8 on each side for the reception of the corresponding flange 5, the border of each of said recesses being provided with a cam face 9 for co-operation with the tooth 7 of the respective flange. It will therefore be seen that upon closing the gun, the cam tooth 7 will contact with the cam surface 9 to draw the frame and barrel into close relationship with each other. This mechanism is clearly illustrated in Fig. 5 which also shows a compensating bolt of the type described in my Patent 1,312,170. It may be noted that this compensating bolt (designated by the numeral 10) automatically takes up any slack which may occur between the frame and barrel.
Siber 25 is itself part of 26 and at its flanges 5 if the formed with an angle two abutment shoulders 14. A top lever 15 is secured to a bolt or pivot 16 having a bearing in the top of the frame of the gun, and this bolt 16 has secured to its lower end and protruding into said aperture 13, a double face cam member 17, having cam faces or elements 18 for contacting with either of the shoulders 14 according to the direction in which the top lever is turned. It will thus be seen that by turning the top lever in either direction from its normal position, the locking plate 11 will be withdrawn from locking position to the position shown in Fig. 3, so that the gun may be opened, and it will be apparent that the gun may be as readily operated by a left-handed man as by a right-handed one.

A spring 19 acts as auxiliary to spring 12 for keeping the top lever centralized.

20 represents the hammer which is pivoted at 21 to the trigger plate 21 secured to the frame, the pivot pin passing through slots in the edges of the cocking member 25, and is provided with a notch 22 in its rear edge into which notch is seated the front end of a pusher rod 22 having a bearing at 23 and being constantly urged to drive said hammer by a spring 24. The cocking member 25 is itself pivoted to the trigger plate at 26 and at its front end is provided with a finger 27 overlying the rear end of the cocking lever 28. A pin 30 on the lever 29 is operated upon by a spring 31 to keep the cocking lever as far forward as possible. A lug 32 formed on the rear portion of the fore end of the gun normally presses the lever 29 under the front finger 27 of the cocking member 25. The operation of setting the hammer in cocked position is accomplished by the breaking of the gun, when the cocking lever lifts up on finger 27 and the member 25 is moved about its pivot until the hammer has been elevated sufficiently to permit the shoulder 33 of the trigger 34 to be against the bent 35 of the hammer. The trigger 34 is constantly under tension of spring 36 and is provided on its under side with a dove-tail groove 37 in which is seated a finger piece 38 corresponding dove-tailed. A set screw 39 secures the finger piece in any desired position in the dove-tail groove 37 to which it may have been moved. It will thus be seen that if the arm of the operator requires a different length of reach, the finger piece may be moved to the desired position and then securely fastened in such position.

The fore end 40 of the gun has the usual spring-pressed pin 41 seated against a lug 42 of the barrel for forcing the fore end rearwardly, and in addition, the following locking means is provided. 48 represents a lug formed on the under side of the barrel and having a notch 44 formed therein. 45 is a locking bolt having a bearing in the front portion of the fore end 40, and pressed forwardly by a spring 46. A pin 47 depending from bolt 45 abuts against the inner end of a push pin 48 and thereby limits the forward movement of the bolt. The push pin 48 is provided with a hollowed out portion 49 and passing through this is a locking pin 50 which limits the movement of the push pin in both directions. When the fore end is pressed up into home position, the beveled upper face of the lock bolt cams against the lug on the barrel so that the said bolt is pushed rearwardly until it is brought up into register with the notch 44, when it is driven forward into locking position by its spring. To release the fore end it is only necessary to push in on the pin 48 which removes the locking bolt from the notch 44, and the fore end is unlocked from the barrel.

The sighting rib is shown at 51 and is provided with a sight or bead 52 at its front end. Secured to the barrel in any desired manner are a plurality of supporting pillars 53, and certain of these pillars are provided with undercut front edges as at 54. The sighting rib is provided at intervals corresponding to said pillars with downward extending flanges 55 which embrace said pillars and in certain of said flanges corresponding with the undercut pillars, pins are seated in said flanges so as to come into register with the undercut portions of the pillars and draw the rib down to its seat. A lug 56 at the rear end of the rib is adapted to fit into a seat formed in the rear portion of the barrel of the gun, and a pin 57 at the front end of the rib is adapted to seat itself against a beveled portion of a pillar so as to force said lug home in its seat. In the front most pillar is provided a pin 58 which is forced laterally of the barrel by a spring 59. An aperture 60 is formed in the adjacent flange of the sighting rib, and when the rib is pressed home, the pin 58 is forced out by spring 59 into the aperture 60 securely locking the rib to the barrel.

This construction of the rib, permits the same to move longitudinally with the barrel as the latter expands when hot and contracted.

It is desired to call attention to my Patents 250,174 and 1,160,157 of which some of the parts herein described are improvements, but it will be found that the present embodiment is more practical in many respects.

While I consider the described mechanism as the most desirable embodiment of my invention, it is to be understood that various other embodiments could be made without departing from the spirit of the
invention, and I do not limit myself to the one form shown, nor to anything less than the whole of my invention as described in the foregoing description and as hereinafter set forth in the claims and limited only by the prior art.

And now having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a firearm, the combination of a barrel, a plurality of pillars formed on said barrel and having under-cut edges, a sighting rib provided with flanges adapted to embrace said pillars, and pins fixedly secured in said flanges and adapted to co-operate with the under-cut edges of said pillars for seating said rib on said pillars.

2. The combination with the barrel of a firearm, having a seat formed therein, of a detachable sighting rib having one end formed to be seated in said seat, and a cam contact between the other end of said rib and said barrel for forcing the first mentioned end of said rib into said seat.

3. The combination with the barrel of a firearm, of a plurality of pillars thereon having undercut faces, a pillar having an inclined cam face, a sighting rib formed with a plurality of pairs of oppositely disposed depending flanges, a pin fixedly supported between the flanges of each of a plurality of said pairs of flanges and each such pin co-operative with the undercut face of a respective one of said plurality of pillars, and a pin secured between the flanges of one of said pairs of flanges and co-operative with said inclined cam face for the purpose specified.

In witness whereof, I have subscribed my name this 23rd day of August, 1919.

EMIL F. FLUES.

Witnesses:

LOUISE G. SPARKS,
W. A. SPARKS.