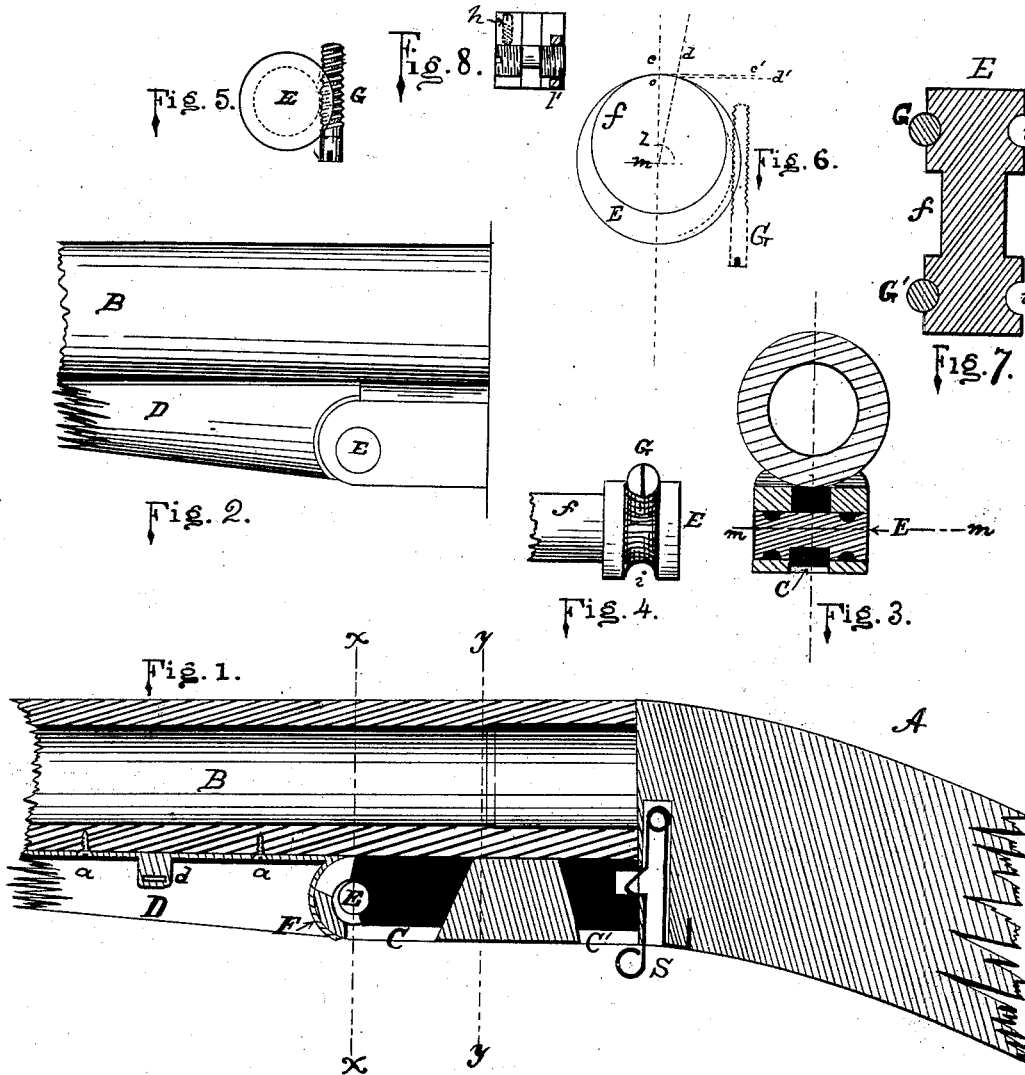


(No Model.)

W. H. VAN GIESON.
Breech-Loading Fire-Arm.

No. 226,893.

Patented April 27, 1880.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. VAN GIESON, OF WHITE WATER, WISCONSIN.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 226,893, dated April 27, 1880.

Application filed March 12, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. VAN GIESON, of White Water, in the county of Walworth and State of Wisconsin, have invented a new and useful Improvement in Breech-Loading Fire-Arms, of which the following is a specification.

My invention relates to that class of breech-loading fire-arms known as the "tilting" or "Lefauchaux system," in which originally the lug on the under side of the barrel or barrels was perforated with a full round hole, through which the hinge-pin passed, and on said hinge-pin the barrel was tilted or dropped, thus raising the breech ends of the barrels for the insertion of the cartridge.

In the use of breech-loading fire-arms of this character it has been found that a difficulty arises, occasioned by the wear of the hinge-pin and the hole in the lug. The result of this is that the barrels soon become shaky and rattle in the stock, and the joint between the ends of the barrels and the recoil or breech becomes open. To compensate for this wear of the lug and hinge-pin in breech-loading small-arms many devices have been used, such as adjustable blocks or plates, conical bearings on the hinge-pin and its seat in the lug, and various other devices.

My invention consists in making the central or wearing part of the hinge-pin of a lesser diameter than its ends and eccentric thereto, and in arranging therewith suitable devices to adjust said hinge-pin and hold it securely in place when adjusted, as will be hereinafter more fully described.

In the accompanying drawings, forming part of this specification, similar letters of reference indicate like parts in all the figures.

Figure 1 is a central vertical section of a gun embodying my invention. Fig. 2 is a side elevation of that part of Fig. 1 on the left of line *yy*. Fig. 3 is a cross vertical section through line *xx*, Fig. 1. Fig. 4 is a bottom view of left-hand end of hinge-pin E and adjusting-screw G. Fig. 5 is a side elevation of Fig. 4. Fig. 6 is an end plan of eccentric hinge-pin E. Fig. 7 is a horizontal section through center of hinge-pin on line *mm*, Fig. 3, showing two grooves in the hinge-pin. Fig. 8 shows the eccentric hinge-pin E when constructed with a jam or lock nut, *l*.

A is the stock of the gun, to which is secured the stationary breech-piece or recoil-plate and frame in the usual well-known manner. B is the barrel; C and C', the lugs, the former having a semicircular recess on its front end to fit the central eccentric portion, *f*, of the hinge-pin E, and the latter slotted to fit the spring locking device or snap-action S. D is the fore stock, secured by a key passing through it and lug *d*. All the foregoing-named parts may be constructed according to the usual well-known modern methods.

E is the hinge-pin, having its central eccentric portion, *f*, equal in length to the width of lug C, and smaller in diameter than the two ends of the pin, as shown in Figs. 3 and 7.

The left-hand end of pin E is grooved and threaded to receive a tangent-screw, G, forming therewith a worm wheel and screw.

In some cases it may be desirable to make two grooves on the hinge-pin E, as shown in Fig. 7, when, by using two tangent-screws, G, or one tangent-screw and a plain screw-pin, G', threaded upon one end only to keep it in place, the body or end of the pin fitting in the groove, the sides of the frame will be prevented from opening and giving to the barrels a lateral movement frequently found in guns of this class. To prevent said lateral movement of the barrels the hinge-pin E could be threaded on each end, screwed in its place in the gun, and secured there by a jam-nut, *l*, or by a set-screw, *h*. (Shown in dotted lines in Fig. 8.) Said lock-nut *l* or set-screw *h* would also hold the eccentric in position.

By referring to Fig. 6 we see that not only can the breech-joint of the gun be made tight by my device, but that any looseness under the gun on the water-table is also compensated by the same operation. By turning tangent-screw G, the top point, *o*, of the eccentric *f*, while moving forward a given distance—for example, from *c* to *d*—will drop or descend through the very small proportionate space *c'* to *d'*, which will be sufficient to effectually tighten up the gun.

The operation of my invention is as follows: When the gun is new the proper position of the hinge-pin is shown in Fig. 6, where the upper part of the eccentric *f* is at the top. As the central portion of pin E, or the recess on

lug C, wears, the breech-joint of the gun will not fit tight, and the barrels will be shaky and rattle in the stock. To remedy this we turn the tangent-screw G until, upon trial, we find the breech-joint again tight, and all shakiness and tendency to rattle removed, thus making the joints as tight as when the gun was first made. This readjustment of the breech of the gun may be effected in a few moments.

10 Eccentric hinge-pins have been used as a locking device in that class of breech-loading arms in which there are two movements of the barrel—namely, a sliding and a tipping movement. In such arms a lever is used, by which the barrel is slid forward to unlock the action of the gun, and, *vice versa*, to lock the gun; but in none of these cases is there any attempt made to compensate for the wear of the joint.

20 An eccentric tapering sleeve on the hinge-

pin has been used to take up wear; but this sleeve is not operated by a tangent-screw, as in my device. I do not therefore claim, broadly, an eccentric hinge-pin.

What I claim as new, and desire to secure 25 by Letters Patent, is—

1. In tilting fire-arms, a compensating hinge-joint consisting of the eccentric hinge-pin E, grooved and threaded on one end, and tangent-screw G, in combination with lug C and stock or frame, all operating as and for the purpose herein shown. 30

2. The eccentric hinge-pin E, having grooves *i i'*, and screws G G', in combination with lug C and stock or frame, all operating as and for the purpose herein shown and described. 35

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Witnesses:

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