

No. 859,558.

PATENTED JULY 9, 1907.

M. HERMSDORF.  
GUN CLOSURE.  
APPLICATION FILED SEPT. 16, 1906.

3 SHEETS—SHEET 1.

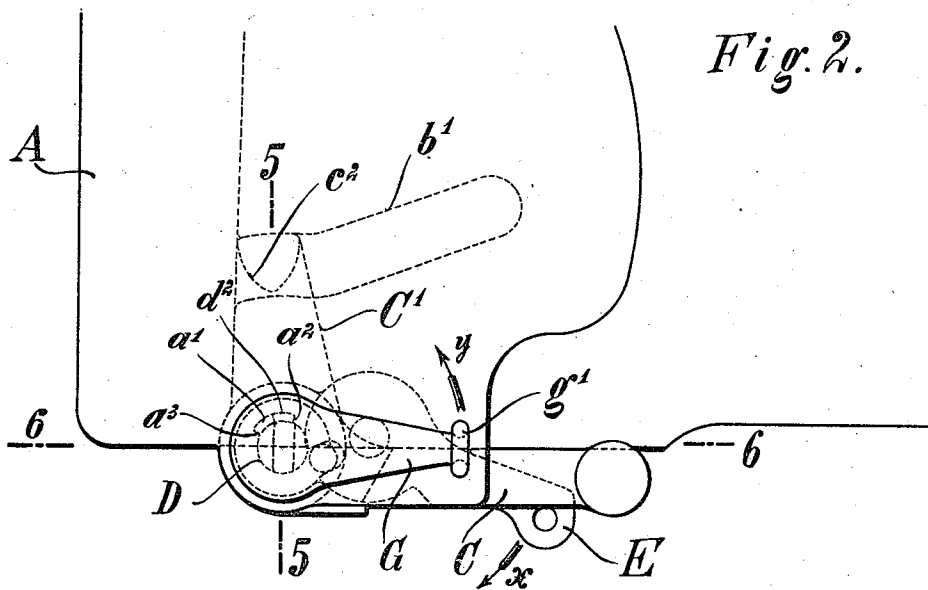
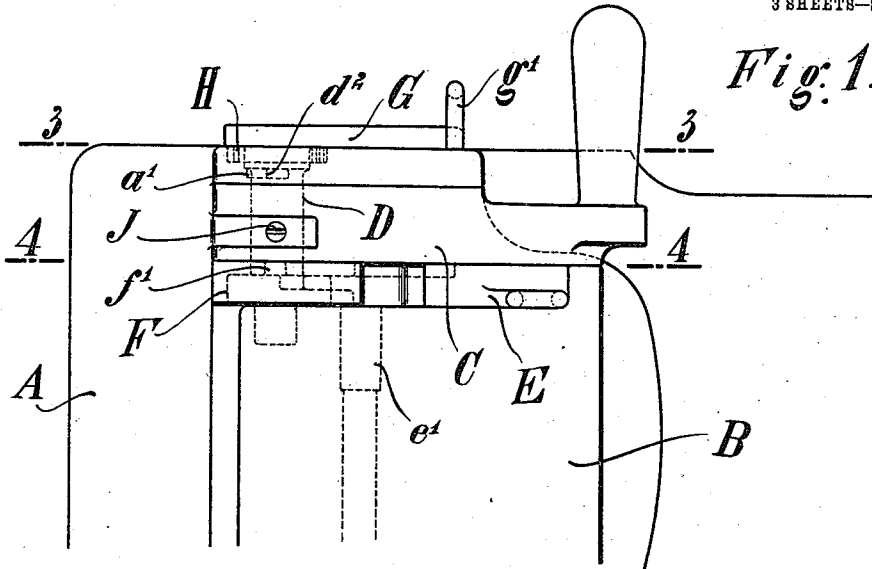
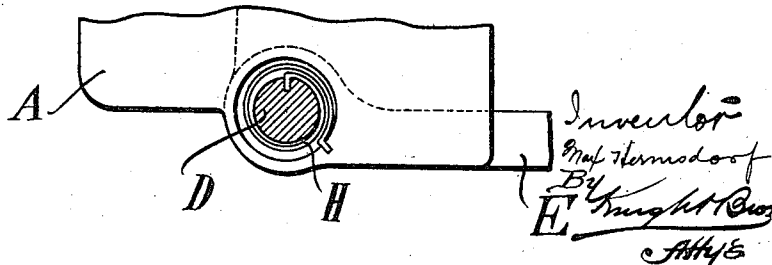


Fig. 3.



Witnesses,  
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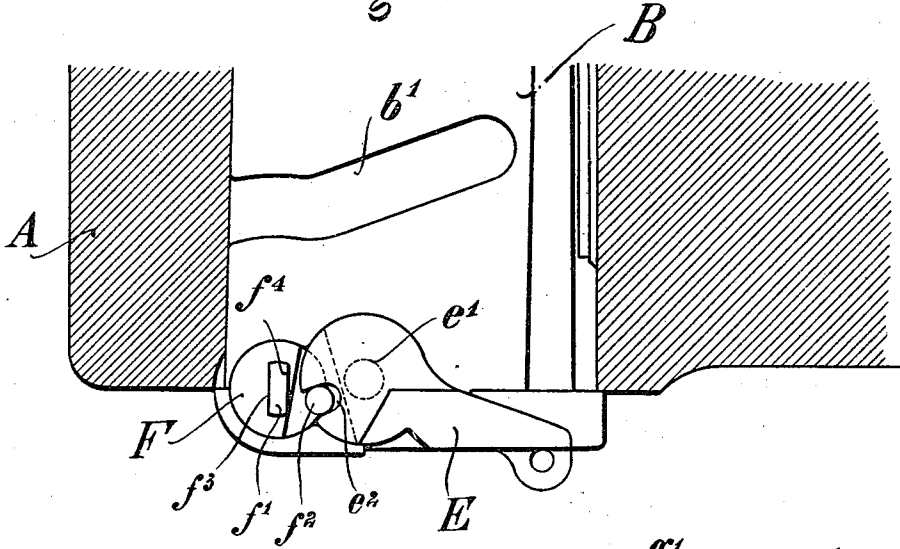
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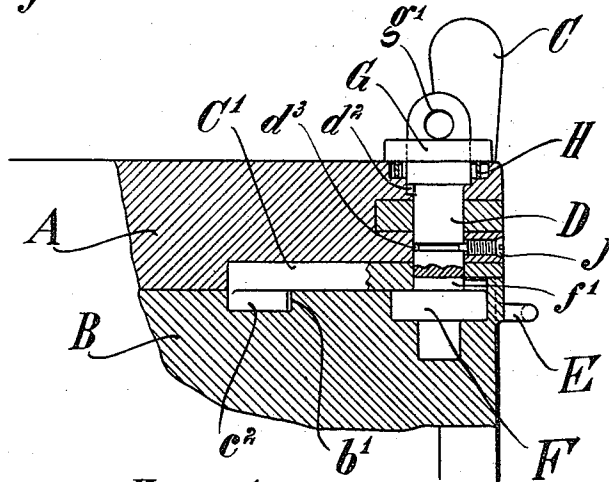
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3 SHEETS—SHEET 2.

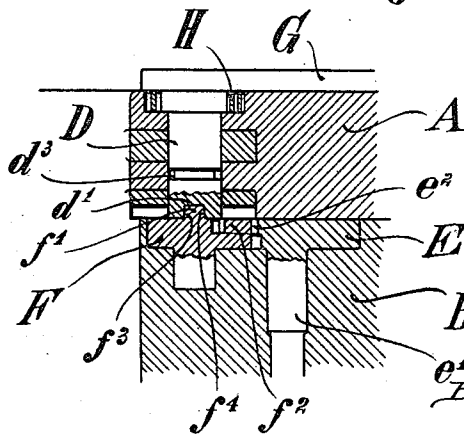
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



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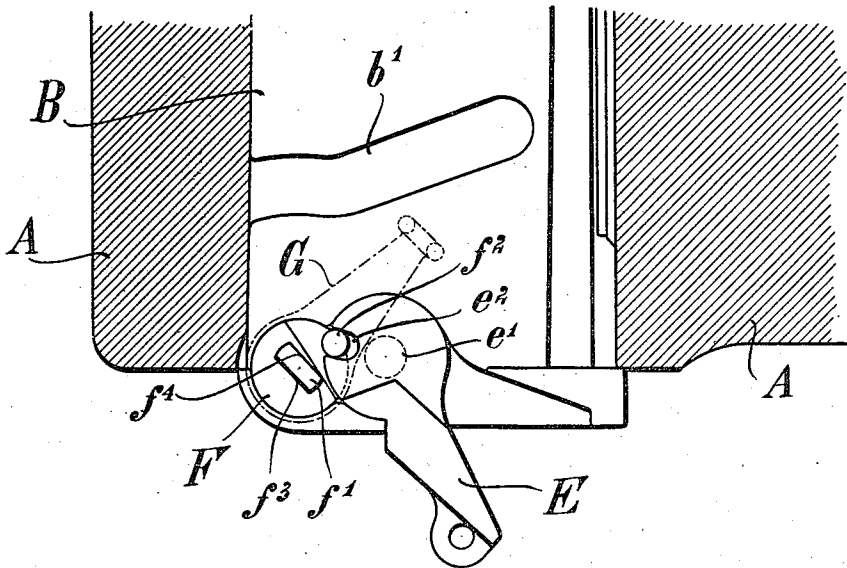
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GUN CLOSURE.

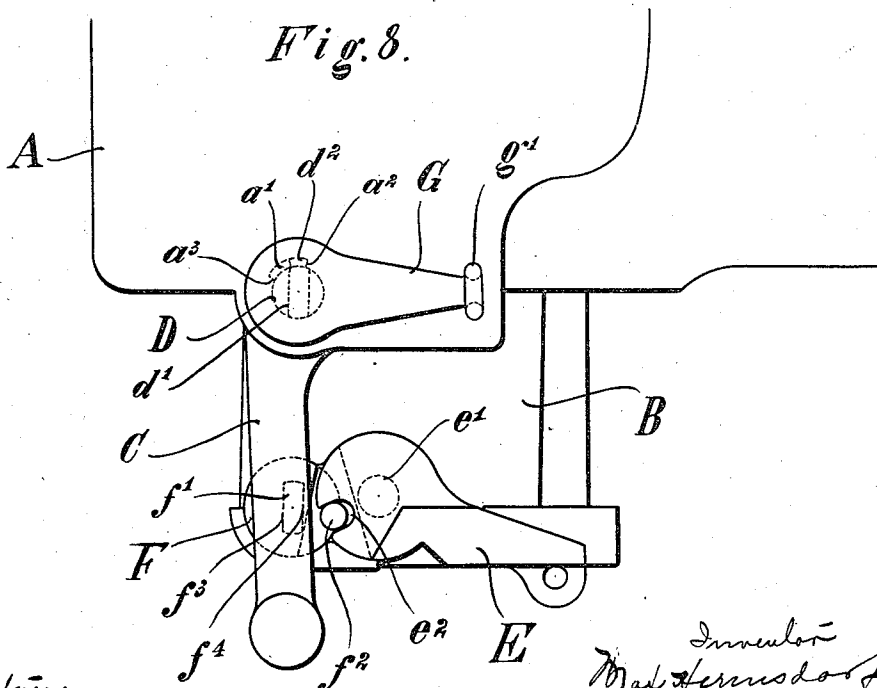
APPLICATION FILED SEPT. 15, 1906.

3 SHEETS—SHEET 3.

*Fig. 7.*



*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

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## GUN-CLOSURE.

No. 859,558.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed September 15, 1906. Serial No. 334,702.

To all whom it may concern:

Be it known that I, MAX HERMSDORF, a subject of the Emperor of Germany, and a resident of Essen-on-the-Ruhr, Germany, have invented certain new and useful Improvements in Gun-Closures, of which the following is a specification.

The present invention relates to lever actuated wedge breech-closures for guns having firing mechanism and the object of the invention is to provide such closures with a trigger mechanism which can be conveniently manipulated by the man who operates the sighting device of the gun.

In the accompanying drawings, which show one embodiment of the invention by way of example. Figure 1 shows a portion of the breech mechanism in side view and closed, Fig. 2 is a top view of the same; Fig. 3 is a section on line 3—3, Fig. 1, looking from above; Fig. 4 is a section on line 4—4, Fig. 1, looking from above; Fig. 5 is a section on line 5—5, Fig. 2, looking from the left; Fig. 6 is a section on line 6—6, Fig. 2, looking from below; Fig. 7 is a view corresponding to that shown in Fig. 4 with the position of some of the parts changed; and Fig. 8 is a view corresponding to that shown in Fig. 2, the breech-mechanism being open.

By means of the operating lever C, C', which is loosely mounted to rotate on a shaft or bolt D journaled in the breech A of the gun-barrel, the breech block or wedge B can be forced transversely of the bore into the tapering breech opening. To attain this result, the arm C' of the operating lever engages a groove b' in the breech-block through the medium of a heart-shaped stud c<sup>2</sup> (Figs. 2 and 5).

The breech-closure is provided with a firing mechanism, the drawing only showing the trigger E and its shaft c' journaled in the breech-block. The axis of the shaft c' extends parallel to the axis of the bolt D. The firing mechanism is constructed in such a manner that the gun can be fired by turning the trigger E in the direction of the arrow x (Fig. 2). The firing mechanism is provided with a spring (not shown in the drawing) which tends to hold the trigger E in its position of rest (Fig. 2).

The above-described arrangement is old.

On the upper end of the bolt D is mounted a lever G which serves as a supplemental trigger and is provided with an eye g' in which a lanyard is adapted to be secured. A disk F is rotatably mounted in the breech block or wedge B, the axis of rotation of the disk extending parallel to the axis of rotation of the trigger E and coinciding with the axis of the bolt D when the breech-mechanism is closed. The disk F is coupled to the trigger E through the medium of a pin f<sup>2</sup> provided on the disk and engaging in a recess c<sup>2</sup> in the nave of the trigger. The disk F is provided with a prismatic pro-

jection f' which, when the trigger E is in its position of rest, has its faces f<sup>3</sup> f<sup>4</sup> extending parallel to the guides provided for the breech-block B in the breech A of the gun-barrel. The projection f' serves the purpose of coupling the disk F to the bolt D when the breech-mechanism is closed, and to this end the bolt is provided with a groove d' for the projection f'. The bolt D is capable of limited rotation relatively to the breech of the gun-barrel and its rotation is limited by means of a stud d<sup>2</sup> (see in particular Figs. 2 and 8) which is provided on the bolt D and engages in a groove a' in the breech, the groove a' having end walls a<sup>2</sup>, a<sup>3</sup>, adapted to arrest the movement of the stud d<sup>2</sup>. The location of the wall a<sup>2</sup> is so selected that, when the stud d<sup>2</sup> lies against it, the walls of the groove D', corresponding to the faces f<sup>3</sup>, f<sup>4</sup> of the projection f', extend parallel to the guides provided in the breech for the breech-block, and the lever G is then in the position of rest shown in Figs. 2 and 8. The lever G is held in this position by means of a spiral spring H (see in particular Fig. 3) having one end secured to the bolt D and having its other end secured in the breech A. The wall a<sup>3</sup> is so located that the bolt can be turned from its position of rest to move to the extent necessary for firing the gun. The bolt D is held against longitudinal movement by means of a screw J (see in particular Fig. 5) which engages in an annular groove d<sup>3</sup> provided in the bolt.

From the above description, it will be understood that when the breech-mechanism is closed the levers E and G are coupled together through the medium of the disk F and the bolt D. By reason of the aforesaid arrangement of the lever G, the gun can, therefore, also be conveniently fired by the man who serves the sighting device and who has his place to the left of the gun-barrel. For this purpose he turns the lever G in the direction of the arrow y (Fig. 2) either directly by hand or by means of a lanyard secured to the eye g' until the stud d<sup>2</sup> hits the wall a<sup>3</sup> of the groove a'. The turning movement of the lever G and bolt D is partaken of by the disk F which in turn rotates the trigger E in the direction of the arrow x (Fig. 2). The operating lever C C' does not change its position by these manipulations as it is loosely mounted on the bolt D. When the gun is fired the trigger E, lever G and disk F assume the position shown in Fig. 7. If the lever G is released after the gun is fired, the parts in question are returned to their position of rest by means of the spring H and by means of the spring (not shown) of the firing mechanism. When the breech-mechanism is opened, the projection f' passes out of engagement with the groove d' (see Fig. 8) and when the breech-mechanism is closed, this engagement is re-established.

It will be understood without further explanation how the above-described arrangement operates when

the gun is fired by means of the trigger E, that is to say by the man who serves the breech-mechanism.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

- 5 1. The combination with the gun-barrel, the breech-wedge, and the firing mechanism, of an operating lever for the breech wedge, a shaft on which the operating lever is loosely mounted, a trigger connected with said operating lever shaft, and means for automatically coupling said  
10 shaft to the firing mechanism when the breech-wedge is closed.
2. The combination with the gun-barrel, the breech-wedge, and the firing mechanism, of an operating lever for the breech-wedge, a shaft on which the operating lever is  
15 loosely mounted, a trigger rigidly secured on said shaft, and a coupling between said trigger and the firing mechanism; said coupling being broken when the breech-wedge is opened.
3. The combination with the barrel, of a breech wedge  
20 movable transversely of said barrel, a trigger carried by the breech wedge, a shaft arranged on the barrel transversely of the direction of movement of the breech wedge, a coupling for establishing connection between the inner end of the shaft and the trigger on the breech wedge when  
25 the breech wedge is closed, and a trigger connected to the outer end of the shaft.
4. The combination with the barrel, of a breech wedge movable transversely of said barrel, a trigger carried by

the breech wedge, a shaft arranged on the barrel transversely of the direction of movement of the breech wedge, 30 a coupling for establishing connection between the inner end of shaft and the trigger on the breech wedge, when the breech wedge is closed, a trigger connected to the outer end of the shaft, and a spring maintaining the shaft in one position. 35

5. The combination with the barrel, of a breech wedge movable transversely of said barrel, a trigger carried by the breech wedge, a coupling member journaled on the breech wedge and coupled to the trigger, a shaft carried by the gun barrel and rotatable about an axis coinciding 40 with the axis of the breech-wedge coupling when the breech is closed, a coupling member on the end of the shaft, and a trigger connected to the shaft.

6. The combination with a barrel, of a breech mechanism, a firing mechanism carried by the breech mechanism, 45 a trigger carried by the barrel, and a separable coupling between the firing mechanism on the breech mechanism and the trigger comprising two members, one carried by the barrel and the other by the breech mechanism, rotatable about the same axis when the breech mechanism is 50 closed.

The foregoing specification signed at Düsseldorf, Germany, this 14th day of August, 1906.

MAX HERMSDORF.

In presence of—

WILLIAM ESSENWEIN,  
ALFRED POHLMAYER.