B. GOEBEL.

SEMI-AUTOMATIC FIREARM WITH CYLINDRICAL BREECH.

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909,398. Patented Jan. 12, 1909.

Fig. 1.

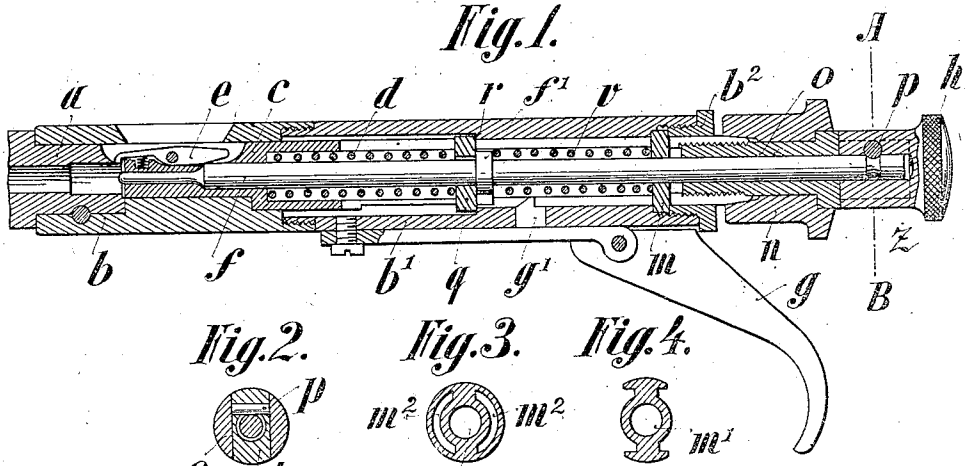
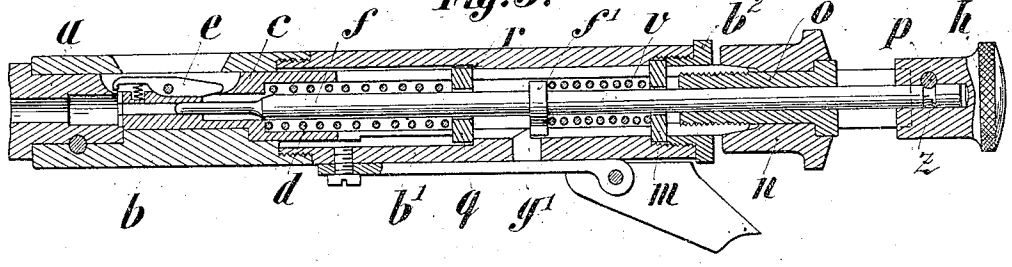


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



WITNESSES:

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SEMI-AUTOMATIC FIREARM WITH CYLINDRICAL BREECH.

No. 909,398. Specification of Letters Patent. Patented Jan. 12, 1909

Application filed February 6, 1907. Serial No. 356,044.

To all whom it may concern:

Be it known that I, BAPTIST GOEBEL, engineer and director, a subject of the German Emperor, residing at Liege, Belgium, have invented certain new and useful Improvements in Semi-Automatic Firearms with Cylindrical Breeches, of which the following is a specification.

As compared with the means in automatic fire arms, whereby the loading of the gun, the cocking of the hammer and the closing of the breech take place automatically, this invention relates to semi-automatic fire arms *i. e.* such fire arms, according to which a manipulation is necessary on the part of the marksman for closing the breech that is opened by the action of the recoil. Although the entire-automatic fire arm naturally represents in itself a great technical advancement, yet it cannot be denied that this automatic function of the parts involves certain disadvantages when loading and closing the fire arm in so far as the fire arm is thus always ready for firing again even when the marksman has ceased firing. Moreover, it is not possible with most automatic fire arms for the marksman to ascertain for a certainty that the fire arm is actually loaded or not, because after the discharge of the last cartridge, the breech moves into the firing position and it is therefore not readily obvious to the marksman that there are no more cartridges left in the barrel. Thus a certain want is felt especially in connection with fire arms for the general use of those not familiar with the handling of automatic loaders to employ such automatic loading fire arms which are provided with an arresting or catch device for the breech, whereby the breech opening automatically after each shot is secured in its outermost receded position and only adapted to pass into the locking position when such device is released; the marksman is thus able to control the loading operation of the fire arm and especially to see immediately when the magazine of his fire arm is empty. This release generally takes place whenever the marksman inserts a new cartridge in the cartridge chamber; it however also rests with the marksman to leave his fire arm unloaded or the breech empty (without cartridge) when he does not wish to shoot. As in the older constructions wherein the extractors are actuated by a special spring, the claw of the extractor is pressed against the edge of the cartridge through the instrumentality of the spring tension, the firing pin in the present arrangement tends to positively move the extractor in opposition to the pressure of its springs into the operative position.

Now this invention has for its object to make such semi-automatic fire arm with a cylindrical breech of a very simple and handy construction adapted for smaller weapons and especially carbines which are made either as single loaders or equipped with a magazine.

A carbine constructed with the improved breech mechanism is shown in the accompanying drawings, of which:

Figure 1 is the longitudinal section of the breech mechanism of a carbine with main spring and locking spring arranged behind each other; Fig. 2 is a cross-section on line A—B; Figs. 3 and 4 are two modifications of an annular stop plate serving as abutment for the main spring; Fig. 5 is a longitudinal section of the cocked breech mechanism.

As compared with other constructions wherein the percussion or striking mechanism surrounds the breech bolt and its locking spring, so that the locking spring is located within the main spring, the construction shows the main spring and locking spring arranged one behind the other. This construction affords besides other advantages the safety of the fire arm by turning the firing pin protruding from the breech bolt. Moreover, the marksman is able to control the loading operation of the fire arm. The cocking of the firing pin can be effected by hand without moving the breech bolt.

The barrel *a* is rigidly secured to the receiver. The receiver is formed of two parts *b* and b^1 screwed one within the other and has a locking sleeve or socket b^2 against which the annular stop plate *m* bears. This stop plate has in the middle a bore m^1 for the passage of the firing pin *f* and two semi-circular slots m^2 for the passage of the breech bolt *c*, which is bifurcated in its rear part. The firing pin *f* with its spring *v* is mounted in the breech bolt *c*. This main spring bears against the annular stop plate *m* and against the abutment f^1 of the firing pin. The abutment f^1 also serves for keeping the firing pin in the cocked position by engagement with the sear g^1 of the trigger *g*. The socket-head *n* is secured on the outer end of the breech

bolt *c* by means of the bifurcated sleeve *o*, which is screwed in the breech bolt. The firing pin carries on its outer end the stud or button *h* which is movably arranged by means of a pin *p* guided in a groove *z* of the firing pin. The button *h* is flattened laterally and rests with this flattened part in the fork of the threaded sleeve *o*. (See Fig. 2).

The operation of the fire arm is as follows: When pulling back the firing pin *f* with the aid of the button *h*, the main spring will be compressed and the mechanism cocked (see Fig. 5). When pulling the button *h* out further, its flattened part moves out of the fork of the sleeve *o* and when the button makes one quarter of a turn, the flattened part extends across the space between the legs of the fork and the safety of the fire arm is thus insured. The breech bolt *c* protects in its front part the locking spring *d* which on the one hand bears against the end of the bore in the breech bolt and on the other hand against a stop plate *q* (similar to the stop plate *m*). The part *r* of the receiver *b* serves as abutment for the stop plate and the latter also checks the rearward movement of the breech bolt. When the breech bolt *c* is withdrawn by means of the button *h*, the locking spring *d* as well as the main spring *v* will be compressed. The firing pin *f* is secured by the sear g^1, while when releasing the button *h*, the breech bolt *c* is moved forward under the pressure of the locking spring *d* and the cartridge inserted in the barrel, whereupon the fire arm is ready for firing.

What I claim as my invention, and desire to secure by Patent is:

1. In a fire arm, a cylinder, a cylinder lock, a closing spring therefor, a striker, and a main spring therefor, said main spring being arranged at the rear of the closing spring, and both springs surrounding the striker.

2. In a fire arm, a cylinder lock, a closing spring therefor, a striker, and a main spring therefor, said main spring being arranged at the rear of the closing spring and both springs surrounding the striker, and a lock case, said striker being extended through said lock case at its rear.

3. In a fire arm, a cylinder lock, a closing spring therefor, a striker, and a spring therefor, said spring being arranged at the rear of the closing spring, both springs surrounding the striker, and annular plates serving as abutments for said springs, said plates being adapted to permit said striker and lock to move backward freely.

4. In a fire arm, a lock case, a cylinder lock therein, a striker extending to the rear of said lock case, and a laterally flattened button at the rear end of said striker, said button being adapted to be turned to hold said striker retracted.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BAPTIST GOEBEL.

Witnesses:
OCTAVE RENSON,
JOHN GRAU.