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AUTOMATIC FIREARM.

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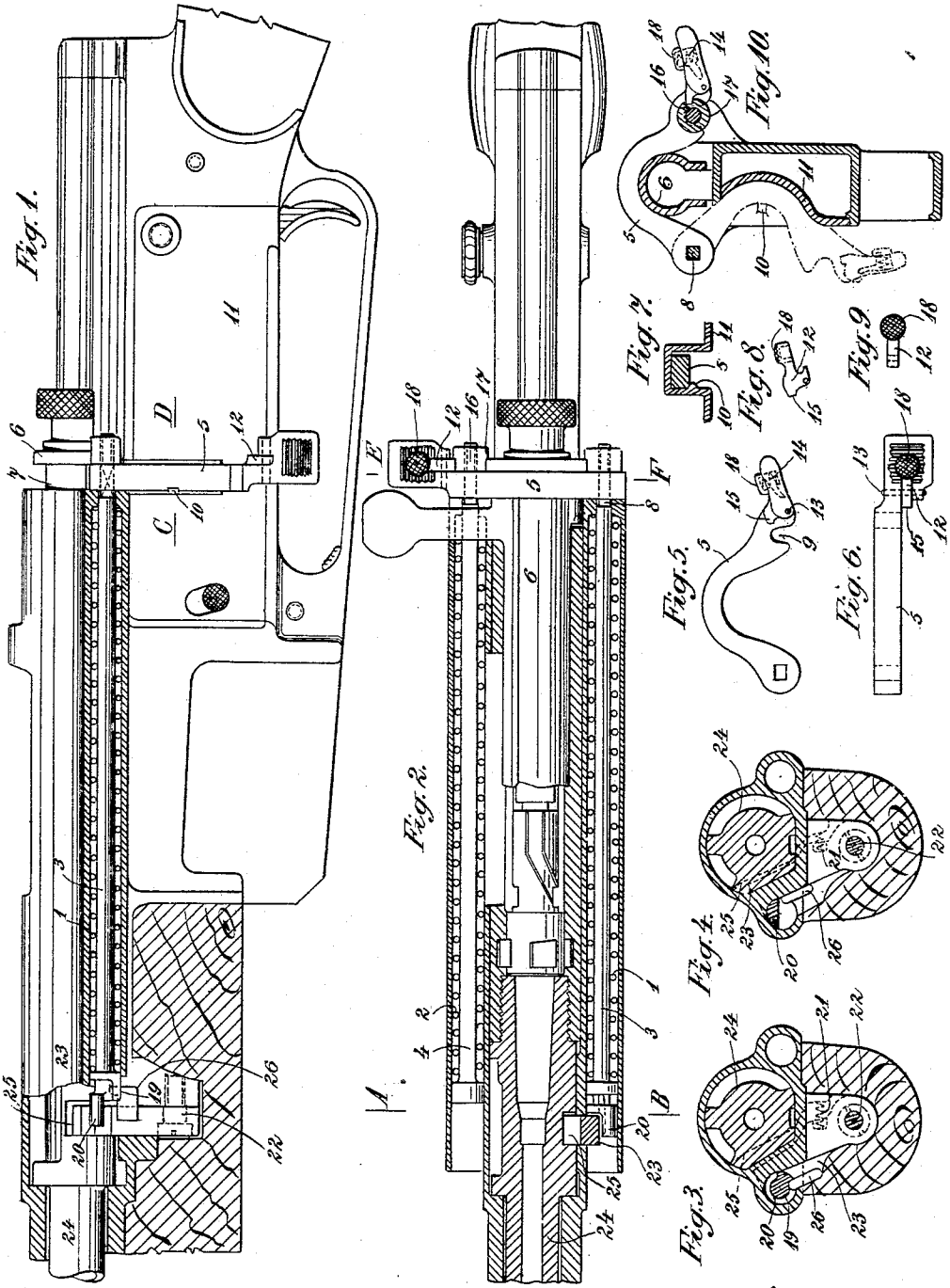
992,184. Patented May 16, 1911.



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AUTOMATIC FIREARM.

992,184. Specification of Letters Patent. Patented May 16, 1911.

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To all whom it may concern:

Be it known that I, RUDOLF FROMMER, of IX Külsö Soroksári út 100, Budapest, Austria-Hungary, factory manager, citizen of the Kingdom of Hungary, have invented certain new and useful Improvements in and Relating to Automatic Firearms, of which the following is a specification.

In automatic firearms various operations, such for example as the insertion of a fresh cartridge and the closing of the breech-bolt, are effected by springs that have been put under tension by the recoil. Now as springs under certain conditions may fail to act, thus rendering the weapon useless, it is desirable to provide an automatic firearm which, should such unfavorable conditions occur, is yet capable of use at least as a hand-operated repeater. In such a case the aim should be in practice that with a weapon of this kind, when it is employed as a hand-operated repeating rifle, the tensioning of the springs operating the breech-bolt during automatic firing, is completely obviated as otherwise the marksman, who in addition to the extraction of the cartridge case and the putting under tension of the firing spring would have to tension the strong breech-bolt spring, would very soon become fatigued even to such an extent as to render the value of such a repeating rifle illusory. Another point to be aimed at is that the conversion from an automatic firearm to a hand-operated firearm should be adapted to be carried out as speedily as possible and by means of the smallest possible number of manipulations.

The present invention has for its object means permitting of the conversion of an entirely automatic firearm into a repeating firearm and vice versa, each such conversion being effected by means of a single manipulation which also serves to render inoperative, or operative as the case may be, the spring serving to operate the barrel and the breech-bolt or merely one of them, when the firearm acts automatically. In order to attain these objects a latch is mounted upon the rifle which permits of bringing the breech-bolt spring or springs, according as one or more are provided, out of engagement with the breech-bolt, this latch also serving when employed with firearms comprising a movable barrel, to lock this barrel, or by actuation in the opposite direction to bring the breech-bolt springs into engagement with the breech-bolt and permit of the free movement of the barrel.

A constructional form of the invention is illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a side elevation, partly in section; Fig. 2 is a plan view and partial section; Figs. 3 and 4 are sections on the line A—B of Fig. 2 in two different positions. Figs. 5 and 6 are a side elevation and a plan view respectively of a detail, Fig. 7 is a section on the line C—D of Fig. 1. Figs. 8 and 9 illustrate a detail in side elevation and in plan respectively, and Fig. 10 is a cross section through the firearm on the line E—F of Fig. 2.

The invention is applicable to all kinds of automatic firearms, by way of example it is here described and illustrated with reference to an automatic firearm with sliding barrel, in which the breech-bolt springs 1 and 2 are arranged upon opposite sides of the breech, as shown in Fig. 2. In order to compress these springs 1 and 2, rods 3 and 4 are provided for each of them respectively and by means of the latch 5 these rods may either be brought into engagement with or thrown out of engagement with the breech-bolt 6 by the intermediary of the groove 7 formed in the breech-bolt. The latch 5 is rigidly connected with the rod 3 by means of a square 8 (Fig. 2), so that the rod 3 must necessarily participate in the rotation of the latch 5, while the latch is connected with the rod 4 by means of a fork 9 (Fig. 5) which engages over this rod.

If the latch 5 is in engagement with the breech-bolt 6 and with the two rods 3 and 4, when the breech-bolt moves back under the influence of the recoil, the rods 3 and 4 are carried with it thus compressing the breech-bolt springs 1 and 2. Under these circumstances the firearm is automatic. If, however, it is desired to utilize it as a hand-operated repeating weapon, the latch 5 is turned from the engaging position shown in Fig. 2 into the position represented in Fig. 1, thereby releasing both rods 3 and 4 from the breech-bolt 6, so that this latter may be actuated by hand as in an ordinary repeater without acting upon the breech-bolt springs. The latch 5 is held in this position by a nose 10 on the cover plate 11, behind which the latch 5 is held by the breech-bolt spring 1 (Fig. 1).

In order to obviate unintentional release

of the fork 9 of the latch 5 from the rod 4, a catch 12 is provided; it is rotatable around the pin 13 and is acted upon by a spring 14. The catch 12 is provided with a nose 15 which snaps into a recess 16 in the nut 17 of the rod. By pressing the head 18 the catch 12 is turned around the pin 13, thereby lifting the nose 15 out of the recess 16 so that the latch 5 may be freely turned over. The latch 5 is therefore unable to open with a simple rotary movement, but only with a rotary movement in combination with pressure upon the head 18.

When this invention is applied to automatic firearms with sliding barrel it is necessary when effecting the conversion into a hand-operated firearm, to fix the movable barrel. To this end, the fore extremity of the rod 3 in engagement with the latch 5 is formed as a double cam 19 and 20 which acts upon a lever 23 rotatable around the pin 22 and acted upon by the spring 21, and appropriately brings this lever into engagement with the barrel 24 or with the casing rigidly connected therewith. As the double cam 19, 20 must necessarily participate in the rotary movement of the rod 3, the locking and the release of the barrel 24, and likewise the release and engagement of the breech-bolt springs 1 and 2 are effected by one and the same manipulation. If the firearm is to act automatically, the lever 23 should be brought out of the recess 25 in the barrel into the position represented in Fig. 3. The lever 23 might also of course be withdrawn from the recess 25 by the spring 21 alone, but it appears to be better to effect this displacement positively also. To this end the cam 19 is provided, and is rotated when the latch 5 is brought in the position shown in Fig. 2 and thereby rotates the lever 23 out of the recess 25 by means of its nose 26, thus releasing the barrel. If, however, the firearm is to act as a hand-operated repeater, the lever 23 must be rotated out of the position in Fig. 3 into the position in Fig. 4. This is effected by the cam 20, which is rotated upon the displacement of the latch 5 from the position Fig. 2 into the position Fig. 1, thereby pressing the lever 23 into the recess 25, whereby the barrel is held.

It should be understood that the invention is not confined to the constructional form which is illustrated in the drawing. Thus for example the barrel may be stationary, in which case the locking means 23, 25 for the barrel and the double cam 19, 20 serving to actuate this locking means is not required.

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:—

1. In automatic fire arms a breech-bolt, springs arranged upon opposite sides of the said breech-bolt adapted to lock the same and rods connected with the said springs and means attached to one of the said rods and adapted to connect the same with the said breech-bolt and the other rod.

2. In automatic fire arms, the combination with a sliding barrel, a breech-bolt and springs adapted to be put under tension by the recoil for closing said breech-bolt, of means for coupling the said breech-bolt with the said springs and means for retaining and releasing the said sliding barrel, for the purpose specified.

3. In automatic firearms the combination with a sliding barrel, a breech-bolt and springs adapted to be put under tension by the recoil for closing the said breech-bolt, of a latch for coupling the said bolt with the said springs, a lever for retaining and releasing said sliding barrel and a connection between the said latch and lever for automatically rendering operative the lever upon the disengagement of the breech-bolt from the said springs and for automatically rendering inoperative the said lever upon the engagement of the said breech-bolt with the said springs.

4. In automatic fire arms, the combination with a sliding barrel, a breech-bolt and springs adapted to be put under tension by the recoil for closing the said breech-bolt, the said springs being arranged upon opposite sides of the said breech-bolt, of rods connected with said springs, means upon one of the rods for engaging and disengaging the same with the said breech-bolt and with the other rod, a lever, and a recess upon the barrel for the said lever for holding and releasing the said barrel, and a cam upon one of the said rods for throwing the said lever into and out of engagement, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

RUDOLF FROMMER.

Witnesses:
SCHÖN TILLÖP,
LOUIS VANDORN.