

UNITED STATES PATENT OFFICE.

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AUTOMATIC FIREARM.

975,256.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed July 14, 1909. Serial No. 507,651.

To all whom it may concern:

Be it known that I, KARL KRNKA, engineer, a subject of the Emperor of Austria-Hungary, residing at Hirtenberg, in the Province of Lower Austria, Empire of Austria-Hungary, have invented certain new and useful Improvements in Automatic Firearms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The cartridge holding device is a well-known mechanism of a magazine gun, whose purpose is to permit the cartridges in the magazine to rise to a certain height only, so that the cartridges are securely held in the magazine and are prevented from being thrown out at inopportune times when the breech block is wholly withdrawn. On the other hand, a good cartridge holder permits the complete unloading of the weapon (unloading the magazine) by applying pressure to the proper lever arm which is set in motion so that the cartridges as they spring out may be gathered in by hand. As a matter of course, only such fire arms which do not have an exchangeable magazine, but have a fixed magazine arrangement, need a special cartridge holder. A cartridge holder ordinarily consists of three parts, a lever, an axis and a spring, and if a spiral spring be chosen, the cartridge holder cannot be further simplified. A locking device for hand fire-arms further requires at least an equal number of parts, especially in the case of automatic rifles.

Under the term safety device for a fire-arm is, in the present case, to be understood such mechanism which will permit the cocked firing pin of a loaded weapon to be disengaged (rendered inoperative), to prevent accidental discharge. In emptying the magazine through the receiver of the weapon a holding device for the breech bolt is also required so that the latter may rest in its open position to allow the cartridge holder to operate. This device also requires three parts, including a spring. Thus the three separate above-mentioned devices ordinarily consist altogether of nine parts, which according to this invention, are reduced to three parts, without a single complicated piece having to be made.

The invention therefore lies in the combining of the two (eventually three) of the

above devices whereby the three constituting elements are formed into a single mechanism, whereas otherwise nine parts would have to be used. This combined mechanism can be located at several different parts of the breech casing as may be required by the particular method of closing the breech, or the kind of weapon in question. It can be made use of for all magazines mounted centrally in the stock.

In my present application I have only described and shown those parts of the mechanism which are peculiar to the invention being described and claimed. The other details illustrative of the action of the several parts are illustrated and described in my applications Serial Number 507,157, filed July 12, 1909, and entitled automatic fire arms, and my application Serial Number 507,402, filed July 13, 1909, and entitled, improvements in drum magazines for fire arms.

Reference is had to the accompanying drawings in which the same letters and numerals indicate corresponding parts throughout the several views.

Figure 1 shows an end view and side elevation of the locking member, Fig. 2 shows an end view and side elevation of the cartridge holder, Figs. 3 and 4 two sections through the weapon immediately behind each other, along the lines $x-x$ of Fig. 5 and $y-y$ of Fig. 7, respectively, Fig. 5 is a sectional plan of part of the weapon with the breech piece closed and the striker in the fired position, the parts being in the position shown in Fig. 3, Fig. 6 the same with the striker cocked and locked, and Fig. 7 the same with completely opened and secured breech block and charged magazine.

Figs. 1 and 5 show that the locking device o has retained the much used "flag" shape; in this case, however, its rod or "staff" serves as the axis of the cartridge holder p , as can best be seen from Figs. 5, 6 and 7.

In Fig. 5 the safety device o is shown in its normal position, that is, in its unlocked position. Viewed from this horizontal position the safety device o shows the form of a flag in which the axis of revolution A resembles a flag-staff. This is a well-known form of safety device, and it is customary, therefore, in the technical language of gunnery to call the part o "a flag".

If in Fig. 3, the stock A be removed, the locking member o can be turned downward, whereupon it can be entirely withdrawn

from its position, the cartridge holder *p* removed from the receiver *k*, together with its spring *u*.

The segmental projections 36 and 37 of the locking member *o* prevent its being removed or lost, as can be easily seen from the several drawings.

Figs. 3 and 5 show the parts in the same position.

The striker *d* has an enlargement *n* and lug 17, which are shown in this case in Fig. 5 in the fired position (*b* and *c* being parts of the breech block). The parts *b* and *c* are not material to the present invention; *b* being a common form of breech block and *c* is an operating handle to open the cylinder and to wholly draw it back. In the position of the parts shown by Fig. 5, the locking member *o* cannot turn, as its projection 37 is prevented from doing so by the part *n*. This part *n* is a reinforcement of the firing-pin *d* so that the same may possess a collar of the old well-known form, to be used at times as striking piece or firing pin nut, and is therefore a part present in nearly all weapons having cylindrical breech blocks and always possesses a retracting nose 17 (Fig. 3).

In Fig. 6 the striker *d* is drawn back and locked by rotating the "flag" through 90° so that the projection 36 holds back the enlarged part *n* secured to or made integral with the striker *d*. At the same time the projection 37 prevents the opening of the breech block *b* by locking the part *c* thereof against rearward travel.

Fig. 7 illustrates the method of using the locking member *o* when the charged magazine is to be emptied.

After the breech closing piece has been completely drawn back, the locking member *o* is turned into the securing position whereby its projection 37 is placed in front of the head *a* of the breech block so that on pressing the head of the cartridge holder *p* inward or against the action of the spring *u* (see Fig. 4), the receiver being inverted, and the contents of the magazine can be collected in the hand. The projection 36 of the locking member could also perform this duty, and for this purpose therefore, one of the projections 36, 37 might be considered superfluous, but both of them, however, are desirable for if these two projections were to be united to form one, this would require too large a recess in the receiver. This locking member which serves two purposes can therefore only be turned when this is required to be done.

In order to secure the "flag" in its unlocked and locking positions, so that no

movement can take place in consequence of shocks to the weapon, the projection 36 is provided with a suitable small raised end piece 38 having small inclined faces, as can be seen from Fig. 1 of the drawing, which effect the above purpose in a well known way although by new means, namely, the locking and securing operations causing the striker to be cocked a little further. It should also be observed that the rod or "staff" of the flag or locking member *o* could of course be inserted also as a separate spindle.

The forms in which the parts *o* and *p* may be carried out are of minor importance to the invention, as they may be constructed in different ways without any change in its nature.

I claim as my invention:—

1. In a magazine fire-arm, the combination with means for feeding the cartridges to the chamber, of a pivoted locking device adapted to engage the breech block and striker, and the cartridge holder journaled on the said locking device, substantially as described.

2. In a magazine fire-arm, the combination with means for feeding the cartridges to the chamber, of a pivoted locking device provided with two arms adapted to engage the breech block and striker, and the cartridge holder journaled on the said locking device, substantially as described.

3. A combined locking and cartridge holding mechanism for fire-arms, comprising a locking device *o* and a cartridge holder *p*, having the same turning axis as said locking device, substantially as described.

4. A combined locking and cartridge holding mechanism, comprising the locking device *o*, having two segmental projections 36 and 37 adapted to engage the breech block in the retracted position and to permit the emptying of the cartridge chamber, substantially as described.

5. A combined locking and cartridge holding mechanism, comprising the locking device *o*, having two segmental projections 36 and 37 adapted to engage the breech block in the retracted position and to permit the emptying of the cartridge chamber, and a spring impressed cartridge holder journaled on said locking device, substantially as described.

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

KARL KRNKA.

Witnesses:

JULIUS T. FIFFER,

ROBERT W. HEINGARTNER.