P. MAUSER.

TRIGGER MECHANISM FOR AUTOMATIC FIREARMS.

APPLICATION FILED NOV. 19, 1909.

999,326. Patented Aug. 1, 1911.

Fig. 1.

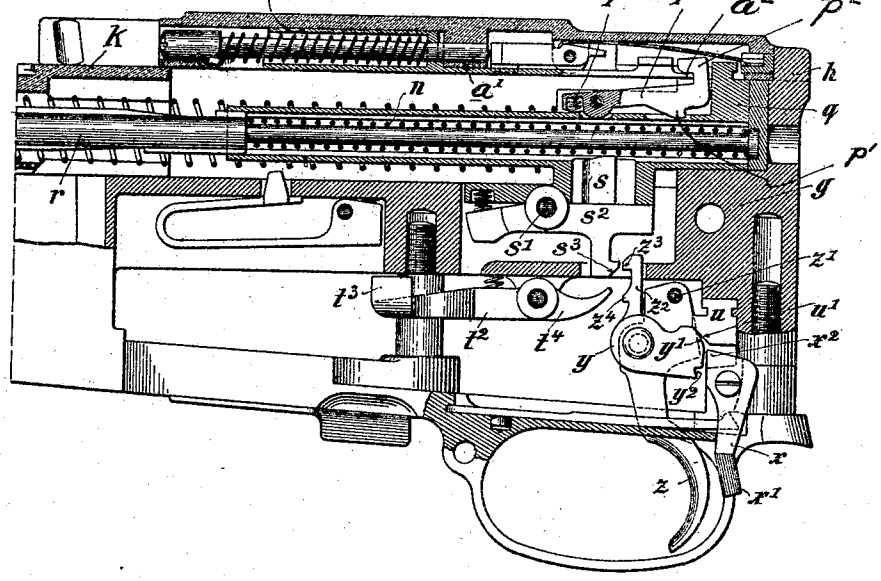
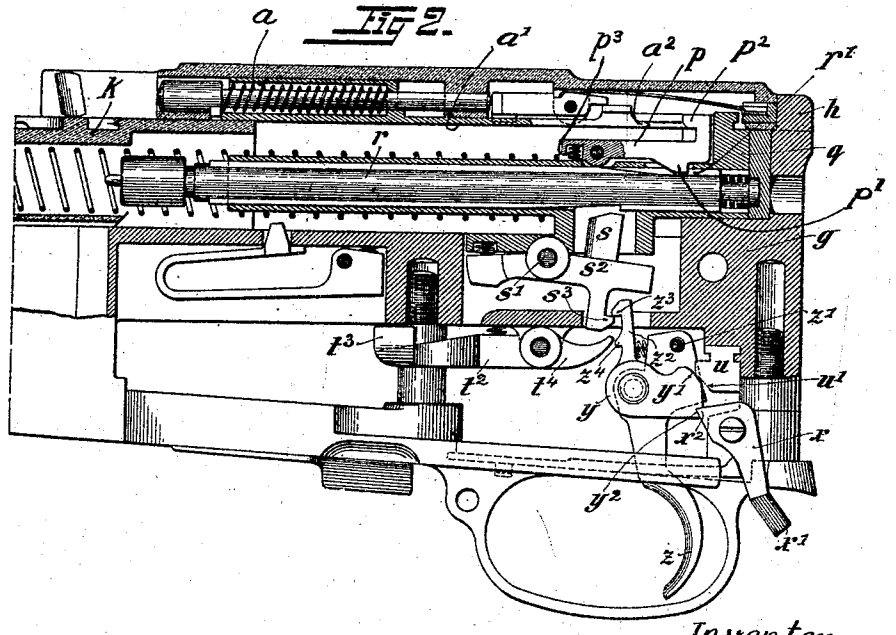


Fig 2.



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UNITED STATES PATENT OFFICE.

PAUL MAUSER, OF OBERNDORF-ON-THE-NECKAR, GERMANY.

TRIGGER MECHANISM FOR AUTOMATIC FIREARMS.

999,326. Specification of Letters Patent. Patented Aug. 1, 1911.

Application filed November 19, 1909. Serial No. 528,976.

To all whom it may concern:

Be it known that I, PAUL MAUSER, royal commercial privy councillor, a subject of the King of Würtemberg, residing at Oberndorf-on-the-Neckar, in the Kingdom of Würtemberg, Germany, have invented certain new and useful Improvements Relating to Trigger Mechanism for Automatic Firearms, of which the following is a full, clear, and exact description.

The present invention relates to trigger mechanism for automatic fire arms, the novelty consisting of an improved device by means of which any number of shots may be fired in series. With this end in view the preferred arrangement is such that the adjustment of a locking lever pivoted behind the trigger prevents the latter from moving backward, so that although the trigger can be pulled a certain distance it cannot be pulled through its complete motion and consequently the sear controlled lever is not released by the sear and as it is not able to return to its engaging position it is compelled to remain in the disengaged position as long as the trigger is pulled back.

The invention is illustrated in the accompanying drawing in which—

Figure 1 is a longitudinal section of the rear part of the weapon with the locking lever out of engagement for single firing. Fig. 2 is a similar view showing the parts set for repeat firing.

For the purpose of illustrating the invention a recoil loader with fixed barrel has been adopted. The gun illustrated is of the general construction disclosed in my application S. No. 514,894, filed August 27, 1909. The general arrangement of the trigger mechanism is the usual one, the sear controlled lever s^2 being pivoted to the pin s^1 on the underside of the minor breech q which contains the hollow firing pin r and propelling spring n and is inserted in the rear wall of the casing h. This sear controlled lever s^2 carries the usual upwardly projecting catch s as well as a downwardly projecting hook or catch s^3 which engages with a corresponding catch z^3 on the sear z^2. The sear z^2 is provided underneath this catch z^3 with another catch z^4 which engages with the rear end t^4 of the safety lever t^2, the object of the latter being, as is generally known, to prevent the rifle being fired in the event of the locking not having been completely effected (that is, when the supporting or locking levers have not reached the locking position). The sear z^2 (provided with these two hooks or catches) is pivoted to the trigger z, which as usual is pivoted to the pin z^1 in the stock g.

According to the invention the locking lever x is preferably pivoted behind the trigger, the lower end x^1 of said locking lever being provided with a handle projecting out into the open, while the upper end has an inclined nose x^2.

The sear z^2 (which, as previously mentioned, is pivoted to the trigger z) has on its trunnion a side piece y, the engaging surface y^1 of which, when the trigger is pulled farther back, after having released the firing pin, meets an inclined sliding surface u^1 on a block u located in the stock and thus effects the withdrawal of the catch z^3 from the hook or catch s^3 of the sear controlled lever s^2, so that the same can leave the sear and assume its engaging position for the next shot even if the trigger is not released. This piece y has on its lower end a notch y^2 which coöperates with the nose x^2 of the locking lever x in such manner that when the lever x is adjusted with its upper end projecting forward and the trigger is pulled, the piece y by its notch y^2 engages the projecting nose x^2 of the locking lever x. Consequently the firing pin is released it is true, as shown in Fig. 2, that is to say, the sear controlled lever s^2 is moved downward far enough to disengage the catch s from the nose on the firing pin; the trigger cannot, however, be moved farther, so that the trigger cannot be pulled through its complete motion but is compelled to remain in the position shown in Fig. 2. In this position the sear z^2 holds the sear controlled lever s^2 in the unlocked position so that it cannot return to its position of engagement with the firing pin, and, consequently, allows as many shots to be repeatedly fired as there are cartridges in the magazine.

The cam slide a which operates in the generally known manner the locking levers supporting the receiver k, has a rearward extending spring tongue a^1 provided at its rear end with a projection a^2 corresponding with the hook p^2 of a lever p pivotally mounted upon the minor breech q. The nose p^1 of the lever p projects downward and coöperates with a corresponding recess

r^1 of the firing pin r. The lever p is actuated by a spiral spring p^3, which tends to hold the lever p in the engaging or locking position as shown in Fig. 2, when the breech is not closed. Only after the breech has been duly locked that is to say when the cam slide a is situated in its backward position shown in Fig. 1 in which it holds the supporting levers in their inward and locking postion, the lever p is held in the raised position against the pressure of the spring p^3 by the tongue a^1 engaging with the hook p^2 of the lever p. The nose r^1 of the firing pin r is then released from the nose p^1 of the lever p, and the firing pin can move forward.

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

1. In an automatic fire-arm, the combination of a trigger, a firing-device, a sear having an arm thereon, a catch-device controlled by the sear for engaging and releasing said firing device, and a manually operable stop adapted to engage said arm of the sear for limiting the movement of said sear, whereby when the trigger is maintained pulled said catch device is moved out of engagement with said firing-device without being released, and the fire-arm is adapted for automatic firing.

2. In an automatic firearm, the combination of a trigger, a firing device, a sear, a catch device controlled by said sear for engaging and releasing said firing device, said sear being movable relatively to said trigger to engage and release said catch device and means for limiting the relative movement of said sear, whereby when the trigger is maintained pulled said catch device is moved out of engagement with said firing device without being released by said sear and the firearm is adapted for automatic firing.

3. In an automatic firearm, the combination of a trigger, a firing mechanism, a catch lever controlled by the sear for engaging and releasing said firing mechanism, a sear adapted to engage said catch mechanism, move it to its retracted position and release it during single firing, and means for preventing said sear from releasing said catch mechanism during repeated firing, said means comprising a manually operated stop adapted to engage the sear for limiting the releasing movement thereof.

4. In an automatic firearm, the combination of a trigger, a firing mechanism, a catch lever controlled by the sear for engaging and releasing said firing mechanism, a sear adapted to engage said catch mechanism, move it to its retracted position and release it during single firing, and means for preventing said sear from releasing said catch mechanism during repeated fire, said mechanism comprising a part connected with said sear, means for moving said part to release said sear, and a catch adapted in one position to permit said release and in another position to engage said part to prevent a complete movement thereof whereby when the parts are in the last-named position and the trigger is held retracted said sear-controlled catch is held out of its engaging position so that the firing mechanism acts automatically.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

PAUL MAUSER.

Witnesses:

ERNEST ENTLMNANY,

FRIDA KLAIBER.