T. MARTIN.

AUTOMATIC FIREARM.

APPLICATION FILED JAN. 21, 1909.

**935,672.** Patented Oct. 5, 1909.

Fig. 1.

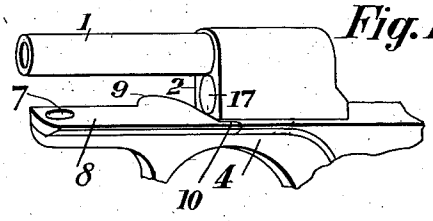



Fig. 2.

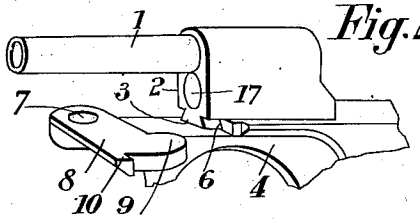



Fig. 4.

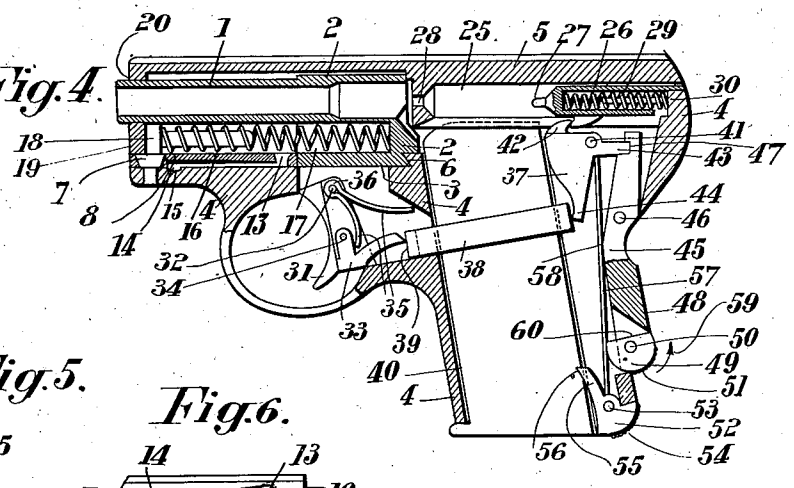



Fig. 5.

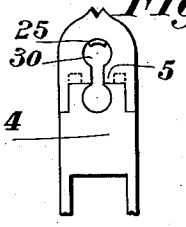



Fig. 6.

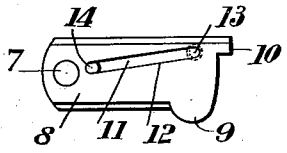



Fig. 7.

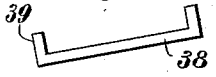
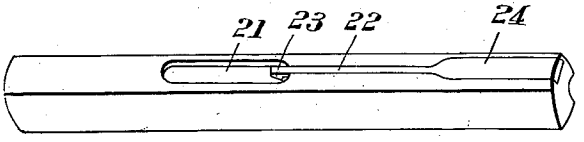



Fig. 3. A




Fig. 8.




Witnesses

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Attorney.

# UNITED STATES PATENT OFFICE.

THOMAS MARTIN, OF ST. ETIENNE, FRANCE.

## AUTOMATIC FIREARM.

935,672. Specification of Letters Patent. Patented Oct. 5, 1909.

Application filed January 21, 1909. Serial No. 473,532.

*To all whom it may concern:*

Be it known that I, THOMAS MARTIN, a citizen of the French Republic, and resident of St. Etienne, France, have invented certain new and useful Improvements in Automatic Firearms, of which the following is a specification.

This invention relates to an automatic repeating pistol provided with a stationary barrel and a movable breech block, the object of the invention being to provide a fire-arm of this kind having a barrel and a breech-block adapted to be taken into pieces and put together again without the use of any tool and the constituent parts of which have been simplified in their form and arrangement so as to facilitate the manufacture of the arm.

Another object of the invention is to provide a fire-arm wherein the number of the constituent parts has been reduced to a minimum and wherein certain members such as the trigger spring and the sear spring have a multiple part to play. Besides, the fire-arm has been provided with a safety member which may be used either as a facultative safety device thanks to a rotary disk which locks it at will or as an automatic safety device working under the simple pressure of the hand when the lock disk has been withdrawn and sets the safety device free.

In the accompanying drawing: Figure 1 is a perspective view of the front end of my improved pistol, this figure showing the mode of fixation employed for securing the barrel on the handle piece or body of the arm. Fig. 2 is also a perspective view showing how the barrel is taken away when the locking key has once been shifted aside. Fig. 3 shows the barrel and the breech separated from the remainder of the arm and shows how the barrel is mounted on the breech and is removed therefrom. Fig. 4 is a longitudinal section of the fire-arm. Fig. 5 is a rear elevation view of the breech. Fig. 6 shows the locking key viewed from below. Fig. 7 is a top plan view of the actuating rod of the sear. Fig. 8 is a top plan view of the breech-block.

The barrel 1 carries below the cartridge chamber an extension 2 which is provided at its lower part with a male dove-tailed part 3 arranged in the direction of the longitudinal axis of the fire-arm. The handle 4 with which the breech block 5 is slidingly engaged is provided with a female dove-tailed part 6 (Fig. 2) wherein the dove-tail 3 of the barrel is adapted to be engaged from the front toward the rear.

Secured to the front end of the handle is a pivot 7 to which the locking key 8 is hingedly connected. This key is provided on its right hand side, with a projecting or pushing part 9, on its opposite side with a heel 10 (Figs. 2 and 6) and on its lower surface with a stop spring 11 (Figs 4 and 6). This spring is lodged in a groove 12 of the key and its end 13 which is opposite the pivot 7 is bent at right angles and riveted into a hole provided in the key, while the opposite end, which is flexible, finishes near the pivot 7 in a spherical button 14 projecting on the lower surface of the key.

When it is desired to secure the barrel to the handle, all that is necessary to do is to engage the male dovetailed part 3 into the female dove-tailed part 6 of the handle and to bring the locking key back into the position shown by Fig. 1. The pivotal motion of the locking key is checked by the heel 10; it is besides held in place by the spring 11 the spherical end 14 of which engages a small hole 15 (Fig. 4) provided in the handle near the pivot of the key. Inversely, when the locking key 8 is brought into the position shown by Fig. 2 the barrel is set free and can be removed by a slight effort exerted from the back toward the front.

The recovering spring 16, the object of which is to bring the breech block back to the front after each firing of a cartridge, is constructed in the following manner: The rear end of the spring is engaged into a blind hole 17 pierced into the lower extension 2 of the barrel while its front end contacts with the front edge 19 of the breech block either directly or through the medium of a turned guide 18. The front part of the breech block 5 (Figs. 3, 4 and 8) has the shape of a box which is left open at its bottom with a view of receiving the barrel. This box is pierced at its front end with an opening 20 leaving passage to the end of the barrel and on its side with a window 21 intended to allow of the ejection of the empty cartridge shells. Arranged in line with this window and behind the latter is the extractor 22 having the form of a long spring blade and provided with its extraction hook 23. The extractor is engaged in

the lateral wall of the breech block and is fixed at its rear end by means of a dovetail connection 24. The rear part of the breech block 5 is pierced with a longitudinal hole 25 inclosing the percussion pin 26. The point 27 of the latter strikes the cap of the cartridge through the opening 28. The spring 29 of the percussion pin bears on the abutment 30 carried by the handle. This abutment for the spring has also for its object to oppose itself, as shown by Fig. 5 to the reactions which would have, during the function of the fire-arm or under any other circumstances, a tendency to separate the breach block 5 from the handle 4.

The fire-arm being entirely put together, if the locking key is brought toward the outside and if the barrel is disengaged as explained above, the breech block follows the motion of the barrel as if these two parts were only one part. For separating them all that is to do is to slightly compress the spring by acting on the barrel, from the back toward the front and to pull thereafter the barrel downward (Fig. 3). That part of the breech block which in Fig. 3 is shown on the left hand side of the line A B C, may be dispensed with and in this case, the barrel is taken out either downward as shown or in the opposite direction that is to say upward. The trigger 31 is pivotally mounted on the pin 32 and carries a tumbler 33 having a heel and which is itself pivotally connected with the trigger at 34. These two members are acted upon by a single spring 35 which presses the trigger forward and the heel downward. The said spring is V shaped and one of the branches of this V bears on a stationary part of the handle while the other acts upon the tumbler a little under its articulation 34. The two branches of the V form at their meeting point a small ring 36 through which passes the articulating pin of the trigger. The motion of the heel is transmitted to the sear 37 through the medium of an actuating rod 38 the two ends of which are bent at right angles as shown by the plan view Fig. 7. It is at the front edge 39 of this actuating rod that the escape of the heel takes place under the action of the pressure exerted by the fingers as soon as the sear has set the percussion pin free in such a manner that during the backward motion of the breech block, the sear may freely move to take again hold of the percussion pin and to cock the arm again. As soon as the pressure exerted by the finger on the trigger ceases, the heel falls in front of the rod 38 and the fire-arm is ready for firing another cartridge.

The rear part of the mechanism that is to say the part which is arranged in the handle behind the magazine 40 comprises four main parts viz:

1°. The sear 37 with its hinge pin 41, its sear nose 42, its safety nose 43 and its lower branch which is in contact with the actuating rod 38.

2°. The automatic safety member 45 which forms a kind of long lever adapted to oscillate on the pin 46. The upper part of this lever is arranged inside the fire-arm and carries the safety notch 47. The lower part 48 projects from the outside of the handle and is adapted to be acted upon by the hand.

3°. The rotating lock bolt or disk 49 formed in the shape of a crescent and pivotally connected to the automatic safety member by means of the pin 50. The outside of the locking member is milled at 51 whereby this locking member may be rotated by a pressure exerted by means of the finger.

4°. The magazine stop or cock 52 pivotally connected at 53 to the handle and provided with a milled part 54 and a stop nose 55 adapted to penetrate into a notch 56 of the magazine.

The function of these four members is ascertained by means of a single spring plate 57 having the shape of a rectangle and arranged as shown in Fig. 4. The upper end of this spring brings the sear back. The lower end holds and applies the magazine stop 52; the elasticity of the middle part of the spring is made use of for bringing back the automatic safety device on which the spring acts at the point 58, finally the rotating locking member 49 bears on the same spring when it is placed as shown by Fig. 4 that is to say in such a manner that the automatic safety device is held immovable. If pressure is exerted on the locking member 49 in the direction of the arrow 59, the flat part 60 of the locking member faces the spring. From this moment the locking member no longer prevents the motion of the safety member 45 and when the fire-arm is grasped by hand when it is desired to fire, the said safety member 45 is caused to oscillate automatically under the action of the pressure exerted by the hand and the notch 47 frees the safety nose 43 of the sear.

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

1. In an automatic fire arm, the combination with a stock and barrel, said stock and barrel having dove-tailed interfitting parts extending along the sides and rear of the barrel, and means for locking the barrel in position on said stock.

2. In an automatic fire-arm of the kind described the combination with the handle of a dovetailed groove provided in the upper part of said handle, a barrel, a lower extension on the rear part of said barrel, a male dove-tailed projection provided on the lower surface of said projection of the barrel and adapted to engage the said dovetailed groove of the handle, and a locking key piv-

otally secured to the upper surface of said handle in front of said dovetailed groove thereof and adapted to lock the said barrel in position on said handle, substantially as and for the purpose set forth.

3. In an automatic fire-arm of the kind described the combination with the handle, the barrel, the breech block and the magazine of the fire-arm, of a trigger pivotally connected with the said handle, a tumbler provided with a rear heel and pivotally mounted on said trigger, a spring adapted to control both the trigger and its tumbler, and means acted upon by the said tumbler and adapted to actuate the sear, substantially as and for the purpose set forth.

4. In an automatic fire-arm of the kind described the combination with the handle and the magazine of said arm, of a sear positioned in said handle behind the said magazine, a trigger pivotally connected to the said handle in front of said magazine, a tumbler provided with a rear heel and pivotally mounted on the said trigger, a V shaped spring pivotally mounted on the pivot of the trigger and bearing with one of its branches against the said handle and adapted to actuate with its other branch the said tumbler and trigger to hold them in their position of rest and means passing by the side of the magazine and adapted to transmit the motion of said trigger and tumbler to the said sear, substantially as and for the purpose set forth.

5. In an automatic fire-arm of the kind described the combination with the handle of the fire-arm and the magazine thereof arranged in the said handle, of a sear positioned in the rear part of said handle behind the said magazine, a trigger pivotally connected to the said handle in front of said magazine, a tumbler pivotally mounted on the rear part of said trigger and provided with a rear heel, a single spring adapted to control both the said trigger and the said tumbler, a flat rod arranged on the side of said magazine and having its both ends bent to right angles, the front end of said rod being adapted to be controlled by the said rear heel of the tumbler of the trigger and the rear end of the said rod being adapted to actuate the said sear, substantially as and for the purpose set forth.

6. In an automatic fire-arm of the kind described the combination with the handle and the magazine of the said fire-arm of a sear pivotally mounted in the said handle behind the said magazine, a safety lever pivotally mounted in the said handle at the rear of said magazine, a magazine stop pivotally mounted in the rear part of said handle behind the said magazine and a single flat spring adapted to control said sear, safety lever and magazine stop, substantially as and for the purpose set forth.

7. In an automatic fire-arm of the kind described the combination with the handle of the fire-arm and the magazine arranged in the said handle, of a sear pivotally mounted in the upper part of said handle behind the said magazine, a rear safety nose on the said sear, a safety lever pivotally mounted in the said rear part of the handle behind the said magazine so as to project from the said handle, this lever being adapted to be actuated by the pressure of the hand grasping the handle of the fire-arm and to control the said safety nose of the sear, a magazine stop pivotally mounted in the lower part of the said rear part of the handle behind the said magazine and a single rectangularly shaped flat spring adapted to control the said sear, safety lever and magazine stop, substantially as and for the purpose set forth.

8. In an automatic fire-arm of the kind described the combination with the handle of the fire-arm and the magazine arranged in the said handle, of a sear pivotally mounted in the upper part of said handle behind the said magazine, a rear safety nose on the said sear, a two armed safety lever pivotally mounted in the middle part of said handle behind the said magazine, this lever having two arms the upper one of which is adapted to coöperate with the rear safety nose of the said sear so as to lock the latter or to free it, while the lower arm of the said safety lever slightly projects beyond the rear edge of said handle so as to be acted upon by the hand grasping the said handle, a crescent shaped locking member pivotally mounted in the said handle under the lower end of said safety lever, this locking member being adapted to be acted upon from the outside by hand so as to lock the said safety lever in its locking position or to leave it free to move, a magazine stop pivotally mounted in the lower part of said handle behind the said magazine and rectangularly shaped straight, flat spring mounted in the said handle behind the said magazine, this flat spring being adapted to control with its lower end the said magazine stop, with its upper end the said sear and with its middle part the said safety lever, substantially as and for the purpose set forth.

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

THOMAS MARTIN.

Witnesses:

ROYON ANTOINE,

GASSABLIERE JEAN MARKS.