

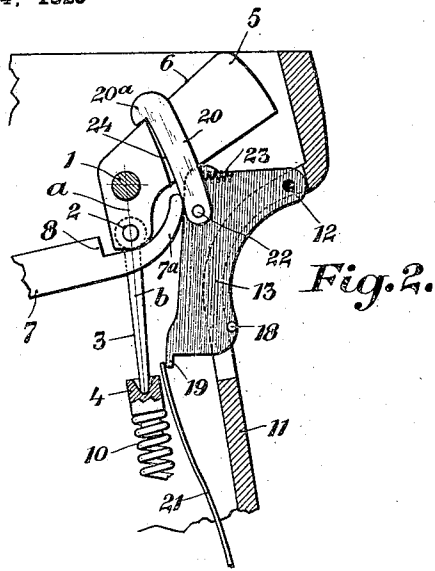
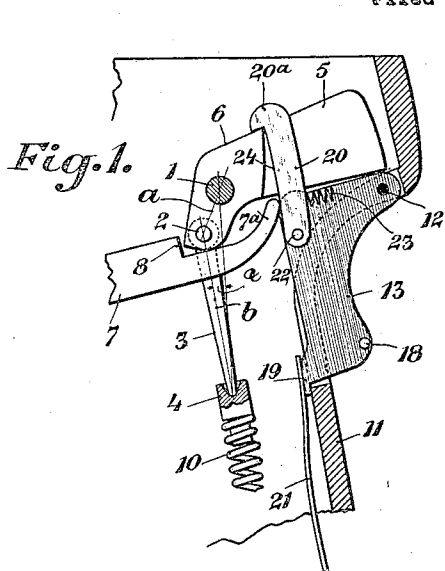
Aug. 5, 1924.

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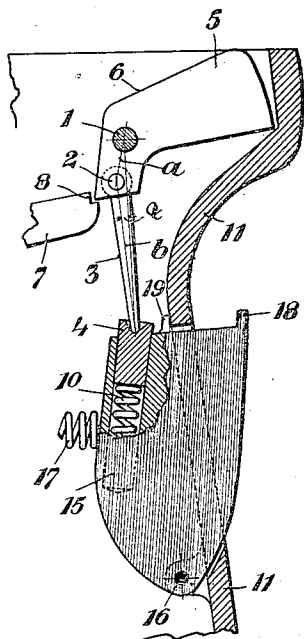
G. WALTHER

AUTOMATIC PISTOL WITH COCK LOCK

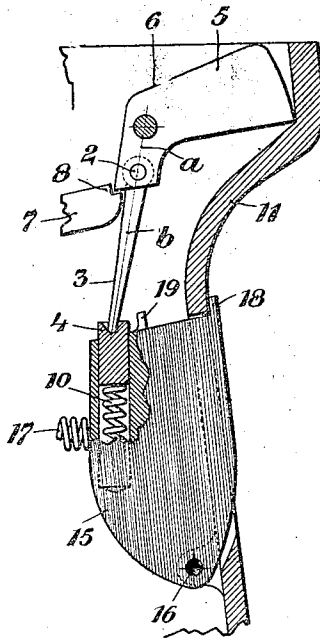
Filed Aug. 4, 1923



*Fig. 3.*



*Fig. 4.*



Inventor:  
Gery Walther  
By *[Signature]*  
attorney

# UNITED STATES PATENT OFFICE.

GEORG WALTHER, OF ZELLA-MEHLIS, GERMANY.

AUTOMATIC PISTOL WITH COCK LOCK.

Application filed August 4, 1923. Serial No. 655,787.

*To all whom it may concern:*

Be it known that I, GEORG WALTHER, a citizen of the German Reich, residing at Zella-Mehlis I, Germany, have invented certain new and useful Improvements in Automatic Pistols with Cock Locks (for which I have filed application for patent in Germany on the 27th March, 1923), of which the following is a specification.

Self-loading pistols, in which the striker is made ready by the breech block which is driven back by the recoil possess the inconvenience that the lock is thereby brought into the make-ready position. If the pistol is not locked by hand it may easily happen that, owing to any conditions for instance by a push exerted on the trigger, a shot is fired wherefrom accidents might result.

It has therefore been already proposed to fit a self-loading pistol with a cock-lock which is arranged so that the cock, at the first pulling back of the breech block by hand for the insertion of the first cartridge, is not made ready but returns to the initial position, when the breech block is advanced again, so that the cock does not act upon the lock.

This arrangement ensures the safety of the pistol however only at the first pulling back of the breech slide or breech block by hand for the insertion of the first cartridge, the cock being made ready at once if the breech block is moved back by the action of the recoil so that the pistol is in this case always unlocked and can be made safe only with the aid of the well known hand-operated stop.

The automatic pistol with cock-lock according to the present invention, is characterized in that the cock, which by the driving back of the breech block has been made ready, is moved out of this position by a movable element so that the main spring acting upon said cock pushes the same in a direction opposite to the direction in which the percussion acts. The automatic control of the position of the cock by the movable element can be suppressed merely by an outside action for instance by gripping the automatic pistol with the hand. If the butt of the pistol is gripped with the hand the cock and the main spring are brought from the slacking position into the dead-point position so that the pulling of the cock may be effected by the operation of the trigger.

In one form of construction of the auto-

matic pistol a lever pivotally mounted in the handle and pushed outward by the action of a spring serves as movable element controlling the position of the cock, said lever operating a toggle lever controlled by a spring so that this toggle lever brings the cock from the ready position or from the dead-point position into the slacking position if said lever is left to the action of the spring.

The main spring is connected with the cock by means which act like a toggle lever so that these means, stretched in the one direction, maintain the cock in the slacking position, said cock being brought into the dead-point position or beyond the same only if the lever is operated by hand so that at the pulling of the trigger the cock is thrown forward through the intermediary of the main spring.

The toggle-lever action of the main spring upon the cock is produced by a support which intercepts the pressure of the main spring, the fulcrum of said support on the cock being eccentrically situated with regard to the fulcrum of the cock.

Numerous other forms of execution of the invention might be imagined.

Two embodiments of the invention are shown by way of example on the accompanying drawing wherein:

Figs. 1 and 2 show the preferred form of construction,

Figs. 3 and 4 showing the second form of construction.

The Figures 1 and 3 show the cock in the slacking position and Figures 2 and 4 show the same in the ready position. The cock 5 is mounted in the butt 11 so that it can pivot around bolt 1. The cock 5 has a downwardly directed extension in which the pivot pin 2 of the spring support 3 is rotatably mounted. This support 3 engages with the bearing 4 of the main spring 10. 7 is the trigger with shoulder 8. The striking face of the cock is designated by 6.

The cock 5 is brought into the ready- or dead-point position by the breech block being driven back. In order to bring the cock into the slacking position a movable element is provided which acts upon the cock. According to Figs. 1 and 2 this element consists of a lever 13 pivotally mounted in the handle 11 by means of a pivot pin 12 and controlled by a blade spring 21 so that said lever has the tendency to project from the

handle, the movement of the lever being however limited by the stops 18, 19. A hook-shaped lever 20 is pivotally mounted at 22 on the lever 13 so that its nose 20<sup>a</sup> is adapted to grip over the cock 5 said lever being acted upon by a spring 23.

The operation is as follows:—

If by the driving back of the breach block the cock is pushed back to the ready- or dead-point position and if the pistol is still held by the hand the lever 13 is pressed into the handle and the cock 5 is held by the nose 20<sup>a</sup> of the hooked lever 20. If the pistol is now put aside so that the pressure of the hand on the lever 13 ceases, this lever adopts the position shown in Fig. 1 whereby the lever 13 pulls the hook-shaped lever 20 downward so that the cock is slightly pulled back. The supporting points 1, 2 and 4 are in this case situated as shown in Fig. 1, so that a toggle lever is formed by the parts *a*, *b* (extension of the cock and main spring support) the one lever *b* of which encloses an angle  $\alpha$  with the line of connection of the cock (fulcrum 1) and supporting point 4.

The pull of the hook-shaped lever 20 has the effect that the cock is pulled into this inoperative position and securely held in the same.

If the pistol is again gripped with the hand and the lever 13 pressed into the handle (Fig. 2) the fulcrum 22 of lever 20 moves upward. If the trigger 7 is pulled, the cock is acted upon by the notch of the trigger so that the toggle lever *a*, *b* is stretched and if the trigger is pulled again so that its nose 7<sup>a</sup> presses upon the face 24 of lever 20 the lever is pushed away from the cock and the angle  $\alpha$  of the lever arms *a*, *b* is situated on the other side of the connecting line between fulcrum of the cock and main spring so that the cock is released.

In the form of construction shown in Figs. 3 and 4 the main spring 10 is oscillable, being accommodated in a casing 15 which is oscillably mounted in the handle 11 on the pivot bolt 16. If the upper end of this casing 15 is pushed by the action of a spring 17 so that it projects from the handle the toggle lever *a*, *b* forms again the angle  $\alpha$  so that the main spring 10 has the tendency to hold the slack cock in this inoperative position, but if the casing 15 is pressed into the handle the support 3 of the main spring alters its position as the spring 10 has oscillated around the pivot 16 so that the angle  $\alpha$ , formed by the support 3 and the connecting line 1, 4 is situated on the other side and the cock adopts consequently the ready position from which it is released by the operation of the trigger. Stops 18, 19 are also provided in order to limit the inward and outward movement of the casing 15 in the handle 11.

I claim:—

1. A self-loading pistol with hammer-lock comprising in combination a main spring, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a movable grip controlled element for automatically moving said hammer rearwardly upon release of the grip, and means whereby said main spring tends to oscillate said hammer in a direction opposite to the first direction.

2. A self-loading pistol with hammer-lock comprising in combination a main spring, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a movable grip controlled element for automatically moving said hammer rearwardly upon release of the grip, means whereby said main spring tends to oscillate said hammer in a direction opposite to the first direction, and an element for suppressing the action of said grip controlled element on said hammer by an action exerted from the outside.

3. A self-loading pistol with hammer-lock comprising in combination a main spring, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a movable grip controlled element for automatically moving said hammer rearwardly upon release of the grip, means whereby said main spring tends to oscillate said hammer in a direction opposite to the first direction, and an element for suppressing the action of said grip controlled element on said hammer if the arm is being gripped with the hand.

4. A self-loading pistol with hammer-lock comprising in combination a main spring, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a main spring acting upon said hammer, a trigger for releasing said hammer for firing, a movable grip controlled element for automatically moving said hammer rearwardly upon release of the grip, means whereby said main spring tends to oscillate said hammer in a direction opposite to the first direction, an element adapted to be oscillated if the pistol is gripped with the hand designed to bring the hammer and the main spring from the idle position into a dead-point position so that the hammer may be operated by the trigger.

5. A self-loading pistol with hammer-lock comprising in combination, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a main spring acting upon said

hammer, a trigger for releasing said hammer cock for firing, a lever pivotally mounted in the handle of the pistol, a blade spring acting upon the lower inner end of said lever so that this lower end projects from the surface of the handle, a spring-controlled locking lever pivotally mounted on the upper inner end of said lever in the handle, a nose at the upper end of said locking lever adapted to grip over said hammer so that said hammer is pulled from the ready- or dead-point position into the safety position if said lever of the handle is left to the action of its blade spring.

6. A self-loading pistol with hammer-lock comprising in combination, a breech block adapted to be driven back by the recoil, a hammer adapted to be brought into the ready position by the backward movement of said breech block, a main spring acting upon said hammer, a trigger for releasing said hammer for firing, a lever pivotally mounted in the handle of the pistol, a blade spring acting upon the lower inner end of said lever so that this lower end projects from the surface of the handle, a spring-controlled locking lever pivotally mounted on the upper inner end of said lever in the handle, a nose at the upper end of said locking lever adapted to grip over said hammer so that said hammer is pulled from the ready- or dead-point position into the safety position if said lever of the handle is left to the action of the blade spring, and means for connecting said hammer with said main spring, said means acting like a toggle lever so that if stretched in one direction it holds the hammer in the safety position but moves the same into the dead-point position if said lever in the handle is being pressed

into the handle by the hand which grips the pistol.

7. A self-loading pistol with hammer-lock comprising in combination, a breech block adapted to be driven back by the recoil, a cock adapted to be brought into the ready position by the backward movement of said breech block, a main spring acting upon said cock, a trigger for releasing said cock for firing, a lever pivotally mounted in the handle of the pistol, a blade spring acting upon the lower inner end of said lever so that this lower end projects from the surface of the handle, a spring-controlled locking lever pivotally mounted on the upper inner end of said lever in the handle, a nose at the upper end of said locking lever adapted to grip over said cock so that said cock is pulled from the ready- position or dead-point position into the safety position if said lever of the handle is left to the action of the blade spring, and a downwardly projecting extension of said cock, a support between said main spring and said cock pivotally connected with said extension of the cock eccentrically to the fulcrum of the cock and forming together with said extension a kind of toggle lever so that if stretched in one direction this toggle lever connection holds the cock in the safety position but moves the same into the dead-point position if said lever in the handle is being pressed into the handle by the hand which grips the pistol.

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

GEORG WALTHER.

Witnesses:

GERTRUDE DUCUE,  
CLARE SCHMITZ.