No. 778,501. PATENTED DEC. 27, 1904.

O. F. MOSSBERG.

SELF COCKING REVOLVER.

APPLICATION FILED JAN. 14, 1903.

Fig. 1.

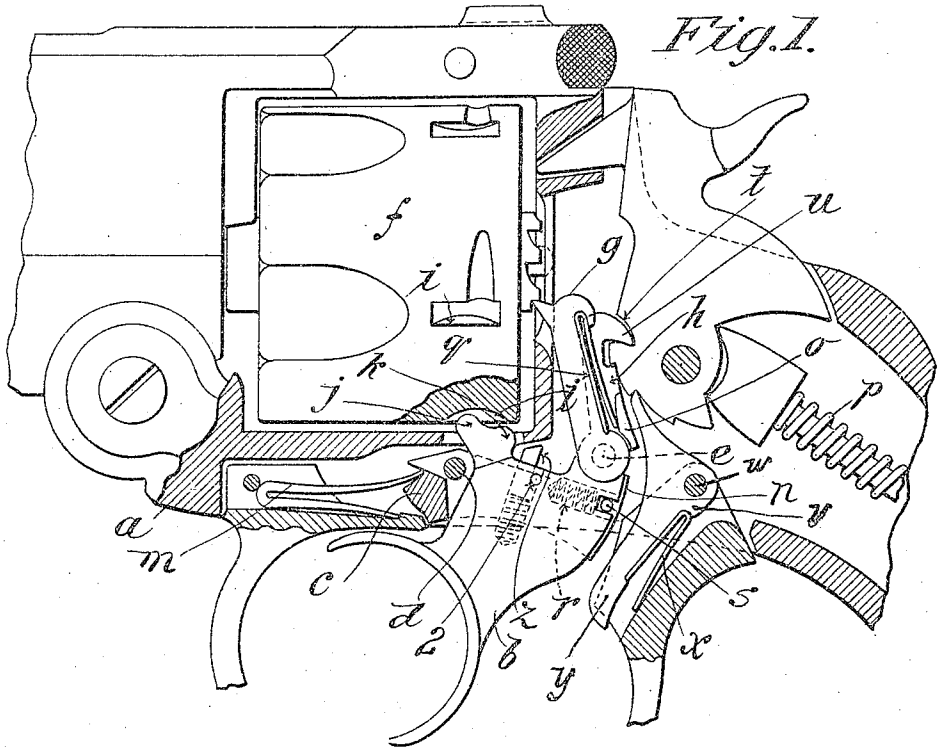


Fig. 2.

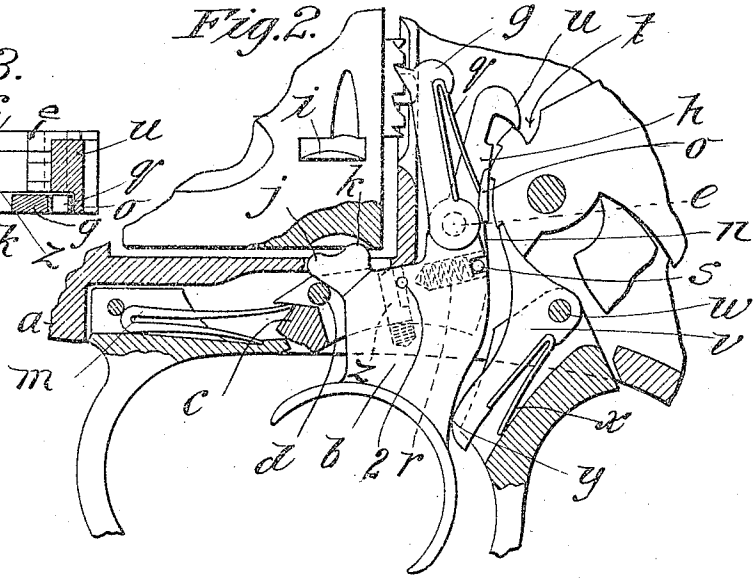


Fig. 3.

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No. 778,501. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

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SELF-COCKING REVOLVER.

SPECIFICATION forming part of Letters Patent No. 778,501, dated December 27, 1904.

Application filed January 14, 1903. Serial No. 139,049.

To all whom it may concern:

Be it known that I, OSCAR F. MOSSBERG, a citizen of the United States of America, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Self-Cocking Revolvers, of which the following is a specification.

This invention relates to revolvers, and especially to self-cocking revolvers having an outside hammer, as distinguished from that type known as "hammerless," the object of the invention being to provide means for locking the cylinder of the revolver not only at the moment of firing, which is common to all revolvers, but also to lock the cylinder against rotation at all times, except for the time required to effect the partial rotation thereof to bring one of its chambers into line with the barrel—that is to say, the cylinder is normally locked, and an empty chamber may thus be held fixedly in front of the hammer, if desired, without fear that the cylinder may be rotated when the revolver is not in use, whereby a loaded chamber might be unintentionally brought into position to be fired, this locking of the cylinder being thus effected whether the hammer is cocked by the thumb or by a pull on the trigger.

In the drawings forming part of this application, Figure 1 is a side elevation of a part of a revolver, partly in section, embodying my invention. Fig. 2 is a similar view showing parts as they appear when the hammer has been cocked by hand. Fig. 3 is a top plan view of the trigger-yoke in which the trigger is hung, showing also in section the hand and the cocking-dog carried on the trigger.

Referring to the drawings, *a* indicates the frame of the revolver; *b*, the trigger; *c*, the trigger-yoke pivoted in the frame at *d*, the trigger being pivoted in the yoke at *e*. The cylinder *f* is supported in the revolver in the usual manner and is rotated by the hand *g*, which, together with the cocking-dog *h*, is pivoted at *e*. Stop-notches *i* are milled in the exterior surface of the cylinder in the usual manner to receive the cylinder-locking device, which is formed on the upper forward end of the trigger and which consists of an upwardly-extending projection having two rounded bosses thereon, (lettered, respectively, *j* and *k*,) the rearmost one being indicated by *k*. Both of these bosses operate to lock the cylinder at different times, the boss *j* when the revolver is not in use—that is, when the parts are in the position shown in Fig. 1—and the boss *k* at the moment of firing or when the parts are in position to effect the firing of the revolver, as shown in Fig. 2, both bosses being for a moment moved out of the path of rotation of the cylinder either by the self-cocking-movement, as when the trigger is pulled, or by the movement of the parts when the hammer is cocked by hand. This movement of the parts to effect the locking of the cylinder in different positions is effected as follows: The trigger-yoke *c* is hung on the pin *d*, which is located transversely in the frame of the revolver, and a spring *m* is applied to the trigger-yoke to press the rear free end thereof downward. Reference to the drawings, and more particularly to Fig. 3, will show that the trigger-yoke *c* is milled out in a vertical plane to receive the trigger between its side walls, the trigger being pivotally supported in said yoke by the pin *e* passing transversely through these walls, the hand *g* and the cocking-dog *h* being also supported on the same pin, the dog being mortised into the trigger and the pivotal end of the hand being let into the wall of the trigger-yoke, all as shown in Fig. 3. At a point near the pin *e* two shoulders *n* are formed on the ends of the side walls of the yoke *c*, and a projection *o* is formed on the cocking-lever to come to a bearing on these shoulders when the trigger approaches the limit of its rearward movement, whereby the continued movement of the trigger will force the end of the cocking-dog out of its engagement with the hammer, and thereby permit the latter to be thrown forward by its spring *p*. A spring *q*, located between the hand and the projection *o* on the cocking-dog, holds these parts, respectively, in contact with the ratchet on the cylinder and the forward

edge of the hammer. At some point on that portion of the rear edge of the trigger which lies between the walls of the yoke *c* a spiral spring *r* is located in a cavity in the trigger, the outer end of which bears on a pin *s*, located transversely of the yoke, the trigger being slotted where the pin passes through to permit it to play freely on the pin *e*. The pin *s* therefore acts as an abutment for the spring *r*, whose expansive effect operates to throw the forward end of the trigger upward, whereby the boss *j* may be thrown into the path of rotation of the cylinder in position to engage one of the stop-notches *i*, and thus stop it at the proper time.

The operation of the parts, in so far as they relate to the actuation of the trigger to lock the cylinder either when the arm is not in use or at the moment of firing, differs somewhat, according as the hammer is cocked by the pull on the trigger or as the hammer is cocked by the thumb, and the operation of the parts during the self-cocking operation will first be described.

It will be observed that when the boss *j* is in one of the notches *i*, the boss *k* is depressed far enough to clear the cylinder, as shown in Fig. 1. If now the trigger be pulled, the first movement thereof will be to withdraw the boss *j* from the notch in the cylinder, the trigger swinging on the pin *e* without imparting movement to the trigger-yoke. The limit of this independent movement of the trigger in its yoke is reached when its forward end comes against the pin *d*. During this initial movement the spring *r* is compressed. The contact of the forward end of the trigger with the pin *d* provides a fulcrum for the trigger, whereby a continued pull thereon causes the yoke to swing on the pin *d*, whereby its free end is raised, this movement causing the hand to rotate the cylinder and the cocking-dog *h*, by the engagement thereof with a shoulder on the hammer, to cock the latter, all of which movement takes place against the resistance of the spring *m*. At the time of this movement of the hand *g* and the dog *h* both of the bosses *j* and *k* have been swung down out of the path of movement of the cylinder; but by the time the continued rearward movement of the trigger has raised the hand far enough to bring a chamber of the cylinder in line with the barrel the boss *k* will have been raised by said trigger movement far enough to enter one of the notches *i*, which at that time will be in position to receive it, and thus lock the cylinder in firing position, said boss *k* reaching the height of its movement at the moment the cocking-dog *h* becomes disengaged from the hammer. It is thus seen that the boss *k* will be positively held in engagement with the notch *i* at the time of firing. When the trigger is released after firing, the spring *m* acts to throw the rear end of the yoke *c* downward and the trigger forward, and at the same time the spring *r* will swing the trigger on the pin *e*, thus throwing the boss *j* thereon up into the notch *i* in the cylinder from which the boss *k* has just previously been withdrawn by the downward movement of the trigger-yoke.

The operation of the parts when the hammer is cocked by the thumb is as follows: In the forward edge of the hammer is cut a deep notch *t*, the upper end of the cocking-dog *h* having formed thereon a hook *u*, which is located in this notch *t* whenever the hammer is down. When the arm is cocked by the use of the trigger, it will be seen that the disengagement of the dog from the hammer will throw this hooked end *u* almost out of the notch *t*, (see Fig. 2,) and even if the hammer in its fall should strike the dog the latter would simply swing on its pivot to let the hammer pass, and to that end the upper edge of the hook *u* is rounded. On the frame a sear *v* is hung on a pin *w*, the sear being pressed against the lower edge of the hammer by a suitable spring *x*, the lower end of the sear lying in position to be struck by the rear edge of the trigger, as shown at *y*, Fig. 2. Assuming the parts to be in the position shown in Fig. 1, the hammer is drawn back by the thumb, the engagement thereof with the hook *u* on the cocking-dog swinging the trigger and the trigger-yoke upward, the hand rotating the cylinder in the same way as when the trigger is pulled. It will be observed, however, that this movement of the parts does not impart to the trigger any swinging movement on the pin *e* independently of the yoke, whereby the projection *j* may be disengaged from the stop notch *i*. To effect this necessary movement of the trigger to release the cylinder, there is mounted in the upper side thereof a plunger *z*, which is spring-pressed upwardly, the upper end thereof when the parts are in position shown in Fig. 1 just clearing the frame, whereby said plunger is totally inoperative, it being limited in its upward movement by a transverse pin 2 engaging a shoulder thereon. It is therefore obvious that when the hammer is in position to be cocked either by the thumb or by the action of the trigger the spring *r* controls the trigger entirely in its relation to the stop-notches in the cylinder, but as soon as the hammer is drawn back by the thumb the yoke *c* and the trigger swinging upwardly will bring the plunger *z* at once against the frame, and thereby depress the boss *j*, the trigger thus having the same swinging movement on the pin *e* independently of the yoke *c* as when the trigger is pulled to cock the hammer. When the hammer has been raised far enough to cause the disengagement of the cocking-dog therefrom, the sear *v* will snap into a notch on the hammer, as shown in Fig. 2, holding the latter in cocked position, and the limit of the backward swing of the hammer brings the

rear edge of the trigger into close proximity to the lower end of the sear, as at the point *y*, and also swings the trigger far enough to cause the projection *k* to engage a stop-notch in the cylinder, and a pull on the trigger will operate the sear to release the hammer. While the parts are in the position shown in Fig. 2 it will be seen that the engagement of the extreme end of the hook *u* with the lower edge of the notch *t* in the hammer prevents the trigger from being swung downwardly and forwardly again by the spring *m* until it has been pulled far enough to disengage the sear and allow the hammer to fall.

From the foregoing description it is clear that by means of the invention described herein the cylinder may be securely locked against rotation when the arm is not in use and also securely locked at the moment of firing, the parts operating equally well and surely whether the arm be used as self-cocking or whether the hammer be cocked by the thumb of the user.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination in a revolver, of a cylinder having stop-notches therein, a hammer, a trigger-yoke in which the trigger is supported, said yoke being pivotally hung in the frame by one end, the trigger being hung in the free end of the yoke; a cylinder-locking device connected with the trigger adapted to engage a stop-notch in the cylinder, a spring to normally hold said cylinder-locking device in engagement with a notch in the cylinder, and means to effect the disengagement of said device from said notch when the hammer is raised by a pull on the trigger, or on the hammer.

2. The combination in a revolver, of a cylinder having stop-notches therein, a hammer, a trigger, and a cylinder-locking device on the trigger, a spring to hold said locking device in normal engagement with the cylinder, a spring-supported plunger on the trigger normally inoperative, the parts being arranged to effect the disengagement of the locking device from the cylinder at the beginning of the cocking movement of the hammer, by the contact of said plunger with a suitable abutment.

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