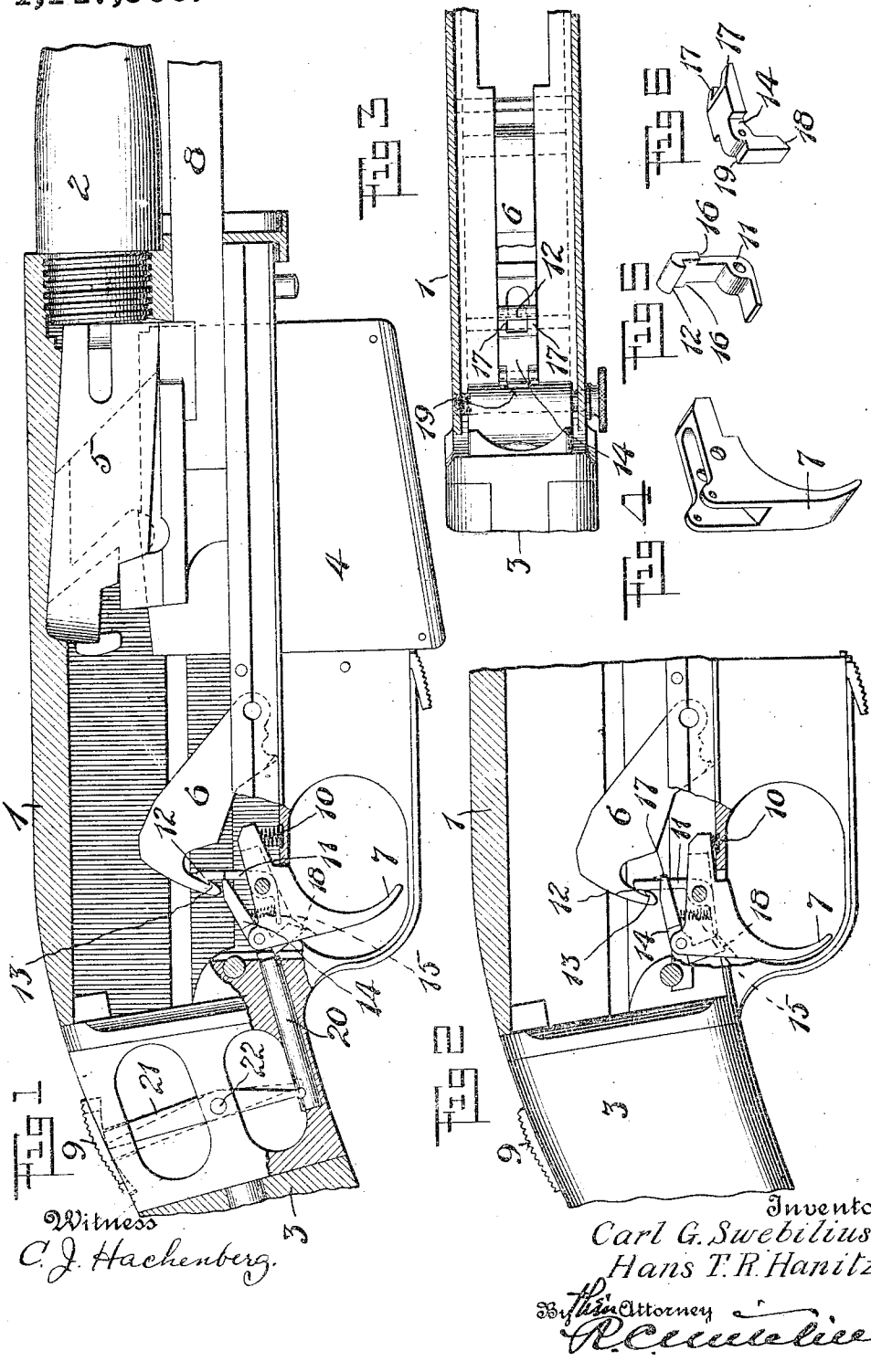
C. G. SWEBILIUS & H. T. R. HANITZ.

FIREARM.

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1,147,906.

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FIREARM.

1,147,906. Specification of Letters Patent. Patented July 27, 1915.

Application filed April 2, 1915. Serial No. 13,383.

To all whom it may concern:

Be it known that we, CARL G. SWEBILIUS and HANS T. R. HANITZ, a citizen of the United States and a subject of the Emperor of Germany, respectively, residing at New Haven, New Haven county, State of Connecticut, have invented certain new and useful Improvements in Firearms, of which the following is a full, clear, and exact description.

Our invention relates to improvements in firearms, the same being particularly useful in connection with automatic firearms, for example of the type set forth in our companion application Serial No. 18,682, filed April 2nd, 1915.

The main object of the present invention is to provide a simple and efficient safety mechanism for the trigger to prevent the accidental discharge of the gun.

In the drawings,—Figure 1 is a side elevation partly in longitudinal section of the breech portion of a firearm of the type to which our invention relates. Fig. 2 is a similar view, somewhat abbreviated, showing certain parts in a different position. Fig. 3 is a plan view of certain details. Figs. 4, 5 and 6 are perspective views of detached details.

1 represents the receiver portion of a gun, 2 the barrel portion, 3 the stock portion, 4 the magazine, 5 the breech-block, 6 the hammer, 7 the trigger finger-piece, 8 the action-rod and 9 the safety lock slide. The breech-block 5 in Fig. 1 is shown in its locked-up position, the hammer being cocked and the trigger mechanism all being in the proper position for firing. The trigger mechanism is of novel construction and includes certain parts designed to guarantee the safe action thereof. Normally the finger-piece 7 is pressed into the position shown in Fig. 1 by a spring 10.

11 is a hammer-engaging piece preferably in the form of a bell-crank lever pivoted to the upper part of the finger-piece and provided with a hooked end 12 which is designed to engage a hook 13 at the rear outer end of the hammer 6 when the hammer has been cocked. The hammer is cocked by the backward movement of the breech-block 5 which is effected through the action-rod 8. The particular breech-mechanism and the method of locking the same is immaterial so far as the present invention is concerned.

14 is an uncoupling member for the hammer-engaging piece 11. The member 14 is preferably pivotally mounted on the finger-piece to the rear of the pivotal mounting therefor.

15 is a spring arranged between the hammer-engaging piece 11 and the member 14 which spring tends to press the upper part of the latter upwardly and to normally press the hammer-engaging piece in a direction to engage the hammer. The shank of the hooked end of the piece 11 is provided with one or more shoulders 16—16 while the upper part of the uncoupling member 14 is provided with the one or more forwardly projecting lugs 17—17 which are arranged to project underneath the shoulders 16—16 at one time, as shown in Fig. 2, and which lugs may rise up back of the shoulders 16—16 at another time, as shown in Fig. 1.

18 (Fig. 6) constitutes a stop on the member 14 which is designed to strike against a part of the finger-piece 7 and limit the upward swinging movement of the lugs 17—17.

19 is a locking shoulder on the member 14 which is designed to be engaged by a manually operable bolt 20 operated by the slide 9 through the medium of the lever 21 pivoted to the frame at 22.

In the rapid operation of the gun it may be that the operator might unintentionally hold back the finger-piece 7 after the gun has been fired in which event the construction is such that when the hammer 6 is cocked it will be caught and held (see Fig. 2), but cannot be released or uncoupled until the finger-piece is first released and then again pulled.

The operation will be seen to be as follows: Assuming the finger-piece is pulled back and held in the position shown in Fig. 2 and assuming that the hammer 6 has been cocked, it is always bound to be engaged by the hook 12, as shown in said figure, but cannot descend until the trigger is again released and allowed to assume approximately the position shown in Fig. 1 which movement of the trigger will draw back the uncoupling member 14 which will cause the lugs 17—17 to move back from the position shown in Fig. 2, under the shoulders 16—16 until they are free therefrom, so that the spring 15 will cause the upper end of the

lever 14 to swing upwardly whereby the lugs 17—17 engage the piece 11 at its rear side and above the shoulders 16—16, whereupon when the finger-piece 7 is again pulled, the hook 12 will be cast off or uncoupled from the hook 13 of the hammer allowing the latter to descend. By this very simple and effective arrangement of parts the accidental or unintentional discharge of the gun is prevented.

If at any time it is desired to positively lock the finger-piece 7 against movement, this is accomplished by the safety slide 9, which may be moved from the solid line position shown in Fig. 1 to the dotted line position, which movement will project the bolt 20 forwardly so that its nose will engage over the shoulder 19 and will serve as a blocking device to positively prevent the release of the hammer.

The spring 15 in the particular form shown not only serves to press the upper part of the member 14 upwardly, but also yieldingly presses the hook end 12 of the piece 11 into a position to catch the hammer-hook 13. This safety mechanism is of particular value when employed in connection with automatic repeating firearms wherein the cocking action is very rapid and wherein the gun might be accidentally discharged by the failure of the operator to properly operate the trigger. By the employment of the means herein described this danger is avoided.

We appreciate that various modifications may be made without departing from the spirit and scope of our invention and have therefore contented ourselves with showing our invention only in its preferred form.

What we claim is:

1. In a repeating firearm, a pivoted hammer, movable breech mechanism arranged to cock said hammer, a hook adjacent the outer end of said hammer, trigger mechanism including a pivoted finger-piece, an upwardly projecting movable member yieldingly held in position to normally engage the hook on said hammer when the latter is cocked, an uncoupling member carried by the trigger and arranged when in one position to be engaged with said hammer engaging piece whereby the same may be uncoupled from the hammer when the finger-piece is pulled, said uncoupling member being disconnected from said hammer engaging piece when said hammer is recocked and held in said disconnected position until said finger-piece is released.

2. In a repeating firearm, a pivoted hammer, breech mechanism arranged to cock said hammer, trigger mechanism including a pivoted finger-piece, a yielding upwardly projecting hammer engaging piece operating to engage and hold said hammer when cocked, a yielding member carried by the trigger and arranged to be operatively connected with said hammer engaging piece by the forward movement of said finger piece, and to be disconnected from said hammer engaging piece by the cocking movement of said hammer.

3. In a repeating firearm, a pivoted hammer, movable breech mechanism arranged to cock said hammer, a trigger mechanism including a pivoted finger piece, a hammer engaging piece pivotally mounted concentrically with the finger-piece and projecting upwardly therefrom and arranged to engage and hold said hammer when cocked, an uncoupling member pivoted on the rear of the finger-piece, and having a forwardly projecting arm arranged to be operatively connected with and disconnected from said hammer engaging piece and having a depending arm arranged to engage said finger-piece and limit the swinging movement of said forwardly extending arm, and a spring between the hammer engaging piece and the upcoupling member tending to normally move said parts into position whereby a pull on the finger-piece will uncouple the hammer engaging piece from the hammer.

4. In a repeating firearm, a pivoted hammer, movable breech mechanism arranged to cock said hammer, a trigger mechanism including a pivoted finger-piece, a hammer engaging piece pivotally mounted concentrically with the finger-piece and projecting upwardly therefrom and arranged to engage and hold said hammer when cocked, an uncoupling member pivoted on the rear of the finger-piece, and having a forwardly projecting arm arranged to be operatively connected with and disconnected from said hammer engaging piece and having a depending arm arranged to engage said finger-piece and limit the swinging movement of said forwardly extending arm, and a spring between the hammer engaging piece and the uncoupling member tending to normally move said parts into position whereby a pull on the finger-piece will uncouple the hammer engaging piece from the hammer, and a bolt arranged to operatively engage said uncoupling member to hold said trigger against movement.

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