

March 25, 1924:

1,487,722

A. COENDERS

FIREARM

Filed Aug. 29, 1921

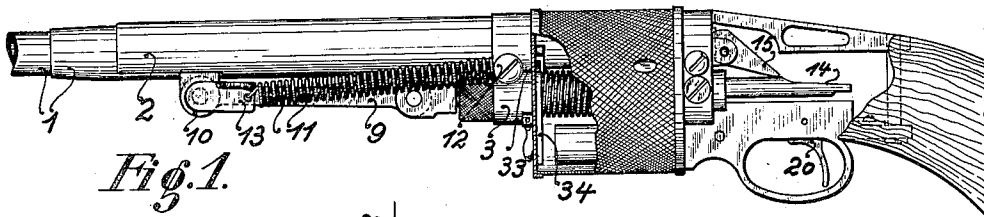


Fig. 1.

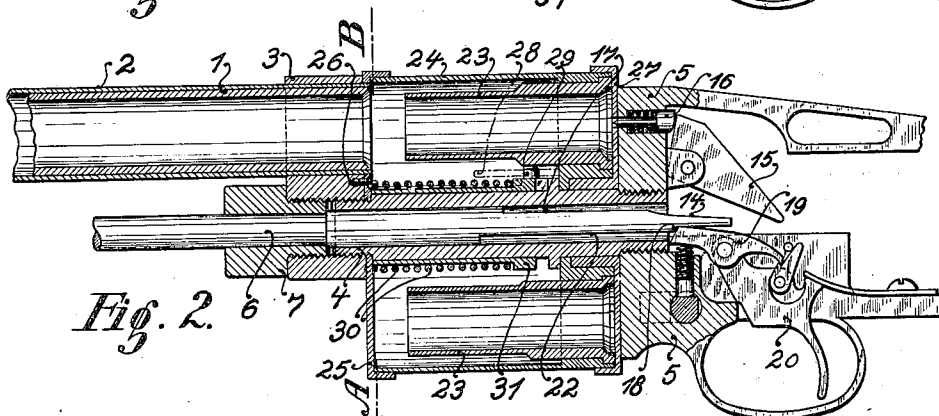


Fig. 2.

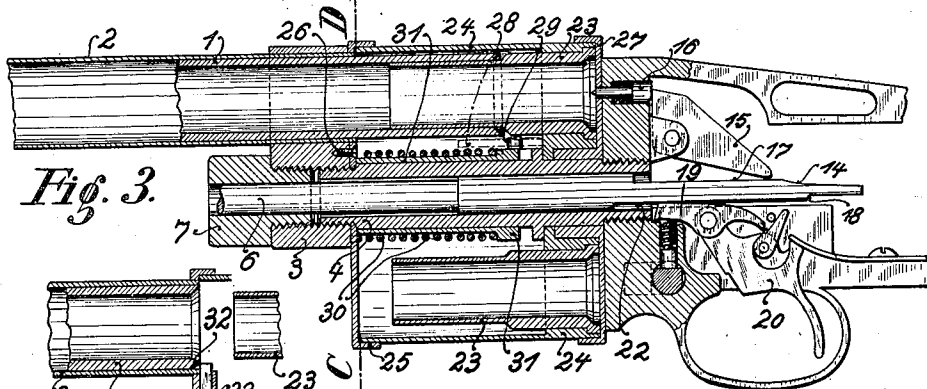


Fig. 3.

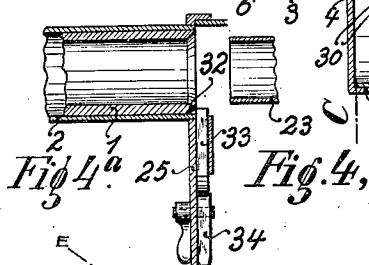


Fig. 4.

Fig. 4.

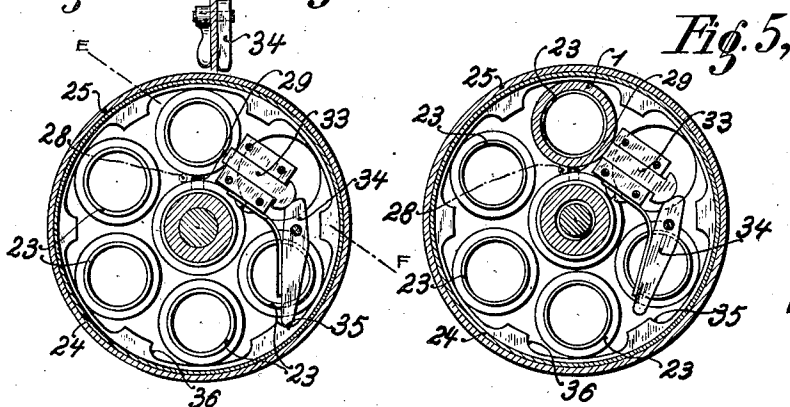


Fig. 5.

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UNITED STATES PATENT OFFICE.

AUGUST COENDERS, OF DUSSELDORF, GERMANY.

FIREARM.

Application filed August 29, 1921. Serial No. 496,790.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, AUGUST COENDERS, a citizen of the German Republic, and residing at Dusseldorf, in the German Republic, have invented certain new and useful Improvements in Firearms (for which I have filed application in Germany August 5, 1920), of which the following is a specification.

The present invention has reference to a recoil fire arm, and relates more particularly to a fire arm in which the barrel is normally held in the forward position relative to the grip stock, and upon the trigger being pulled recedes under spring action, exploding the cartridge just prior to reaching its innermost end position, so that its living force is first destroyed by the action of the powder gases and the friction of the projectile before the barrel is driven forward again by the powder gases and the projectile friction against the spring action. The cartridges are held in the bottom of a positively stepped revoluble drum in readily exchangeable sockets, which are strong enough to prevent the cartridge shells from bulging or bursting.

My invention will best be understood when described in connection with the accompanying drawing, in which Fig. 1 is a fragmentary side elevation of the improved fire arm of my invention; Fig. 2 is a fragmentary longitudinal section, on a somewhat enlarged scale, with the barrel in forward, inoperative position; Fig. 3 is a similar section, showing the position of the parts in which explosion takes place; Fig. 4 is a cross-section on line A—B of Fig. 2, with the cartridge drum in locked position; Fig. 4^a is a section on line E—F of Fig. 4; and Fig. 5 is a section on line C—D of Fig. 3, with the cartridge drum freed to be stepped ahead.

The barrel 1 is slidably arranged within the sleeve 2 fixed in the fitting 3 into which screws the sleeve 4, to which in turn are secured the metal fittings 5 of the grip stock. Within the sleeve 4 is guided the action slide 6, whose forward displacement is limited

by the stop member 7 threading into the fitting 3. To the forward end of the slide 6 is pivoted a lever 9 the front end of which is pivoted to a lug 10 extending from the barrel 1 through a slot in the sleeve 2, as shown in Fig. 1. A draw spring 11 is secured at its rear end to the fitting 3 by means of the screw 12 and with its front end to the member 13 secured to the lug 10, which spring has the tendency to constantly pull the barrel back toward the grip stock. The slide 6 is provided on its upper face at the rear end with an inclined surface 14 with which the cock 15 is intended to cooperate on recession of the action slide for causing the striking pin 16 to forcibly enter the percussion cap of the cartridge. After the explosion the tail end of the cock 15 coacts with the flattened surface 17 of the slide (Fig. 3). On the underside of the slide 6 there is provided a shoulder or stop 18 adapted to coact with the sear 19 (Fig. 2). Upon retraction of the trigger 20 the sear 19 will move downward, which frees the barrel and action slide to be drawn back by the action of spring 11. During the rearward movement of the slide the sear 19 slides along the flattened surface 22 on the underside of the slide.

The cartridges, which are not specially shown here, are inserted into socket members 23 arranged within a revolving drum 24, and can readily be removed with their sockets through an opening in the drum closure 27. The drum revolves about the sleeve 4. A helical spring 30, encircling the sleeve 31 is secured at its one end to the front drum closure 25 and at its other end to the sleeve 31. A pin 29 extending from the sleeve 31 is pressed by spring 30 against the stop 28 of the revolving drum 24, which allows of the drum being rotated backward or "wound up" by hand against the pressure of spring 30, after all cartridges have been exploded. The front drum closure 25 is secured to the fitting 3 by screw 26.

On the barrel 1 receding, its beveled portion 32 (Fig. 4^a) coacts with the suitably mounted slide 33 and forces it aside causing thereby the spring-influenced double-arm

lever 34 to rock about its pivot out of contact with a stop 35, a number of which are provided on the drum interior. The drum can now revolve under the action of spring 30 through a certain angle during the ensuing forward movement of the barrel, whereupon the spring-pressed lever 34 engages behind the next stop 36, so that for each reciprocative movement of the barrel the drum is stepped ahead through the same, predetermined angle for always bringing a fresh cartridge opposite the barrel. After all cartridges have been exploded, the drum is wound-up again by hand and the dead cartridges exchanged for fresh ones.

The operation of the described mechanisms is the following: Normally, the barrel 1 and the slide 6 are in their relative front position, the sear 19 behind the shoulder 18 of the slide (Fig. 2). If now the trigger is pulled, the barrel and the slide are suddenly retracted by the spring 11. The inner barrel extremity moves over the alined cartridge socket 23 and the tail end of the cock 15 rides up the inclined surface 14 of the slide 6 forcing thereby the striking pin 16 into the explosive pellet of the cartridge which causes the latter to explode. After the explosion the barrel still further recedes over the cartridge socket until it is quickly stopped by the projectile friction and the powder gases, and the barrel movement is then reversed until the sear engages behind the slide shoulder 18, when the barrel is locked again in its forward end position of rest.

It depends upon the character of the powder used how far back the barrel will slide over the cartridge socket.

During the rearward movement of the barrel the slide 33 is pushed back by the inner barrel bevel 32, as above described, for temporarily freeing the revolving drum for the purpose of bringing a fresh cartridge into registry with the barrel.

What I claim is:—

1. In a recoil fire arm of the character set forth, in combination with the gun stock including a lock mechanism, a rotatable cartridge holder, a reciprocable barrel adapted to be forced into the one end position for cartridge exploding purposes by mechanical means and into the other, inoperative, end position by the projectile friction and the powder gases therewithin, and means positively controlled by said reciprocable barrel and cooperating with said lock mechanism for retaining said barrel in the inoperative, normal, end position and for cartridge exploding purposes at a predetermined time just prior to said barrel having reached its momentary operative end position.

2. In a recoil fire arm of the character set forth, in combination with a grip stock

including a lock mechanism; a rotatable cartridge drum, a reciprocable barrel normally retained out of cooperation with said cartridge drum by said lock mechanism, means tending to force said barrel into cooperation with said cartridge drum, and means for stepping ahead said cartridge drum to a predetermined extent on each reciprocation of said barrel.

3. In a recoil fire arm of the character set forth, in combination, a grip stock including a lock mechanism comprising a trigger, a sear, a cock, and a firing pin, a rotatable drum, cartridge sockets therein, spring means tending to rotate said drum backwardly, locking means for normally preventing such backward rotation, a reciprocable barrel held normally out of cooperation with said drum by said lock mechanism, means tending to force said barrel into cooperation with said drum, and said locking means adapted to be actuated by said reciprocable barrel for allowing temporary rotation of said drum in forward direction.

4. In a recoil fire arm of the character set forth, in combination with a grip stock including a lock mechanism, a rotatable drum, cartridge sockets therein, a reciprocable barrel adapted to enter said drum and snugly fit over said cartridge sockets, spring means tending to force said barrel into cooperation with said drum for cartridge exploding purposes, and means normally retaining said barrel out of cooperation with said drum, comprising an action slide, a link connection between said barrel and said slide, a shoulder on said slide adapted to coact with said lock mechanism for locking said slide and said barrel in their forward end position, means tending to rotate said drum in one direction, and locking means normally preventing such rotation and operable by said barrel for allowing stepwise rotation of said drum in the opposite direction.

5. In a recoil fire arm of the character set forth, in combination with a grip stock, a lock unit, comprising a trigger, a sear, a cock presenting a tail piece, and a firing pin, a stationary sleeve, a barrel reciprocable within said slide, a beveled portion on the inner barrel edge, means tending to force said barrel in rearward direction, an action slide, a positive connection between said barrel and said slide, means limiting the forward movement of said slide, a shoulder on the underside of the rear extremity of said slide adapted for locking engagement with said trigger sear in the front end position of said slide, an inclined surface on the upper face of the rear extremity of said slide adapted for cooperation with the tail piece of said cock for operating said striking pin upon the barrel and slide nearing

their rear end position, a revolvable drum, cartridge receivers in said drum, means tending to rotate said drum in rearward direction, and means normally preventing
5 such rotation, and such rotation-preventing means releasably operable by said barrel bevel once for each recessive movement of said barrel for the purpose of allowing a

forward rotary step movement of said drum through a predetermined angle.

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

AUGUST COENDERS.

Witnesses:

WILHELM SCHUH,
ERIKA BAUGERT.

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