L. A. WEED.

AUTOMATICALLY RELEASABLE MAGAZINE FOR MACHINE RIFLES.

APPLICATION FILED NOV. 3, 1919.

1,400,252. Patented Dec. 13, 1921.

Fig. 1.

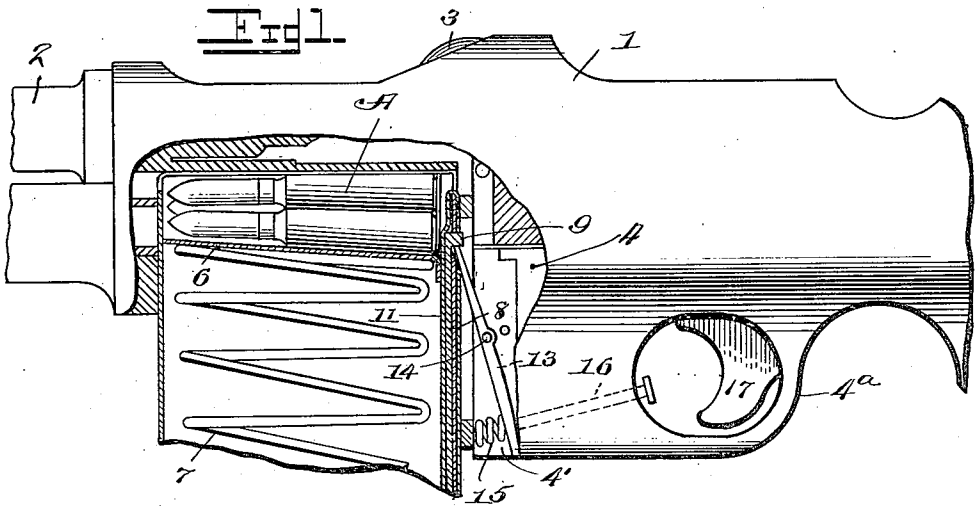


Fig. 2.

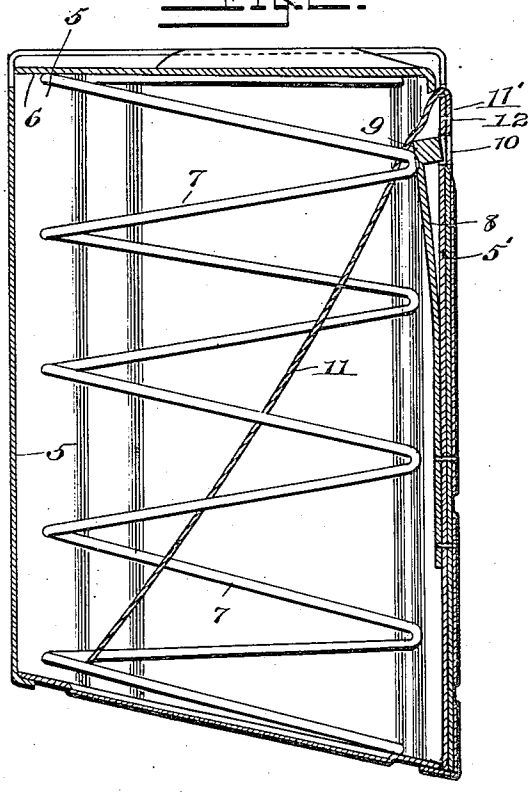
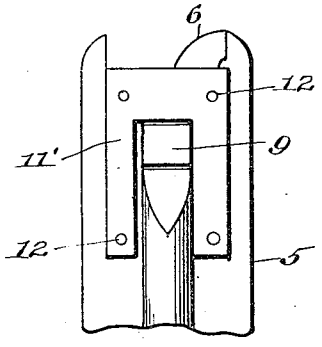


Fig. 3.



Inventor
Lowrey A. Weed

UNITED STATES PATENT OFFICE.

LOWREY A. WEED, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE SECRETARY OF WAR, TRUSTEE.

AUTOMATICALLY-RELEASABLE MAGAZINE FOR MACHINE-RIFLES.

1,400,252. Specification of Letters Patent. Patented Dec. 13, 1921.

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To all whom it may concern:

Be it known that I, LOWREY A. WEED, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented an Improvement in Automatically-Releasable Magazines for Machine-Rifles, of which the following is a specification.

The invention described herein may be used by the Government, or any of its officers or employees in the prosecution of work for the Government, or by any other person in the United States, without payment of any royalty thereon.

This invention relates, generally, to machine rifles in which all operations of the mechanism, except that of the trigger, are automatically effected, and in which the form and the weight of the rifle adapt it for using highly charged military ammunition, the operator either lying prone upon the ground or standing erect with his hands and shoulder, only, supporting the rifle.

The invention relates, specifically, to the cartridge-holder or magazine of such a fire-arm, and the particular object is the provision of such a cartridge holder or magazine which will be automatically released directly the last cartridge is delivered from the magazine into the breech.

More specifically, the object is to provide magazine-holding and releasing means which will be most simple in construction and positive and reliable in operation.

With these objects in view, the invention resides, generally stated, in a fire-arm carrying a releasable cartridge-magazine provided with a spring member having a locking-dog normally engaged by a coöperating locking-member carried by the rifle, said spring member being normally held with its locking-dog in engagement with said locking member by the cartridges and spring-pressed follower in the cartridge magazine, and being releasable when the follower reaches the top of the cartridge magazine consequent upon the withdrawal of the last cartridge therefrom.

Reference may now be had to the accompanying drawing, forming part of my specification and in which like reference characters indicate corresponding parts throughout the several views. The figures of the drawing may be briefly described as follows:—

Figure 1 is a fragmentary view, in side elevation, partly in section, of a machine rifle equipped with my improvements, showing the position of the parts when the cartridge-magazine is locked in position in the breech casing;

Fig. 2 is a detached detail view, in vertical section, of the cartridge magazine, showing the position of the parts when the cartridge magazine has been released; and

Fig. 3 is a fragmentary detail view, in side elevation, of the cartridge magazine.

Referring, now, in detail, to the drawing:—

The machine rifle represented in the drawing comprises the following main parts: the breech casing 1, the barrel 2, the locking brace 3, the trigger plate 4 closing at the bottom the rear portion of the breech casing, and the cartridge magazine 5 inserted from below into the breech casing and locked there in front of the trigger plate 4.

In the cartridge magazine is the usual feed spring 7 acting against the usual follower 6, supporting the column of cartridges A. Disposed on the inner face of the end wall 5′ of the cartridge-magazine is a normally slightly-bowed leaf-spring 8 one end thereof being secured to said wall and the other end carrying a locking-dog 9, normally projecting through an aperture 10 in said wall 5′ of the cartridge-magazine. Preferably, an auxiliary leaf-spring 11 is provided, which is bent toward its upper end and folded over so as to provide a depending skirt 11′, lying against the exterior surface of the magazine wall and secured thereto by rivets 12. The spring 11 is substantially the length of the magazine 5, and the top of the spring 8 is beneath the top of that portion of the spring 11 which is inside the magazine 5. The tendency of the spring 11 is to swing away from the end wall 5′ of the magazine, as shown in Fig. 2. As shown, the spring 8 is disposed between the auxiliary spring 11 and the end wall 5′ of the magazine. The follower 6 bears against the spring 11 until it reaches the top of the magazine, thus forcing the leaf spring 8 against the side wall 5′ of

the cartridge-magazine with the locking-dog 9 projected through the aperture 10 and in engagement with a locking member 13, which, as shown, is preferably a rocker-arm disposed in a recess 4′ in the trigger plate 4 and pivoted intermediate of its length at 14 thereto. A coil spring 15, also seated in the recess 4′, bears against the lower end of said rocker arm in a position to urge the upper end of the rocker arm toward the magazine and into engagement with the locking-dog 9. A pin 16 is slidingly housed in the trigger-plate 4 and is disposed with one end thereof in engagement with the lower end of the rocker arm and with its other end in proximity to the trigger 17 in the trigger-guard 4^a for manually swinging the rocker arm 13 out of engagement with the locking-dog 9.

In operation it will be obvious, of course, that, as the follower 6 moves upward in the cartridge magazine, it bears against the spring 11, thus holding the leaf-spring 8 squarely against the side of the cartridge-magazine, with the locking-dog 9 projected through the aperture 10 and into engagement with the rocker arm 13, as shown in Fig. 1. As the follower reaches the upper end of the spring 11, it passes out of engagement with the latter, whereupon the springs 11 and 8 move to the position shown in Fig. 2, the spring 8 thereby withdrawing the locking-dog into the cartridge-magazine and out of engagement with the rocker-arm 13, thus releasing the cartridge magazine 5 and permitting the same to fall out of the rifle.

What I claim is:

1. In an automatic firearm, the combination, with the breech casing, of a releasable cartridge magazine normally carried by the breech casing, and means for normally locking said magazine in the breech casing and for automatically releasing said magazine upon withdrawal of the last cartridge therefrom, comprising a leaf spring carried by the cartridge magazine, and supporting a locking member, and flexible to move said locking member from a position within the cartridge magazine to a position of projection through one of the walls thereof, and a locking member carried by the firearm and normally coöperating with said first mentioned locking member to retain the cartridge magazine in the breech casing, and an auxiliary leaf spring flexible into and out of longitudinal contact with said first mentioned spring.

2. In an automatic firearm, the combination, with the breech casing, of a releasable cartridge magazine normally carried by the breech casing, and means for normally locking said magazine in the breech casing and for automatically releasing said magazine upon withdrawal of the last cartridge therefrom, comprising a leaf spring carried by the cartridge magazine, and supporting a locking member, and flexible to move said locking member from a position within the cartridge magazine to a position of projection through one of the walls thereof, a locking member carried by the firearm and normally coöperating with said first mentioned locking member to retain the cartridge magazine in the breech casing, an auxiliary leaf spring flexible into and out of longitudinal contact with said first mentioned spring, and a spring pressed follower in said cartridge magazine normally flexing said auxiliary spring into contact with said locking member supporting spring.

LOWREY A. WEED.