A. T. DAWSON & G. T. BUCKHAM.

AUTOMATIC GUN.

APPLICATION FILED JULY 6, 1908.

926,052. Patented June 22, 1909.

Fig. 1.

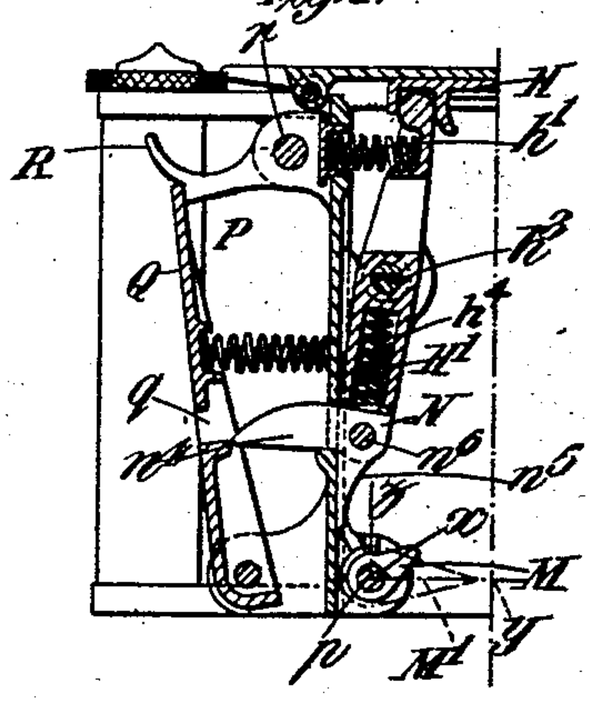


Fig. 3.

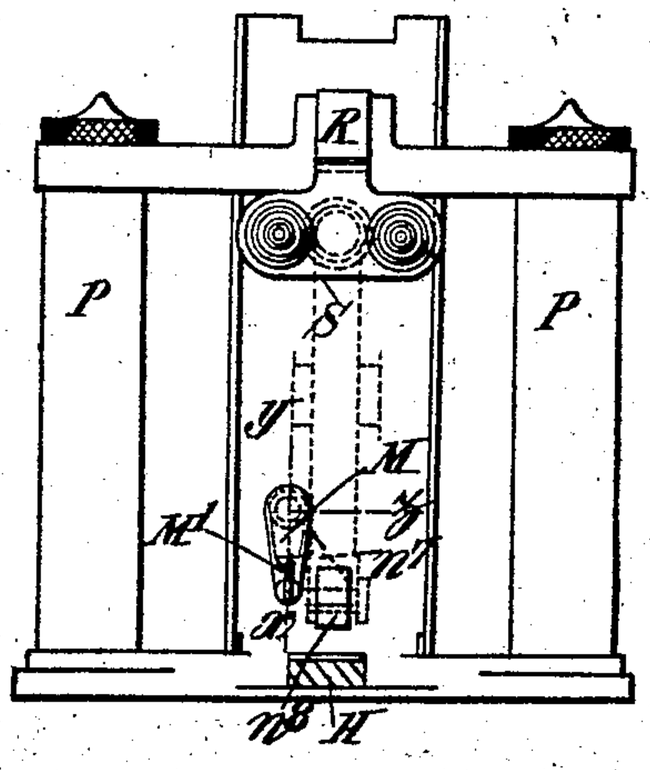
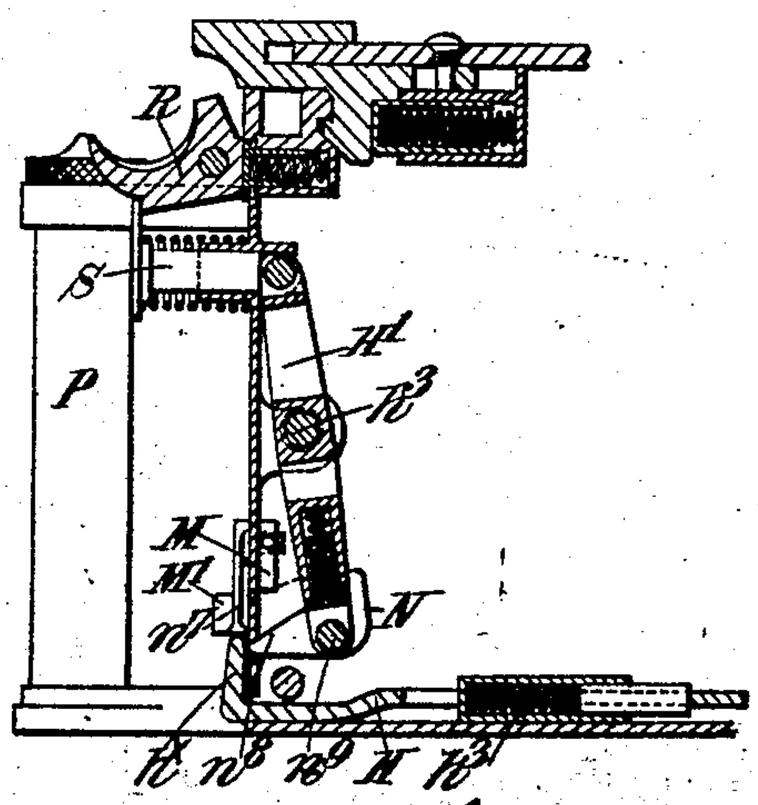


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR TREVOR DAWSON AND GEORGE THOMAS BUCKHAM, OF LONDON, ENGLAND, ASSIGNORS TO VICKERS SONS & MAXIM, LIMITED, OF LONDON, ENGLAND.

AUTOMATIC GUN.

No. 926,052. Specification of Letters Patent. Patented June 22, 1909.

Original application filed October 23, 1907, Serial No. 398,718. Divided and this application filed July 6, 1908. Serial No. 442,110.

To all whom it may concern:

Be it known that we, ARTHUR TREVOR DAWSON, lieutenant Royal Navy, director and superintendent of Ordnance Works, and GEORGE THOMAS BUCKHAM, engineer, both subjects of the King of Great Britain, residing at 32 Victoria street, Westminster, in the county of London, England, have invented certain new and useful Improvements in or Relating to Automatic Guns, of which the following is a specification.

This invention relates to automatic guns, particularly those of the Maxim rifle caliber pattern, and has reference to change-fire mechanism for use with this kind of gun.

According to this invention, the firing mechanism comprises a trigger lever to which is hinged a trigger pawl so arranged with respect to a tripping piece that by setting the latter into one or other of several positions (either in the plane of movement of the trigger lever or in a plane transverse to the movement of such lever) by means of an external indicator, the gun can be caused to fire single shots, or to fire automatically, or can be set at safety.

We will describe our improvements more fully with reference to the accompanying drawings, in which:—

Figure 1 is a sectional elevation of firing mechanism provided with our improvements and particularly adapted for use with the improved type of gun forming the subject matter of our United States Application Serial No. 398,718 filed October 23rd 1907. Fig. 2 is a sectional elevation, and Fig. 3 an end elevation of a form of the firing mechanism provided with a push trigger and adapted for use with the ordinary type of mechanism, that is to say, mechanism in which the trigger bar or plate is arranged below the axis of the firing pin.

We will refer first more particularly to the form of firing mechanism shown in Fig. 1. The said mechanism comprises a trigger lever H′, a hinged push trigger Q, a tripping piece M, and a trigger pawl N. P is the handle block. The said trigger lever H′ is hinged at or near its middle h^3 and is provided with the trigger pawl N near its lower end, said trigger pawl comprising a horizontal member n^4 which is adapted to be acted upon by the trigger Q and a vertical or depending portion or nose piece n^5 which cooperates with the tripping piece M. The trigger pawl is acted upon by the spring h^4 mounted in the trigger lever. The said trigger Q is in the form of a lever which is situated at the rear of the handle block and hinged thereto at its lower end. The tripping piece M is carried by the hinge pin p of the handle block, said hinged pin being furnished with the external indicator M′ for indicating the positions to which said tripping piece has to be set for rendering the gun capable of firing single shots, or firing automatically, or of remaining at safety. A safety catch R is pivoted to the handle block at the upper part at r and is adapted to lie in a position to prevent the trigger Q from being pushed inward, as is well understood, and must therefore be raised before the trigger can be actuated.

When the gun is adjusted to fire automatically, the indicator M′ occupies the position y and the tripping piece M lies in a position to be out of the path of the depending portion n^5 of the trigger pawl N and thus the trigger lever H′ is capable of being actuated by the trigger Q bearing against the free end of the horizontal member n^4 thereof, thus actuating the trigger bar H and firing the gun.

When the indicator M′ is set into the position x for firing single shots, the said tripping piece M lies in a position to act upon the said depending portion n^5 of the trigger pawl N after the trigger lever H′ has been moved far enough to actuate the trigger bar H and fire the gun, whereupon the said trigger pawl N is moved about its hinge n^6 into a position in which its horizontal member n^4 will lie opposite an opening q in the trigger Q with the result that the trigger lever H′ returns to its original position under the influence of the spring h' and the said trigger must be released and be permitted to return to its normal position before the gun can be

gain fired. When the indicator is set into ıe safety position *z*, the tripping piece M es against the depending portion n^5 of the igger pawl N, so that the actuation of the igger Q merely has the effect of causing ıe trigger pawl to turn about its pivot n^6 the initial movmeent of the trigger, and bring its horizontal member n^4 opposite ıe said opening *q* in the trigger, so that the tter moves without actuating the trigger awl.

In Figs. 2 and 3 we have illustrated a ıodified form of the mechanism for use ith a sliding push trigger S and with a igger bar H situated at the bottom of the reech casing. In this case the said trigger ver H′ is adapted to be acted upon at its pper end by means of a spring plunger or ush piece working in a horizontal bearing the handle block P. The said trigger ver H′ has pivoted at its lower end the ring-controlled trigger pawl N which is dapted to act upon the aforesaid trigger ar H. This trigger pawl has a nose piece which is capable of being acted upon by ıe tripping piece M and has also a tail n^8 hich is capable of bearing against a lip or ange h^x on the trigger bar H. The trip- ing piece is pivotally mounted on the in- ide of the handle block so as to move in a lane transverse to the plane of movement f the trigger lever H′. The indicator M′ s situated on the outer end of the axle car- ying the said tripping piece M. A safety atch R is provided similar to that referred o in the last preceding arrangement and as to be raised before the trigger can be ushed.

When the tripping piece M is set in the osition *y* for automatic firing it lies clear f the nose n^7 of the trigger pawl N, so that he tail n^8 of the latter will act upon the lip ^{x} of the trigger bar to fire the gun and will ıaintain this position so long as the trigger s kept in its pushed position.

To fire single shots, the tripping piece M s set into the position *x* (which is the posi- ion shown in Figs. 2 and 3) in which it will ie in the path of the nose n^7 of the trigger awl N so that said nose will collide with he tripping piece after the trigger lever H′ ıas been moved far enough to fire the gun, vhereupon the trigger pawl N will be moved ıbout its pivot n^9 and bring its tail n^8 into position of release with respect to the lip i^x of the trigger bar and permit the latter o return to its original position under the nfluence of a spring h^3. The trigger lever H′ must therefore be permitted to return to ts normal position by releasing the trigger ush S before another discharge of the gun an be effected.

When the trigger piece M is set to its afety position *z* it lies immediately behind the trigger lever H′ so that the latter cannot be moved sufficiently far when the push S is pressed to enable said trigger lever to actuate the trigger bar and fire the gun.

What we claim and desire to secure by Letters Patent of the United States is:—

1. In an automatic gun of the Maxim type, the combination with the sliding trigger plate, of a stationary pivot, a trigger lever fulcrumed thereon, a trigger pawl hinged to said lever, a trigger-pawl-actuating spring carried by said lever, means for actuating the sliding trigger plate through the intervention of the trigger lever and trigger pawl, a tripping piece, and means for adjusting said tripping piece into one or other of three different positions relatively to said trigger pawl in order to enable the gun to fire single shots or to fire automatically, or to be set at safety.

2. In an automatic gun of the Maxim type, the combination with the sliding trigger plate, of a stationary pivot, a trigger lever fulcrumed thereon, a trigger pawl hinged to said lever, a trigger-pawl-actuating spring carried by said lever, means for actuating the sliding trigger plate through the intervention of the trigger lever and trigger pawl, a tripping piece, an axle carrying said tripping piece, and an external arm on said axle for angularly displacing said tripping piece into one or other of three different positions relatively to said trigger pawl.

3. In an automatic gun of the Maxim type, the combination with the sliding trigger plate, of a stationary pivot, a trigger lever fulcrumed thereon, a trigger pawl hinged to said lever, a trigger-pawl-actuating spring carried by said lever, means for actuating the sliding trigger plate through the intervention of the trigger lever and trigger pawl, a nose piece on said trigger pawl, a tripping piece, and means for adjusting said tripping piece into one or other of three different positions relatively to the nose piece on the trigger pawl.

4. In an automatic gun of the Maxim type the combination with the sliding trigger plate, of a stationary pivot, a trigger lever fulcrumed thereon, a trigger pawl hinged to said lever, a trigger-pawl-actuating spring carried by said lever, a push trigger engaging with the trigger lever to rock it, a tripping piece, and means for adjusting said tripping piece into one or other of three different positions relatively to the trigger pawl.

5. In an automatic gun of the Maxim type, the combination with the sliding trigger plate, of a stationary pivot, a trigger lever fulcrumed thereon, a trigger pawl hinged to the lower end of said lever and adapted to engage with the sliding trigger

plate, a push trigger engaging with the upper end of said trigger lever to rock it, a tripping piece, and means for adjusting said tripping piece into one or other of three different positions relatively to the trigger pawl.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses this eleventh day of June 1908.

ARTHUR TREVOR DAWSON.
GEORGE THOMAS BUCKHAM.

Witnesses:
HENRY KING,
ALFRED PEAKS.