UNITED STATES PATENT OFFICE.

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APPARATUS FOR ACTUATING THE BOLTS OF RIFLES OR OTHER WEAPONS.


To all whom it may concern:

Be it known that I, ALFRED BELLARD, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Inventions in Apparatus for Actuating the Bolts of Rifles or other Weapons, of which the following is a specification.

This invention consists in apparatus for actuating from a distance, that is to say indirectly, the bolt of a weapon, for instance that of a military rifle, by the aid of transmission devices adapted to engage the lever on the bolt of the weapon. It is thus possible to impart to the bolt from a distance these movements which are usually carried out directly by the marksman, viz. the raising and rotation of the lever on the bolt, the rearward movement of the lever for ejecting the casing of the cartridge, and the forward movement and closure of the breech.

By means of the apparatus constructed in accordance with the present invention, all these operations are easily carried out by actuating a handle mounted on the underside of the weapon in such manner that when the weapon is carried by a support in a trench, the marksman can operate this handle and load and fire the weapon just as easily and as readily as if it were placed at the usual height.

This apparatus may be fitted to military rifles of all kinds (and also to other weapons), the employment of said apparatus in combination with a French rifle and with an English rifle being shown for example in the annexed drawings, wherein:

Figure 1 is a side elevation of the apparatus fitted to a Lebel rifle.

Fig. 2 is a section on line I—I of Fig. 1.

Fig. 3 is a plan view of the device for connecting the lever on the bolt to the transmission means.

Fig. 4 is a detail of the actuating handle.

Fig. 5 illustrates a modified form of the actuating arm.

Fig. 6 shows in elevation the device as fitted to an English rifle.

Fig. 7 illustrates the handle on the means employed for actuating the bolt.

Fig. 8 is a side view of the means for connecting the lever on the bolt to the bolt actuating means while Fig. 9 is a section on line K—L, on Fig. 6.

Fig. 10 illustrates a modification of the device when fitted to an English rifle.

Fig. 11 is a plan view of the device for attachment to the bolt, and

Fig. 12 is a view of the rear part thereof.

The employment of the apparatus in combination with a Lebel rifle necessitates the mounting beneath the rifle 1 of an auxiliary stock 2 and it is between the latter and the stock of the rifle that there is mounted the device employed for loading the rifle. The sighting device 3 and the auxiliary trigger 4 carried by the auxiliary stock and connected with the trigger on the weapon do not form part of the present invention.

The novel construction comprises a longitudinally extending spindle 5 mounted preferably in a plane parallel with the axis of the gun barrel and to the side and in the upper part of the auxiliary stock, said spindle being carried, if necessary, on a bridge piece. The spindle is guided by collars 7—8 carried by the auxiliary stock in such manner as to allow both longitudinal and rotary motion thereof in said collars, and is furnished at its rear end with an actuating handle 9 locked in position thereon by means of a pin 10, but other means may be employed for securing this handle to the spindle.

On the opposite extremity of the spindle 5 are mounted a pair of arms 11 connected together by a small spindle 12 serving as the pivotal attachment for a lever 13 consisting of two side members connected together by trellised distance pieces 14 so as to form an assemblage which, although light in weight, is stiffened to resist longitudinal strains and is quite undeformable, said lever being, if necessary, offset at its ends so as to clear the body portion of the weapon 1.

The lever 13 may also be constituted by two limbs connected together at their upper part as shown in Fig. 5. This lever 13 is employed to actuate the knob 15 on the bolt lever 16 of the weapon. To this end the knob is engaged in a gripping device consisting of two stamped plates 17—18 furnished with apertures in which is engaged the knob 15. The plates 17 and 18 are connected together by a hinge 20 and are held
together to grip the knob 15 on the lever 18, by means of a butterfly nut and bolt 19 movable in a slot in the plate 17 in such manner as to allow the head of the bolt to be slid and to be engaged in a slot in the plate 18 thus permitting the opening up of the plates 17 and 18.

The plates 17 and 18 are attached, at their extremities remote from those through which is passed the bolt 19, to the hinge 20 in turn attached to the lever 13.

The operation of this apparatus is readily understood. The marksman, either in a trench or protected by an obstacle, and with his shoulder resting against the auxiliary stock 2 and having pulled the auxiliary trigger 4 and fired the rifle 1, then actuates the handle 9 by raising it from right to left, and draws it back, said movements having for effect to open up the breech of the rifle just as if the bolt were actuated directly by the marksman. The spent cartridge is thus expelled and a new cartridge is automatically inserted in the breech. The marksman then pushes forward the handle 9 and depresses it to the right, thus producing the closing of the breech and the introduction of the new cartridge into the barrel, thus loading the rifle, these operations being repeated without the necessity of moving the gun until such time as the magazine is empty.

When applied to an English rifle (see Fig. 6) the knob 21 on the bolt lever 22, (which lever is bent as shown in Fig. 8) is secured to the end of a lever 23 which, in addition to having slight play on a spindle 24, may slide thereon as it is furnished with a slot 25 engaging said spindle. The lever 23 for the English rifle is furnished with an offset forked end 26 shaped to engage the knob 21 on the bolt lever 22, a screw threaded pin 27 passing through the ends of the prongs of the fork 26 serving to secure the lever 23 to the bolt lever 22.

To the opposite end of the lever 23 is fitted a handle 28 which may be brought to a horizontal position if desired being furnished for this purpose with a hinge 29 and stop 30.

For loading the rifle after firing a shot, the lever 23 is pushed upward by means of the handle 28 until the spindle 24 is in contact with the lower part of the slot 25, this movement having for effect to rotate the bolt lever from right to left. The handle 28 is then pushed forward so as to draw back the breech which is thus opened and the cartridge case ejected. When the handle 28 is pulled back the breech is closed and the cartridge is inserted into the barrel, and when the handle has been pulled down to its initial position the rifle is loaded.

For the English rifle and for other weapons the auxiliary stock 2 is furnished as at 31 with a downwardly extending protuberance adapted to rest (see Figs. 6 and 9) between flange pieces 32 carried by a support fixed on a rod 33 adapted to be secured, by a tightening screw, on a post or support capable of being sunk into the ground. By these means the weapon is held in the position in which it is set by the marksman (Fig. 6) thus relieving him of the necessity of holding it and allowing him to leave it if necessary.

In the modified construction of apparatus for actuating the bolt of the English rifle shown in Figs. 10 to 12, the bolt is controlled by the motion of the lever 23 pivoted at 34 in a suitable manner and of a connecting link 35 pivotally secured at 40 to the upper end of the lever 23. This link is made in two parts whereof the forepart 36 is pivotally secured at 37 to the link 35 so as to allow it to be raised to engage the knob of the breech lever 22. When the knob 37 is engaged the parts 36 and 37 are brought together by tightening up a butterfly nut 38 screwing on a screwed stem 39.

Ball joints may be substituted for the pivotal joints 20 (Fig. 2) and 40 (Fig. 10).

Claims:

1. The combination with a gun, of a shoulder rest, a frame connected with said rest 95 and with the gun, a periscope supported with its line of vision coinciding with the line of sight and with its eyepiece contiguous to the shoulder rest, means connected with the trigger of the gun whereby the user may fire the gun while sighting through the periscope and means carried by the said frame and connected with the breech bolt mechanism of the gun for operating the breech bolt without changing the firing position of the gun.

2. The combination substantially as described, of a frame provided with means for supporting a gun in an elevated position, a periscope adapted to permit the gun when supported on said frame to be sighted 110 through the periscope and means connected to the arm of the breech bolt for said gun to permit the operator to actuate the breech bolt while the gun is in elevated position.

3. A sighting and firing attachment for guns comprising a frame adapted to detachably support the gun in elevated position, a periscope supported on said frame with its objective opening in line with the sights, a trigger operating attachment carried by the frame and provided with means at its lower end for firing the gun when it is sighted through the periscope and a supplemental breech bolt actuating mechanism having a depending operating arm adapted to be operated by the user while the gun is in elevated position.

4. A sighting and firing attachment for guns comprising a frame provided with a shoulder rest and with means for attachment...
20 to the gun and means for supporting a periscope with its eyepiece contiguous to said rest and with its objective opening in line with the gun sights and means upon said frame adapted to be connected to the breech bolt mechanism to permit the operator to actuate the breech bolt without changing his position for sighting and firing.

5. A sighting and firing attachment for guns comprising a frame adapted to be connected to the gun and provided with a shoulder rest combined with means for supporting a periscope on said frame with its eyepiece adjacent to the shoulder rest and means carried by said frame for operating the breech bolt mechanism of the gun.

6. A frame adapted for attachment to a gun of the breech bolt type, adapted to hold such gun fixedly in an elevated position during firing, combined with an operating handle mounted on said frame beneath the gun, said handle being capable of two movements, the one for rotating the bolt, and the other for sliding it longitudinally, and intermediate connecting means mounted on said frame and engaging the breech bolt, and adapted to communicate said respective movements from the handle to the bolt for reloading the gun after firing.

7. An attachment according to claim 6, wherein the connecting means comprises a sliding rock shaft to which the operating handle is attached, and a connecting frame adapted to communicate rocking and sliding movements therefrom to the bolt of the gun.

8. An attachment according to claim 7, wherein the connecting frame is trussed to enable it to positively transmit movements longitudinally of the gun.

9. The combination with a gun of the breech bolt type, of a frame adapted to be connected thereto to support the gun fixedly in an elevated position during firing, combined with a handle mounted on said frame beneath the gun, and an intermediate connection engaging the breech bolt and adapted to communicate movements of said handle to the bolt, such connection comprising a trussed frame adapted to positively transmit movements longitudinally of the gun.

10. An attachment for guns comprising a frame having forward and rear portions adapted to be attached to a gun, a transverse member extending between said portions, a sub-bolt having a bearing on said transverse member for rotary movement and endwise sliding movement, means for shifting said sub-bolt, and means for connecting the same to the bolt of the gun.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

ALFRED BELLARD.

Witnesses:
CHAS. P. PRESSLY,
ALEXANDER MATHIEU.