Jan. 26, 1937. H. SCHMEISSER 2,068,823

AIR GUN

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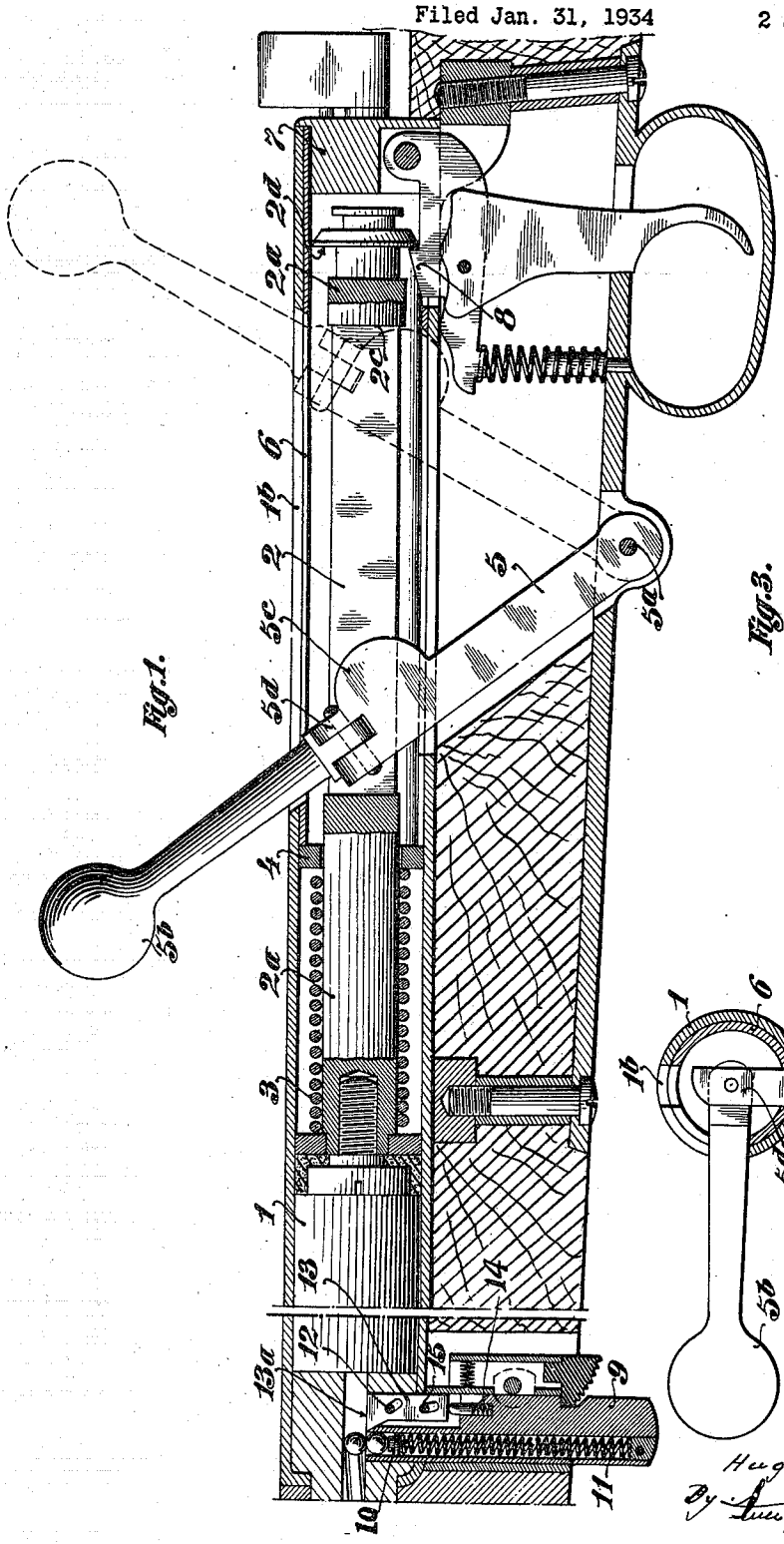


Fig. 1.

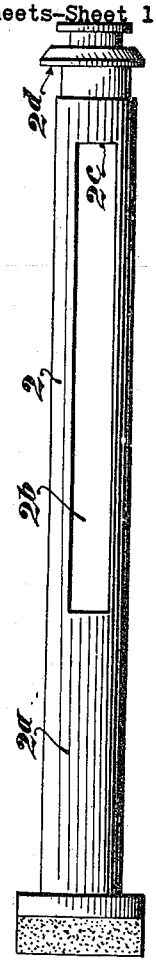


Fig. 3.

Fig. 2.

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Fig.5.

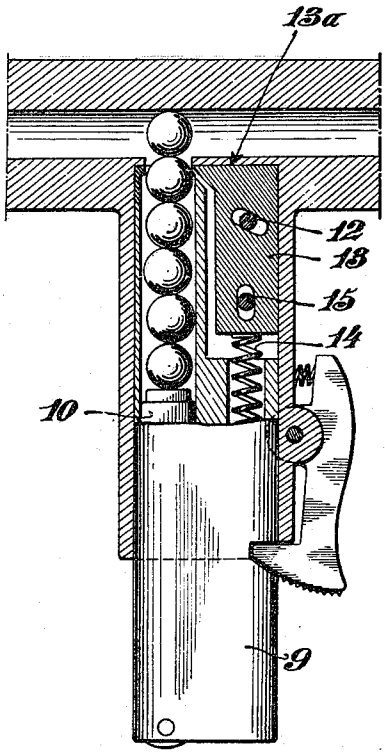


Fig.4.

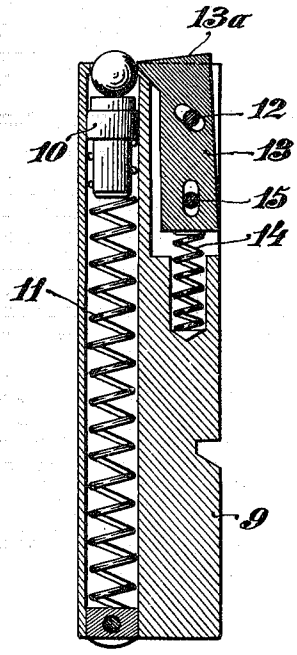
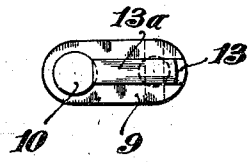


Fig.6.



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AIR GUN

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In Germany February 7, 1933

6 Claims. (Cl. 124—10)

For the purpose of practice in handling and shooting with military rifles, air guns are made which are charged by means of a so-called Mauser lock. This Mauser lock consists of a cylindrical compressing piece on which, in a similar manner to military rifles, the breech bolt is placed.

In order to charge the air gun, the breech bolt is pushed forward in a slot of the compression chamber sleeve, and by means of a curved compression piece on the compression sleeve the greatest opposing end thrust of the compression spring is overcome.

The air guns just described have the great disadvantage that the compressing of the compression spring, in spite of the curved charging piece, is still far too hard to operate, so that the penetrating power of the weapon must be reduced.

The removal of this disadvantage, that is, enabling the gun to be charged as easily as possible with increasing load, while at the same time keeping the operation similar to that of the military rifle, is achieved essentially (making use of the principle of lever charging) by arranging that the compressing lever is operated in the direction of the barrel axis and that that part of it which protrudes from the gun is arranged to swing transversely to the barrel axis in a similar way to the breech bolt of military rifles. The handle is then connected with the compressing lever by means of a link which allows it to swing in a transverse direction. The compression chamber, as well as the chamber for receiving the compression spring, and also the chamber for receiving the rod of the air piston when in the charged position, preferably lie between the centre of rotation of the compressing lever and the point where the force of this is applied. The compression spring passes through the chamber carrying the compression spring, which chamber in its continuation constitutes, at the same time, the compression chamber, or connects up to such a chamber.

In order to make the air gun more similar to the military rifle in its handling and shooting, according to a further object of the invention it may also be formed as a repeating rifle and provided with a magazine. According to the invention the shots lie in the magazine one above the other, and are led successively to the barrel by means of a spring and feeder. The magazine is formed in such a way that as long as it is outside the weapon the uppermost shot is held by a stop arranged on the magazine, which is automatically thrown out when the magazine is placed in the gun, whereby the shots can freely enter the barrel one after the other. The stop consists preferably of a slide actuated by a spring, and which normally projects through an inclined guide into the shot pocket and over the upper edge of the magazine, while when the magazine is inserted, the slide is guided into the releasing position by the slide striking against the interior of the gun.

By means of the arrangement and construction of the magazine in accordance with the invention, the disadvantages existing with the known repeating air guns are avoided, these consisting in that the feeding device, when filled with a large number of shots, can only be emptied again with great difficulty and trouble and, in view thereof, the complete discharging of the gun after shooting is often neglected, and it then represents a certain danger in unskilled hands. In addition, the complete absence of shots in a gun can not be definitely determined in known shot-feeding devices. Beside the avoidance of these disadvantages, the magazine or the shot-feeding device in the gun according to the invention, has the advantage of being simple and of functioning with certainty.

A constructional example of the gun according to the invention is shown in the drawings.

Figure 1 shows the most important middle part of the air gun with magazine, in a vertical longitudinal section, with the air piston in the charged condition and the compressing lever moved forward again. The backward position of the compressing lever in the compressing position is shown dotted.

Figure 2 is a cross sectional view of the middle part of the air gun showing the compressing lever handle swung round about the axis of the barrel.

Figure 3 is a plan view of the air piston.

The air piston **2** moves in the compression cylinder **1** which is connected at the front end with the barrel. The compression spring **3**, which bears against a pressure disc **4** at the rear, is mounted over the rod **2a** of the air piston **2**. In the rod **2a** of the air piston, and in an extension of the cylinder are slots **2b** and **1b**, in which moves the compressing lever **5**, whose centre of rotation **5a** is, in the example shown in the drawings, underneath the extension. At the end of the piston rod **2a** is the compression catch **2d**, with which the trigger **8** engages in the charged position in a known manner. The compressing lever **5** has an extension formed as a breech bolt, and carries a knob **5b** at the place where it is held, this in the present case being made spherical or

pear-shaped as in the case of a breech bolt. At the point where the compressing lever takes the pressure of the compression spring, it is provided with a curved hump 5c. This curved hump bears against the surface 2c in the slot 2b of the air piston. The pressure disc 4 is supported against the abutment sleeve 6 which in turn is provided with slots for the movement of the operating handle like the compression cylinder 1 and is supported at the rear against a base 7, closing the cylinder. That part of the operating lever forming the breech bolt is made rotatable about a joint 5d, so that the handle 5b, when moved into the forward position of the operating lever, can be swung to the right, transversely to the barrel axis, through about 90°.

When the operating lever 5 is drawn back by hand, it carries the piston 2 back with it, owing to its bearing on the surface 2c, and thereby compresses the compression spring 3, this meanwhile being supported against the abutment sleeve 6, through the intermediary of the pressure disc 4. At the end of the movement of the piston 2, the trigger 8 engages in the compression catch 2d of the piston 2. The operating lever 5 is again moved forward, without load, and in its end position the handle is swung to the right about the axis of the barrel. The air gun is now charged and loaded.

The magazine 9 is mounted in the stock of the gun at the rear end of the barrel (Figure 1). In this is a vertical pocket, whose cross section is adapted exactly to the actual shot used. The shot lie one above the other in this pocket, and are raised towards the pocket opening by the feeder 10, which is acted on by the pressure of the feeder spring 11. At the side of this pocket is arranged the lever-like stop 13, which can swing about a pin 12. The spring 14 causes the upper lever arm of the stop to tip over into the opening of the pocket, whereby the exit of the uppermost shot from the magazine is prevented. The lower pin 15 limits the small longitudinal movement which the stop 13 executes in addition to the lever movement.

In the blocked condition the upper lever arm of the stop protrudes with a surface 13a above the upper edge of the magazine casing 9. If the magazine is now inserted in the air gun or air pistol, the projecting surface 13a comes to bear against the inside of the gun, whereby the upper lever arm of the stop is moved away from the pocket and the uppermost bullet and those following can rise up successively into the barrel. The magazine can, of course, be used also with air pistols.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Air gun with shot feeding device comprising a housing containing a compression cylinder communicating with the barrel of the gun, an air piston in said cylinder, a piston rod, a compression spring for actuating the piston, a lever operable in the plane of the barrel axis for loading the said spring, and an abutment sleeve in said housing rearwardly of the piston between which latter and the sleeve the spring is mounted, said cylinder, abutment sleeve and piston rod having complementary slots for guiding the lever.

2. An air gun with shot feeding device comprising a barrel, a housing containing a compression cylinder communicating with the barrel, an air piston in the compression cylinder, a piston rod, a compression spring for actuating the piston, a lever for cocking the compression spring, said lever being pivoted in the gun about an axis below the housing and guided by slots in the housing and the piston rod, a curved hump on said lever engaging the rear end of the slot in the piston rod when the spring is being cocked, and a handle on said lever which handle can be turned transversely to the barrel axis.

3. An air gun with shot feeding device comprising a barrel, a housing containing a compression cylinder communicating with the barrel, an air piston in the compression cylinder, a piston rod, a compression spring for actuating the piston, a lever for cocking the compression spring, said lever being pivoted in the gun about an axis below the housing and guided by slots in the housing and the piston rod, a curved hump on said lever engaging the rear end of the slot in the piston rod in the line of action of the compression spring when said spring is being cocked, and a handle on said lever which handle can be turned transversely to the barrel axis.

4. An air gun with shot feeding device comprising a barrel, a housing containing a compression cylinder communicating with the barrel, an air piston in the compression cylinder, a piston rod, a compression spring for actuating the piston, a lever for cocking the compression spring, said lever being pivoted in the gun about an axis below the housing and guided by slots in the housing and the piston rod, a curved hump on said lever engaging the rear end of the slot in the piston rod in the line of action of the compression spring when said spring is being cocked, and a handle on said lever which handle can be turned transversely to the barrel axis, the location of the lever axis below the housing being intermediate of the ends of the slot in the piston rod when the spring is cocked.

5. An air gun with shot feeding device comprising a barrel, a housing containing a compression cylinder communicating with the barrel, an air piston in the compression cylinder, a piston rod, a compression spring for actuating the piston, a lever for cocking the compression spring, said lever being pivoted in the gun about an axis near the bottom of the housing and a handle connected by a hinge to said lever and projecting through the top of the housing, said handle being movable on the hinge transversely to the barrel axis.

6. An air gun with shot feeding device comprising a barrel, a housing containing a compression cylinder communicating with the barrel, an air piston in the compression cylinder, a piston rod, a compression spring for actuating the piston, a lever for cocking the compression spring said lever being pivoted in the gun about an axis near the bottom of the housing, and a handle connected by a hinge to said lever and projecting through the top of the housing, said handle being movable on the hinge transversely to the barrel axis and the axis of the hinge being substantially at right angles to the longitudinal axis of said lever and said handle.

HUGO SCHMEISSER.