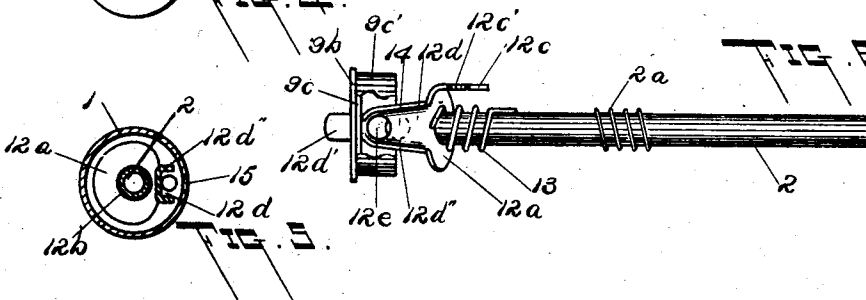
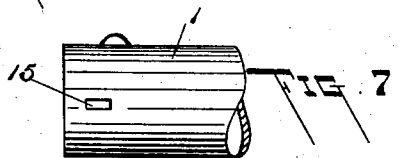
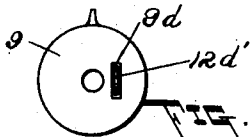
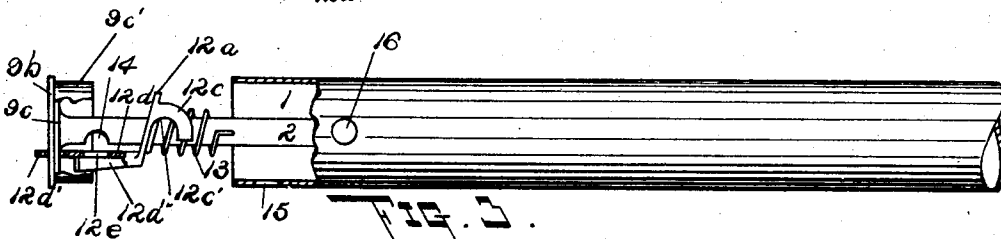
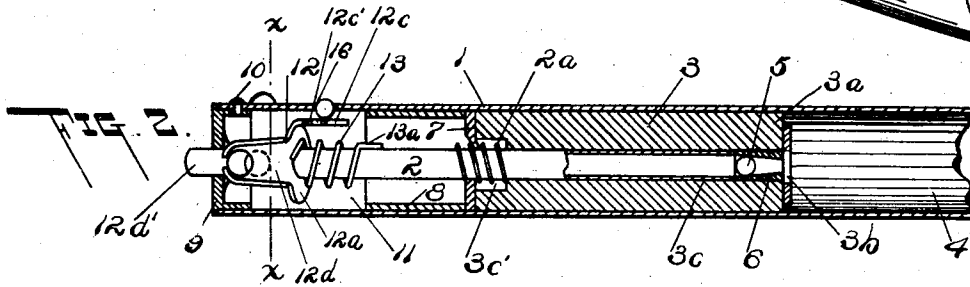
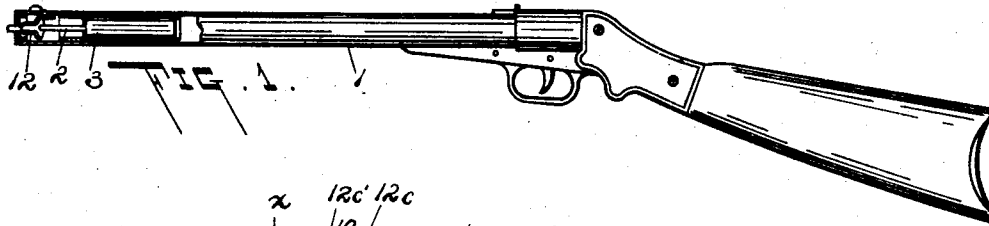


No. 740,067.

PATENTED SEPT. 29, 1903.

J. W. WILFORD.
MAGAZINE AIR GUN.
APPLICATION FILED DEC. 16, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES W. WILFORD, OF MIDLAND, MICHIGAN.

MAGAZINE AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 740,067, dated September 29, 1903.

Application filed December 16, 1902. Serial No. 185,416. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. WILFORD, a citizen of the United States, residing at Midland, in the county of Midland and State of Michigan, have invented certain new and useful Improvements in Magazine Air-Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in magazine air-guns.

It comprises a magazine for shot, a device for charging the magazine and loading the gun from it, a means for holding a shot in the proper position for discharge, a means for securing the true barrel.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a gun, shown partly in section, using my invention. Fig. 2 is an elevation, partly in section, of my improvements. Fig. 3 is a top view, broken away in parts, of the true barrel partly removed with the charging and loading device pressed back. Fig. 4 is an end view of the muzzle. Fig. 5 is a section on the line *xx* of Fig. 2. Fig. 6 is an elevation, broken away in part, of the true barrel and the parts secured thereto detached; and Fig. 7 is a side view of the muzzle end of the false barrel.

Guns of this sort have an outer or false barrel 1 and an inner or true barrel 2. In my invention a wooden cylindrical block 3 is forced into the false barrel, so that its rear end 3^a forms the front end of the compressed-air chamber 4. This plug has on its rear end a ring or washer 3^b, of elastic material, to cushion the piston when the gun is discharged. The true barrel is a snug fit in the central axial hole 3^c, which preserves its alinement with the sights. A short section of tube 6 is forced into the hole 3^c to flush joint with the rear end 3^a of the plug 3 to hold a shot 5 in position. This tube has the same external diameter as the true barrel and the same internal diameter at its front end, but is slightly smaller at the back end, so that a shot dropped into it wedges slightly and will not fall out if the position of the gun is reversed.

The most important reason for making the short tapered tube 6 separate from the true

barrel is to permit the shooting of darts. The darts are small pointed metal projectiles nearly as large as the inside of the true barrel 2 and have a flaring tail of fine bristles to act as a rudder. The flaring tail makes it impossible to drop the dart from the muzzle to the proper position for discharge within the true barrel, and so the true barrel 2 is removed from the gun and the dart is inserted point first in its rear end. This would be impossible were the tube 6 integral with the true barrel 2. A section of screw-thread 2^a is secured to the outside of the true barrel 2 near the front end of the plug, and the plug has a counterbore 3^d to receive it. A metal disk 7 or washer is secured against the end of the plug by a sleeve 8, soldered to it and to the false barrel, which it fits neatly. The thread 2^a screws through the washer 7, which serves as a nut. The outer end of the true barrel is fixed by the muzzle-piece 9, to which it is secured in a substantially integral manner, forming a flush joint on the outside. I prefer to make this muzzle-piece of two substantially integral concentric disks, an outer one, 9^b, the edge of which forms a flush joint with the false barrel, and an inner one, 9^c, which fits neatly into the false barrel; but it is apparent that this is equivalent to a single disk with a circumferential flange on its outer side. While I prefer to secure the true barrel as described, it is evident that a flange 9^c may be provided on the outside of the disk 9^c and the whole secured by a screw 10, passing through a hole in the false barrel and threaded into the flange 9^c. The space surrounding the true barrel in front of the disk 7 forms the magazine 11. The charging and loading device 12, whose construction and operation are to be described, is movable on the true barrel 2, but is normally held against the muzzle-piece 9 by a helical spring 13 upon the true barrel, secured to it at its rear end 13^a.

The device 12 consists of a nearly-circular disk 12^a, forming the front end of the magazine 11, and a seat for the spring 13, with a hole 12^b for the passage of the true barrel, a backwardly-extending wing 12^c at the top, and a forwardly-extending trough-shaped wing 12^d at one side.

The base of the trough has a tongue 12^e, extending through a vertical slot 9^d in the

muzzle-piece, which prevents rotation of the device 12 and furnishes means for pressing it back against the spring 13. The edges 12^d of the trough 12^d are turned inward at the muzzle end, forming an end to the trough and a stop to limit forward movement of the device. The trough has a hole 12^e in the base at the muzzle end, and the true barrel has a loading-hole 14, normally covered by the base of the trough 12^d, adapted to register with the hole 12^e when the device 12 is pressed back. The width and position of the trough are such that it will hold only a single row of shot, as shown in Fig. 5.

15 To load from the magazine, the gun is held on its side, with the muzzle lower than the breech and the trough down, which fills it with shot. With the muzzle still downward the gun is turned over, which allows a shot to settle in the hole 12^e. When the muzzle is lifted slightly, the free shot runs back into the magazine. The device 12 is then forced back by pressure on the tongue 12^d, and the shot confined in the hole 12^e passes through the hole 14 and down the true barrel, the momentum due to its descent serving to wedge it in the tapered tube 6, so that a high pressure is required to dislodge it, thus insuring a high velocity of discharge.

30 The magazine 11 has a charging-hole 16 in the top. It is normally closed by the rear end of the wing 12^c; but a notch 12^e in the side of the wing adapted to register with the hole 16 when the device 12 is pressed back provides for charging the magazine. A narrow slot 15 in the side of the false barrel opposite the trough 12^d permits inspection of the loading device to insure its proper operation.

40 By the means above described I have provided for guns of this sort a magazine with a loading and charging device of simple construction and means for observing its operation. I have provided means for securing the true barrel, preserving its alinement, and permitting its removal for cleaning and repairing the working parts when necessary, and also for the purpose of inserting darts and a device for holding a shot in position for

discharge separate from the true barrel, thus insuring against wear and consequent leakage due to its removal and replacement. Moreover, the operation of the device insures a high velocity of discharge of the shot.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a magazine attachment for air-guns the combination of a false barrel formed with a charging-hole; a true barrel within the false barrel; a disk slidably mounted on the true barrel, said disk formed with a rearwardly-extending wing projecting under and normally closing, said charging-hole, and with a forwardly-extending trough having a hole near its front end; said true barrel having a hole in position to register with the hole in the trough when the latter is pushed back; a spring operating to press the disk toward the muzzle of the gun; together with means outside the barrel to press the disk back against the resistance of the spring.

2. In an air-gun of the class described, having a false barrel, a plug within the false barrel and a true barrel removably secured within the false barrel; a short internally-tapered tube fixed in the plug in line with the true barrel, for the purpose set forth.

3. In combination with an air-gun of the class described having a false barrel and a true barrel; a helical thread upon the true barrel; a disk secured within the false barrel and forming a nut for the thread; and a muzzle-piece secured to the true barrel and bearing against the end of the false barrel; for the purposes set forth.

4. In a magazine air-gun of the class described the combination of a false barrel formed with a loading-hole; a removable true barrel within the false barrel; and a loading and charging device slidably mounted on the true barrel and removable with it.

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

JAMES W. WILFORD.

Witnesses:

JAMES C. HANSON,
P. M. HOLDSWORTH.