Oct. 2, 1951 L. V. KAPSA 2,569,995

SPRING FED MAGAZINE

Original Filed July 2, 1946

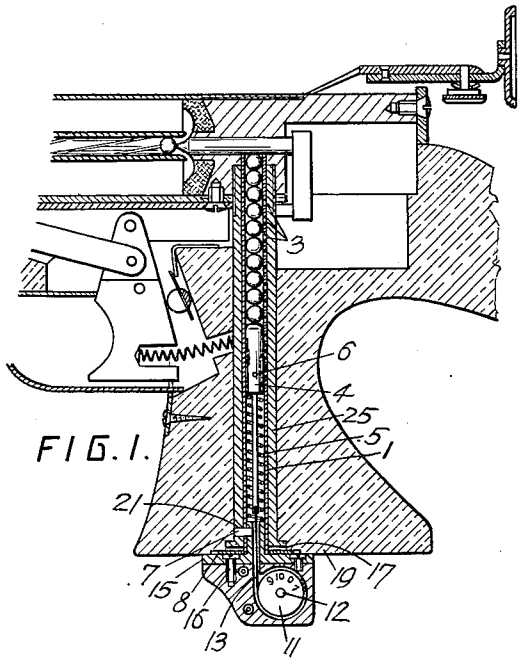


FIG. 1.

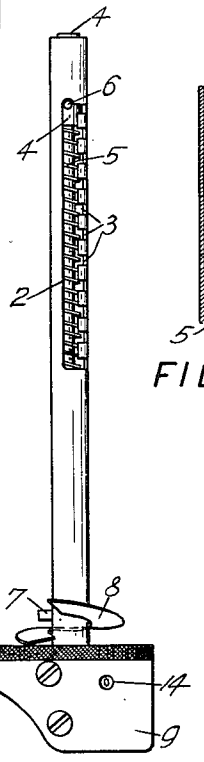


FIG. 2.

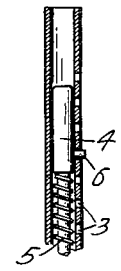


FIG. 3.

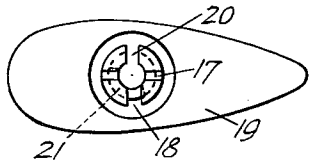


FIG. 4.

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SPRING FED MAGAZINE

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4 Claims. (Cl. 124—53)

1

The present invention relates to an air gun and more particularly to a magazine for holding pellets for use in air guns.

This application is a division of application Serial No. 680,993 filed July 2, 1946, now Patent 2,567,643.

The principal object of this invention is to provide an improved projectile magazine that is adapted to be positioned within the gun butt in a manner to facilitate loading of the magazine and increase the compactness of the gun.

A further object of the invention is to provide a tubular projectile magazine which may be positioned within a hollow screw used to join the butt of the gun to the gun mechanism.

Yet another object of this invention is to provide an improved tubular spring loaded projectile magazine having means to facilitate the loading of the magazine with projectiles and having further means to indicate the number of projectiles in the magazine.

The invention in its preferred embodiment provides that the magazine consist of a tube having a longitudinal slot, which corresponds to a guiding groove in the hollow screw joining the gun mechanism and gun butt, and from which a series of short notches extends to one side, these notches having a spacing equal to the diameter of one projectile, and that a spring loaded projectile push member is slidably mounted in the tube, this member having a lateral lug projecting through the slot in the tube into the guiding groove in the hollow screw, and when the magazine is rotated, protruding into the short notches in the tube in the manner of a bayonet closure. As a safety measure, means are provided to prevent the magazine from falling out, these means consisting of a pin inserted in the lower end of the magazine, which engages, also in the manner of a bayonet closure, a recess in the hollow screw, the direction of rotation of the magazine to effect the engagement of this pin being opposite to that necessary for engagement of the lateral lug and the short notches in the magazine, so that when one closure is effected, the other is opened.

In order that the invention may be clearly understood and readily carried out in practice an embodiment thereof will now be described with reference to the enclosed drawing, wherein:

Figure 1 shows a longitudinal section of the gun with the magazine inserted therein;

Figure 2 shows the magazine itself in an elevational view;

Figure 3 is a partial sectional view of the upper part of the magazine; and

2

Figure 4 is a view from below of the pistol grip of the gun when the magazine is removed.

As shown in Figures 1 and 2, the magazine consists of a tube 1 provided with a longitudinal slot 2 from which a series of short notches 3 extends on one side, the pitch of the notches being equal to the diameter of a projectile. The tube 1 is adapted to be inserted within the hollow screw 25 used to join the gun mechanism to the gun butt. A pushing member or feeder 4 is mounted for longitudinal sliding movement in the interior of the tube 1, said feeder being loaded by a compression spring 5. The feeder 4 is provided with a laterally extending pin 6, adapted to slide in the longitudinal slot 2 and to be inserted in any of the short notches 3 upon rotation. Near the bottom of the magazine a securing lug 7 is provided on the tube 1 and a spring washer 8 is mounted below said lug. The bottom of the magazine comprises a handle 9 of any suitable shape. In the interior of the handle a disc 11, as shown in Figure 1, is mounted for rotation on a pin 12. A resilient strip 13 is anchored on the disc 11, the other end of said strip 13 being secured to the feeder 4. The disc is provided with numbers which in operation show the number of projectiles remaining in the magazine, as will be explained hereinafter. A window 14, as shown in Figure 2, may be provided in the handle 9, in such a position as to be in registry with the number on the disc which indicates the number of projectiles remaining in the magazine.

The handle 9 is covered by a top-plate 15 secured by suitable screws 16.

The magazine described above operates as follows:

If the magazine is empty the feeder 4 is in its topmost position as shown in Figure 2. When projectiles are desired to be inserted, the feeder 4 is moved downwards by means of the pin 6. For this purpose a groove 17 may be arranged in the bottom wall of the pistol-grip of the gun, as shown in Figure 4, so that by removing the magazine and placing its top portion into its mounting 19 in such position that the pin 6 lies in the groove 17, the feeder 4 may be retained to compress spring 5 while the magazine is again inserted into the interior of the gun until the feeder 4 and compression spring 5 are depressed to the required depth. Having reached the desired depth position, the magazine is slightly rotated so as to make the pin 6 enter the desired notch 3, whereupon the magazine is again withdrawn from its mounting in the pistol-grip. This position is shown in Figure 3, in which the feeder

pin 6 is in the fourth notch 3, i. e., in a position in which the magazine may receive four projectiles. The projectiles may then be placed on top of the feeder, as shown in Figure 1, and the magazine may then be normally inserted into its mounting in the pistol-grip. During this operation the magazine is inserted so as to make the pin 6 slide in a groove 18 provided in its mounting 19 in the pistol-grip. When the lug 7 has reached the bottom of the mounting 19, the magazine is partially rotated so as to make the lug 7 enter the groove 20, whereupon the magazine is further rotated so as to bring the lug 7 into a bayonet groove 21 in which the lug 7 is arrested, so as to secure the magazine against falling out of the gun. By this rotation the pin 6, which is in engagement with the longitudinal groove 18, is moved out of the notch 3 into the longitudinal slot 2 and under the influence of the spring 5 is pressed against the column of projectiles in the magazine, biassing the latter upwards into the feeding position.

When the feeder is shifted down, the strip 13 will rotate the disc 11 into a position in which the corresponding number, indicating for example four projectiles, comes in registry with the window 14, said number indicating the number of projectiles in the magazine.

After the magazine has been inserted, as described above, the normal operation of the gun may begin.

The magazine according to the invention is extremely simple and easy to manipulate, and one of its chief advantages is the arrangement of the notches 3 for arresting the feeder 4 in any desired position, to obviate the necessity of providing any special device for retaining the projectiles in the magazine while loading which is a source of inconvenience in the magazines known up to now.

While I have disclosed the principles of my invention in connection with one embodiment, it will be understood that this embodiment is given by way of example only and not as limiting the scope of the invention as set forth in the appended claims.

I claim:

1. In an air gun, a gun mechanism, a gun butt, a hollow screw securing the gun butt to the gun mechanism, a tubular pellet magazine inserted within the hollow screw and adapted to feed pellets to the gun mechanism, said hollow screw having a longitudinal guiding groove, said tubular magazine comprising a tube having a longitudinal slot corresponding to the longitudinal guiding groove in said hollow screw, a series of notches extending to one side of said slot, said notches being spaced at a distance equal to the diameter of a pellet, a pellet push member slidably mounted within said tube and spring loaded to normally feed pellets in the tube to the gun mechanism, said push member having a lateral lug projecting through said slot into said groove, and means for rotating said tube whereby said lug may be locked in one of said notches to prevent feeding movement of said push member.

2. The invention as claimed in claim 1 wherein said magazine is provided with a lateral lug projection at its lower end, said hollow screw having a recess at its lower end for engaging the lateral lug projection at the lower end of the magazine in the manner of a bayonet closure upon rotation of the magazine, the direction of rotation to effect said bayonet closure being opposite to the direction of rotation to effect the locking of the push member.

3. The invention as claimed in claim 1 wherein means are provided to indicate the longitudinal position of said push member in its unlocked position to thus indicate the number of pellets in the magazine.

4. The invention as claimed in claim 3 wherein the indicating means comprises a disc member, a flexible member connecting said push member to said disc member and adapted to be unwound from and rotate said disc as said push member is moved to feed pellets, and indicia on said disc member to indicate the number of pellets in said magazine by the angular position of said disc.

LUMÍR VOJTĚCH KAPSA.

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