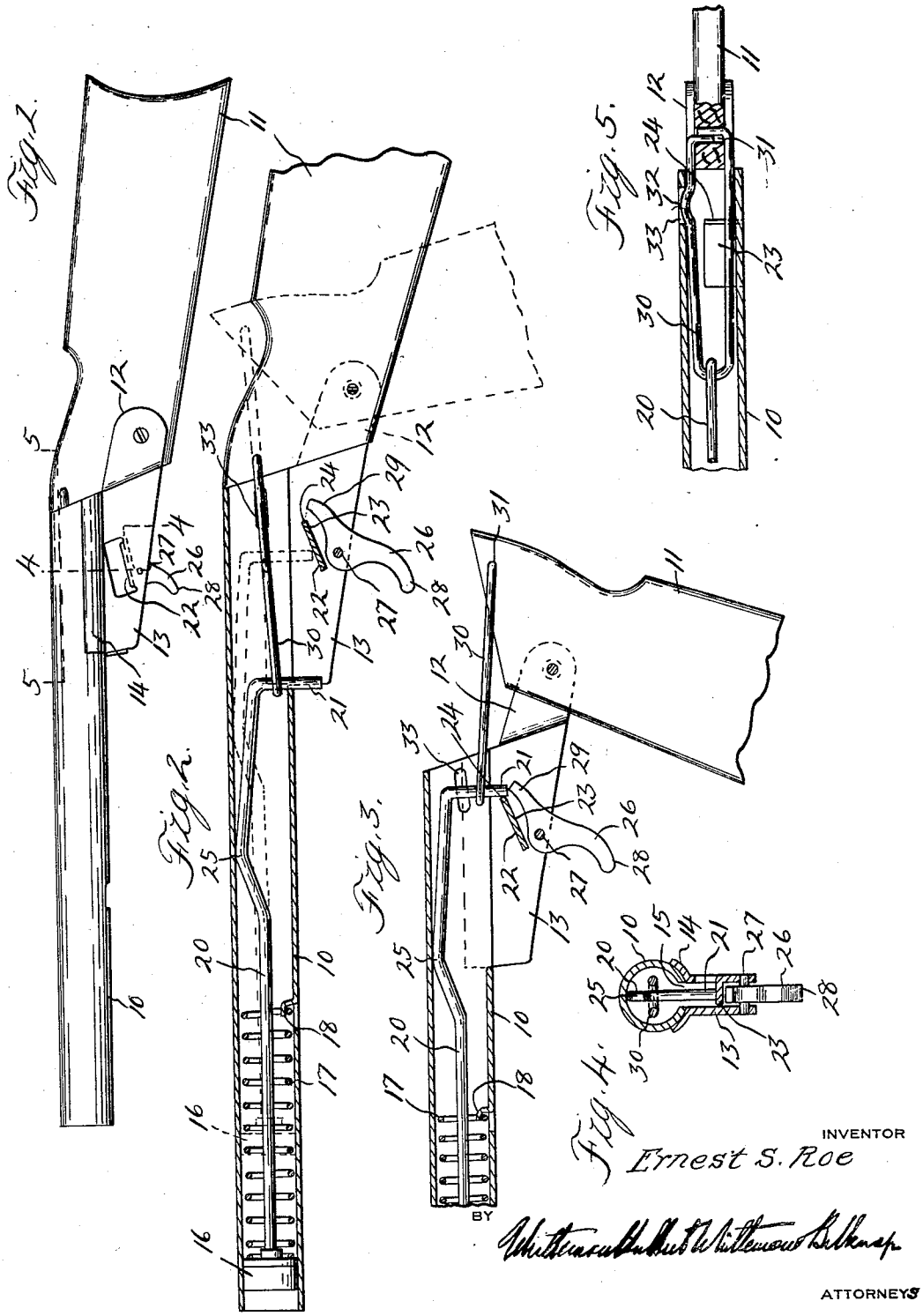
Nov. 3, 1931. E. S. ROE 1,830,291

POPGUN

Filed Nov. 30, 1928



INVENTOR
Ernest S. Roe

BY

ATTORNEYS

Patented Nov. 3, 1931

1,830,291

UNITED STATES PATENT OFFICE

ERNEST S. ROE, OF PLYMOUTH, MICHIGAN, ASSIGNOR TO KING MANUFACTURING COMPANY, OF PLYMOUTH, MICHIGAN, A CORPORATION OF MICHIGAN

POPGUN

Application filed November 30, 1928. Serial No. 322,791.

This invention relates to pop guns and has as an object to provide a pop gun which will be simple in construction, whereby the same may be economically produced on a commercial scale.

A further object of this invention is to provide a pop gun having a member adapted to be flexed out of its normal position during the cocking of the gun and adapted to flex back to its normal position after the gun is cocked for holding the parts of the gun in cocked position.

Other objects and advantages of this invention will become more apparent as the following description proceeds, particularly when reference is had to the accompanying drawings, wherein

Figure 1 is an elevational view of a gun constructed in accordance with the teachings of this invention,

Figure 2 is a sectional view through the gun shown in Figure 1, there being a dotted line showing of the gun in partly cocked position,

Figure 3 is a fragmentary sectional view of the gun in full cocked position,

Figure 4 is a vertical sectional view taken substantially on the line 4—4 of Figure 1, and

Figure 5 is a fragmentary horizontal sectional view taken substantially on the line 5—5 of Figure 1.

Referring now particularly to the drawings wherein like reference characters designate corresponding parts throughout all views, it will be noted that in Figure 1, there is illustrated an air gun consisting of a barrel 10 and a stock 11 pivotally connected to the barrel by the ears 12, which project rearwardly from the plates 13 secured to the barrel 10 as at 14. The plates 13 together form a trigger housing and the barrel 10 is slotted as at 15 to communicate with this housing.

Arranged within the barrel 10 is a plunger 16 normally urged to the position shown in full lines in Figure 2 of the drawings by the spring 17, which engages at its forward end the rear face of the plunger 16. To form an abutment for the rear end of the spring 17, the barrel may be provided with the struck out portions 18, these portions being bent inwardly of the barrel as clearly illustrated in Figure 2 of the drawings.

An important feature of the invention is the provision of a resilient member adapted during the cocking or compressing of the spring 17 to be flexed out of its normal position and adapted when the spring is fully cocked to return to its normal unflexed position for holding the spring in cocked position. Accordingly as illustrated in Figure 2 of the drawings, there is provided a resilient rod or member 20 secured to the plunger 16 and adapted during cocking or compressing of the spring to be moved rearwardly of the barrel 10. This rod is flexed during cocking of the spring by engagement of its depending end 21 with the inclined upper face 22 of a flange 23 formed in the trigger housing. As illustrated in Figures 1 and 4 of the drawings, the flange 23 may preferably be formed by striking out a portion of one of the plates 13 and by bending this struck out portion inwardly so that the same lies entirely within the trigger housing.

As the rod 20 moves rearwardly, the end of the rod is flexed upwardly as clearly shown in dotted lines in Figure 2 of the drawings until the end 21 passes beyond the flange 23, whereupon the rod returns to its normal unflexed position as shown in Figure 3 of the drawings in which position the end 21 of the rod is hooked over the rear edge 24 of the flange. In this position, the spring is held in cocked position by the hooked engagement of the end 21 of the rod with the flange 23.

To yieldably resist the flexing of the rod 20, there may be provided an offset portion 25 adjacent the end of the rod, this offset por-

tion engaging the inner periphery of the barrel 10 as clearly shown in Figure 2 of the drawings. Engagement of the offset portion 25 with the inner periphery of the barrel 10 urges the end 21 of the rod downwardly through the slot 15 and into engagement with the flange 23.

For releasing the hooked engagement of the end of the rod with the flange 23, there is provided a trigger 26 which may be formed of a metal stamping and which may be pivotally hung between the plates 13 as on the pivot pin 27. The trigger 26 has the finger engaging portion 28 and the projection 29 and is adapted to hang by gravity in the position shown in Figures 2 and 3 of the drawings. By reference to these figures, it will be noted that even when the parts of the gun are in cocked position the normal position of the trigger is not changed and that the same hangs by gravity in the same position at all times. To release the hooked engagement, however, of the end 21 with the flange 23, the trigger 26 may be swung about its pivot, whereupon the projection 29 engages the end of the rod to flex the same upwardly out of engagement with the flange 23.

For retracting the rod 20 to cock the spring 17 there may be provided a loop 30 having its one end pivotally mounted in an opening 31 in the stock 11 and having its other end in hooked engagement with the hooked end 21 of the rod. Thus as the stock 11 is swung about its pivotal engagement with the ears 12, the loop 30 is drawn rearwardly to correspondingly move the rod 20 rearwardly. The stock 11 may be normally held in juxtaposition to the barrel 10 by the provision of an offset portion 32 on the loop 30, this offset portion being engageable in an opening 33 formed in the barrel 10 adjacent the rear end thereof.

From the above, it is believed that the structure and operation of the gun will be clearly apparent. In use, the gun is cocked by breaking the same about the pivotal engagement between the stock 11 and ears 12. This causes the loop 30 to draw the rod 20 rearwardly and during the travel of the rod 20, the end 21 thereof rides up over the flange 23 as shown in dotted lines in Figure 2 of the drawings. This causes a flexing of the end of the rod 20 so that as soon as the end 21 passes beyond the flange 23, it snaps downwardly to the position shown in Figure 3 of the drawings or in hooked engagement with the edge 24 of the flange 23. Movement of the trigger about its pivot flexes the end of the rod 20 to move the same out of engagement with the edge 24, whereupon the plunger is returned to the position shown in Figure 1 of the drawings by the spring 17.

While the invention has been described with considerable detail, it is to be clearly understood that the description is for the purposes of illustration only. The right is therefore reserved to make such changes in the details of construction and arrangement of parts as will fall within the purview of the attached claims.

What I claim as my invention is:

1. In an air gun, a barrel, a plunger and spring within said barrel, a shoulder adjacent one end of said barrel, and a resilient rod connected to said plunger for retracting the same to compress said spring, said rod having a portion engageable with said shoulder for holding said plunger in retracted position and having a second portion engageable with said barrel for yieldably urging said first mentioned portion into engagement with said shoulder.

2. In an air gun, a barrel, a spring and plunger within said barrel, a trigger housing secured to said barrel, said housing having a struck out flange arranged at an angle to said barrel, and a resilient rod secured to said plunger for cocking said spring, said rod having a portion adapted to ride over the face of said flange to flex said rod during cocking of said spring and to hook over the edge of said flange when said spring is cocked for holding said spring in cocked position.

3. In an air gun, a barrel, a spring and plunger within said barrel, a resilient rod secured to said plunger, said rod having a hooked end, a trigger housing having a struck out portion forming a shoulder over which said hooked end of said rod is adapted to hook when the plunger is retracted, and a cam face on said struck out portion for flexing said rod during the retracting of said plunger.

4. In an air gun, a barrel, a stock pivoted to said barrel, a spring and plunger within said barrel and means for moving said plunger to cocked position, said means including a rod secured to said plunger, said rod having a hooked end and a loop secured to said stock and receiving the hooked end of said rod, said loop having an offset portion engageable in an opening in said barrel for holding said stock in juxtaposition to said barrel.

5. In an air gun, a barrel, a trigger, a spring and plunger within said barrel, a resilient member for retracting said plunger to cock said spring, and means for flexing said resilient member out of its normal position during cocking of said spring, said resilient member having a portion engaging said barrel to resist said flexing.

6. In an air gun, a barrel, a plunger and spring within said barrel, means forming a shoulder adjacent one end of said barrel, and a resilient rod connected to said plunger for retracting the same to compress said spring, said rod having a hooked end engage-

able with said shoulder and having an offset portion intermediate its ends engageable with said barrel for yieldably urging said hooked end into engagement with said shoulder.

7. In an air gun, a barrel, a stock pivoted to said barrel, a spring and plunger within said barrel, and means for moving said plunger to cocked position, said means including a rod secured to said plunger, and a member secured to said stock and engaging said rod, said member having an offset portion engaging a portion of said barrel for holding said stock in juxtaposition to said barrel.

In testimony whereof I affix my signature.

ERNEST S. ROE.