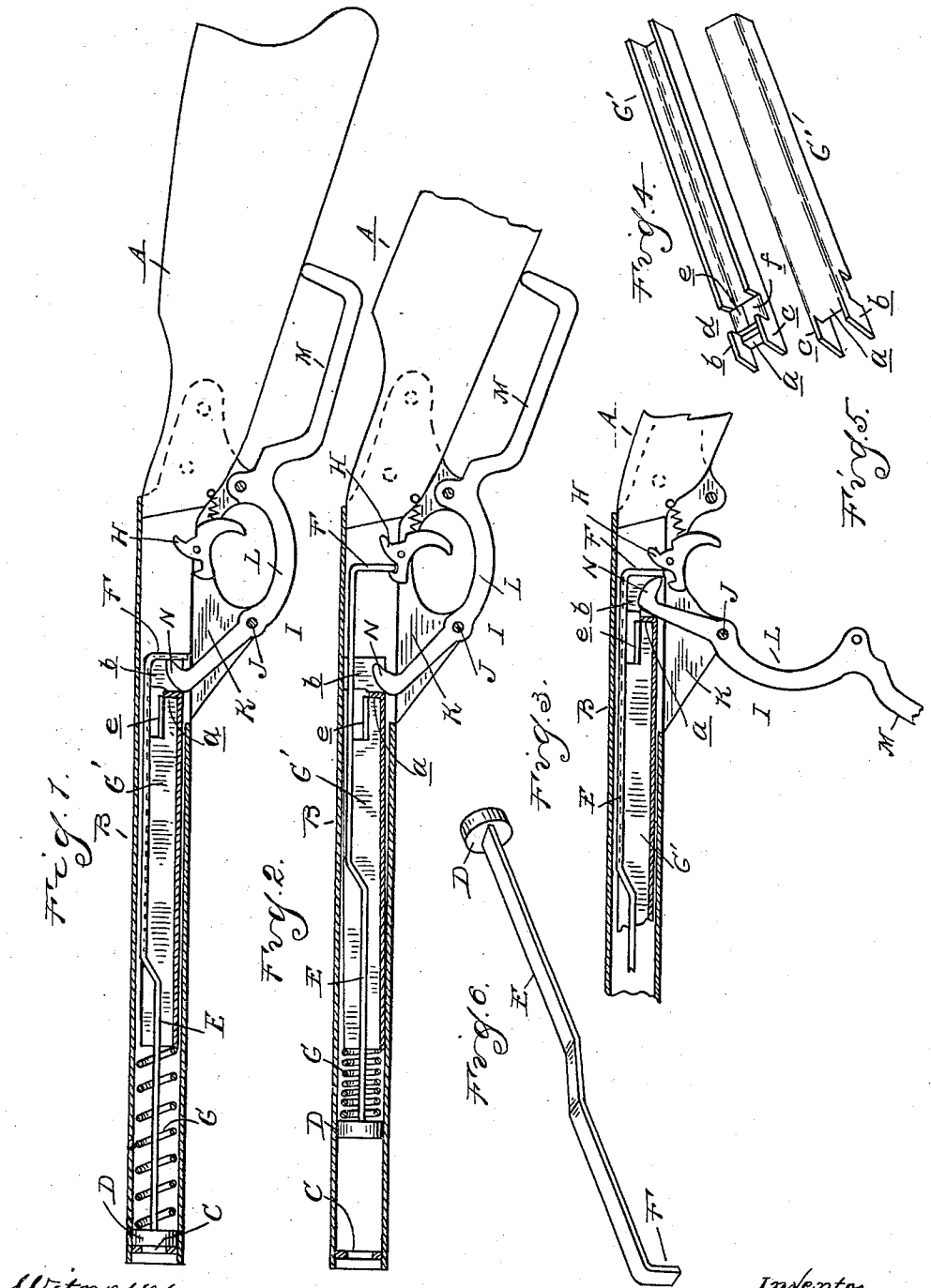
E. S. ROE.

AIR GUN.

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ERNEST S. ROE, OF PLYMOUTH, MICHIGAN, ASSIGNOR TO MARKHAM AIR RIFLE COMPANY, OF PLYMOUTH, MICHIGAN, A CORPORATION OF MICHIGAN.

AIR-GUN.

1,080,170. Specification of Letters Patent. Patented Dec. 2, 1913.

Application filed August 3, 1912. Serial No. 713,081.

To all whom it may concern:

Be it known that I, ERNEST S. ROE, a citizen of the United States of America, residing at Plymouth, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Air-Guns, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates generally to air guns of the type wherein a lever is employed for compressing the plunger spring, and has for one of its objects the provision of a friction lock of simple construction for positively holding the lever in its normal position substantially in alinement with the gun stock.

A further object is to provide a simple, efficient and inexpensive abutment for the plunger spring, and with these objects in view the invention resides primarily in the novel construction of the locking means and abutment, and further in various details of construction and in the peculiar arrangement and combination of parts thereof as will be more fully hereinafter set forth.

In the drawings,—Figure 1 is a view partly in section and in side elevation of an air gun, showing the position of parts when the gun is uncocked; Fig. 2 is a similar view, showing the arrangement of parts when the gun is in readiness for shooting; Fig. 3 is a sectional view, illustrating the position of the parts during the operation of cocking; Figs. 4 and 5 are detached perspective views of the spring abutment; and Fig. 6 is a similar view of the plunger and its stem.

In the drawings thus briefly described, A represents the stock of the gun, and B the barrel, having the usual apertured plunger abutment C formed within its outer end.

D is the plunger, and E its stem, terminating at its extremity in the usual hook F.

G is the plunger spring preferably encircling the stem, and G′ is a breech-block constituting a shiftable abutment for the spring and a housing for the stem.

H is the usual trigger for engaging the stem hook, and I is the lever for shifting the breech-block and compressing the spring.

J represents the lever pivot, mounted in frame plates or ears K depending from the barrel, and L is a curved section formed upon the lever constituting the trigger guard.

M represents the hand section of the lever, which normally lies in substantial alinement with the gun stock.

In forming the friction locking means for the lever, its extremity toward the muzzle of the gun is formed with an inclined projection N which bears against the spring abutment, and the lever pivot is so located that when the lever is in its normal position as indicated in Figs. 1 and 2 the engagement of the end portion N with the abutment or breech-block lies within the angle of friction. By having the lever L engage the abutment G′ within the angle of friction the connection between the said lever L and the abutment is such that when the gun is in operative position the lever L is in alinement with the gun stock and it is impossible to move this lever, as the cam face N has such an engagement with the bent up portion *a* of the abutment that any movement on the part of the lever L will cause the abutment G′ to move upward, this movement being restricted by the top of the gun barrel. Thus, the lever is held positively by friction only in its normal position, as illustrated.

The breech-block referred to is formed preferably from a single piece of metal, bent as illustrated to form a channel section. The end of the block adjoining the lever has its bottom portion slitted, along the sides of the block for a short distance; and the tongue portion *a* thus formed is bent upwardly intermediate the furcations *b c*, forming a bearing for the lever end. This bearing member in turn is provided with an abutment *d* to retain the bearing in its desired position, the abutment being formed by slitting the sides of the channel member, forming transverse ears or members *e f*, the ears being bent downwardly into alinement one with the other in advance of the tongue *a* to form the desired abutment.

The parts are normally in the position indicated in Fig. 1, the end portion N of the spring compressing lever being positioned between the breech-block and the hook F upon the plunger stem. In the operation of cocking, forward movement of the lever shifts the block plunger, spring and stem

as a unit rearwardly of the barrel until an engagement is effected between the stem hook and the trigger H. Return movement of the lever shifts the block and compresses the spring, and as previously stated after the lever is returned to its normal position the spring is held under compression and the lever in adjacency to the stock by reason of the point of engagement between the lever end and block lying within the angle of friction.

What I claim as my invention is,—

1. In an air gun, the combination with a barrel, of a plunger and its spring therein, a lever for compressing the spring, and a shiftable abutment for the spring engaging the lever within the angle of friction in the normal position of the lever to hold the latter in its normal position.

2. In an air gun, the combination with a barrel, of a plunger and its stem therein, and a trigger engaging the stem, a shiftable breech block, and a spring intermediate the latter and the plunger and a lever for shifting the block and compressing the spring, said block engaging the lever within the angle of friction in the normal position of the lever to hold the latter in its normal position.

3. In an air gun, the combination with a barrel, of the plunger and spring therein, a shiftable abutment for the spring, an operating lever associated with said air gun, the said shiftable abutment having an upturned portion at its rear end, the operating lever provided with a cam face adapted to engage the up-turned portion within the angle of friction when in its normal position, substantially alining a stock, to hold the lever in its normal position.

4. In an air gun, the combination with a barrel, of a plunger and its spring therein, a shiftable abutment for the spring, a lever having a smooth face for engaging the abutment for compressing the spring, the said face of the lever when in its normal position preventing rearward movement of the abutment and also locking the lever against the gun stock.

5. In an air gun, the combination with a barrel, of the plunger and its spring therein, a shiftable abutment for the spring, a lever having a cam face engaging the rear portion of the abutment for compressing the spring, the said cam face when in its normal position holding the lever against the gun stock.

6. In an air gun, the combination with the barrel, of the plunger and spring therein, a lever for compressing the spring, a shiftable abutment for the spring engaging but unattached to a portion of the lever and acting to hold the lever in its normal position.

7. In an air gun, the combination with the barrel, of the plunger and its spring therein, and a shiftable breech-block forming a housing for the plunger stem and an abutment for its spring, formed from a single piece of metal bent to form a channel section, said block at one end having its top slitted along the side edges and the tongue portion bent inwardly, forming a lever bearing, and an abutment for said bearing formed by integral portions of the sides of the channel section.

8. In an air gun, the combination with the barrel, of the plunger and its stem therein, and a shiftable breech-block forming an abutment for the plunger stem made from a single piece of metal bent to form a channel section, the plunger stem being arranged in the channel section, said block having a lever bearing at one end, and a lever for compressing the spring having a portion engaging said bearing but unattached thereto.

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

ERNEST S. ROE.

Witnesses:
FRANCES MEYERS,
EVERED V. JOLLIFFE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."