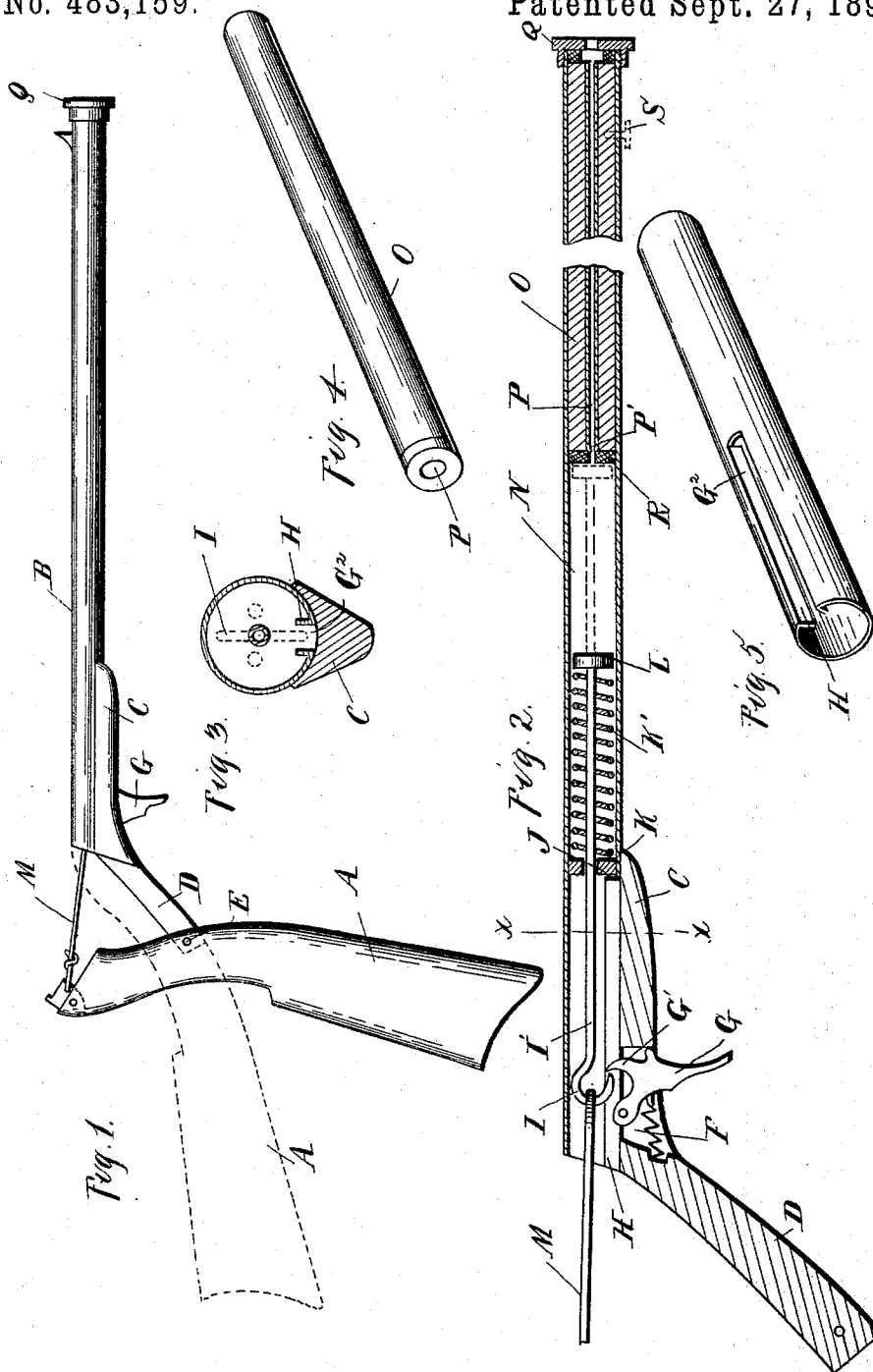


(No Model.)

W. F. MARKHAM.  
SPRING AIR GUN.

No. 483,159.

Patented Sept. 27, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM F. MARKHAM, OF PLYMOUTH, MICHIGAN.

## SPRING AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 483,159, dated September 27, 1892.

Application filed December 18, 1890. Serial No. 375,155. (No model.)

*To all whom it may concern:*

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

This invention relates to new and useful improvements in spring air-guns; and it consists in the peculiar construction of the following parts: first, in the construction of the abutment, against which the spring is compressed, the same being formed integral with the false barrel; second, in the construction of a plug supporting the true barrel and forming the air-compressing abutment at the forward end of the air-compressing chamber; third, in forming the seat for the projectile at the rear end of the true barrel and in detachably securing the true barrel in position within the false barrel, so that in case the projectile becomes lodged the barrel may be quickly detached and the projectile removed; further, in the peculiar construction of the spring-compressing mechanism, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully herein-after described.

In the accompanying drawings, Figure 1 is a side elevation of my improved gun, showing the stock in its two positions. Fig. 2 is a vertical central longitudinal section thereof with the stock removed. Fig. 3 is a cross-section thereof on line *xx* of Fig. 2. Fig. 4 is a detached perspective view of the barrel-supporting plug. Fig. 5 is a detached perspective view of the rear end of the false barrel, showing the manner of forming the abutment for compressing the spring.

A is the stock.

B is the false barrel.

C is the fore-arm, which is secured to the false barrel on its under side and has integrally formed therewith the rearward extension D, which engages in a suitable slot formed in the under side of the stock and to the rear end of which the stock is pivotally secured by means of the pivot E.

F is a slotted bearing formed in the under side of the fore-arm, in which the trigger G is

pivoted, having a detent G' extending into the false barrel through a slot G'', formed in the under side thereof. This slot is preferably formed by turning inward the flanges H, these flanges forming guides for the hook I on the rear end of the piston-rod I', the forward end J of these flanges forming an abutment against which the plug K bears, a spring K' being sleeved over the piston-rod between the piston L and the plug K. This plug K may be omitted, if desired, and the spring itself may have a direct bearing against the ends of the flanges H. The construction including the plug is, however, preferable.

M is a link engaging with the hook I at its forward end, passing out through the rear end of the false barrel and pivotally engaging with the forward end of the stock in any suitable manner.

N is the air-compressing chamber formed between the forward end of the piston when the spring is compressed and the rear end of the block or plug O. This block or plug O preferably carries the true barrel P, in the rear end of which is formed the contracted seat P', in which the projectile is held.

Q is a cap having a screw-threaded engagement with the end of the false barrel and holding the plug O and barrel P in position within the false barrel.

The plug O is preferably provided at its rear end with a yielding face R of rubber, leather, or other suitable material.

The gun is provided with suitable fore and hind sights of any desired construction.

The parts being thus constructed, they are intended to operate as follows: The spring being expanded and the piston in the position shown in dotted lines in Fig. 2 to compress the spring, the operator breaks down the stock, turning it on its pivot to the position shown in full lines in Fig. 1. This withdraws the link M, which is connected to the piston-rod I', carrying the same backward until the hook I engages with the detent G' of the trigger, the spring being compressed between the plug K and the piston L, the parts being in the position shown in full lines in Fig. 2. The operator drops the projectile into the true barrel, in the seat P' of which it becomes lodged, and by pulling on the trigger the spring is released and the projectile is thrown by the

compressed air. Should the projectile become lodged in the true barrel, the operator has simply to remove the cap Q and then withdraw the plug O and by the use of a suitable instrument push out the projectile, when the barrel can be reinserted. If a projectile of small size be placed in the true barrel, which passes into the air-compressing chamber M, it can be removed by taking out the plug O. In the event of the small projectile passing into the air-compressing chamber and the gun being fired, damage to the parts is prevented by the soft facing R. Any other means for holding the plug O detachably in position may be employed—thus, for instance, the set-screw shown at S. It is also apparent that the true barrel may be made detachably separable from the plug O in which it is secured; but for the sake of economy of construction I secure the true barrel within the plug and make the plug detachable.

The forming of the abutment by means of the flanges H is a decided saving in construction over previous means employed for this purpose, the flanges also serving to form guide-flanges for the hook I. By making the fore-arm C and the rearward extension D integral I am enabled to get great rigidity of construction with small expense. When the stock is in firing position, the hook on the forward end of the link N is disengaged from the hook I and is moved to a position so that when the spring is expanded the hook I will again engage with it.

What I claim as my invention is—

1. In a spring air-gun, the combination, with the stock having a slot in its underside, of a false barrel, a fore-arm secured thereto, a rearwardly-inclined extension D, integral with the fore-arm and pivotally connected in the slot of the stock, a slotted bearing in the fore-arm, and a trigger pivoted in the bearing, substantially as described.
2. In a spring air-gun, the combination, with the stock having a slot in its under side, of a barrel, a fore-arm on the barrel, and a rearward extension integral with the fore-arm, pivotally connected to the stock and resting in the slot thereof when the stock is raised, substantially as described.
3. In a spring air-gun, the combination, with the barrel, piston, and spring for actuating the piston, of inwardly-extending flanges struck from the material of the barrel, forming

abutments with which the spring engages, and means for compressing the spring against the abutments, substantially as described.

4. In a spring air-gun, the combination, with the barrel, the spring, the piston, the piston-rod having a hooked rear end, and the trigger with which said hook is adapted to engage, of inwardly-extending guide-flanges for said hook and the abutment against which the spring is compressed, formed by the forward end of said flanges, substantially as described.

5. In a spring air-gun, the combination, with the barrel, the spring, the piston, the piston-rod having a hooked rear end, and the trigger, of a guide-block through which the piston-rod passes and an abutment against which said block bears in the compression of the spring, formed by upwardly-extending flanges on the barrel, substantially as described.

6. In a spring air-gun, the combination, with a false barrel rigidly secured, of a removable apertured plug in the same, a true barrel in the plug, and means, such as the screw-cap Q, for normally retaining the plug in and permitting the removal of the same from the false barrel, substantially as described.

7. In a spring air-gun, the combination, with the false barrel and the air-compressing piston, of an apertured plug supporting the true barrel and forming with its rear end the air-compressing abutment, substantially as described.

8. In a spring air-gun, the combination, with a false barrel, of a true barrel therein, a yielding seat for the piston, formed at the rear end of the true barrel, and means for detaching the true barrel and seat, substantially as described.

9. In a spring air-gun, the combination, with a false barrel and the air-compressing piston, of an apertured plug supporting the true barrel, and a rubber facing R at the rear end of said plug beyond the true barrel, forming an elastic abutment for the piston, substantially as described.

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

WILLIAM F. MARKHAM.

Witnesses:

M. B. O'DOHERTY,  
P. M. HULBERT.