

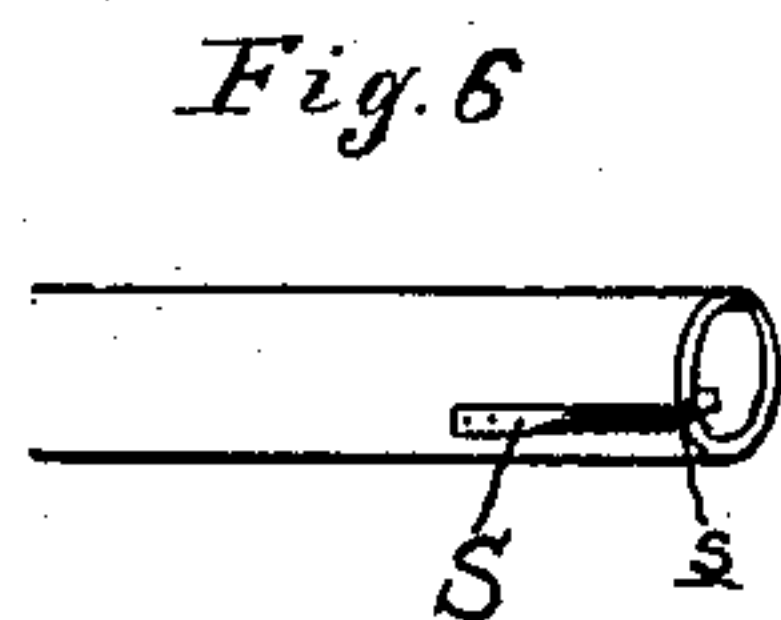
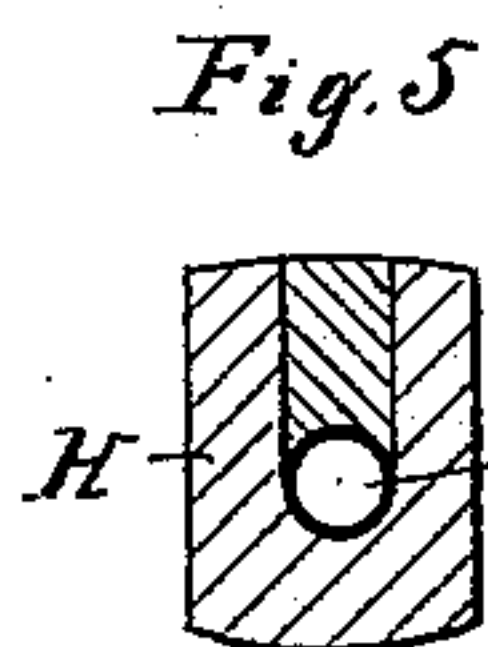
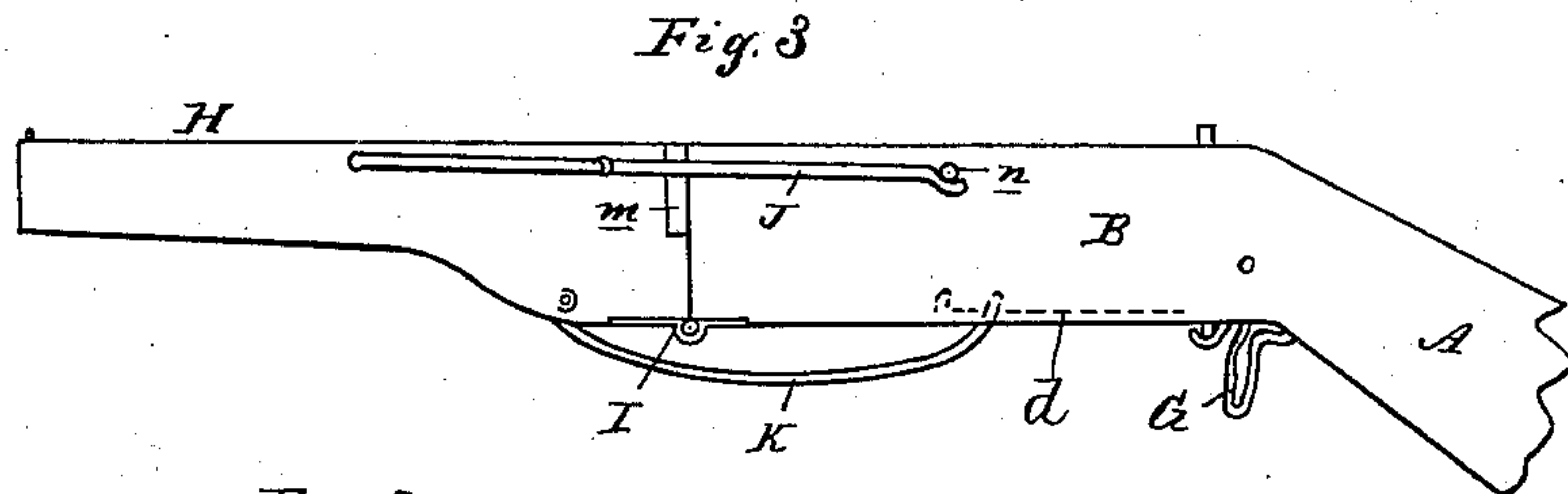
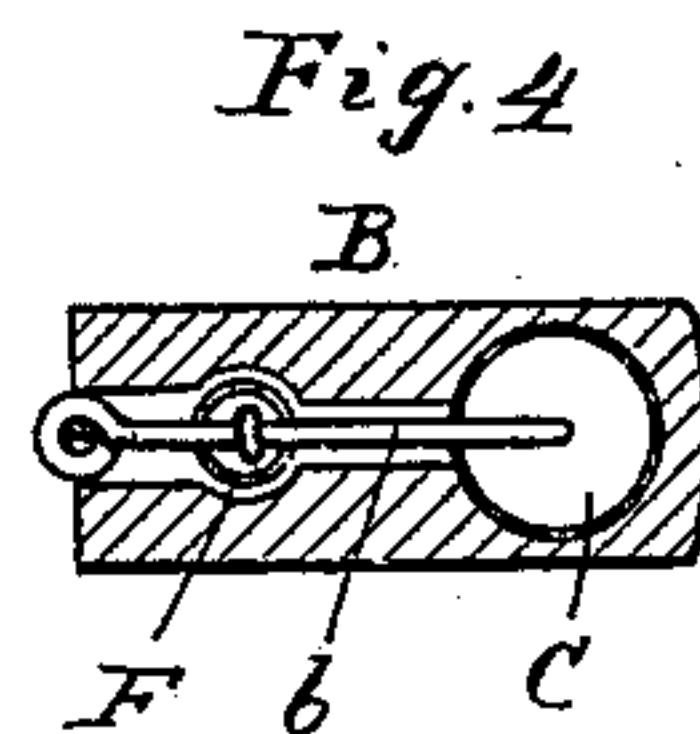
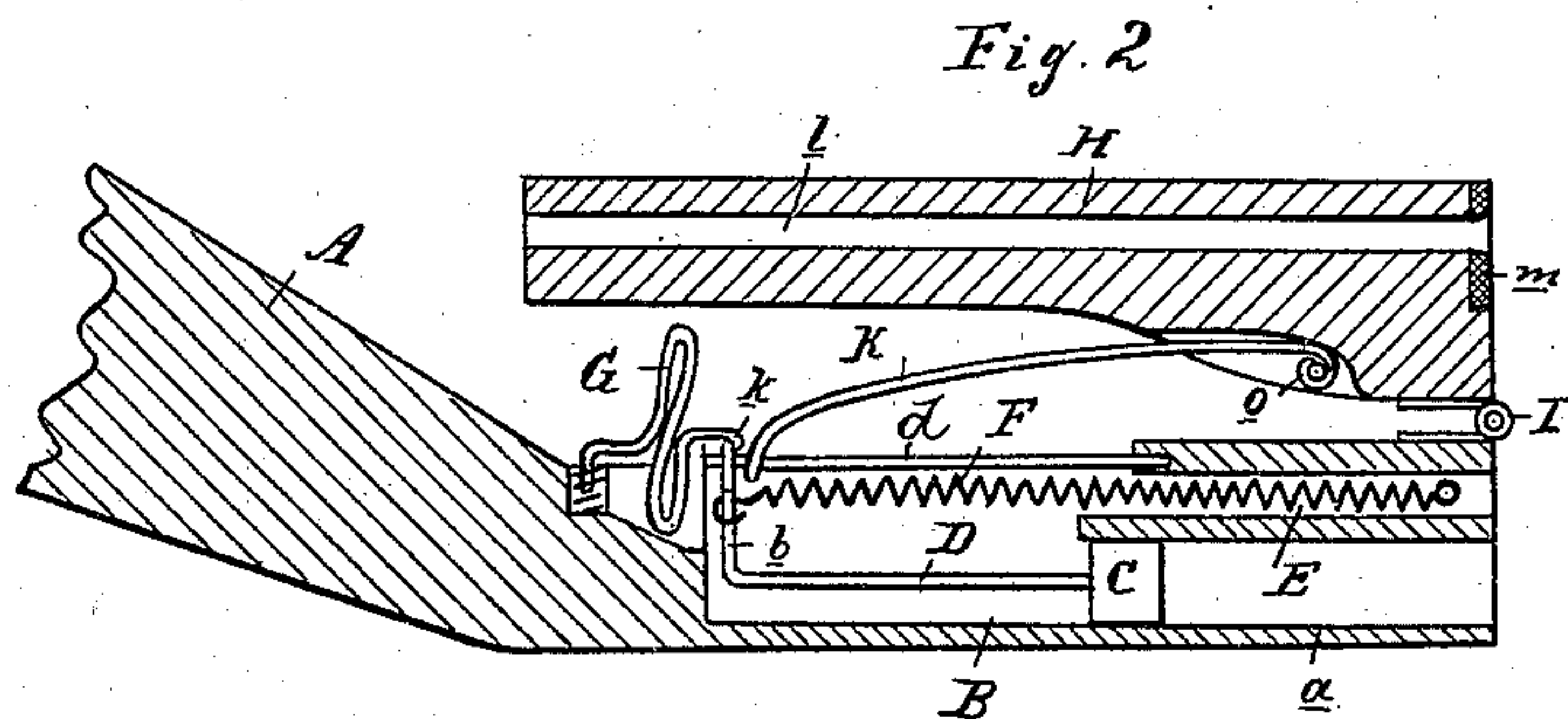
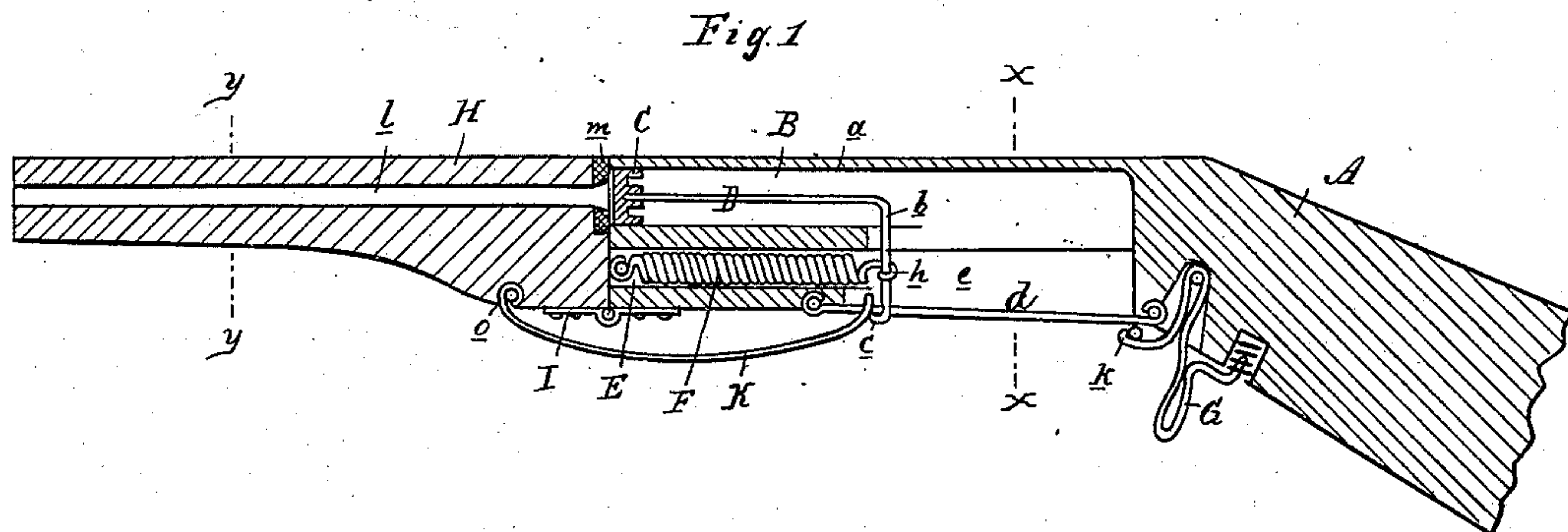
(No Model.)

W. F. MARKHAM.

AIR GUN.

No. 372,161.

Patented Oct. 25, 1887.



Attest:

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UNITED STATES PATENT OFFICE.

WILLIAM F. MARKHAM, OF PLYMOUTH, MICHIGAN.

AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 372,161, dated October 25, 1887.

Application filed May 12, 1887. Serial No. 237,957. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. MARKHAM, of Plymouth, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Air-Guns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in air-guns.

The invention consists in the peculiar construction of the parts and their various combinations, as more fully hereinafter described, 15 shown, and claimed.

Figure 1 is a vertical longitudinal section of my improved air-gun as extended and ready for use. Fig. 2 is a like section showing the position of the parts in setting the gun. Fig. 20 3 is a side elevation showing the gun set and ready for discharge. Fig. 4 is a vertical cross-section on the line *x x* in Fig. 1. Fig. 5 is a cross-section on the line *y y* in Fig. 1. Fig. 6 shows the inner end of the barrel with its retaining-spring.

25 In the drawings which accompany and form a part of this specification, A is the stock, in the front end of which there is formed an air-chamber, B, the inner wall, *a*, of which is a 30 metallic cylinder.

C is a piston attached to a rod, D, terminating in a right-angled elbow, *b*, the end of which terminates in a loop, *c*, which embraces and traverses the guide-rod *d*, which is secured at 35 the bottom of the slot *e*.

E is a cylinder formed in the stock below the air-cylinder B, and has secured within it a coil-spring, F, at one end, while the opposite end of such spring engages at *h* with the elbow 40 of the rod D.

k is a hook which forms a part of the trigger G.

45 H is the barrel, the bore *l* of which is on the same axial line with that of the air-cylinder B. This barrel is pivotally secured to the front end of the stock by means of the hinge I, and has let into its rear end a rubber packing, *m*, which acts as a buffer, and at the same time, when the gun is set, prevents the escape of 50 air from the air-cylinder, except through the

bore of the barrel. To the rear end of the barrel is secured one end of a spring, S, the free end of which projects through a slot, *s*, formed in the barrel, as is shown in Fig. 6, the end of the spring projecting slightly within the barrel. 55 This spring, as the missile or shot is inserted into the barrel, as hereinafter described, presses upon such missile or shot and prevents the same from accidentally rolling out.

J is a spring-lever attached to the barrel, 60 and adapted, when the gun is set, as shown in Fig. 3, to engage with a stop, *n*, on the stock, and hold the two parts in their relative positions for use.

K is a spring-lever, the front end of which 65 is pivotally secured to the barrel at *o*, while the opposite end terminates in a loop, which embraces the guide-rod D in front of its engagement with the piston-rod.

In practice the lever J is disengaged from 70 its stop and the barrel folded back upon the under side of the stock, as shown in Fig. 2. The rod K, pushing back the piston-rod, thereby withdraws the piston to the end of its cylinder and extends the spring until the loop *e* 75 on the piston-rod engages with the hook *k* of the trigger. Now the bridge end of the barrel is exposed and the missile or shot is inserted. Then the barrel is unfolded and locked into its original position and the gun is ready to 80 discharge. Pulling the trigger disengages the hook or detent from its connection with the piston-rod, causes the violent contraction of the spring to its original position, and, carrying the piston in the air-cylinder in the same 85 direction, compresses the air therein and forces the same violently through the barrel and expels the shot.

By making the bore of the barrel in axial line with the air-cylinder I economize space 90 and provide for a more direct and positive movement of the piston.

What I claim as my invention is—

1. In a breech-loading air-gun, the combination, with the barrel, of an air-cylinder in 95 axial line with the bore of said barrel, a piston in said cylinder, a piston-rod having a right-angled elbow, and a coil-spring located within a chamber beneath the air-cylinder and connected with the elbow of said piston-rod and 100

extended by folding the barrel upon the stock, substantially as described.

2. In a breech-loading air-gun, the stock, pivoted barrel, and air-cylinder, combined with a piston within the air-cylinder, a spring arranged to actuate said piston and to be extended by the folding of the barrel upon the stock, and a lever or push-rod, K, pivotally connected to the barrel and slidingly connected with the stock, and the rod *d*, serving as a guide for both the piston and push rod, substantially as and for the purpose specified.

3. In a breech-loading air-gun, wherein the rear end of the barrel is hinged to the front end of the stock, the spring-lever J, pivoted at one end to the barrel, and stop *n* on the stock engaging the free end of said lever, substantially as and for the purposes described.

4. In a breech-loading air-gun, the combination, with the stock having air-cylinder, the barrel pivoted to said stock, and the piston in said cylinder, of the piston-rod D, having right-angled elbow *b*, the spring F, attached at one end to said elbow, the trigger G, engaging

said elbow, and the lever K, pivoted at one end to the barrel and its other end slidingly connected with the stock, substantially as described.

5. In a breech-loading air gun, the combination of the following elements: a stock, A, air-cylinder B therein, piston C within said cylinder, piston-rod D, connected with said piston, spring-chamber E in said stock beneath the air-cylinder, spring F in said chamber and connected with the piston-rod, trigger G, having catch or detent *k*, guide-rod *d* on the stock, barrel H, hinge I, pivotally connecting said barrel and stock, lock-lever J, detachably connecting the barrel and stock, and push-rod K, pivoted at one end to the barrel and its other end slidingly connected with the stock, the parts being constructed and arranged substantially as and for the purposes specified.

WM. F. MARKHAM.

Witnesses:

H. S. SPRAGUE,

E. J. SCULLY.