

C. L. WOOD.

TOY CANNON.

APPLICATION FILED APR. 29, 1908.

936,689.

Patented Oct. 12, 1909.

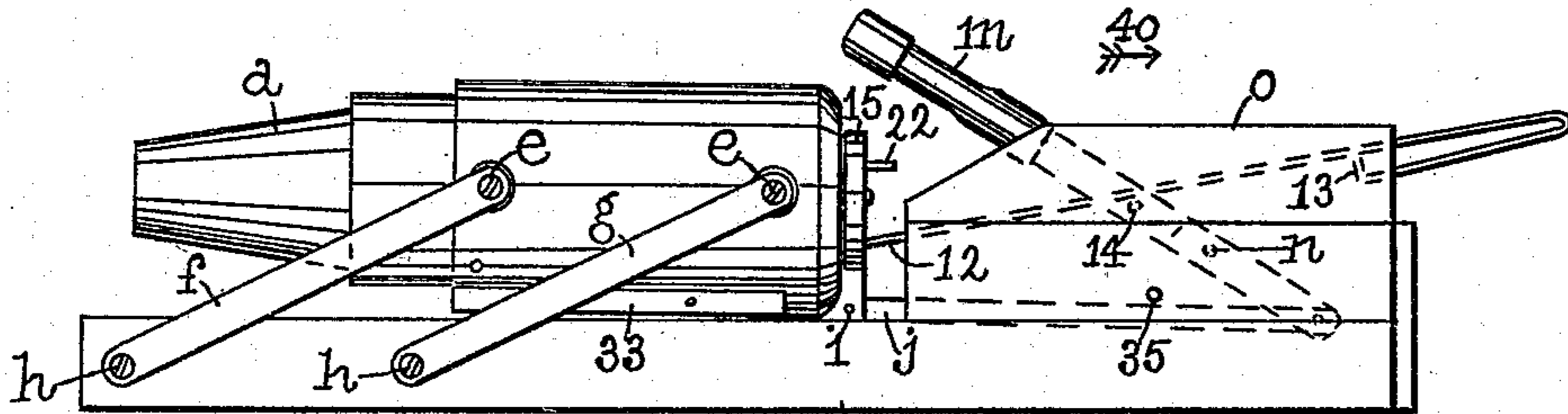


Fig. 1.

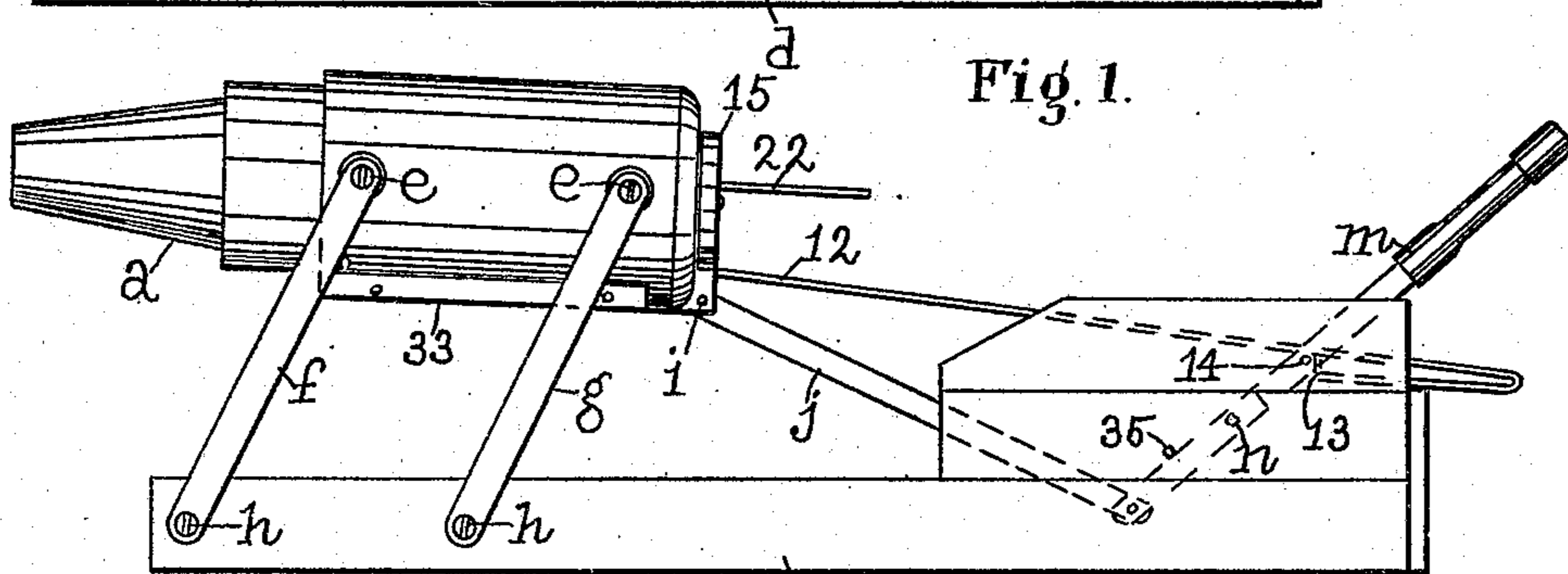


Fig. 2.

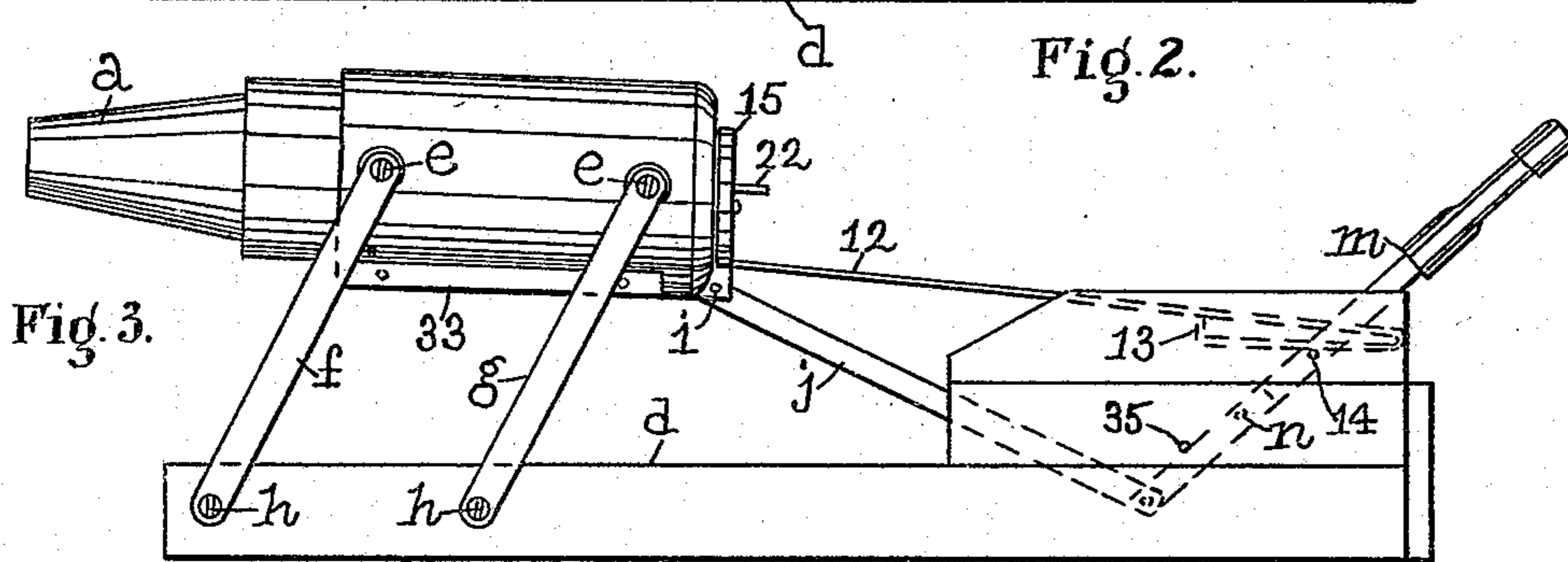


Fig. 3.

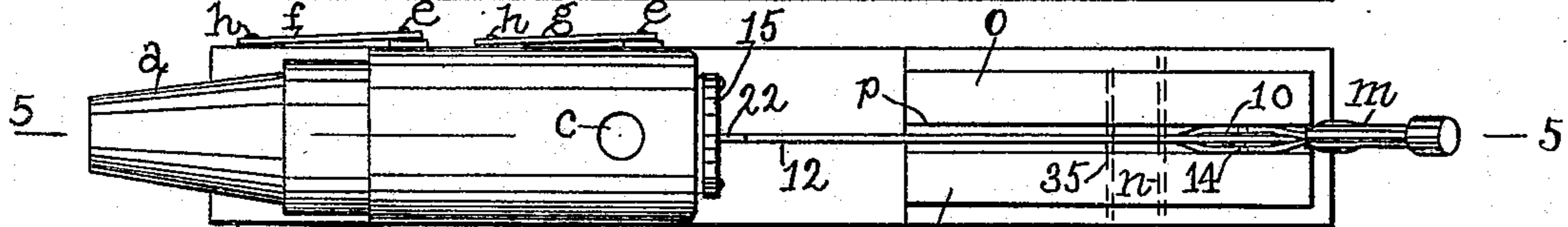


Fig. 4.

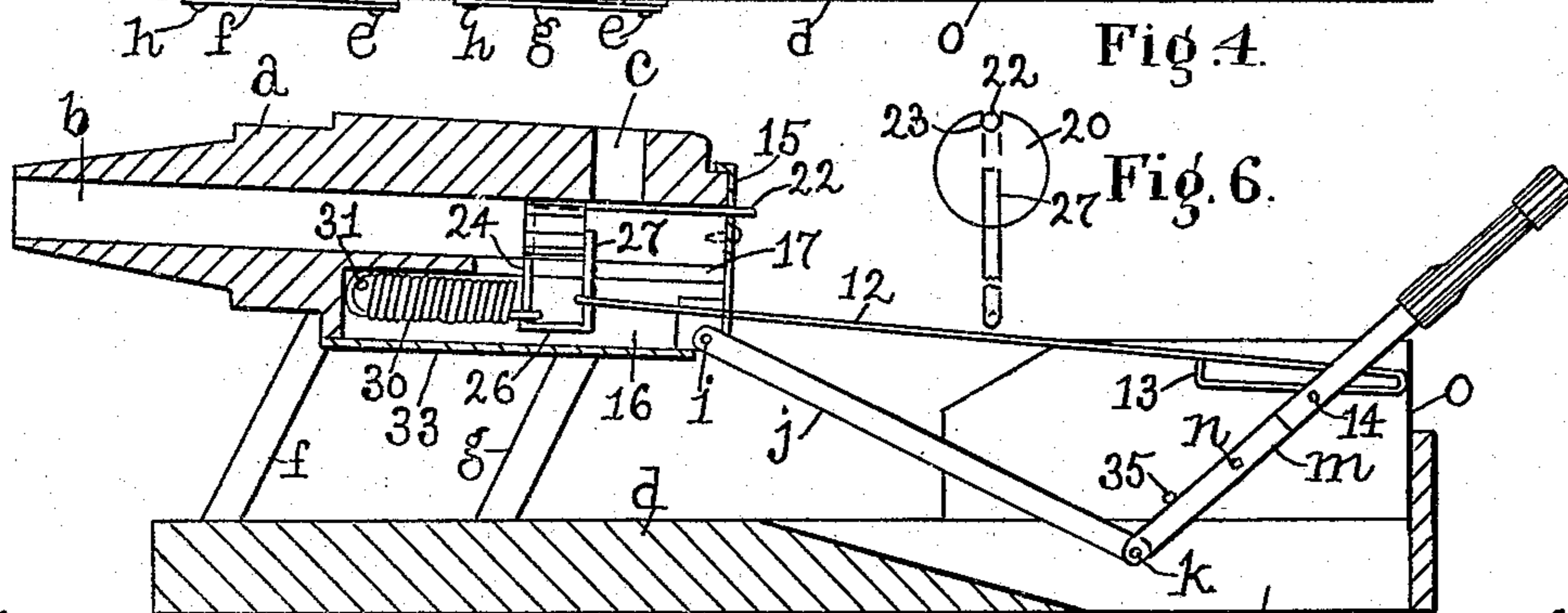


Fig. 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

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TOY CANNON.

936,689.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed April 29, 1908. Serial No. 429,977.

To all whom it may concern:

Be it known that I, CHARLES L. WOOD, a citizen of the United States, residing in Winthrop, county of Suffolk, and State of Massachusetts, have invented an Improvement in Toy Cannon, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a toy and is herein shown as embodied in a cannon, which is capable of being raised into firing position and to be lowered from said position after the missile, such as a ball or marble, has been ejected from the cannon, to obtain the effect of a disappearing gun or cannon. To this end the cannon is mounted on a base in a manner as will be described, to permit it to be raised and lowered with relation to said base, and provision is made for automatically placing the ejecting mechanism in its operative condition at or about the time the cannon has reached its elevated or firing position. The ejecting mechanism consists of a plunger located in the bore of the cannon and movable with relation to an inlet opening at the breech thereof, and a tension device or spring which is located outside of said bore and operatively connected with the said plunger. Provision is made for holding the spring in its extended position until released as will be described. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of a toy cannon embodying this invention showing the same in its lowered position. Fig. 2, a side elevation of the cannon in its elevated or firing position. Fig. 3, a view like Fig. 2 with the ejector mechanism released. Fig. 4, a plan of Fig. 3. Fig. 5, a longitudinal section on the line 5-5, Fig. 4, and Fig. 6, a detail to be referred to.

Referring to the drawings, *a* represents a toy cannon, which may be of wood or other suitable material, and is provided with a bore *b* and with an inlet opening *c* for the balls or other missiles or shots, not herein shown, but which may be of wood, glass or other suitable material.

The cannon *a* is mounted upon a base *d* and is bodily movable with relation to the same, so as to be elevated into its firing position represented in Fig. 2, or to be lowered into its normal position shown in Fig. 1, so

as to obtain the effect of a disappearing cannon or gun.

In the present instance the cannon *a* has pivoted to its opposite sides, as at *e*, one end of two sets of links or bars *f*, *g*, which are pivoted at their opposite ends to the base *d*, as at *h*. Provision is made for turning the links or bars *f*, *g*, on their pivots *h* so as to elevate the cannon, and for this purpose the cannon has pivotally connected with it, as at *i*, one end of a rearwardly extended link *j*, whose other end is pivoted, as at *k*, to one end of a lever *m*, which is mounted on a pivot pin *n*, supported in the present instance by uprights or blocks *o*, erected upon the base *d* and separated from each other by a space *p* in which the lever *m* moves. The lower end of the lever *m* extends into a slot *r* in the base *d* in line with the space *p* (see Fig. 5), and the upper end of the said lever extends above the supporting blocks *o*. The lever *m* may and preferably will be made so as to have an opening 10 through which a trigger or releasing device is passed, and which is shown as a wire rod 12 having its rear end bent to form a catch 13, which is adapted to engage a pin 14 carried by the lever *m* and extended across the opening 10 therein. The front end of the trigger 12 is extended through a cap 15 closing the rear end of the cannon, and into a chamber or space 16 located below the bore *b* of the cannon and communicating therewith by a slot 17, through which projects a portion of an ejector for the ball or other missile, not shown.

The ejector may and preferably will be made as herein shown and consists of a cylinder 20 of wood (see Figs. 5 and 6), which fits the bore *b* of the cannon and is engaged with a carrier, comprising as herein shown a wire rod 22 located in the bore *b* and fitted into a longitudinally extended groove 23 in the top of the ejector cylinder 20, and bent at its front end to form a depending arm 24 which passes down into the chamber 16 and engages a vertical groove in the front face of the said cylinder, and which is bent to form an arm 26 extended from the lower end of the arm 24 substantially parallel with the rod 22, and which in turn is bent to form an upright arm 27 extended up through the slot 17 into the bore *b* behind the cylinder 20 and substantially engaging the rear end thereof (see Fig. 5) so as to practically attach the rod

22 to the cylinder 20 to move as one piece. The rod 22 serves as a support for the balls in the inlet opening *c* and is made of sufficient length to extend through the cap 15 and serve as a guide for the ejector. The arm 27 has engaged with it the inner end of the trigger rod 12, and the arm 24 has engaged with it one end of a tension device or spring 30, which is located in the chamber 16 and has its front end engaged with a pin or projection 31 on the wall of the chamber 16, which latter may be provided with a removable bottom 33 of metal.

From the above description it will be seen, that the operating lever *m* is connected by the link *j* to the rear end of the cannon, so that by turning the lever backward or in the direction indicated by the arrow 40, the cannon is raised from the position shown in Fig. 1 into that shown in Fig. 2, the supporting links *f*, *g*, turning on their pivots *h*. The lever *m* may be limited in its backward movement by means of a stop, shown as a pin 35 extended across the space *p* between the supporting blocks *o*, and with which the lower end of the lever *m* is adapted to engage.

When the lever *m* has been brought into engagement with its stop, the cannon is at such time raised into its firing position represented in Fig. 2. The lever *m* on its backward movement engages the catch 13 of the trigger and carries the latter backward with it, thereby moving the ejector from substantially the position shown in Fig. 5 in front of the ball entrance opening *c* back of the same and toward the rear end of the cannon, so as to uncover the entrance opening *c* and permit a ball or other missile in the opening *c* to drop into the bore of the cannon in front of the ejector. On the backward movement of the ejector, the spring 30 is extended or placed under tension and is maintained in this condition as long as the trigger remains in engagement with the pin 14 on the lever *m*, when the latter is in its rearward position shown in Fig. 2. As soon as the ball has been placed in the cannon as described, it may be ejected therefrom by releasing the trigger from the operating lever, which may be effected by the operator lifting up on the free end of the trigger so as to disengage the catch 13 from the pin 14, and when this takes place, the spring 30 contracts and moves the ejector forward with a quick motion so as to discharge the ball from the cannon. After the ball or shot has been fired as above described, the operator releases the lever *m*, which permits it to be moved forward into the position shown in Fig. 1, by the cannon being lowered by gravity from its elevated or firing position into its lowered or inoperative position, which gives to the cannon the effect of a disappearing gun. To still further emphasize

this effect, an upright wall, not shown, may be erected in front of the cannon and of such height as to conceal the cannon in its lowered position, but which is cleared by the cannon when in its elevated position.

By varying the length of the links or bars *f*, *g*, the muzzle of the cannon may be inclined or depressed as desired, and I prefer to make the front links slightly longer than the rear links so as to obtain a slight elevation of the muzzle, which insures the ball being kept by gravity in engagement with the ejector until the latter is operated.

I have herein shown one construction of apparatus embodying this invention, but I do not desire to limit myself to the particular construction herein shown.

Claims.

1. In a toy of the character described, in combination, a base, a cannon, movable supports for the cannon connected with the said base, means to raise and lower the cannon, an ejector, a spring to move said ejector in one direction, a trigger attached to the said ejector to effect movement of the ejector in an opposite direction, and actuated by the means employed to elevate the cannon, substantially as described.

2. In a toy of the character described, in combination, a base, a cannon connected with said base to be supported thereby and to be raised and lowered with relation thereto, an ejector located in the bore of said cannon, a tension device for said ejector located outside of the bore of the cannon, and means to raise said cannon from said base and into its firing position, substantially as described.

3. In a toy of the character described, in combination, a base, a cannon connected with said base to be supported thereby and to be raised and lowered with relation thereto, an ejector located in the bore of said cannon, mechanism to raise the cannon into its firing position, and a trigger governing the movement of said ejector and coöperating with said mechanism to be operated thereby, substantially as described.

4. In a toy of the character described, in combination, a cannon having a bore, an ejector in said bore, a guide for said ejector extended through the rear of the cannon, a tension device located outside of said bore and connected with the ejector to move the latter in one direction, and means independent of said guide to move said ejector in the opposite direction, substantially as described.

5. In a toy of the character described, in combination, a cannon provided with a bore and with an inlet opening near its rear end communicating with said bore, an ejector located in said bore, a tension device to normally hold the ejector in front of the inlet opening, means to guard the inlet opening against the passage of a missile into the bore behind the ejector, means to move said

ejector toward the rear of the cannon to permit a missile to be deposited in front of the ejector, and means to move the ejector in the opposite direction, substantially as described.

5 6. In a toy of the character described, in combination, a cannon, a movable support therefor, a link having one end connected to said cannon, and a lever to which the other end of the link is connected to raise and
10 lower the cannon, substantially as described.

7. In a toy of the character described, in combination, a cannon provided with a bore, mechanism for raising said cannon into its firing position, an ejector in the bore of said
15 cannon, a tension device to move said ejector in one direction, and a trigger actuated by the said mechanism for moving the ejector in opposition to said tension device, substantially as described.

20 8. In a toy of the character described, in combination, a cannon, links supporting said cannon, an actuating lever connected with said cannon to elevate the same into its firing position, an ejector for the missile, a ten-

sion device to move the ejector, and means to 25 effect movement of the ejector in opposition to said tension device, substantially as described.

9. In a toy of the character described, in combination, a cannon provided with a bore, 30 an inlet opening near its rear end, and a chamber below said bore, an ejector movable in said bore, a carrier for said ejector having a guide rod extended through the rear end of the cannon in line with the bore, and having 35 a portion extended into said chamber, a spring in said chamber connected with said ejector, a trigger extended into said chamber and connected with said ejector, and means for raising said cannon into its firing posi- 40 tion, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES L. WOOD.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.