

No. 849,953.

PATENTED APR. 9, 1907.

C. L. WOOD.
TOY.

APPLICATION FILED SEPT. 28, 1906.

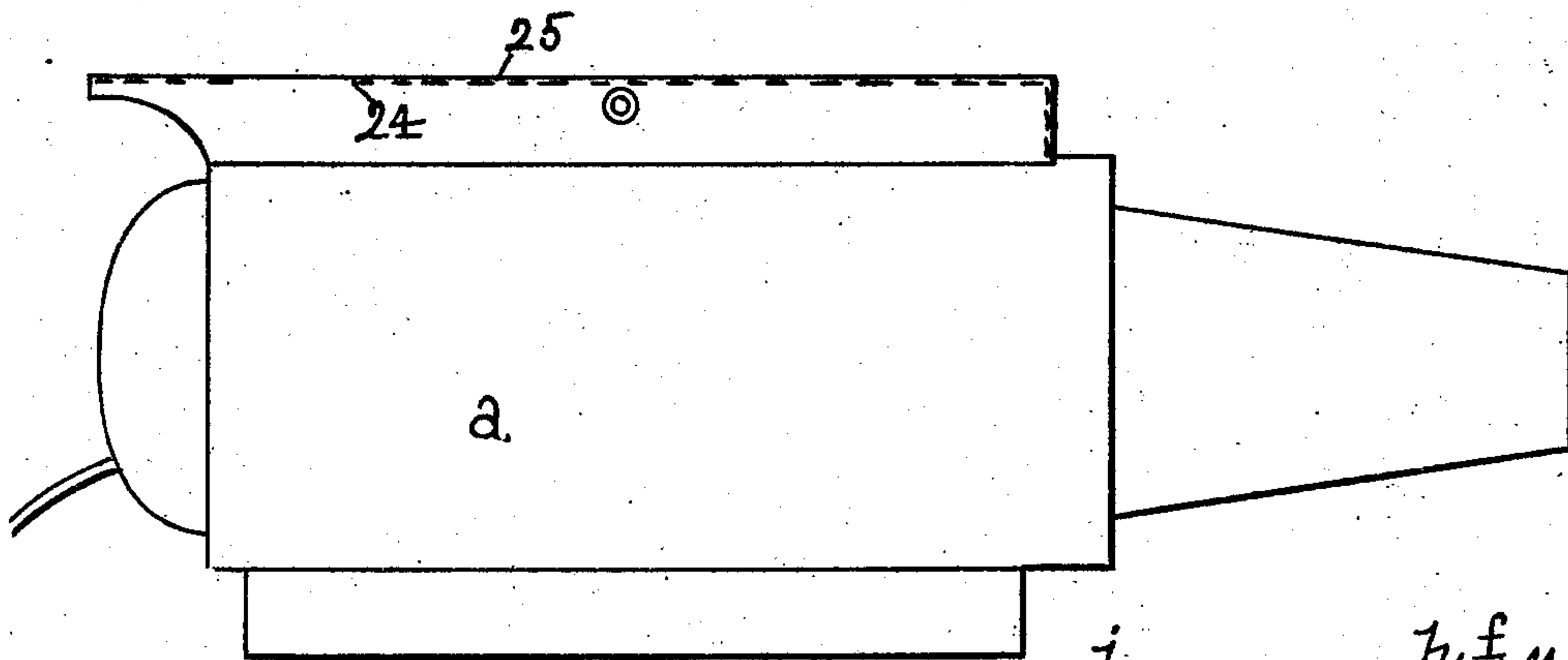


Fig. 1.

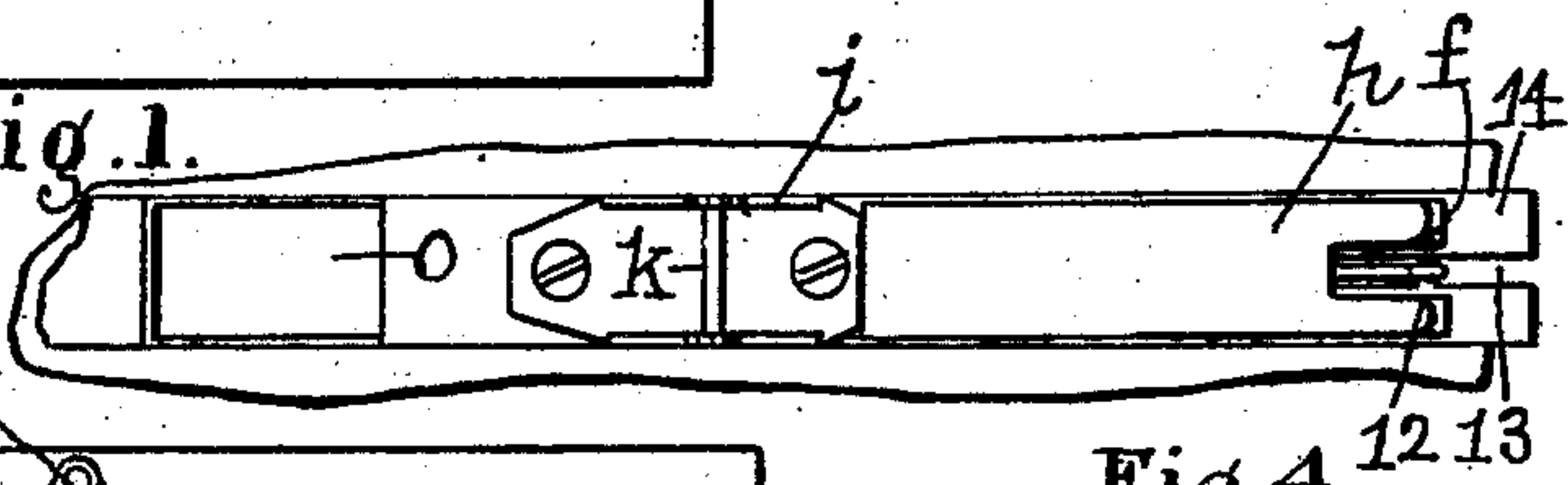


Fig. 4.

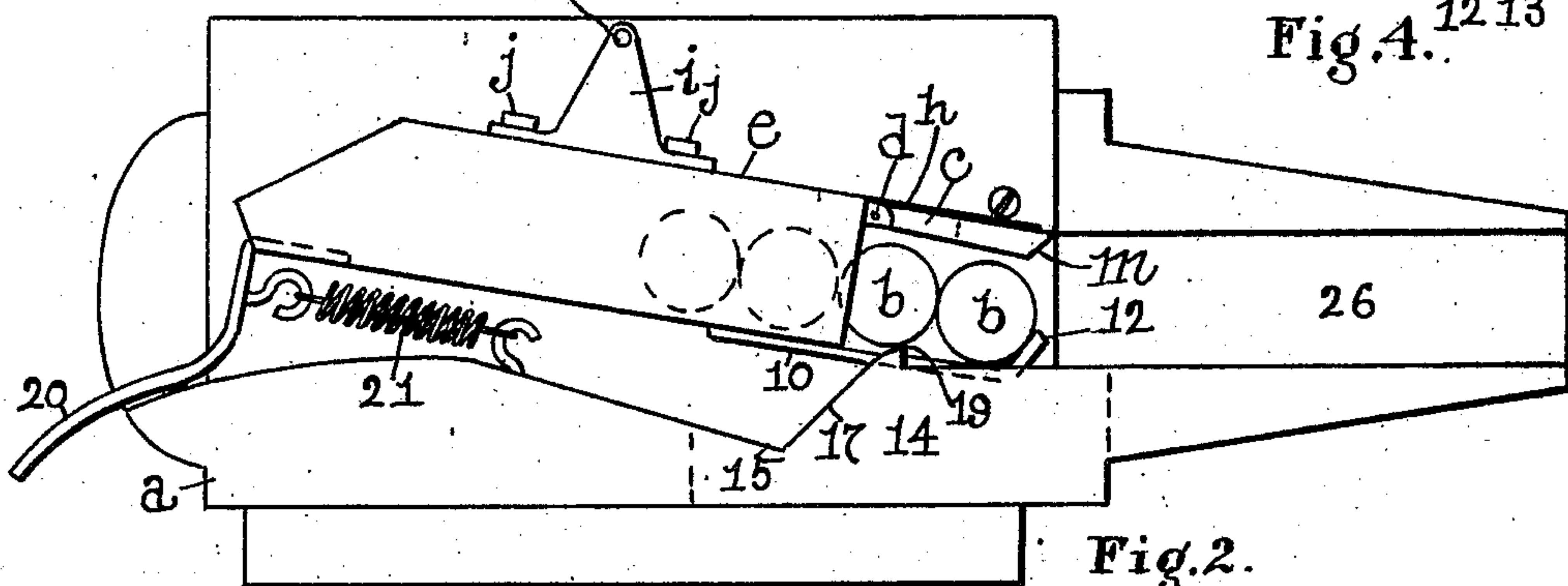


Fig. 2.

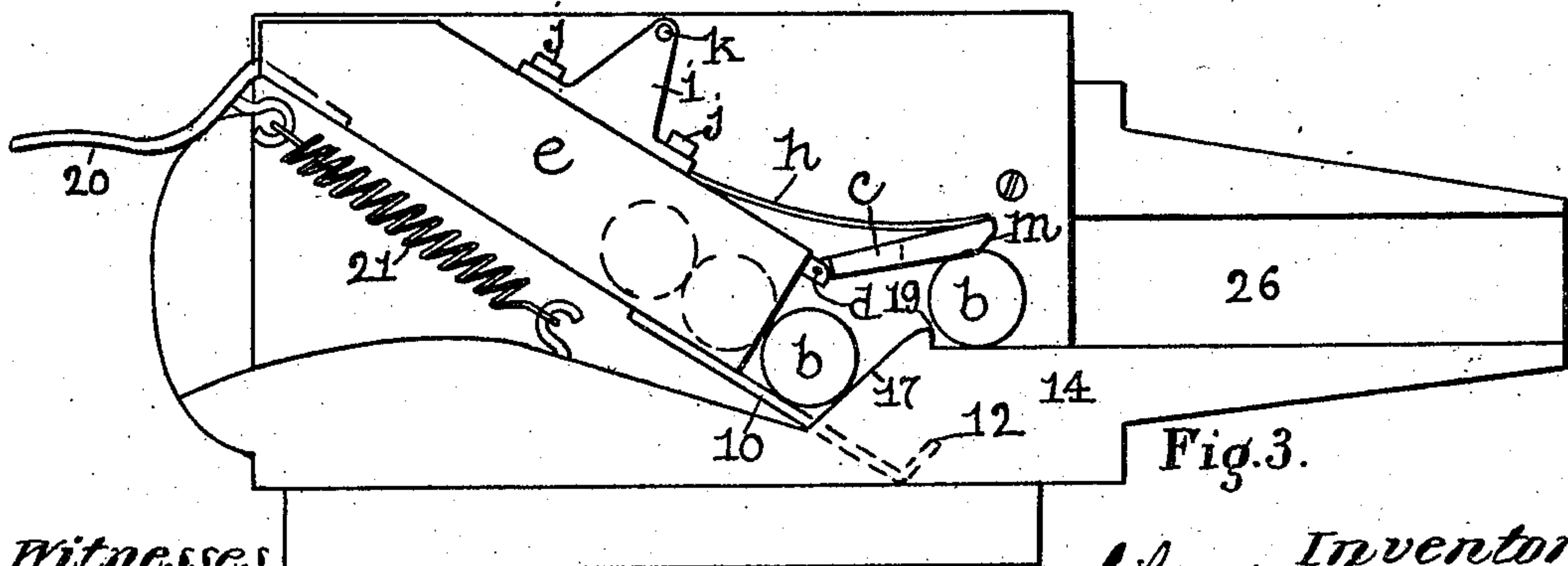


Fig. 3.

Witnesses.

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TOY.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. WOOD, a citizen of the United States, residing in Winthrop, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Toys, 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 toy cannon or gun with which wooden or other balls may be projected or shot by the operator manipulating a trigger, as will be described.

The invention has for its object to provide a simple, efficient, and not dangerous toy of the class described which can be operated by children without danger to themselves or surrounding objects. For this purpose the toy is provided with a spring-actuated ejector which operates to push or snap the balls from the toy, as will be described.

The toy is preferably provided with a magazine for holding a plurality of balls or shot, and provision is made for insuring the discharge of but one ball at a time, 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 one form of a toy embodying this invention; Fig. 2, a side elevation of the toy shown in Fig. 1, with one-half of the body portion or casing removed; Fig. 3, a view similar to Fig. 2, with the parts in their operative position; and Fig. 4, a detail in plan to be referred to.

Referring to the drawings, *a* represents the body portion or casing of the toy, which latter is represented as a cannon. The body portion *a* may and preferably will be made in two parts or halves, which are adapted to be secured together in any suitable manner. The body portion *a* is made hollow to receive the mechanism employed to project or discharge wooden or other balls or shots *b* out of the cannon.

The balls *b* in accordance with this invention are projected from the cannon by an ejector, which is constructed so as to project or send the ball forward by a drawing or backward action of the ejector. In the present instance the ejector is shown as a lever *c*, pivoted at *d* to a magazine or chute *e* and provided with a slot *f* at its free end, which forms a guide for directing movements of the

ball *b*. The lever *c* is pressed downward by a spring, which may be a flat spring *h*, as herein shown, said spring having its rear end secured to the top of the magazine and its front end extending over and engaging the upper-side of the lever *c*. In the present instance the spring *h* is fastened to the upper surface of the magazine by a bracket *i*, secured by screws *j*, the said bracket being suspended on a pivot-pin *k*, supported by the casing *a*. The ejector may and preferably will be provided with a beveled front end *m* for a purpose as will be described.

The magazine *e* is provided with an opening *o* at its rear end for the entrance of the balls (see Fig. 4) and is open at its front end for the discharge of the said balls. Provision is made for holding a ball after it has left the magazine and retaining it in position to be operated upon by the ejector. For this purpose the magazine has extended from its front end an arm or rod 10, provided with an upturned finger 12, which latter forms a front stop for the ball to rest against, as shown in Fig. 2. The arm or rod 10 is movable in a slot 13 in a support 14 in the body portion or casing *a* and adapted to sustain the ball after the arm or rod 10 has been lowered into the slot 13 and the ejector *c* has been engaged with said ball. (See Fig. 3.)

The support 14 is provided with a recess of depression 15 for the reception of the front end of the magazine, and said recess has an inclined wall 17, down which the second ball of the series moves when the magazine is turned to effect the discharge of the endmost ball of the series. The support 14 is provided with a projection 19, forming a stop to arrest the backward movement of the ball about to be discharged, as represented in Fig. 3.

The magazine has attached to it a trigger or finger-piece 20, which projects beyond the toy at its rear end and by means of which said magazine may be turned on its pivot, so as to bring the ejector into operation. The magazine may be returned to its normal position (shown in Fig. 2) by a spring 21, attached, as shown, to the trigger 20 and to the body portion or casing *a*.

In operation the magazine *e* is filled with balls *b* through an opening 24 in a top piece or cover 25, and said balls assume the position shown in Fig. 2, the endmost ball passing out of the magazine and resting on the support 14 and also bearing against the front

stop 12. The toy is now in condition to be operated, which is effected by the child or other operator pulling upon the trigger 20, thereby turning the working parts from the position shown in Fig. 2 to substantially that shown in Fig. 3. As the trigger 20 is elevated the ejector *c* is first lowered into engagement with the upper surface of the endmost ball, and on further upward movement of the trigger the front end of the magazine is moved downward into the recess 15, carrying with it the arm or rod 10, which passes down through the slot 13, thereby removing the front stop 12 from the path of the endmost ball *b*, which latter is moved backward into engagement with the backstop 19 by the ejector, which assumes substantially the position shown in Fig. 3. On further downward movement of the magazine the ejector is turned on its pivot until the beveled end *m* passes rearward beyond a vertical line through the center of the ball resting against the backstop a sufficient distance to push, force, or spin the said ball forward out through the bore or passage 26 in the toy. As the front end of the magazine is lowered the ball next to the one engaged by the ejector is carried down into the recess 15 and rests on the arm or rod 10, and on the return movement of the magazine said ball is moved upward by the rod or arm and rolls over the backstop 19 and onto the support 14 until arrested by the front stop 12, in which position it remains until the trigger is again operated to discharge the said ball. In this manner the balls are automatically fed by gravity to the ejector and but a single ball can be ejected at each pull on the trigger.

Automatically feeding the balls by gravity enables the cannon or toy to operate while in a horizontal position, as on a table, thereby reducing to a minimum the danger of children aiming it at one another or at elevated objects. The toy is capable of being operated by one hand and the operation of the trigger holds the toy in proper firing position.

It will be observed that the ejector acts to project the ball by a downward movement, and while I may prefer to employ the construction of ejector herein shown and to combine it with a movable magazine I do not desire to limit the invention to the particular construction and arrangement shown.

The return movement of the magazine and ejector is limited by the trigger 20.

I claim—

1. In a toy of the character described, in combination, a hollow casing provided with in it with a support for a ball and with a recess at the rear of said support, a magazine pivoted within said casing and cooperating with said support and recess, a lever pivoted to said magazine and cooperating with said support to engage a ball thereon, a spring to

act on said lever and effect the discharge of the ball out of the toy, a stop for the ball movable with the magazine, a stop on the support to limit backward movement of the ball, a trigger to move said magazine in one direction, and a spring to move the magazine in the opposite direction, substantially as described.

2. In a toy of the character described, in combination, a hollow casing, a magazine for balls pivoted in said casing and normally inclined to effect a gravity-feed of said balls toward the outlet end of said magazine, a lever pivoted to said magazine to engage a ball fed from the magazine, a spring to act on said lever and cause it to discharge the ball from the toy, and means to move said magazine, substantially as described.

3. In a toy of the character described, in combination, a support for a ball, an ejector cooperating with said ball to engage the upper surface of the same while on said support, and means to move said ejector toward said support while in engagement with said ball, substantially as described.

4. In a toy of the character described, a support for a ball, a lever provided with a beveled end to engage the upper surface of said ball, a spring to act on said lever, and means for moving said lever toward said support while in engagement with said ball, substantially as described.

5. In a toy of the character described, a support for a ball, an ejector cooperating with said ball to engage the latter on its upper surface, said ejector having a slot to direct the ball and having an inclined front end to engage the ball, and means to effect a downward and backward movement of said ejector while in engagement with the upper surface of the ball, substantially as described.

6. In a toy of the character described, in combination, a magazine for a plurality of balls, a support to receive a ball fed from said magazine, an ejector to engage a ball on said support, means to effect a downward and backward movement of said ejector toward said support and cause the said ejector to project the ball forward, substantially as described.

7. In a toy of the character described, in combination, a support for a ball, an ejector cooperating with said ball to engage the upper surface of the same while on said support and provided with a beveled surface, and means to move said ejector toward said support to cause the beveled surface of the same to engage the ball, for the purpose specified.

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.