

No. 817,316.

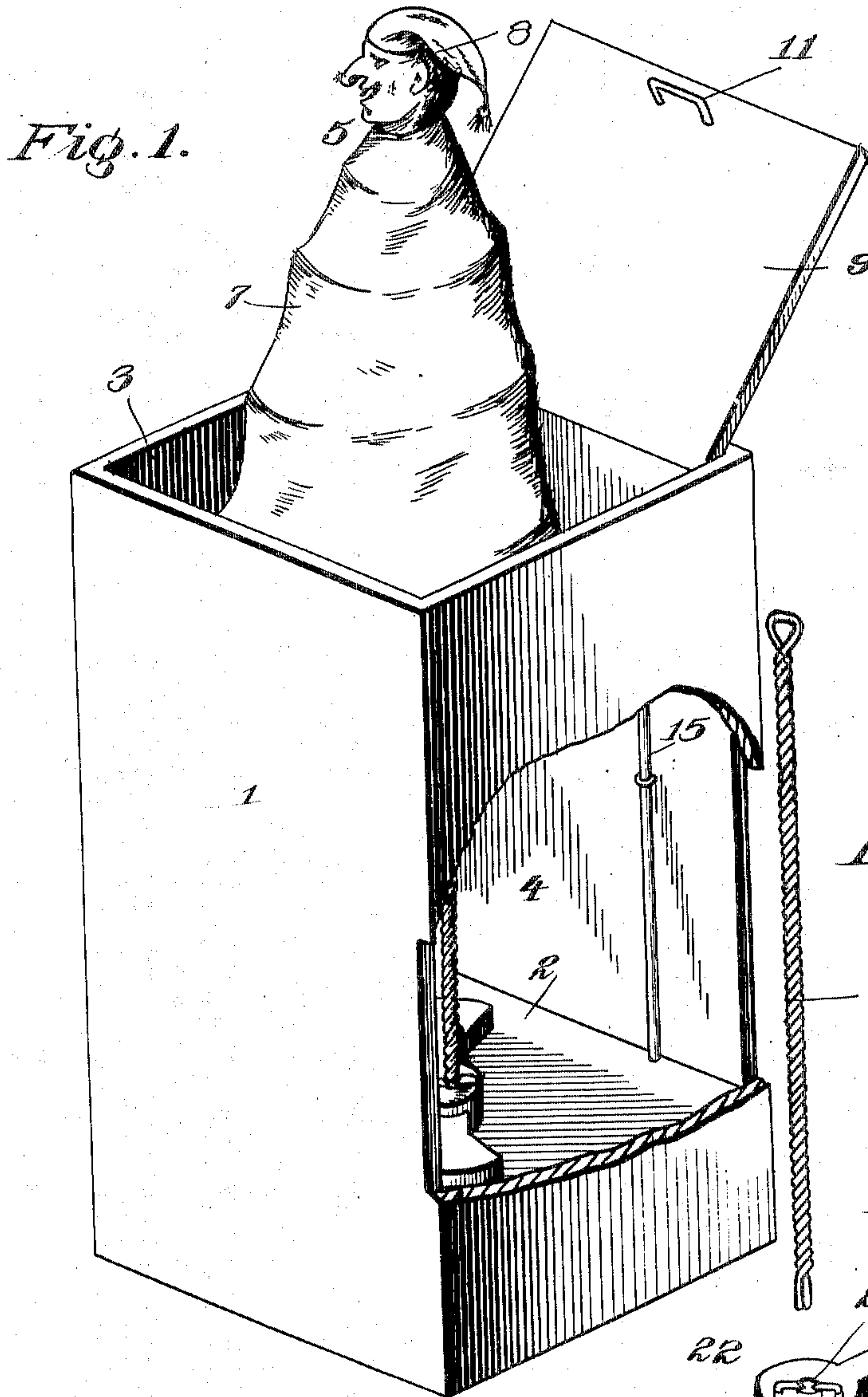
PATENTED APR. 10, 1906.

M. L. HARDING & A. I. HOXWORTH.

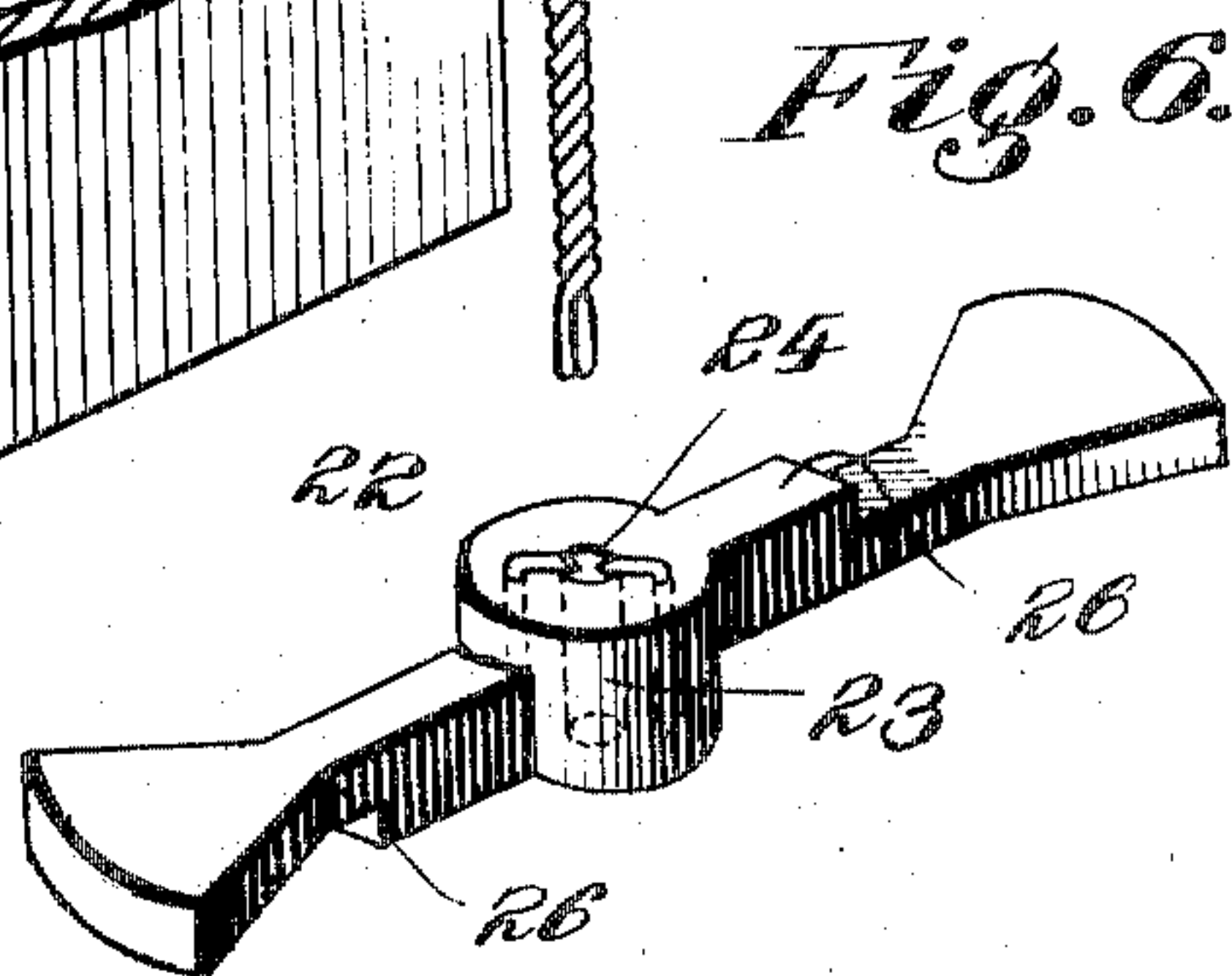
TOY.

APPLICATION FILED JAN. 17, 1906.

2 SHEETS—SHEET 1.



*Fig. 5.*



*Fig. 6.*

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2 SHEETS—SHEET 2.

Fig. 2.

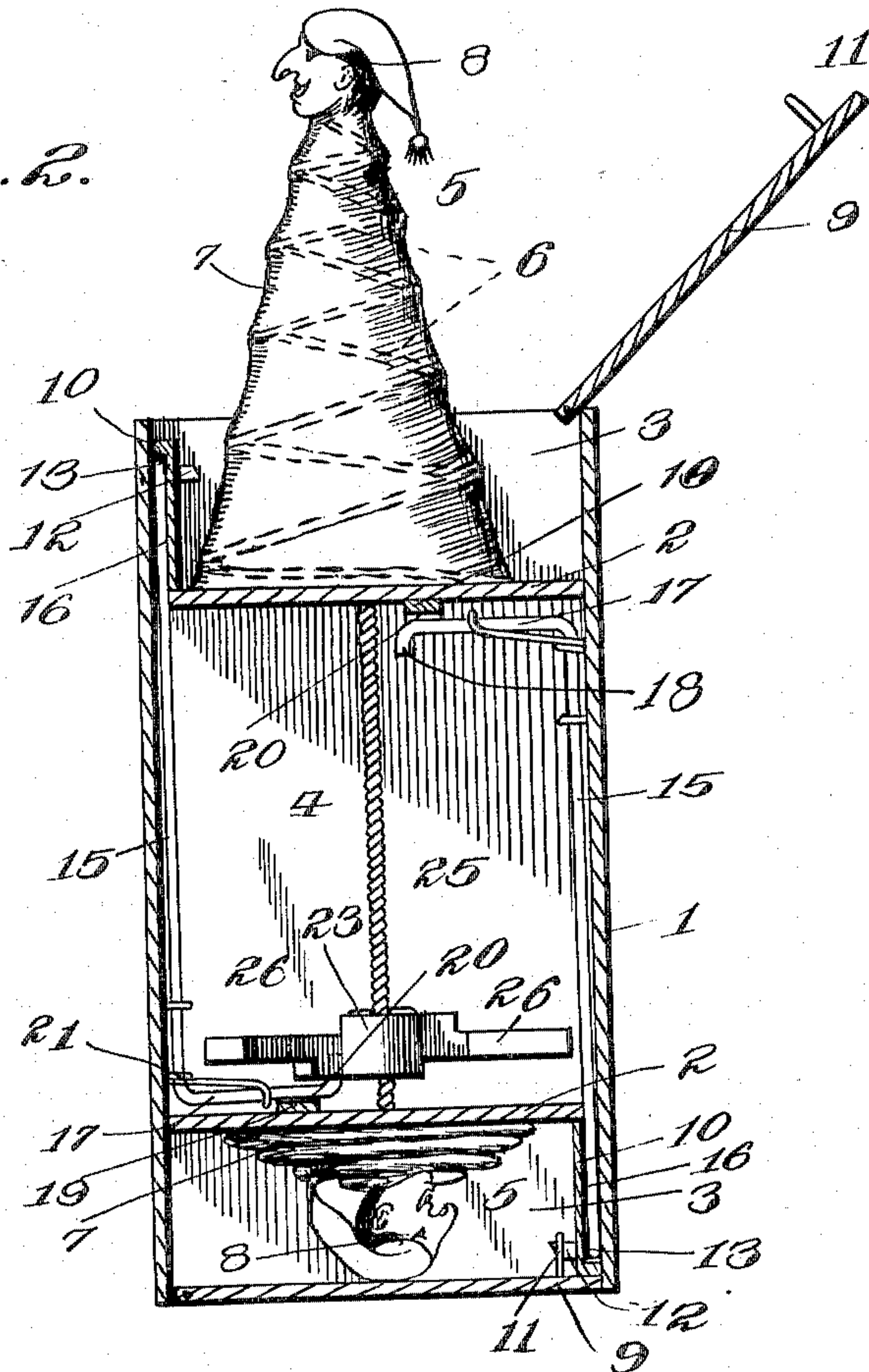


Fig. 4.

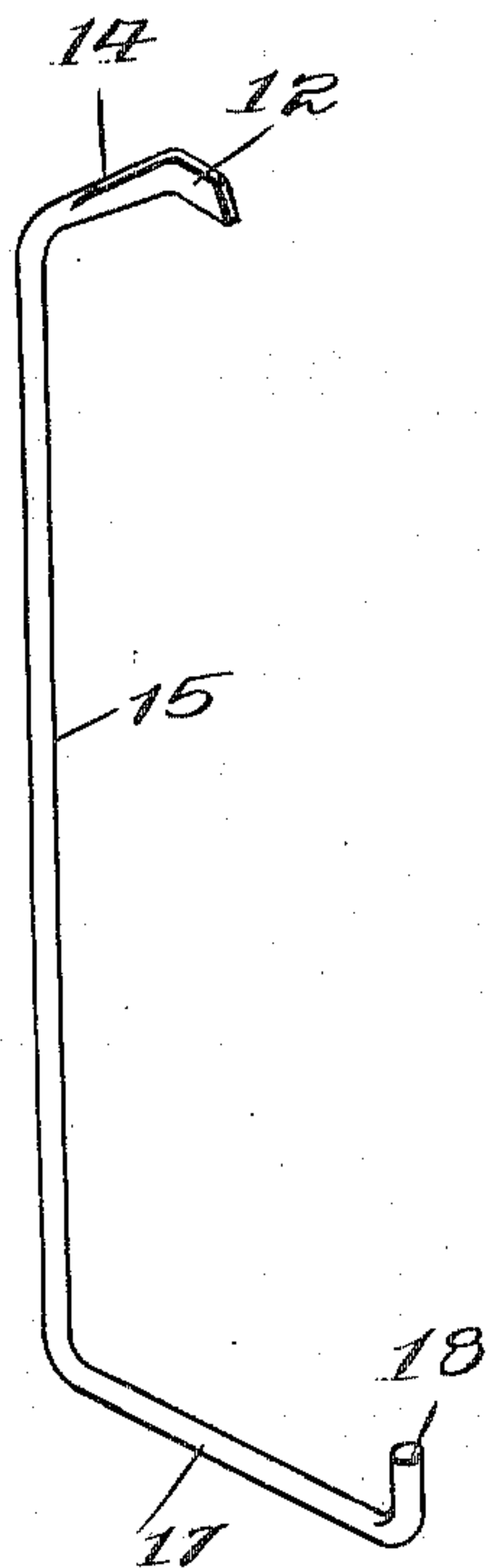
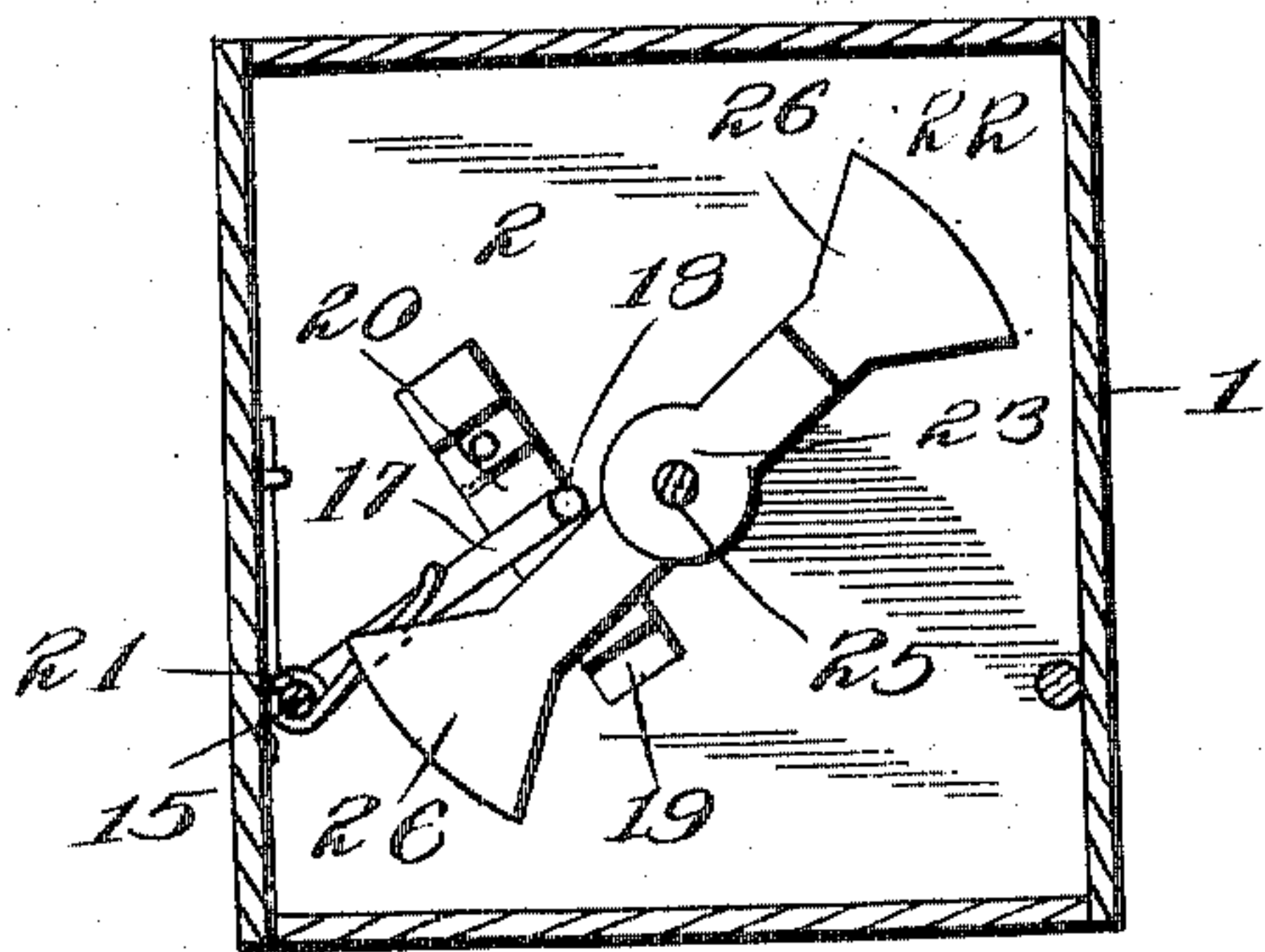


Fig. 3.



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# UNITED STATES PATENT OFFICE.

MELVIN L. HARDING AND ALBERT I. HOXWORTH, OF MANNINGTON,  
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## TOY.

No. 817,316.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed January 17, 1906. Serial No. 296,543.

*To all whom it may concern:*

Be it known that we, MELVIN L. HARDING and ALBERT I. HOXWORTH, citizens of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Toys, of which the following is a specification.

Our invention relates to improvements in toys, particularly of that type known as "wizard-boxes" or "Jack in the Box;" and the object of the invention is to provide a toy of this character which will embody improved mechanism for automatically releasing the doors which hold the spring-projected dummies or figures in contracted position.

Our invention consists, essentially, of certain new and useful improvements and constructions and arrangements of parts in a device of this character, as will be hereinafter fully set forth, and particularly pointed out in the appended claims.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a perspective view of our invention, part being broken away. Fig. 2 is a vertical sectional view thereof on a slightly-reduced scale. Fig. 3 is a horizontal sectional view taken about on the median line of the box or casing. Fig. 4 is a detail perspective view of one of the latches and unlatching-rods. Figs. 5 and 6 are detail perspective views of the spiral rod upon which the winged plunger moves and a view of the plunger detached.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates a box or casing which may be of any desired material, shape, and ornamentation. In the present instance the box, as shown, is oblong and rectangular. The box or casing 1 is divided by transverse partitions 2 into two end compartments 3 and an intermediate or middle compartment 4, which is preferably of greater area than the end compartments 3. The end compartments 3 are intended to contain a spring-projected dummy

or figure 5, which may be of any desired material or design and which is preferably provided with a spiral spring 6, covered by a suitable textile fabric 7 to form the body of the figure. The body of each figure is surmounted by a head 8, which may be of any desired design, and the two figures may be both alike or different from each other. Each of the end compartments 3 is provided with a door 9, which is preferably hinged within one edge of the casing 1 and is designed to fit within the said end with its other edge resting upon a plate 10, secured within the compartments and terminating short of an adjacent end edge of the casing. The free end of each door is provided with a suitable keeper, which in the present instance is in the form of a loop or staple 11, and each keeper is designed for engagement with a latch 12, which works through an opening 13 in the plate 10, so as to project more or less into the compartment and be engaged with or disengaged from the keeper.

Each latch 12 is in the present instance formed upon or integral with one bent end 14 of a longitudinally-extending rod 15, journaled to rock about its longitudinal axis in the casing and fitting with the said bent end and a portion of its length also within a recess 16 on the rear side of the plate 11. The rods 15 constitute the unlatching-rods for the latches and extend through the partition, and each of said rods extends through one of the partitions to the other partition, where it terminates in another bent end 17, extending alongside of the adjacent partition and provided with an offset or lateral extremity 18, projecting out from the face of the said partition.

19 designates an obliquely-disposed cleat having a recess 20, within which the free end 17 of each rod fits, so as to limit the movement of said rod in either direction.

A spring 21 has one end coiled around the free end of the rod 15 to secure it thereto and is also coiled around the rod itself and has its other end secured to the casing, as shown, so as to always return the rod to the position where the latch will be projected to its maximum extent into the end compartment for engagement with the respective door 9. Each latch is preferably beveled, so that the door may be closed and its keeper will spring past the latch and be automatic-



ally held in closed position until released by the unlatching-rod 15. The unlatching-rods, it is to be understood, are arranged on opposite sides of the box or casing 1 and extend in opposite directions, as shown, with their offset extremities at opposite ends of the middle compartment 4.

In order to effect an automatic release of the doors 9 in order that the spring-projected figures may "pop" out of their respective compartments, we have provided a winged plunger 22, provided with a central shank 23, having a spiral opening 24 therethrough, the said opening receiving a correspondingly shaped or threaded rod 25. The latter preferably extends in a longitudinal direction centrally of the middle compartment 4 and is maintained in place by having its ends secured in the two partitions 2. The plunger 22 is provided with two oppositely-extending lugs 26.

In the practical operation of our improved toy the box or casing 1 is set on either end, the doors being locked in closed position. It will be assumed for the purposes of description that the device has already been operated and that the plunger 22 is at the upper limit of its movement on its spiral rod. By gravity, then, the plunger, which is preferably of some sufficiently heavy material, will descend on the rod and at the same time will rotate, and when it reaches the lower limit of its movement one of its lugs will strike the free end of that unlatching-rod 15 which controls the uppermost door 9. This action will result in automatically retracting the latch for said door and the consequent releasing of the latter, so that the spring-projected figure may pop out of the compartment and afford the surprise and amusement that a device of this nature is characterized to impart. Then by closing the door that has thus been opened and reversing the box end for end the plunger will swing around and down to release the other door in a manner that is obvious.

It is to be understood that the box or casing 1 is entirely closed on all sides, preferably in a permanent manner, so as to hide the door-releasing mechanism.

Having thus described the invention, what is claimed as new is—

1. A toy of the character described comprising a box or casing divided into two end compartments and a middle compartment, spring-projected figures in each of said end compartments, doors designed to hold said figures contracted and within the respective compartments, and means located in the middle compartment for alternately and automatically releasing the said doors.

2. A toy of the character described comprising a box or casing divided into two end compartments and a middle compartment, spring-projected figures in each of said end compartments, doors designed to hold said

figures contracted and within the respective compartments, and means for alternately and automatically releasing said doors, said means being operated by gravity.

3. A toy of the character described comprising a box or casing divided into two end compartments, and an intermediate compartment, spring-projected figures in said end compartments, doors arranged to hold said figures contracted in the respective compartments against the action of their springs, an unlatching device for each door, a spiral rod in said intermediate compartment and a weight or plunger mounted on said rod and arranged to move thereon by gravity and to turn thereon also, said plunger being designed to effect the release of said doors, as and for the purpose set forth.

4. A toy of the character described, comprising a box or casing divided into two end compartments and a middle compartment, spring-projected figures in the end compartments, doors arranged to hold said figures in contracted condition, latches for holding said doors locked, an unlatching-rod for each door, the said rods being arranged for actuation at the end of the middle compartment opposite the door controlled by the respective rods, and a weight or plunger arranged for free movement from end to end of said middle compartment, and means for rotating said plunger in its movement, the said plunger being designed to engage with the respective unlatching-rods, as and for the purpose set forth.

5. A toy of the character described, comprising a box or casing divided into two end compartments and a middle compartment, spring-projected figures in the end compartments, doors for holding said figures in contracted condition, unlatching-rods arranged to release the respective doors and each of said rods provided with a bent end located near the middle compartment contiguous to that partition which is farthest away from the door controlled by said rod, a spring secured to each of said rods and designed to hold the same in one position whereby to hold the doors in locked position, a spiral rod mounted centrally of the middle partition and a weight or plunger provided with a spiral opening receiving said rod and with wings extending in opposite directions, the said plunger being designed to move by gravity on said rod and to turn into engagement with the said unlatching-rods whereby to release the doors.

6. A toy of the character described, comprising a box or casing divided into two end compartments and a middle compartment, spring-projected figures in said end compartments, doors hinged to the casing and designed to hold said figures in contracted condition, the free end of said doors being provided with keepers, latches projecting into



the said compartments for engagement with said keepers, unlatching-rods mounted in the middle compartment and designed to rock therein each rod being secured to a latch at one end and having its other or opposite end bent and provided with an offset extremity, cleats secured to the end walls of the compartments and provided with recesses receiving the bent ends of said unlatching-rods whereby to limit the movement thereof, springs secured to said rods and arranged to rock the same so as to project the latches into engagement with their respective keepers, a spiral rod mounted in the middle compartment and extending longitudinally thereof, and a plunger provided with a spiral opening by which it is mounted to move on said spiral rod and also provided with two oppositely-extending wings and with lugs designed to contact with the offset extremities of the unlatching-rods.

7. A toy of the character described, comprising a box or casing, a spring-projected figure in said casing, a door hinged to the casing and arranged to hold said figure in contracted condition, a latch for holding said door closed, a rocking unlatching-rod mounted in the casing and operatively secured to said latch, a longitudinally-extending spiral rod in the casing, and a gravity-plunger mounted to move longitudinally and to turn on said rod, and arranged for operative engagement with the unlatching-rod, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

MELVIN L. HARDING. [L. S.]  
ALBERT I. HOXWORTH. [L. S.]

Witnesses:

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W. M. HESS.