No. 672,889. Patented Apr. 30, 1901.

R. W. CONANT.

TOY.

(Application filed Jan. 10, 1900.)

(No Model.)

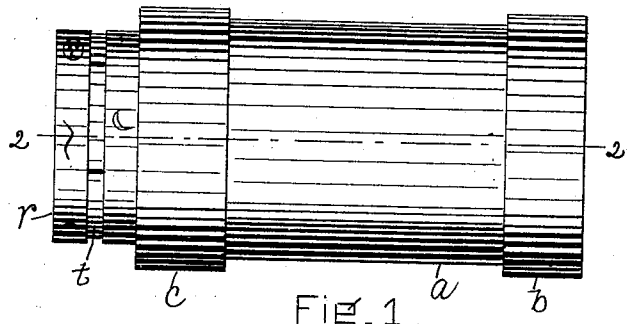


Fig. 1.

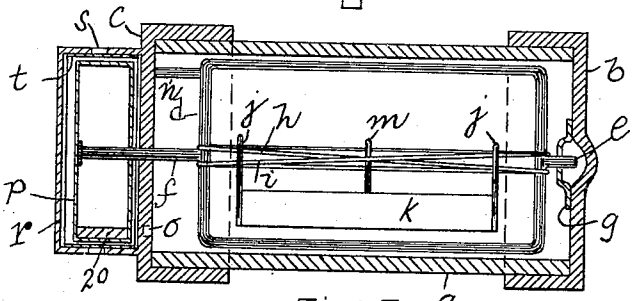


Fig. 2.

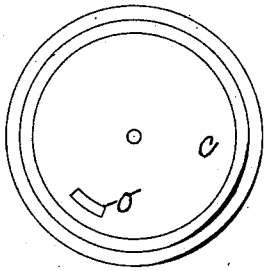


Fig. 3.

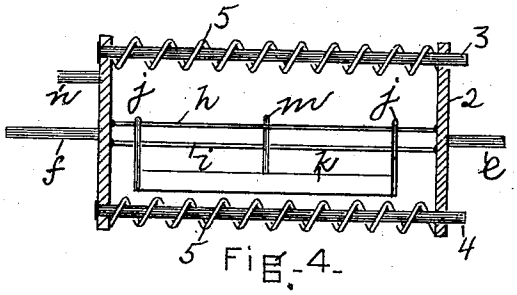


Fig. 4.

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UNITED STATES PATENT OFFICE.

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TOY.

SPECIFICATION forming part of Letters Patent No. 672,889, dated April 30, 1901.

Application filed January 10, 1900. Serial No. 965. (No model.)

To all whom it may concern:

Be it known that I, ROGER W. CONANT, a citizen of the United States, residing in Boston, 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 characters on the drawings representing like parts.

This invention relates to an apparatus especially designed and adapted for use as a toy, in which in one condition of the apparatus sufficient energy may be stored up by rolling the same on a level plane to return the apparatus to the starting-point, and in another condition energy is not stored up and the apparatus remains at the place where it stops in its movement away from the operator. The change in conditions of the apparatus whereby these results may be obtained are under control of the operator. For this purpose I employ a suitable casing or frame, which may be a cylinder or sphere or rings suitably connected together, within which is located a motor mechanism, shown as an elastic material or a spring, which in one condition of the apparatus is actuated to store up energy by the forward movement of the casing, which energy is sufficient to return the casing to its starting position and which in another condition of the apparatus is not actuated so as to store up energy, and consequently the casing remains at rest at the end of its forward movement. The change in conditions is under control of the operator, who in the first instance clutches or couples the motor mechanism to the casing, so that on its forward movement the casing stores up energy, which is employed to return the casing toward its starting position, and in the second condition the operator disconnects the motor mechanism from the casing, so that when the latter is rolled away from the operator it will remain in the place where it comes to rest and will not return automatically. These and other features of this invention will be pointed out in the claim at the end of this specification.

Figure 1 is an elevation of one form of apparatus embodying this invention; Fig. 2, a longitudinal section of the apparatus shown in Fig. 1; Fig. 3, an inner side view of one of the end pieces or heads of the casing removed, and Fig. 4 a modification to be referred to.

Referring to the drawings, *a* represents an inclosing casing, which in the present instance is shown as cylindrical in form and is provided with removable end pieces or heads *b c*. Within the casing *a* is located a rotatable frame *d*, having journals *e f*, one of which is supported by a plate or piece *g*, attached to the head *b*, and the other journal *f* is supported by the head *c*, through which it is extended. The frame *d*, as shown in Fig. 2, has its ends connected by two pieces *h i*, preferably of elastic material, but which may be strings or cords constituting one form of motor mechanism, and from which is suspended by arms *j* a weight *k*, having an arm or projection *m*, which is extended between the pieces *h i* and which causes the said pieces to be wound up when the frame is rotated, which may be effected by a suitable device connecting the frame *d* with the casing, so that when the casing is revolved the frame carrying the motor mechanism will be rotated, and thus wind up or twist the elastic pieces *h i* together.

In the present instance the clutching device is shown as a rod or projection *n* on the frame *d*, which is adapted to enter a slot or opening *o* in the head *c* of the casing by a longitudinal movement of the casing when the projection *n* is in line with the slot *o*. In order to let the operator know when the projection *n*, which is concealed from view within the casing, is in line with the slot or opening *o*, an indicating device which is visible is provided. The indicating device referred to may be a suitable mark on the periphery of a drum or cylinder *p*, attached to the journal *f* of the frame and adapted to revolve in a cap *r*, suitably attached, as herein shown, to the cylinder-head *c* and provided with peripheral slots *s*, through which the indicating mark or device on the drum *p* may be seen. The slots *s* may be covered by a ring *t*, of celluloid or other transparent material.

In order to render it difficult or puzzling to clutch the frame *d* to the casing *a*, the cylindrical extension or cap *r* and also the drum *p* may, and preferably will, be provided with a number of marks or signs in the same or different colors in addition to the one on the

drum p, which coincides with the mark on the cap r when the clutch-rod n is in line with the slot or opening o, and, as represented, the signs of the zodiac are distributed about the periphery of the cap r, and various lines in different colors may be made on the drum.

The apparatus herein described is designed for use as a toy or puzzle which is designed to be rolled on a level surface and, if desired, to automatically return to the operator.

From the above description it will be seen that in its normal condition the apparatus when rolled away from the operator will remain at the place where it comes to rest and will not automatically return, for the reason that the frame d, being disengaged from the casing or cylinder a, will not wind up the motive power.

When it is desired to have the apparatus automatically return to the operator, the casing a is turned until the slot or opening o is in line with the clutch member or projection n, which position is made known to the operator by the indication on the cap r registering with the indication or mark on the drum p, and when in this position the casing a may be tipped or moved longitudinally to cause the projection or clutch member n to enter the opening o to thus clutch the frame d to the casing, so that when the toy is rolled away from the operator the motive power for automatically returning the same will be operated, and with the construction shown in Fig. 2 the pieces h i of elastic or other material will be wound up or twisted one over the other, owing to the fact that the weight k remains normal and practically stationary while the frame d is rotated about it. When the toy reaches the limit of its movement away from the operator, it will be automatically returned or moved in a backward direction by the power stored up on its outward movement. It will thus be seen that the toy or apparatus may be quickly changed from an apparatus which will not return to one which will return, and vice versa.

I may prefer to make the apparatus as shown in Fig. 2 when the motive power is obtained by winding up or twisting cords or pieces of elastic material, such as rubber bands; but I do not desire to limit my invention in this respect, as the motive power may be obtained by means of a spring or springs which are compressed on the outward movement of the toy and are expanded on the return movement. Such a construction is illustrated in Fig. 4, wherein the frame d has one of its ends, as 2, movable on the side rods 3 4, which are encircled by springs 5, the movable end being caused to move inward, so as to compress the springs 5 by the cords h i, which in this case may be of non-elastic material, being twisted or wound by the frame revolving with the outside casing, the return movement of the toy being effected by the expansion of the springs 5.

I have herein shown the outside casing as a cylinder; but I do not desire to limit my invention in this respect, as it may be made in other forms—such, for instance, as a sphere.

The drum p may, and preferably will, have attached to it a weight 20, which acts to keep the frame d in a substantially vertical position while the casing is revolved with the said frame unclutched therefrom.

I prefer to construct the apparatus as above described; but it may be made with the motor mechanism permanently connected to the casing, so that the latter will always return to the operator. The toy may be used for amusement and, if desired, may also be used for advertising purposes.

I claim—

In an apparatus of the character described, the combination with a casing provided with heads at its opposite end, of a frame carried by said casing and adapted to be connected with and disconnected from one of said heads by longitudinal movement of said frame within said casing, and means carried by said frame and actuated by the rotation of the same with said casing in one direction to store up power to automatically rotate said casing in the opposite direction, substantially as described.

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

ROGER W. CONANT.

Witnesses:

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