RETURNING ROLL TOY

INVENTOR.

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The present invention relates to amusement devices and more particularly to automatically returning roll toys.

It is an object of the present invention to provide a new and improved returning roll toy which is attractive and amusing, clean, substantially indestructible and of low cost manufacture.

More specifically, it is an object of the present invention to provide a novel toy of the class described incorporating an arrangement of relatively movable elements whereby it is rendered both interesting and amusing to watch.

Further objects and advantages of the present invention will appear from the following description taken in connection with the accompanying drawings while the features of novelty will be pointed out with greater particularity in the appended claims.

In the drawings Fig. 1 is a side elevation of the toy constructed in accordance with one form thereof; Fig. 2 is a cross sectional view taken along the line 2—2 of Fig. 1; Fig. 3 is a cross sectional view taken along the line 3—3 of Fig. 1; and Fig. 4 is a fragmentary side elevation illustrating a further modification of the invention.

The toy of the invention comprises a housing including a transparent cylindrical outer wall 10 and opposite end walls 11 and 12 which may also, though not necessarily, be transparent. The housing comprising portions 10, 11 and 12 may be of any suitable material such as plastic, the portions being sealed together to form a tight enclosure. Mounted within the housing is a figurine such as a doll 14, the doll being preferably double faced as illustrated more clearly in the side view of Fig. 3, the doll being further more provided with a weight in its lower portion as indicated at 15. The figurine is suspended substantially midway between the opposite end walls 11 and 12 and free of the cylindrical wall 10 by resilient or rubber band means secured to the opposite end walls 11 and 12 substantially centrally thereof. As illustrated, the suspension means comprises a pair of rubber bands 16 and 17 the inner ends of the two bands being looped underneath the arms of the figurine while the outer ends of the bands are mounted upon hooks 18 secured to the inner surfaces of the end walls. The rubber bands are stretched taut whereby they extend substantially along the longitudinal axis of the cylindrical housing 10. As the toy is rolled away from the operator the figurine remains in the upright position due to the weight 15 and the rubber bands become twisted so that upon loss of momentum the torsional stress built up in the twisted bands 16 and 17 will be transmitted to the housing to cause reversal of movement and rolling thereof back to its original position.

Supported upon the rubber bands 16 and 17 substantially midway between the figurine and the adjacent end walls are a pair of disks 20 which disks are provided with a pair of spaced apart openings 21 at their central portions through which openings are extended the opposite sides of the rubber bands. Members 22 extend at right angles through the disks 20 adjacent the peripheral edges thereof and are spaced uniformly therebetween, the members 22 being of a length somewhat less than the space between the figurine and the adjacent opposite end walls. Spacer members in the form of short cylindrical units 24 are provided on each of the opposite sides of the disks 20 to maintain the disks in a properly spaced relation substantially midway between the figurine and each of the opposite end walls of the housing. Upon rolling movement of the toy the disks 20 are also given a rotary motion but at a speed substantially one-half the speed of rotation of the housing creating an unusual and interesting optical illusion. Furthermore as the rubber bands wind up and unwind the disks will rotate with an uneven or vibratory rotational characteristic further enhancing the visual effect created. The members 22 extending transversely of the disks adjacent their peripheral portions are preferably of different bright colors so that the rotation of the disk elements 20 may be more clearly observed. The spacer elements 24 may also be of bright colors and serve to conceal the rubber band suspension means extending therethrough which suspension means are in themselves relatively unattractive. The spacer means 24, however, do not in any way affect or retard the winding and unwinding of the rubber bands, the opening through the spacer means being considerably greater than the over-all dimensions of the spaced apart sides of the rubber band means.

In the modification of the invention illustrated in Fig. 4 the disk units 20 are replaced by an annular member or hoop 30 which is arranged about the figurine. The hoop may be either circular or elliptical and a pair of holes are provided in diametrically opposite points similar to the holes 21 provided in the disks 20 through which holes extend the two sides of each of the rubber band suspension means 16.
and 17. The diameter of the hoop in the direction radially of the housing is somewhat less than the inner diameter of the housing so that it may rotate freely therein upon rolling movement of the toy. As in the case of the disk units 20 the hoop 30 upon rolling of the toy will rotate about the longitudinal axis of the toy but at a speed of rotation less than that of the toy housing and moreover will give an illusion resembling the performance of a child skipping rope.

Having described the invention in what is considered to be certain preferred embodiments thereof it is desired that it be understood that the specific details shown are merely illustrative and that the invention may be carried out by other means.

What I claim is:

1. In a returning roll toy the combination comprising a housing including a transparent cylindrical outer wall and opposite end walls, a double faced doll mounted within said housing, a weight in the lower portion of said doll, rubber band suspension means attached to an intermediate portion of said doll above said weighted end portion, said rubber band suspension means extending axially of said housing and attached to each of the opposite end walls of said housing, said doll being suspended substantially midway between said opposite end walls, rotary means mounted on said rubber band suspension means on each of the opposite sides of said doll substantially midway between said doll and the adjacent end wall, and spacer means around said rubber band suspension means on each of the opposite sides of said rotary means whereby upon rolling movement of said toy said rotary means rotate at a rate substantially one-half the rate of rotation of said housing.

2. In a returning roll toy the combination comprising a housing including a transparent cylindrical outer wall and opposite end walls, a figurine weighted at the lower end suspended within said housing, the suspension means for said figurine comprising a rubber band attached to each of the opposite sides of said figurine and extending axially of said housing and attached centrally to adjacent end walls of said housing; a disk mounted on each of said rubber bands substantially midway between each of the opposite sides of said figurine and the adjacent end wall, the opposite sides of each of said bands extending through spaced holes in said disks, and spacer elements on each of the opposite sides of said disks and said figurine and respective end walls, whereby upon rolling movement of said toy said disks will rotate at a rate substantially one-half the rate of rotation of said housing.

3. In a returning roll toy the combination comprising a housing, including a transparent cylindrical outer wall, a double faced doll mounted within said housing, a weight in the lower portion of said doll, said doll facing said cylindrical wall, rubber band suspension means secured to each of the opposite end walls of said housing and to said doll midway between said walls whereby said doll is suspended free from said cylindrical wall, rubber band means being double on each of the opposite sides of said doll, a hoop extending around said doll, a pair of spaced openings through said hoop on each of diametrically opposite points thereof the two sides of the rubber band extending through said pair of holes in said hoop on each of the opposite sides of said doll whereby upon rolling movement of said toy said hoop will be caused to rotate relatively about said doll suspended therewithin at a rate substantially one-half the rate of rotation of said housing.

4. In a returning roll toy, the combination comprising a housing including a transparent cylindrical outer wall portion, a figurine mounted within said housing, a weight in the lower portion of said figurine, rubber band suspension means secured to each of the opposite end walls of said housing and to said figurine midway between said end walls whereby said figurine is suspended free from said cylindrical wall portion; said rubber band means being double on each of the opposite sides of said figurine, a hoop extending around said figurine and supported on said rubber band means on each of the opposite sides of said figurine substantially midway between said figurine and the adjacent end wall whereby, upon rolling movement of said toy, said hoop will be caused to rotate relatively about said figurine suspended therewithin at a rate substantially one-half the rate of rotation of said housing.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

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FOREIGN PATENTS

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<tr>
<td>405,910</td>
<td>Germany</td>
<td>Nov. 13, 1924</td>
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