Oct. 4, 1927. 1,644,182

O. R. DAILEY

TOY TOP

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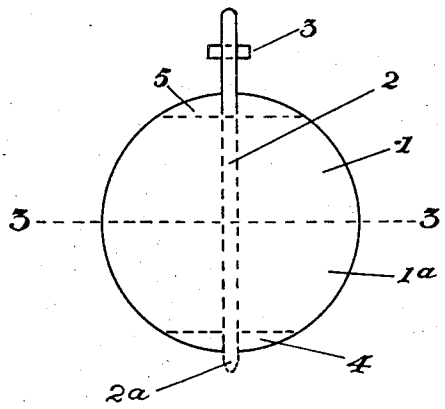


Fig. 1

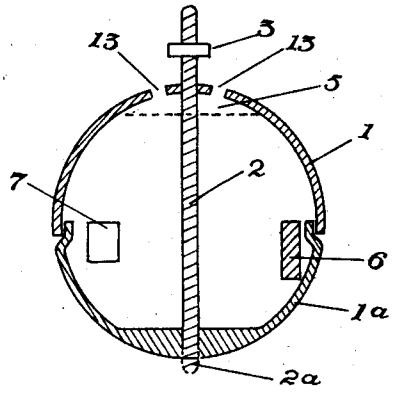


Fig. 2

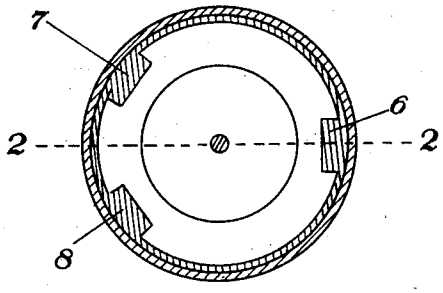


Fig. 3

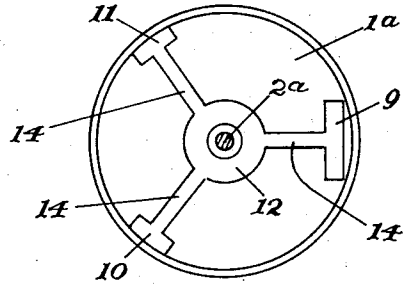


Fig. 4

Owen R. Dailey INVENTOR.

BY Curtis V. Bush

ATTORNEY.

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UNITED STATES PATENT OFFICE.

OWEN R. DAILEY, OF DAVENPORT, IOWA.

TOY TOP.

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My invention relates to toy tops in which a hollow globular body is utilized in connection with a mechanical spinner to spin the top.

The objects of my invention are to provide a large hollow toy top which will automatically reverse so that when spun upon its pivot point or lower end it will automatically turn over and spin upon the end of the handle.

I attain these objects by the means illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the top; Fig. 2 is a vertical cross section on the line 2, 2 of Fig. 3; Fig. 3 is a horizontal cross section on the line 3, 3 of Fig. 1 and Fig. 4 is a detail horizontal sectional view showing an alternative form of weights.

My top comprises a hollow globular body, the two halves of which 1 and 1^a, are joined together by a pressfit as shown in Figure 2. The upper edge of the lower half, 1^a, is bent in slightly to allow the lower edge of the upper half to encircle it.

The pivot post, 2, extends through the top of the upper half and downwardly either to or through the lower half and may form a point, 2^a, as shown in dotted lines in Figures 1 and 2, upon which the top may be spun or the pivot point may be omitted and the top may be spun upon the middle of the outer surface of the lower half. I prefer to form the top with a short pivot point, 2^a.

The lower half of the top is provided with a weight 4, which may be formed integral with the lower shell, 1^a, or may be secured to it by soldering, cement or in any other suitable way. This weight may be in the form shown at 4 in Figure 2, or in the form of an annular washer, 12, with projections extending therefrom as in Figure 4 or in any other suitable form.

For the purpose of causing the top to reverse automatically, this weight may be secured either at the upper or lower pole of the top and is preferably evenly balanced although not necessarily exactly so.

Substantially upon a horizontal plane extending through the middle of the top, I secure weights, 6, 7 and 8, or 9, 10 and 11. No precise number of weights is requisite and they may be of the same or different sizes, but when of the same size and weight must be unevenly spaced around the top so that there will be an excess weight at one side of the top or if evenly spaced, they must be of uneven weight. Figure 3 shows weights of the same size unevenly spaced and Figure 4 shows evenly spaced weights of different sizes and weights.

The top will perform in the desired manner whenever evenly weighted as shown at either top or bottom in addition to being unevenly weighted at the middle. The body of the top is preferably formed of hollow metal, but obviously may be made in the form of a solid globe and while for the sake of appearance the weights are preferably attached to the inside of the top, it is obvious that they may be applied to the outside either of a hollow top or a solid globe.

In order to get the best results, certain relative proportions should be observed between the weights and the body of the top. Likewise, in order to get the best results, a considerable initial speed of rotation should be given to the top, said speed being somewhat proportional to the weight of the top and the relative weight of the uneven weights secured around the middle thereof.

For simplicity of manufacture I prefer to form all of the weights by stamping them out of a single piece of metal leaving them connected together as shown in Figure 4 where curved arms, 14, connect the bottom weight, 12, with the circumferential weights 9, 10 and 11.

For spinning the top a crossbar is preferably secured in the handle to which can be applied the ordinary spring spinner now in common use. Another form of spinner in common use has fingers or projections intended to extend into openings in the upper surface of the top and in Figure 2 are shown openings, 13, into which such fingers or projections can extend.

No claim is made as to any particular form of spinner for these are well-known and in common use.

In the operation of my top the spinner is wound up and applied to the upper end of the top. The trigger of the spinner is then pressed and the spring action of the spinner starts the top spinning rapidly, the spinner then being withdrawn from the top or the top allowed to drop out of the spinner. As the top spins rapidly, the centrifugal action of the uneven weights causes it to tip over to one side and ultimately to hop up so as to spin upon the upper end of the handle, in which position it will remain until its spin-

ning action has slowed down sufficiently to cause it to tip over.

It is obvious that the principle of this invention is not confined to tops of precisely globular form, but is applicable to both prolate and oblate spheroidal bodies and to various modifications thereof.

It is also obvious that no precise form or size of weights is essential, the general principle requiring merely an uneven distribution of weight at the middle line of the circumference of the top with relative weights secured either at the top or bottom of the body of the top or any other weights approximately at one of the poles thereof.

It is not essential that these polar weights be evenly distributed with reference to the vertical axis of the top, but if unevenly distributed, the excess weight should preferably lie in a line diametrically opposite to the center of the excess weight around the circumference of the top.

I claim:

1. An automatically inverting top comprising a substantially globular body carrying unevenly distributed weight around its horizontal circumference.

2. An automatically inverting top comprising a substantially globular body carrying unevenly distributed weight around its horizontal circumference, with additional weight secured approximately at one of the poles thereof.

3. An automatically reversing top comprising a body weighted at its lower end and with additional weights unevenly distributed around its horizontal circumference.

4. An automatically reversing top comprising a body weighted at its lower end and with additional weights unevenly distributed around its horizontal circumference, and a handle secured thereto.

5. An automatically reversing top comprising a body weighted at its lower end and with additional weights unevenly distributed around its horizontal circumference, and a handle secured thereto adapted to be engaged by a mechanical spinner.

6. An automatically reversing top comprising a spheroidal body, a weight united thereto approximately at one of the vertical poles thereof, and additional weights secured around the horizontal circumference of the body and unevenly spaced thereon.

7. In a top, the combination with hollow upper and lower shells suitably united, of a weighted element comprising an annular weight secured at one pole of the top with a plurality of arms extending therefrom and securing unevenly distributed weights approximately at the horizontal circumference of the top.

8. A top comprising a substantially globular body carrying unevenly distributed weight around its horizontal circumference, with additional weight secured approximately at one of the poles thereof.

In testimony whereof he affixes his signature.

OWEN R. DAILEY.