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W. P. GREEN ETAL

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HULA HOOP CARRYING VANED SPINNING PART

Original Filed Oct. 17, 1958

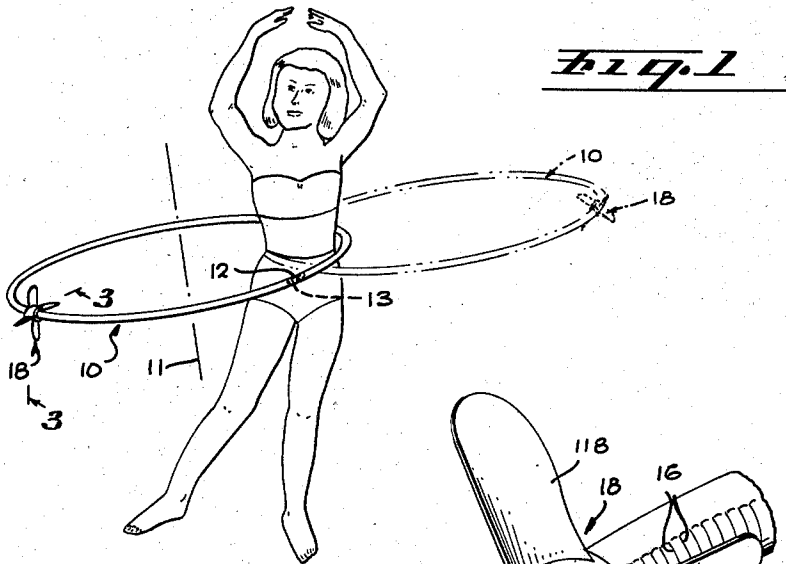


Fig. 1

Fig. 2

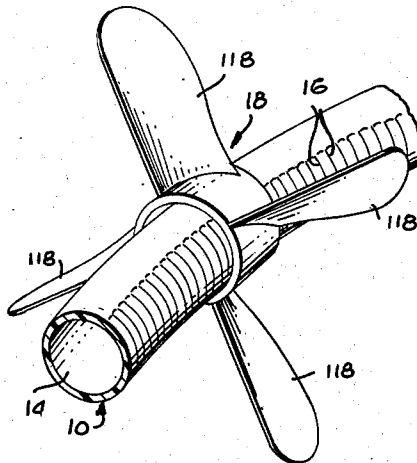
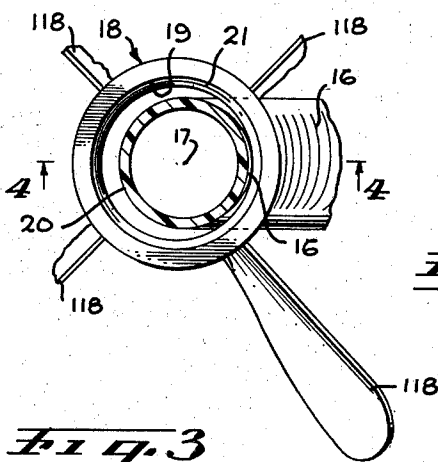


Fig. 3

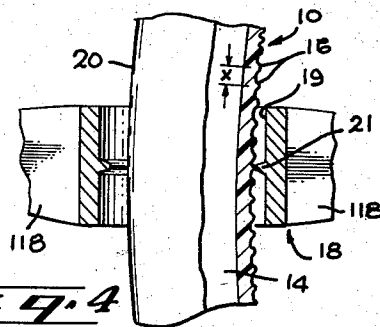


Fig. 4

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HULA HOOP CARRYING VANED SPINNING PART

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Original application Oct. 17, 1958, Ser. No. 767,931, now Patent No. 3,066,438, dated Dec. 4, 1962. Divided and this application Dec. 3, 1962, Ser. No. 241,923
4 Claims. (Cl. 46—53)

This invention relates to an improved toy of the type commonly referred to as "hula hoops," consisting of a relatively large hoop adapted to be whirled about a person's body by a hula type motion of the body. This present application is a division of our copending application, Serial Number 767,931, now Patent No. 3,066,438, filed October 17, 1958 on "Hoop Toy."

The general object of the present invention is to provide a toy which includes a whirling hoop of the above mentioned type, but which in addition includes also another part or unit so designed as to introduce considerable added interest to the use of the hoop. This part is mounted to the hoop in a manner such that the part can move freely along the circular extent or length of the hoop, as the hoop is whirled around the user's body. During such whirling, the centrifugal force exerted against the added part or unit causes that part to be continuously urged away from the user's body, so that the part always stays on that portion of the hoop that is spaced away from the user's body. As the hoop whirls around the body, the shifting part automatically moves or slides along the hoop at a rate which is just sufficient to assure such maintenance of the shifting part at or near the outer extremity of the hoop at all times.

In the form of the invention covered by the present divisional application, the shifting part has one or more vanes, which act by virtue of their movement through the air, during whirling of the hoop, to cause rotation of the shifting part relative to the hoop. This vaned element desirably extends about the material of the hoop, and rotates about the axis of that material.

The above and other features and objects of the present invention will be better understood from the following detailed description of the typical embodiments illustrated in the accompanying drawing in which:

FIG. 1 is a perspective view showing a person utilizing a hoop assembly constructed in accordance with the invention;

FIG. 2 is an enlarged perspective view of the device of FIG. 1;

FIG. 3 is a section taken on line 3—3 of FIG. 1; and
FIG. 4 is a section taken on line 4—4 of FIG. 3.

In the figures, we have shown at 10 a hoop which is adapted to be whirled continuously about a person's torso, as shown, with the hoop remaining in essentially a horizontal plane during such whirling motion. The whirling action is attained by a hula type motion of the person's body, the motion preferably being an alternate or oscillating forward and rearward movement at a frequency just sufficient to properly maintain the continuous whirling action. The hoop should of course have an internal diameter which is considerably greater than the external diameter of the engaged hip or near hip portion of the user's body. Preferably, the internal diameter of the hoop, with respect to the main axis 11 of the hoop, should be between about 23 inches and 43 inches, for best results about 33 inches, with the external diameter of the hoop being somewhat greater, say about 1½ to 2 inches greater.

The hoop 10 may be formed of any suitable material, such as a resinous plastic material of the type commonly employed in similar hoops. For example, it is con-

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templated that a relatively stiff polyethylene, vinyl, polystyrene, or other similar resin may be utilized for this purpose. As seen best in FIG. 2, the hoop 10 may be formed of a tubular material, which is typically extruded or otherwise formed to be of a uniform cross-section along the entire circular extent of the hoop, that cross-section being shown clearly in FIG. 2. The material of the hoop is continuous entirely about the circular extent of the hoop except at one point 12, where the ends of the tubular material are securely joined together, as by means of a wooden plug 13 telescoping into both ends of the hoop material, and stapled or otherwise securely fastened thereto. This plug 13 should for best results be shaped externally in correspondence with the shape of the internal cavity 14 formed within the tubular hoop material, so that the plug tightly and closely fits within the tubular material to hold its ends in fixed relation. When the ends are secured together in this way, the external surfaces of the two ends are in alignment with one another, and form essentially a continuation of one another.

At its radially inner side, facing directly toward axis 11, the material of hoop 10 may form a series of irregularities 16 (see FIG. 3), which are spaced apart circularly with respect to axis 11 in rather closely spaced relation. Except as interrupted by irregularities 16, the cross sectional shape of the tubular material of hoop 10 may be essentially circular, about a center 17.

Disposed about the tubular material of hoop 10 there is provided a relatively shiftable element 18, which may take the form of a ring disposed about the tubular hoop material, but loose enough thereon to be freely slidable along the material through the entire 360° circular extent of the hoop, and having a series of angular vanes 118 on its outer surface. The inner surface 19 of ring 18 may be essentially cylindrical, and of a diameter somewhat greater than the external diameter of outer toroidal surface 20 of hoop 10, and may carry an annular bead 21 for engaging the irregularities 16 formed on the hoop. Bead or projection 21 is preferably of a small enough extent circularly about axis 11 to engage and be deflected by the projections 16 individually. That is, the circular extent of the inner extremity of lug 21 should not be greater than the spacing X between the closest projections 16 formed on the hoop.

The vanes 118 carried by ring 18 are spaced circularly apart and are disposed angularly or so pitched as to cause ring 18 to spin about the material of hoop 10 (that is about axis 17) by virtue of the whirling movement of ring 18 through the air during operation of the hoop.

In using the hoop assembly of the figures, the user merely whirls the hoop 10 in the conventional manner, by forward and rearward alternating movement of the user's body, so that hoop 10 continuously whirls around the body. As the hoop whirls, the inner surface of the hoop engages and rolls along the outer surface of the person's body, so that the portion of the hoop which is spaced farthest outwardly from the body is also continuously changing. The centrifugal force exerted against ring 18 as a result of the whirling motion causes that part to constantly remain as far away from the user's body as is possible. As the ring spins through the air, its vanes 118 cause the ring to spin about axis 17 of the hoop, as stated above, to thereby present a pleasing-visual effect.

The rolling action of the hoop on the user's body causes the hoop to advance through ring 18, or stated reversely, the ring 18 progressively shifts or advances circularly relative to or along the hoop. This relative movement causes the extremity of projection 21 on ring 18 to move along the series of teeth or notches 16 formed on the hoop, and by successive engagement with those different teeth 16, ring 18 causes a predetermined vibrating move-

ment of the material of hoop 10, and of ring 13. The teeth 16 are so spaced that this vibrating movement is within the audible range, so that sound is produced in addition to the mentioned visual effect, and is amplified by the material of hoop 10 and ring 13. The materials of these parts are so chosen as to produce a relatively loud tone or series of sounds during whirling movement of the hoop.

The material of ring 13 and its vanes is also so selected as to have sufficient mass to always be maintained by centrifugal force in the desired outer position, away from the body of the user. It is contemplated that the material of ring 13 may be die cast metal, a suitable essentially rigid or stiff resinous plastic material, or any other suitable material having the desired characteristics. Also, hoop 10 and ring 13 should be formed of materials such that their coefficient of friction is very small, to allow free sliding movement of ring 13 along the hoop.

It is preferred that the irregularities 16 be spaced apart non-uniformly, and in a relation such as to produce either spoken words, or a musical tune. However, if desired, the spacing of these irregularities may be uniform, to produce a constant tone. If spoken words or a musical tune are formed on the device, the words or tune may be long enough to last for two, three, or more revolutions of the hoop about the user's body, depending on the size of the user, since the hoop does roll in the previously mentioned manner, and since the shifting part 13 therefore does not move entirely about the circular extent of the hoop on each revolution of the hoop about the user. Thus, a short sentence or tune can easily be provided on the hoop.

As will be apparent from the drawing, the spacing between the successive sound producing teeth has been greatly exaggerated for purposes of illustration. The teeth 16 would normally be spaced much closer together

than in the drawing, particularly where spoken words are to be produced.

What is claimed as new is:

1. A toy comprising a hoop adapted to be whirled about a person's body by a hula type motion of the body, a part carried by the hoop for movement relative thereto along its circular extent and for rotation relative thereto and adapted during whirling of the hoop to be continuously maintained on the outer portion of the hoop away from the person's body by virtue of the developed centrifugal force and resultant movement of said part along the length of the hoop, and vane means on said part disposed angularly to rotate said part relative to the hoop by movement through the air as the hoop whirls.

2. A toy as recited in claim 1, in which said part is disposed about the material of said hoop at one location thereabout and is rotated about the material of the hoop by said vane means.

3. A toy comprising a hula hoop as recited in claim 1, including means for producing sound as a result of the motion of said device relative to and along said hoop during whirling.

4. A toy as recited in claim 3, in which said last mentioned means comprise successive irregularities on said hoop shaped and spaced to produce a predetermined type of sound as a result of movement of said part therepast, there being means on said part adapted to mechanically engage said irregularities and thereby product an audible vibration dependent upon the spacing of the irregularities.

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