March 15, 1960 C. H. KUHN 2,928,206

HOOP TOY

Filed Oct. 16, 1958

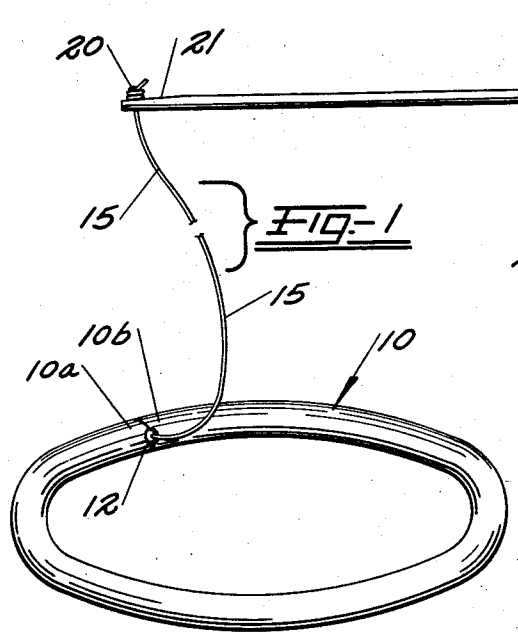


FIG.-1

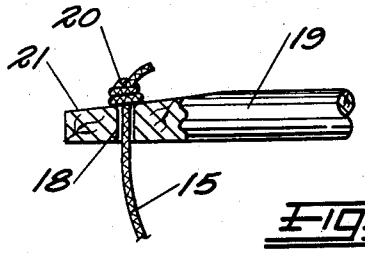


FIG.-2

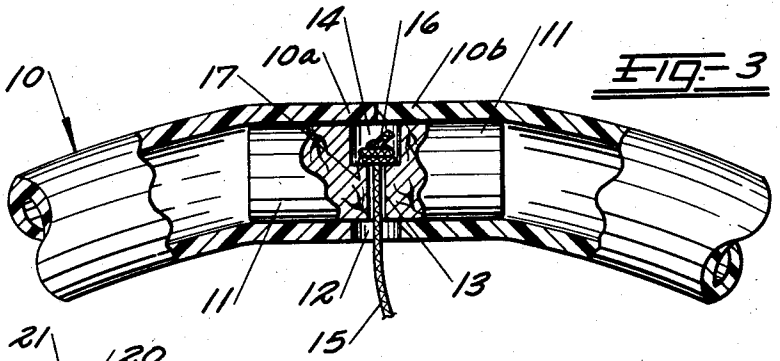


FIG.-3

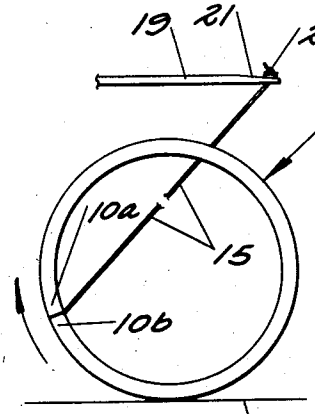


FIG.-4

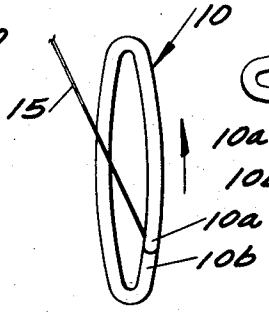


FIG.-5

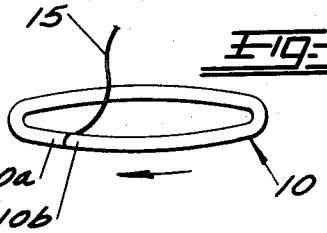


FIG.-6

INVENTOR:
CHARLES H. KUHN
By: Herbert Q. Martin
ATTORNEY

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HOOP TOY

Charles H. Kuhn, Indianapolis, Ind.

Application October 16, 1958, Serial No. 767,532

2 Claims. (Cl. 46—51)

This invention relates to a hoop or properly termed a trundle and constitutes a playing hoop which is actuated by a very slight motion of the wrist of the player through a wand, from the end of which extends a cord to an attachment with the hoop.

The primary object of the invention is to provide a unique device which requires some skill in operation such as rolling the hoop along a floor or the ground; rotating the hoop horizontally in the air; and rotating the hoop vertically in the air. The hoop may of course be rotated in intermediate positions in respect to those just mentioned, and it may occur to the operator to perform other feats under control of a slight rocking of the wand by the operator's hand while flexing the wrist.

These and other objects of the invention will become apparent to those versed in the art in the following description of one particular form of the invention as illustrated in the accompanying drawing, in which

Fig. 1 is a view in perspective of one form of the device;

Fig. 2 is a detail in partial section of the attachment of a cord to the operating wand;

Fig. 3 is a detail on an enlarged scale in partial section of the attachment of the cord to the hoop;

Fig. 4 is a suggested diagram of one type of operation of the device;

Fig. 5 is a view in diagrammatic form showing operation of the device in a vertical plane; and

Fig. 6 is a diagram indicating operation of the device in a substantially horizontal plane.

A tubular hoop is formed of any suitable material, herein indicated as being made out of a plastic tube in one piece generally designated by the numeral **10** and having ends **10***a* and **10***b* telescoped over a cylindrical connector **11**. The connector **11** is made of that diameter which will require a frictional gripping thereof when the tube ends **10***a* and **10***b* are telescoped thereover so that the hoop may retain its circular formation. The abutting ends **10***a* and **10***b* may be secured one to the other in any suitable means such as by heating or by cementing depending upon the material of the tube. Of course these ends may be tacked directly to the interconnector **11**.

The diameter of the formed hoop **10** may vary, although one particular form such as sixteen inches in diameter operates very well, this dimension not intended to be a limiting factor of the invention. It is desired however that the hoop **10** be formed and remain in a true circular shape.

An opening **12** is provided, substantially one-half in each of the opposing ends **10***a* and **10***b*. The connector **11** is provided with a diametrical bore **13** therethrough intermediate its ends. This bore **13** is centered upon the axis of the opening **12**. The bore **13** is provided with a counterbore **14** at the end thereof removed from the opening **12**.

A cord **15** of knitted construction as opposed to a twisted strand construction is selected, and a knot **16** is

tied in one end. Prior to the telescoping of the ends **10***a* and **10***b* over the connector **11**, the cord **15** is inserted through the bore **13** to have the knot **16** come to rest on the shoulder **17** at the junction of the counterbore **14** with the bore **13**, this knot **16** serving as a pivotal stop. The bore **13** has a diameter exceeding that of the cord **15** so that the cord **15** is perfectly free to not only slide longitudinally, but most importantly to rotate freely within the bore **13**.

The other end of the cord **15** is inserted through a hole designated by the numeral **18** near one end of a wand **19**. The hole **18** is of a larger diameter than is that of cord **15** so that the cord **15** again is free to rotate in that hole **18**. A knot **20** is tied in the end of the cord **15** which extends through the hole **18**. Preferably the end of the wand **19** is flattened as at **21** so as to provide a bearing entirely around and under the knot **20**.

Both of the knots **16** and **20** are preferably treated in some such manner that they will be free to rotate on the flat shoulder **17** of the connector **11** and on the flat **21** of the wand **19** respectively. One possible means of treating the knots is to immerse them in a liquid plastic containing a metal such as aluminum wherein the plastic is "air-setting" and then after the plastic is set, the coated knots are immersed in a lubricating medium which may be paraffin or even one of the many plastics, all to the end that the knots **16** and **20** may rotate without producing twist in the cord **15**. The cord **15** as above indicated being made out of a knitted material will not unwind as it may be tended to twist as opposed to the ordinary twisted strand cord which will unwind when turned in one direction particularly. Neither will the knitted form of the cord **15** tend to form knots for the same reason. The cord **15** is preferably provided in a length which will permit the wand **19** to be manipulated in angles below and above the horizontal, these angles being rather small even down to two to five degrees depending upon the action being had in the rotation of the hoop as will be further explained. Where the diameter of the hoop is sixteen inches as above indicated, one particular length of the cord **15** may be approximately twenty-three inches. The wand itself for these dimensions may be approximately the same as the length of the cord **15**, even up to an inch or so in greater length if desired. The wand **19** is, in the present instance, a length of quarter inch dowel rod, giving a slight degree of resilience throughout its length. As indicated in Fig. 1, the wand **19** preferably has a short handle **22** at one end to provide a more comfortable grip.

In the three suggested manners of operation as indicated in Figs. 4–6, the hoop **10** may rest on the ground **23**, Fig. 4, with the hoop at approximately a vertical plane and with the hoop ends **10***a* and **10***b* at a slight distance above the ground **23** whereupon the wand **19** is given a slight, easy pull upwardly and forwardly to start the hoop **10** into rotation while it rests on the ground **23**, and then as the hoop turns over and over, on each upwardly directed movement of those ends **10***a*, **10***b*, a slight pull is given on the cord **15** to continue this rolling of the hoop **10**.

To set the hoop **10** into rotating action in a substantially vertical plane as indicated in Fig. 5, the hoop is grasped by the one hand and given a slight rotation whereupon the cord **15** is pulled upwardly as the ends **10***a*, **10***b* come on the upward turning side of the hoop, the wand **19** being alternately flipped upwardly and downwardly as the ends **10***a*, **10***b* turn around in the orbit of the rotation of the hoop **10**.

Likewise, the hoop **10** may be given a rotation in a substantially horizontal plane, Fig. 6, by initially starting the hoop by hand in that plane and continuing the rota-

tion by means of alternate movement of the wand 19 to supply the impulse on each rotation of the hoop 10. It is entirely possible to go from the position of the hoop 10 as indicated in Fig. 5 to the position approaching the horizontal as indicated in Fig. 6 without stopping the rotation, simply by manipulating the wand 19 to bring about that change in the plane of rotation.

As the hoop rotates, the cord 15 will of course have to turn upon its axis through the connector bore 13 as well as through the hole 18 so that the entire operation is facilitated by well lubricated bearings between the knots 16 and 20 on their respective bearing surfaces.

Therefore it is to be seen that I have provided a unique toy which does require some skill although that skill is easily acquired, and while I have described the invention in the one particular form in minute detail, it is obvious that structural variations may be employed particularly in the means for interconnecting the ends of the tubular hoop, and in the bearing ends of the operating cord, all without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claims.

I claim:

1. A toy comprising a hoop operable by a wand and a cord interconnected with the wand and the hoop, wherein said hoop has tubular ends; there is a cylindrical connector having end portions inserted frictionally within and interconnecting said tubular ends; said connector having a transverse bore therethrough, the axis of which is on a radial line of the hoop; said bore having a counterbore at its end most removed from the center line of curvature of said hoop; and said cord freely entering by one end portion said bore from its inner end and being retained by a knot on the cord within said counterbore; said knot being free to turn circumferentially with the cord.

2. The structure of claim 1 in which said hoop ends abut one another around said connector in a line centered on the axis of said bore, and said hoop ends are relieved about the bore inner opening providing clearance around said cord.

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