Jan. 4, 1927. 1,613,331

M. SCHREINER

WHIRLING TOY

Original Filed Feb. 19, 1923 2 Sheets-Sheet 1

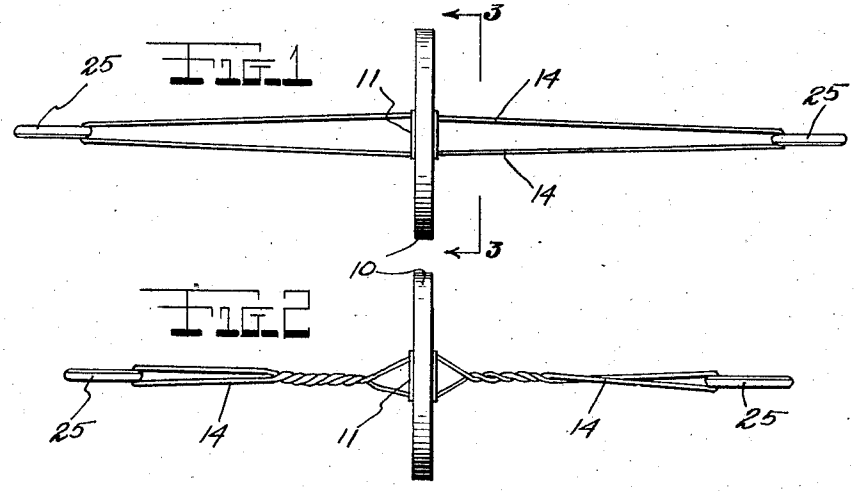


FIG. 1

FIG. 2

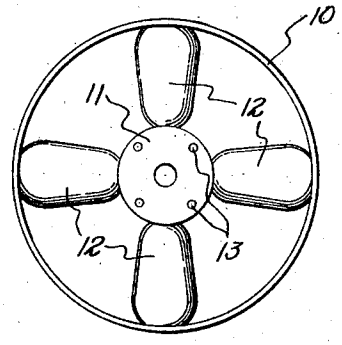


FIG. 3

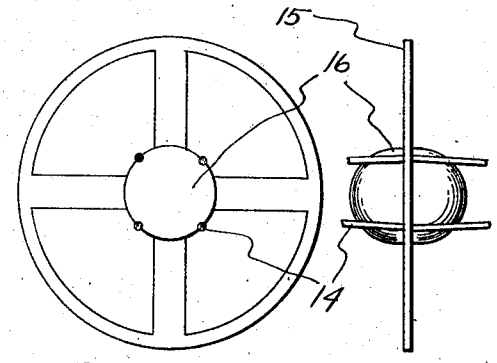


FIG. 4

FIG. 5

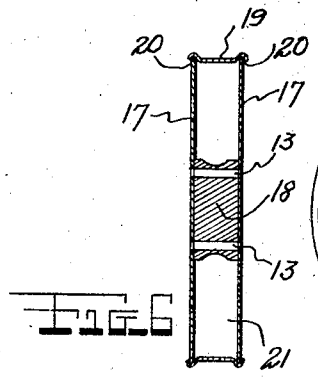


FIG. 6

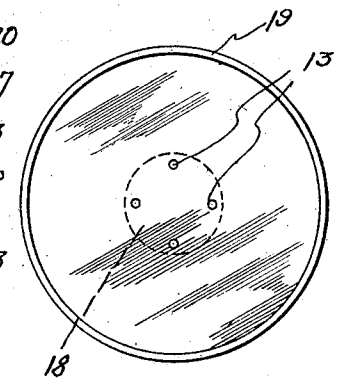


FIG. 7

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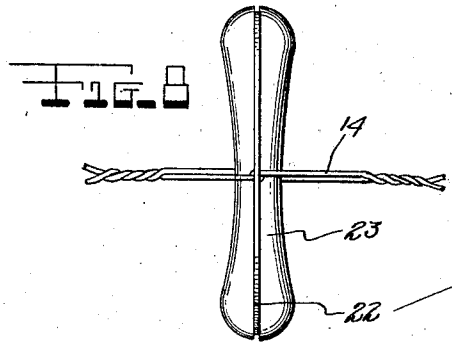
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WHIRLING TOY

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FIG. 8



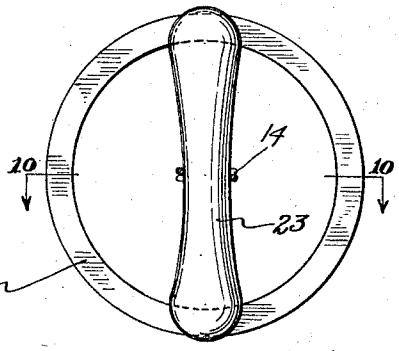


FIG. 9

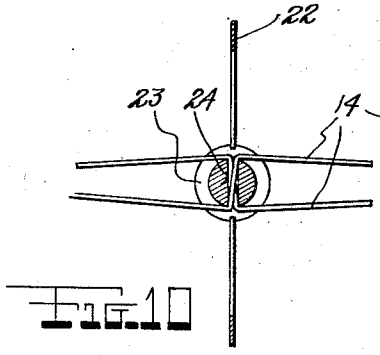


FIG. 10

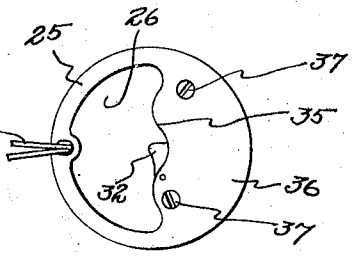


FIG. 11

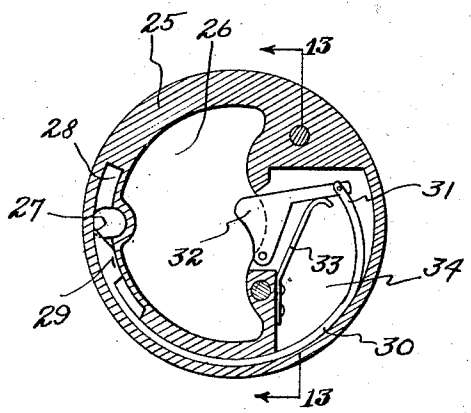


FIG. 12

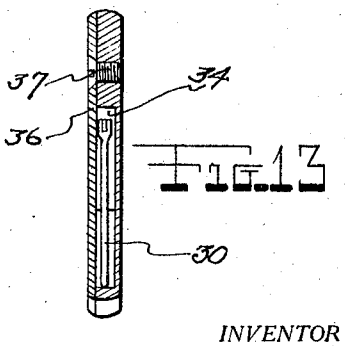


FIG. 13

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Patented Jan. 4, 1927. 1,613,331

UNITED STATES PATENT OFFICE.

MARCEL SCHREINER, OF NEW YORK, N. Y.

WHIRLING TOY.

Application filed February 19, 1923, Serial No. 620,028. Renewed September 18, 1926.

This invention relates to toys for children, and the main object is to provide a toy which essentially comprises a multi-colored or otherwise ornamental disk, or drum, and strings which pass thru the disk or drum which are manipulated by the fingers at their extreme ends by pulling said strings taut.

Another object is to provide a toy which has a central rotating member adapted to be freely whirled by manipulation of the strings, the latter causing the rotating member to successively rotate in a clockwise and counter-clockwise direction.

These and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawings.

Referring briefly to the drawing, Figure 1 is an end elevational view of the toy with the strings shown in position of rest.

Figure 2 is a similar view with the strings shown in twisted relation.

Figure 3 is a front sectional elevational view of the toy taken on line 3—3 of Fig. 1.

Figures 4 and 5 are front and side elevational views, respectively, of a modified type of toy.

Figure 6 is a sectional elevational view of a hollow drum type of toy.

Figure 7 is a front elevational view of the same.

Figure 8 is a side elevational view of another modification of the toy using two strings.

Figure 9 is a front elevational view of the same.

Figure 10 is a cross sectional view taken on line 10—10 of Figure 9.

Figure 11 is a top plan view of the finger ring used with the device.

Figure 12 is a sectional plan view of the finger ring exposing the string grip means.

Figure 13 is a sectional elevational view of the finger ring, the section being taken on line 13—13 of Figure 12.

Referring in detail to the drawing, the numeral 10 indicates an annular hoop which may be used with one type of toy. Said hoop is provided with a hub 11 from which a plurality of round shaped spokes 12 radiate to the inner periphery of the hoop to which they are rigidly connected. The hub 11 is provided with four passages 13, one set being diametrically opposite the other, thru which a similar number of strings 14 pass.

Another type of toy which functions in the same manner is illustrated in Figs. 4 and 5, in which the hoop and spokes are replaced by a flat annular disk 15, and a substantially ellipsoidal member 16 forms the hub, the latter projecting equally from both faces of the disk. The face of the disk may be provided with colored quadrants which will blend into each other when the disk is rotated. The strings 14 are similarly arranged as in the type previously mentioned but are seated in grooves on the periphery of member 16 and pass thru the passages provided in the disk.

The type illustrated in Figures 6 and 7 is another modification, the rotating member being a hollow drum, the faces 17 of which are composed of transparent material, and are separated by an axial hub 18 thru which the passages 13 extend. This type has a flat rim 19 formed thereon in which grooves 20 are provided which receive the peripherial edges of the side faces 17. The chamber 21 within the drum may be partly filled with multi-colored paper scrap which will continually change their position during rotation of the drum.

Figures 8, 9, and 10 indicate another modification which uses two strings, the rotating member being a flat ring 22 which has a diametral spoke 23 spanning the width of the ring, the latter being seated in slits formed at the ends of the spoke. With this type a single passage 24 is provided. One of the strings 14 enters the passage and emerges at the other end, and then continues in the same general direction. The remaining string passes thru the passage in an identical manner, but in the reverse direction. This equalizes the pull of the strings on the spokes and thereby securely retains the ring in a rotational plane.

The extreme ends of the strings are provided with finger rings 25 substantially circular in shape and have a central opening 26 for reception of the fingers. The front of the finger ring has an elongated opening 27 therein and a semi-circular channel 28 formed in the ring traverses the opening 27. Said channel has a sharp-nosed cam 29 slidable therein, which normally uncovers the entire area of the opening 27, as illustrated in Fig. 12. The rear end of the cam 29 has a resilient wire 30 rigid therewith, which extends thru a semi-circular channel in the body of the finger ring, the rear end 31 of

the wire being pivotally connected to a flat fulcrumed lever 32. Said lever normally pulls the wire 30 and cam 29 away from the opening 27 and is aided in doing this by a spring 33, one end of which is rigidly secured within the body of the finger ring. The entire spring, the wire 30 and the major portion of the lever 32 are encased within a chamber 34 in the finger ring, a small portion of the said lever 32 projecting out of a slot in the finger ring and above the ridges 35. The entire mechanism is covered by a plate 36 which is of similar contour to the finger ring and is securely fastened to the latter by the screws 37.

The toy is manipulated by inserting the finger into the opening 26 of the finger rings, and the central rotatable drum, disk, or ring is rotated by swinging in either direction until the strings have attained several twists. When the strings have been twisted in the manner described, they are then pulled taut. This starts the drum, disk, or ring to rotate in an opposite direction. By loosening the pull on the strings shortly before the twists of the strings are unraveled, the momentum of the rotating member will cause the strings to be again twisted in the opposite direction. The strings are again pulled taut and the same operation occurs with the member rotating in the opposite direction. In order to prevent the strings from slipping in the finger ring while the strings are tautened, the latter are jammed into the restricted part of the opening 27 by the cam 29. This cam is actuated by depressing the lever 32 which pushes the wire forward and the cam consequently partly closes the opening 27 and jams the strings tightly into place. When finger pressure on lever 32 is removed, the strings are again released.

I claim:—

1. A toy comprising a symmetrical rotor, said rotor comprising a hub, a hoop encircling said hub, spokes connecting the hub and hoop, strings passing thru said hub adapted to be twisted by swinging said rotor, finger rings at the extreme ends of said strings, the strings being adapted to pass thru an opening in said finger rings, a cam slidable in said finger rings adapted to traverse said opening and reduce the area of the latter, and means for sliding said cam across said opening.

2. A toy comprising a symmetrical rotor, said rotor comprising a hub, a hoop encircling said hub, spokes connecting the hub and hoop, strings passing thru said hub adapted to be twisted by swinging said rotor, finger rings at the extreme ends of said strings, the strings being adapted to pass thru an opening in said finger rings, a cam slidable in said finger rings adapted to traverse said opening and reduce the area of the latter, a fulcrumed lever in said finger rings part of which projects out of the rings, a wire connecting said cam and lever, a spring member engaging said lever normally urging said cam away from the opening, said lever when depressed being adapted to urge said cam forward and jam the strings in the opening.

In testimony whereof I affix my signature.

MARCEL SCHREINER.