VARICOLORED RING SPINNING TOY

Filed Jan. 11, 1946

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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2,527,109

VARICOLORED RING SPINNING TOY
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Application January 11, 1946, Serial No. 640,515

2 Claims. (Cl. 46—19)

This invention relates to novel and useful improvements and structural refinements in toys, and applies particularly to that class of devices in which an object is caused to rotate upon a screw threaded shaft by being propelled longitudinally thereon.

The principal object of the invention is to provide a device of the character described in which a plurality of variously colored, ring-like members are interposed in one another, and are rotatable on a shaft to produce an interesting display of colors in motion.

A further object of the invention is to provide a toy as herein described, in which the rotating members do not leave the shaft after reaching the end of their travel thereon.

An additional object of the invention is to provide a toy which is of simple construction and which cannot easily become damaged.

With the above more important objects in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the invention, showing the same in operation.

Figure 2 is a cross-sectional view thereof, taken in the plane of the line 2—2 in Figure 1, and showing the ornamental plate removed therefrom.

Figure 3 is a top plan view of a convex bearing disc used in the invention.

Figure 4 is a central, cross-sectional view of the disc shown in Figure 3, and

Figure 5 is a plan view of one of the spacing washers.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a pair of wire rods twisted together to form a screw-like shaft 1. This shaft is provided at one end thereof with a suitable handle 2, while its remaining end carries a stop knob 3 which is secured to the shaft by means of a set screw 4. Positioned upon the shaft 1 are a pair of ornamental, ring-like members 5 and 6, the member 5 assuming the form of an annular ring provided with a pair of diametrically aligned apertures located at right angles to the ears 7, whereby the ring may be suitably mounted upon the shaft 1.

The afore-mentioned member 5 assumes the form of a flat plate, configured substantially as shown in the accompanying drawings, and freely rotatable inside the ring 5. The plate 6 is provided at the diametrically opposed edges thereof with a pair of bearing portions 8, which in turn, are also suitably apertured to receive the shaft 1. A spacing washer 9 is positioned on the shaft between each of the bearing portions 8 and the ring 5 to facilitate free and unrestricted rotation of the plate 6 within the ring.

Slidably positioned upon the shaft 1 adjacent the handle 2 is a sleeve-like follower 10, provided with an annular finger shield 11 for preventing the operator’s fingers from coming in contact with the rotating members 5 and 6.

Positioned between the end of the follower 10 and the ring 5 is a convex bearing disc 12, having a flat undersurface 13 for contacting the follower 10 and an aperture 14 in said surface through which the shaft 1 may freely pass.

The upper, convex surface of the disc 12 is designed to bear against the ring 5 with the minimum of frictional contact so as to facilitate free rotation of the latter. Formed centrally in the convex surface of the disc 12 is an aperture 15 which is complementary to the cross-section of the shaft 1. It will be apparent that when the disc formed with such aperture is propelled along the screw-like shaft, its longitudinal movement will be accompanied by the rotation thereof about the shaft.

The surfaces of the ring 5 and of the plate 6 and the convex surface of the disc 12 are painted in suitable colors so as to present an interesting display when they are rotated.

When the toy is placed in use, the handle 2 is gripped by the left hand as illustrated by the reference numeral 16, while the fingers 17 of the right hand are used to urge the follower 10 in the upward direction.

The disc 12 bears against the outer ring member and is manually raised to impart a rotation to the outer ring member. As the outer ring member rotates, the washer 9 will also rotate and impart a rotation to the inner ring member 6. Since the openings in the ring members 5 and 6 loosely receive the shaft 1, these members can rotate at relatively different speeds, and the fact that the inner ring member 6 has a larger area than the outer ring member and that the inner ring member is flat will tend to restrict rotation of the inner ring member and thereby permit the outer ring member to rotate at a greater speed than the inner ring member.

Fractional contact between the members 5, 6, 8 and 12 will cause the members 5 and 6 to rotate
as the disc 12 is moved longitudinally upon the shaft 1.

While in the foregoing there has been shown and described the preferred embodiment of the invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

1. A mechanical toy comprising a helically twisted wire forming a screw-like shaft, an outer ring member having a pair of diametrically opposed openings loosely receiving the shaft, an inner ring member having a pair of diametrically opposed openings loosely receiving the shaft and rotatable within the outer ring member, friction reducing means mounted on the shaft and disposed between the inner and outer ring members, a manually actuated follower sleeve slidably mounted on the shaft, an annular guard carried by the follower sleeve intermediate the ends of said follower sleeve, and a bearing disk slidably and rotatably mounted on said shaft, said disk being disposed between said outer ring member and said follower sleeve and having a convexed surface bearing against said outer ring member, said bearing disk having a central aperture complementary to the cross-section of the shaft, said disk adapted to impart a rotary movement to the outer ring member upon longitudinal movement of said disk on said shaft, said friction reducing means bearing against said inner and outer ring members and being rotated upon rotation of said outer ring member to impart a rotation to said inner ring member.

2. The combination of claim 1 wherein said inner ring member includes a flat plate having a greater area than said outer ring member for rotation of said inner ring members at a speed less than the speed of the outer ring member.

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