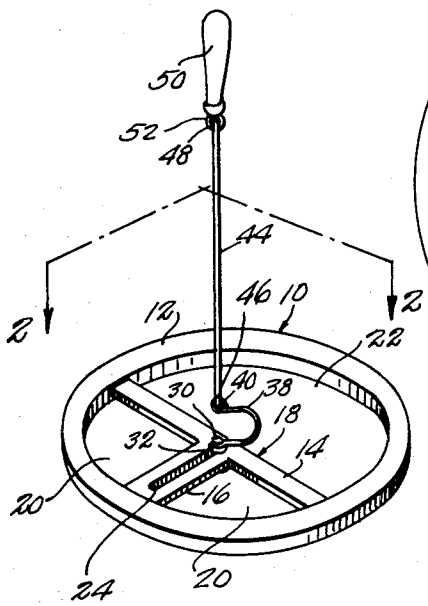
Aug. 30, 1960 Z. M. BRIDGES 2,950,565

WHIRLING TOY

Filed Feb. 13, 1959

FIG. 1.



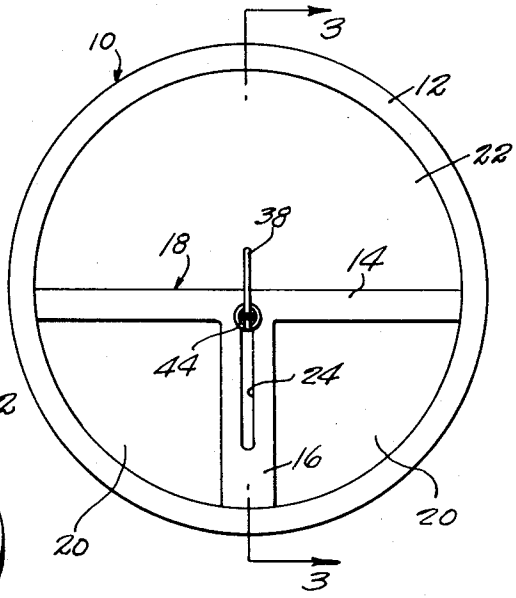
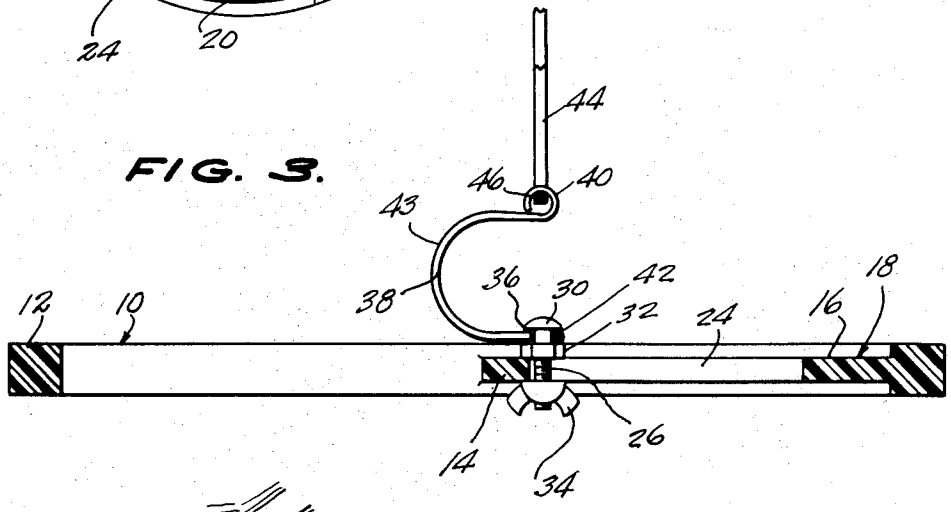


FIG. 2.

FIG. 3.



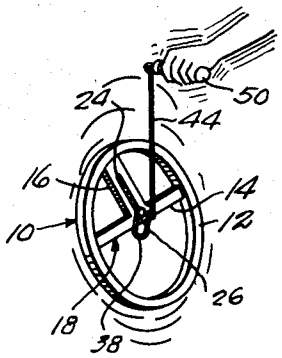


FIG. 4.

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WHIRLING TOY

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6 Claims. (Cl. 46—51)

This invention relates generally to toys. More particularly, in the invention has reference to a toy of the whirling type, including a closed loop which is imparted a spinning movement, responsive to manipulation of a suspending means which is held at one end in the user's hand, and which at its other end has a connection to the loop.

Summarized briefly, the top comprising the present invention includes a closed loop which can be rigid or, alternatively, of limited flexibility. The loop, in the preferred embodiment of the invention, has a web part which is of a T-shape, although said web part can have other shapes without departure from the spirit of the invention. In the web part there is provided a slot that is disposed, over its full length off center in respect to the loop. Alternatively, a plurality of openings might be used instead of the slot, as will be apparent from the description to be provided hereinafter. A pin is mounted in the slot, and swivelly connected thereto is a generally C-shaped connecting link, to which is connected an elongated, resiliently stretchable suspending member having at its upper end a handle.

By reason of the relative form and arrangement of the component parts of the toy, I propose to accomplish, among others, the following desirable purposes:

First, to provide a toy that can be manufactured at a comparatively low cost considering the highly amusing characteristics and the relatively durability thereof;

Second, to provide a toy that will be so designed as to require that the user achieve a predetermined amount of skill, thus to heighten the interest which the toy develops;

Third, to so form the toy as to permit the loop to be spun in various ways, to further increase the interest generated by the device;

Fourth, to incorporate in the device a novel type of connection between the loop and the suspension means, in the form of a C-shaped, swiveled link that has been found to produce particularly novel, unusual results when the toy is placed in operation;

Fifth, to combine with the above-mentioned, C-shaped, connecting link a resiliently stretchable suspension element with the link being of generally rigid construction, the characteristics of the link and suspension components cooperating to produce the desired, unusual action of the toy;

Sixth, to associate with the C-shaped link and the suspension means a connection of the link to the loop that will permit the link to be adjusted radially of the loop, while remaining in eccentric position relative to the loop; and

Seventh, to provide a whirling toy which, by reason of the construction and operational characteristics thereof, will be designed for whirling in a selected plane, which may be anywhere within a range extending from the horizontal to the vertical, generally speaking.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a perspective view of a toy according to the present invention;

Figure 2 is a sectional view, on an enlarged scale, taken substantially on line 2—2 of Figure 1;

Figure 3 is a still further enlarged sectional view on line 3—3 of Figure 2; and

Figure 4 is a perspective view, on a scale reduced below that of Figure 1, showing the toy as it appears when in use.

Referring to the drawing in detail, the toy comprising the present invention has been generally designated **10**, and includes a closed, circular loop **12** which, in the illustrated example, but not necessarily, is formed of a plastic material. The loop can be of rigid construction, or alternatively, can be of slightly flexible characteristics. If flexible, however, the loop should not have such great flexibility as to prevent the same from retaining its generally planiform shape shown in the several figures of the drawing.

The loop includes a crossbar **14** integrally connected between substantially diametrically opposite portions of the loop. It is to be noted, however, that in actuality, the crossbar is not extended diametrically of the loop, but rather, is slightly off center with respect to the loop. Integral with the mid-length portion of the crossbar **14** is a leg **16** at right angles to the crossbar, cooperating with the crossbar in defining a web part generally designated **18** in the loop. The web part, in the illustrated example, by reason of its T-shape, defines in the loop identical, but opposite, approximately quadrantal openings, and a single, roughly semicircular opening. The first-named openings have been designated **20**, while the generally semicircular opening has been designated at **22**.

Formed in the web part is a slot **24**. The slot is straight, and extends longitudinally and centrally of the leg **16**, one end of the slot being disposed at the juncture of the leg **16** with the crossbar **14**, the other end of the slot terminating short of the outer end of the leg. The slot extends radially of the loop, and over its full length is disposed eccentrically to the loop. In other words, even at its inner end, the slot does not extend to the center point of the loop.

Instead of a slot, one might desire to manufacture the device with a row of openings, but in either event, the same result would be obtained.

A pin **26**, in the illustrated example, is in the form of a bolt or machine screw, and has a head **30** overlying the web part and spaced upwardly from the web part by means of a nut **32** threaded on the pin against one face of the web part. A wing nut **34** is threaded on the screw, against the opposite face of the web part. The head and the nut are spaced apart to define therebetween a circumferential groove **36**, in the pin.

A generally C-shaped, substantially rigid connector link **38** is integrally formed at its opposite ends with eyes **40**, **42**. Eye **40** lies in a plane common to that of the C-shaped portion **43** of the link, while eye **42** lies in a plane perpendicular to that of said C-shaped portion (see Figure 2).

Eye **42** loosely receives the pin, extending within the circumferential groove **36**, so as to swivelly mount the connector link upon the pin. In this connection, it will be observed that on loosening of the wing nut **34**, the pin **26** can be adjusted on the web part, to any of various positions selectively, radially spaced from the center point of the loop. In every position of adjustment, however, the pin is eccentric to the loop.

A suspension means for the loop includes an elongated, resiliently stretchable suspending member **44**, having at its lower end a loop **46** receiving the eye **40**. A stout length of rubber band material can be employed for the member **44**, in a typical commercial embodiment. At its upper end, the member **44** has an eye **48** to permit the member **44** to be connected to a handle **50**, said handle having a swiveled eye **52** loosely receiving the eye **48**.

In use of the device, the pin **26** is located at a selected radial distance from the center of the loop. Then, with the handle held in one hand, the user imparts a a spinning motion to the loop with the other hand.

Once the loop begins spinning, it can be kept in motion by proper manipulation of the handle **50**. It has been found, in this regard, that the spinning motion of the loop will continue if one imparts to the handle a rapid up-and-down movement, so that the member **44** will alternately stretch and contract, imparting, at closely spaced intervals, an upward pull to the loop through the medium of the connector link **38**.

In this connection, by selective positioning of the pin or screw **26** along the length of the slot **24**, different operating characteristics are produced. Thus, if the pin is at the inner end of the slot **24**, that is, the end of the slot nearer the center of the loop, once the loop is started, it will begin to change its angularity to the horizontal. In other words, when the loop initially begins to turn, it may be rotating in a plane that is substantially horizontal. As the loop continues rotating, it tends to move toward a vertical plane, and may, in fact, move fully to a vertical plane. In Figure 4, the loop is shown approaching a fully vertical position, with the pin **26** disposed at the inner end of the slot.

If the pin is at the outer end of the slot, it tends to cause the loop to rotate in a substantially horizontal plane, and should the pin be midway between the opposite ends of the slot, the loop would tend to rotate in a plane that is inclined at an angle of 45 degrees from the horizontal.

When the loop is to rotate in a vertical, or almost vertical plane, it is given the necessary impetus by imparting slight upward jerks to the member **44** at closely spaced intervals. When the loop is to rotate in a horizontal plane with the pin at the outer end of the slot, the operation involves one's causing his hand to travel in a generally circular path in an approximately horizontal plane. In the middle position of the pin, the loop will rotate at the inclination of 45 degrees following a slight upward jerk upon the member **44**.

Of course, other positions of the pin are possible, due to the provision of a continuous slot **24**, and every position tends to change the angle of inclination of the loop, when it is in operation.

It has been found, in this regard, that the unusual operating characteristics of the device are apparently due to the relative form and arrangement of the component parts, and the swivel hook, designated at **38**, apparently plays an important part in the operation.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof, described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be

necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A whirling toy comprising a loop including a web part; means secured to said web part for adjustment radially of the loop; a connector link secured at one of its ends to said means; and a resilient, stretchable suspending member connected at one of its ends to the other end of said link.

2. A whirling toy comprising a closed loop including a web part; a pin mounted in the web part for adjustment radially of the loop and disposed eccentrically of the loop in each position to which it is adjusted; an approximately C-shaped connector link attached at one end to the pin; an elongated, resiliently stretchable suspending member connected at one end to the other end of the link; and a handle on the other end of said suspending member.

3. A whirling toy comprising a closed loop including a web part having a slot extending in a direction generally radial of the loop, said slot being spaced over its full length from the center of the loop; a pin mounted in the slot for adjustment along the length of the slot; an approximately C-shaped connector link attached at one end to the pin; an elongated, resiliently stretchable suspending member connected at one end to the other end of the link; and a handle on the other end of said suspending member.

4. A whirling toy comprising a closed loop including a web part having a slot extending in a direction generally radial of the loop, said slot being spaced over its full length from the center of the loop; a pin mounted in the slot for adjustment along the length of the slot; an approximately C-shaped, generally rigid connector link swively attached at one end to the pin; an elongated, resiliently stretchable suspending member connected at one end to the other end of the link; and a handle swiveling connected to the other end of said suspending member.

5. A whirling toy as in claim 4, wherein said web part is of T-shaped formation defining in the loop a pair of approximately quadrantally-shaped openings and an approximately semicircular opening.

6. A whirling toy as in claim 5, wherein the T-shape of the web part defines therein a crossbar and a leg, the crossbar being connected between generally diametrically opposed portions of the loop and the leg being connected between the crossbar and the loop, said slot being formed in said leg.

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