United States Patent

Halpern

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[54] PIN WHEEL TOY

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[52] **U.S. Cl.** **46/58**

[51] **Int. Cl.** **A63h 33/40**

[58] **Field of Search** 46/58, 53, 47

[56] **References Cited**

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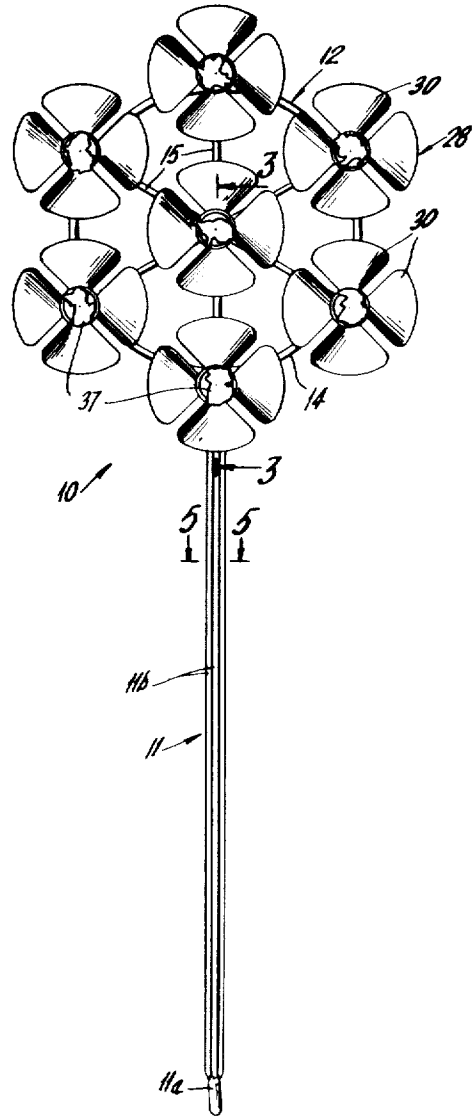
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Attorney—J. B. Felshin

[57] **ABSTRACT**

This toy comprises a long handle having its upper end frictionally inserted in a radial socket integrally formed with a circular ring provided with a plurality of integral radial spokes, one of which extends to the socket. The radial spokes and the socket extend beyond the ring and carry forwardly extending pins on which plastic pin wheels are freely rotatably mounted. Ornamental cups are frictionally fitted on the pins to hold the pin wheels on said pins. A pin at the axis of the ring has a central pin wheel rotatably mounted thereon, which pin wheel is also kept from coming off the pin by a frictionally fitted cup.

10 Claims, 5 Drawing Figures



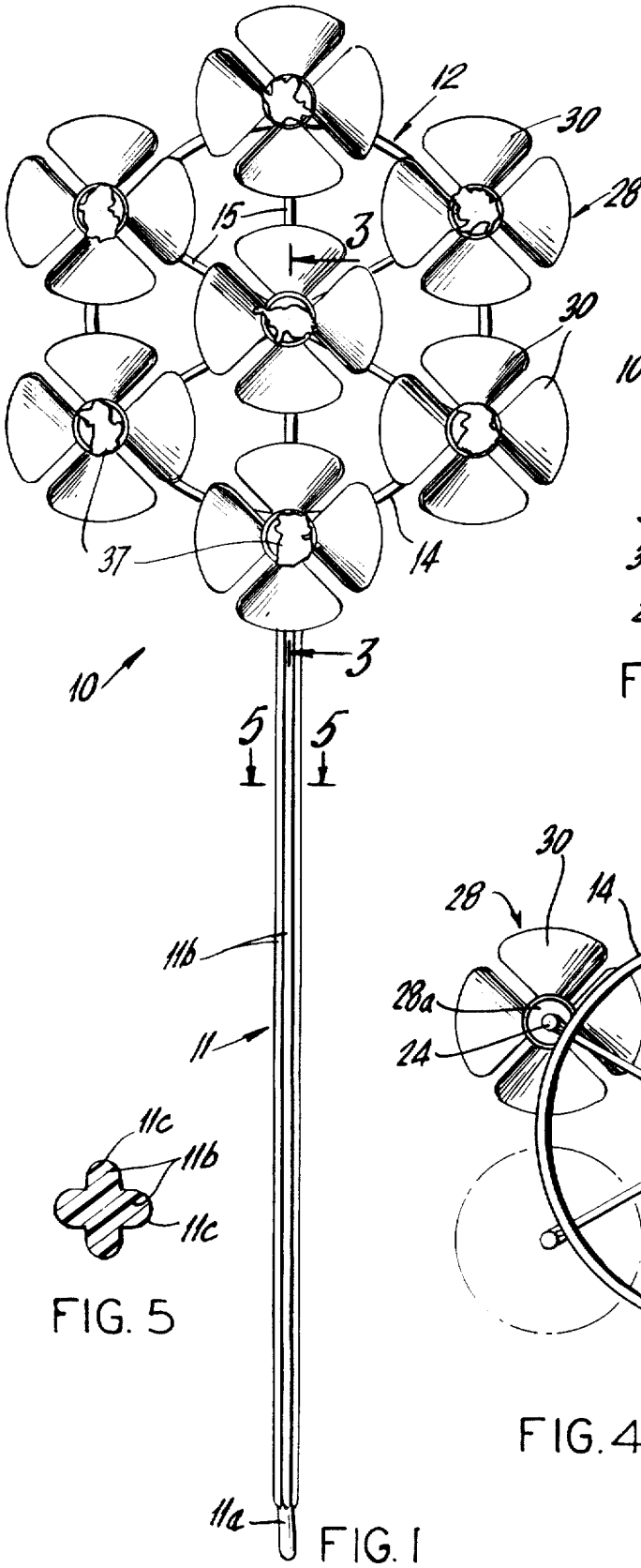


FIG. 1

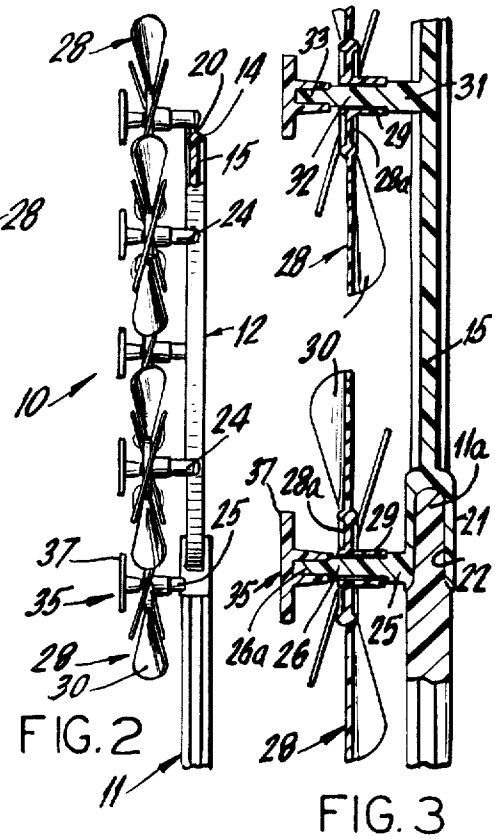


FIG. 2

FIG. 3

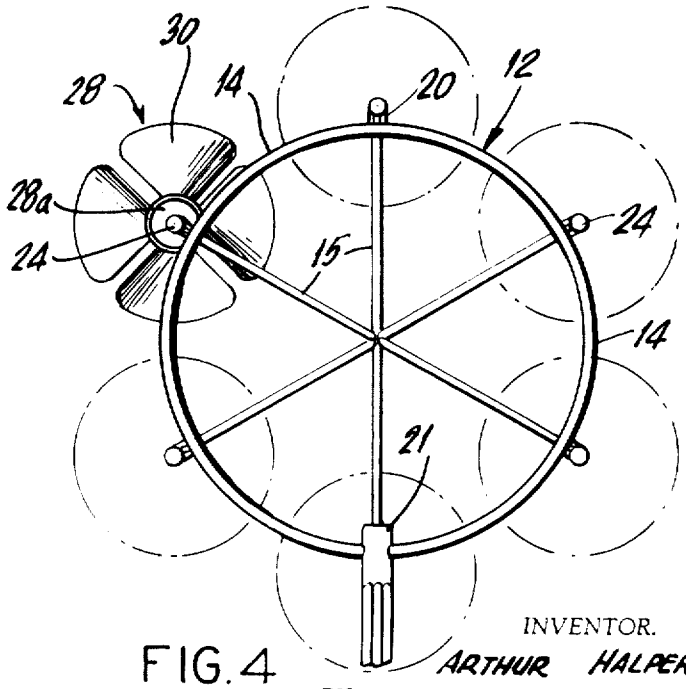


FIG. 4

FIG. 5

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PIN WHEEL TOY

This invention relates to pin wheel toys.

An object of this invention is to provide a toy of the character described which can be held in the hand and by waving the upper end of the toy, forwardly, all the pin wheels will rotate simultaneously.

Another object of this invention is to provide a toy of the character described that can be shipped or stored or sold in knockdown condition, since the handle can be removed from the socket, and the pin wheels can be removed from the pins, by first removing the cups. Such construction allows assembly at point of sales or by the individual purchaser, even by a child.

Still another object of this invention is to provide a toy of the character described in which the entire toy is made of plastic and the handle is made of semi-stiff or flexible plastic to allow flexing of the handle as the toy is flipped forwardly to cause the pin wheels to rotate.

Yet another object of this invention is to provide a strong, lightweight, durable toy of the character described which shall be relatively inexpensive to manufacture, easy to assemble and manipulate, safe and amusing to use and yet practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

FIG. 1 is a front elevational view of a pin wheel toy embodying the invention;

FIG. 2 is a partial, side elevational view thereof;

FIG. 3 is a cross-sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is a partial rear view of the toy; and

FIG. 5 is a cross-sectional view taken on line 5—5 of FIG. 1.

Referring now in detail to the drawing, **10** designates a pin wheel toy embodying the invention. Said toy **10** comprises an elongated stick or handle **11** on which a body **12** is mounted. The handle is preferably of non-circular ribbed cross-section. The major length of the handle **11** is of cross shaped cross-section, as shown in FIG. 5 of the drawing. The ribs **11***b* are rounded at their outer sides **11***c* to make gripping of the handle by a child easy and comfortable, and yet to prevent the handle from turning in the child's hand.

Both ends of the handle are reduced pin ends **11**a of circular cross-section and of hemispherical end configuration; for the purpose hereinafter appearing.

The handle **11** is made of semi-stiff or flexible plastic and can be flexed, but tends to snap straight, when released.

The body **12** is also made of plastic and comprises a circular ring **14** of flattened or elliptical cross-section. A plurality of radial spokes or round rods **15** meet at the radial center. There are six spokes shown, although the number can be varied. The spokes are integral with each other and with the ring, and meet the inner side of ring, at equal distances from the opposite edges of the ring. Extending outwardly of the ring are integral radial projections **20** aligned with all but one of the spokes or rods **15**. These projections **20** are in a plane bisecting the ring and perpendicular to the axis of the ring. Integral with said one spoke is a cup **21** which extends to both sides of the ring. Said cup **21** is formed with a cylindrical socket **22** to frictionally receive the pin **11**a at one end of the handle **11**. Thus, the handle **11**, when assembled with the body **12**, is in alignment with one of the spokes **15**.

Extending from the projections **20**, are hubs **24**. Extending from cup **21** is a hub **25**. These hubs **24**, **25** are on axes parallel to the axis of the ring **14**. Extending from hubs **24**, **25** are pins **26** also parallel to the axis of ring **14**. Said pins **26** have reduced outer ends **26***a*. Freely rotatably and slidably mounted on the pins **26** are pin wheels **28**. Each pin wheel **28** has a central hub **28**a from which a sleeve **29** extends. Extending from hub **28**a are similarly inclined vanes **30**.

Extending from the axis of the ring, where all the spokes **15** meet, is a hub **31** similar to hubs **24**, **25**. Extending from hub **31** is a pin **32** having a reduced outer end **33**.

Rotatably mounted on pin **31** is a central pin wheel **28**. All the pin wheels **28** are similar. The sleeves **29** loosely and rotatably receive pins **26**, **31**. Frictionally fitted on each pin end **26***a*, **33** is a cup **35** having a flat ornament **37** at its outer end. These ornaments can represent animals, birds or other attractive objects.

The cups **35** keep the pin wheels from coming off the pins **26**, **31**.

A child holding the handle can wave, flip or move the upper end of the toy forwardly, and air impinging on the inclined vanes will rotate all the pin wheels simultaneously.

The cups **35** can be first removed and then the pin wheels can be removed. The handle can also be removed from body **12**. Thus the entire toy can be stored, boxed and shipped in knockdown condition. The toy can be easily assembled even by a child. Either end **11***a* of the handle **11** may be fitted into socket **22**. The semi-circular ends of pins **11**a make it easy to insert either pin into the socket.

It will thus be seen that there is provided an article in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings, is to be interpreted as illustrative only.

I claim:

1. A pin wheel toy comprising a handle, a body, means to frictionally and removably attach said body to one end of the handle, a plurality of pin wheels, said body having a plurality of parallel pins, said pin wheels being freely rotatably mounted on said pins, and cups frictionally non-rotatably fitted on said pins to keep the pin wheels from coming off said pins.

2. The combination of claim **1**, said body comprising a single plastic molding having a ring, a plurality of radial spokes extending from the center of the ring to said ring, said pins being integral with the body, and extending parallelly to the axis of the ring.

3. The combination of claim **2**, said pins being equiangularly spaced and located adjacent the outer ends of said spokes.

4. The combination of claim **3**, another pin at the axis of said ring extending parallel to the other pins, a pin wheel freely rotatably mounted on said another pin, and a cup frictionally fitted on said another pin and keeping the pin wheel mounted thereon, from coming off.

5. The combination of claim **4**, all said pin wheels being also slidable on the pins on which they are mounted.

6. The combination of claim **5**, said cups each having a flat ornament at its outer end.

7. The combination of claim **1**, said means to attach said body to said handle comprising a socket on said body, and said handle having a pin frictionally fitted into said socket.

8. The combination of claim **7**, said body comprising a ring, said socket being integral with said ring and extending radially of said ring, said ring and handle being disposed in a common plane, radial spokes meeting at the center of said ring and connected to said ring, said pins being located adjacent the outer ends of said spokes and disposed parallelly of the axis of said ring.

9. The combination of claim **8**, said socket extending outwardly of said ring, said pins being located outside of said ring.

10. The combination of claim **9**, another pin at the center of said ring, and disposed parallel to the other pins, a pin wheel on said another pin, and a cup frictionally fitted on said another pin to keep the pin wheel thereon, from coming off.

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