J. T. EDSON.

WHIRLING TOY.

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1,374,002. Patented Apr. 5, 1921.

Fig. 1.

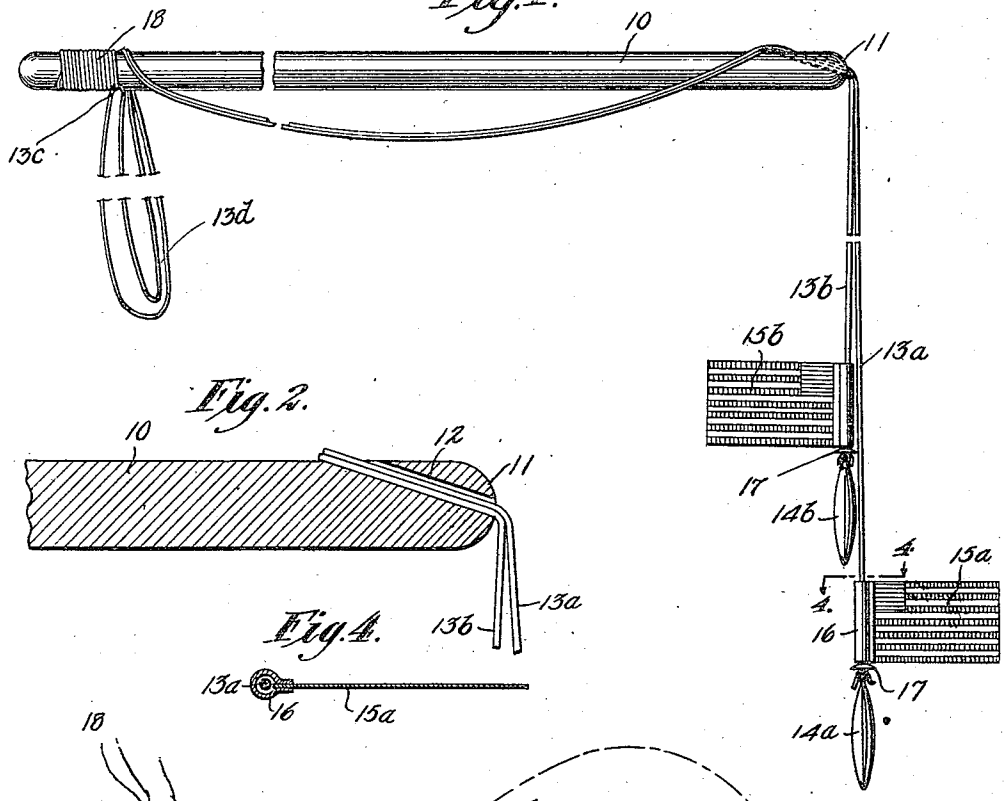



Fig. 2.




Fig. 4.



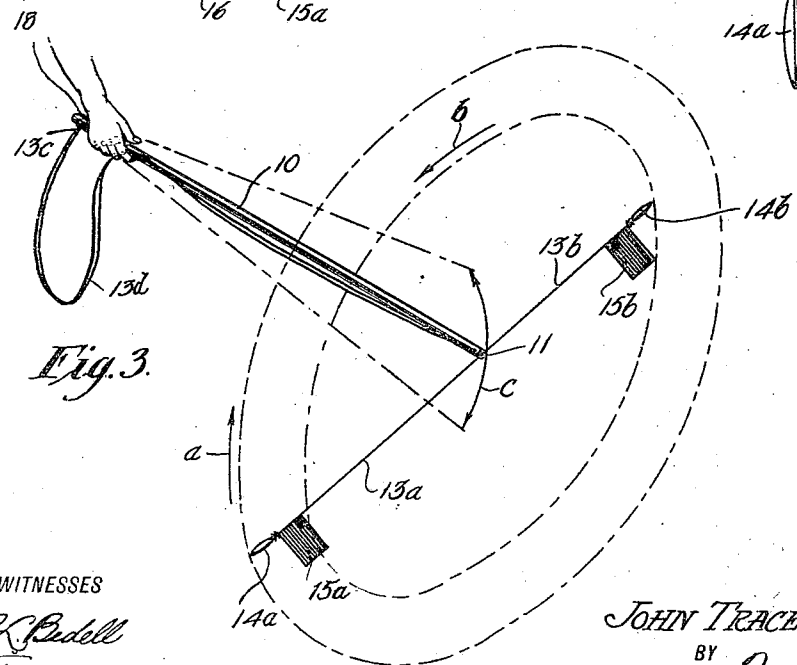




Fig. 3.

WITNESSES

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## WHIRLING TOY.

1,374,002. Specification of Letters Patent. Patented Apr. 5, 1921.

Application filed February 11, 1920. Serial No. 357,842.

*To all whom it may concern:*

Be it known that I, JOHN TRACEY EDSON, a citizen of the United States, and a resident of the city of New York, Sailors Snug Harbor, New Brighton, borough of Richmond, county of Richmond, and State of New York, have invented a new and Improved Whirling Toy, of which the following is a full, clear, and exact description.

This invention relates to games and toys and has particular reference to toys of a cheap nature involving the use of weighted cords or connections adapted to be caused to whirl simultaneously in substantially the same plane but in opposite directions, having the characteristic of immediately exciting the interest of any observer who may not be familiar with the physical principles involved and so rendering the toy of an unusually attractive nature.

Another object of the invention is to provide a toy having characteristics calculated to illustrate or teach some of the important laws of physics.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a side elevation of one embodiment of my improvement, parts being broken away to conserve space.

Fig. 2 is an enlarged sectional view indicating especially the connection between the handle and the flexible connection.

Fig. 3 is a diagram indicating the manner of use and operation of the device.

Fig. 4 is a horizontal sectional detail on the line 4—4 of Fig. 1.

Referring now more particularly to the drawings I show a handle 10 which may be of any suitable relatively cheap material preferably straight and with a rounded or hemispherical end 11. This handle may be of any convenient length such for example in an ordinary size of equipment of eighteen to twenty-four inches. As shown best in Fig. 2 the rounded end 11 is bored through its center at 12. The bore or hole 12 may extend to any desired extent along the handle, but for convenience it is ordinarily sufficient for it to pass out through the side of the handle forming an acute angle with the axis of the stick or handle.

$13^a$ and $13^b$ indicate two cords or other flexible members threaded through the hole 12, or they may represent the longer and shorter ends respectively of a single cord or flexible member, the loop portion $13^c$ of which beyond or back of the hole 12 being of any suitable length and adapted to be held or fastened to the rear end of the handle 10 by any suitable means providing for the free movement of the loop portion toward or from the rounded end 11 of the handle.

To the free end of each of the members $13^a$ and $13^b$ is fixed a weight preferably of a slender nature and without sharp corners or projections. These weights are shown at $14^a$ and $14^b$ respectively. By making the connections $13^a$ and $13^b$ of different lengths I insure that there shall be no interference between the weights in the practice of the device.

Added interest and attractiveness are afforded if desired by attaching to the several flexible connections ornamental devices such as flags or banners $15^a$ and $15^b$ which may be of a patriotic nature if desired. Hence a group of children provided with toys of the nature indicated may make a very attractive display at the time of public demonstrations if they are decorated with patriotic emblems and swung in opposite directions within the spirit of the device. Each ornament is mounted so as to rotate or swivel freely around the flexible connection which carries it. To this end the attaching means between the ornament and the flexible connection may comprise a sleeve 16 to which the ornament is fastened along one end, and to insure the free rotation of the ornament and sleeve I provide a washer 17 constituting a bearing for the ornament adjacent to the point of attachment with the weight.

For display purposes, especially at night, the weights may consist of any suitable devices for pyrotechnic effect such as sparklers or the like.

With a device made as above set forth the method of operation will be understood as follows: With the handle grasped in one hand at any desired length back of the rounded end 11 and with the cords $13^a$ and $13^b$ drawn forward through the hole 12 to any desired length and one a little longer than the other as above set forth, the loop portion of the flexible connection or cord held by the hand grasping the handle, one of the weights, as $14^b$ will be held in the other hand momentarily while the operator initiates the rotation of the other weight, as $14^a$, around the axis of the handle describing a circle in a vertical plane as indicated by the arrow *a*, then while the stick is manipulated with a vertical oscillatory movement to continue the rotation of the weight $14^a$ the operator will toss the weight held in his hand so as to cause it to start to rotate around the axis of the handle in the direction indicated by the arrow *b*. If this operation is performed carefully the two weights will then be circulating in approximately the same vertical plane describing circles in opposite directions. This movement may be continued indefinitely at the will of the operator by simply vibrating or oscillating the handle up and down as shown by the dotted arc *c*. Since the cords are of unequal lengths neither weight will seriously interfere with the cord pertaining to the other weight. Even though the cords project from the same hole 12 at the end 11 of the handle with ordinary care the cords and other parts carried thereby do not become snarled, tangled, nor obstructed, a fact which in itself seems rather mysterious and adds material interest to the operation of the toy. The operation of this toy requires a certain amount of skill due to the fact that while one hand and the handle are reciprocating in a vertical plane, the hand to start the second weight must be tossed in an arc of a circle lying in a vertical plane perpendicular to the aforesaid plane. In other words the two movements of the hands are of different characters, and in order to operate the toy the two hands must be broken so to speak to perform these different functions simultaneously. After the weights have been started the lengths of the cords $13^a$ and $13^b$ may be increased indefinitely, or limited only by the space in which the operator has to play. For example standing on a dock or pier or other elevated position the weights may describe circles whose radii may be only 15, 20 or 25 inches, but after they have been set into operation the peculiar manner of connecting the flexible connections to the handle provides for the elongation of the flexible connections, while the operation of the weights is continued in the plane already described, and hence the circles may be enlarged to radii of 10 to 15 or more feet with precisely the same result as already described. The use of a handle with a rounded end and with a central eye or bearing point 12 serves at least two immediate and important functions: First, the rounded end of the handle insures that the cords will not wrap upon the handle nor interfere with each other during the operation of the toy, and secondly the handle being of considerable length relatively will insure that no harm can result to the child from the flying weights when learning to operate the toy. After the requisite skill is acquired there is no practical danger from this source.

The end or loop portion $13^c$ of the flexible connection is looped through or otherwise suitably permanently attached to a slide 18 of any suitable nature fitted upon the handle end of the stick 10 and adapted to move longitudinally along the stick. From what has been stated above it will be understood that the connections or cords will be long enough to make any desired size of circles, but for ordinary practice the parts of the cords adjacent to the loop $13^c$ will hang in a loose bight $13^d$, being so held by the hand that manipulates the device as to produce the desired length but adapted to be paid out or taken up by the use of the other hand during the operation. When the bight $13^d$ is all taken up the effective length of the cords may be increased by slipping the slide 18 toward the end 11. With the connections made as shown there is no likelihood that the connections or the weights attached thereto will be separated from the handle or stick.

While in the foregoing specific description I have applied the term vertical as being descriptive of the plane in which the weights of this toy would ordinarily be operated, I wish it to be understood that such term is to be considered relative only for the toy will operate satisfactorily in other than vertical planes.

I claim:

1. The herein described whirling toy comprising a rigid handle having a bearing eye formed at its end, a plurality of flexible connections of variable length extending through said eye and a weight attached to each flexible connection, the flexible connections being adapted to be moved through the eye to vary their length during the whirling of the weights around said eye as an axis.

2. A device of the nature set forth in claim 1 in which the flexible connections aforesaid are looped together at their por-

tion remote from the eye making a single member.

3. In a whirling toy, the combination of a rigid handle, a plurality of connections suspended from one end of the handle, a weight attached to the free end of each connection, the weights and connections being adapted to describe circles in opposite directions in substantially the same plane, and means movable longitudinally of the handle to cause a variation in the length of the connections simultaneously with the whirling of the weights as aforesaid.

JOHN TRACEY EDSON.