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R. BORZA ET AL

2,491,706

WINDMILL TOY

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Fig. 1

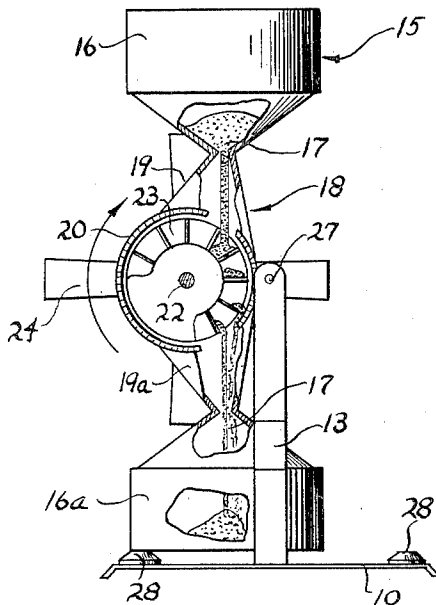


Fig. 2

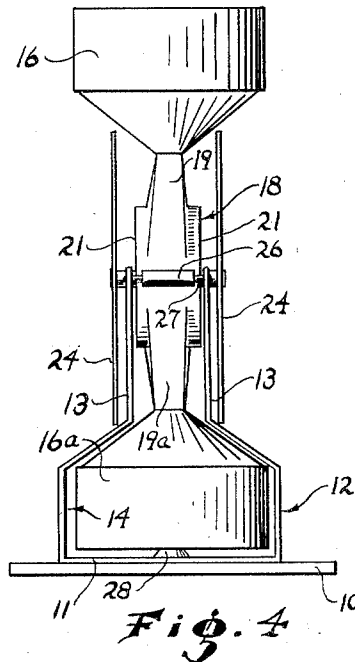


Fig. 3

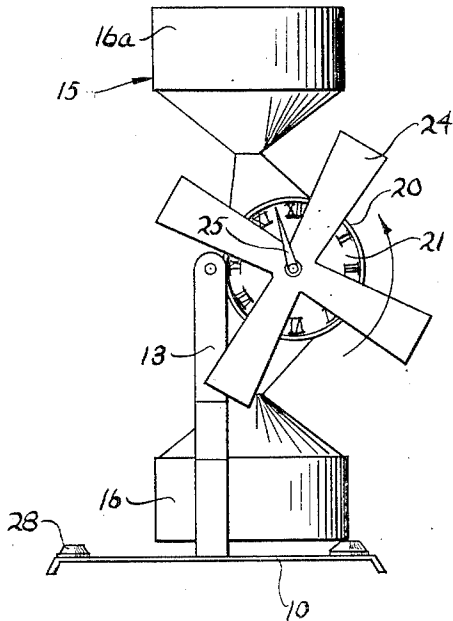
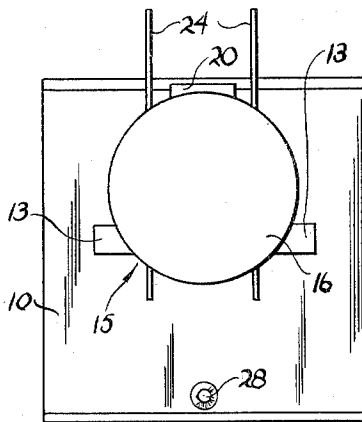


Fig. 4



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WINDMILL TOY

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1 Claim. (Cl. 46-41)

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This invention relates to windmill toys, and aims to provide a toy having a bilaterally symmetrical closed container pivotally supported at its midpoint in an elevated support, whereby the container is adapted to be swung from a vertical position in which one end rests on the base of the support through an arc of 180 degrees in which the other end rests on the said base, and vice versa, the container having intermediate its length a paddle wheel whose shaft passes through the said midpoint and has a windmill-like fan on one or both ends thereof. A suitable fluid substance is contained within the closed container in such proportion that it occupies less than one-half of the volume of the container; this substance may be water or any other liquid, or, preferably, sand, the latter being used in the invention as illustrated herein. After the container has rested for a time in either one of the two vertical positions mentioned following movement of the container through said arc, the sand will flow from the upper end of the container through the paddle wheel and down into the lower end of the container, and will thus cause the paddle wheel and hence the fans to rotate until the sand has all run down into the lower end.

Another object of the invention is the provision of a dial on the outer wall of the intermediate housing covering the paddle wheel, and an indicator on the adjacent fan, whereby the requirements of a guessing game are present in that the various players may each make a guess as to the point on the dial at which the indicator may come to rest.

The above as well as additional objects will become apparent in the following description, wherein characters of reference refer to like-numbered parts in the accompanying drawing. It is to be noted that the drawing is intended to serve the purpose of illustration only, and that it is neither desired nor intended to limit the invention necessarily to any or all of the exact details of construction shown except insofar as they may be deemed essential to the invention.

Referring briefly to the drawing, Fig. 1 is a side elevational view of the toy, with the container positioned in one of its two possible upright positions.

Fig. 2 is a rear elevational view of the same.

Fig. 3 is a side elevational view of the toy, with the container in the other of the said two upright positions.

Fig. 4 is a plan view of Fig. 1.

Referring in detail to the drawing, the numeral 10 indicates a base having the base 11 of an up-

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standing yoke 12 secured thereon, the opposed arms or supports of the yoke being shown at 13. The arms 13 are so shaped at their lower ends to provide a substantially funnel-shaped passage 14 transversely therebetween.

The elongated closed container 15 has opposed substantially funnel-shaped hollow end members 16 and 16a, the tapering ends of these members providing mouths 17. An intermediate housing 18 is provided, having opposed tapering extensions 19 and 19a which are secured at their extremities to the housings 16 and 16a, respectively, at the mouths 17, whereby communication is provided from the housing 16 into the housing 18 through the extension 19 and from the housing 16a through the extension 19a into the housing 18 at the other end of the latter.

The midportion 20 of the housing 18 is shaped into a cylindrical conformation, and mounted in the opposed walls 21 thereof is a shaft 22 having a paddle wheel 23 rigid thereon within the cylindrical midportion 20 and having on the ends thereof outside the housing 18 fans or the like 24. One wall 21 of the portion 20 may be provided with dial numerals, as shown in Fig. 3, and the adjacent fan 24 may be provided with an indicator 25.

A sleeve-like rearward extension 26 is provided on the housing 18 intermediate the length of the latter, and a pin 27 passing through openings in the upper ends of the support arms 13 passes through the said sleeve and thus pivots the container 15 on the support arms on an axis which is eccentric to the axis of the paddle wheel 23. The paddle wheel 23 is so positioned that it projects into the line joining the axes of the mouths 17.

Assuming that the container 15 has just been positioned as shown in Fig. 1, where it is stable owing to the eccentricity of the pivot sleeve 26, sand will flow down out of the end housing 16, through the extension 19, onto the paddle wheel 23, whence it will rotate the latter and be deposited through the extension 19a in the housing 16a. The wheel and hence the fans 24 will come to a stop after all the sand has passed through the housing 18.

If now the container 15 is swung, in the direction of the arrow, Fig. 1, through an arc of 180 degrees, the container 15 will stand in the position shown in Fig. 3, with the positions of the end housings 16 and 16a reversed. Hence, the flow of sand will be reversed through the paddle wheel 23 and will thus rotate the latter in the opposite direction, again until all the sand has

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flowed through. Thus the cycle may be repeated as often as desired merely by swinging the container first in one direction and then in the other to reverse its position.

Cushions 28 may be provided on the base 10 to absorb shock when the container is thus reversed.

Obviously, modifications in form or structure may be made without departing from the spirit or scope of the invention.

We claim:

A toy comprising a base having upright support arms thereon, a normally upright closed container comprising an intermediate hollow member and opposed substantially cylindrical hollow end members, the volumes of said end members being mutually substantially identical, said intermediate member having opposed openings communicating with said end members, said intermediate member having a paddle wheel rotatably mounted therein on a horizontal axis and having a shaft rigid with said wheel extending through the opposed walls of said intermediate member, a fan on at least one end of said shaft, said wheel being positioned so that it projects into the straight line joining said opposed openings, said container being pivoted on the ends of said support arms at a point intermediate the length of the container and on an axis parallel with and horizontally spaced from the axis of the paddle wheel, said container having therein a quantity of freely flowing material such as, for example, sand, the volume of said material approximately equalling the volume of each of said end members, said container being adapted to be manually swung back and forth on its axis through an

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arc of substantially 180 degrees, and combined stop and support means positioning said container in vertical position after swinging said container through said arc in either direction, said means comprising a pair of spaced cushions extending upward from said base, the imaginary line joining said cushions lying in a vertical plane through the axes of said end members, said cushions projecting into the orbits of said end members, one of said cushions thereby supporting one of said end members when said container lies upright before being swung through said arc, the other of said cushions thereby supporting the other of said end members when said container lies upright after swinging through said arc.

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