June 12, 1951 A. L. ALLISON 2,556,569

SELF-ROLLING TOY

Filed March 5, 1947

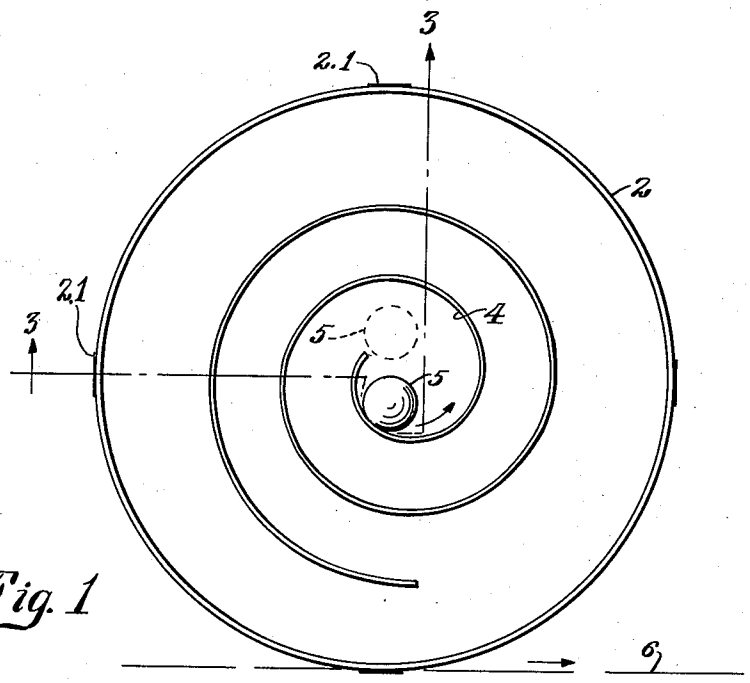


Fig. 1

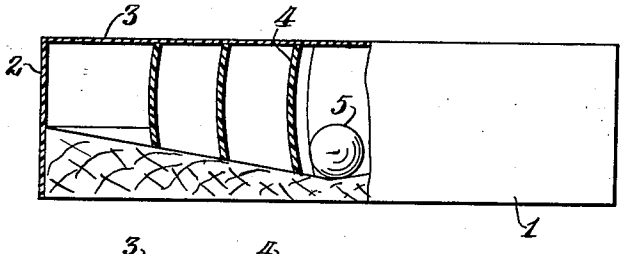


Fig. 2

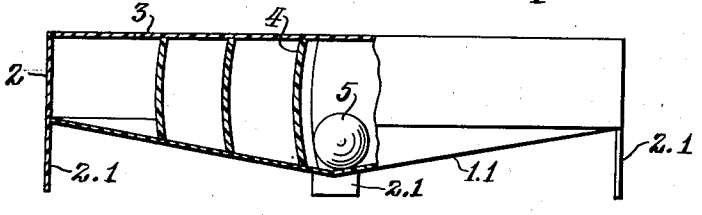


Fig. 3

Allison L. Allison, INVENTOR.

BY Bush & Bush

Attorneys

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SELF-ROLLING TOY

Albert L. Allison, Rock Island, Ill.

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6 Claims. (Cl. 46—42)

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My invention relates to improved toys.

The objects of my invention are to provide a rolling toy weighted in such a way that it will roll automatically along the floor when stood up on edge; and when laid flat on its base, the weights will roll to the center so as to put it in position to be re-set on edge to roll forward again; to provide transparent covering by which the action of the weights can be observed; to provide an attractive toy in light form which will not mar furniture or woodwork.

I accomplish these objects by the means shown in the accompanying drawings, in which;

Figure 1 is a side elevation of my toy when standing on edge;

Figures 2 and 3 are half sectional views on the line 2—2 of Figure 1 showing two modifications.

Similar numerals refer to similar parts throughout the several views.

My toy comprises a base 1 preferably of circular form and preferably half an inch to an inch in height at the periphery and sloping downwardly from all sides to the center; or the base may be formed of a thin plate 1.1 sloping downwardly to the center as shown in Figure 3. A circular sidewall 2 is mounted upon the base. This sidewall may extend down to the top of the base 1 and be rigidly united thereto or, when the base 1.1 is used, the sidewall may have extensions 2.1 forming legs to support the toy, or the entire sidewall may extend down to the supporting table or floor.

A circular cover plate 3 is united to the top of the sidewall 2. A spiral partition wall 4 is mounted upon the base and extends upwardly to the cover plate 3 and is preferably united to both the base and the cover plate.

The inner end of the spiral partition extends to a point near the center of the toy and thence outwardly in a spiral to a point spaced from the sidewall slightly more than the diameter of one of the weights hereafter mentioned.

One or more heavy balls 5 are seated upon the base, of such size as to roll freely along the spiral partition 4 when the toy is standing on edge as shown in Figure 1 and to descend by gravity to the center of the base when the toy is lying upon its base 1 as shown in Figures 2 and 3.

In the operation of this toy, it is first laid flat upon its base 1, when the ball or balls being acted upon by gravity will roll around the partition wall to the center of the base and into the position shown in Figure 1. The toy is then stood up on edge as shown in Figure 1 with the weight of the balls resting upon the spiral partition to the

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right of the center. The weight of the balls causes them to roll along the spiral partition in the direction shown by the curved arrow and at the same time causes the entire toy to roll forward on the table 6 in the direction shown by the straight arrow.

This rolling movement will continue until the balls have passed the outer end of the spiral and their inertia will carry them somewhat beyond that point. The toy may then be laid on its base and the slope of the base will cause the ball or balls to roll downwardly against the partition and follow the spiral partition along to the center of the toy.

The inner end of the spiral partition is located a short distance to one side of the center point so as to allow the ball to roll by the inner end of it in seeking the lowest point at the center.

In case a second ball is used, it will also roll by the inner end of the partition and rest partly upon the first ball and partly upon the inner end of the spiral partition.

I prefer to make the sidewalls, the spiral partition and the cover plate of transparent plastic so that the movement of the balls can be readily observed. When the base is made in the form shown in Figure 3, the base also may be made of transparent plastic so that the movement of the balls can be observed from either side.

The sidewall may extend all the way around the toy below the base instead of being cut out to form legs as shown in Figure 3.

Either one or more balls may be utilized as desired. The balls may be made of steel, glass or any other material hard enough to withstand wear and having sufficient weight to impel the toy.

Various modifications may be made in the form, proportions and materials of the various parts and I do not limit my claims to the precise forms shown in the drawings.

I claim:

1. A self-rolling toy comprising a circular base with its upper face inclined downwardly from its circumference to its center, a peripheral side wall united to the base and extending upwardly therefrom, a cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover and running from a point near the center of the top of the base to a point spaced from the peripheral side wall, a weighted ball installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to roll

downwardly along the spiral partition from the center to the periphery when the toy is stood upon edge and so that the weight of the ball will cause the toy to roll forward upon its periphery at the same time.

2. In a rolling toy as described the combination with a circular base having its upper face inclined downwardly from its circumference to its center and with a peripheral side wall surrounding the base and extending above it, of a cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover with its inner end spaced a short distance from the center of the top of the base and its outer end at a point spaced from the peripheral side wall, a weighted ball installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to move downwardly along the spiral partition from the center when the toy is stood upon edge so that the weight of the ball will cause the toy to roll forward upon its periphery at the same time.

3. In a rolling toy of the class described the combination with a circular base having its upper face inclined downwardly from its circumference to its center and with a peripheral side wall surrounding the base and extending above it, a transparent cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover with its inner end spaced a short distance from the center of the top of the base and its outer end at a point spaced from the peripheral side wall, a weighted ball installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to move downwardly along the spiral partition from the center when the toy is stood upon edge so that the weight of the ball will cause the toy to roll forward upon its periphery at the same time.

4. In a rolling toy of the class described the combination with a circular base having its upper face inclined downwardly from its circumference to its center and with a peripheral side wall surrounding the base and extending above it, of a cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover with its inner end spaced a short distance from the center of the top of the base and its outer end at a point spaced from the peripheral side wall, a weight installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to move downwardly along the spiral partition from the center when the toy is stood upon edge so that the weight of the ball will cause the toy to roll forward upon its periphery at the same time.

5. In a rolling toy, the combination with a cylindrical outer wall or rim, of a circular base mounted therein and having its upper face inclined downwardly from its circumference to its center, a cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover with its inner end spaced a short distance from the center of the top of the base and its outer end at a point spaced from the peripheral side wall, a weight installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to move downwardly along the spiral partition from the center when the toy is stood upon edge so that the weight will cause the toy to roll forward upon its periphery at the same time.

6. In a rolling toy, the combination with a flat tire-like rim upon which the toy is adapted to roll, of a circular base united to the rim and having its upper face inclined downwardly from its circumference to its center, a cover united to the top of the side wall, a spiral partition mounted upon the base extending upwardly to the cover with its inner end spaced a short distance from the center of the top of the base and its outer end at a point spaced from the peripheral side wall, a weighted ball installed between the base and the cover arranged to roll to the inner end of the spiral partition when the base is placed rightside up in a horizontal position and to move downwardly along the spiral partition from the center when the toy is stood upon edge so that the weight of the ball will cause the toy to roll forward upon its periphery at the same time.

ALBERT L. ALLISON.

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