

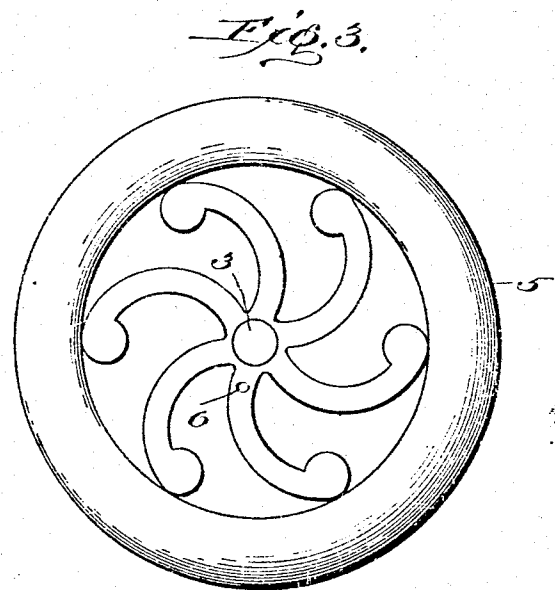
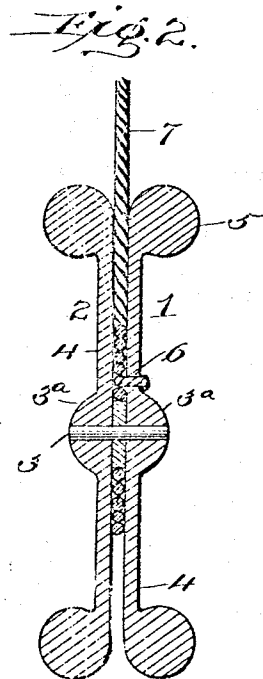
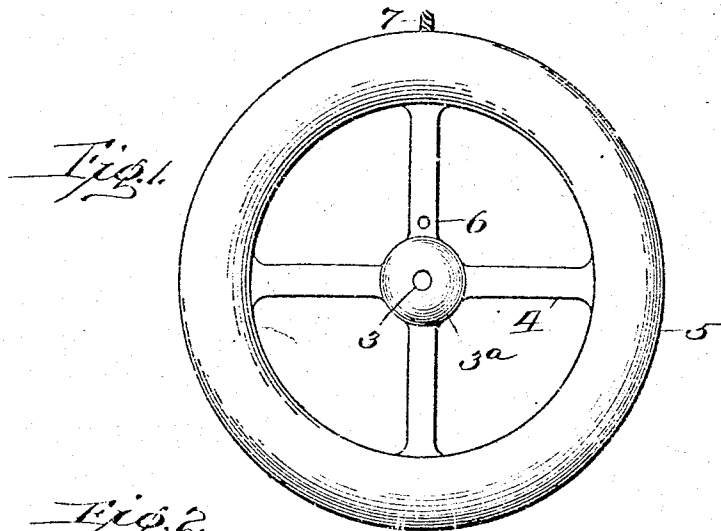
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PATENTED OCT. 16, 1906.

H. LIEBREICH & L. D. LOTHROP.

TOY.

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To all whom it may concern:

Be it known that we, HANS LIEBREICH and LLEWELLYN D. LOTHROP, citizens of the United States, residing at Gloucester, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Toys; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in toys, and particularly to a momentum-actuated device.

One of the objects of the invention is the production of a toy which is comparatively inexpensive to construct and owing to its peculiar operation is of great amusement and interest to the operator.

Another object of the invention is the production of a toy which is gravity-actuated on its downward movement for obtaining sufficient momentum to reverse and travel upwardly partly or entirely the distance which it traveled in the first instance.

A further object is the construction of a toy constituting an exercising device whereby the operator thereof will obtain material benefits resulting from exercising of his arms and other members of the body.

A still further object of the invention is the construction of a toy which is suspended from a flexible member—as, for instance, a cord—and owing to its peculiar construction may be allowed to travel downward the length of the cord and then travel up the cord its entire length or part of its length and subsequently repeat such movement.

With these and other objects in view the invention consists of certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

In the drawings, Figure 1 is a view in side elevation of our preferred device constructed in accordance with the present invention. Fig. 2 is a transverse vertical central sectional view of the structure depicted in Fig. 1. Fig. 3 is a side view of an embodiment similar to the embodiment depicted in Figs. 1 and 2, except the spokes of the "wheel" or

toy are curved and positioned tangentially to the hub.

Referring to the drawings by numerals, 1 and 2 designate the sections of the toy, which are connected, preferably, by a transverse pin 3. Each section is provided with a laterally-extending hub portion 3^a, which portion is of greater diameter than said pin 3. Each section is provided with substantially straight spokes 4 and with a comparatively thick rim 5. The rims 5 of the device are of such size as to sufficiently weight the device, so that the efficiency of the operation will be materially increased. In one of the sections, preferably 1, an aperture 6 is formed in a spoke 4, through which aperture is threaded a flexible member—as, for instance, a cord 7.

The cord or string 7 is preferably wound around the hub of the device before it is released from the hand of the operator. After the string has been wound around the pin or hub 3, Fig. 2, the operator should grasp the free end of the cord 7 and release the device, which will immediately move downward by gravitation. This downward movement will consequently unwind the cord 7. As the cord 7 unwinds, owing to the weighted structure of the device—to wit, the rims 5—the momentum of the device will increase until the device has traveled the entire length of the cord, and then the momentum will be sufficient to reverse the movement of the device to cause the same to travel upward, winding the cord upon the pin 3. While the upward movement of the toy need not be sufficient to normally wind all of the cord upon the pin or hub portion 3, if a slight upward jerk of the cord 7 is made at the time the cord has completely unwound the momentum of the device will then be sufficient to travel upward to the hand of the operator, and consequently rewind all the cord upon the hub or pin 3. From practical experience it has been found that this rewinding of the cord can be continued for a long period, if desired. However, if the operator only suspends the toy without endeavoring to completely rewind the cord upon the pin or hub 3 the weight of the toy is sufficient to cause a reciprocating vertical movement of the same several times before the momentum of the device is overcome by gravitation, although of course it is gravity that primarily actuates the device

on its downward movement, by which it gains sufficient momentum to reverse the movement of said toy, causing the same to rewind part or all of the cord after it has traveled downward the entire length of the cord.

Owing to the aperturing of one of the sections, as at 6, and threading the cord through this apertured portion, the cord can be wound evenly upon the pin or hub of the device, which would not be the case if the cord was tied to the hub between the sections.

In the embodiment depicted in Fig. 3 substantially the same structure is involved as in the embodiment depicted in Figs. 1 and 2, with the exception that each of the sections are provided with the curved spokes 4', which terminate at their outer end in a spherical portion 8, which is not only formed for ornamental purposes, but also to provide the device with more weight for increasing the efficiency of the operation, as it will be obvious that the heavier the sections the greater the momentum obtained during the downward travel or unwinding of the coiled cord.

What we claim is—

1. In a device of the character described, the combination of sections, each section comprising a hub portion, spokes integral with the inner end of said hub portion, a weighted tire or rim integral with the outer ends of said spokes, one of said spokes provided with an aperture formed therein contiguous to the hub portion, a transverse member positioned within said hub portions and connecting said sections, and a flexible mem-

ber threaded through said aperture and capable of being wound or coiled around said transverse member.

2. In a device of the character described, the combination of sections, each section comprising a hub portion, spokes integral with said hub portion, one of said spokes provided with an aperture, a tire or rim integral with the outer ends of said spokes, means carried by the hub portions and fixedly securing the sections together, a flexible member threaded through said apertured spoke and adapted to be coiled between said sections.

3. In a device of the character described, the combination of sections, each section comprising a hub portion, spokes integral with the inner ends of each of said hub portions, a pin extending through said hub portions, said pin of less diameter than said hub portions, said hub portions extending laterally from the spokes and constituting reinforcing means, weighted tires or rims integral with the outer ends of said spokes, one of said spokes provided with an aperture formed therein contiguous to the hub portion, and a flexible member threaded through said aperture and capable of being coiled around said pin.

In testimony whereof we affix our signatures in presence of two witnesses.

HANS LIEBREICH.
LLEWELLYN D. LOTHROP.

Witnesses:

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