W. C. FARNUM.
Ball-Toy.

No. 213,642. Patented Mar. 25, 1879.

Fig. 1.

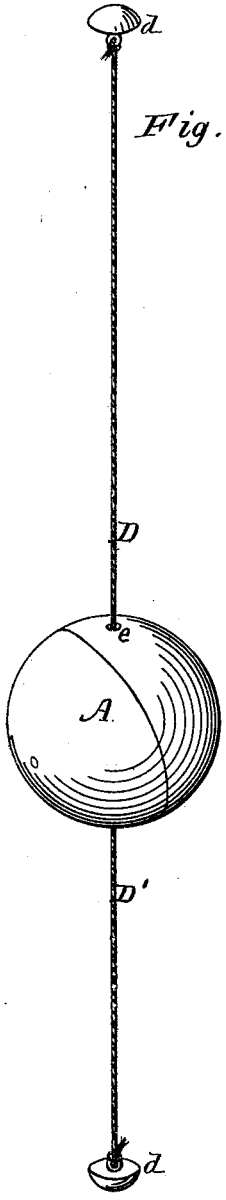


Fig. 2.

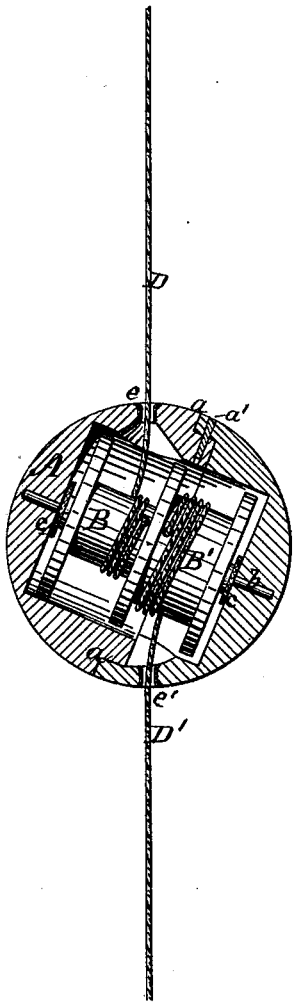
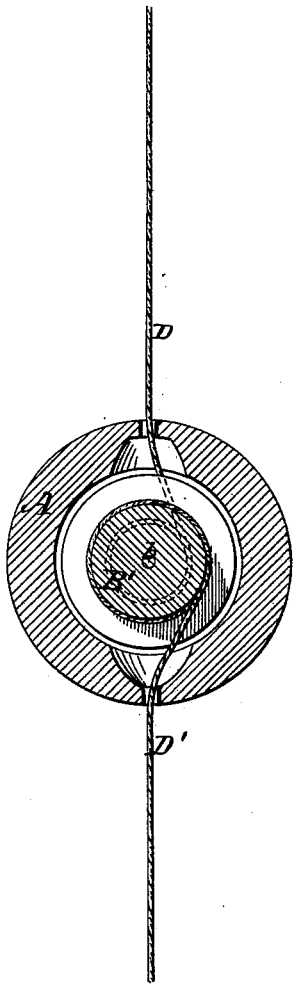


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM C. FARNUM, OF HOOSICK FALLS, NEW YORK.

IMPROVEMENT IN BALL-TOYS.

Specification forming part of Letters Patent No. **213,642**, dated March 25, 1879; application filed November 27, 1878.

To all whom it may concern:

Be it known that I, WILLIAM C. FARNUM, of Hoosick Falls, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Toys known as the "Obedient Ball;" and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a view of the toy. Fig. 2 represents a vertical section through the same. Fig. 3 represents another vertical section at right angle to Fig. 2.

The invention relates to a toy commonly known as the "obedient ball." It is generally made of a perforated wooden ball, through which a string is loosely threaded, and which is made to have the magical effect of remaining at any desired point on the string when the latter is held in a position that naturally favors the descent of the ball. This has heretofore been accomplished by making the hole through the ball for the string of zigzag form, so that by pulling or tightening the string the ball is restrained from moving by the friction of the string upon the angles of the passage.

The object of my invention is not only to arrest the ball in its descent at any desired point, but to make it ascend the string by simply pulling the two ends of what appears to be, and may be, the same string, and thus producing a more magical effect than heretofore accomplished.

My invention consists in combining, with a hollow ball or other receptacle, two pulleys or spools of different diameters, united together and mounted upon a common shaft, each pulley carrying a string or the continuation of the same string wound upon its periphery, and extending to the outside of the ball or other device, where the ends can be readily grasped and pulled or lightly held, to make the ball ascend, remain stationary, or descend on the string.

In the drawings, A represents the obedient ball. It is generally made in two sections, united as shown at *a*, one of the sections forming a cover for the other, and the two are secured by pins or screws *a'* entering both sections; but it is evident that the two sections may be united by various other means. A screw-thread may be cut upon the parts *a*, or the two may be simply glued together. Each section is hollowed out preferably in a cylindrical form to receive the pulleys B and B'. These pulleys are turned out of a single piece of wood or are united together. They are mounted upon a common shaft, *b*, extending into each section of the ball, where it fits loosely in perforations or bearings made for its reception, and a washer, *c*, preferably of cloth or leather, is placed upon the shaft between each pulley and the interior of the ball, to reduce the friction and deaden the noise that may be caused by revolving pulleys.

To each pulley is attached one end of a string, as shown at D and D'; or a single string may be attached to the rim projecting between the two pulleys; or the same string may be simply wound around the pulleys, depending upon friction to retain the string so as to rotate the pulleys; but I prefer the first mode.

The strings D and D' being wound each upon its spool or pulley four or five times, and in opposite directions, the ends are threaded through holes *e* and *e'*, made one in each of the sections of the ball, and a button, *d*, or loop attached to the free ends of the strings, so that they can be readily grasped and pulled upon. The holes *e* and *e'* are made smooth or lined with metal—as, for example, with eyelets—to reduce the wear on the string.

To operate with this toy, the strings are held so that the ball is set in motion by its own gravity, with the string D, that is wound around the pulley B, having the smallest diameter, held above the ball, and the string D' held under the ball.

If the operator slacken the strings, the ball will run down on the string D, unwinding it from the spool B, and in the meantime the string D' will be all wound upon the spool B'. If the operator then tighten and pull upon the strings, the pulley B' having the longest radius or leverage will be the most powerful, and wind again the string D upon the pulley B, at the same time raising the ball upon that string. It is evident that the ball may thus

be stopped at any point in its ascent by slackening, or in its descent by tightening, the strings.

This toy is represented in the form of a ball; but it is also evident that the outer form may be varied at pleasure, and may be made to represent birds or animals, or portions of them, and be made of any suitable materials.

Having now fully described my invention, I claim—

1. In combination with a hollow ball or other inclosing-case, two pulleys or spools of different diameters, having strings wound upon said spools and projecting from the case, to raise and control the device, substantially as and for the purpose specified.

2. A toy formed of a hollow ball or other formed case, inclosing two pulleys or spools of different diameters, united together and mounted upon a common shaft, and a string or strings wound in opposite directions upon said spools and projecting from said ball, substantially as and for the purpose set forth.

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