

L. B. LEWIS.
EDUCATIONAL TOY.
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1,005,853.

Patented Oct. 17, 1911.

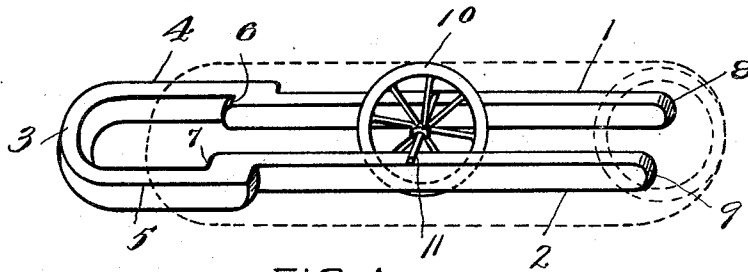


FIG. 1

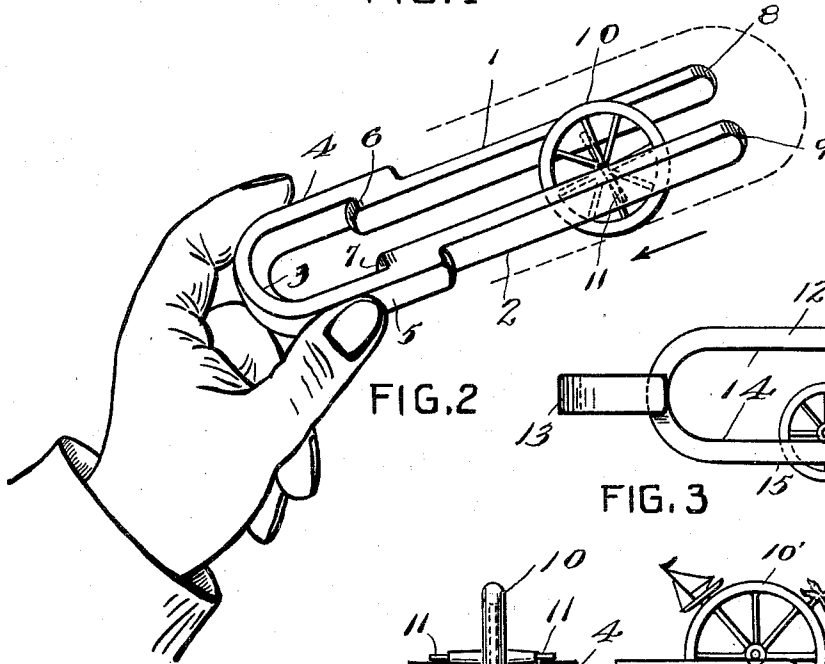


FIG. 2

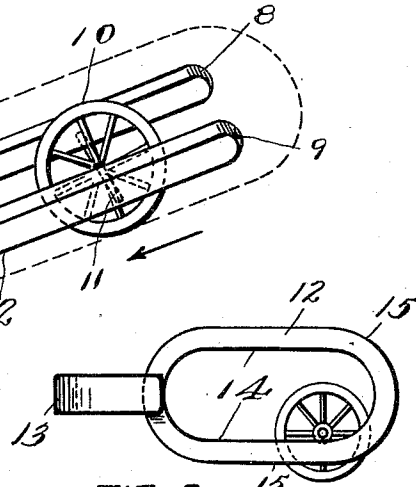


FIG. 3

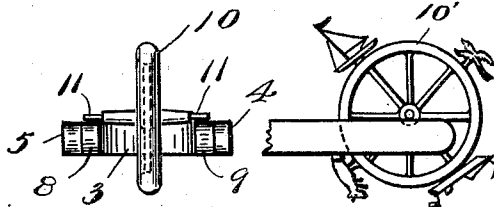


FIG. 4

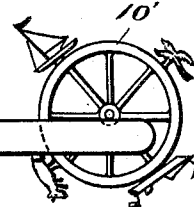


FIG. 5

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EDUCATIONAL TOY.

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To all whom it may concern:

Be it known that I, LOUIS B. LEWIS, a citizen of the United States, residing at 419 East Gay street, Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Educational Toys, of which the following is a specification.

The present invention relates to an improved educational toy which is designed to afford both instruction in the field of magnetism, and amusement of a high character.

The invention consists essentially in providing a magnet of the horseshoe variety with a rotatable armature or keeper, and so constructing the poles of the magnet as to cause the keeper to travel in a continuous circuit about the poles while under the magnetic force exerted by said poles. And the invention further consists in certain details of construction of parts hereinafter more specifically pointed out.

In the accompanying drawings I have illustrated one complete example, and two additional modifications, of the physical embodiment of my invention, constructed according to the best modes I have so far devised for the practical application of the principles, all of which have proven highly satisfactory in use.

Figure 1 illustrates the invention in its complete form, showing in dotted lines the travel of the rotatable keeper. Fig. 2 illustrates the manner of operating the toy. Fig. 3 illustrates a modification of the device. Fig. 4, is an end view of Fig. 1, and Fig. 5 illustrates one manner of ornamenting the rotatable keeper.

In Figs. 1, 2 and 4 an adaption of the common horseshoe magnet is illustrated in which the poles 1 and 2 are connected by the bow or curved end bar 3. For convenience in the operation of the device, I preferably arrange the poles or bars 1 and 2 on planes within the lines of the planes of the side bars 4 and 5 of the bow. That is, the poles 1 and 2 are inset, thus providing at their inner ends, rounded shoulders 6 and 7, and the outer ends of the poles are

similarly rounded as at 8 and 9. In this manner a continuous surface is provided upon which the rotatable member may travel. In the present instance I have illustrated the rotatable member as a wheel 10 provided with an axle 11, but it will be understood that other forms of rotatable members may be used. It is essential however, that the rotatable member be provided with an axle or axial shaft, such as 11, which will roll upon the surface of the bars or poles 1 and 2. The course or path of the rotatable member or keeper is illustrated in dotted lines in Figs. 1 and 2. The magnet may be held in either hand, at the bowed end, between the thumb and forefinger. The wheel is now placed between the poles or bars of the magnet with the axle 11 resting upon and suspending the wheel between the bars. By alternately raising and lowering the opposite ends of the magnet the wheel will rotate with its axis in rolling contact with the outer surface of the poles 1 and 2, alternately running over the upper and then lower sides of the bars, and passing around the rounded ends 6 and 7 and 8 and 9. The wheel is held to the magnetic poles by the attractive force of the magnet, and its weight must of course be within the power of the magnet to attract and hold.

In Fig. 3 a pair of elliptical poles 12 are joined by the bowed end 13. These poles are arranged on a plane "inset" from the plane of the ends of the bow, and provide an inner track 14 and an outer track 15, both of which are continuous. The movement of the keeper may be varied by locating it upon either the inner or the outer track, the power of the magnet, in either case, holding the keeper to its line of travel.

In Fig. 5 an idea is suggested as to the ornamentation of the keeper or armature which is a wheel 10' similar to the wheel 10, having attached to its perimeter objects as a sailboat, a steam boat, an animal and a bird. These parts, while being non-essential to the operation of the device, lend attractiveness to the toy.

From the above description taken in con-

nection with the drawings, it is evident that I have produced a toy which fulfils the purposes of such an invention.

The device may be produced in large quantities at a minimum expense, and is at once both an amusing and mystifying toy, and an educational appliance.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. The combination with a horseshoe magnet having a continuous track, of a rotatable keeper in contact therewith and adapted to travel on said track.
2. The combination with a magnet having a continuous track, of a movable keeper in contact therewith and adapted to travel over said track.
3. The combination with a horseshoe magnet having continuous tracks about its poles, of a rotatable keeper in contact with and adapted to travel about its poles.
4. The combination with a horseshoe

magnet having a continuous track about its poles, of a wheel and an axle thereto adapted to roll upon said track.

5. The combination with a magnet having inset poles formed with rounded ends providing a continuous track, of a rotatable keeper adapted to travel about said track.

6. The combination with a magnet having inset poles formed with rounded ends providing a continuous track, of a wheel and an axle thereto adapted to roll upon said track.

7. The combination with a magnet having inset poles providing a continuous track, of a wheel and an axle to the wheel adapted to roll on said track.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS B. LEWIS.

Witnesses:

C. M. SHIGLEY,
K. VINCENT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."