

(No Model.)

W. MURPHY.
TOY PINWHEEL.

No. 454,804.

Patented June 23, 1891.

Fig. 1.

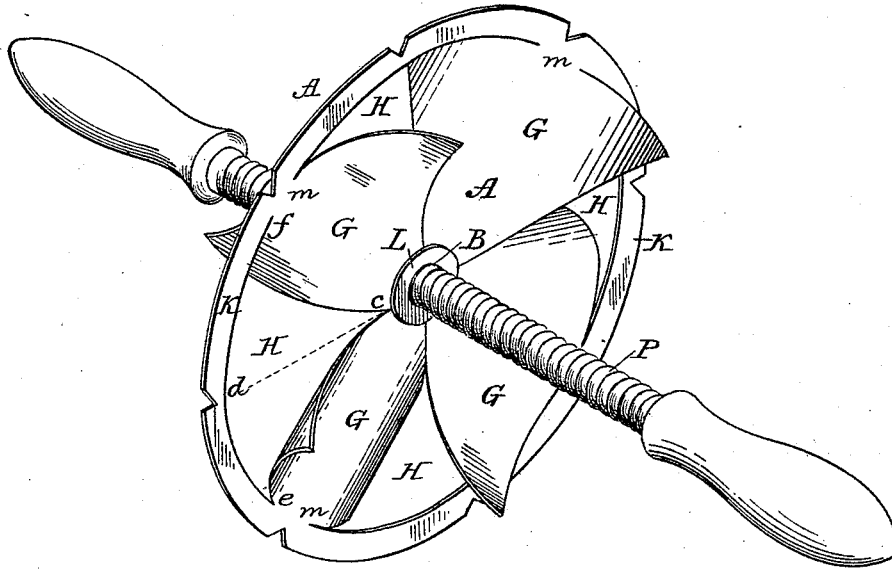
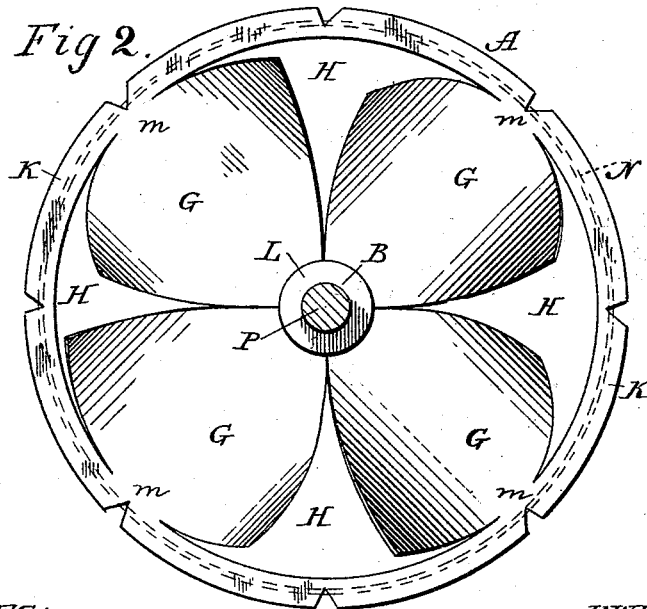


Fig 2.



WITNESSES:

J. A. Bengstrom
A. N. Jesbrow.

INVENTOR

William Murphy

BY

David A. Davis
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM MURPHY, OF MONTCLAIR, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO DAVID D. MURPHY, OF SAME PLACE.

TOY PIN-WHEEL.

SPECIFICATION forming part of Letters Patent No. 454,804, dated June 23, 1891.

Application filed March 11, 1891. Serial No. 384,537. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MURPHY, of Montclair, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Toy Pin-Wheels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to an improvement in the class of toys for children known as "pin-wheels," and has for its object to render the same more attractive and amusing to the child.

It consists in the combination, substantially as hereinafter described and claimed, of a reversible pin-wheel of suitable construction with a threaded rod, along which the wheel will be made to travel automatically back or forth by means of its revolution.

In the accompanying drawings, Figure 1 is a view in perspective of my improved traveling pin-wheel, and Fig. 2 a plan view thereof, the rod being in cross-section.

The wheel A may be cheaply constructed by cutting out a circular disk of heavy cardboard or thin metal with a central circular aperture B therein and a series of slits, each extending radially in a straight line *c d* from the edge of the central aperture nearly to the outer circumference of the disk, (see dotted lines, Fig. 1,) and then continued concentrically with the outer circumference in both directions *d e* and *d f* until the two branches nearly meet, the corresponding branches diverging from the proximate radial slits. The sections G G of the disk on each side of each radial slit are then bent, each with an outward curve, in opposite directions, forming thereby vanes which project at a suitable angle on opposite sides of the plane of the disk with intervening sectional openings H H. The rim of the disk being left unbroken forms a continuous circumferential band K, uniting the outer central extremities *m m* of the vanes and greatly strengthening the wheel, while the portion L of the disk remaining between the inner ends of the openings H H and the central opening B in the disk serves as a bearing for the wheel. This annular bearing L is preferably re-enforced by attaching thereto, with glue or rivets or other suitable means, a hub

of suitable thickness. The rim of the wheel may likewise be re-enforced with a light wire N, (represented by the dotted lines in Fig. 2,) attached thereto at or near its edge. The wheel thus constructed is then mounted upon a rod P, having a spiral groove or screw-thread cut along its entire length, the rod being passed through the central aperture B in the wheel, so that the edge of the aperture shall engage the screw on the rod, whereby the revolution of the wheel upon the rod will cause it to follow the spiral course of the screw-thread, and thereby travel along the rod until the end is reached.

If the hub L of the wheel be made of sufficient thickness, it may be formed with an internal spiral thread or groove, the counterpart of the groove or thread on the rod having the same pitch, so as to insure the proper engagement of the one with the other; but where the edge of the central aperture in the wheel is of but slight thickness it will suffice to give it a slight inclination sufficient to engage the thread of the screw without undue friction.

The angle of inclination of the vanes G G in the wheel and the pitch of the screw-thread cut upon the rod P are preferably so adjusted as that when the wheel is fitted upon the rod and held facing a current of air the wheel will travel along the rod toward the wind. When it has thus reached the outer end of the rod, the rod may be reversed, so as to bring said outer end into the hand, whereupon the wheel will be in readiness to again make an outward trip.

The wheel is rendered at slight cost very attractive by painting it in different colors to cause by its rapid revolution such a blending thereof as to produce beautiful effects.

I claim as my invention—

The combination, with a screw-threaded rod, of a pin-wheel fitted to revolve loosely upon and travel along the rod, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM MURPHY.

Witnesses:

A. N. JESBERA,
E. M. WATSON.