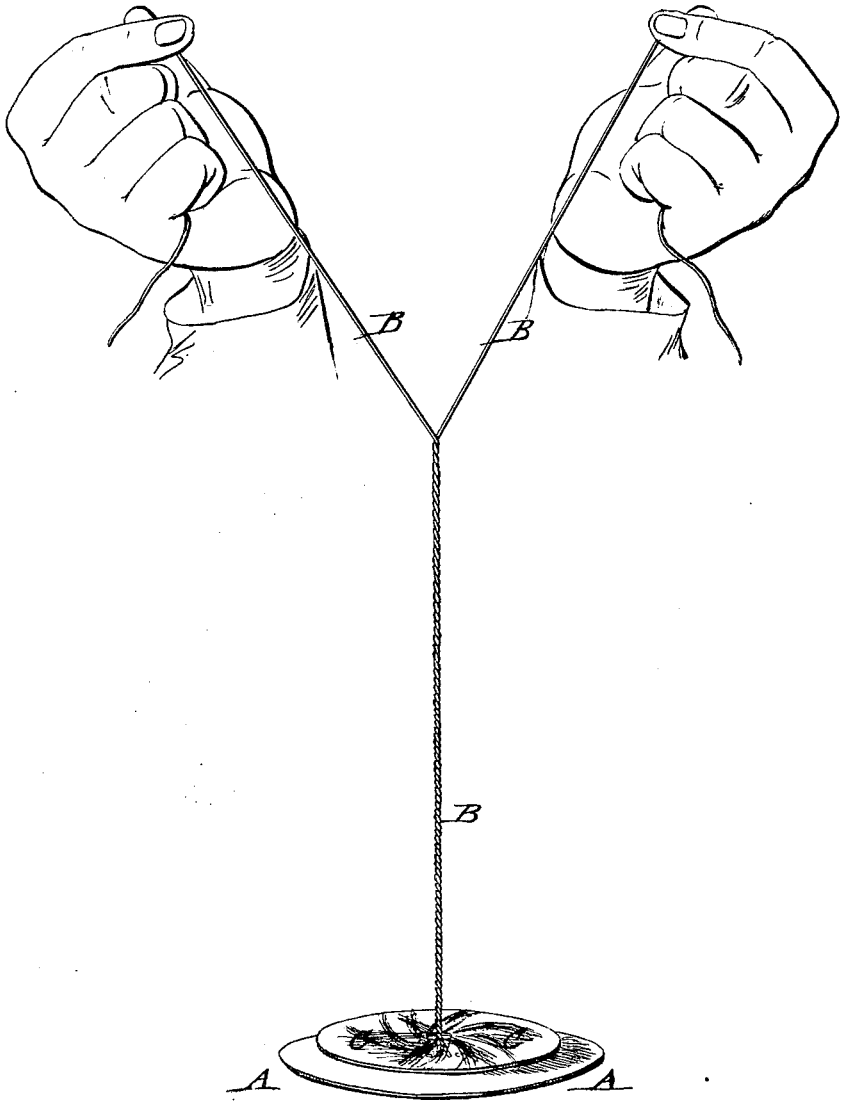
P. BELTAIR.

CHROMATROPE-TOYS.

No. 185,476. Patented Dec. 19, 1876.



WITNESSES:

A. F. Terry

A. F. Roberts

INVENTOR:

P. Beltair.

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PETER BELTAIR, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN CHROMATROPE TOYS.

Specification forming part of Letters Patent No. **185,476**, dated December 19, 1876; application filed November 21, 1876.

To all whom it may concern:

Be it known that I, PETER BELTAIR, of Jersey City, Hudson county, New Jersey, haue invented a new and Improved Chromo-Disk Toy, of which the following is a specification:

The drawing represents a perspective view of my improved chromo-disk toy, shown in the act of operating the same.

The object of my invention is to furnish, for the use of children, a simple, neat, and instructive rotating-disk toy, which is readily set in motion, and produces, by its chromo-disk, varying effects when the toy changes its speed and direction of rotation.

My invention consists of a larger disk, of suitable metal, which is balanced at the end of a double string, and set in rotary motion by twisting the same, imparting, also, rotary motion to a second, smaller, disk, made in suitable colors, and placed above the former, for producing colored ring-shaped figures.

In the drawing, A represents a disk, of suitable sheet metal, suspended in nicely-balanced condition from a double string, B, that is drawn through perforations of the disk.

The disk is preferably made of metal, on account of its greater weight, by which greater impetus is imparted to the turning and twisting up of the double string.

Upon the string is placed a second disk, C, which revolves with the main disk by friction, or independently by its own momentum. This second disk may be colored in any design, at the fancy of the maker; but I prefer that the design shall consist of a series of curves of different colors, radiating from the center, or near the center, of the disk, and continually extending toward its periphery for the full length of said curves.

This arrangement of the colors, in combination with the alternate motion of the main disk, gives a peculiar effect and play of colors not to be met with in any previous toy, because the colored disk, at each change of the motion of the main disk, runs for a considerable time by its own momentum, with gradually-decreasing speed, until it stops, when it is started in the reverse direction by friction only, which also causes it to travel comparatively at a slow speed, and this speed is further reduced by friction with the air. This slow speed enhances the effect of the colored curves, and gives a more pleasing display and variety of colors than if the colored disk were firmly attached to the main disk, and thus compelled to travel with it.

Any other form of design may be used at the pleasure of the maker or user; but I prefer that the colors should not be laid on in concentric curves, as that will only show plain rings without variation of colors, except additional disks or "extinguishers" be used to change the effects by hiding or covering and uncovering portions of the rings or curves. Such concentric curves may be used, however, in combination with other disks, if preferred, and many beautiful variations of colors thus produced.

The upper ends of the string are taken hold of by the hands, and the disk rotated by gradually drawing them asunder. The impetus given thereby to the heavier disk twists up the double string, so that the next stretching will turn the chromo-disk in opposite direction, and furnish another play of colored rings, which may be varied by the use of differently-colored disks. Thus a very simple, amusing, and instructive toy is furnished at a cost by which it may be brought within the reach of everybody.

I am aware of the buzzers or whirligigs shown in the Patents Nos. 105,792 and 108,170; but both of these differ from mine in the method of spinning and coloring the disks. In Frank's case the friction through the holes wears out the fibers of the string very rapidly, and in both of them the person operating cannot readily see the effects produced, as the edges of the disks are presented to his vision; but in my toy the operator has a full view of the changes and play of colors on the second disk, and there is no strain or wear on the string.

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

1. As a new article of manufacture, a toy composed of a disk, having a cord attached to it, provided with two loose ends, adapted to

spin the disk in a horizontal position, in the manner and for the purpose specified.

2. The combination, with a disk, provided with a device to give it a continuous rotary motion alternating in opposite directions, of a loose disk, having a series of two or more contrasting colors, arranged in curves radiating from its center, or nearly so, and gradually approaching its periphery, in the manner and for the purpose set forth.

PETER BELTAIR.

Witnesses:
T. B. MOSHER,
ALEX. F. ROBERTS.