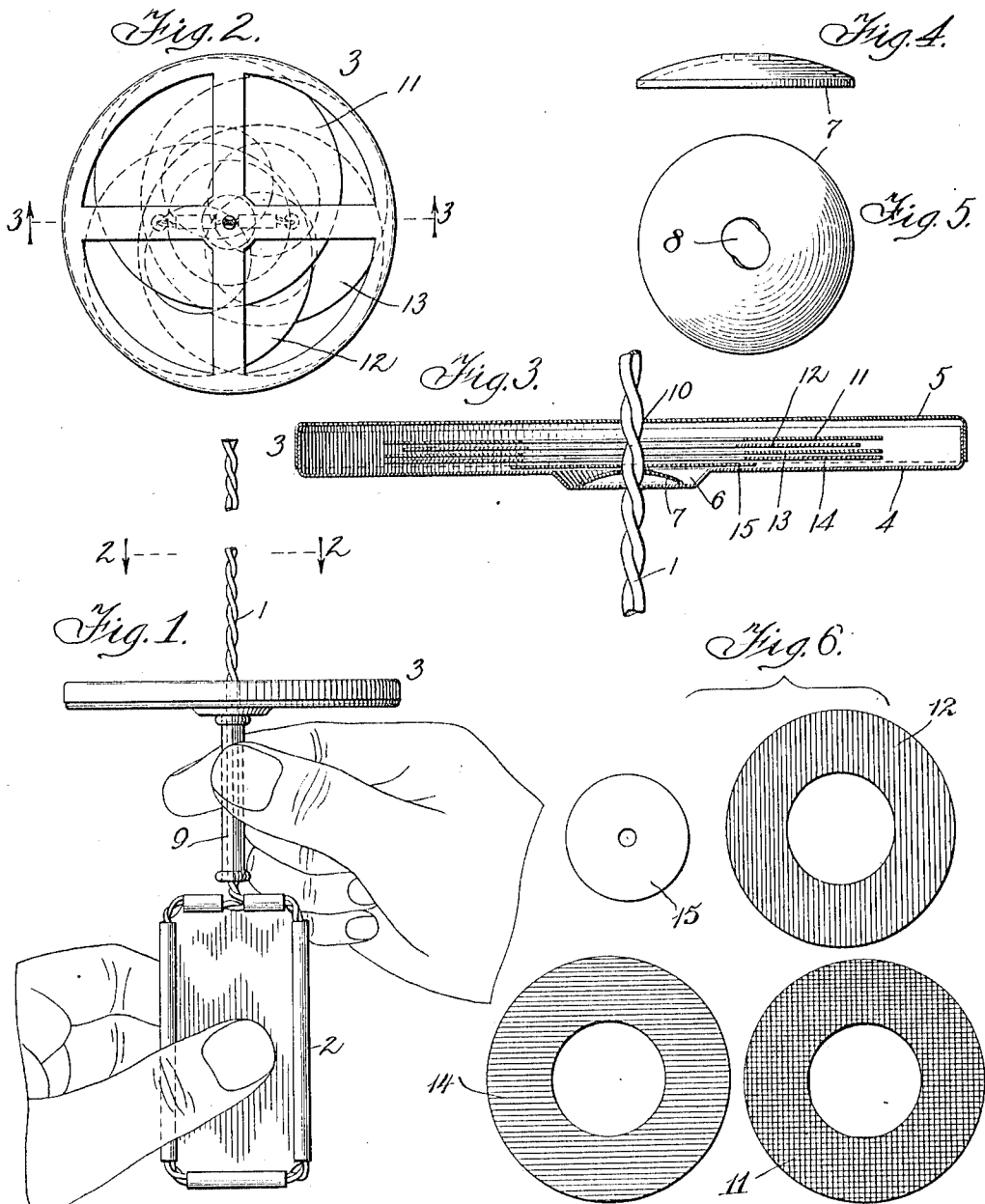


C. L. CRUVER.
TOY.
APPLICATION FILED OCT. 5, 1911.

1,089,694.

Patented Mar. 10, 1914.



Witnesses:

H. L. Gutt.

George L. Chindahl

Inventor:

Curtis L. Cruver.

By Luther L. Miller
Att.

UNITED STATES PATENT OFFICE.

CURTIS L. CRUVER, OF CHICAGO, ILLINOIS.

TOY.

1,089,694.

Specification of Letters Patent.

Patented Mar. 10, 1914.

Application filed October 5, 1911. Serial No. 652,929.

To all whom it may concern:

Be it known that I, CURTIS L. CRUVER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Toys, of which the following is a specification.

The object of this invention is to provide a toy or the like adapted to produce a kaleidoscopic or variable display of colors upon a moving part or parts, as will more fully appear by the following description of one embodiment of the invention.

In the accompanying drawings, Figure 1 is a side elevation partly broken away showing the manner of using the toy. Fig. 2 is a section on dotted line 2 2 of Fig. 1. Fig. 3 is an enlarged section on line 3 3 of Fig. 2. Figs. 4 and 5 are enlarged side and top plan views, respectively, of a member operating to produce rotation of the colored parts and their container, Fig. 6 shows reduced views of the rings or disks comprised in the device.

The embodiment herein shown of the invention comprises a cage or container within which are located a plurality of variously colored rings or disk-like members, said container being mounted upon a spindle provided with a screw-thread or its equivalent, and said container carrying a member operating as a nut upon said spindle, together with means for pushing the nut along the spindle to cause rotation of the nut and container and thus impart rotation to the colored members. These members are so constructed and supported that while they lie one above another they are at liberty to rotate at different speeds and to move laterally so as to extend various distances beyond the peripheries of superposed members and for various lengths of time, whereby the rotation of said members produces a great variety of color effects.

The form herein shown of the invention comprises a spindle 1 which may be conveniently formed of two wires twisted together, the twisting of such wires providing the equivalent of a screw-thread or spiral groove. The lower end of the spindle may be provided with a handle 2 of any suitable form. Upon said spindle is freely rotatable a container or cage consisting in this instance of a flat circular casing 3 having its upper side largely cut away as indicated in Fig. 2 so that the contents of the cage shall

be visible from above. The casing may be conveniently made of two sections 4 and 5 having their edge portions or annular flanges telescoped and frictionally held together as shown in Fig. 3. Centrally of the lower side of the casing is a recess 6 in which is mounted a member 7 having a central opening 8 of such form as to constitute a partial screw-thread adapted to move in the screw-thread of the spindle 1. A sleeve 9 adapted to be grasped by the fingers is placed upon the spindle 1 below the casing 3. When said sleeve is slid upwardly upon the spindle, its lower end presses against the lower side of the casing 3 and the latter in turn forces the member 7 along the spindle, causing it to rotate, said member in its rotation causing rotation of the casing by reason of the frictional contact between the casing and said member. If desired, means may be provided for preventing the casing from being pushed off the upper end of the spindle as by enlarging the upper end of said spindle so that it cannot pass through the opening 10 of the casing. A quick upward movement of the sleeve 9 imparts sufficient momentum to the casing 3 to cause the latter to spin for some time. When the operator lowers the sleeve 9, the casing 3 gradually settles or gravitates along the spindle.

Within the casing 3 is a plurality of rings or disk-like members 11, 12, 13 and 14, suitably colored on their upper sides and each of a different color. These disks rest upon the bottom of the casing or upon a disk 15 of tin or other suitable material and of a neutral or any desired color. The disk 15 serves to keep the member 7 in its recess. The upper ring 11 is preferably black or of a neutral color so as to partially mask the upper colored disk. If desired the bottom of the casing may be colored. In the embodiment herein shown the central openings of the rings are not all of the same diameter, and the diameters of the disks also vary. Some of the rings are caused to rotate by reason of peripheral contact between the rings and the peripheral wall of the casing 3, while the ring or rings of smaller diameter are caused to rotate by frictional contact with the spindle 1. It will be understood that when the casing is being propelled along the spindle, the disks tend by reason of gravity to lie in contact with one another, and that when the opera-

tor permits the rotating casing to gravitate back to the starting point, the rings may and frequently do rotate for varying lengths of time out of contact with one another. As the rings shift laterally with respect to one another, and as their rotation is caused by the varying speed at which the casing 3 is caused to revolve, and as the rotative speed of each ring is modified now and then by intermittent contact with adjacent rings, and as the rings are of different areas, it will be seen that an immense variety of ever-changing optical effects will be produced.

The foregoing is a description of one of various possible embodiments of the invention defined in the following claims.

I claim as my invention:

1. In a device of the class described, the combination of a screw-threaded spindle, a container movable along said spindle, means to cause rotation of the container in its movement along the spindle, said container having openings therethrough, and a plurality of colored members in said container, said members being rotated in the rotation of said container.

2. In a device of the class described, the combination of a screw-threaded spindle, a container movable along said spindle, said container having openings therethrough, means to cause rotation of the container in its movement along the spindle, and a plurality of colored members in said container, arranged to be rotated through frictional contact with said container.

3. In a device of the class described, the combination of a container with inclosing edges, said container having openings therethrough, means for rotating said container comprising a screw, and a plurality of colored members movable within said container and arranged to be rotated through frictional contact with said container.

4. In a device of the class described, the combination of a container having openings therethrough, means for rotating said container comprising a screw spindle, and a plurality of superposed colored members within said container and resting loosely upon the bottom of said container.

5. In a device of the class described, the combination of a container, means for rotating said container comprising a screw spindle, and a plurality of superposed colored apertured members within said container and of less diameter than said container, the apertures in said members being of different sizes, and said members being freely rotatable with relation to the container, said container having openings therethrough.

6. In a device of the class described, the combination of a spindle, a flat casing of cir-

cular outline, said casing being rotatable upon said spindle and movable therealong, means to cause rotation of the container upon the spindle, and a plurality of colored members within said casing and arranged to be rotated through frictional contact with said casing, said container having openings therethrough.

7. In a device of the class described, the combination of a screw-threaded spindle having a handle at its lower end, a flat casing of circular outline freely rotatable on and movable along said spindle, said casing having openings therethrough, a nut-like member frictionally engaging said casing and fitting upon said spindle, a sleeve slidable along the spindle below said casing, and a plurality of colored rings of different internal and external diameters resting loosely upon the bottom of said casing and rotatable through frictional contact with said casing and with each other.

8. In a device of the class described, a container having openings therethrough and having a recess in its lower side, a plurality of colored rings in said container, a member positioned in said recess beneath said rings, and means for pressing said casing against said member and for rotating said member.

9. In a device of the class described, a container having openings therethrough and having a recess in its lower side, a plurality of colored rings in said container, a member positioned in said recess beneath said rings, and means for pressing together the bottom of said recess and said member, and for rotating said member.

10. In a device of the class described, a container having openings therethrough, a plurality of colored rings in said container, a member positioned in said container beneath said rings, and means for rotating said member, said rotating means adapted to press together said member and the bottom of said container when said container is raised.

11. In a device of the class described, a container having openings therethrough, a plurality of colored rings in said container, a member positioned in said container beneath said rings, and means for rotating said member, said rotating means adapted to press together said member and the bottom of said container when said container is raised, and to cause said member to support said rings when said container is left unsupported.

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

CURTIS L. CRUVER.

Witnesses:

L. L. MILLER,

JOSEPH R. BARSE, Jr.