H. VAN ALTENA.

CHROMATROPE.

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1,041,380.

Patented Oct. 15, 1912.

Fig. 2.

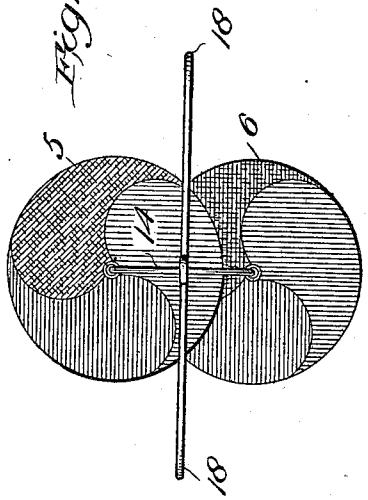
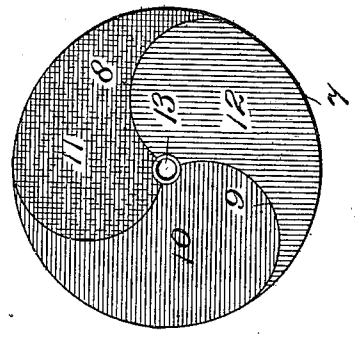


Fig. 3.



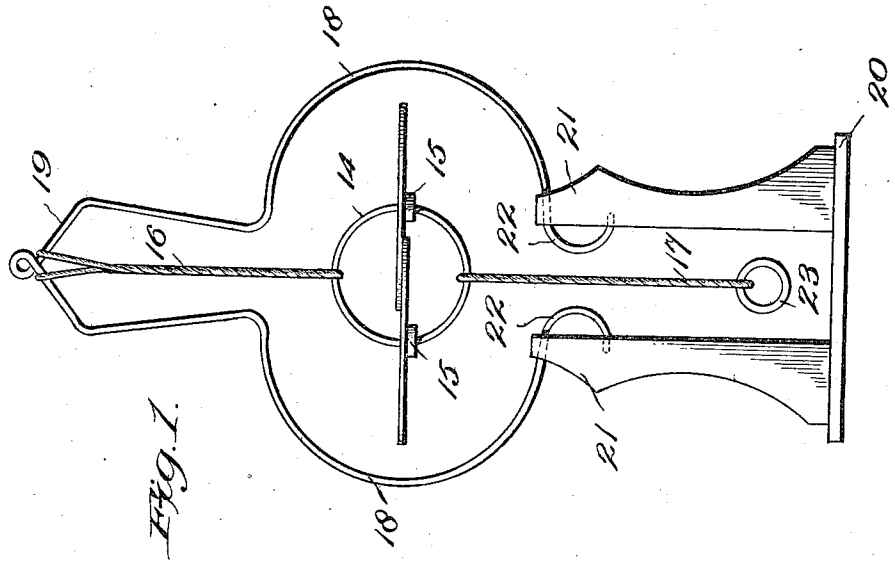


Fig. 1.

WITNESSES

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CHROMATROPE.

1,041,380. Specification of Letters Patent. Patented Oct. 15, 1912.

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To all whom it may concern:

Be it known that I, HENRY VAN ALTENA, a citizen of the United States, and resident of New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Chromatropes, of which the following is a specification.

This invention relates to chromatrope toys and its object is to provide a device to be operated and to change its colors and shades with each reversal of the disks composing the toy, as will be more fully described in the following specification, set forth in the claims and illustrated in the drawings, wherein,—

Figure 1 is an elevation of the chromatrope. Fig. 2 is a plan view of same. Fig. 3 is a detail of one of the disks.

The chromatrope proper consists of two disks 5 and 6, each disk being constructed as shown in Fig. 3, where it will be seen that the disk is divided into three equal parts, each bounded by an arc 7 constituting one third of the circumference of the disk and semi-circles 8 and 9, with three sections 10, 11 and 12, being of a different primary color and preferably yellow, blue and red.

The disks each has an eyelet 13 at its center and through which passes a ring 14 so that the disks are held apart, yet are capable of rotating upon the ring in order to change their location and to vary the colors. Each disk is supported by a washer 15, which tightly fits the ring so as to hold the disks at practically diametrically opposite points, leaving sufficient space for each disk to move independently so that the colors may be shifted to produce new results.

The ring at opposite sides is provided with cords or loops 16 and 17 which are twisted in order to rotate the ring 14, and after sufficient acceleration, the disks so rotate the ring that the cord is untwisted when put under strain and the reverse movement of the disks and ring again wind the cord so that when tension is applied the movement is again reversed. As the disks thus rotate about the center formed by the cords 16 and 17, their colors are caused to appear as rings and where one of the central sections appears at the center as shown in Fig. 2, that color will appear while the rotation takes place, the other colors appearing as composites or tints.

A convenient arrangement for operating the device is shown in Fig. 1 and consists of a wire frame with semi-circular sides 18 to receive and permit of the rotation of the disks, the upper part 19 of this frame is so arranged that the cord 16 may be suspended from same and the whole is mounted on a base 20, having slotted uprights 21 to receive the ends 22 of the wire frame.

The lower cord 17 is provided with a ring 23 for the finger of the operator so that tension may be applied to the cords to unwind them and rotate the disks. The flexible nature of the wire frame tends to assist in this operation and form a very serviceable means for operating the chromatrope.

It is obvious that the parts may be otherwise modified and arranged without departing from the essential features above described. The device may be used without the wire frame and a metal frame similarly constructed would be as serviceable and capable of being made in one piece.

What I claim as new is,—

1. In a chromatrope, the combination with disks divided into three colored sections and having central perforations, of a ring passing through the perforations so as to carry a disk at diametrically opposite points, washers supporting the disks, a cord connected with the ring at one side to rotate the ring when the cord is twisted, a resilient support, and a cord at the opposite side of the ring and connected with the resilient support.

2. In a chromatrope, the combination with a ring, of colored disks centered on the ring, washers beneath the disks, cords attached to the ring, a base, a resilient frame secured to the base and carrying one of the cords, and a ring for the other cord.

Signed at New York in the county of New York and State of New York this twenty-seventh day of May A. D. 1912.

HENRY VAN ALTENA.

Witnesses:

JAMES F. DUHAMEL,

THEO. H. FRIEND, Jr.

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