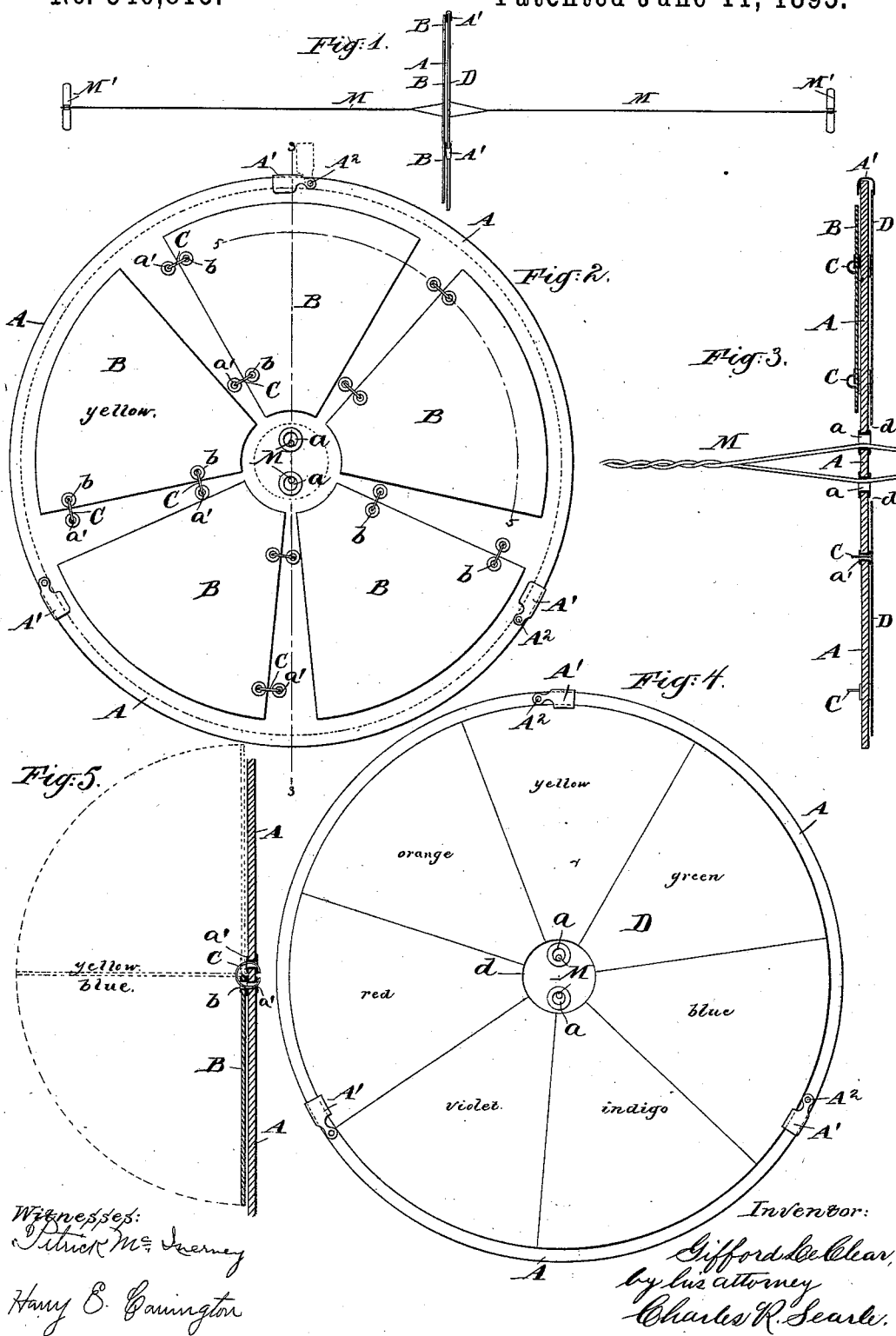


(No Model.)

G. LE CLEAR.
WHIRLING TOY OR BUZZ.

No. 540,815.

Patented June 11, 1895.



UNITED STATES PATENT OFFICE.

GIFFORD LE CLEAR, OF CAMBRIDGE, MASSACHUSETTS.

WHIRLING TOY OR BUZZ.

SPECIFICATION forming part of Letters Patent No. 540,815, dated June 11, 1895.

Application filed September 19, 1894. Serial No. 523,458. (No model.)

To all whom it may concern:

Be it known that I, GIFFORD LE CLEAR, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented a certain new and useful Improvement in Whirling Toys or Buzzes, of which the following is a specification.

My improvement relates particularly to that class of whirling toys in which a disk is revolved alternately in opposite directions by the untwisting and twisting of a loop of cord held by the ends in the hands of the operator, and pulled upon and relaxed at the proper periods, the two members of the loop being engaged with the disk at points near its center. I use such a disk and loop, and attach to one face of the disk flaps or wings, each hinged on one edge so that as the disk is revolved in one direction or the other the resistance of the air and the momentum of the parts cause the wings to turn on their hinges and show alternately one face and the other, and as the faces are differently colored or marked, they show one color or device when the disk is rotated in one direction, and a different color or device when the direction of revolution is reversed. The edge of the disk is provided with fasteners adapted to hold removable rings, which may be colored or marked to produce interesting or amusing effects when revolved, and may be applied and removed as desired.

The accompanying drawings represent what I consider the best means of carrying out the invention.

Figure 1 is an edge view showing the entire toy. The remaining figures are on a larger scale. Fig. 2 is a face view of the disk. Fig. 3 is a section on the line 3 3 in Fig. 2. Fig. 4 is a face view of the disk, showing the side opposite to that shown in Fig. 2, with one of the rings in place; and Fig. 5 is a section on the curved line 5 5 in Fig. 2.

Similar letters of reference indicate the same parts in all the figures.

A is the disk, a circle of thin wood or heavy strawboard. It is provided with two eyeleted holes a, a , near the center, through which the two parts of the loop M are passed, the latter imparting the required rotatory motion to the

disk as the twisted loop is strongly pulled by the force of the hands applied through suitable handles M', M' , in each bight of the loop.

B, B, are sector-shaped wings or flaps of card-board, each having eyelets b, b , on one of the straight edges, corresponding to the double row of eyelets a', a' , set on radial lines in the disk A. I have shown five wings equally spaced, each a sector corresponding to one-sixth of a circle, thus allowing one-sixth of the entire circle to be divided up into spaces between the wings to reduce the liability of interference when the motion is reversed if the wings should not begin to turn at exactly the same moment.

C, C, are short lengths of soft copper wire, curved as shown, and extending from the back face of the disk A through one eyelet a' , thence through the eyelet b set in the edge of the wing B, and then through the other eyelet a' of the pair. The ends are bent down close against the back face of the disk. These bent wires and the eyelets b form removable hinges for the wings B, and allow the latter to swing freely when influenced by the resistance of the air or the momentum of the parts at the time of reversing the direction of rotation.

D is one of several wide rings supplied with the toy. It is of thinner material than the disk A. It may be ordinary stiff paper or thin card-board. The opening d at the center is large enough to inclose the two eyeleted holes a, a , and allow the bight of the loop to be passed through. This ring is held in place on one face of the disk A by means of fasteners A', A' , of thin metal, bent into U-form, and turning in holes provided for the rivets A^2 near the periphery of the disk. The space between the leaves of the fastener is just a little less than the thickness of the disk so that when turned inward upon the edge of the disk, they are held frictionally against the strong centrifugal force tending to cause them to fly outward.

In applying a ring D, the fasteners are turned outward. One end of the loop M is passed through the central hole d and the ring laid against the face of the disk. The fasteners are then turned inward and engaged over the edges of both the ring and disk, and on

being forced completely home will hold the ring D against displacement radially, and cause it to revolve with the disk.

There may be any number of the rings D, with various devices, colors or combinations of colors, printed, painted, or otherwise produced on the surfaces. The example shown has the seven primary colors in equal divisions, producing upon the eye the well-known effect of an apparently white ring, when rapidly rotated.

The wings B may be removed, when desired, by simply bending upward the ends of the soft copper wires C, C, sufficiently to release their hold upon the disk. The wings are then free, and may be disengaged from the wires and a new series substituted.

Modifications may be made in the details without departing from the spirit of the invention.

Other means than the wires C, C, may be used to hinge the wings B to the disk A. Strips of muslin or other flexible fabric glued to each may serve well in cheap forms of the invention. I may use more than the three fasteners A' shown, or other forms may be employed.

I claim as my invention—

1. The disk adapted to be revolved alternately in opposite directions by the twisting

and untwisting of a loop engaged therewith, in combination with a wing flexibly secured thereto and adapted to show first one face and then the other as the direction of revolution of the disk is changed, substantially as herein specified.

2. The disk A, having the holes *a, a*, adapted to receive the looped cord M for imparting the required rotatory motion to the disk alternately in opposite directions, in combination with the wing B, and with wires C engaging the disk and the wing and forming a removable hinge upon which the latter may swing, all substantially as herein specified.

3. The disk A, having the holes *a, a*, adapted to receive the looped cord M for imparting the required rotatory motion to the said disk alternately in opposite directions, in combination with the hinged wings B, removable ring D and fasteners, as A', for securing the ring temporarily in place, all substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

GIFFORD LE CLEAR.

Witnesses:

PATRICK MCINERNEY,
M. F. BOYLE.