

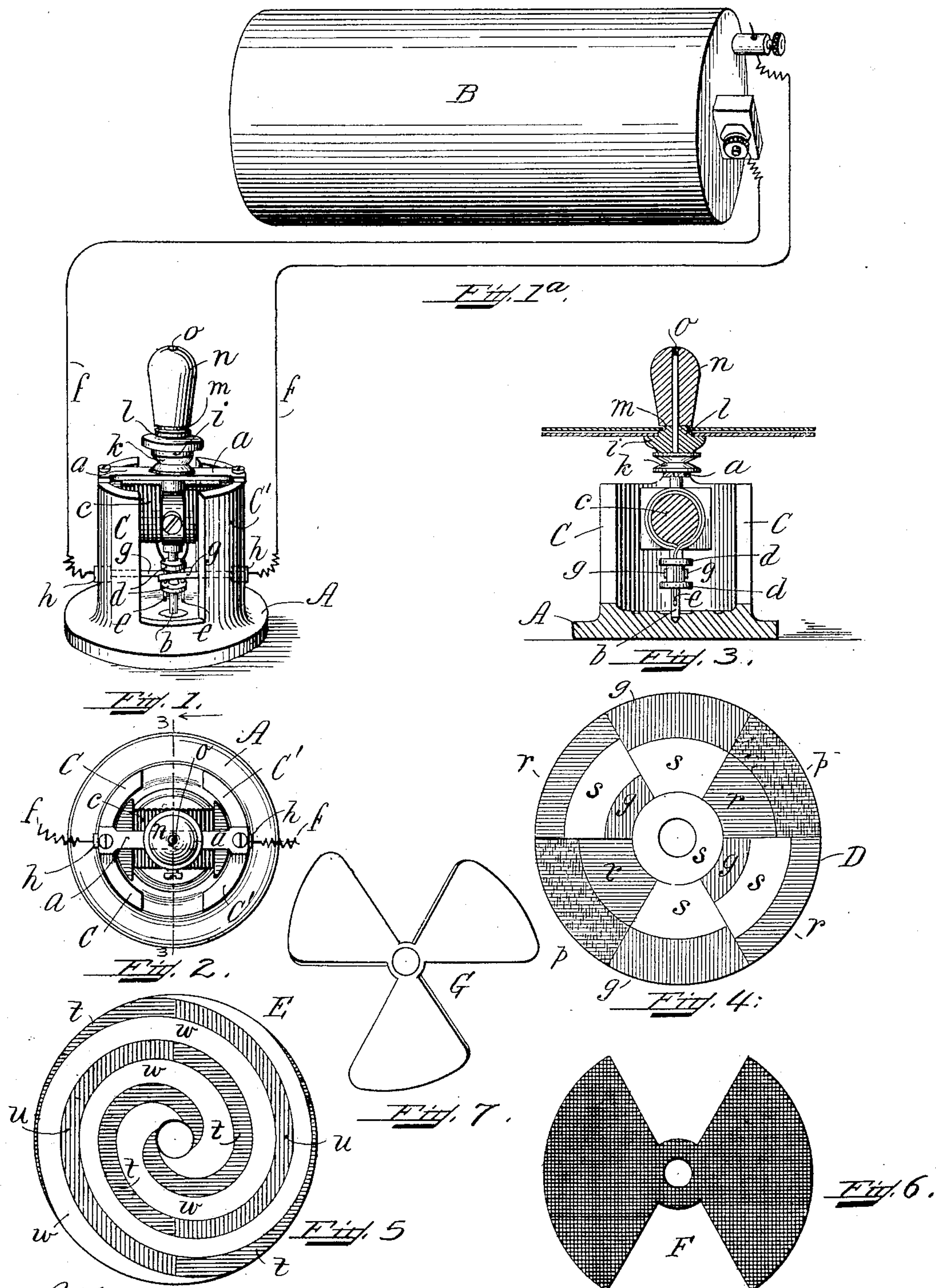
No. 671,891.

Patented Apr. 9, 1901.

A. A. KENT.
ELECTRIC TOY.

(Application filed Jan. 29, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR A. KENT, OF LEBANON, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF TO FRANK B. KENDRICK AND WILLIAM F. DAVIS, OF SAME PLACE, AND PARTNERS UNDER FIRM NAME OF KENDRICK AND DAVIS.

ELECTRIC TOY.

SPECIFICATION forming part of Letters Patent No. 671,891, dated April 9, 1901.

Application filed January 29, 1901. Serial No. 45,191. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR A. KENT, a citizen of the United States, and a resident of Lebanon, in the county of Grafton and State of New Hampshire, have invented a certain new and useful Electric Top, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention in its most specific form relates to a toy in the nature of a top, which is particularly adapted to be used either with a fan for producing a current of air or with colored disks which will rotate with the top, whereby a changeable-color illusion device is produced, the colors varying and changing gradually as long as the rotation continues.

One object of my invention is to produce an electric motor, the armature of which in its normal position is stationary and which may be started to rotate by spinning it with the hand or other suitable device and which may be stopped by the use of an automatically-operated switch located between it and the source of electrical supply.

A further object of my invention is to produce the changeable-color illusion device above referred to.

The invention consists, broadly, of an electric apparatus comprising a motor consisting of a base, stationary field-magnets mounted upon said base, an armature and a spindle therefor, circuit connections for said armature, and an automatic switch included in said circuit and controlled by the armature, whereby when the motor is started the circuit is completed and when stopped the attracted position of the armature will maintain the switch in an open-circuit position.

The invention further consists of the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a perspective view of the top without the disks. Fig. 1^a is a perspective view of the battery. Fig. 2 is a plan view without the disks. Fig. 3 is a vertical transverse section, taken on the line 3 3 of Fig. 2, with the disks added and shown also in section. Fig. 4 is a plan view of a color-disk. Fig. 5 is a plan of the

under side of the same. Fig. 6 is a plan of the black disk, and Fig. 7 is a plan of the fan.

Like letters of reference refer to like parts throughout the several views.

A denotes the base, made, preferably, of iron, and B the battery. In the drawings I have shown the battery as being the ordinary dry battery, although it is obvious that any suitable source of electrical supply may be used without departing from the spirit of my invention. C and C' denote the stationary field-magnets, made of iron supported by and rising from said base. These magnets are connected by the cross-piece *a*, made of metal. *b* is a vertical spindle stepped in said base and extending through and beyond said cross-piece. *c* is an armature adapted to revolve and mounted upon said spindle. *d* is a sleeve of insulating material mounted upon and revolving with said spindle and adapted to receive and support the terminals *ee* of the armature-winding to form contacts. *ff* are the circuit-wires for said armature, having their ends *gg* flattened to form brushes and suitably supported, so as to engage and disengage said contacts during the revolution of the armature and to be disengaged therefrom when the motor is stopped and its armature attracted to its normal inactive position by the field-magnets. The brushes are supported by means of the split wooden bushings *hh*, through which they are led, the said bushings being driven through the sides of the field-magnets, and thus held firmly in their proper position.

i denotes a sleeve made, preferably, of wood and rigidly attached to the spindle *b* and comprising a pulley *k* and the circular concentric shoulders *l* and *m*.

D and E represent the upper and lower sides of a color-disk, which may be supported upon the shoulder *l* and adapted to be rotated with the spindle *b*.

F represents a fan-shaped disk, black in color, and G a three-bladed fan for producing a current of air, each of which may be supported upon the shoulder *m* and likewise adapted to be rotated upon the spindle *b*.

n denotes a wooden knob provided with a central longitudinal opening *o*, adapted to fit

onto the top of the spindle *b* for the purpose of holding the color-disks and fan in proper position upon the shoulders *l* and *m*, as above stated.

5 Referring to the disk *D*, the sections *pp* are colored yellow, the sections *gg* red, the sections *rr* blue, and the sections *ss* white.

Referring to the disk *E*, the sections *tt* are colored blue, the sections *uu* red, and the sections *vv* white. It is obvious, however, that
10 any other suitable colored disks may be used without departing from the spirit of my invention.

The operation of the device in so far as it has
15 not been already disclosed is as follows: The normal position of the armature is stationary and its position in such a state of rest is parallel with the cross-piece and the commutator-brushes, the field magnets attracting the ends
20 of the armature, and thus causing the circuit to become an open one. This is the normal position of the armature, as above stated. A color-disk—for example, *D*—is placed upon the shoulder *l* and the black fan-like-shaped
25 disk *f* is placed upon the shoulder *m*. The wooden knob is then placed on the top of the spindle *b* to hold the disks in their proper positions. When it is desired to rotate the top, the wooden knob is turned so as to rotate the
30 spindle slightly, so as to bring the terminals of the armature-winding in contact with the commutator-brushes. This action immediately closes the circuit and causes the armature to rotate and likewise the disks *D* and *F*,
35 whereby a changeable-color illusion device is produced, the colors varying and changing gradually as long as the rotation continues. When it is desired to stop the apparatus, all that is necessary to do is to stop the rotation of
40 the armature by taking hold of the wooden knob and bringing it to a state of rest. The field-magnets will then attract the ends of the armature into the position of rest first above stated and cause the circuit to become an open
45 one.

What I desire to claim and secure by Letters Patent is—

1. An electric motor, comprising stationary field-magnets, an armature and a spindle therefor, circuit connections for said armature and an automatic switch included in
50 said circuit and controlled by the armature, whereby when the motor is started the circuit is completed and when stopped the attracted position of the armature will maintain the
55 switch in an open-circuit position, substantially as described.

2. In an electric top, a motor comprising stationary field-magnets and a revolving armature, a spindle upon which said armature is
60 mounted, and adapted to receive and support color-disks or other suitable visual devices,

and an automatic switch for controlling the current to said armature, comprising contacts
65 connected with the terminals of the armature-winding and mounted upon and revolving with said spindle, and stationary brushes adapted to be connected with a suitable source
70 of supply and to engage and disengage said contacts during the revolution of the armature, and to be held in disengagement therefrom when the motor is stopped and its armature attracted and held in its normal position by the field-magnets, substantially as
75 described.

3. In an electric top, a motor comprising stationary field-magnets and a revolving armature, a spindle upon which said armature is
80 mounted and adapted to receive and support color-disks or other suitable visual devices, and an automatic switch for controlling the current to said armature, comprising a sleeve of insulating material mounted upon and revolving
85 with said spindle and adapted to receive and support the terminals of the armature-winding to form contacts, circuit-wires for said armature having their ends flattened to form brushes and suitably supported upon
90 said motor to engage and disengage said contacts during the revolution of the armature and to be disengaged therefrom when the motor is stopped and its armature attracted and held in its normal position by the field-magnets, substantially as described.

4. In an electric top, a motor therefor comprising a base, field-magnets rising therefrom, a cross-piece connecting said field-magnets, a vertical spindle stepped in said base
95 and extending through and beyond said cross-piece and adapted to receive and support color-disks or other suitable visual devices, an armature mounted upon said spindle and an automatic switch for controlling the current to said armature, comprising a sleeve of
100 insulating material mounted upon and revolving with said spindle and adapted to receive and support the terminals of the armature-winding to form contacts, circuit-wires for said armature having their ends flattened to form brushes and suitably supported upon
105 said motor to engage and disengage said contacts during the revolution of the armature and to be disengaged therefrom when the motor is stopped and its armature attracted to its normal inactive position by the field-magnets, substantially as described.
115

In witness whereof I have hereunto affixed my signature, this 11th day of January, A. D. 1901, in the presence of two subscribing witnesses.

ARTHUR A. KENT.

Witnesses:

MARSHALL D. COBLEIGH,
CHARLES H. JENKINS.