June 5, 1962 W. J. BAUMGARTNER, JR 3,037,322

WHIRLING LIGHT TOY

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FIG. 1

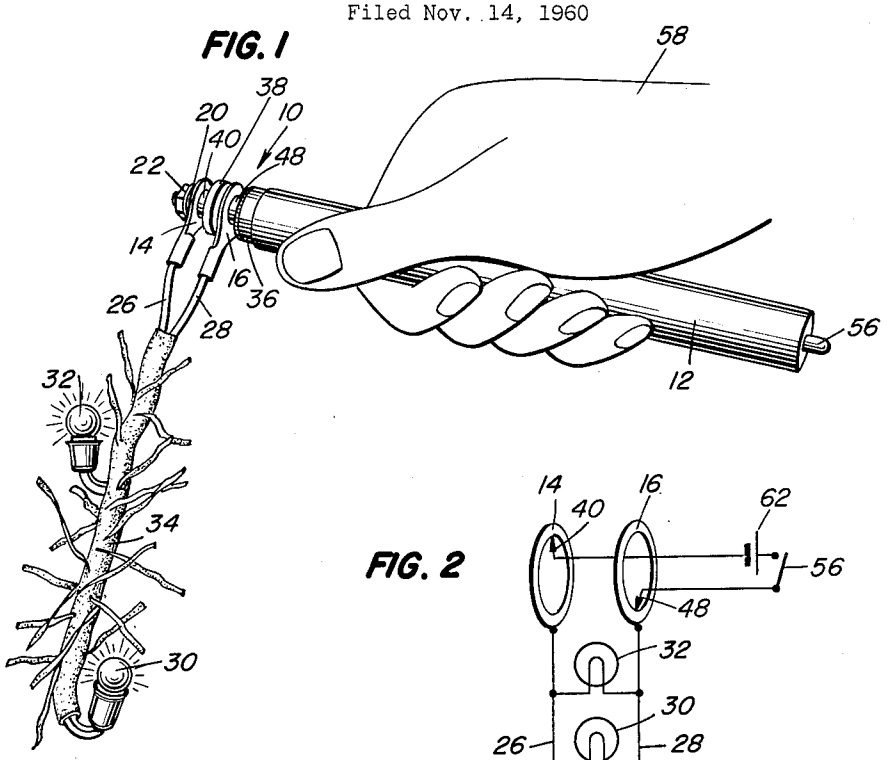
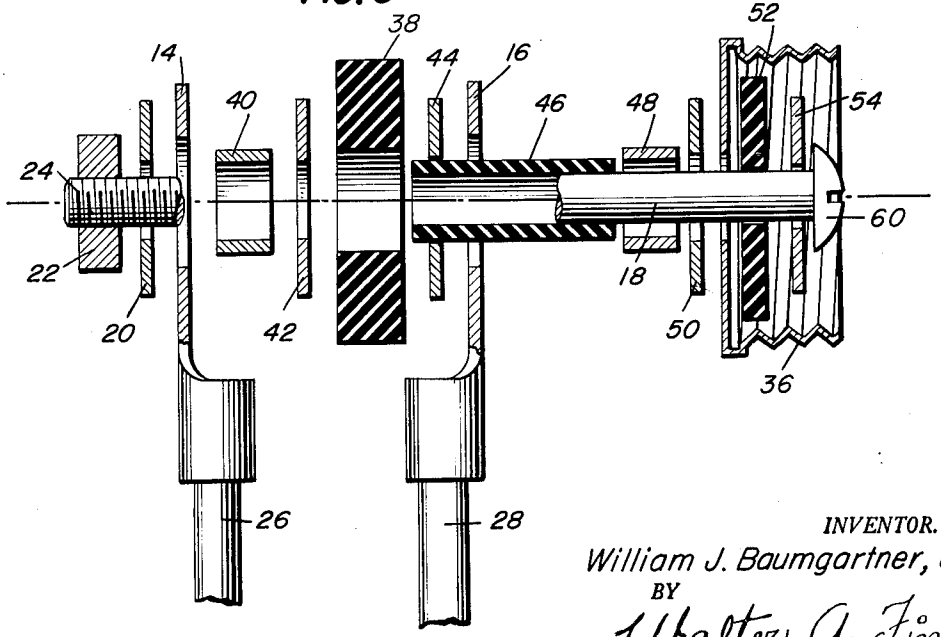


FIG. 2

FIG. 3



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WHIRLING LIGHT TOY

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This invention relates generally to toys, and more particularly it pertains to an electric illuminated whirling sparkler toy.

The use of pyrotechnics is prohibited by law in many States. The once popular "sparkler" is becoming a thing of the past.

It is, therefore, a basic object of this invention to provide a whirling sparkler toy which is legal, safe, inexpensive and easy to manufacture.

Another object of this invention is to provide a whirling electrically lighted sparkler toy which flashes on and off when whirled about.

And another object of this invention is to provide a commutating device for erratically transmitting an electric current from a flashlight battery case to an object whirled thereby.

These and other objects and attendant advantages of this invention will become more readily apparent and understood from the accompanying specification and single sheet of drawings in which:

FIG. 1 is a perspective view of a whirling light toy embodying principles of this invention and illustrating its use;

FIG. 2 is a schematic wiring diagram for the toy of FIG. 1; and

FIG. 3 is an exploded view, partially in cross-section and partially in elevation, much enlarged, showing the details of the commutating parts of the whirling light toy of this invention.

Referring now to the details of the drawings, there is shown in FIG. 1 the novel whirling light toy **10** incorporating features of this invention. The toy consists of a battery case **12** having an electric battery therein (not shown) and a conventional on-off switch **56**.

The battery case **12** is provided with a cap **36** which is adapted for commutating the electric current from the battery in case **12** to a pair of swingable insulated wires **26** and **28** and thence to a pair of lamp bulbs **30** and **32**, shown in FIGS. 1 and 2. The wires **26** and **28** are secured at their ends to lug terminals **14** and **16**, respectively. These terminals **14** and **16** are of a closed annular end type and are arranged to pivot about a center consisting of a headed bolt **18** and an assembly of washers and sleeves axially co-extensive of case **12**.

As shown in the enlarged exploded view of FIG. 3, this assembly is made up in the following sequence. Nearest the head **60** on the bolt **18**, there is first reeved a flat metal washer **54**, followed next by a flat insulating washer **52**. The apertured cap **36** of the battery case **12** is next installed and prevented from electrically short-circuiting to the bolt **18** by means of a long insulating sleeve **46** which extends against the insulating washer **52**. Over this sleeve **46**, there is placed a flat metal washer **50** which contacts the cap **36**. A cylindrical metal commutating sleeve or slip ring **48** is next placed over the sleeve **46**.

The lug terminal **16** slips loosely over this sleeve **48** and is retained thereon by a flat metal washer **44** which is located next in order on the sleeve **46**.

A thick insulating collar **38** follows, then a flat metal washer **42**, and another commutating sleeve or slip ring **40** on the sleeve **46**. The other lug terminal **14** fits loosely over this sleeve **40**, and it is retained thereon by a flat metal washer **20**.

A threaded nut **22** which is screwed onto the threads

24 of the bolt **18** tightly compresses the above mentioned assembly without, however, interfering with the freedom of the loose fitting terminals **14** and **16**.

Electric circuitry is from the battery tip contact, that is, the head **60** of the bolt **18**, through the bolt and nut **22** to washer **20** and commutating sleeve **40**.

The other current circuit path is from the cap **36** to washer **50** and thence to commutating sleeve **48**. As shown in FIG. 2, the current flow from the battery **62** and switch **56** is through these commutating sleeves **40** and **48** in loose fit to terminals **14** and **16**. The current then courses through the wire leads **26** and **28** to the lamps **30** and **32** which may be of the same or different colors.

In use, the switch **56** is turned on and the toy **10** is held in the hand **58** as shown in FIG. 1. With an oscillatory movement of the wrist or swing of the arm of the operator of the toy **10**, the wire leads **26** and **28** and lamps **30** and **32** dependent thereon are made to swing, or whirl around. The light from the illuminated lamps **30** and **32** by persistence of vision appears as concentric arcs or circles.

The effect of sparkle may be heightened by a tinsel wrap **34** around the wire leads **26** and **28**.

Because the terminals **14** and **16** are loosely fitted upon their respective commutating sleeves **40** and **48**, the electric circuit is erratically interrupted during the whirling causing corresponding extinction of light from the lamps **30** and **32**. The appearance of the toy is pleasing even in the daytime as it can be decorated with colored ribbon. Small attached bells will lend their jingle in synchronism with the flashing light in pleasing fashion.

It is to be noted that any number of lamps **30** and **32** can be utilized in the toy **10** to obtain the effect desired. In addition, the leads **26** and **28** can be spaced from each other only a nominal distance as well as a large distance so that the bulbs **30**, with the tinsel wrap **34**, due to the light reflection therefrom will give a lightening effect from any direction that the toy is viewed. Spacers having a tinsel wrapping can be used to space the leads **26** and **28**. The toy **10** can be decorated with any design of tinsel material or equivalent reflecting material, and different color paper.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. An electric illuminated whirling sparkler toy device, comprising, structure defining a housing having a metallic cap with an opening therein at one end thereof, a rod extending outwardly from said housing through and spaced from said opening, an electrical circuit including a source of power and a switch therefor, said rod and cap being connected in series in said electrical circuit to said source of power and switch, a pair of spaced commutating slip rings encompassing said rod and insulated from each other and arranged, respectively, in electrical contact with said cap and rod, an insulated swingable lead for each said slip ring with a terminal at one end thereof loosely encompassing its respective slip ring to make erratic electrical contact therewith upon rotation of its respective swingable lead about said rod, and at least one lamp connected between said swingable leads to complete said electrical circuit, whereby when said switch is closed and said swingable leads are rotated about said rod, erratic electrical contact is made with said slip rings and unpredictable random flashing on and off of said lamp occurs.

2. An electric illuminated whirling sparkler toy device, comprising, structure defining a housing having a metallic cap with an opening therein at one end thereof, a rod

extending outwardly from said housing through and spaced from said opening, an electrical circuit including a source of power and a switch therefor, said rod and cap being connected in series in said electrical circuit to said source of power and switch, a pair of spaced commutating slip rings encompassing said rod and insulated from each other and arranged, respectively, in electrical contact with said cap and rod, an insulated swingable lead for each said slip ring having a terminal at one end thereof loosely encompassing its respective slip ring to make erratic electrical contact therewith upon rotation of its respective swingable lead about said rod, a plurality of lamps connected between said swingable leads, and reflector means for said insulated siwngable leads to increase the sparkling effect when said swingable leads are rotated about said rod, whereby when said switch is closed and said swingable leads are rotated about said rod, erratic electrical contact is made with said slip rings and unpredictable random flashing on and off of said lamps occurs.

3. An electric illuminated whirling sparkler toy device, comprising, structure defining an elongated housing of handle shape having a battery therein with a switch for said battery and a metallic cap with an opening therein at one end thereof, a rod extending outwardly from said housing through and spaced from said opening, an electrical circuit including said battery, and said switch therefor, said rod and cap being connected in series in said electrical circuit to said battery and switch, a pair of spaced commutating slip rings encompassing said rod and insulated from each other and arranged, respectively, in electrical contact with said cap and rod, an insulated swingable lead for each said slip ring, having a terminal at one end thereof loosely encompassing its respective slip ring to make erratic electrical contact therewith upon rotation of its respective swingable lead about said rod, a plurality of parallel connected light indicating devices connected between said swingable leads, and reflector tinsel means on said insulated swingable leads to increase the sparkling effect when said swingable leads are rotated about said rod, whereby when said switch is closed and said swingable leads are rotated about said rod, erratic electrical contact is made with said slip rings and unpredictable random flashing on and off of said light indicating devices occurs.

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