United States Patent

Pearce

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[54] ILLUMINATED MAGIC WAND

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[52] **U.S. Cl.** **46/228**

[51] **Int. Cl.** **A63h 33/26**

[58] **Field of Search** .....46/228; 240/6.4, 6.42, 10.63, 240/10 B

[56] **References Cited**

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[57] **ABSTRACT**

A toy in the form of a wand having a handle part and an extending translucent stem part. Within the handle part is a battery, a mercury switch and a bulb positioned so that the bulb can be energized by tilting the wand with the light being transmitted through the translucent stem to its end. A contact member extends from the bulb inwardly within the handle. At the base of the handle is a rotatable knob which can actuate a contact disc to engage or disengage from the contact member so that the bulb circuit can be cut off when desired, so that the bulb does not go on unless it is intended that it should come on.

6 Claims, 8 Drawing Figures

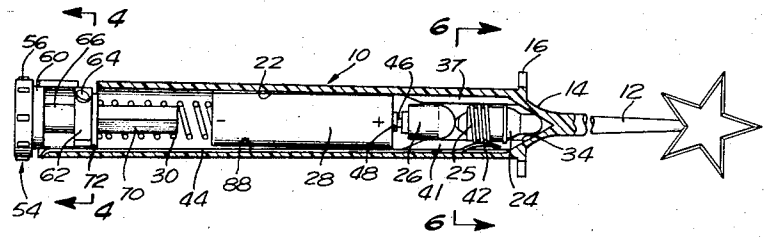


FIG. 1.

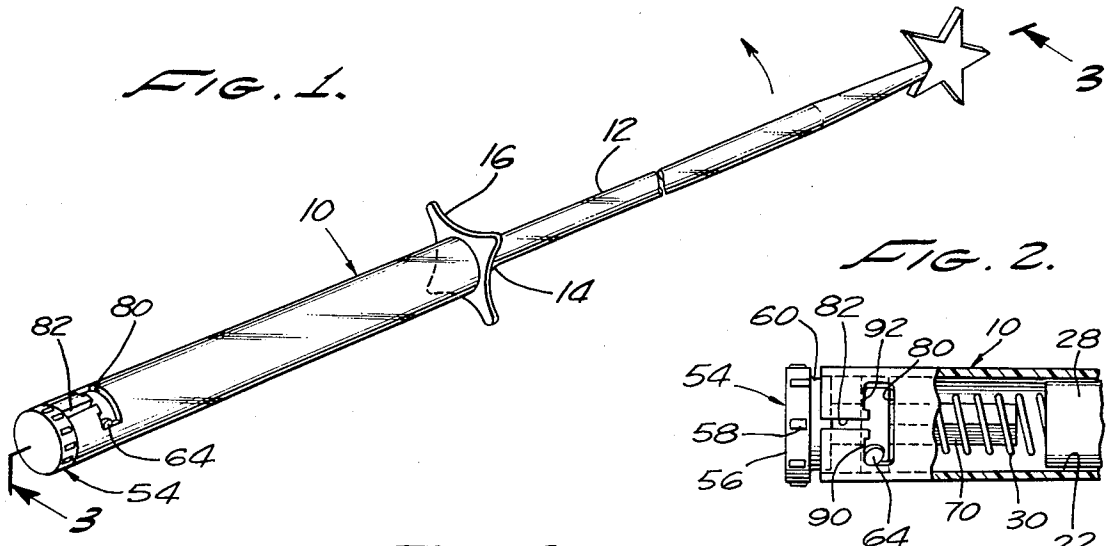
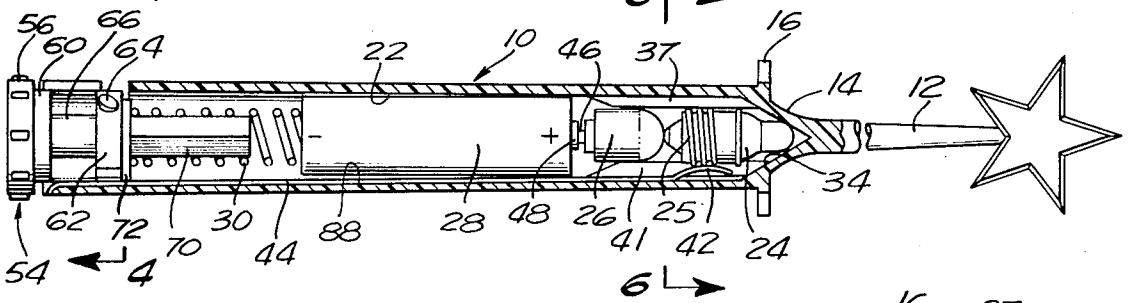


FIG. 2.

FIG. 3.



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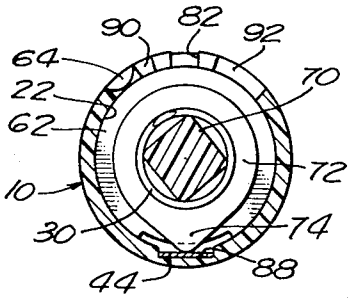

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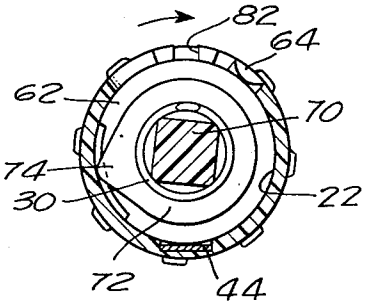

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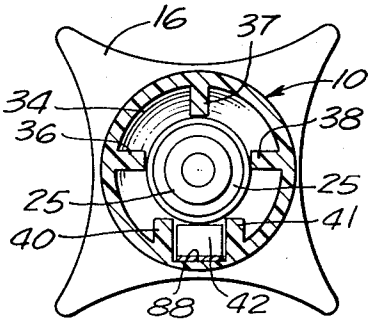


FIG. 7.

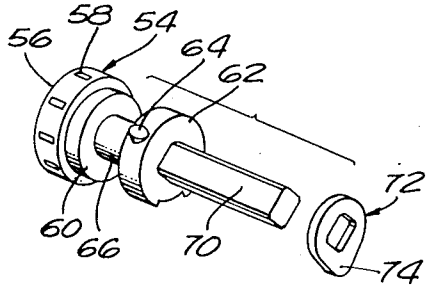
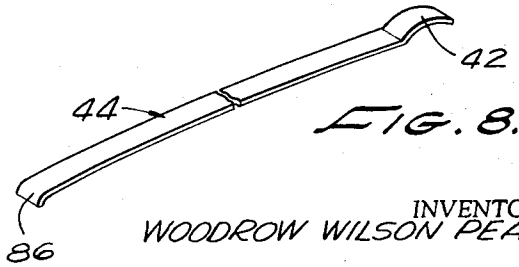


FIG. 8.



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ILLUMINATED MAGIC WAND

SUMMARY OF THE INVENTION

The invention is a toy in the form of a wand having a handle and an extending stem which is translucent. The invention is intended primarily as a toy or plaything for children. Preferably the entire wand is made of plastic.

In a preferred form of the invention as disclosed in detail herein, the handle is a tube of transparent plastic having in it a bulb, a cartridge type mercury switch, a battery and manually actuated contact means controlling the bulb circuit. The wand has a stem in the form of a translucent plastic rod extending from the handle, the bulb being positioned so that when it is on, the wand is illuminated by way of light being transmitted through the translucent rod. The mercury switch is positioned so that the wand can be tilted to cause the mercury switch to turn on and off thus turning the bulb and the illumination on and off, these positions being near the horizontal position of the wand, so that when the wand is actuated in the typical manner of a magic wand, the illumination will appear and disappear.

A rotatably knob is provided at the base end of the hollow handle which actuates a disc type contact which is engagable with an elongated contact member that extends rearwardly within the hollow handle from the bulb to the rear part of the handle. Thus, by simply rotating the knob, the bulb circuit can be cut off to prevent the illumination from being turned on inadvertently when not desired.

The primary object of the invention is to provide a novel and fascinating toy in the form of an illuminatable wand in which illumination is turned on and off by way of tilting of the wand, the wand embodying improvements by way of additional manually operable contacts for interrupting the illuminating circuit.

Another object is to provide improvements wherein the wand is constructed integrally of plastic having a hollow plastic stem and a solid plastic rod extending forwardly therefrom with a light bulb, cartridge type mercury switch, battery, and manually actuated contacts provided in the hollow handle.

Another object is to particularly improve devices in this category by way of provision of a contact strip extending rearwardly from the bulb and cooperable with a rotary type disc contact for connection and disconnecting the bulb circuit.

BRIEF DESCRIPTION OF THE DRAWINGS

Further objects and additional advantages of the invention will become apparent from the following detailed description and annexed drawings.

FIG. 1 is a perspective view of a preferred form of the invention;

FIG. 2 is a partial broken view of the rear part of the handle of the wand;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 1;

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 3;

FIG. 5 is a sectional view similar to FIG. 4 with the end knob in its other position.

FIG. 6 is a sectional view taken along the line 6—6 of FIG. 3;

FIG. 7 is a detail view of the manually operable contact mechanism; and

FIG. 8 is a view of the contact strip which extends rearwardly from the bulb to the manual contacting mechanism.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in more detail to the various figures of the drawings, the wand as shown in FIG. 1 has a tubular clear plastic handle part 10 from which extends an integral solid rod or stem part 12, which is also made of clear translucent light transmitting plastic. The wand may have a tapered part 14 as shown between the tubular part 10 and part 12, or on the other hand there may be a square shoulder at this part, the tubular part 10 having an integral scalloped flange 16 as shown to provide a spacer between the handle 10 and the stem 12, for ornamental artistic purposes. Also at the end of the stem 12 preferably there is provided an ornamental part or configuration which in this particular embodiment is shown as being in the shape of a star made of the same plastic material.

The handle part 10 is tubular as stated, having a bore 22 and within this bore there is provided a small flashlight type bulb 14, having a base 25; a cylindrical cartridge type mercury switch 26; a flashlight type battery 28; and spring 30.

Bore 22 has an internal taper 34 as shown where the handle part 10 is joined to stem 12, and the bulb 24 is urged into the conical bore formed. Formed within the bore 22 inside of the handle 10 adjacent to the part 16, there are equally spaced inwardly extending ribs 36, 37 and 38, as may be seen in FIG. 6, which serve to position the bulb 25 and the mercury switch 26. Generally opposite to the rib 37 is a pair of ribs 40 and 41 which form between them a guide channel for the end part of 42 of an elongated contact strip 44, which extends longitudinally within the handle 10 as shown. End part 42 is bent out of the plane of the strip and forms a contact which engages with the base 25 of the bulb 24.

Mercury switch 26 is a commercially available type, it being a relatively small, cylindrical unit that is bullet shaped, or dome shaped, and abutting against and engaging the end contact of the bulb 25. At its other end it has an extending contact 46 which engages the end contact 48 of battery 28. The electrodes within the mercury switch 26 are positioned so that it will be engaged by the mercury to complete a circuit when the wand is at or near generally a horizontal position.

Within the end of the tubular handle 10 there is a fitting which is designated generally by the numeral 54. This fitting is preferably made of plastic as is the other construction as shown in detail in FIG. 7. It comprises circular end knob 56 having circumferential ribs 58. Adjacent to this knob is a disc part 60 having a diameter to fit snugly into the end of the tubular handle 10. Spaced from the disc part 60 is another disc 62 having a short extending projection 64. Between the discs 60 and 62 is stem part 66 and extending from the disc 62 is a square stem part 70 that extends into the spring 30 and forms a retainer for the spring. Fitting against the disc 62 is disc-like contact member 72 having projecting contact part 74 that is adapted to engage with the contact part 42 of strip 44. Tubular handle 10 has an arcuate slot as designated as 80 positioned to have the projection 64 on disc 62 move in it when the part 54 is in position in the end of handle 10. Between the arcu-

ate slot 80 and the end of the handle 10 there is axial slot 82 whereby the end part of the handle 10 can be expanded to allow withdrawal of the part 54, the projection 64 moving out through the slot 82. The contact strip 44 extends all the way to the end of the handle 10. At its end it has an outwardly bent tab 86 that engages in a notch 88 at the end of the handle 10 as shown.

The rear side of the arcuate slot has notches in it as designated at 90 and 92 to provide two fixed or set positions for the projection 64 in the arcuate slot which are on and off positions with respect to the circuit for the bulb 25. As may be seen, in one position of the end knob 56, the projecting part 74 of contact member 72 engages with the contact part 42 and in the other position of the end knob 56, the part 74 of disc contact 72 does not engage the contact part 42 and the circuit is interrupted. Thus it is possible for the user or operator whenever desired, simply by turning the knob 56 to make the circuit inoperative so that bulb 25 would not be inadvertently turned on by reason of the wand being in a position to close the contacts of mercury switch 26. Contact disc 72 has a square hole in it so that it fits onto the square stem 70 and is held against the disc 62 by the spring 30. As will be observed, spring 30 also urges the battery and mercury switch against the bulb 25. Mercury switch 26 is readily removable and is reversed whereby to change the angular position of tilt at which it is actuated.

Thus as can be observed the parts are very easy to assemble manually, and it is equally easy to disassemble them to replace a battery or other part. To do so does not require the removal of any screws or other fasteners, yet the assembly is very sturdy and reliable.

From the foregoing, those skilled in the art will readily understand the nature and construction of the invention and the manner in which it achieves and realizes the objectives and advantages as set forth in the foregoing. The toy wand provided is a fascinating device having substantial entertainment value. Its design and construction is such as to provide for maximum ease of fabrication of parts, use of very inexpensive components and equal ease of assembly so that desired economy is realized.

The foregoing disclosure is representative of a preferred form of the invention and is to be interpreted in an illustrative rather than a limiting sense, the invention to be accorded the full scope of the claims appended hereto.

What is claimed is:

1. A toy in the form of a wand comprising a stem of light transmitting translucent material, the wand having a hollow tubular handle; a light bulb within the handle positioned to cause light to be transmitted along the stem; battery means within the stem; a mercury switch in the form of an integral cartridge positioned between the bulb and the battery means; means biasing the battery means to hold the mercury switch in position between it and said bulb, the bulb being urged against an end of the tubular handle, the bulb, mercury switch and battery being free to slip out of said handle by release of the biasing means, and manually operable switch means carried by said handle and operable to disconnect the circuit to said bulb, the mercury switch being operable between open and closed positions by tilting of the wand.

2. An article as in claim 2, including a rotatable end plug carried by the said handle and said switch means being constructed to be operable by rotation of the said end plug.

3. An article as in claim 2, wherein said end plug is removable for removal of the bulb, mercury switch, and battery, said mercury switch being reversable in position whereby to energize the bulb by tilting of the wand either upwardly when the mercury switch is in one position or downwardly when the mercury switch is in the opposite position.

4. An article as in claim 1, wherein said stem and handle are formed integrally of plastic.

5. An article as in claim 2, including an electrically conductive metal strip extending longitudinally within said handle at one side thereof having contact with said bulb at one end, said switch means comprising a disc member rotatable about the axis of the handle and means whereby in one position, the said disc member closes a gap in an electric circuit between the said battery and through said conductive strip to the bulb.

6. An article as in claim 5, including a slot formed in said tubular handle, said end plug having a projection movable in said slot and said slot having configurations engageable with said projection whereby to hold said end plug in positions to complete and to interrupt the electrical circuit to said bulb means.

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