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R. A. YAGJIAN

3,191,344

ILLUMINATED AERIAL TOP

Filed Feb. 19, 1962

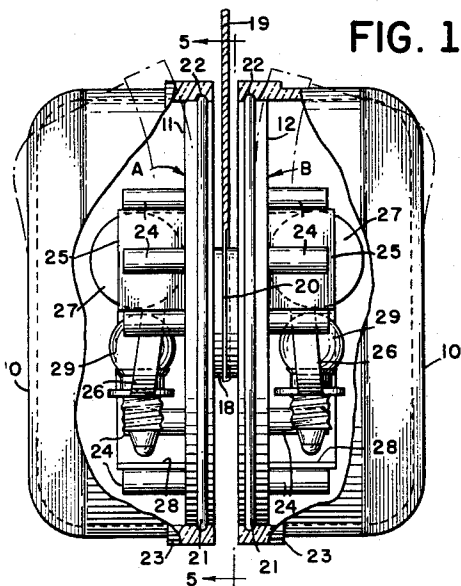


FIG. 1.

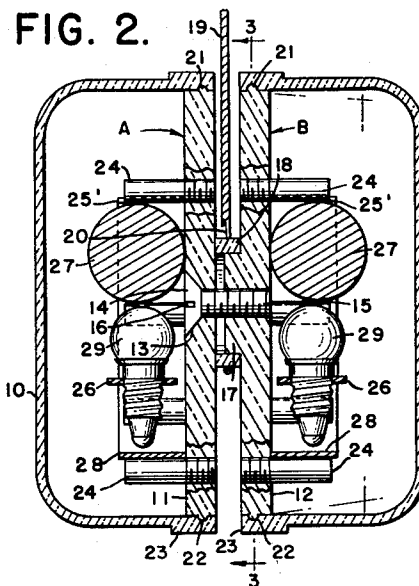


FIG. 2.

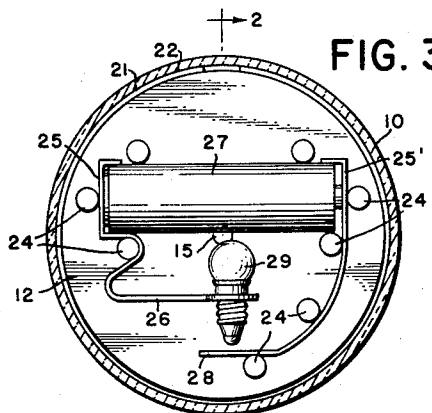


FIG. 3.

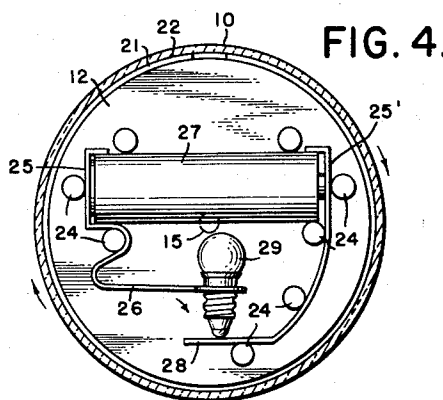


FIG. 4.

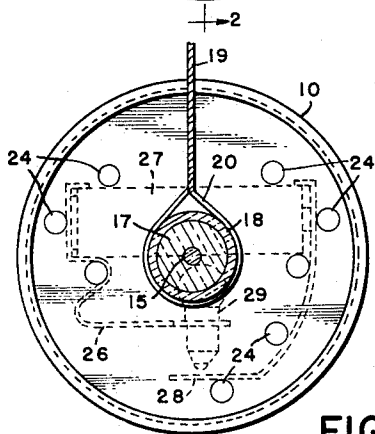


FIG. 5.

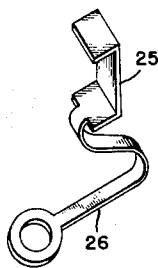


FIG. 6.

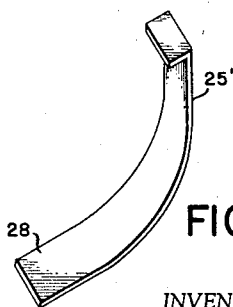


FIG. 7.

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1 Claim. (Cl. 45-228)

The present invention is an illuminated toy, the toy being known in the art as a "Yo-yo," an object of which is to provide a "Yo-yo," operated by manual dexterity, the centrifugal force of the spinning "Yo-yo" closing electrical circuits, to illuminate the "Yo-yo," the electrical circuits automatically opening, when the "Yo-yo" stops spinning.

Other objects of the invention are to provide a toy composed of a non-frangible casing, preferably made of translucent colored plastic, the casing comprising a pair of cups or shells each of which carries a self-contained illuminating unit, automatically operable, by spinning the casing, to effect illumination in both cups or shells while the toy is spinning, through the "Yo-yo" cord being expended and retracted; to provide a toy of relatively simple construction for economical manufacture and to permit facile opening and closing of the toy replacement of batteries and light bulbs; to provide a compact illuminated "Yo-yo," the parts of which are positively held from displacement during normal use; and to provide an illuminated "Yo-yo" which permits the "Yo-yo" to "sleep," while illuminated, to obtain such patterns of movement as "rocking the cradle"—"walking the dog"—"around the world," etc., which may presently be done by a dexterous manipulator of conventional "Yo-yos," and this also effects a flashing during vibratory travel of the "Yo-yo" on a floor or other surface.

Other objects of this invention will be manifest from the following description of the present preferred form of the invention, taken in conjunction with the accompanying drawing, wherein:

FIG. 1 is an elevational view of an illuminated "Yo-yo" constructed in accordance with this invention, parts thereof being broken away to disclose details, and with parts shown in dotted lines indicating the position of the cups or shells when separated from the electrical units;

FIG. 2 is a vertical sectional view taken on the line 2-2 of FIG. 3, looking in the direction of the arrows;

FIG. 3 is a vertical sectional view taken on the line 3-3 of FIG. 2, looking in the direction of the arrows, and showing the light bulb out of contact;

FIG. 4 is a similar view showing the light bulb in contact, for closing the circuit;

FIG. 5 is a vertical sectional view taken on the line 5-5 of FIG. 1, looking in the direction of the arrows;

FIG. 6 is a perspective view of a combination battery contact strip and supporting bracket for an electric light bulb; and

FIG. 7 is a perspective view of a battery contact strip and contact for the electric light bulb.

The device of this invention includes a pair of cups or shells 10 which may be wholly or partly translucent and preferably made of non-frangible plastic. The cups are adapted for the reception of self-contained illuminating units A and B mounted in the cups and secured together in the manner shown in FIG. 2. The units A and B are of almost identical construction with the exception of a difference in the discal bases 11 and 12 of the units. The base of the unit A is provided with an axial bore which issues into a bevelled recess 13 adapted for the reception of a complementary head 14 formed on a screw 15. The head is provided with a kerf 16 and is counter-sunk in the recess 13, as advantageously illustrated in FIG. 2. The shank of the screw 15 is threaded into a complementary bore formed axially in the disk 12, including a boss or enlargement 17. The boss 17 is circumscribed by a ring

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18, the opposite edges of which latter are contiguous to the opposed faces of the discs 11 and 12. By this arrangement the illuminating units A and B are held together through the medium of the screw 15 in conjunction with the ring 18, also as illustrated to advantage in FIG. 2. This means for securing the units together also provides the medium by which the "Yo-yo" is supported when being used through a conventional "Yo-yo" cord 19. The inner end of the cord 19 is convoluted, as indicated at 20, so as to permit its being loosely looped around the ring 18 for a purpose more fully hereinafter described. The peripheries of the discs 11 and 12 are provided with suitable means complementing the structure on the inner walls of the shells or cups 10 adjacent the inner free edges of the latter. In the present instance, the means is shown to consist of protrusions 21 which are adapted to be snapped into complementary recesses 22 formed in the reinforced margins 23 of the free inner edges of the shells. The protrusions 21 may be continuous or interrupted, with sufficient purchase to hold the cups or shells in frictional engagement with the disks 11 and 12.

Each of the illuminating units A and B additionally includes a plurality of strategically positioned pins 24 adapted for the reception of a combination battery-engaging plate 25 and electric light bulb supporting bracket 26 made of yieldable metal. The plate 25 is shaped to conform to the contour of one end of a battery 27 within the confines of a pair of pins 24, as illustrated to advantage in FIGS. 3 and 4. A second battery-engaging plate designated 25' is also employed, one end of which, indicated at 28, forms a contact for the electric light bulb of its unit to close the electrical circuit under certain conditions. Each of the brackets 26 is adapted to have screw-threaded therein an electric light bulb 29.

As is believed to be apparent from the above description, taken in conjunction with the accompanying drawing, when the "Yo-yo" is subjected to centrifugal action under manipulation of the "Yo-yo" cord 19, the circuits are closed by reason of the contact of the bulbs 29 with the contact plates 28. When the spinning stops, the bulbs are flexed away from the contact plates 28 under the influence of the brackets 26.

In use of this device, after the convoluted end 20 of the cord has been looped around the ring 18, the cord is then wound around said ring until only an operating length of the cord remains extended beyond the perimeter of the "Yo-yo." This is the operating end of the cord which is usually looped for engagement over a finger of the user, and by manual dexterity the cord is successfully expended and retracted in order to set up the centrifugal action of the "Yo-yo" to effect lighting of the units A and B. It is to be understood that the "Yo-yo" of this invention is adapted to be manipulated after the fashion of a conventional "Yo-yo" in the hands of a skillful manipulator, so as to obtain special patterns of movement while illumination of the "Yo-yo" is maintained. Also, where vibratory travel of the "Yo-yo" is effected on the floor or other surface, under skillful operation of the "Yo-yo" cord a flashing effect of the electrical units may be obtained.

While there is herein shown a preferred form of the invention, nevertheless it will be obvious that various changes may be made within the scope of the claim hereto appended.

What is claimed is:

An illuminated "Yo-yo" including a pair of translucent cups, means for detachably connecting said cups in spaced relation, a plurality of pins mounted in each cup, each cup containing an illuminating unit comprising a combination battery-engaging plate and electric light bulb supporting bracket, of resilient, electrically conducting material, the battery-engaging plate being shaped to con-

form to the contour of one end of a battery within the confines of a plurality of said pins, and a second battery-engaging plate of electrically conducting material, said plate being shaped to engage and be supported by the other end of the battery within the confines of a second plurality of said pins, one end of said plate forming a contact for the electric light bulb normally spaced therefrom, and a cord, one end of which is convoluted on said means for effecting spinning of the "Yo-yo," under manipulation of the free end of the cord, for lighting said units by vibrating the resilient brackets, or opening and closing the circuits.

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