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W. LEIBOWITZ ET AL
MANUALLY AND AUTOMATICALLY OPERABLE SLEEPING DOLL EYE
UNIT, PARTICULARLY FOR PUPPETS
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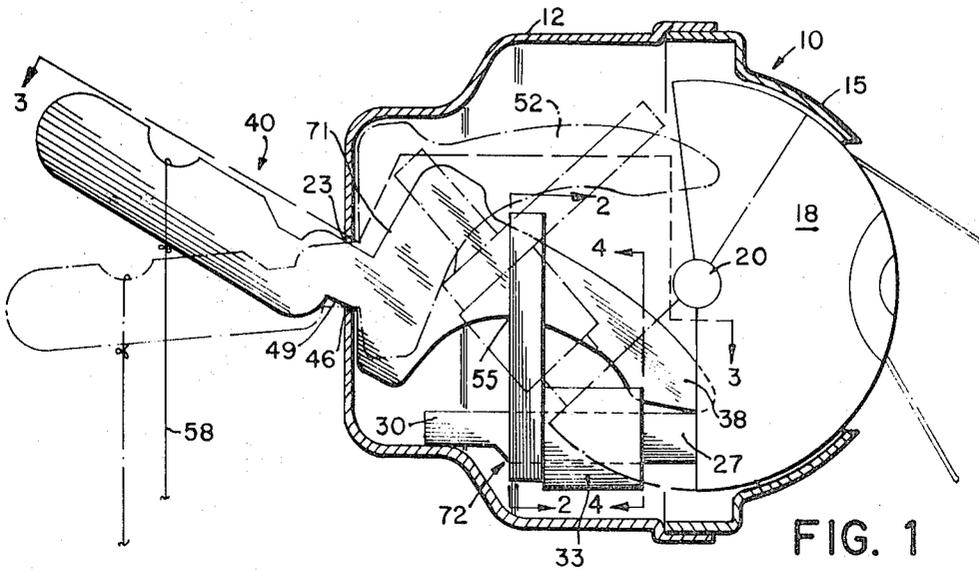


FIG. 1

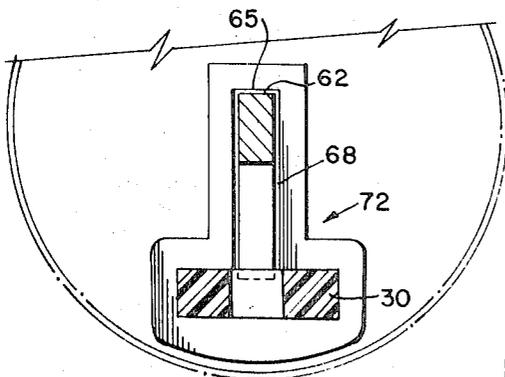


FIG. 2

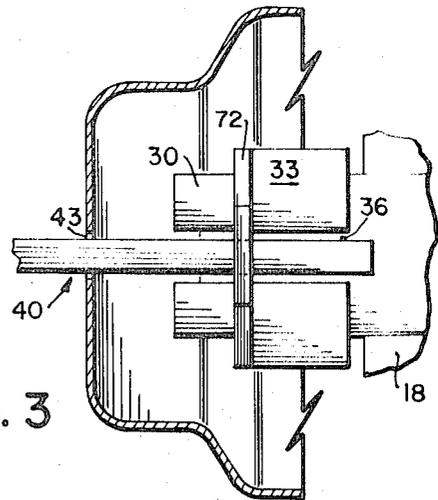


FIG. 3

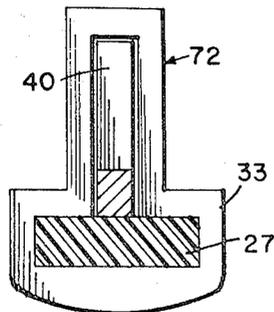


FIG. 4

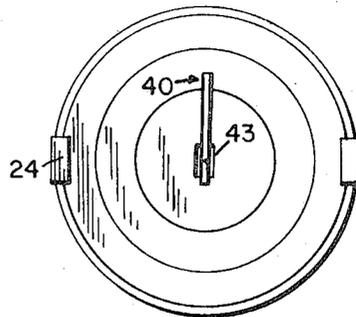


FIG. 5

INVENTORS

WILLIAM LEIBOWITZ
FRANK DeLISE

BY *Albert M. Zalkind*

ATTORNEY

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MANUALLY AND AUTOMATICALLY OPERABLE SLEEPING DOLL EYE UNIT, PARTICULARLY FOR PUPPETS

William Leibowitz, Flushing, and Frank De Lise, Staten Island, N.Y., assignors to Dollac Company, Division of Jacoby-Bender, Inc., Woodside, N.Y.

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10 Claims

ABSTRACT OF THE DISCLOSURE

This invention relates to eyes for toys and particularly to an eye for use with puppets, which can open and close automatically in the usual manner or be actuated manually. Such an eye is particularly advantageous for use with puppets. A particular constructional feature is the provision of a lever carried by the rear shell of a conventional eye unit of the sleeping type which coacts with a bracket carried by the eyeball. The lever is manually actuable as by a string or rod for rotating the eyeball to closed position and has a lost motion connection with the bracket so that the eyeball may be weight actuated in the usual manner for automatic opening and closing.

Briefly, the invention contemplates the use of a unitary type of doll eye, heretofore well known and presently widely used, and which comprises a pivotally mounted eyeball in a housing and carrying a weight which actuates the eyeball to open and closed position. To the above described conventional eye unit there is added a manually operable lever which protrudes into the housing through a rear slot and is formed with a notch so as to effect assembly with the rear shell portion of the housing and is retained thereby. The eyeball tail is of usual construction, carrying a weight, and it also carries a bracket having an elongated slot in a vertical plane. A forward portion of the lever is slidably accommodated in the slot. This effects a lost motion connection between the lever and the eyeball so that the weight can actuate the eyeball free of interference with the lever. The lever extends outwardly of the rear shell to any convenient distance for attachment thereto of a string or wire which may be manually manipulated to close the eye. Release of the string or rod permits the eye to automatically open by virtue of the weight carried by the eyeball.

A detailed description of the invention now follows in conjunction with the appended drawing in which:

FIG. 1 is a longitudinal cross section in elevation of a conventional weight operated doll eye combined with the eyeball actuating lever;

FIG. 2 is an elevation in section through 2-2 of FIG. 1;

FIG. 3 is a generally horizontal view taken on the section line 3-3 of FIG. 1;

FIG. 4 is a section in elevation through 4-4 of FIG. 1, and

FIG. 5 is an exterior rear view of the housing and lever.

It will be appreciated that the several views are not drawn to the same scale, FIGS. 2, 3 and 4 being to a somewhat larger scale than FIG. 1 and FIG. 5 being to a somewhat smaller scale.

Referring now to the drawing, the invention comprises the usual housing 10 having a rear shell 12 and an apertured front shell 15 with an eyeball 18 visible through the aperture and pivotally carried by means of trunnions such as 20 having rotative support in side housings 24. The eyeball is preferably of plastic and carries an integral-

ly molded tail 27 which divides into tongues 30 at approximately the outer end of the metal weight 33 which is wrapped therearound in the usual manner. The weight 33 has opposed ends which are spaced as by a spacing 36 to accommodate the tip 38 of a manually operable lever 40 when such lever is in the solid line position shown in FIG. 1.

The rear shell 12 is provided with a slot 43 through which lever 40 protrudes and is carried therein, having freedom of pivotal motion on a fulcrum point 46 which is the corner of a notch 49 provided in the lever. The notch is provided so that it can be readily assembled in the slot and retained therein.

The portion 52 of the lever 40 which is within the housing is provided with an arc formation 55 to provide clearance, as shown in phantom, for the upwardly swinging weight support tail 27 when the lever is pulled downwardly to the phantom position as by a string or wire 58 attached to the outer end. When the lever is pulled downwardly, a forward upper edge portion 62 of the lever engages the top edge 65 of an elongated vertical slot 68 of a bracket member 72 carried on the tongues 30. Such engagement causes lifting of the bracket and rocking of the eyeball to the sleeping position as shown in phantom lines. The tongues 30 straddle the thickness of the lever portion 52 so that there is no interference with the eyeball tail.

The lever is shaped at the rear portion 71 so that it engages the inside surface of the rear shell 12 as shown to form a motion limiting stop as will be readily understood.

The string 58 will, of course, be understood to be led suitably out of a doll or puppet body so as to be readily grasped by an operator manipulating the device, the details of such arrangement not being part of the present invention and accordingly not being illustrated but being well known in the art. It will be further understood that a wire or rod may be used in place of a string or for that matter the lever may be extended to a point outside a puppet or doll head for direct actuation.

Inasmuch as there is a lost motion connection between the lever portion 52 and the slot 68 of bracket 72, the eyeball can be actuated by the weight 33 without interference with the lever, this being to open and closed positions in the usual manner. When the lever 40 is used to close the eye, the weight 33 is relied on to effect opening upon release of the lever. However, due to the fact that the tip 38 of the lever fits readily in the spacing 36, the forepart of the lever bears downwardly on the tail 27 and therefore augments the effect of the weight 33 in maintaining the eyeball in open position. Due to the lost motion connection, the eyeball can readily close under weight actuation, although it can be maintained in open position, defeating the weight if the lever is compelled to remain in a solid line position shown in FIG. 1. This can, of course, be readily accomplished by an upwardly rising string or by the use of a rod or by manipulating the lever directly.

The bracket 72 is of extremely simple construction and is merely a T-bar with a T-slot wherein the horizontal slot is force fitted on the tongues 30 and may be slightly crimped therein for secure holding. Preferably, for rigidity, bracket 72 is contiguous with the rear face of weight 33 as shown.

Since the eyes of a doll or puppet can be individually closed by use of the invention described herein, a winking effect can be achieved by closing one eye and permitting it to open. Likewise, blinking effects of both eyes operated simultaneously can be achieved.

What is claimed is:

1. A manually and automatically operated sleeping doll eye unit comprising a housing having a pivotal eyeball therein, and said housing having a rear shell, said

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eyeball having means including a weight at a rear portion thereof operative to effect a closed position of said eye or an open position thereof depending upon orientation of said housing; a lever pivotally carried by said rear shell and having a portion external of said rear shell accessible for manipulation and an internal portion within said housing; a lost motion connection means between said lever and said eyeball whereby said eyeball is actuable by said weight independently of said lever and whereby said lever may be manipulated to actuate said eyeball, said lever and said lost motion connection means coacting so that said lever can actuate said eyeball when said lever is pivoted in one direction and can hold said eyeball in weight actuated position by engagement therewith when said lever is pivoted in the opposite direction.

2. A manually and automatically operated sleeping doll eye, comprising a housing having a pivotal eyeball therein, said eyeball having means including a weight at a rear portion thereof operative to effect a closed position of said eye or an open position thereof depending upon orientation of said housing; a lever pivotally carried by said housing and having a portion external of said housing accessible for manipulation and an internal portion within said housing; a lost motion connection means between said lever and said eyeball whereby said eyeball is actuable by said weight independently of said lever and whereby said lever may be manipulated to actuate said eyeball, said lost motion connection means comprising a bracket secured to said eyeball and having a slot, said internal portion of said lever protruding into said slot; said bracket having lost motion movement relative to said lever when said lever is stationary and said eyeball is weight actuated; said slot having an edge engageable by said lever upon manual actuation of said lever whereby by virtue of said lost motion connection means said eyeball is movable independently of said lever by actuation of said weight and manual movement of said lever effects engagement of said internal portion of said lever with said edge of said slot to effect pivoting of said eyeball.

3. A doll eye as set forth in claim 2, said lever having a notch, said housing having a rear shell with a slot, said lever being carried in said rear shell slot and said notch engaging an edge of said rear shell slot for pivotal support thereon.

4. A manually and automatically operated sleeping doll eye unit, comprising a housing having a pivotal eyeball therein, said eyeball having means including a weight at a rear portion thereof operative to effect a closed position of said eye or an open position thereof depending upon orientation of said housing; a lever pivotally carried by said housing and having a portion external of said housing accessible for manipulation and an internal portion within said housing; a lost motion connection means between said lever and said eyeball whereby said eyeball is actuable by said weight independently of said lever and whereby said lever may be manipulated to actuate said eyeball, said lever having a notch; said housing having a slot, said lever being pivotally carried therein and said notch engaging an edge thereof for pivotal support.

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5. A manually and automatically operated sleeping doll eye, comprising a housing having a pivotal eyeball therein, said eyeball having means including a weight at a rear portion thereof operative to effect a closed position of said eye or an open position thereof depending upon orientation of said housing; a lever pivotally carried by said housing and having a portion external of said housing accessible for manipulation and an internal portion within said housing; a lost motion connection means between said lever and said eyeball whereby said eyeball is actuable by said weight independently of said lever and whereby said lever may be manipulated to actuate said eyeball, said eyeball having a tail extending therefrom, said lost motion connection means comprising a bracket secured to said tail and having a vertical slot through which the internal portion of said lever protrudes; the vertical dimension of said slot being substantially larger than the corresponding dimension of said lever protruding there-through; said bracket having an upper portion closing said slot at its upper end and engageable by said lever when said lever is actuated to effect pivoting of said eyeball, said lever being normally in position to effect said engagement upon initial actuation of said lever, and said slot in said bracket permitting weight actuation of said eyeball independently of said lever without interference therefrom.

6. A doll eye as set forth in claim 5, said weight being carried on said tail intermediate said bracket and said eyeball and said internal portion of said lever being formed with an arc to effect clearance for movement of said tail.

7. A doll eye as set forth in claim 6, said lever being formed with a portion engageable with said housing to effect a motion limiting device when said lever is actuated.

8. A doll eye as set forth in claim 7, said housing having a rear shell and a housing slot therethrough, said lever being carried in said slot and having a notch engaging an edge thereof for pivotal support.

9. A doll eye as set forth in claim 7, said tail comprising a pair of spaced tongues, the thickness of said lever being less than the spacing of said tongues whereby said tongues straddle said lever when said eyeball is actuated to sleeping position.

10. A doll eye as set forth in claim 7, said housing having a rear shell and a housing slot therethrough, said lever being carried in said slot and having a notch engaging an edge thereof for pivotal support; said tail comprising a pair of spaced tongues, the thickness of said lever being less than the spacing of said tongues whereby said tongues straddle said lever when said eyeball is actuated to sleeping position.

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F. BARRY SHAY, Primary Examiner