Oct. 21, 1958 A. BASHOVER 2,856,730

TOY EYE

Filed July 26, 1954

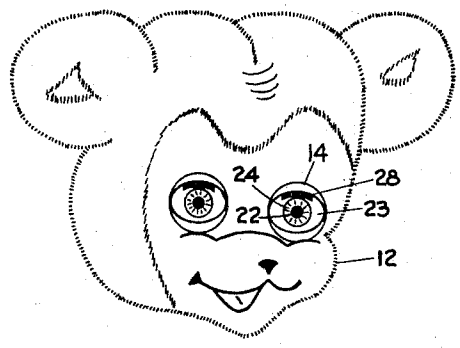


FIG. 1

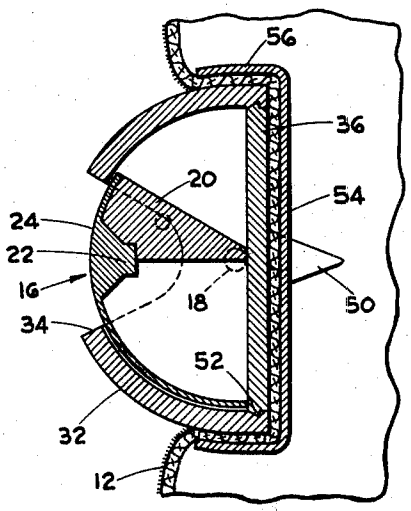


FIG. 2

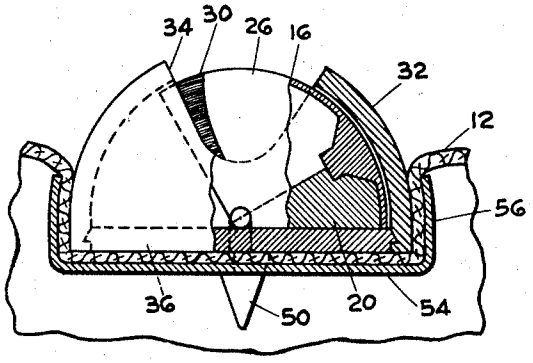


FIG. 3

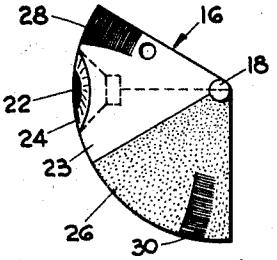


FIG. 4

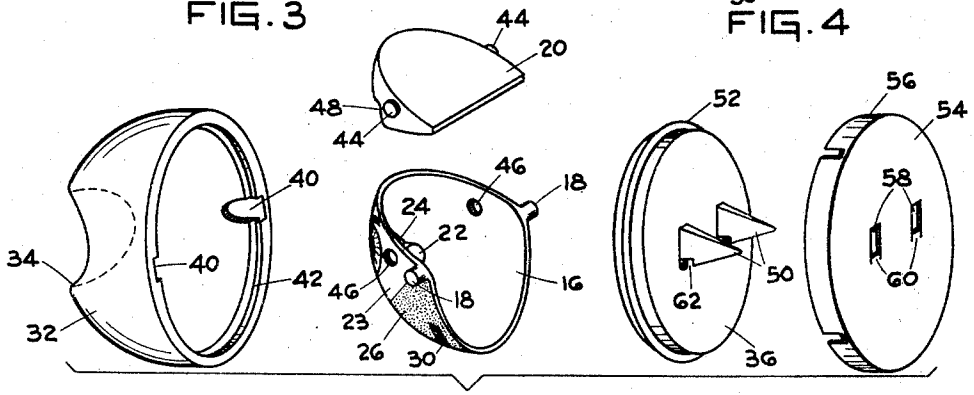


FIG. 5

INVENTOR.
ALBERT BASHOVER
BY
James and Franklin
ATTORNEYS

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TOY EYE

Albert Bashover, Livingston, N. J., assignor to Margon Corporation, Bayonne, N. J., a corporation of New Jersey

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This invention relates to facial accessories for toy figures, and more particularly to so-called "sleeping eyes."

Sleeping eyes for dolls and other toys are already known. They are usually gravitationally operated by means of a pendulus weight which hangs downward as the doll is turned from upright to horizontal position, or vice versa, thus causing the eye to simulatedly close or sleep. A partial tilt of the doll will cause a partial closing of the eye.

The primary object of the present invention is to generally improve facial accessories and more particularly sleeping eyes. A more particular object is to provide a facial accessory or sleeping eye which is unstable, and has a quick over-the-center action, so that the eye remains fully open when the toy is in generally upright position, and abruptly and instantly changes to a fully closed position when the toy is in generally horizontal position, there being no inbetween positions for the eye, and consequently no partial closing thereof. The change-over takes place at an angle somewhere between upright and horizontal, say at about 45°.

Another object of the present invention is to provide a sleeping eye and a weight to operate the same, which weight is disposed wholly within the eye itself.

Still another object is to provide an individual eye assembly comprising a housing and an eye pivoted therein, in which the housing is approximately hemispherical and has a flat back. Such an eye is particularly well suited for use with soft stuffed fabric animal toys.

Another object of the invention is to provide means for securing the housing to the fabric toy, and means to draw or embed the rear portion of the housing within the toy, thereby improving the appearance of the toy, and minimizing the possibility of a child's prying the eye assembly away from the toy.

A still further object of the invention is to provide the eye with a simple and inexpensive lash simulation, and to provide such a lash simulation when the eye is in closed as well as an open position. Further objects are to devise a construction characterized by ease and economy of manufacture and assembly.

To accomplish the foregoing general objects, and more specific objects which will hereinafter appear, my invention resides in the sleeping eye elements, and their relation one to another, as are hereinafter more particularly described in the following specification. The specification is accompanied by a drawing, in which:

Fig. 1 shows the upper part of the head of a stuffed animal toy having a sleeping eye assembly embodying features of my invention;

Fig. 2 is a vertical section through the eye assembly with the eye in open condition;

Fig. 3 is a similar section with the eye shown in closed or sleeping condition;

Fig. 4 is a side elevation of the eye itself; and

Fig. 5 is an exploded view, drawn in perspective, and showing each of the parts of the eye assembly.

Referring to the drawing, and more particularly to

Fig. 1, I there show the upper part of a stuffed animal toy made of a suitable pile fabric **12**, appropriately patternded and stitched to form the animal body, and thereafter stuffed to fill the same. Before stuffing the body, a pair of sleeping eye assemblies are secured thereto, one of these being shown at **14**.

Referring now to Figs. 2 and 3 of the drawing, the assembly comprises an eye generally designated **16**, pivotally mounted at **18** for opening and closing movement. The assembly further comprises a weight **20** for gravitationally operating the eye, and contrary to prior practice, the center of mass of the weight is located above and forward of the axis of the toy, when the eye is open, as shown in Fig. 2. Thus the eye is moved downward when the toy is in generally upright or waking position, and the eye is moved upward, relative to the toy, when the toy is in generally horizontal or sleeping position, as shown in Fig. 3.

It will be noted that the eye has pupil and iris simulations **22** and **24** (Fig. 4), and that it also has an eyelid simulation **26**, obtained by coloring the eye member with a flesh tint. Contrary to prior practice, the eyelid simulation **26** is disposed beneath the pupil and iris simulation **22**, **24**, so that the eye is open when in down position, and is closed when in up position.

In Fig. 4 it will be seen that the eye member **16** may be provided with two eyelash simulations, one indicated at **28** and the other at **30**. These are most simply printed or lithographed or otherwise suggested on the eye, with the lash **28** so located that it is exposed when the eye is open as in Fig. 2, and the lash **30** so located that it is exposed when the eye is closed as in Fig. 3.

The eye assembly is preferably an individual sleeping eye assembly, and comprises a housing **32** in which the eye **16** is pivoted. The housing is approximately hemispherical, and has an eye opening **34** at the front to expose the eye. The eye itself is a sector of a sphere which is substantially less than a hemisphere, as shown in Fig. 4, and this affords room or clearance for opening and closing movement of the eye within the housing, even though the housing preferably has a flat back, as shown at **36**.

Considering the specific illustrated construction in greater detail, and referring now to Fig. 5 of the drawing, the housing **32** in the present case is molded out of plastic, and as molded includes the eye opening **34**, and a pair of diametrically opposed bearing slots **40**. There is also an annular channel **42**, for a purpose later described.

The eye member **16** is also molded out of plastic, and as molded includes integral trunnions **18**. The eye member may be molded out of a transparent plastic, and in such case may include an inwardly projecting frusto-conical portion corresponding to the iris **24**, and a stud portion corresponding to the pupil **22**. A part **23** of the eye member outside the iris is colored white. The lower portion or eyelid portion is flesh colored. The iris color and the pupil black may be applied on the inside, or the transparent plastic may be slightly tinted and the iris portion serrated for iris color, and the pupil portion may be left transparent to look black. The lash simulations when used are applied on the outside.

The weight **20** is preferably die cast out of a suitable weighty metal. The piece is shaped like a narrow sector of a sphere, and includes outwardly projecting studs **44**. These are received in mating holes **46** in the eye member **16**. The forward bottom edge of the weight is cut away as indicated at **48** to mate with and rest against the rearwardly projecting pupil and iris portions **22**, **24**. The weight may be secured in the eye member by springing the parts together. It will be seen in Fig. 2 that the weight is received wholly within the eye member.

It will be understood from an inspection of Fig. 5 that the resulting eye and weight assembly may be slid into

the housing 32, the trunnions 18 being slidably received in the bearing slots 40. Thereafter the bearing slots and the entire back of the housing are closed by means of the back plate 36. This too may be molded out of plastic, and in such case is integrally molded with a pair of rearwardly projecting tangs 50. The periphery of plate 36 preferably has a lock rim 52. This is shaped to mate with the channel 42 previously referred to. The manner in which the parts are sprung together and thereafter interlocked will be clear from an inspection of Figs. 2 and 3.

When the back plate has been added the eye assembly is substantially complete except for a lock disc, which is not essential but which is preferred. This is shown at 54 in Figs. 2, 3 and 5 of the drawing. It is preferably stamped out of sheet metal, and has a peripheral flange of substantial width, as shown at 56. It is also provided with a pair of slots 58 dimensioned to receive the tangs 50. The lower end portions of the slots 58 are cut but retained to form locking tongues 60. The tangs 50 have mating recesses 62. When the tangs 50 are pushed through the slots 58 the parts are locked together because the tongues or detents 60 spring into the recesses 62.

From an inspection of Figs. 2 and 3 it will be seen that the flange 56 projects forwardly and is slightly larger in diameter than the housing 32. The eye assembly is disposed on the outside, and the tangs 50 are pushed through the fabric 12, following which the lock disc 54 is applied on the inside and forced over the tangs. Thus the fabric is clamped between the housing and the lock disc, and the latter serves to not only strengthen the attachment of the eye assembly, but also to bend the fabric forward around the eye assembly, or more properly viewed, the lock disc forms a recess and draws the rear part of the eye assembly into the toy body. This has the advantage of improving the appearance of the toy, and also minimizing the opportunity for a child to pry the eye away from the body, and eventually off the toy.

It is believed that the construction and method of assembly and use of my improved sleeping eye, as well as the advantages thereof, will be apparent from the foregoing detailed description. The improved sleeping eye has a quick over-the-center or snap action, so that it remains either open or closed, and avoids an unsightly partially closed position. This results from the unstable equilibrium in which the weight is disposed, in contrast with the prior pendulum action heretofore used. The eye assembly is extremely compact, the housing being no greater than a hemisphere with a flat back, and thus is ideally adapted for use with stuffed toys. This compactness is made possible largely because the weight itself is confined wholly within the eye member, which in turn is even less than a hemisphere in dimension.

Because of its hemispherical shape the eye assembly may be secured wholly on the outside of a toy, but the present eye includes a lock disc disposed inside the toy and which serves to recess the eye partly into the toy. This strengthens the attachment of the eye to the toy, and prevents prying the eye from the toy. Moreover, the appearance of the toy is improved with the eye recessed as here shown.

A lash simulation may be provided in a simple and inexpensive manner, and the lash is visible in either open or closed position of the eye. Although this is preferably done by the use of two lash simulations, and although the eye simulatedly closes from the bottom up, these characteristics of the eye are not apparent and are no real disadvantage in practice, because of the exceedingly rapid snap action of the eye. The movement or changeover takes place too rapidly for the observer to see more than the initial and final positions.

I have shown the eye made of a tinted transparent plastic with an integral lens portion (by which I mean the pupil and iris portion). This is in accordance with the teachings in U. S. patent to H. W. Samolewitz No. 2,657,500, granted November 3, 1953, and entitled "Transparent Doll Eye." However, the iris may be tinted from behind, and the pupil blakened, and also the eye may be made of metal with an inserted plastic lens, as taught in the U. S. patent to Samuel Marcus No. 2,254,232, granted September 2, 1941, and entitled "Doll Eye and Method of Making Same." It may also be a simple lithographed metal eye, in which case all coloring, including the pupil and iris and lash simulations, may be lithographed on the front of the metal eye.

I have shown the back plate of the housing made of plastic, with molded tangs. However, it will be understood that the back plate may be sheet metal with tangs excised and bent rearwardly therefrom. With such tangs the eye could be secured to the fabric by simply bending the tangs sideward after passing them through the fabric. A lock disc would not be essential, although it would still be desirable. The peripheral flange on the lock disc is not essential, but when used serves to draw the eye inward, so that it is partially embedded in the head.

Although I have illustrated the lash as printed on the outside of the eye, I have also made the present eye with a hair lash secured to the housing at the upper edge of the eye opening. In such case the lash remains in position with the eye in either open or closed position, but that is no disadvantage, because of the rapid action of the eye previously mentioned. The lash serves to conceal any difference in contour between the lid portion of the eye and the top edge of the eye opening. Such difference in contour is of no consequence with the printed lash, because the area occupied by the printed lash itself covers and compensates for the same.

It will also be understood that although the hemispherical housing is here shown molded out of plastic, it may be made of metal, and in lieu of integrally molded trunnions, a pivot pin may be used between the eye and the housing.

It will therefore be apparent that while I have shown and described my invention in a preferred form, changes may be made in the structure shown without departing from the scope of the invention, as sought to be defined in the following claims.

I claim:

1. A sleeping eye assembly for a toy, said assembly comprising an eye, means pivotally mounting the same for opening or closing movement, a weight for gravitationally operating the eye, the center of mass of said weight being located above and forward of the axis of the eye, whereby the eye is moved downward when the toy is in generally upright or waking position, and the eye is moved upward when the toy is in generally horizontal or sleeping position, said eye having a pupil and iris simulation and also having an eyelid simulation, the latter being disposed beneath the former, whereby the eye is open when in down position and is closed when in up position, and means to limit the movement of the eye to said open and closed positions.

2. An individual sleeping eye assembly for a toy, said assembly comprising a housing, an eye pivotally mounted in said housing, a weight for gravitationally operating the eye, said weight being located within the eye above and forward of the axis of the eye, whereby the eye is moved downward relative to the housing when in generally upright or waking position, and the eye is moved upward relative to the housing when in generally horizontal or sleeping position, said eye having a pupil and iris simulation and also having an eyelid simulation, the latter being disposed beneath the former, whereby the eye is open when in down position and is closed when in up position, and means to limit the movement of the eye to said open and closed positions, said eye further carrying two spaced lash simulations, one of which is exposed when the eye is open, and the other of which is exposed when the eye is closed.

3. An eye assembly as defined in claim 1, in which the eye is molded out of plastic, including an integral rearwardly projecting lens portion, and in which the weight member is metal, said weight member being shaped like a narrow sector of a sphere and being secured in the upper part of the eye with the forward part of the weight resting on the rearwardly projecting lens portion.

4. A facial accessory for a toy figure which includes a simulation of a facial part which may move, said accessory comprising a hemispherical housing adapted to be received in said figure and which is open at the front, a movable part in said housing and exposed through said opening, means pivotally mounting the movable part in said housing, said movable part being a sector of a sphere substantially less than a hemisphere to afford clearance for pivotal movement of said movable part within the housing, a weight wholly contained within said housing and secured to said pivoted part for gravitationally operating the same, the center of mass of said weight being located above and forward of the axis of the part, whereby the part is moved downward when the toy is in generally upright position, and the part is moved upward when the toy is in generally horizontal position, and means to limit the movement of the movable part to said open and closed positions.

5. An individual sleeping eye assembly for a toy, comprising a housing and an eye pivotally mounted therein, said housing being approximately hemispherical and having an eye opening at the front to expose the eye and being closed at the back by a cover plate which is generally flat at the back, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, said eye having a weight wholly contained within said housing and above and forward of the axis of the eye to move the eye to its down position when the housing is generally upright, and to move the eye to its up position when the housing is generally horizontal, said eye having pupil and iris simulation on the upper part of the eye to be visible when the eye is in down position, and said eye havnig an eyelid simulation on the lower part of said eye to be visible when the eye is in its up position.

6. An eye assembly as defined in claim 5, in which the eye is molded out of plastic, including an integral rearwardly projecting lens portion, and in which the weight member is metal, said weight member being shaped like a narrow sector of a sphere and being secured in the upper part of the eye with the forward part of the weight resting on the rearwardly projecting lens portion.

7. An individual sleeping eye assembly for a toy, said assembly comprising an eye pivotally mounted in a housing, said housing being approximately hemispherical and having an eye opening at the front to expose the eye, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, said assembly further comprising means wholly contained within said approximately hemispherical housing to move the eye to its down position when the housing is generally upright, and to move the eye to its up position when the housing is generally horizontal, said eye having a pupil and iris simulation on the upper part of the eye to be visible when the eye is in down position, and said eye having an eyelid simulation on the lower part of said eye to be visible when the eye is in its up position, said eye being molded and as molded including integral trunnions, said hemispherical part of the housing having bearing slots at the sides to receive said trunnions, a lock disc, and a back plate having rearwardly projecting tangs passing through said lock disc, the back of the housing and said bearing slots being closed by said back plate, said lock disc having a peripheral flange surrounding the rear part of the housing.

8. An individual sleeping eye assembly for a toy, said assembly comprising an eye pivotally mounted in a housing, said housing being approximately hemispherical and having an eye opening at the front to expose the eye, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, a weight for gravitationally operating the eye, said weight being located within the eye and above and forward of the axis of the eye, whereby the eye is moved downward when the housing is generally upright, and the eye is moved upward when the housing is generally horizontal, said eye having a pupil and iris simulation at the upper part of the eye to be visible when the eye is in down position, and having an eyelid simulation on the lower part of the eye to be visible when the eye is in its up position, and means to limit the movement of said eye to said down and up positions, said eye being molded and as molded including integral trunnions, said hemispherical part of the housing having bearing slots at the sides to receive said trunnions, a lock disc, and a back plate having rearwardly projecting tangs passing through said lock disc, the back of the housing and said bearing slots being closed by said back plate, said lock disc having a peripheral flange surrounding the rear part of the housing.

9. An individual sleeping eye assembly for a toy, comprising a housing and an eye pivotally mounted therein, said housing being approximately hemispherical and having an eye opening at the front to expose the eye and being closed at the back by a cover plate which is generally flat at the back, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, said eye having a weight wholly contained within said aprpoximately hemispherical housing and above and forward of the axis of the eye to move the eye to its down position when the housing is generally upright, and to move the eye to its up position when the housing is generally horizontal.

10. An individual sleeping eye assembly for a toy, comprising a housing and an eye pivotally mounted therein, said housing being hemispherical and having an eye opening at the front to expose the eye and being generally flat at the back, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, said eye having pupil and iris simulation on the upper part thereof and an eyelid simulation on the lower part thereof, said eye having a weight wholly contained within said hemispherical housing to move the eye to its down position and to expose said pupil and iris simulation when the housing is generally upright, and to move the eye to its up position to expose said eyelid simulation when the housing is generally horizontal.

11. An eye assembly as defined in claim 10, for use with a stuffed fabric toy, said eye assembly including a lock disc having a forwardly projecting flange and adapted to be disposed inside the fabric of the toy, said assembly including means to pass through the fabric to secure the housing and lock disc together with the fabric therebetween, whereby the eye is recessed partially within the toy by the flange of the lock disc.

12. An individual sleeping eye assembly for a toy, comprising a housing and an eye pivotally mounted therein, said housing being hemispherical and having an eye opening at the front to expose the eye and being generally flat at the back, said eye being a sector of a sphere substantially less than a hemisphere to afford clearance for opening and closing movement within the housing, said eye having pupil and iris simulation on the upper part thereof and an eyelid simulation on the lower part thereof, said eye having a weight wholly contained within said hemispherical housing to move the eye to its down position and to expose said pupil and iris simulation when the housing is generally upright, and to move the eye to its up position to expose said eyelid simulation when the housing is generally horizontal, said eye hav-

ing an upper lash simulation near its upper edge to be exposed when the eye is open, and another upper lash simulation near its lower edge to be exposed when the eye is closed.

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