Nov. 20, 1934. F. H. SCHAVOIR 1,981,333

EYE DEVICE FOR FIGURE TOYS

Filed Nov. 22, 1933

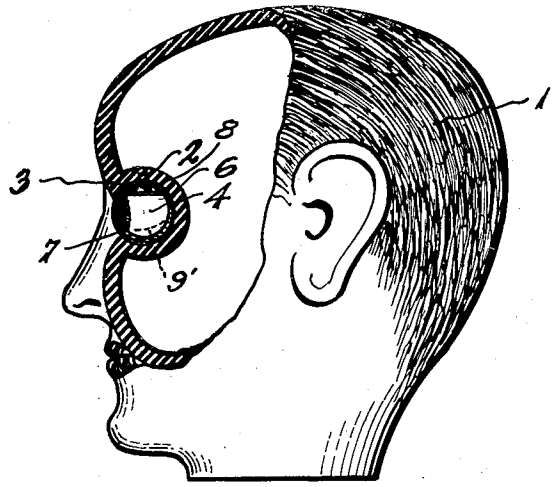


Fig. 6

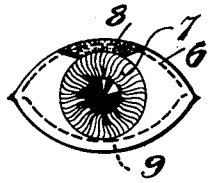


Fig. 1

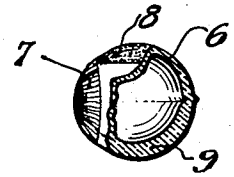


Fig. 2

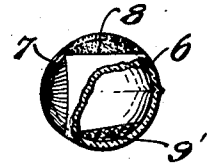


Fig. 3

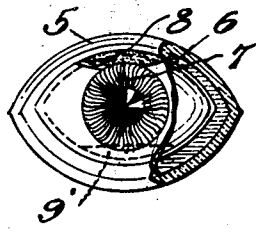


Fig 4

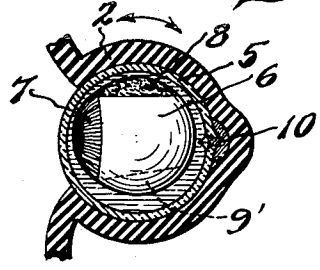


Fig. 5

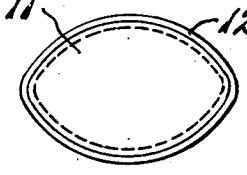


Fig. 7



Fig. 8

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Patented Nov. 20, 1934 1,981,333

UNITED STATES PATENT OFFICE

1,981,333

EYE DEVICE FOR FIGURE TOYS

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Application November 22, 1933, Serial No. 699,242

8 Claims. (Cl. 46—40)

The present invention relates to improvements in figure toys and the like and particularly to eye devices therefor.

One of the primary objects of the invention is to provide an eye device in the form of a unit which may be readily applied to the toy without the necessity of employing auxiliary fastening or securing means to retain the same in place, and which closely simulates the functioning of an eye in life.

A further important object of the invention resides in the elimination of the usual counterweighted lever systems or other delicate mechanisms which have heretofore been employed to control the movements of the eye, and which quickly get out of order through rough usage or corrosion and deterioration of the parts.

To this end, the invention embodies a self-contained unit which may be easily inserted into an eye socket formed in the head of the toy, and which, in the case of a rubber head, will be retained in the socket by the resilient gripping action of the socket about the eye unit.

In its broad aspect, the invention utilizes the principle of a floating body depicting an eyeball, which assumes various positions in the movement of the toy to various positions relatively to a horizontal or vertical plane.

More particularly, the eye unit comprises an outer transparent shell or casing in which there is arranged in spaced relation thereto an inner floating member carrying on different portions thereof the representation of the iris of an eye and an eyelid, a suitable clear liquid being disposed between the casing and the inner member being suitably balanced so that it will remain relatively stationary irrespective of movement of the casing while floating therein.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing:—

Fig. 1 is a front elevation of the floatable "eye ball" member;

Fig. 2 is a side view of one form of the floatable "eye ball" member, portions being broken away and shown in section;

Fig. 3 is a view similar to Fig. 2, showing a modified form of the floatable member;

Fig. 4 is a front elevation of the complete eye unit, portions being broken away and shown in section;

Fig. 5 is a partial vertical sectional view of an eye unit constructed in accordance with the invention, and showing the same mounted in its cooperating socket.

Fig. 6 is a side elevation of a doll head having a portion thereof broken away approximately on a vertical plane passing through one eye, and showing my improved eye unit in position in the head, the eye unit being partly shown in section and partly in elevation;

Fig. 7 is a front elevation of a modified form of shell or outer casing forming a part of the eye unit; and

Fig. 8 is a vertical section view through the shell or casing of Fig. 7, and showing the same mounted in an eye socket.

Like reference characters designate corresponding parts in the several figures of the drawing.

Referring first to Fig. 6, there is shown a figurehead 1 such as a doll head or the like, which may be formed of any suitable material, preferably rubber. During the construction of the head, as by molding, the same is provided with eye sockets 2 representing the orbit of an eye structure. The forward portion or lips 3 define an opening in the head through which the interior of the socket is accessible and through which the eye unit, designated generally as 4 may be inserted into the socket. During such insertion, the lips 3 will be expanded slightly and the resiliency thereof serves to retain the unit firmly in the socket. In the case of heads made of material other than rubber, the eye units may be affixed in the sockets formed therein in the usual manner by a suitable cement or other means well known in the art.

Passing now to the construction of the eye unit, and referring first to Figs. 1 to 5 inclusive, said eye unit includes a casing or outer shell 5 which may be made of celluloid, glass, or other suitable transparent material which is impervious to fluids for the purpose hereinafter described. The preferred form of said shell from end to end is substantially elliptical while its cross section on a vertical plane passing from front to rear is substantially cylindrical. Thus the casing may be said to be ellipsoidal.

Within the casing, and having substantially the same form is a member 6 having depicted thereon the representation of the iris of an eye as at 7, and contiguous to said iris there is an eyelid 8. The iris and eyelid are displaced from each other about the member by substantially 90°. These depictions may be attained by suitably coloring the outer surface of member 6 to represent the iris as in the usual doll eyes, the eyelid representation being colored a flesh color which may be for all practical purposes substantially pink. Member 6 may be constructed in any suitable manner, as of glass, and is preferably hollow so that the same will be comparatively light in weight. Its size is somewhat less than the interior of the casing 5 so that there will be a space between casing 5 and member 6. This space is filled with a quantity of substantially clear fluid such as alcohol, white

oil, or other suitable liquid in which member 6 is adapted to float, as shown particularly in Figs. 4 and 5. Member 6 should therefore be substantially buoyant to cause the same to be floatingly suspended within the casing and is also counterweighted in any suitable manner so as to normally maintain the representation of the iris 7 in a substantially vertical position. In the case of a hollow glass construction of member 6, this counterweighting may be accomplished by suitably thickening the lower portion of member 6 as at 9, causing said member to be properly balanced while floating. As shown in Fig. 3, the counterweighting may be accomplished by the introduction of a few drops of glass into member 6 during the construction thereof as represented at 9'. Obviously, various ways of balancing member 6 will readily present themselves to anyone skilled in this art.

The introduction of the liquid into the casing 5 may be accomplished through a suitable opening at the rear of the casing or shell which may be sealed after the liquid has been introduced by means of a plug or other device as at 10. Instead of introducing the liquid at the rear of the casing, it may be introduced at one end in a similar manner.

Figs. 7 and 8 illustrate a modified form of outer shell or casing in which the same is made in two parts 11 and 12 which, when fitted together have the same shape as in the form above described. The joint may be sealed in a well known manner to make the same liquid tight.

In the operation of the eye unit after the same has been inserted into the socket 2 of the figurehead, it will be apparent that the floatable member 6 will be retained always in the same position, that is, with the iris 7 substantially vertical and the eyelid 8 substantially horizontal. With the figurehead in an upright or vertical position, the iris will register with the opening at the forward portion of the socket, creating an awakened appearance. By moving the head to a reclined position, there will be relative movement between the casing 5 and the floatable member 6 as indicated by the arrows in Fig. 5 so that the representation of the eyelid 8 will register with the opening at the front of the socket 2, creating the appearance of sleeping. Thus the movement of the head creates a simulation of the opening and closing of an eye.

While the specific details of construction have been herein shown and described, the invention is not confined thereto as alterations may be made without departing from the spirit thereof as defined by the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An eye unit for figure toys and the like comprising a movable floatable body having thereon spaced representations of the pupil and eyelid of an eye, and a confined fluid for floating said body and permitting relative movement of said body to present either the pupil or eyelid representation.

2. An eye unit for figure toys and the like comprising a movable floatable body representing the iris of an eye, a transparent member covering said body, a fluid confined in said member for floating said body and permitting relative movement of said body.

3. An eye unit for figure toys and the like comprising a movable floatable body representing the eyelid of an eye, a shell in which said body is enclosed and having a form permitting relative movement of said body about a horizontal axis only and a confined fluid for floating said body in said relative movement.

4. A self contained eye unit for figure toys and the like, comprising a transparent casing, a movable floatable member within said casing and of less size than the inside of said casing, said member having an iris depicted thereon, a body of substantially clear fluid within said casing and in which said member floats, said member being balanced to retain the same with the depiction of the iris in a predetermined position irrespective of the relative position of the casing.

5. A self contained eye unit for figure toys and the like, comprising a transparent casing, a movable floatable member within said casing and of less size than the inside of said casing, said member having an iris and an eye lid contiguously depicted thereon, a body of substantially clear fluid within said casing and in which said member floats, said member being balanced to retain the same with the depiction of the iris in a predetermined position irrespective of the relative position of the casing.

6. An eye unit for figure toys and the like, comprising a transparent casing substantially ellipsoidal in form, a substantially similarly shaped member within said casing and having a portion representing the iris of an eye and a contiguous portion representing an eye lid, said member being of less size than the inside of said casing and defining therewith a fluid chamber, a substantially clear fluid in said chamber having a specific gravity sufficient to normally suspend said member in spaced relation to the wall of said casing, and said member having means for balancing the same while so suspended and serving to retain said member in a stationary condition irrespective of the relative position of the casing.

7. The combination with a figure head having an eye socket therein, the forward edge of which defines an opening through which the interior of said socket is accessible, of an eye unit insertible into said socket through said opening and comprising a transparent protective casing, a transparent fluid in said casing, a relatively movable member floatable in said fluid and carrying the representation of the iris of an eye and an eye lid contiguous to said iris, and said member having means for balancing the same while floating in said fluid so that the iris normally registers with the socket opening when the head is substantially vertical but permitting relative movement between said casing and member for causing the eye lid to register with said opening when the head is in a reclining position.

8. An eye unit for figure toys and the like, comprising a transparent casing, a hollow member within said casing carrying the depiction of the iris of an eye, said member being floatable and being thickened at its base, a substantially transparent liquid in said casing in which said hollow member is adapted to float and permitting relative movement between said casing and said hollow member, the thickened base aforesaid acting as a counterweight to retain the iris in a predetermined position.

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