Oct. 9, 1928. 1,687,478

S. MARCUS

ARTIFICIAL EYES FOR DOLLS, DISPLAY FIGURES, AND THE LIKE

Filed April 26, 1923

Fig. 1.

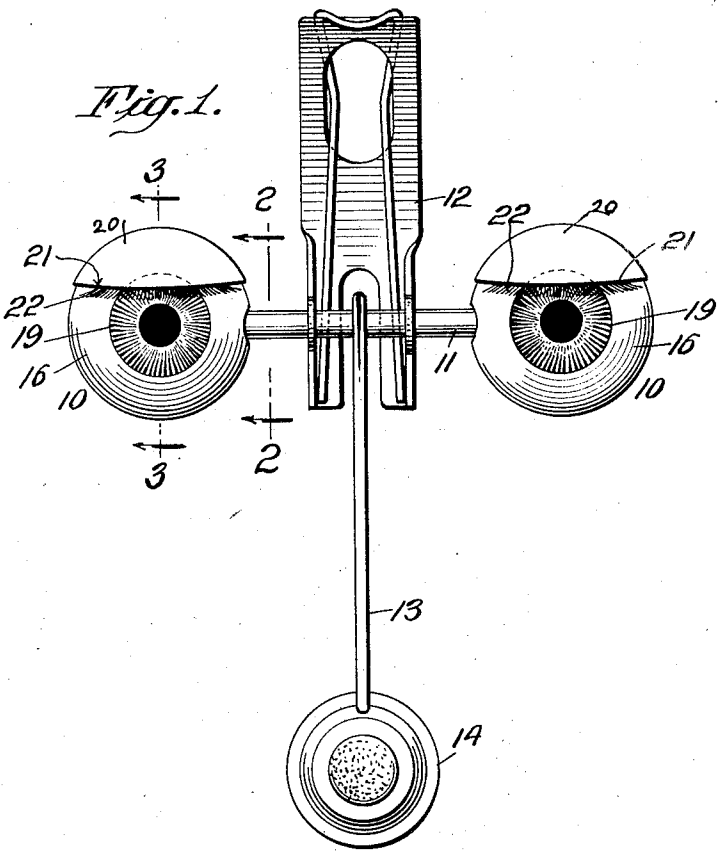


Fig. 2.

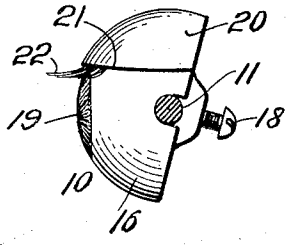


Fig. 4.

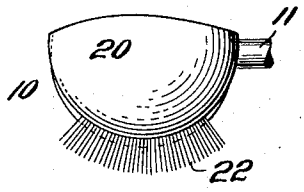
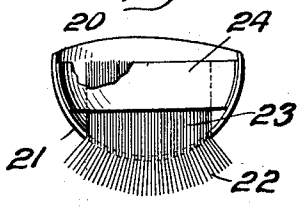


Fig. 5.



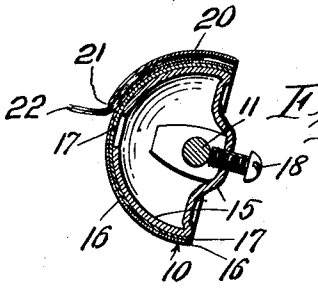


Fig. 3.

Inventor
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By his Attorney
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UNITED STATES PATENT OFFICE.

SAMUEL MARCUS, OF BROOKLYN, NEW YORK, ASSIGNOR TO MARKON MANUFACTURING CO., INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ARTIFICIAL EYES FOR DOLLS, DISPLAY FIGURES, AND THE LIKE.

Application filed April 26, 1923. Serial No. 634,724.

The invention pertains to improvements in artificial eyes for dolls and the like, the object thereof being to devise improved means for providing the eye with an upper lid and eyelashes.

In carrying out my invention I form the exterior portion of the eye of a shell of transparent celluloid enclosing an opaque or white paper shell bearing a representation of the iris, and this compound shell I secure upon a hemispherical metal shell to be adjustably mounted on a transverse rod or shaft which in use has one of the eyes at each end and is pivotally mounted at its middle portion and also connected with means for effecting a rolling motion of the eyes to close when the doll is reclined and a reverse motion to open when the doll is restored to vertical position. The iris is exposed at the front and is preferably slightly below the center of the shell so that when the doll is reclined the eye may rather quickly close or disappear within the head of the doll. Upon the upper portion of the celluloid shell constituting the front exterior portion of the eye, I secure a very thin celluloid segmental cap which closely fits upon the shell and has secured within it a layer of hair or fibres whose outer end portions project beyond the cap and over the iris of the eye so as to imitate upper eye-lashes.

The invention and satisfactory means for carrying the same into effect will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Fig. 1 is a front view of an eye-set adapted for introduction into the head of a doll, in a well understood manner;

Fig. 2 is a vertical section through the same taken on the dotted line 2—2 of Fig. 1;

Fig. 3 is a vertical section through the same taken on the dotted line 3—3 of Fig. 1;

Fig. 4 is a top view of one of the eyes and a portion of the rod connecting the eyes in a pair, and

Fig. 5 is a detached interior view of the cap carrying the eye-lashes and which I secure upon the upper portion of the eye.

In the drawings 10 designates the two eyes of a pair, said eyes being supported upon a transverse rod 11 which is pivotally mounted in a hanger 12 and has rigidly connected with it a rod 13 suspending a weight 14, which acts when a doll containing the eyes is reclined to turn the rod 11 and thereby effect a closing motion to the eyes 10. The rod 11, hanger 12, rod 13 and weight 14 are disclosed in Fig. 11 of Letters Patent No. 1,433,901, granted to me October 13, 1922, and hence these mechanical features do not require specific description. The eyes 10 correspond with each other and each eye comprises a hemispherical metal shell 15, an outer celluloid shell 16, and a thin intermediate shell 17 upon which the iris is imprinted and which iris becomes exposed through the outer shell 16 which is transparent. The shells 16, 17 are secured together by adhesive and are together secured upon the metal shell 15 by an adhesive. The shell 16 is thin and transparent and the shell 17 is white or opaque in color. The eye 10 may be secured upon the end of the rod 11 by means of a screw 18 passing through a threaded hole in the back wall of the metal shell 15 and engaging at its forward end the rod 11, as shown in Fig. 3. The iris 19 of the eye is not centrally disposed with respect to the shells 16, 17, but is nearer to the lower edge of said shells than it is to the upper edge thereof, this being for two purposes, one being to throw the iris directly to the front when the eye is inclined, as shown in Figs. 2 and 3 and the doll is upright, and the other being to effect a quick concealment of the iris when the doll is reclined and the eye rolls downwardly along its socket within the head of the doll. When the iris is disposed in the manner described there is less of the white of the eye below the iris to roll into concealment than there would be if the iris was directly at the center of the shells 16, 17.

Upon the upper portion of the eye 10 I secure a segmental cap 20 which is of celluloid and closely fits upon and is secured to the upper portion of the shell, said cap 20 having a forward slightly downwardly convexed edge 21, as shown in Figs. 1 and 2, this edge being in advance of the upper portion of the iris and extending back at each side of the eye to the inner or back edges thereof.

The cap 20 is in imitation of an upper eyelid and is permanently secured in position on the eye 10 so as to roll therewith either to close or open position.

Within the cap 20 I secure a series of hairs or fibres in imitation thereof, these fibres being in a flat row and being projected forwardly beyond the convex edge 21 to repre-

sent upper eye-lashes 22. The fibres or strands 23 whose outer portions form the eye-lashes 22 are secured against the inner surface of the cap 20 by means of a strip 24 which may be of paper or the like and pasted down against the fibres or strands and against the inner surface of the cap 20, as shown in Fig. 5. The strip 24 materially aids in keeping the strands or fibres 23 in a proper layer, and said strands or fibres 23 are by means of an adhesive secured to the inner surface of the cap 20 from the forward edge of the strip 24 to the edge 21 of said cap, and along said edge 21 the forward ends of the fibres or strands 23 do not follow down the natural curvature which would ordinarily be imparted to them by the inner curved surface of the cap 20, but are bent outwardly at an angle to the lower edge of the cap, as shown in Fig. 3 so as to stand in correct position to represent eye-lashes. The forward ends of the fibres or strands 23 are free of one another and diverging and they are pressed outwardly to represent the eye-lashes 22 when the cap 20 is in a die within which the fibres or strands, the strip 24 and the inner surface of the cap 20 are secured together under heat and pressure. The action of the die in setting the forward ends of the strands or fibres 23 in the eye-lash position is such that the eye-lashes do not lose their proper position but remain even and uniform and permanently project forwardly of the edge of the cap 20. The eye-lashes have a slight downward inclination and are curved on convex lines which approximate the convexity of the lower edges of the caps 20, as shown in Figs. 1 and 2.

The eyes 10 may be angularly adjusted on the rod 11 and also laterally adjusted along said rod, by means of the screws 18, and when the eyes are adjusted to stand at a downward slant toward the front, as shown in Fig. 2, the iris may be positioned below the center of the eye-structure and when so positioned the iris will become concealed and exposed on limited rolling motions of the eye. When the eye closes the expansive portion of the upper end of the eye turns downwardly to the front and for this reason I make use of the cap 20 which extends along both sides of the eye and from the proper position for the eye-lashes upwardly over the top of the eye and to the back edge thereof, so that when the eye does close said cap may serve as an upper eye-lid fully concealing the eye and presenting a smooth natural surface. The outer surface of the cap 20 will be given a flesh-like color harmonizing with the color of the face of the doll to receive the eyes.

What I claim as my invention and desire to secure by Letters-Patent, is:

1. An eye-set for dolls and the like comprising eyes having segmental caps fixed upon their upper convex portions, said caps having front convex lower edges, and eye-lashes held between the caps and the eyes and said lashes being secured by adhesive directly against the caps, at points removed from the lower edges of the caps, and projected forwardly along the lower convex edges of the caps and at an angle thereto, the lower front edges of the lashes extending on convex lines approximating the convexity of the edges of the caps.

2. Artificial eyes for dolls and the like of substantially hemispherical structure, each eye having an iris and on its upper portion a fixed segmental cap representative of an upper eye-lid, said cap having secured directly against its inner surface a layer of forwardly projecting fibres representing eye-lashes, and said cap containing a transverse strip which extends across the inner end of said layer and is secured by adhesive thereto and to the cap, said strip being set well back from the front edge of the cap and leaving the fibres as the only layer between the front edge of the cap and the eye.

Signed at New York city, in the county of New York and State of New York, this 23rd day of April, A. D. 1923.

SAMUEL MARCUS.