Dec. 22, 1925. 1,566,670

L. J. GRUBMAN

DOLL EYE

Filed Feb. 27, 1925

Fig. 1.

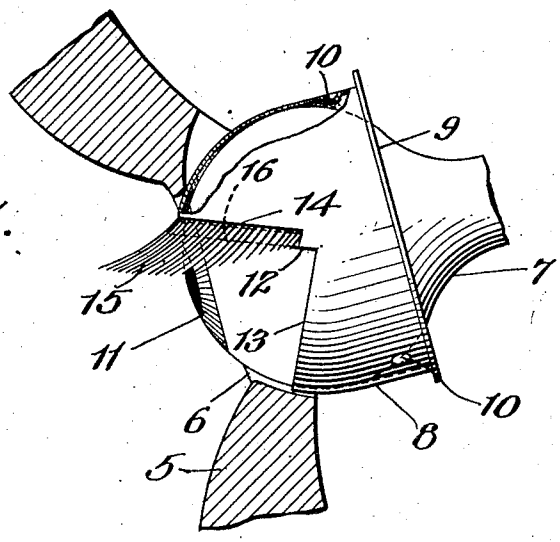


Fig. 2.

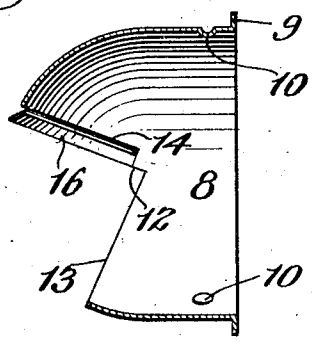


Fig. 3.

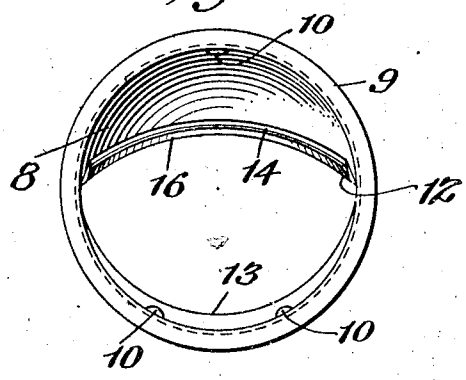
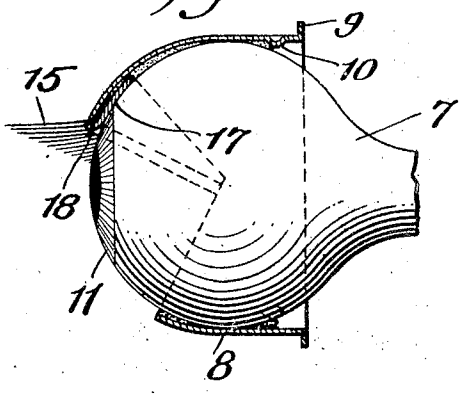


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEO J. GRUBMAN, OF BELLE HARBOR, NEW YORK, ASSIGNOR TO GRUBMAN ENGINEERING & MANUFACTURING CO. INC., OF LONG ISLAND CITY, NEW YORK, A CORPORATION OF NEW YORK.

DOLL EYE.

Application filed February 27, 1925. Serial No. 11,909.

To all whom it may concern:

Be it known that I, LEO J. GRUBMAN, a citizen of the United States, and resident of Belle Harbor, Long Island, county of Queens, State of New York, have invented certain new and useful Improvements in Doll Eyes, of which the following is a specification.

This invention relates to doll eyes, my present improvements being applicable to either the fixed or movable type of eye setting and having for its primary object to provide simple, reliable and inexpensive means for fixedly securing the eye lashes in proper relation to the eye member, whereby the lashes will be maintained at the desired angle with respect to the peripheral surface of the eye member.

More particularly, in one embodiment of the invention, I provide a metal shell within which the eye member is substantially enclosed, and said shell being provided with an opening through which the iris of the eye member is visible. In spaced relation to the upper edge of this opening, the wall of said shell is provided with a slot, through which an edge of the eye lashes is inserted between the eye member and the shell wall and fixed in relation thereto. Thus, the part of the eye shell below this slot may be conveniently utilized for sustaining the eye lashes at the required angle, and thus realistically simulate the human eye. In an alternative form of my present invention, instead of providing this shell wall with such a slot, I may employ a separate plate associated with the upper edge of the eye opening at the inner side of the shell wall and between which and said wall the edge of the eye lashes is inserted, and said plate having a part underlying the outwardly projected eye lashes at the edge of said opening and thereby sustaining the same at the desired angle.

With the above and other objects in view, the invention consists in the improved doll eye and in the form, construction and relative arrangement of the several parts, as will be hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawing wherein I have illustrated several simple and practical embodiments of the device, and in which similar reference characters designate corresponding parts throughout the several views,

Figure 1 is a fragmentary vertical sectional view through a doll head, showing an eye embodying my present improvements associated with one of the eye sockets.

Figure 2 is a diametrical sectional view through the eye enclosing shell,

Figure 3 is a front end elevation thereof, and

Figure 4 is a sectional view illustrating an alternative form of the device.

Referring in detail to the drawing, the doll head wall 5 may be molded or constructed from pulp or other suitable material to provide the usual facial characteristics, including the spaced eye sockets, one of which I have illustrated at 6.

The artificial eye forming the subject matter of this application may either be mounted and arranged in fixed relation to the doll head wall, or may be supported for movement in the eye socket, in a suitable frame, oscillatably mounted upon the inner side of the front wall of the doll head. In either case, the eye member shown at 7, and which may be formed of glass, celluloid or any other material suitable for the purpose, is substantially enclosed within a sheet metal shell 8. As herein shown, this shell is of general semispherical form, having a short rearwardly projecting longitudinal portion, terminating in an outwardly extending annular flange 9, which, however, constitutes no essential part of the present improvements. However, it is to be noted that the rear end of this shell is entirely open and adjacent to the flange 9, the shell wall is provided at circumferentially spaced points with the indentations 10.

The front portion of the eye member 7, is, of course, provided with the usual iris 11, realistically painted upon the surface thereof.

The other, or front end of the semispherical shell 8 has an opening in the wall thereof through which the iris 11 is visible. The upper edge 12 and the lower edge 13 of this opening each describes substantially a semicircular arc, the ends of said upper and lower edges at opposite sides of the shell meeting approximately at the axial center line of the shell. Preferably, these upper and lower edges of said opening extend at

an angle of 90° with respect to each other, or, in other words, said opening is produced by cutting out substantially a quarter section of the shell wall.

Above the upper edge 12 of the opening in the shell wall, and extending substantially in parallel relation therewith, a slot 14 is provided in said wall, and through this slot one edge of the eye lashes 15 is adapted to be inserted. The eye lashes are made up in the usual manner of individual hairs of the requisite number, securely fixed in relation to each other by means of a suitable binding and these connected ends of the hairs are inserted through said slot 14 between the periphery of the eye member 7 and the inner surface of the wall of shell 8. It will be understood that the maximum diameter of the eye member 7 is such that in order to insert said member into the shell through the rear open end thereof, it is necessary to apply a certain amount of pressure, and thereby slightly expand the shell wall against the resistance offered by the indentations 10, which slightly obstruct the inward movement of the eye member into the shell. After said eye member has been thus inserted within the shell and the iris 11 thereof properly located with respect to the upper and lower edges of the eye opening of said shell, and the eye lashes then inserted through the slot 14, as above explained, a suitable cement, in a more or less fluid condition, is poured into the space between the periphery of the eye member and the wall of the shell 8. This cement also collects upon the edge of the eye lashes, and upon solidification, fixedly holds said edge of the eye lashes, the shell and the eye member against any possibility of relative movement. However, I do not herein claim this means for securing and maintaining this positively fixed relation of the parts, since such subject matter is fully described and claimed in my pending application for patent filed December 15, 1923, Serial No. 680,795.

By cutting the slot 14 through the wall of the shell 8, at a certain definite angle, the lower edge of said slot may be relied upon to sustain the eye lashes at the desired outwardly projecting angle. However, I prefer to deflect or bend the portion 16 of the shell wall between the lower edge of the slot 14 and the upper edge 12 of the eye opening, so as to position the same at an outward inclination with respect to the shell wall above said slot as clearly seen in Figure 2 of the drawings. This angle of the part 16 determines the angle of projection of the eye lashes with respect to the peripheral surface of the eye member 7 and affords greater assurance against possible displacement of the eye lashes from such angular position, especially in eye settings of the movable or oscillating type. Thus, the angular part 16 of the shell wall will prevent the eye lashes from striking against the lower edge of the eye socket wall of the doll head, in the closing movement of the eye.

In Figure 4 of the drawings, I have shown an alternative construction, wherein, instead of providing the wall of the eye enclosing shell with a slot to receive the edge of the eye lashes, I provide the separate substantially semi-circular, narrow metal strip 17, which is adapted to be interposed between the surface of the eye member and the upper edge of the opening in the front end of the shell. One longitudinal edge of this metal strip is outwardly curved or flanged, as at 18, so that when the edge of the eye lashes is inserted between this strip and the inner surface of the shell wall and fixed in position by means of the cement, the outwardly projecting flange 18 of said strip underlies the eye lashes adjacent the upper edge of the opening in the shell wall and thereby sustains said lashes at the desired angle. Either of the described constructions is quite simple and very satisfactory in the accomplishment of my purpose.

From the foregoing description considered in connection with the accompanying drawing, the construction and manner of assemblage of the several parts and the advantageous features thereof, will be readily understood. By means of my present improvements, it is possible to very quickly apply the eye lashes and the eye members with respect to the eye shells so that when the latter are subsequently mounted in the doll head, a very realistic simulation of the human eye will be produced. While I have herein referred to only two possible forms of my present invention, it is nevertheless to be understood that the essential features may also be exemplified in numerous other alternative structures and I therefore reserve the privilege of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

I claim:—

1. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the insertion of said member, said shell having an opening in its wall at the front end thereof through which the iris is visible, eye lashes having an edge thereof in contact with the inner surface of the shell wall, and means engaging the eyelashes in spaced relation to said edge and sustaining said eye lashes in a definite outwardly projecting angular position with respect to the upper edge of said opening.

2. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the in-

sertion of the eye member therein, said shell having an opening in its wall at the front end thereof through which the iris is visible, eye lashes at the upper side of said opening having an edge engaged with the inner surface of the shell wall, means for permanently fixing the eye member, the edge of the eye lashes and the shell wall in relation to each other, and means at the upper edge of said opening angularly positioned with respect to the surface of the eye member and the shell wall and engaging the under side of the eye lashes to sustain the latter in a desired outwardly projecting angular position.

3. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the insertion of the eye member therein, said shell having an opening in its wall at the front end thereof through which the iris is visible and said shell wall being provided with a slot therethrough extending in spaced parallel relation with respect to the upper edge of said opening, eye lashes having an edge thereof engaged through said slot between the periphery of the eye member and the wall of said shell, and means securing said eye member, the said edge of the eye lashes and the shell wall in fixed relation to each other.

4. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the insertion of the eye member therein, said shell having an opening in its wall at the forward end through which the iris is visible, eye lashes at the upper edge of said opening, means for permanently fixing one edge of the eye lashes, the eye member and the shell in relation to each other and a part underlying the eye lashes at the upper edge of said opening and extending at an angle with respect to the shell wall to sustain the eye lashes in a definite outwardly projecting angular position with respect to the surface of the eye member.

5. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the insertion of the eye member therein, said shell having an opening in its wall at its front end and provided with a slot extending through said wall in spaced parallel relation to the upper edge of said opening, the portion of the shell wall below said slot extending outwardly in angular relation to the wall above said slot, and eye lashes overlying said angular portion of the shell wall and sustained thereby in definite angular relation with respect to the surface of the eye member.

6. An eye for dolls comprising an eye member having an iris on the surface thereof, a shell open at its rear end for the insertion of the eye member therein, said shell having an opening in its wall at its front end and provided with a slot extending through said wall in spaced parallel relation to the upper edge of said opening, the portion of the shell wall below said slot extending outwardly in angular relation to the wall above said slot, and eye lashes extending through said slot and having an edge fixed to the inner side of the shell wall above the slot, said eye lashes overlying the angular portion of the shell wall and sustained thereby in definite outwardly projecting angular relation to the surface of the eye member.

7. An eye for dolls having a part provided with a slot therein, eyelashes having an edge thereof positioned through said slot and fixed with relation to said part, and means extending along one edge of said slot and underlying the eyelashes in spaced relation to said fixed edge thereof to sustain said lashes in a definite angularly projecting position with respect to said slot.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

LEO J. GRUBMAN.