July 9, 1935. W. LORENZ ET AL 2,007,807

DOLL EYELASH

Filed Nov. 16, 1933

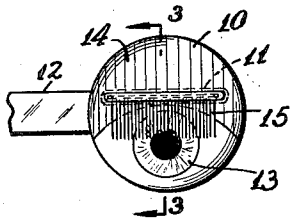



Fig. 1.

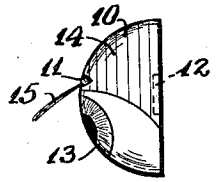



Fig. 2.

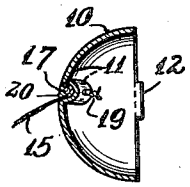



Fig. 3.

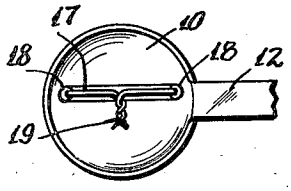



Fig. 4.

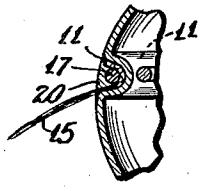



Fig. 5.

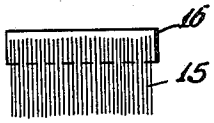



Fig. 6.

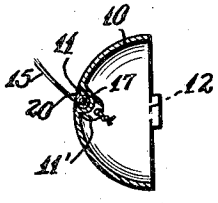



Fig. 7.

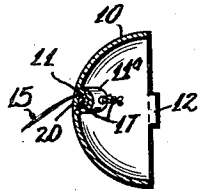



Fig. 8.

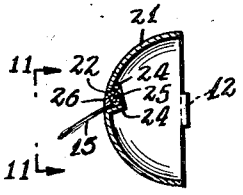



Fig. 9.

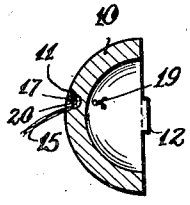



Fig. 12.

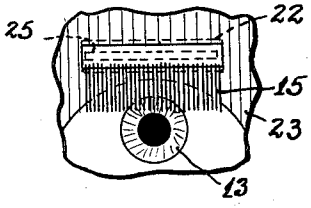



Fig. 11.

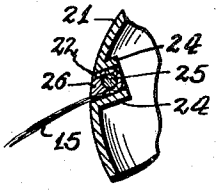



Fig. 10.

INVENTORS
WILLIAM LORENZ
LAZURUS W. POLLACK
BY Zoltan N. Polachek
ATTORNEY

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2,007,807

## DOLL EYELASH

William Lorenz and Lazurus W. Pollack, New York, N. Y., said Pollack assignor to said Lorenz

Application November 16, 1933, Serial No. 698,302

11 Claims. (Cl. 46—40)

This invention relates to new and useful improvements in artificial eyes for dolls, manikins and other figures.

The invention relates particularly to the construction of the eyelash for the artificial eye and proposes a construction for firmly mounting the eyelash in place and furthermore for naturally directing the eyelash in a desired direction, either upwards, straight outwards or downwards. The direction of extension of the eyelash on an artificial eye depends upon the particular design of the doll or manikin for which it is intended, for example, if the doll is of a design representing a "vamp" then the eyelashes must be directed upwards. Similarly for other representations.

The invention has for another object the construction of an artificial eye which is characterized by a hemispherical eye developed from sheet metal or other material and arranged with a transverse opening for receiving the lashes, said opening being formed by developing inwards the material of the eye at the top and bottom sides of said opening in the form of a groove, and an arrangement for holding the eyelashes at their rear ends within said opening so as to be directed outwards depending upon the guiding direction of one side of said inward developed material.

Still further this invention contemplates forming the transverse opening by developing inwards a transverse recess or groove in the form of a cavity having a base or bottom.

As another object it is particularly proposed to provide a novel method for holding the rear ends of the eyelashes within the transverse opening, recess or groove which is characterized by a wire within said opening clamping the rear ends of the eyelash against the material developed inwards.

Still further the invention proposes an arrangement wherein a pair of spaced openings in the groove mentioned in the previous paragraph allows the passage of the ends of the wire so that the ends may be twisted within the hemispherical eye and so accomplish the clamping described.

As another object of this invention it is particularly proposed to direct the inturned sides of the transverse opening so that when the eyelashes are clamped within the opening by the wire previously mentioned, the eyelashes will be directed out at a predetermined angle.

Furthermore an arrangement is also proposed for filling in portions of the transverse opening after the eyelashes and the holding means are in place but hide the holding construction.

As another object of this invention an arrangement is proposed whereby the transverse opening comprises inward developed sides from the material of the eye forming a slot in the eye material. The eyelashes can be mounted within said slot in the similar fashion as previously described.

As another object of this invention it is proposed to construct articles as described which are simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a front elevational view of an artificial eye according to this invention.

Fig. 2 is a side elevational view of Fig. 1.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a rear elevational view of Fig. 1.

Fig. 5 is a fragmentary enlarged detailed view of a portion of Fig. 3 showing in particular the manner in which the eyelashes are secured in place.

Fig. 6 is a detailed view of the eyelashes per se.

Fig. 7 is a view similar to Fig. 3 but showing another embodiment of the invention.

Fig. 8 is another view similar to Fig. 3 but showing a still further modified form.

Fig. 9 is still another view similar to Fig. 3 but showing another embodiment.

Fig. 10 is a fragmentary enlarged detailed view of a portion of Fig. 9.

Fig. 11 is a front elevational view of the artificial eye illustrated in Fig. 9 seen as though looking in the direction of the line 11—11 of Fig. 9.

Fig. 12 is a similar view to Fig. 3 but showing another embodiment of the invention.

The artificial eye according to this invention comprises a hemi-spherical eye 10 developed from sheet metal or other similar material and formed with a transverse opening 11 at its front side for receiving the rear ends of the eyelashes, and said opening being formed by developing inwards the material of the eye along the top and bottom sides of the opening. The hemi-spherical eye 10 is provided with a side bridge 12, shown in the drawing, by which the hemi-spherical eye may be joined with the other eye of a pair of eyes. The outer face of the hemi-spherical eye 10 is painted or imprinted with an eye ball portion 13 and with a lid portion 14. The transverse open-

ing 11 is arranged near the junction of the lid and eye portions. The opening 11 comprises a recess or groove formed by bending in the material of the hemi-spherical eye as shown in Fig. 5. The opening 11 extends substantially across the entire eye 13 as clearly illustrated in Fig. 1.

A means is provided for holding the rear ends of the eyelashes firmly against one side of the said inward developed metal forming the transverse opening so as to properly hold and direct the eyelashes. More particularly the eyelashes comprise parallel strands of hair 15 secured upon a flexible base element 16 in the form of a strip of material. The rear ends of the eyelashes 15 are engaged into the transverse opening 11 and then a wire 17 is extended across the rear ends of the eyelashes and secured in place for the purpose of holding the lashes in place. More particularly the strip portion 16 of the lashes is clamped in between the base of the opening 11 and the wire 17. The wire 17 furthermore serves to clamp the eyelashes 15 against the material extended inwards from the opening 11 so that the eyelashes extend outwards as guided by the angle of the inward developed material.

Furthermore the wire 17 has its ends inserted through openings 18 formed in the ends of the transverse opening 11, the openings 18 extending through the material of the eye, and the inner ends of the wire 17 being twisted at 19 to accomplish clamping of the lashes in place. It should be recognized that the twisted ends 19 are disposed within the hollow portion of the hemi-spherical eye. The lashes 15 are arranged so that the rear ends are extended upwards as clearly illustrated in Figs. 3 and 5. Filling material 20 which may be putty, cement or other material is then placed over the wire 17 and the opening 11 completely filled in so that the appearance is produced that the eyelashes 15 extend from the eyelid 14.

In Fig. 7 a modified form of the invention has been disclosed which is substantially identical to the previous form except for the shape of the transverse opening which is arranged to direct the eyelids 15 upwards. More particularly the transverse opening comprises a groove or recess developed inwards from the material of the eye and arranged so that the lower side of the inward material is directed upwards at an angle. This is clearly shown in Fig. 7. Consequently with the wire 17 holding the eyelashes in place the lashes will be directed upwards. In other respects this form of the invention is identical to the previous form. The inward developed portion forming the transverse opening is indicated by reference numeral 11'.

In Fig. 8 another variation of the invention has been disclosed in which there is an inward directed portion $11^a$ arranged so as to direct the lashes 15 downwards. Furthermore these lashes are inserted in a different manner to those previously described distinguishing in the fact that the lashes are in intimate contact with the material at the top of the opening 11. The wire 17 is arranged below the lashes and secured in place as previously described. Filling material 20 which is this time engaged beneath the eyelashes, serves to fill in the front of the opening 11. In other respects this form of the invention is similar to the previous form.

In Figs. 9–11 inclusive another modified arrangement of the invention has been disclosed in which the artificial eye comprises a hemi-spherical eye 21 developed from sheet metal or other similar material and having a front transverse opening 22 extended along the bottom portion of the lid portion 23 of the eye. The opening 22 is formed by stamping inwards material 24 from the eye so as to produce a groove opening extending from the interior with the exterior of the eye. It should be observed that the inturned ends 24 have a certain amount of resiliency which may be utilized to hold the eyelashes in place as further described.

The eyelashes 15 are held in place by reason of having their rear ends clamped in between the portions 24 by a rod 25 which is forced into place. This rod extends substantially the entire width of the opening 22. Filling material 26 is then engaged into the opening 22 both at the front and rear of the rod 25 and serves to further hold the eyelashes in place. The direction of the eyelashes 15 will depend upon the angular direction of the inturned portions 24. As illustrated in Figs. 9 and 10 these portions are so arranged that the lashes 15 are directed downwards.

In Fig. 12 the hemi-spherical eye 10 is made of a thicker material and the transverse opening 11 is cut only partially through the thickness of member 10. In other respects this form of the invention is similar to the form shown in Fig. 3.

It is to be understood that the various parts may be made of any suitable material and proportion and that while the wire 17 is shown to be anchored or secured to the hemi-spherical eye by twisting the ends at 19, any other anchoring means may also be used.

While we have shown and described the preferred embodiment of our invention, it is to be understood that we do not limit ourselves to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:—

1. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening and bent around to engage said top and bottom sides of the opening, and an element within said opening and extending across the bent ends of said eyelashes and cooperating with one of the sides of said opening for holding said rear ends of the eyelashes firmly against one side of the said inwardly bent material.

2. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye having a transverse opening for receiving the rear ends of lashes, said transverse opening having top and bottom sides, eyelashes mounted with their rear ends engaged in said opening and bent around to engage said top and bottom sides of the opening, and an element within said opening and extending across the bent ends of said eyelashes and cooperating with one of the sides of said opening for holding said rear ends of the eyelashes firmly against one side of the said opening.

3. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening

being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening and bent around to engage said top and bottom sides of the opening, and an element within said opening and extending across the bent ends of said eyelashes and cooperating with one of the sides of said opening for holding said rear ends of the eyelashes firmly against one side of the said inwardly bent material, said eyelashes comprising a plurality of adjacent hairs secured at their ends upon a flexible strip of material, said strip of material being disposed within said transverse opening and bent around with the ends of the eyelashes and secured in place by said element.

4. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening, and means for holding said rear ends of the eyelashes firmly against one side of the said inwardly bent material, comprising a piece of wire extending across the rear ends of the eyelashes and disposed within said transverse opening and having its ends engaged through openings in the eye material to the exterior of the hemi-spherical eye, and these inturned ends being secured together.

5. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening, and means for holding said rear ends of the eyelashes firmly against one side of the said inwardly bent material, comprising a piece of wire extending across the rear ends of the eyelashes and disposed within said transverse opening and having its ends engaged through openings in the eye material to the exterior of the hemi-spherical eye, and these inturned ends being secured together, more particularly by turning the ends with each other.

6. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet material or other similar material and formed with a transverse opening comprising material from the eye forced inwards to form the top and bottom sides of said opening, eyelashes mounted at their rear ends within said opening, and a wire within said opening clamping down the rear ends of the eyelashes and holding the eyelashes against one of the sides of the opening to direct the eyelashes outwards according to the inclination of the sides of the opening.

7. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet material or other similar material and formed with a transverse opening comprising material from the eye forced inwards to form the top and bottom sides of said opening, eyelashes mounted at their rear ends within said opening, and a wire within said opening clamping down the rear ends of the eyelashes and holding the eyelashes against one of the sides of the opening to direct the eyelashes outwards according to the inclination of the sides of the opening, said eyelashes engaging against the material at the lower side of said transverse opening.

8. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet material or other similar material and formed with a transverse opening comprising material from the eye forced inwards to form the top and bottom sides of said opening, eyelashes mounted at their rear ends within said opening, and a wire within said opening clamping down the rear ends of the eyelashes and holding the eyelashes against one of the sides of the opening to direct the eyelashes outwards according to the inclination of the sides of the opening, said eyelashes engaging against the material at the upper side of said transverse opening.

9. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening, and means for holding said rear ends of the eyelids firmly against one side of the said inwardly bent material, said transverse opening comprising portions of said eye disposed inwards forming an opening extending completely from the outside to the inside of the eye, and said holding means comprising a rod engaged within said opening and clamping the inner ends of the eyelashes against said inturned portions.

10. An artificial eye for dolls, manikins and other figure toys, comprising a hemi-spherical eye developed from sheet metal or other material and having a transverse opening for receiving the rear ends of lashes, said transverse opening being formed by bending material from the eye inwards to form the top and bottom sides of the opening, eyelashes mounted with their rear ends engaged in said opening, and means for holding said rear ends of the eyelids firmly against one side of the said inwardly bent material, said transverse opening comprising portions of said eye disposed inwards forming an opening extending completely from the outside to the inside of the eye, and said holding means comprising a rod engaged within said opening and clamping the inner ends of the eyelashes against said inturned portions, said inturned portions being arranged at a definite angle so as to hold the eyelashes extended at a particular angle.

11. An artificial eye for dolls, manikins and other toys, comprising a hemi-spherical eye developed from sheet metal or other similar material and formed with a transverse opening produced by bending inward horizontal portions of the material of the eye, eyelashes having their rear edges engaged into said transverse opening, and a rod forced into said transverse opening and clamping the rear ends of the eyelashes against the sides of said opening.

WILLIAM LORENZ.
LAZURUS W. POLLACK.