Feb. 28, 1939. M. WITTMANN 2,148,888

EYE FOR DOLLS

Original Filed Nov. 27, 1934 2 Sheets-Sheet 1

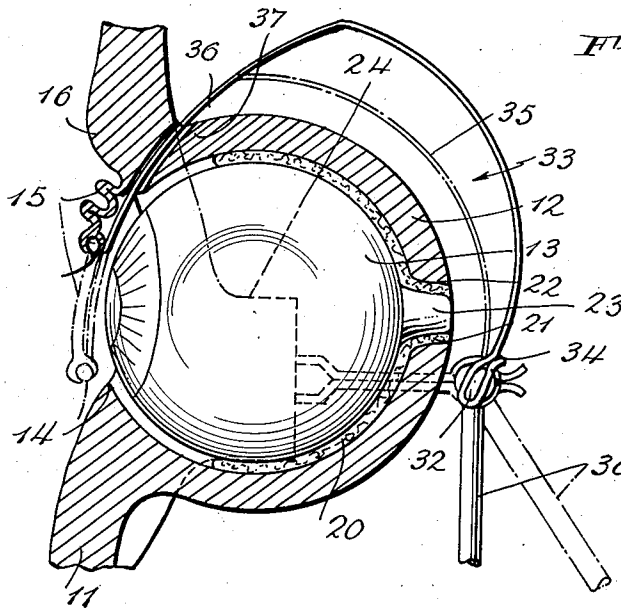

Fig. 1.

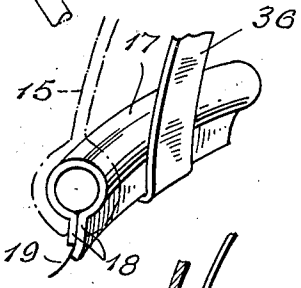

Fig. 4.

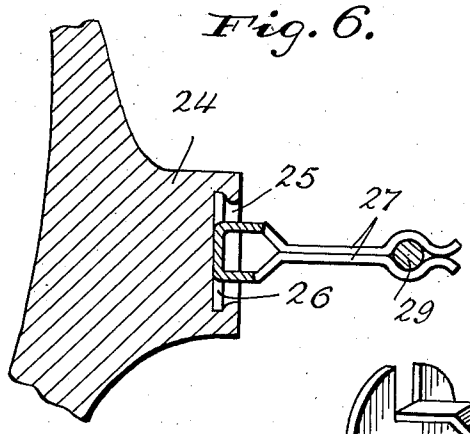

Fig. 6.

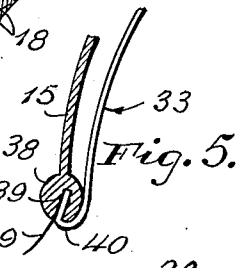

Fig. 5.

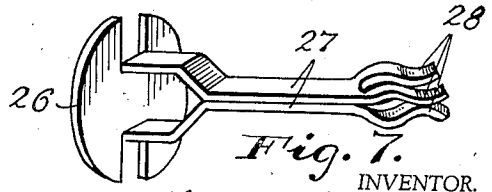

Fig. 7.

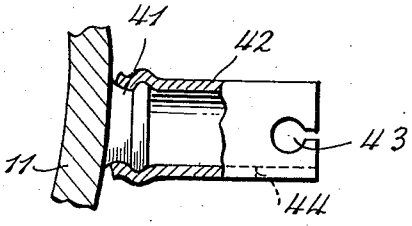

Fig. 8.

INVENTOR.
MARIE WITTMANN
BY Mueller & Ruhl
ATTORNEYS

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Fig. 2.

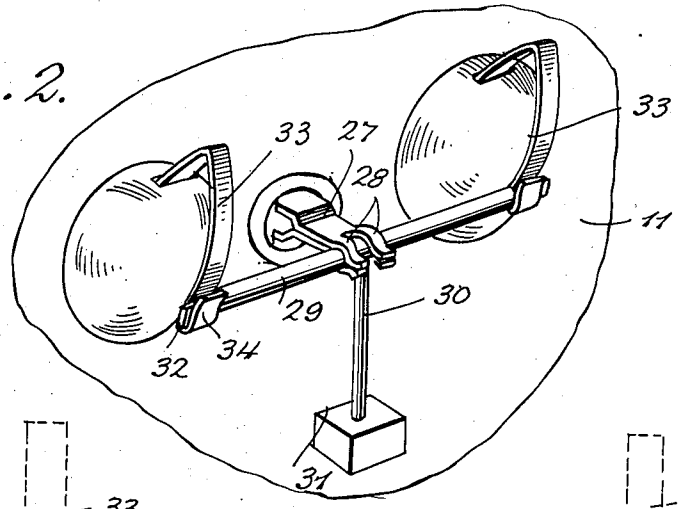


Fig. 3.

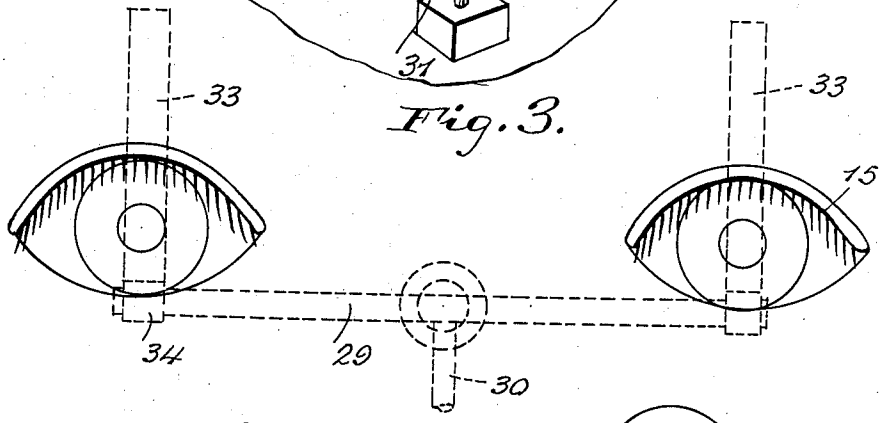


Fig. 9.

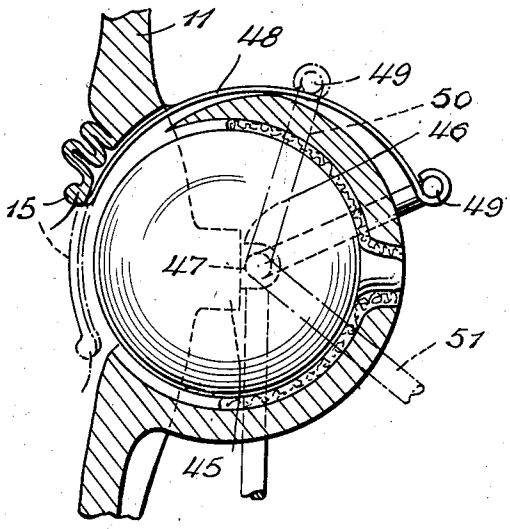
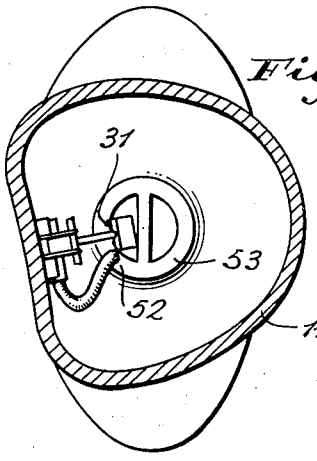


Fig. 10.



INVENTOR.
MARIE WITTMANN
BY Spencer & Kuhl
ATTORNEYS

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UNITED STATES PATENT OFFICE

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EYE FOR DOLLS

Marie Wittmann, New York, N. Y.

Application November 27, 1934, Serial No. 754,956
Renewed January 23, 1936

15 Claims. (Cl. 46—166)

This invention relates to improvements in dolls and like toy figures and has particular reference to an eye construction therefor.

An object of the invention is to provide an improved eye unit for dolls of simple and practical construction wherein the lid of the eye opens or closes when the doll is moved to upright or reclining positions.

Another object is to support an eyelid on the head of the doll in cooperative relation therewith but unattached to an eye in said head, and to move said lid relative to the eye when the doll is placed in upright or reclining positions.

Another object is to utilize a turning movement of the head of a doll relative to its body, after the latter has been placed in a reclining position to close the eyes of the doll, to maintain said eyes closed should said doll thereafter be raised to a substantially vertical or upright position.

A further object is to provide means for preserving the open or closed condition of the eyes, irrespective of subsequent changes in the posture of the doll body, and for subsequently releasing or restoring them.

A further object is to provide mechanism, operable by turning the head of the doll, for preserving the open or closed condition of the eyes, irrespective of subsequent changes in the posture of the doll body, and for subsequently releasing or restoring them by turning the head of the doll.

Another object is to provide mechanism for permitting the eyes of a doll to be open when the doll body is horizontal or vertical; to be closed when horizontal or vertical, and also to be open when vertical and closed when horizontal.

Another object is to provide an improved eye socket and mounting for the eye ball to facilitate assembly and support, as well as to render the structure impervious to liquids.

The above and other objects will appear more clearly from the following detailed description when taken in connection with the accompanying drawings which illustrate preferred embodiments of the inventive idea.

In the drawings:

Figure 1 is a vertical longitudinal section through one of the eyes of the doll and illustrating the means for controlling the lid of said eye, the dotted lines showing the position of the parts when the doll is placed in a reclining position.

Figure 2 is a perspective view taken from the interior of the head of the doll and illustrating the mechanism for controlling the eyelids.

Figure 3 is a fragmentary front elevation of the doll's eyes and associated mechanism.

Figure 4 is a fragmentary perspective view showing the eyelid construction and the connecting element which is attached thereto for controlling the movement of the lid.

Figure 5 is a fragmentary sectional view showing a modified lid construction.

Figure 6 is a fragmentary vertical section through the head of the doll and illustrating the operative position of a supporting member which carries the eyelid control mechanism.

Figure 7 is a perspective view of the supporting member shown in Figure 6.

Figure 8 is a view similar to Figure 6 showing a different form of supporting member.

Figure 9 is a view similar to Figure 1 showing a different form of control mechanism for the eyelid, and

Figure 10 is a horizontal section through the head of the doll illustrating the manner in which the eyelids are maintained in closed position when the head is turned relative to the body.

Referring more particularly to Figures 1 and 2, the numeral 11 designates a portion of the head of a doll which may be made of rubber or any other desirable material. Molded or otherwise formed in said head are a pair of eye sockets 12 each providing a cavity for receiving an eye unit 13, and each socket having an opening 14 in the front thereof through which the eye is visible when not closed or covered by the lid 15. This lid 15 is made quite thin so as to be easily flexed and forms an extension of the brow portion 16 of the doll's head so as to effectively simulate the human eyelid. As shown in Figure 4, the free edge of the eyelid 15 is enlarged and provided with a cavity for receiving arcuate tubular members 17 co-extensive with said edge of the eyelid and provided with abutting flanges 18 between which are clamped the eyelashes 19. The lid 15 is made so that when it is in open position the same will fold somewhat like the human eyelid to the full-line position in Figure 1 and when said lid is closed to the dotted-line position of said figure, by the mechanism presently to be described, said lid will be extended over the eye 13 so as to cover the same.

Preferably the eye unit 13 is supported within the socket 12 in spaced relation thereto by interposing between said eye and the wall of said socket a cushion 20 which may be formed from a sheet of soft sponge rubber or the like and which is provided with an extension 21 at its central portion which fits into a recess 22 formed in the back

of the socket 12. When the eye unit 13 is placed within the socket a projection 23 on the back thereof extends into the recess 22 lined by the portion 21 of the cushion. Thus, the eye 13 will, in effect, be fixed within the eye socket but due to the flexibility of the cushion 20 said eye may have a very slight movement relative to the socket, thus tending to minimize the fixed staring appearance of the ordinary type of doll's eyes.

As illustrated, the opening 14 of the socket 12 is smaller than the diameter of the eye ball 13 so that when the parts are assembled, the periphery of opening 14 spreads, due to its elasticity as the ball is forced therethrough. It resumes its normal shape as illustrated in Fig. 1, after the ball is lodged in position within the socket. It is seen that the socket and lining 20 cooperate to sustain the eye 13 in proper position by gripping it, and in conjunction with projection 23, prevent undesirable wabbling of the eye.

Assembly of the eyes is greatly facilitated, since they can be snapped into place through the front face, rather than being mounted from within the head, with its attendant difficulties.

Furthermore, this arrangement prevents entry of water around the eye and through the socket into the head of the doll. The significance of this feature is apparent where children bathe their dolls. During such operations, water may be splashed into the eyes, the head may be inadvertently immersed, or the child may actually use an eye dropper to simulate treatment. Eventually the head of the doll may become filled with water, unless measures are taken to prevent it. With the present improvements, the socket 12 which is molded integrally with the head, and the rubber lining 20, exclude undesirable and damaging liquids from entering the doll head and body through the eye sockets.

The lids 15 of the eyes of the doll are adapted to be controlled by a mechanism within the doll's head which is actuated by movements of the doll body from a substantially upright or vertical position to a reclining position, and vice versa. In the form illustrated in Figures 1 and 2, the interior of the doll's head 11 between the eye sockets is provided with an inwardly projecting enlargement 24 having a recess 25 in its free end. A supporting member illustrated in Figures 6 and 7 is attached to the enlargement 24 and, as best illustrated in Figure 7, this supporting member is formed from a single blank of material cut to form a base 26 which is adapted to be forced into the recess 25 to attach the supporting member to the projection 24. From the base extend the arms 27 which for a portion of their lengths are in abutting relation. The free extremity of each arm is bifurcated to form clips 28 which cooperate with the clips of the other arm to receive therebetween the medial portion of the rocker arm 29 which, for a major portion of its length, is circular in cross section. From said medial portion of the arm 29 there projects laterally the extension 30 having the weight 31 at its free end, said extension being movable between the clips 28 at the free ends of the supporting member. Each end of the rocker arm 29 is flattened as indicated at 32 so as to be engaged by a connecting member 33 the adjacent end of which is bent upon itself as indicated at 34 to form an attaching means for the connecting member. Said member is preferably made from an elongated strip of thin material of sufficient rigidity to actuate the lid 15 to which it is connected when the weight 31 swings from one position to another, and yet having enough flexibility to facilitate its connection to its associated lid 15 when assembling the mechanism. The connecting member 33 is curved throughout its entire length, the rear portion 35 thereof conforming substantially in contour to the socket 12 while the front portion 36 of said member is curved on an arc the center of which coincides substantially with the longitudinal axis of the rocker arm 29. The free extremity of the front portion 36 of the connecting member is attached in any suitable manner to a flange 18 of the tubular member 17 and said portion extends upwardly between the eye 13 and lid 15 and projects through an opening 37 formed in the eye socket 12. Thus, with the doll in a substantially vertical upright position, and the parts in the full-line position of Figure 1, should the doll's body be moved toward a horizontal or reclining position the weight 31 will swing toward the dotted-line position, rocking the arm 29 about its axis and thereby translating such movement, through the connections 33, into a movement of the lids 15 from the open folded position of Figure 1 toward their closed positions shown in dotted lines. From the foregoing, it will be obvious that when the doll is raised from a reclining position to an upright position, the consequent swinging of the weight 31 will reverse the action just described and withdraw the lids upwardly to their open positions.

In Figure 5 there is shown a modified form of lid construction in which the lid 15 is provided with an enlargement 38 along its free edge having a slot 39 therein to receive the bent end 40 of the connecting member 33 and also the eyelashes 19.

Figure 8 illustrates a different type of supporting member from that shown in Figures 6 and 7 and embodies a stud 41 formed upon the inner surface of the head 11 between the eye sockets. The supporting member 42, in this instance, is of tubular formation with its inner end fitted over the stud 41 and its outer end provided with opposed slots 43 adapted to receive the rocker arm 29, the bottom portion of the supporting member being cut away as indicated at 44 to form a recess for receiving the extension or shank 30 when the latter is in a substantially vertical position.

In Figure 9 there is shown another form of operating mechanism for the lid 15 in which the head 11 is provided with an interior projection 45 which suitably carries a supporting member 46 in which is rockingly disposed the arm 47. The longitudinal axis of this arm coincides with the center of curvature of the lid-connecting member 48 the outer end of which is attached to the free edge of the lid 15 while the inner end of said member is secured to the laterally projecting end 49 of an arm 50 which extends from one end of the rocker arm 29, a similar arm 50 being arranged at the other end of said rocker arm for attachment to the connecting member associated with the other eyelid. Depending from the medial portion of the rocker arm 47 is the extension 51 which carries a weight similar to the weight 31 so that the rocker arm will be turned about its axis and thus transmit a swinging movement to the arms 50 to actuate the connecting members 48 to open and close the eyelids.

The invention also provides means for maintaining the eyelids of the doll closed after the latter has been placed in a reclining position and thereafter raised to a substantially upright posi-

tion. This result is accomplished by a turning movement of the head relative to the body of the doll after the latter has been placed in a reclining position. When in said reclining position the weight **31** has been swung toward the rear of the head **11** and when the latter is turned, as shown in Figure 10, said weight will move into engagement with and preferably behind a projection **52** carried by the body of the doll. In the present instance, this projection is shown as a rubber tubing which joins the mouth of the doll with a neck-piece **53** fitted into the neck portion of the doll body as specifically disclosed in my co-pending application, Serial Number 658,473, filed February 25, 1933. With the weight thus engaged with said projection, the same will be prevented from swinging forwardly when the doll is moved toward an upright position, as long as the head **11** remains in its turned position. However, when said head is moved face forwardly again, said weight **31** will be moved away from the projection **52** and, when released from engagement therewith, will swing forwardly and thus effect the raising of the eyelids **15** to their open positions. As these features constitute divisible subject matter they have been incorporated in applicant's copending application Serial No. 61,739, filed January 31, 1936.

What is claimed is:

1. In combination, a doll head having an eye socket, an eye therein, a flexible lid formed integrally with said head and movable to open and closed positions relative to said eye, a connection extending through said socket and having an end joined to the free edge of said lid, and a swingable weight to which is joined the other end of said connection so that a swinging movement of said weight is translated into an opening or closing movement of said lid.

2. In combination, a doll head having eye sockets therein, an eye in each socket, a supporting member attached to said head between said sockets, said supporting member formed from a blank of material cut to provide a base portion adapted for attachment to said head, arms extending from said base portion and having their extremities formed into cooperating clips, a weighted rocker arm having its intermediate portion engaged between said clips, a flexible lid for each eye movable to open and closed position relative thereto, and a connection between each end of said rocker arm and one of said lids to move the latter when said arm is rocked.

3. In combination, a doll head, an eye therein, a lid for the eye forming an integral part of said head and unattached to said eye, and means within said head and connected to said lid to move the same relative to the eye.

4. In combination, a doll head, an eye fixed therein, a soft pliable lid for the eye extending from and forming a part of the brow portion of the head and having a free edge unattached to said eye, and means connected to the free edge of said lid to move the same to open and closed positions relative to said eye.

5. In combination, a doll head having an eye mounting, an eye supported thereby, a lid formed integrally with said head and movable relative to and independently of said eye to open and closed positions, and means to move said lid.

6. In combination, a doll head having an eye mounting, an eye supported thereby, a lid formed integrally with said head and movable relative to said eye to open and closed positions and having a free edge, and means connected to the free edge of said lid to move the same.

7. In combination, a doll head having an eye mounting, an eye supported thereby, a lid formed integrally with said head and made of soft flexible material foldable and extensible relative to and independently of said eye to open and closed positions, respectively, and means to move said lid.

8. In combination, a doll head having an eye mounting forming an integral part thereof, an eye fixed therein, a soft flexible lid movable relative to said eye to open and closed positions, a swingable weight carried by said head and a connection between said weight and lid and extending through said eye mounting to move said lid when said weight is swung.

9. In combination, a doll head having eye sockets therein, an eye in each socket, a supporting member attached to said head between said sockets, a weighted rocker arm carried by said supporting member, a flexible and foldable lid for each eye formed integrally with said head and extending therefrom adjacent its associated socket, said lid being movable relative to its eye to open and closed positions and having a free edge, a connection between said rocker arm and each of said lids for moving the latter when said arm is rocked, a portion of said connection extending through said socket and joined to the free edge of its lid, and being formed on an arc whose center coincides with said rocker arm.

10. The combination with a doll body, a head turnable thereon and having a mouth opening, and a flexible tubing connecting said mouth opening with the interior of said body; of an eye closing and opening mechanism carried by said head and having a portion releasably engageable with said tubing, after said eye has been closed and said head turned in one direction to maintain said eye closed whether said body be in a reclining or upright position.

11. The combination with a doll body, a head turnable thereon and having a mouth opening, and a flexible tubing connecting said mouth opening with the interior of said body; of an eye closing and opening mechanism carried by said head and having a portion releasably engageable with said tubing, after said eye has been closed and said head turned in one direction to maintain said eye closed whether said body be in a reclining or upright position, said head being turnable in an opposite direction to release said portion from engagement with said tubing to allow said mechanism to open said eye.

12. In combination, a doll head having an eye socket, an eye therein, a flexible folding lid secured to said head and movable to open and closed positions relative to said eye, an eye operating connection disconnected from said eye having portions within and without said head, said connection having an end joined to said lid outside said head, and a movable weight joined to said connection within the head so that movement of said weight is translated into an opening or closing movement of said lid.

13. In combination, a doll head, an eye therein, a folding lid for the eye secured to said head adapted to fold upon itself and unattached to said eye and means within said head and connected to said lid to move the same relative to the eye.

14. In combination, a doll head having an eye mounting, an eye supported thereby, a lid fixedly connected at one part with said head and un-

connected with the eye and made of flexible material foldable and extensible relative to said eye to open and closed positions, respectively, and means to move said lid.

15. In combination, a doll head having an eye mounting, an eye supported thereby, a flexible lid for said eye movable relative to said eye to open and closed positions, means providing an enlargement along the free edge portion of said lid for simulating the human eye lid, eyelashes depending from said enlargement, and means connected to said lid for moving the same independently of the eye.

MARIE WITTMANN.