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H. BRUDNEY

2,931,138

ROLLING EYE

Filed March 25, 1957

FIG. 1.

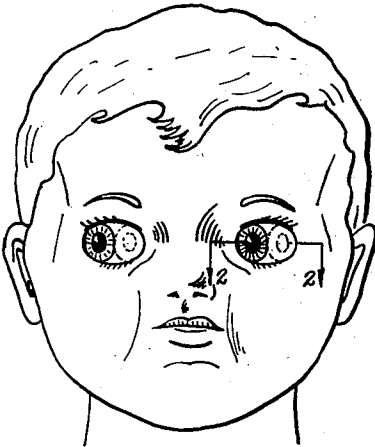


FIG. 3.

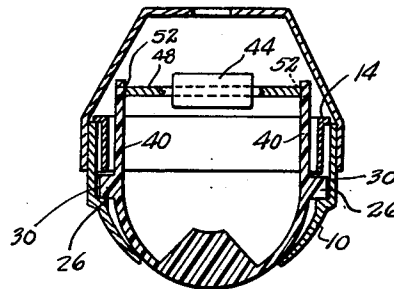


FIG. 2.

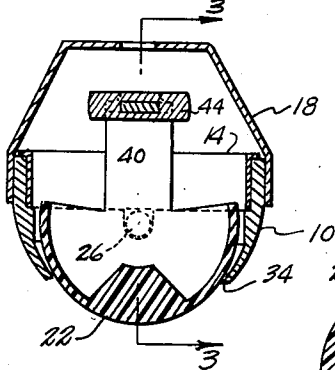


FIG. 4.

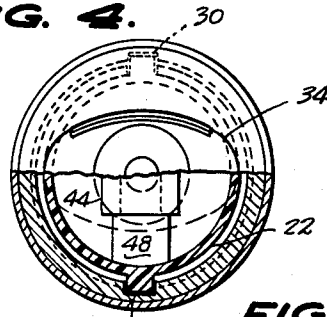


FIG. 7.

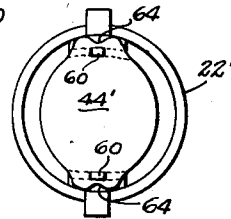


FIG. 5.

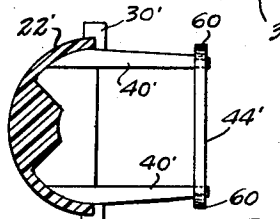
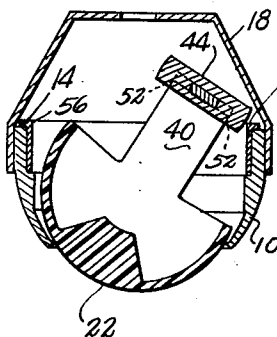


FIG. 6.

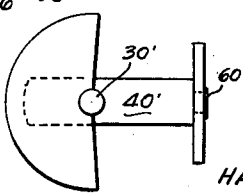


FIG. 8.

BY

INVENTOR.
HARRY BRUDNEY,

Albert M. Jelinek
ATTORNEY.

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ROLLING EYE

Harry Brudney, New York, N.Y.

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1 Claim. (Cl. 46—167)

This invention relates to dolls' eyes and more particularly to an eye having a movable eyeball capable of rotation in a horizontal plane.

It is an object of the invention to provide a doll eye with an eyeball mounted on trunnions, constructed and weighted in such a manner than inertia will maintain the eyeball in substantially fixed position while the doll head is rotated on a vertical axis. Such an arrangement creates the illusion that the doll eyes are swinging from side to side.

It is another object of the invention to provide a swinging or rolling eyeball unit of rugged construction and exceedingly simple manufacture.

It is a still further object of the invention to provide the combination of a rolling eyeball and casing which may be cheaply produced by mass production methods.

Briefly, my invention comprises the utilization of an eye socket or shell which carries an eyeball having a pair of diametrically opposed pivot pins or trunnions on a vertical axis in a substantially frictionless pivot arrangement. The eyeball is provided with diametrically opposed extensions which support a diametrically disposed weight. Owing to the mass of the weight, and its position with respect to the rotary axis of the eyeball, any reasonably rapid motion of the doll head by way of a rotation about a vertical axis or by way of a translation in a vertical plane produces an eye rolling effect as will hereinafter be apparent from the detailed disclosure which now follows in conjunction with the appended drawing in which:

Fig. 1 is a front view of a doll head utilizing a pair of eye units according to the invention;

Fig. 2 is a horizontal section through one of the doll eye units;

Fig. 3 is a vertical section through 3—3 of Fig. 2;

Fig. 4 is a front view of one of the doll eye units, partially in section;

Fig. 5 is a view similar to Fig. 2 but showing a relatively rotated position of the eyeball with respect to the socket;

Fig. 6 is an elevation in section of a modified unit showing only the eyeball and the weight associated therewith;

Fig. 7 is a rear view primarily disclosing the weight and mode of attachment of the modified eyeball;

Fig. 8 is a plan view of the modified eyeball; and

Fig. 9 is a perspective, taken from the rear of the modified eyeball unit showing one of the weight supporting tongues.

Referring now to Figs. 1 through 5, my invention comprises a housing consisting of an eye shell or socket 10 preferably of molded plastic, a reinforcing ring 14 preferably of metal, a rear casing 18 preferably of metal, and a molded eye ball 22. The eyeball is supported on a pair of diametrically opposed trunnions 26 which are vertically aligned and accommodated in sockets 30 formed

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in the shell 10. The sockets may take the form of longitudinal grooves into which the trunnions are slid, the reinforcing ring 14 serving as a retaining ring to hold the eyeball in place. Thus, peripheral pressure of the casing 18 forces the free rim of socket 10 against ring 14 to form a rugged and tight structure which supports the eyeball without, however, impeding relative rotary motion in a horizontal plane so that when viewed from the front the eyeball is clearly visible through the socket aperture 34 and any change in relative angular position, as illustrated in Fig. 1, readily noticed. Thus, as seen in Fig. 1, the solid lines show the eyeballs in one position and the dotted lines show them in a horizontally relatively rotated position.

In order to effect a rolling or a horizontal swinging motion, each eyeball has an integrally molded pair of diametrically opposed arms 40 between which is carried a weight or mass 44. The weight 44 may be carried on a pair of small vertical bars such as 48 suitably fastened at 52 to the arms 40. Thus, the bars 48 may be plastic or metal with the weight 44 cast or molded therearound, the ends of bars 48 being clinched, cemented, or otherwise secured in any suitable manner.

The weight 44 is of such width as to alternately engage diametrically opposed portions such as 56 of ring 14 to serve as a stop, best seen on Fig. 5. It will, of course, be understood that such width of the weight is in correspondence with the iris area of the eyeball so that the iris area is substantially visible at extreme positions of the eyeball.

The length of arms 40 taken in conjunction with the mass of the weight 44 is such as to provide a suitable degree of rotational inertia sufficient to overcome the trunnion friction so that when the doll head is rotated on a vertical axis the eyeballs stay relatively stationary whereby relative angular movement between the eyeballs and their respective apertures 34 simulates horizontal rolling or swinging.

The parallel construction of the arms 40 supporting the weight 44 between them in a symmetrical manner affords a rugged and easily manufactured construction.

Referring now to the modified form of the invention, shown in Figs. 6 through 9, the eyeball 22' has molded therewith a pair of arms 40' and trunnions 30'. The arms 40' are of a molded formation extending substantially into the eyeball and joining the inner surface thereof. This is in contrast with the modification first described wherein the arms extend outwardly of the rear edge of the eyeball. The trunnions 30' are molded integrally with the eyeball and the respective arms, as shown.

A weight 44' is provided which may be of metal stamped in the shape shown and slotted so that tongues 60 on the respective arms may pass through respective slots whereupon the metal is crimped at the point 64 so as to squeeze the tongue 60 and securely lock the weight in place.

Having thus described my invention, I am aware that various changes may be made without departing from the spirit thereof and, accordingly, I do not seek to be limited to the precise illustrations herein given except as set forth in the following claims.

I claim:

A rolling eye unit comprising an eye socket having an aperture, an eyeball carried within said socket visible through said aperture and supported for pivoting about a vertical axis, a pair of diametrically opposed arms carried by said eyeball and extending rearwardly thereof and a weight carried by said arms, said eyeball being generally hemispherical and hollow and having a rear

edge; a pair of radially extending diametrically opposed coaxial trunnions, the axes thereof being vertical and normal to the direction of extension of said arms; said socket having bores for pivotally supporting respective trunnions, each trunnion being disposed approximately at said rear edge; said arms extending from points adjacent said rear edge and adjacent respective trunnions, said weight being carried at the free ends of said arms and disposed therebetween.

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