Nov. 10, 1931. A. C. MABY 1,831,602

MOVABLE EYES FOR DOLLS

Filed Jan. 3, 1930

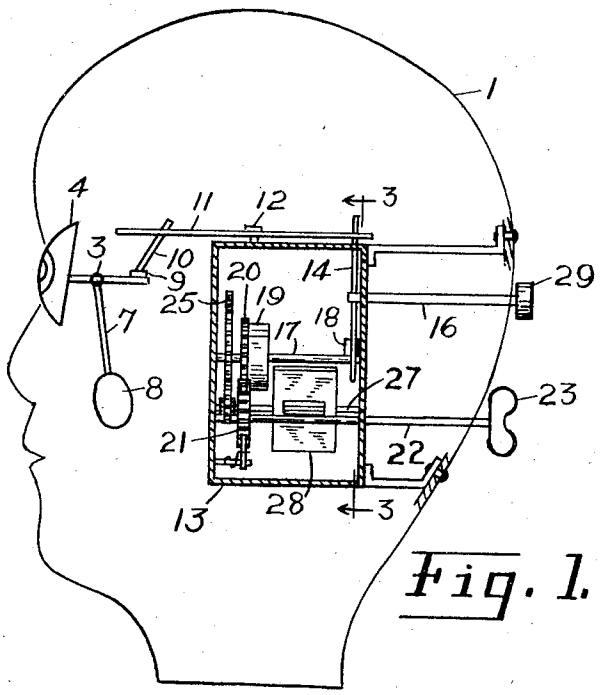
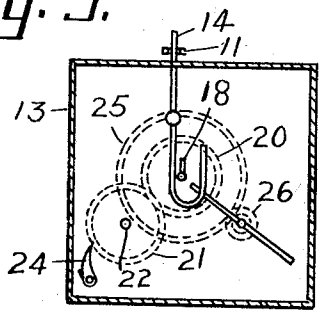


Fig. 1.

Fig. 3.



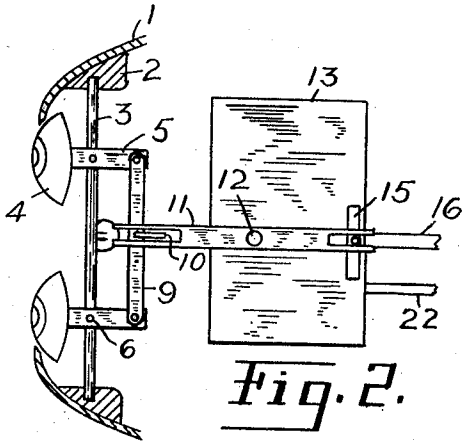


Fig. 2.

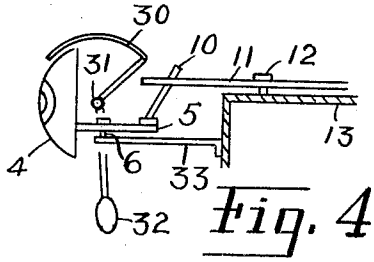


Fig. 4.

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UNITED STATES PATENT OFFICE

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MOVABLE EYES FOR DOLLS

Application filed January 3, 1930. Serial No. 418,235.

This invention relates to dolls and more particularly to dolls having movable eyes.

The object of the invention is to devise means whereby the eyes of a doll may be moved laterally as well as up and down, so as to produce the effect of looking from side to side.

Referring to the drawings:

Fig. 1 is a sectional side elevation of a doll's head showing the mechanism within for moving the eyes.

Fig. 2 is a sectional plan view of the head and mechanism.

Fig. 3 is a section taken on line 3—3 of Fig. 1 showing the mechanism.

Fig. 4 shows a modification in which the eyes move from side to side only and separate eye lids are provided to effect the opening and closing of the eyes.

The head 1 of the doll may be provided with bosses 2 in which a horizontal rod 3 may be rotatably mounted. The eyes 4 are fixed on arms 5 pivotally attached at 6 to rod 3 to turn about vertical axes but constrained to turn with rod 3 when the latter turns about its axis. A depending arm 7 fixed to rod 3 is provided with a weight 8 to rock rod 3 when the head is moved from an upright to a lying position and vice versa to move the eyes to open and closed positions. The rear ends of arms 5 are pivotally connected to a link 9 having an arm 10 rigidly fixed thereto and reaching through the forward end of a bifurcated lever 11 pivoted at 12 on the casing 13 of the operating mechanism. The rear end of lever 11 is also bifurcated to receive the upper end of a wire 14 reaching out through an opening 15 in the casing. The wire is attached to a rod 16 journaled in the casing and provided with a knob at its outer end. The lower end of wire 14 may be bent over to form a U as in Fig. 3. A shaft 17 journaled in the casing has a projection 18 between the two sides of the wire U. The rotation of the shaft 17 will cause projection 18 to engage wire 14 first on one side and then on the other to rock the wire back and forth. This will cause lever 11 to oscillate on its pivot 12 to move arm 10 and link 9 first to one side and then to the other.

The arms 5 will thus be rocked on their pivots 6 to cause the eyes to turn from side to side in their sockets and the doll will appear to be looking from one side to the other.

Mechanism may be provided to turn shaft 17 automatically. To this end a motor spring barrel 19 may be mounted on the shaft. The spring (not shown) within the barrel may be secured at one end to the shaft and at the other to the barrel, the latter being loose on the shaft. A gear 20 fixed to the spring barrel meshes with gear 21 fixed on shaft 22 journaled in the casing. A knob 23 may be provided so that shaft 22 may be turned to wind the spring. A spring-pressed retaining pawl 24 cooperates with gear 21. A large gear 25 fixed on shaft 17 meshes with a pinion 26 fixed on shaft 27 journaled in the casing and provided with a plate or vane 28 to serve as a governor to prevent shaft 17 from turning too rapidly.

Rod 16, like shaft 22, reaches out through the back of the doll's head and has a knob 29. The wire 14 may be flexible so that irrespective of the position of the projection 18, the rod 16 may be turned to move lever 11 from side to side to cause the eyes to move. As the eyes move up and down, turning about axis 3 to open and close, the arm 10 will, of course, move too, but will remain between the prongs of the lever 11.

In Fig. 4 the eyes 4 are movable about their axes 6 only. Shells or eye lids 30 mounted to turn on a horizontal axis 31 are controlled by a depending weight 32. The lids are adapted to swing down over the eyes to cover them. The arms 5 are pivoted on brackets 33 which may be attached to the inside of the head or to the casing 13. The arm 10 is con-

nected through lever 11 to the actuating means as in Figs. 1, 2 and 3.

I claim:

In combination, a doll's head, a pair of eyes within said head mounted for movement about horizontal and vertical axes, gravity controlled means for oscillating the eyes vertically and means independent of gravity for oscillating the eyes horizontally.

Signed at New York, in the county of New York and State of New York, this 30th day of December A. D. 1929.

ADELBERT C. MABY.