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MOVABLE EYE STRUCTURE FOR FIGURE TOYS

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2 Sheets-Sheet 1

Fig. 1.

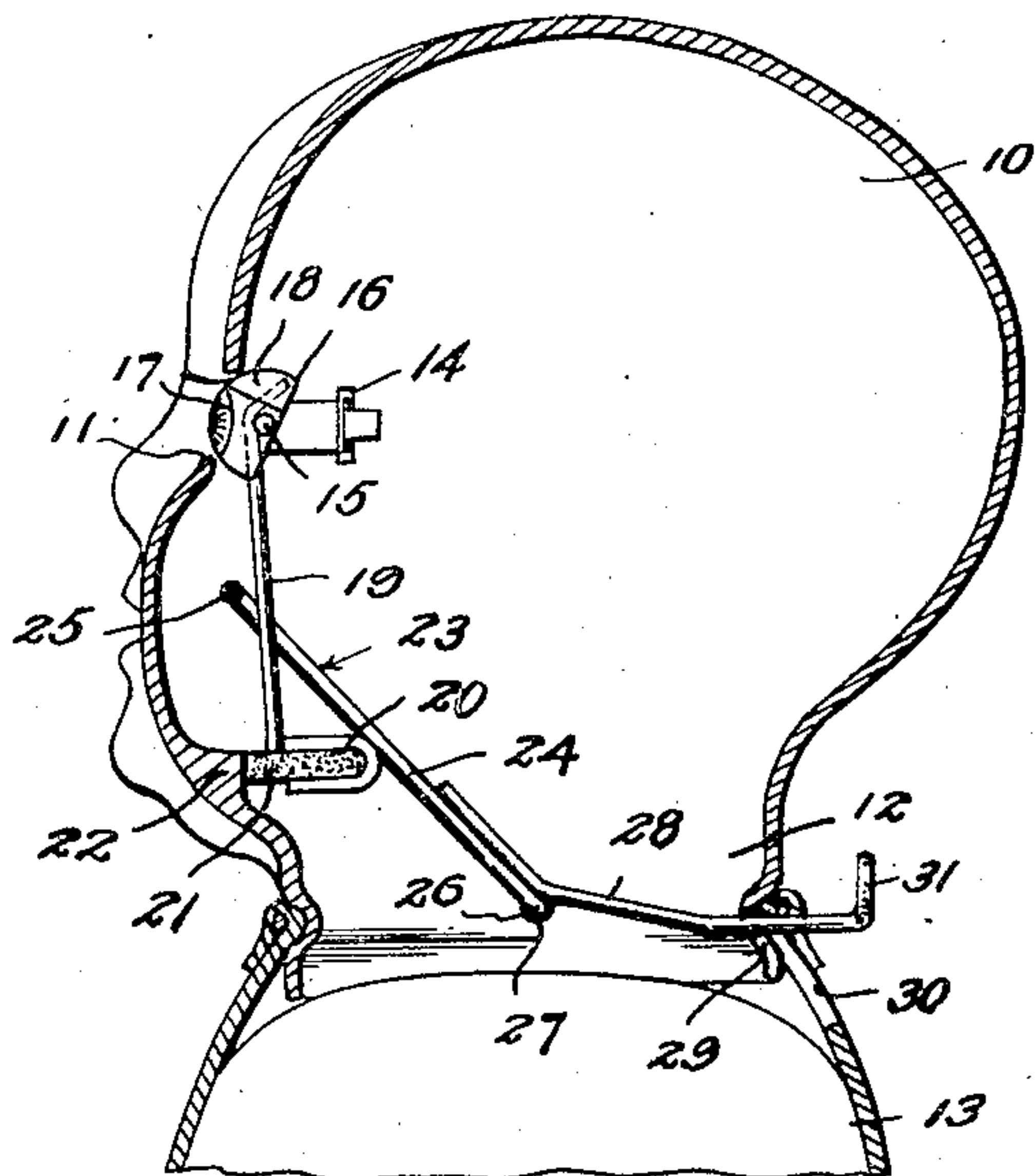


Fig. 2.

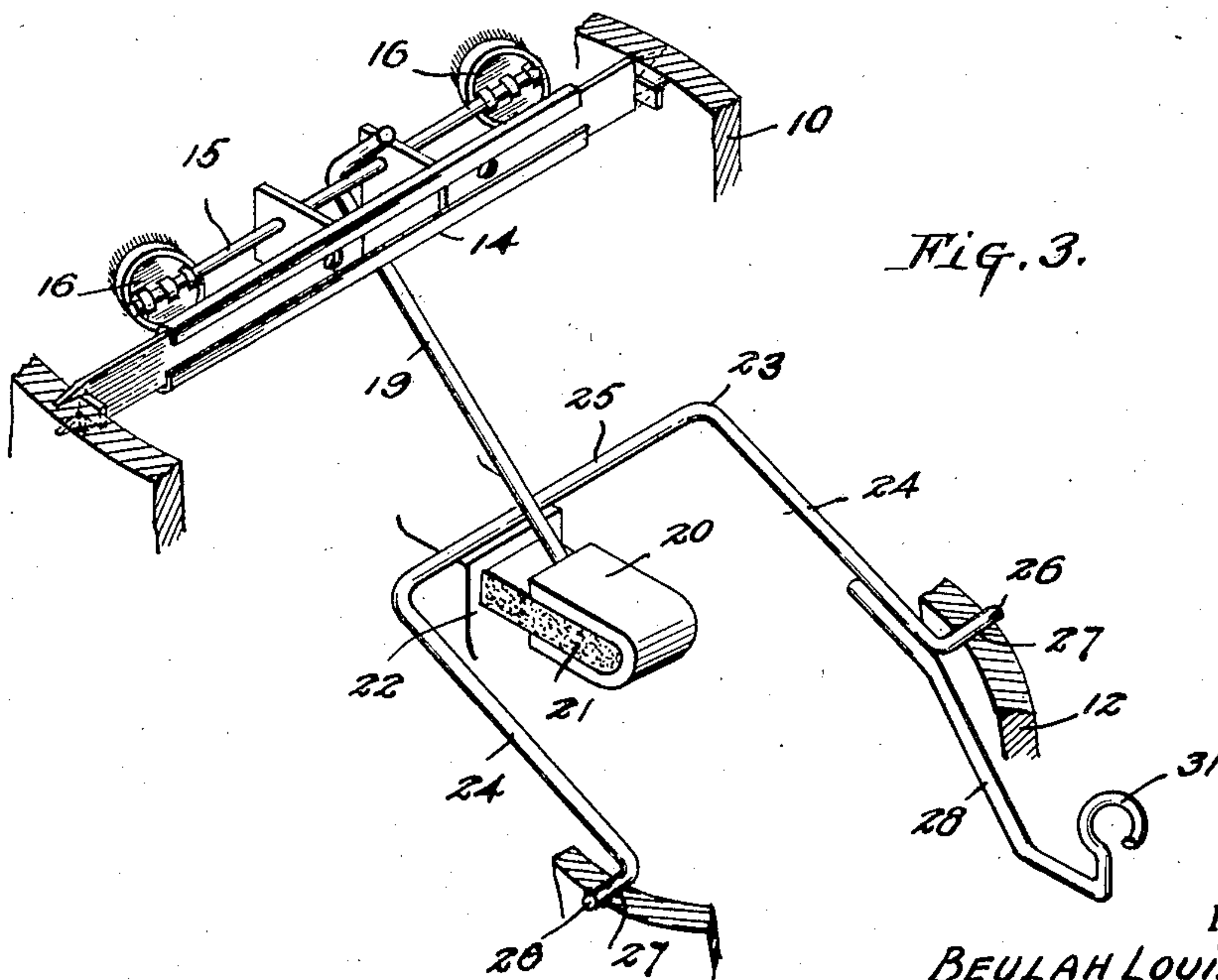
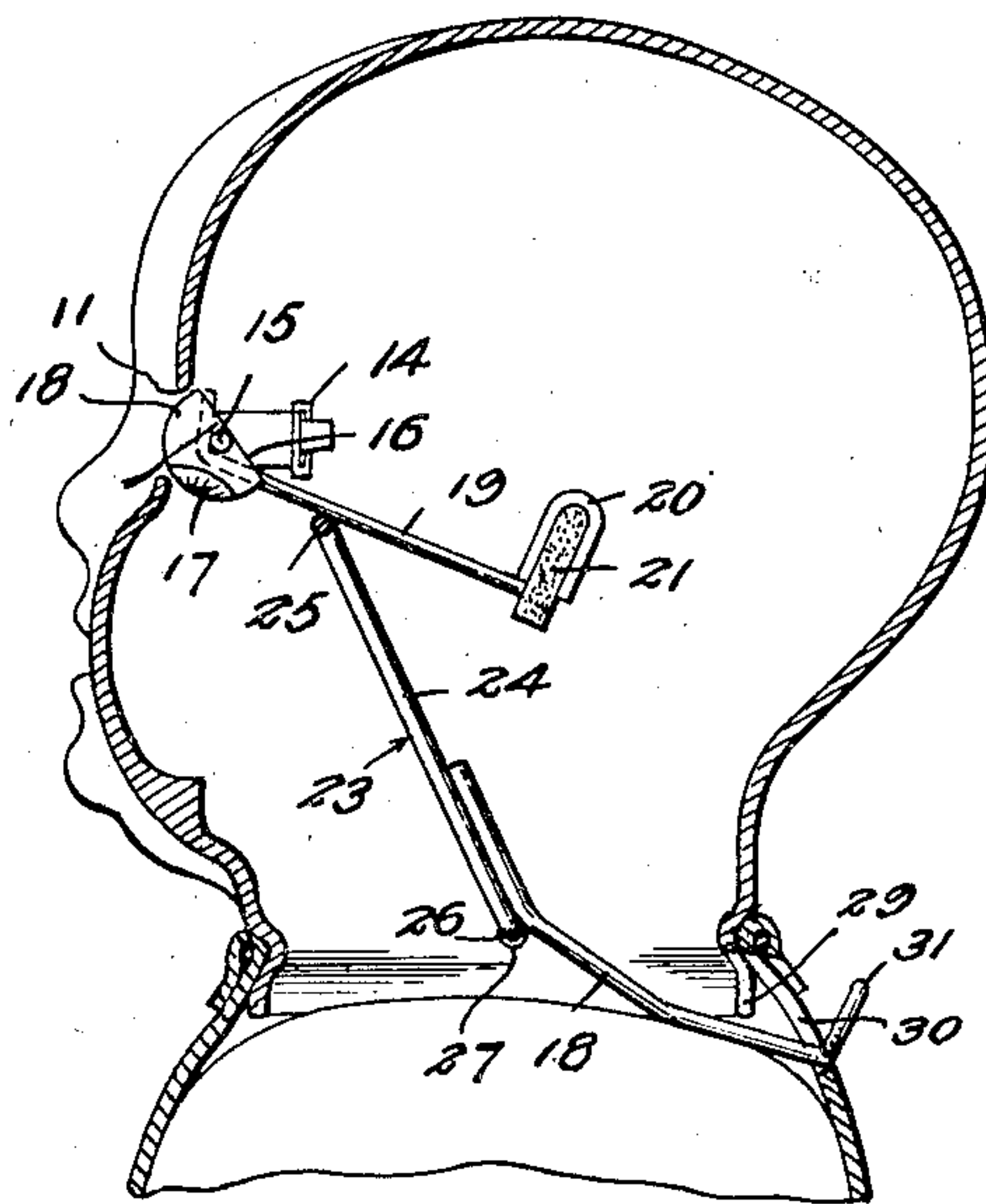


Fig. 3.

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MOVABLE EYE STRUCTURE FOR
FIGURE TOYS

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5 Claims. (Cl. 46—169)

This invention has general relation to figure toys and refers more particularly to an improvement in a movable eye structure for dolls or other figure toys.

5 The invention broadly comprehends an eye structure which in addition to effecting the gravitational closing of the eyes when the doll is disposed in a horizontal reclining position, embodies an improved means for manually closing the eyes
10 when the doll is in an upright position.

More particularly the invention resides in the provision of manually operable means for closing the eyes when the doll is in an upright position, which means coacts with a weighted rod so as to
15 swing the same from the position in which the eyes are opened when the doll is upright.

The invention further embodies a figure toy provided with a movable eye structure of the indicated character and having one or more movable limb members, together with a coupling connecting the means for manually closing the eyes
20 with one or more of the limb members to cause said limb members to move in unison with the eyes when they are manually closed.

25 Other objects of the invention are to provide an improved movable eye structure for dolls which is comparatively simple in its construction, inexpensive to produce and incorporate in the figure toy and which is highly efficient for
30 its intended purpose.

With the above recited and other objects in view, reference is now made to the following specification and accompanying drawings in which there is disclosed several preferred forms
35 of the invention, while the claims cover variations and modifications thereof which fall within the scope of the invention.

In the drawings,

40 Fig. 1 is a fragmentary vertical sectional view through the upper portion of a doll equipped with a movable eye structure made in accordance with the invention and showing the parts in normal position with the eyes opened and the doll
45 in upright position.

Fig. 2 is a similar view showing the manually operable means in a position closing the eyes, while the doll is in upright position.

50 Fig. 3 is a fragmentary perspective view of the eye set and the improved means for closing the eyes showing the same in juxtaposition.

Fig. 4 is a fragmentary vertical sectional view through the upper portion of a doll illustrating a modification of the actuating means for closing the eyes and simultaneously swinging the arms
55 and illustrating the parts in normal position with the eyes open.

Fig. 5 is a similar view showing the eyes in closed position and the arms swung rearwardly.

60 Fig. 6 is a horizontal sectional view taken approximately on the line 6—6 of Fig. 4.

Referring to the drawings by characters of reference, 10 designates the hollow head of a doll having eye openings 11 and a neck portion 12 which is connected to the body 13.

An eye set 14 is supported within the hollow head 10 and includes a rock shaft 15 which is journaled on a horizontal axis for rotatory movement and which rock shaft has secured thereto a pair of semi-spherical eye members 16 for movement therewith, the eyes being located in juxtaposition to the eye openings 11 for movement with
10 reference thereto to display the eye ball simulating portions 17 in one of its positions and to display the lid simulating portions 18 in another position. The rock shaft 15 has depending from
15 the central portion thereof a rod 19 which is provided at its lower terminal with a weight 20 and a cushioned bumper 21 which is designed to engage with a stop boss 22 to limit the movement of the rock shaft in one direction as illustrated
20 in Fig. 1 of the drawings.

In order to provide means for manually closing the eyes when the doll is in an upright position, a substantially U-shaped yoke 23 is provided which includes a pair of side arms 24
25 joined by a bight 25 and having out-turned free terminals 26 constituting trunnions which are fulcrumed in bearing openings 27 in the opposite sides of the neck portion 12 of the head 10 substantially medially between the front and rear
30 of the neck portion. This mounts the yoke with the bight portion 25 disposed in front of the weighted rod 19 so that swinging of the same rearwardly causes the bight 25 to engage with the rod and swing the same from the position
35 shown in Fig. 1, to the position shown in Fig. 2, resulting in the turning of the eye members 16 from the opened to the closed position.

In order to provide means for swinging the yoke 23, a manipulating extension 28 is secured
40 to one of the arms 24 and projects rearwardly therefrom through a notch 29 in the lower edge of the neck portion 12 of the head and through a slit 30 in the body 12. The free protruding extremity of the manipulating extension 28 is preferably provided with a finger engaging loop 31
45 which will be concealed by the clothing of the doll. After the yoke has been swung to the position illustrated in Fig. 2, the weighted rod 19 will cause the yoke to be swung downwardly to
50 the position illustrated in Fig. 1 when the manipulating extension is released. It will also be observed that when the doll is placed in a reclining position, the yoke 23 does not interfere with the gravitational closing of the eyes.
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In the construction and arrangement described, it will be apparent that the yoke, which is preferably of a spring wire, may be readily emplaced in the doll's head by springing the trunnion free terminals towards each other and insert the same
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in the bearing openings 27 after which the inherent resiliency of the wire causes the extension and retention of the trunnions in the bearing openings. It thus follows that standard types of dolls' heads may be used without requiring material alterations in that the only difference of construction is the formation of the bearing openings and the notch 29 for accommodating the manipulating extension.

10 In the form of the invention illustrated in Figs. 4, 5 and 6, the gravitationally movable eye set and the yoke 23 are identical with that described in the previous form. In this instance, however, the actuating means for the yoke consists of a pair of extensions 35 which are secured to the side arms 24 and curve rearwardly and downwardly and lie between the body covering 36 and the stuffing. The terminals of the manipulating extensions 35 are formed with eyes 37 and in this instance the arm members 38 of the doll are designed for front and rear swinging movement upon flexing of the body of the doll by inward pressure exerted at the rear of the shoulder portions as indicated by the arrows in Fig. 6. In order to cause the arms 38 to swing rearwardly in unison with the closing of the doll's eyes, coupling rods 39 are provided, one for each arm, and said coupling rods extend through the eyes 37 and are formed with a terminal eye 40. The coupling rods 39 are curved to follow the contour of the body and are located between the body covering and stuffing, and the remaining terminals 41 of said rods are disposed at an angle and engage concentrically through apertures 42 in the arm members. It thus follows that pressure applied at the rear of the shoulders to flex the body inwardly will swing the arms rearwardly and as shown in Fig. 2 will depress and swing the manipulating extensions 35 forwardly and downwardly to elevate the yoke 23 for causing the eyes to be closed in unison with the movement of the arms.

What is claimed is:

1. In a doll, the combination with a hollow head having eye openings, a rock shaft journaled therein for rotatory movement on a horizontal axis, a pair of eyes secured to said shaft and located in juxtaposition to the eye openings, and a rod depending therefrom having a weight at its lower end for rocking the shaft when the doll is moved to and from its upright and reclining positions for gravitationally moving the eyes to opened and closed relation to the eye openings, of manually operable means coacting with the weighted rod for swinging the same in moving the eyes to closed position when the doll is upright, said means comprising a yoke having laterally projecting trunnions journaled in opposite sides of the head and mounting the same for swinging movement of the bight portion thereof in an arcuate path to engage with and swing the weighted rod to a position closing the eyes.

2. In a doll, the combination with a hollow head having eye openings, a rock shaft journaled therein for rotatory movement on a horizontal axis, a pair of eyes secured to said shaft and located in juxtaposition to the eye openings and a rod depending therefrom having a weight at its lower end for rocking the shaft when the doll is moved to and from its upright and reclining positions for gravitationally moving the eyes to opened and closed relation to the eye openings, of manually operable means coacting with the weighted rod

for swinging the same in moving the eyes to closed position when the doll is upright, said means comprising a yoke having laterally projecting trunnions journaled in opposite sides of the head and mounting the same for swinging movement of the bight portion thereof in an arcuate path to engage with and swing the weighted rod to a position closing the eyes, and a manipulating extension of said yoke disposed exterior of the doll's head.

3. In a doll, the combination with a hollow head having eye openings, a rock shaft journaled therein for rotatory movement on a horizontal axis, a pair of eyes secured to said shaft and located in juxtaposition to the eye openings and a rod depending therefrom having a weight at its lower end for rocking the shaft when the doll is moved to and from its upright and reclining positions for gravitationally moving the eyes to opened and closed relation to the eye openings, of manually operable means coacting with the weighted rod for swinging the same in moving the eyes to closed position when the doll is upright, said means comprising a yoke having laterally projecting trunnions journaled on opposite sides of the neck portion substantially medially thereof and a rearward extension disposed exterior of the doll's head for rocking the same on the trunnion to move the bight portion in an arcuate path to engage with the rod and to swing the rod and weight to a position closing the eyes.

4. In a doll, the combination with a body having a relatively movable arm and a hollow head having eye openings, a rock shaft journaled therein for rotatory movement on a horizontal axis, a pair of eyes secured to said shaft and located in juxtaposition to the eye openings, and a rod depending therefrom having a weight at its lower end for rocking the shaft when the doll is moved to and from its upright and reclining positions for gravitationally moving the eyes to opened and closed relation to the eye openings, of manually operable means journaled in opposite sides of the neck portion and engageable with the weighted rod and with an arm of the doll for swinging the weighted rod to a position closing the eyes when the doll is upright, and simultaneously swinging the arm with reference to the body of the doll.

5. In a doll, the combination with a body having a relatively movable arm and a hollow head having eye openings, a rock shaft journaled therein for rotatory movement on a horizontal axis, a pair of eyes secured to said shaft and located in juxtaposition to the eye openings, and a rod depending therefrom having a weight at its lower end for rocking the shaft when the doll is moved to and from its upright and reclining positions for gravitationally moving the eyes to opened and closed relation to the eye openings, of a yoke having laterally projecting trunnions journaled in opposite sides of the neck portion and engageable with the weighted rod and provided with a depending manipulating extension and means extending into an arm of the doll coacting with said extension for swinging the weighted rod to a position closing the eyes when the doll is upright and simultaneously swinging the arm with reference to the body of the doll by manually depressing the doll body in the region of the said extension.

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