A. C. HOVER.

DOLL EYES MECHANISM.

APPLICATION FILED MAY 13, 1908.

903,573.

Patented Nov. 10, 1908.

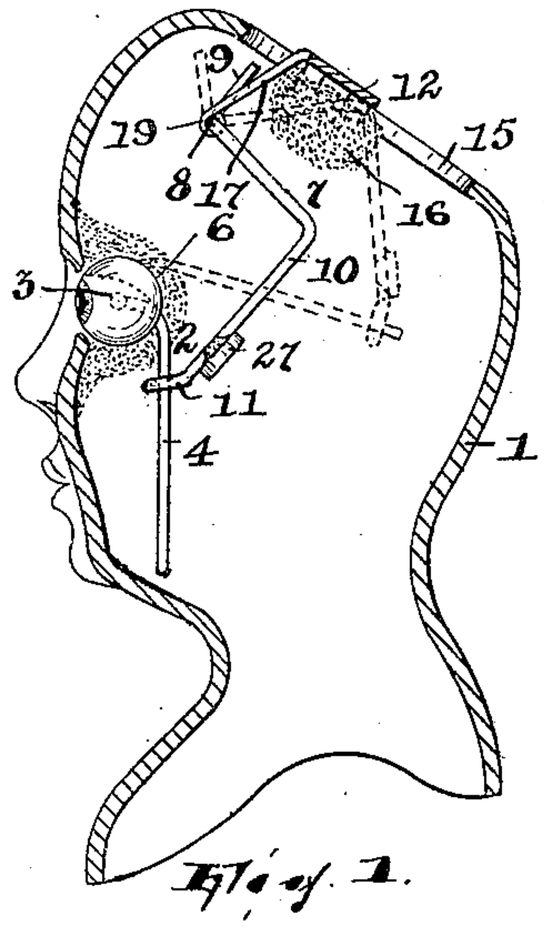

Fig. 1.

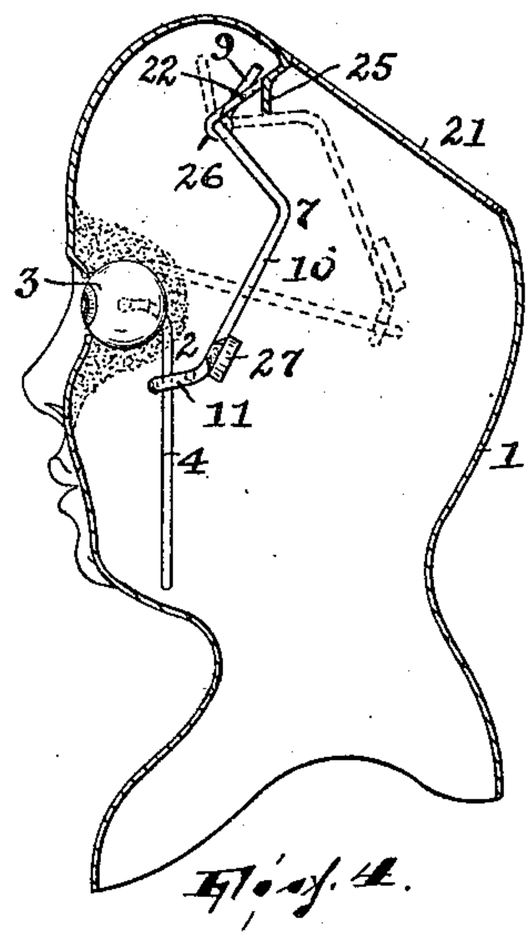

Fig. 4.

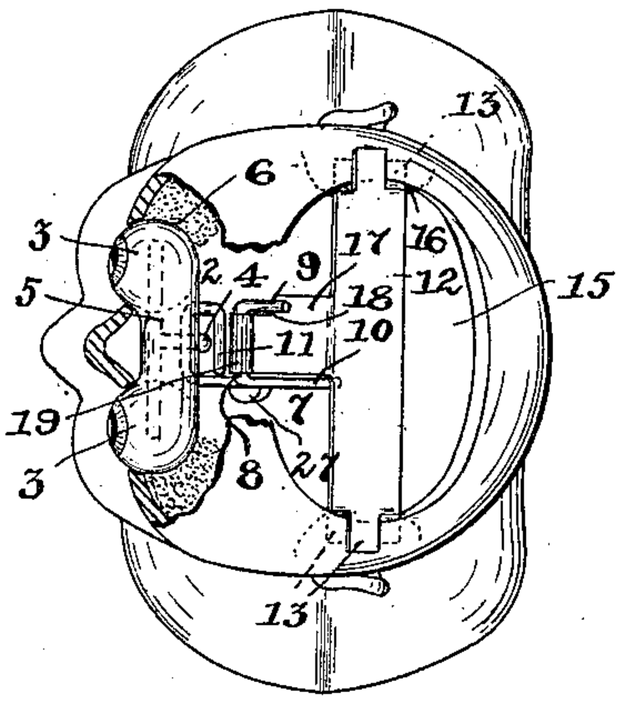

Fig. 2.

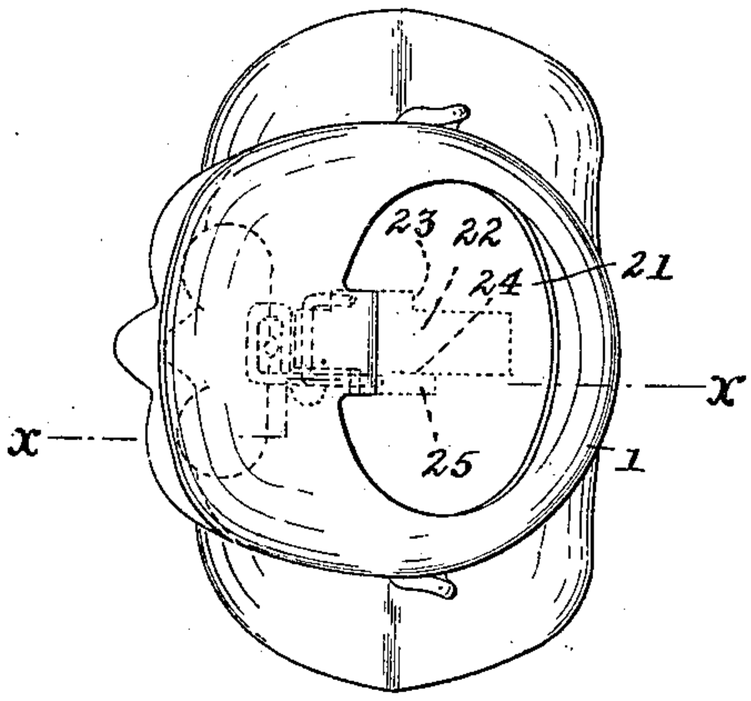

Fig. 5.

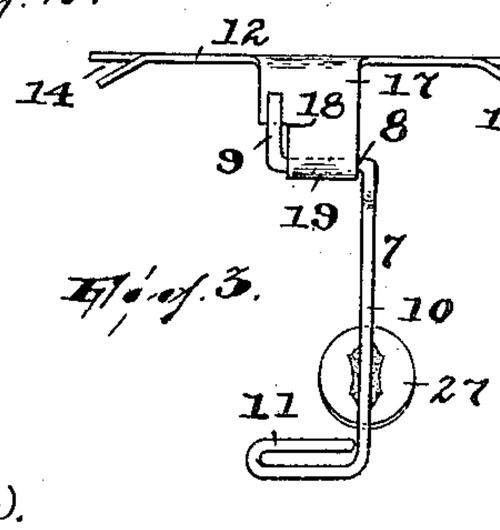

Fig. 3.

WITNESSES

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DOLL-EYES MECHANISM.

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To all whom it may concern:

Be it known that I, ANDREW C. HOVER, a citizen of the United States, residing in Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Doll-Eyes Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to dolls and it has reference particularly to the mechanism for operating the eyes of dolls having opening and closing eyes.

As at present made, the doll-eyes mechanism comprises the eyes, which move in opposite sockets formed in the temples of the head, a wire pendant having its upper end bifurcated and the ends thereof entered into holes in the eyes, which are blown hollow, a mass of some plastic substance (usually plaster of paris) which makes of the eyes and pendant a unitary structure, and a weight on the pendant. The stability of this arrangement depends almost entirely on the strength of the plastic substance employed, since the weight on the pendant is likely to fracture either the plastic substance connecting the eyes or that forming the sockets, so that there is a limit to the amount of rough handling which the doll-head can stand without damage and this limit is short of what it should be for the purpose, for instance, of ordinary handling in transportation; the eyes mechanism itself not only often becomes broken but if the parts forming the eyes mechanism become detached, as frequently happens, they fracture the head, that is, where the head is made of bisque or the like.

My principal object in the present instance is to provide, without undue if any increase in the cost of manufacture, a doll-head in which the eyes-mechanism will be much less subject to damage, and hence more capable of withstanding rough usage, than the eyes-mechanism now in use.

Other objects will appear in the following description and be at once apparent to those familiar with this art.

In the accompanying drawing, Figure 1 is a vertical sectional view of a doll-head provided with my improved eyes-mechanism; Fig. 2 is a plan view of the doll-head shown in Fig. 1; Fig. 3 is a relatively enlarged front view of a part of the doll-eyes mechanism as shown in Figs. 1 and 2; Fig. 4 shows my invention as applied to a metallic doll-head, the view being a section on line *x*—*x*, Fig. 5; and, Fig. 5 is a plan view of what is shown in Fig. 4.

In the drawing, 1 designates the doll-head and 2 a lever structure comprising the eyes 3 (which as usual are blown hollow), a T-shaped wire or the like 4 whose upper end is bent off forwardly and has its ends extending into the eyes, and a plaster of paris or other plastic body 5 joining the eyes and the part 4 together; the eyes are set in sockets 6 formed of plaster of paris or the like in the temples of the head so that the structure 2 turns on a horizontal pivot and when the eyes occupy the open position the part 4 stands substantially perpendicular.

7 is a pendant consisting preferably of a piece of wire having the horizontal or bearing portion 8, the upwardly projecting portion 9 forming a stop and the downwardly extending portion 10, the latter standing in its upper part, viewing the pendant laterally, at approximately a right angle with reference to the portion 9, and having its lower portion bent forwardly in a right-angle and terminating in the loop 11, which loop receives the wire 4 of the lever-structure 2, the arrangement being such that the loop can have a sliding movement along the wire 4 when the members 2 and 7 move on their pivots.

Referring, now, to Figs. 1, 2 and 3, in particular, 12 is a cross-piece formed of sheet metal and having its ends slitted in two places so as to form the lugs 13; the two outer lugs in each instance are bent out of the plane of the middle lug so that a notch 14 is formed at each end of the cross-piece which may be used to receive the edge of the opening 15 usually provided in the doll-head. This is a simple expedient for securing the cross-piece in place and will be found a very substantial one; if desired, a small mass of plaster of paris 16 may be placed at the joints between the ends of the cross-piece and the wall of the head. 17 is an integral arm projecting from the cross-piece and bent downwardly, its end portion having the lateral shoulder 18 and terminating in the bearing 19; in this bearing the bearing por-

tion 8 of the pendant 7 is journaled, the pivotal movement of the pendant being adapted to be limited by the stop 9 engaging the shoulder 18 and the bent portion 10 engaging the cross-piece (see dotted outline, Fig. 1). The means for supporting the pivoted pendant just described is particularly adapted to heads of bisque or the like fragile material, although it will be understood that it is applicable to other types of heads.

In Figs. 4 and 5, where the head is formed of stamped sheet metal, the mounting for the pendant 7 may be integral with the head, as follows: When the opening 21 in the head is formed, the inwardly projecting portion 22 (see dotted outline in Fig. 5) is left, the same being cut out on one side to form the shoulder 23 and on the other side having the slit 24 which leaves a lug 25 which may be bent out of the plane of the portion 22 itself. The portion 22 is now bent downwardly so that its free end, which has the form of a bearing 26, will support the pendant pivoted therein in the proper relation to the lever structure 2; the stop of the pendant engages the shoulder 23 while the downwardly projecting portion 10 of the pendant engages the lug 25 to limit the movement of the pendant on its pivot.

In either construction it will be apparent that by bending the material of the pendant or of the mounting therefor adjustments of considerable range may be secured for the purpose of insuring the proper position of the eyes, according to the position of the doll, as well as the proper working relation of the several parts.

I preferably attach to the pendant 7 a weight 27 to insure the proper working of the eyes, though in the smaller sizes of doll heads this is not always necessary.

It is usual to employ cork stops for the eye-carrying lever structure to impinge against, and it is a matter of no little tedious adjustment to form and locate these stops so as to secure the proper open and closed positions of the eyes; this I avoid, in that the parts may be readily bent, and particularly the arm carrying the pendant 7, to secure the proper relation of the parts under the conditions mentioned.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of the head, a lever-structure pivoted therein on a horizontal axis and comprising both eyes, and gravity actuated actuating means for the lever-structure operatively engaged therewith, said means and the lever structure being each supported independently of the other, substantially as described.

2. The combination of the head, a lever-structure pivoted therein on a horizontal axis and comprising both eyes, and pivotally suspended gravity-actuated actuating means for the lever-structure operatively engaged therewith, said means and the lever structure being each supported independently of the other, substantially as described.

3. The combination of the head, a lever-structure pivoted therein on a horizontal axis and comprising both eyes, and pivotally suspended gravity-actuated actuating means having a sliding engagement with a part of said lever-structure, said means and the lever structure being each supported independently of the other, substantially as described.

4. The combination of the head, a lever-structure pivoted therein, comprising both eyes and having a depending portion, and a pivotally suspended gravity-actuated actuating member for said lever structure, said depending portion and the actuating member having the one a sliding engagement with the other, substantially as described.

5. The combination of the head, a lever-structure pivoted therein and comprising both eyes, and a pivotally suspended gravity-actuated actuating member for said lever structure operatively connected therewith, said lever-structure and the actuating member being each supported independently of the other, and having parallel axes of movement, substantially as described.

6. The combination of the head, a fulcrumed eye-carrying structure, a pivoted actuating means for said structure operatively connected therewith, and a bendable arm affording the pivotal support for said means, substantially as described.

7. The combination of the head, a fulcrumed eye-carrying structure, a pivoted actuating means for said structure operatively connected therewith, and an arm affording the pivotal support for said means and adapted to be engaged thereby to limit its pivotal movement, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand this 7th day of May, 1908.

ANDREW C. HOVER.

Witnesses:
JOHN W. STEWARD,
WM. D. BELL.