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PATENTED APR. 3, 1906.

S. D. GIFFORD.
EYE MECHANISM FOR DOLLS.
APPLICATION FILED MAY 1, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

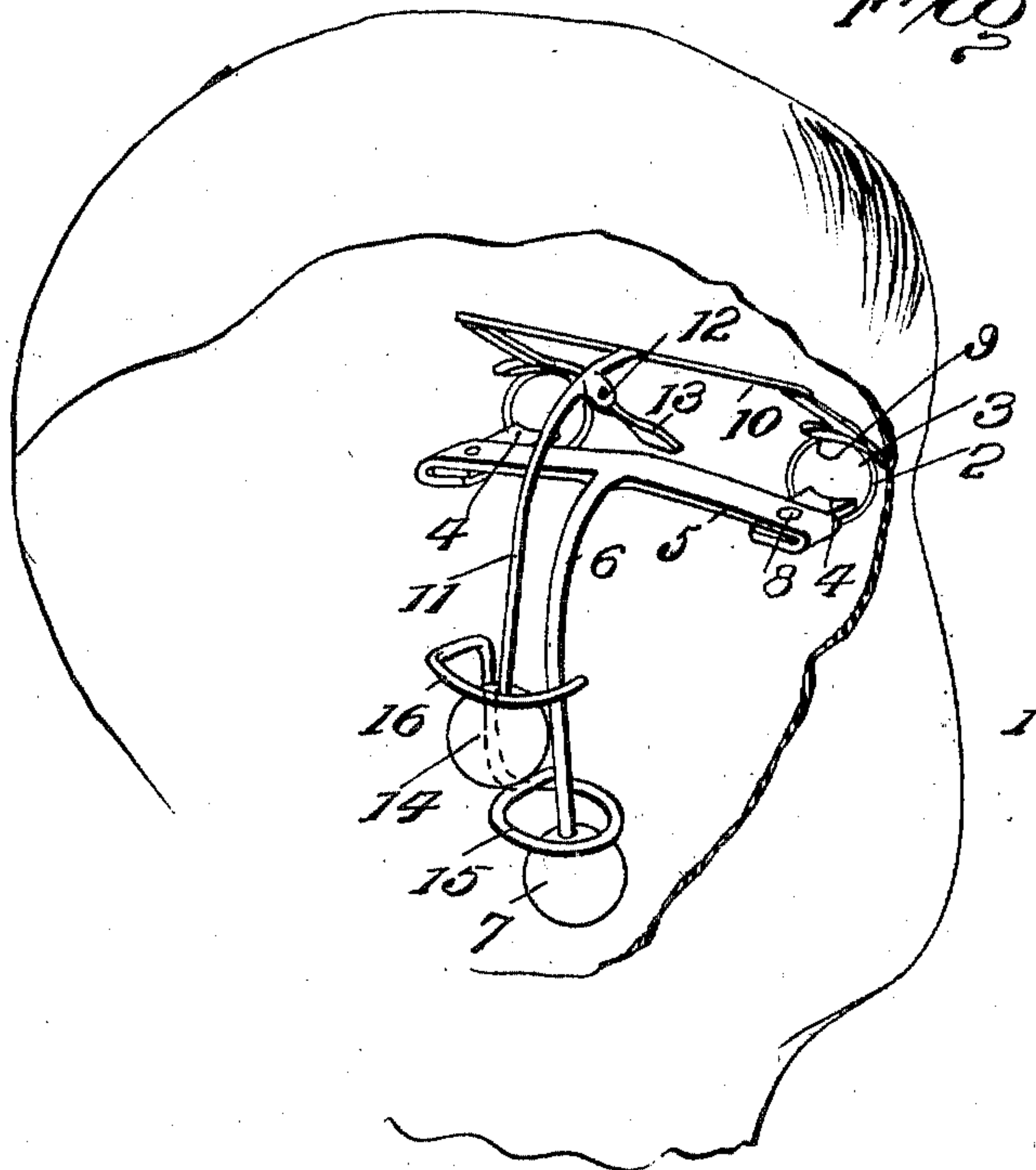
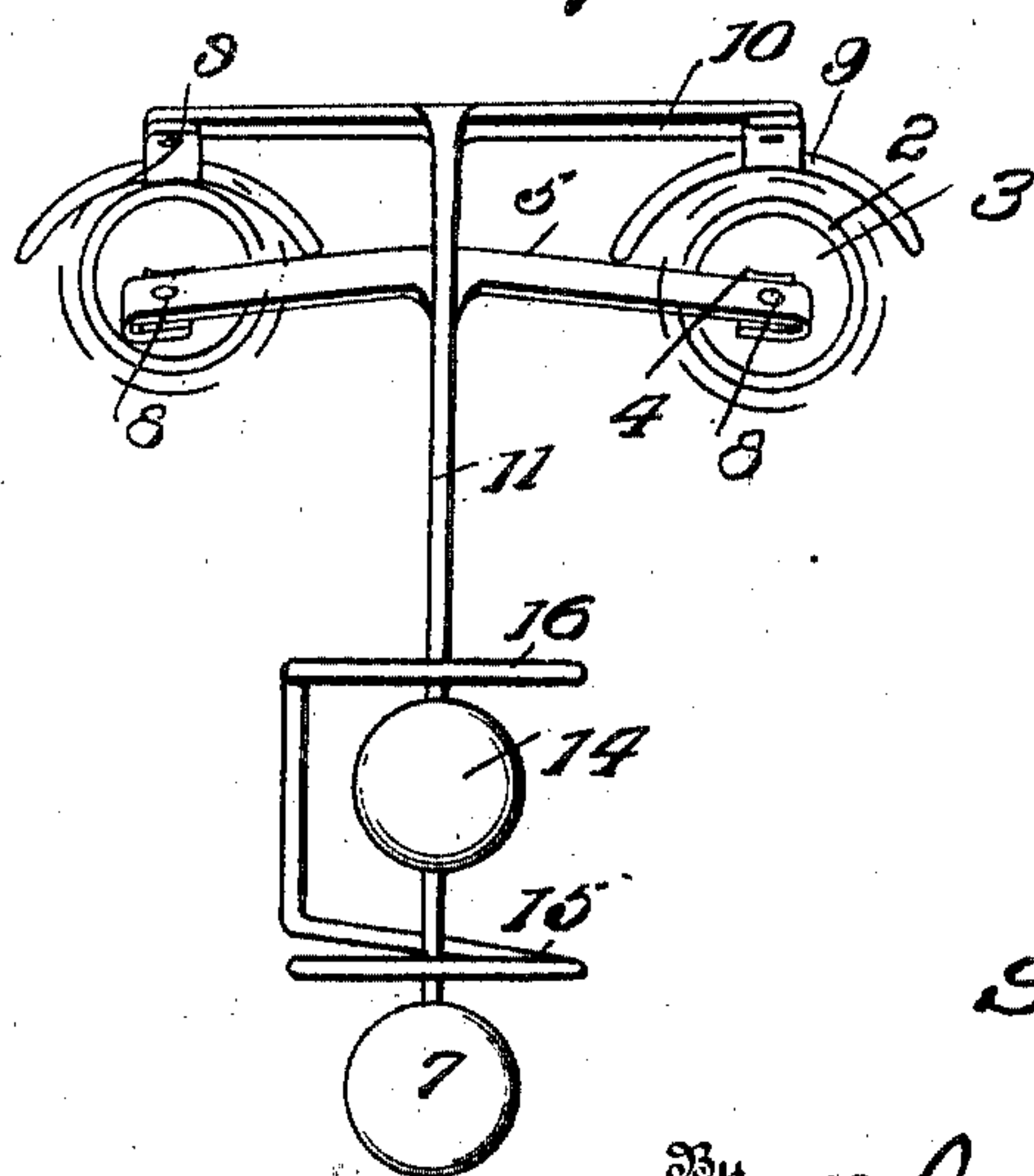


Fig. 2.



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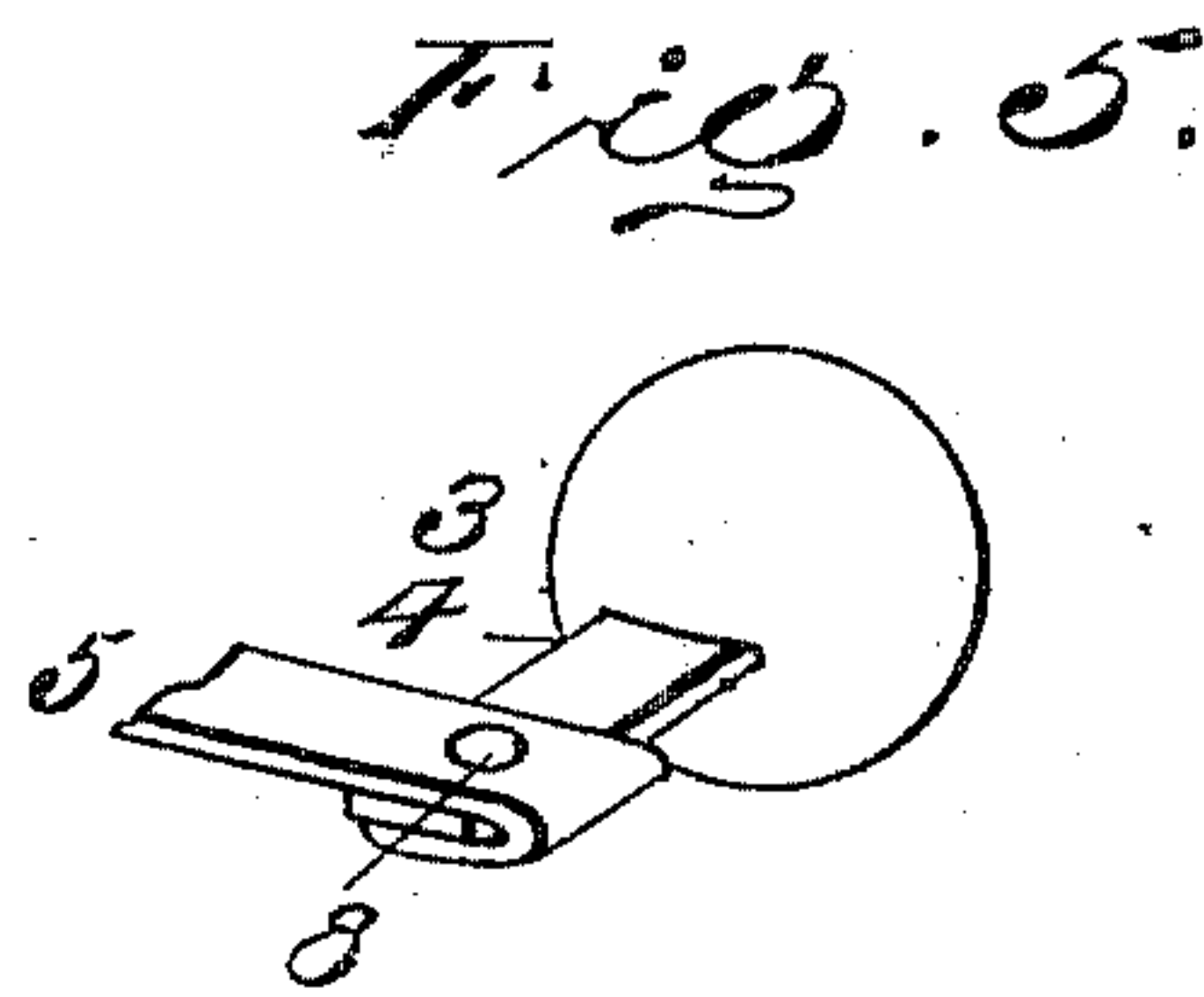
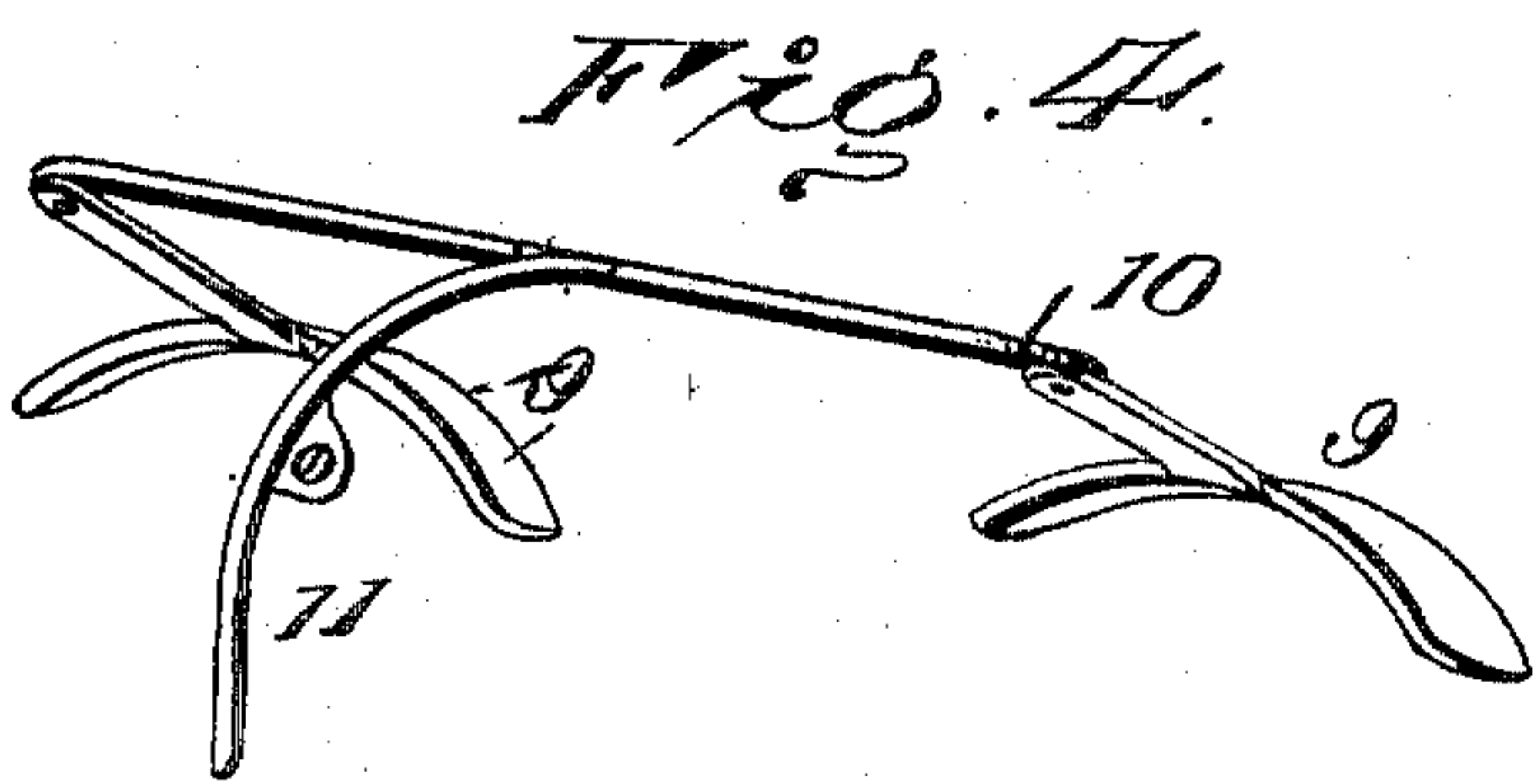
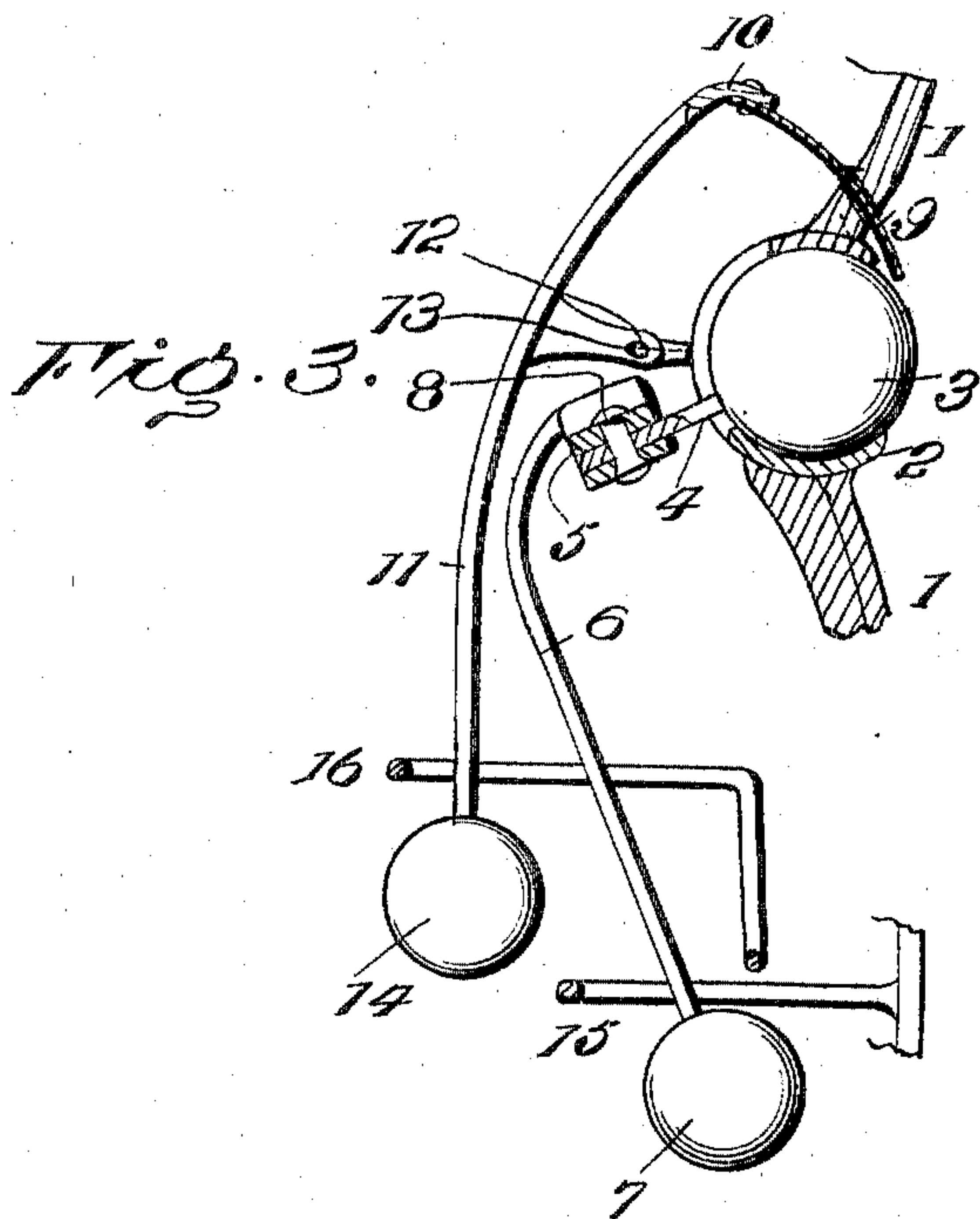
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

SQUIRE D. GIFFORD, OF TERRA ALTA, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO JACOB P. SHAFER, OF TERRA ALTA, WEST VIRGINIA.

EYE MECHANISM FOR DOLLS.

No. 817,055.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed May 1, 1905. Serial No. 258,230.

To all whom it may concern:

Be it known that I, SQUIRE D. GIFFORD, a citizen of the United States, residing at Terra Alta, in the county of Preston and State of West Virginia, have invented certain new and useful Improvements in Eye Mechanism for Dolls, of which the following is a specification.

This invention aims to provide improvements in dolls, and comprises special eye mechanism whereby the action of the eyes of the puppet is rendered as life-like as possible with advantageous results of an obvious nature.

In general the invention includes not only eyelid-operating means for effecting closing and opening of the eyes as embodied in what are called "sleeping" dolls now in common use, but in connection with the above and constituting the essential feature of this invention peculiar mechanism has been devised for actuating the eyes or eyeballs to cause the same to roll or adjust themselves automatically, producing an action very similar to the movement of the eyes of a natural person.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a perspective view of eye mechanism embodying the invention, the doll-head being shown broken away. Fig. 2 is a rear elevation of the mechanism. Fig. 3 is a vertical central section. Fig. 4 is a perspective view of the eyelid-operating parts alone. Fig. 5 is a detail view, partially broken away, showing one of the eyes and the connection thereof with its actuating-bar.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings and specifically describing the construction of the invention which is illustrated, the numeral 1 designates the head of the doll, the numeral 2 indicating the eye-sockets provided in the head in the customary way. The eyes or eyeballs 3 are mounted in the sockets 2 and are of approximately circular formation, so as to be movable in the sockets in order to admit of free adjustment thereof under the influence of the

special mechanism provided for this purpose. Projecting rearwardly from the eyes 3 into the hollow portion of the doll-head 1 are arms 4, one end of said arms being rigidly attached to one of the eyes 3 in any suitable way conducive to substantiality. The eyes 3 may be described to have a sort of swivel movement in their sockets, as they are adjusted so as to roll or move like the eyes of a natural person. A bar 5 is pivotally connected at its ends with the arms 4 of the eyes 3, and an extension 6 projects downwardly from said bar 5, said extension being preferably integrally formed therewith. A weight 7 is carried by the extension 6 and is arranged within the hollow portion of the head, so as to move laterally, upwardly, and downwardly as the position of the head 1 is varied in handling the doll. The pivotal connections (shown at 8) between the bar 5 and the arms 4 are such that when the weight 7 moves laterally or in any other direction the arms 4 will be so actuated as to roll or turn the eyes 3 in their sockets 2 to adjust them simultaneously. It will of course be understood that the arms 4 under the influence of the weight 7 may be moved not only laterally, upwardly, and downwardly, but in all directions by the combination of such movements.

The eyes 3 are provided with lid-pieces 9, movable thereover, said lid-pieces being carried by a bar 10 in the head 1, said bar 10 being supported at one end of a lever 11, arranged within the head 1, the bar 10 having upward and downward movement to carry the lid-pieces 9 over the eyes in simulation of the natural way. The bar 10 is mounted at one end of the lever 11, which is pivoted at a point between its ends, as shown at 12, to a short standard 13, secured to the interior of the head of the doll in any suitable way. As will be seen by reference to the drawings, the pivot-point 12 between the lever 11 and the short standard 13 is located in a plane comparatively far in the rear of the point about which the eyes 3 rotate, so that the movement of the eyelids 9 describes an arc of a circle the radius of which is, comparatively speaking, considerably longer than the radius of the circle described by the movement of the outer surface of the eyes. The end of the lever 11 opposite that connected with the lid-pieces 9 carries the weight 14, by which the lever is automatically adjusted when the doll

is raised and lowered. In order to limit the movement of the weighted end of the lever 11, a stop 16 is used, and in like manner to limit the rearward or outward movement of the weighted extension 6, a second stop 15 is provided. The stops 15 and 16 are preferably made from a single length of wire bent to form a loop, between the sides of which the extension 6 is adapted to operate, said loop forming the stop 15. A portion of the wire from which the loop 15 is made, is so bent as to provide an extremity in the path of movement of the lever 11.

It will be readily seen that when the doll is laid down the outward movement of the lever 11 under the influence of the weight 14 will cause the lid-pieces 9 to close over the eyes, the movement of the lever being limited by the stop 16. When the doll is raised to an elevated position with the head 1 in a vertical position, the downward movement of the weight 14 will carry the lid-pieces 9 upwardly. In handling the doll as the head is shifted from one position to another, causing the weight 7 to move in a predetermined direction by gravity, the eyes 3 will be simultaneously moved or adjusted.

The arrangement of the parts as described above is very simple and practical and enhances the value of the doll or puppet in the eyes of the child who uses the same for reasons which will be apparent.

Having thus described the invention, what is claimed as new is—

35 1. In eye mechanism for dolls, the combination with the head provided with eye-sockets, of eyes mounted in said sockets and adapted for rotary movement in all directions therein, a weight secured to and controlling

the movements of said eyes, a weighted lever 40 fulcrumed in said head on a plane in the rear of the axis of movement of said eyes and eyelids carried by the end of said lever, as and for the purpose set forth.

2. In eye mechanism for dolls, the combination with the head provided with eye-sockets, of eyes mounted in said sockets and having rotary movement in all directions therein, a weighted arm controlling the movements of said eyes, a lever fulcrumed in said head 50 between its ends in a plane in the rear of the axis of movement of said eyes, eyelids carried by one end of said lever and loops extending around the weighted arm and said lever and designed to limit the movements 55 of the two said parts, as and for the purpose set forth.

3. In eye mechanism for dolls, the combination with the head provided with eye-sockets, of eyes mounted in said sockets and 60 having rotary movement in all directions therein, a weighted arm controlling the movements of said eyes, a weighted lever fulcrumed in said head between its ends in a plane in the rear of the axis of movement of 65 said eyes, eyelids carried by one end of said lever and wire loops extending around said arm and lever, said loops being spaced from the walls of the head whereby to limit the movement of the two said parts and prevent 70 the weights thereof from contacting with the walls.

In testimony whereof I affix my signature in presence of two witnesses.

SQUIRE D. GIFFORD.

Witnesses:

E. B. WANGER,

THOMAS J. SHOWALTER.