

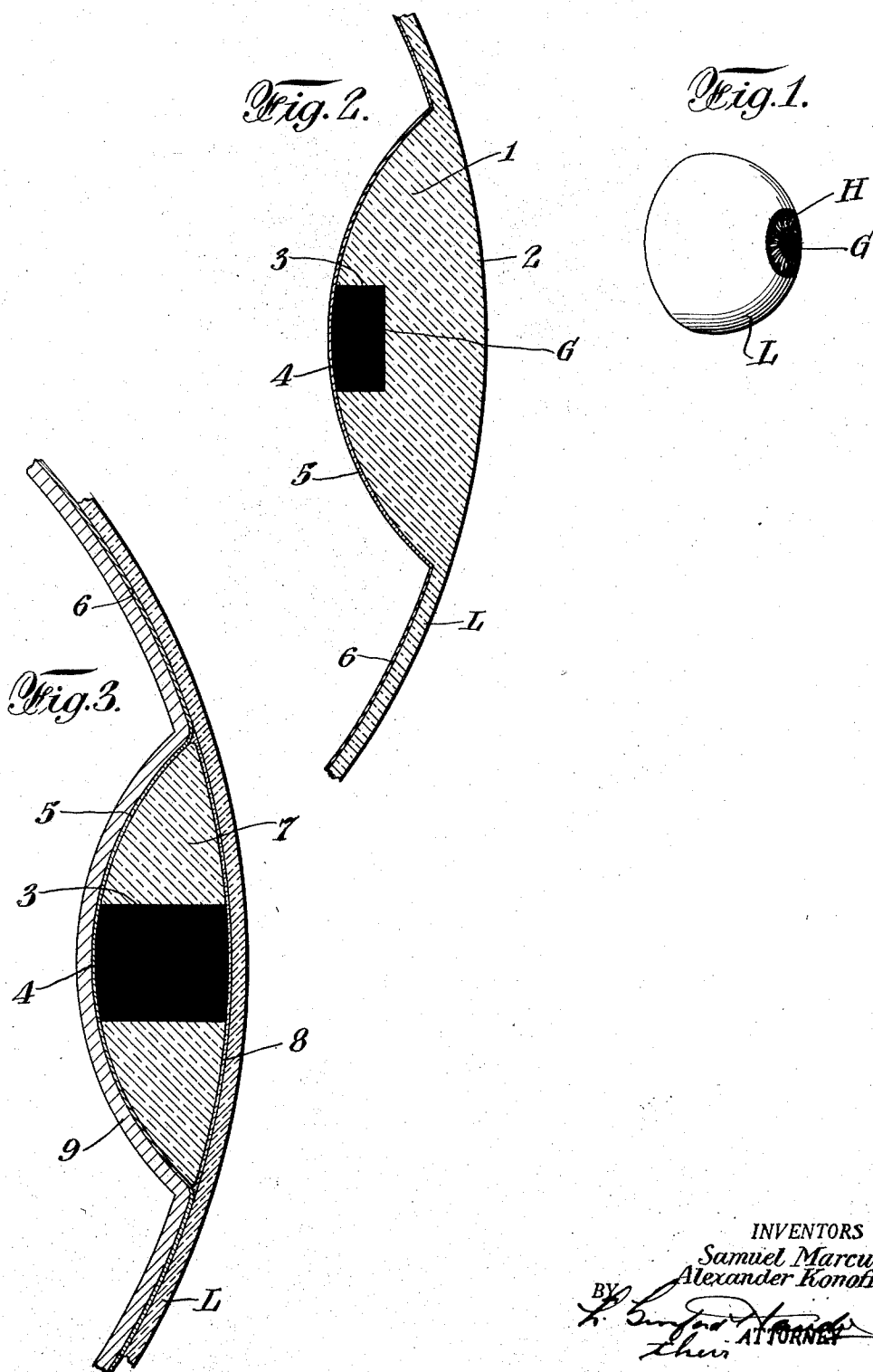
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ARTIFICIAL EYE

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ARTIFICIAL EYE

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This invention relates to an improvement in artificial eyes, and an object of the invention is to provide an artificial eye which is particularly adapted for use in toy figures and the like, such as dolls.

A further object is to so construct the eye that it will have a highly natural and human-like appearance.

A further object is to so design the eye that it is strong and substantial and so that it may be readily manufactured with uniform efficiency and at small cost.

Other objects and aims of the invention, more or less specific than those referred to above, will be in part obvious and in part pointed out in the course of the following description of the elements, combinations, arrangements of parts and applications of principles constituting the invention; and the scope of protection contemplated will be indicated in the appended claim.

In the accompanying drawings which are to be taken as a part of this specification, and in which we have shown merely a preferred form of embodiment of the invention:—

Fig. 1 is a perspective view of an artificial eye of the type with which this invention is concerned.

Fig. 2 is an enlarged fragmentary central sectional view through the eye seen in Fig. 1, and

Fig. 3 is a similarly enlarged view showing a modified construction of the eye.

Referring to the drawings for describing in detail the structures illustrated therein, and referring first to the structure Figs. 1 and 2, the reference character L indicates the main body or shell of the eye. This shell is of a general semispherical form, usually, though not necessarily, open at its rear side. At its forward side there appears the representation of a pupil as G and an iris as H.

In this instance the shell L is formed of a transparent material throughout, being preferably, though not necessarily, of glass since glass provides a highly polished outer surface which improves the naturalness of appearance of the eye.

The iris is produced by forming the inner

surface of the shell L with an inwardly convex portion as 1 of a size corresponding to the size of the iris and being preferably molded as an integral part of the material of which the shell is formed. The front surface of the portion 1 is also convexed as at 2 being usually in the same spherical plane with the outer surface of the remainder of the shell so that the portion 1 constitutes a convexo-convex lens.

Centrally of the portion 1 its inner surface is formed with a circular cavity as 3 said cavity being either painted with black paint on its wall surfaces or filled with a black wax or other filling material as 4, and corresponding in size with the desired size for the pupil G.

Upon the rear surface of the portion 1 there is applied a coating of paint or other material as 5 of a color or colors so that when viewed through the portion or lens 1 it will present a desirable and life-like representation of the human iris.

The remainder of the inner surface of the shell L is likewise coated with paint or the like as 6 of a proper color or colors to represent the "white" of the eye.

By forming the iris of a convexo-convex shape not only is a considerable depth obtained for the iris picture but the magnification of the pupil and paint colors on the inner side thereof greatly improves the naturalness of appearance.

In the structure Fig. 3 the main body or shell L is of substantially uniform thickness across the region of the iris but the same convexo-convex lens effect is secured by providing a separately formed lens member as 7 interiorly of the shell. The inner surface of this lens member, and the surrounding inner surface of the shell L may be provided with paint as 5—6 to the same effect as before.

Any appropriate means may be employed for retaining the lens member 7 in position, either by means of a transparent adhesive as 8 or by means of a separately formed inner shell 9 arranged as a supporting liner for the shell L and lens 7.

The liner 9 may be of any appropriate material but may conveniently consist of thin

sheet metal pressed into shape corresponding to the contour of the inner surface of the shell L and lens 7.

If desired the paint 5—6 may instead of being carried by the shell L and lens 7 be carried directly upon the outer surface of the liner shell 9.

The paint 6 may if desired be of a type to constitute an adhesive for binding the shells L and 9 together, or any other means may be employed for this purpose.

The pupil-forming cavity 3 may be the same in this case as shown in Fig. 2 but if desired it may extend entirely through the lens 7 as illustrated.

A supporting liner shell as 9 could obviously be employed in the structure Fig. 1 if desired either for simply re-inforcing the shell L or for carrying the paint 5—6, or both.

If desired the main shell 9 may be formed of solid white material, such as celluloid or the like, and in some instances this material may be actually manufactured with such linings and colors as may be desirable to represent the iris, the pupil and the white of the eye, in which case the iris will be visible through the lens whereas the white will be covered only by the outer shell L.

It will of course be understood that while that portion of the eye outside of the iris as herein shown and referred to as being the white of the eye, obviously this portion may be colored in its upper part, or elsewhere, as may be desired for instance to represent an eyelid, it being a common expedient to make the upper half of an artificial eyeball of flesh color so as to represent an eyelid in proper position with respect to the iris.

It will be apparent from this disclosure that the paint or other material 5 painted, printed, or otherwise applied in similarity of the linings and color of a human iris will be visible from without through an efficient lens, and thus the colors and linings of these features will be made more brilliant and be given an appearance of great depth in close similarity to the human eye, and that withal the structure may be easily and cheaply manufactured in durable and practical form.

As many changes could be made in this construction without departing from the scope of the invention as defined in the following claim, it is intended that all matter contained in the above description, or shown in the accompanying drawings, shall be interpreted as illustrative only and not in a limiting sense.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

An artificial eye comprising a lens member having an opening centrally thereof extending entirely through the lens, a separately formed semispherical shell of transparent material within which the lens member is ar-

ranged with one surface of the lens disposed adjacent the inner surface of the shell so that the shell constitutes a closure for one end of said opening, means within said opening representing the pupil of the eye, means carried by the lens and visible therethrough representing the iris of the eye, means visible through the shell surrounding the iris representing the white of the eye, and means to hold the lens and shell assembled.

In testimony whereof we affix our signatures.

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