April 14, 1953 E. D. CLARKE 2,634,423

ARTIFICIAL EYE AND METHOD OF ATTACHING SAME

Filed June 24, 1946 3 Sheets-Sheet 1

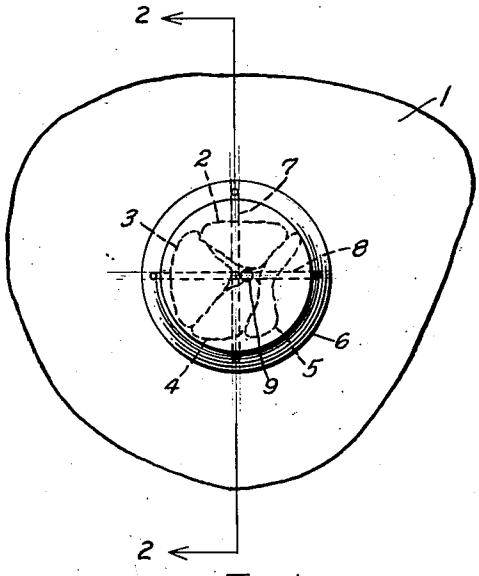

Fig 1

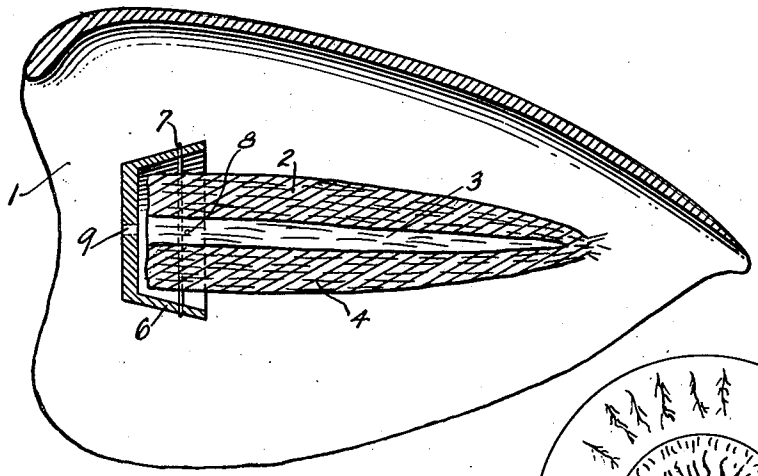

Fig 3

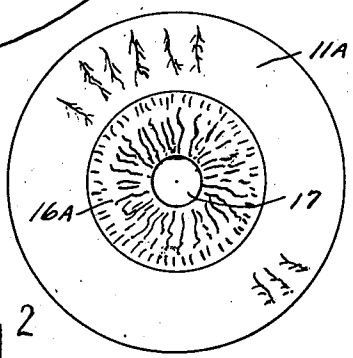

Fig 2

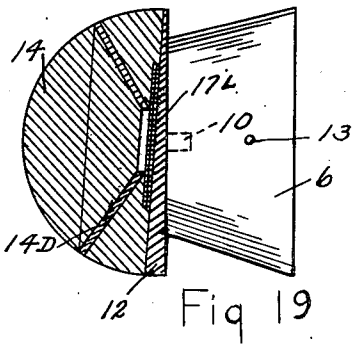

Fig 19

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April 14, 1953 E. D. CLARKE 2,634,423

ARTIFICIAL EYE AND METHOD OF ATTACHING SAME

Filed June 24, 1946 3 Sheets-Sheet 2

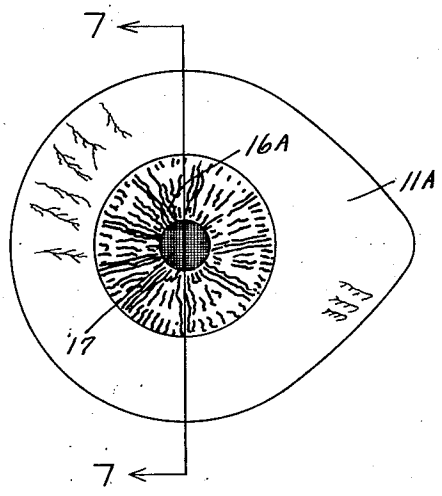

Fig 4

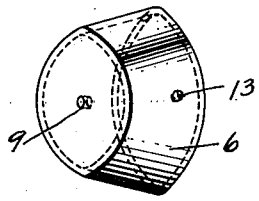

Fig 10

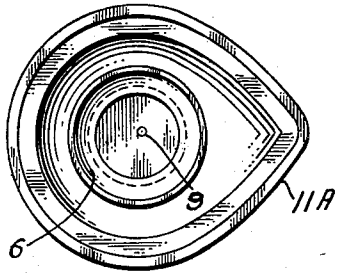

Fig. 5

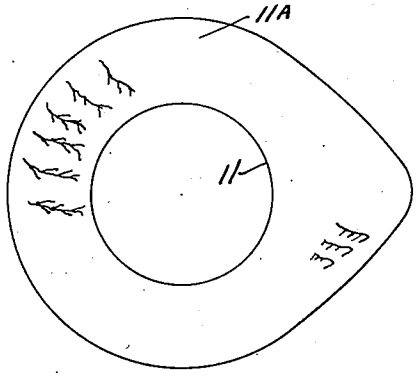

Fig 6

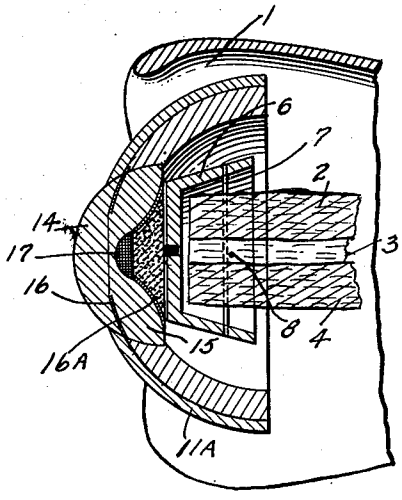

Fig 7

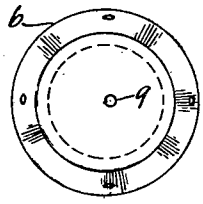

Fig 8

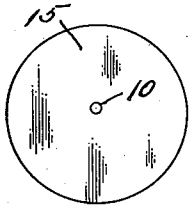

Fig 9

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April 14, 1953 E. D. CLARKE 2,634,423

ARTIFICIAL EYE AND METHOD OF ATTACHING SAME

Filed June 24, 1946 3 Sheets-Sheet 3

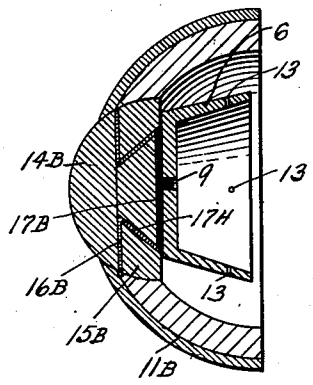

Fig 11

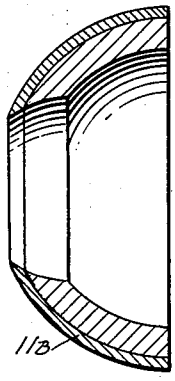

Fig 12

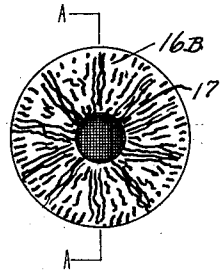

Fig 13

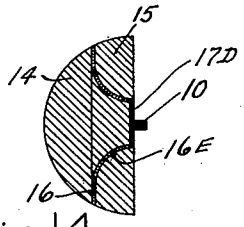

Fig 14

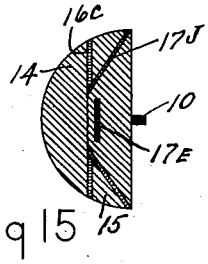

Fig 15

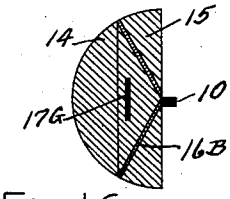

Fig 16

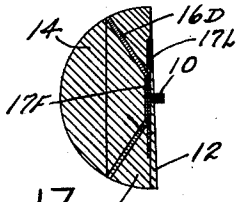

Fig 17

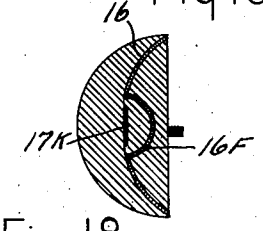

Fig 18

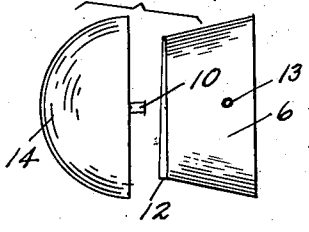

Fig 20

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Patented Apr. 14, 1953 2,634,423

UNITED STATES PATENT OFFICE

2,634,423

ARTIFICIAL EYE AND METHOD OF ATTACHING SAME

Eric D. Clarke, Cleveland, Ohio

Application June 24, 1946, Serial No. 678,975

30 Claims. (Cl. 3—13)

1

The present invention pertains to artificial eyes, and methods of fitting the same to replace a destroyed human eye, and for matching the latter accurately in respect to coloring and aligning.

The invention of this application is a carrying forward of the invention embodied in my previous application, Serial Number 567,588, filed December 11, 1944, now abandoned, involving improvements analogous thereto.

A primary object of the invention is to use a sectional detachable structure in assembling and fitting together the parts of my artificial eye, so that a more naturalistic article is produced, without resorting to complicated surgical operation, especially in reference to an artificial eye that moves in unison with the other eye.

A further object of this invention is to provide an artificial eye that is more capable of expression by moving in harmony with a remaining natural eye, and having a contractile pupil when stimulated by light, and the elimination of the stare effect so common in artificial eyes, as they are made today.

Another object is to provide an artificial eye that will be actuated in unison with the other, or natural eye, and at the same time can be readily removed for cleaning the eye socket as well as easily replaced by the user.

Another object of this invention is to provide a sectional artificial eye unit so as to facilitate iris and pupil color and size matching with an associated natural eye.

Another object of this invention is to provide artificial eye units, simulating the natural iris adapted to be made in different sizes and having different sized pupils, wherein optical illusions will be caused simulating the natural eye e. g. as the pupil is dilating, the iris is contracting with concentric depth of iris color about the enlarging pupil, all simultaneously, as light is reduced. By the terminology "concentric depth of color" as above used, is intended to mean that the iris under stated conditions will give an optical illusion of a gradation of density from the inner margin of the iris to the outer periphery with the greatest depth at the inner margin.

Another object of this invention is to provide novel means and a novel method of aligning the artificial eye with the natural eye so that the two eyes may move in corresponding alignment by reason of the provision of a universal joint connection with certain co-operating eye muscles, without distortion of opposite co-operating eye muscles.

2

My invention contemplates further the provision of a relatively permanent cap, base, or supporting member secured to the remaining muscles of the eye, after removal of the ball or body, on which member an artificial eye unit made of selected sections matching the remaining natural eye may be mounted. Mounting and removal may be initially performed a number of times as to the eye parts until a proper selection of true matching artificial eye parts are obtained, whereupon the said parts may then be permanently united and placed in the natural eye socket for final use.

In furtherance of the last described provisions, moreover, it is possible with my invention, if the conditions in the natural eye socket change, as by shrinkage, to detach my artificial eye from its cap or base support, and replace the same with a similar eye, of rematched character, without use of surgical technique.

A full understanding of my invention will be had on reference to the following detailed description and annexed drawings:

To disclose my invention more clearly the accompanying drawings show certain figures which are exaggerated or enlarged, so that the structural characteristics may be more readily seen. In said drawings:

Figure 1 is a front elevation showing in dotted lines the four rectus muscles in the form of a stump of ingrown muscles, after the natural eye has been removed, the cap shown in Figure 3 being illustrated in full lines applied to the muscles, and the connecting pins in dotted lines.

Figure 2 is a front view like Figure 4, showing a round sclera member instead of the elongated one of Figure 4.

Figure 3 is a vertical sectional view, embodying a feature of my invention, showing how the rectus muscles are capped and pinned for movement of the cap or base unit which is of yoke-like form and is to detachably carry the artificial eye.

Figure 4 is a front elevation of a complete artificial eye according to my invention.

Figure 5 is a rear view of the eye structure of Figure 4.

Figure 6 is a front view of the sclera member in its condition ready to receive iris and pupil units such as shown in Figures 7 and 11, which in the latter figures are shown in the sclera member; or iris and pupil units such as seen in Figures 14, 15, 16, 17 and 18, which are vertical sectional views.

Figure 7 is a vertical sectional view taken on

the line 7—7 of Figure 4, with my complete artificial eye mounted on the eye muscles such as shown in Figure 3.

Figure 8 is a front view of the muscle cap or base member shown in Figures 3, 7 and 11, without the muscle connector pins.

Figure 9 is a rear view of an iris and pupil unit shown in Figure 15.

Figure 10 is a front perspective view of the muscle cap.

Figure 11 is a vertical sectional view of a preferred form of detachable iris and pupil unit inserted in a sclera member with the associated cap or base member carrying same.

Figure 12 is a vertical sectional view of the sclera member before insertion of the iris and pupil unit.

Figure 13 is a front view of an iris and pupil unit alone.

Figure 14 is a vertical sectional view of a modified form of iris and pupil unit.

Figure 15 is a vertical sectional view of another modified form of iris and pupil unit.

Figure 16 is a vertical sectional view of another modified form of iris and pupil unit.

Figure 17 is a vertical sectional view of another modified form of iris and pupil unit and showing a modified form of the alignment element.

Figure 18 is a vertical sectional view of a further modified form of iris and pupil unit.

Figure 19 is an enlarged view of the showing of Figure 17, connected with the base member or cap, however.

Figure 20 is a side view of the modification of Figures 17 and 19 parts separated.

Referring to Figures 1 to 3 inclusive, and Figure 7, of the drawings, the numeral 1 generally denotes the right eye socket of a human eye after parts of the natural eye have been removed surgically, and after the four rectus muscles have been tied together to form a stump of ingrown muscles, as seen in Figures 1, 2, 3 and 7. The numeral 2 denotes the superior rectus muscle which lifts the eye up, 3 the lateral rectus muscle which turns the right eye right, 4 the inferior rectus muscle which pulls the eye down, and 5 the medial rectus muscle which turns the right eye to the left. This stump of ingrown eye muscles often is not in a position to support the artificial eye in alignment with the other remaining eye.

Accordingly, it is the contemplation of this invention to make a universal joint connection of the cap 6 seen in Figures 3, 5, 10 and 11, to the four rectus muscles 2, 3, 4 and 5. A vertical pin 7 (see Figure 3) is passed through the cap 6, the superior rectus muscle 2, the inferior rectus muscle 4, and the cap holes 13, so that these two muscles can lift the cap up and pull the cap down. A horizontal pin 8 passes through the horizontal cap holes 13, the lateral rectus muscle 3, and the medial rectus muscle 5, so that these two muscles can turn the cap 6 right or left in unison with turning of the natural eye by its muscles.

In the natural eye, dirt or foreign matter cannot get in back of the eye.

My invention has been developed with the thought in mind that if dirt or foreign matter should get into the eye socket and work its way back of the artificial eye, by the movement of the eyelids, the artificial eye shall be readily removable by its wearer, so that such dirt or any foreign matter may be dislodged and the eye socket washed out. This has been provided for by making my artificial eye detachable from the cap 6 which has a depression or opening 9, to receive a lug or pin 10 on the iris and pupil unit of my artificial eye.

The hole or opening 9 in the cap 6 may be eccentrically placed therein as shown in Figure 8, for example; also the lug 10 on the iris and pupil unit may be eccentrically placed thereon (see Figures 16 and 18, for examples), so that after the cap 6 has been pinned to the rectus muscles of the eye, a suitable sclera member 11a as shown in Figure 6 can be selected and a suitable iris and pupil unit as shown in Figures 7, 11, 14, 15, 16, 17 or 18 can be loosely put together as shown in Figure 4 and placed on the cap 6, with the lug or pin 10 in the hole 9, as shown in Figure 7. If the artificial eye is not in perfect alignment with the natural eye, the iris and pupil unit 14, 17 and 16A (see Figure 7) can be rotated in the sclera socket or opening of the sclera 11A, so that the said unit will be moved in an eccentric manner on the cap 6, as shown also in Figure 5, in one eccentric position. When the said artificial eye unit has been brought into proper alignment with the corresponding parts of the natural eye, the sclera member and iris and pupil unit forming a shell prosthesis may be removed and united in any suitable manner, and thereafter will be a complete artificial eye, which can be placed in the eye socket and detachably connected to the muscle cap 6, or removed therefrom by the wearer at will. If the artificial eye parts are of plastic substances, suitably colored for matching sclera, iris and pupil, they may be permanently unified by heat or other well known techniques of the art of artificial eyes.

Figures 17 and 19 show a modified form of iris and pupil unit 14—16D—17L usable when the hole 9 of the cap member 6 is concentric. In this construction, the lug or pin 10 may be concentric on the iris and pupil unit 14—16—17 but the back of the said unit has a circular wedge-shaped washer or shell member 12 carried on the pin 10. If this washer 12 is rotated until the iris and pupil are in alignment with those of the natural eye, they may be removed and unified, by heating or suitable processing, in the manner previously described.

While I have shown in Figures 4 and 6 an ovate sclera 11A of a right eye, the left eye would be made of opposite form by using this shape. The muscle cap 6 need not always be pinned to the muscles but could be unified with the artificial eye after pre-matching fitting, and this shape of the sclera member 11A would prevent the completed eye from rotating about the muscles in the eye socket. The artificial eye could thus be removed with the cap 6 for cleaning by the wearer, and replaced, with a little more difficulty, due to the difference in the length of the lug 10 and the eye muscle stump. However, the movement of the artificial eye would not be as positive as one where the cap is pinned to the muscles and the sclera, iris and pupil members are movably mounted thereon.

Another advantage of having the artificial eye unit detachable from the muscle cap 6 lies in the fact that the sclera member 11A and the iris and pupil unit can be better matched for color in the eye socket with the natural eye alongside, and if they don't match after the primary choice of parts, others may be chosen until a proper accurate matching has been obtained. In this connection, I propose, of course, to have available, and use, many different colors or shades of sclera members 11A, many different colors of iris and pupil units, adapted to be as-

sembled removably, and thus enabling putting them together and taking them apart, until complete matching of the corresponding parts of the natural eye is effected. By reason of having such attachable, detachable and interchangeable parts, it is not necessary to maintain a large stock of already combined sclera and iris and pupil artificial eyes, which as units must be matched with the natural eye.

In Figure 11, the modified form of my iris and pupil unit 14B—16B—17B—17H is shown in a vertical sectional view inset in a sclera member 11B with the muscle cap 6 detachably mounted in relation thereto. A front view of the iris and pupil unit is shown in Figure 13, and a sectional view in Figure 11, the numeral 14B designates the artificial transparent cornea and anterior chamber; numeral 15B, the artificial transparent posterior chamber; numeral 16B the iris, and numeral 17B the pupil, and the numeral 17H the oblique dilating pupil.

The iris has a great range of color in humans from light-bluish and grayish tints through all shades of brown to blackish and is a contractile colored circular curtain suspended vertically in the aqueous humor of the eye, between the cornea and the lens. The iris separates the anterior and posterior chambers, which intercommunicate, through the pupil. The iris gives color to the eye, by the presence or absence of pigment, and regulates, by contraction and dilatation of the pupil which is a hole in the center of the iris. The pupil contracts when stimulated as by light or on accommodation for near distances. The dilatation of the pupil and contraction of the iris causes a gradual concentric concentration of color in the iris about the pupil. The pupil appears usually as a black circular spot in the middle of the iris, this appearance being due to the depth of the hole (pupil) and a dark interior. Iris sizes vary from about 10 to 13 millimeters, and pupils vary from about 2 to 5 millimeters when contracted and about 4 to 8 millimeters when dilatated.

It is highly desirable to have my artificial eye designed so that the iris and pupil will function with optical illusions in correspondence with those of the natural eye at different distances and under different degrees of light, and it is most desirable also to eliminate the stare or glassy effect of artificial eyes which is noticeable about as far as the artificial eye can be seen. This stare effect is in the pupil and in prior artificial eyes is usually caused by placing the pupil in front or on the same vertical plane as the iris.

With the above in view I have found that the stare can be eliminated by placing the pupil (see Figures 7 at 17, 11 at 17B, 14 at 17D, 15 at 17E and 17 at 17F) in back of the iris, so that it looks like a hole in the iris as is really true in the natural eye; or the iris 16B can be made concaved with the pupil 17G centered in front (see Figure 16) of the iris 16B, the latter having its outer portion projecting to a plane in front of the pupil 17G.

I have found that gradual concentric depth of color in the iris and the gradual dilatation of the pupil as distance is increased, or light is decreased, may be accomplished by an oblique film of pigment in back of the iris film of pigment. This oblique film of pigment 17H as shown in Figure 11 and 17J in Figure 15 may be black (the pupil color). These would be most effective when covered by the iris 16B of Figure 11 and like iris 16C of Figure 15.

Looking at the front of these figures, in a bright light or near distance, the pupil 17B or 17E would be visible as shown but gradually as light is reduced the concentric depth of iris color appears and dilatation of the pupil 17B or 17E would take place in simulation of the natural eye action, as the pupils appear to gradually merge with the iris. This would be due to the oblique film section 17H or 17J as case may be.

Figure 17 is similar but the iris 16D would lie in an oblique plane, and pupil section 17F would appear as a continuation of the iris 16D in a vertical plane, and 17L would be a continuation of pupil 17F. Referring to Figure 16 for another modification wherein in a bright light with this construction, more of the iris 16B would be distinguishable, and as light is reduced the pupil 17G would appear to enlarge as light rays are shut off by the pupil 17G and the conical iris 16B.

Figures 7, 14 and 18 are now referred to. Looking at the front of these figures, the oblique iris films 16A the similar iris film of Figure 7, in the rear of the iris 16, 16E of the iris 16 of Figure 14, and the corresponding similar iris film 16F of the iris 16 Figure 18, would be iris colored, and in a bright light or at a near distance would appear as the iris itself. The pupils in the above figures of the drawings are denoted 17, 17D, and 17K respectively. But as light is reduced or distance is increased, gradually the iris color would not be distinguishable and the oblique parts 16A—16E—16F would appear black or pupil colored, thus gradually increasing the size appearance of the pupils with concentric depth of iris color, merging into larger pupil size, gradually, as distance increases or light is reduced. It will be seen from the above description that, to all intents and purposes, the iris construction of Figures 7, 14 and 18 includes a combination of parts whereby the iris area is composed of two, discrete, inner and outer annular areas, or films or sections, so to speak.

The foregoing naturalistic characteristics are very necessary for required optical illusions if the artificial eye is to match the natural eye appearance under different degrees of light and at different distances. It has been previously proposed to make an apparently dilating pupil but attempts to do this have been directed to using a small pupil for bright light and a large pupil under dim lights. Heretofore, there has been no provision for gradual increase in size and no gradual concentric depth of iris color obtainable, as produced in my present invention, as above described, by placing one of the color films at an oblique plane, and the other color film at a vertical plane. Another objection in known artificial eyes has been that the previously proposed inventions have produced a pronounced stare effect by the pupil protruding in front of the iris or other structures availed of. None of such expedients attempting to eliminate the stare effect of artificial eyes, so far as I am aware, have been successful.

While no particular methods of making, or materials, have been outlined in this application, it has been found that thermoplastic materials have proved superior for artificial eyes. Such materials are adapted to facilitate the fusion of the parts by heating, though adhesion solvents may also be utilized for uniting the component parts of the artificial eye.

While it is stated that the color film 17H is black or pupil color, it will be readily understood that it could be iris colored, or some other

color, because this film is covered by the iris, whereas the color film 16A is iris colored because it is seen through a hole 20 in the iris 16, which hole is larger than the pupil 17.

A special advantage of my invention lies in the peculiar detachable mounting of the artificial eye unit on the cap unit 6, for if in time the muscles of the eye shrink or shift slightly, or walls of the old eye cavity do likewise, the eye unit may be readily displaced and a new eye unit assembled by re-matching and uniting of parts, whereupon the new unit may be re-applied to the cap 6 by inserting in the eye socket. This facility for remaking and replacing eye units is novel in my invention so far as I am aware.

A round sclera member as shown in Figure 20 can be used and proper alignment obtained by unifying the washer 12 to the cap 6 after correct alignment has been made. If the cap 6 should be in alignment, then the pin 10 need not be eccentric, and the washer 12 need not be wedge-shaped for alignment purposes, but a flat washer of desired thickness could be used to position the artificial eye forwardly more or less.

Having thus described my invention, what I claim as new is:

1. An artificial eye comprising a body including an outer annular pigmentized area simulating the iris of a natural eye, a separate inner annular pigmentized area also simulating the iris in color and disposed at an angle to and centrally of the outer iris area, and a pigmentized area simulating the pupil of a natural eye centered in respect to the said inner iris area.

2. An artificial eye comprising a body including an outer annular pigmentized area simulating the iris of a natural eye, a separate inner annular pigmentized area also simulating the iris in color and disposed centrally and inwardly of the outer iris area, and a pigmentized area simulating the pupil of a natural eye centered in respect to the said inner iris area, the inner iris area aforesaid extending at an angle to the pupil area.

3. An artificial eye as claimed in claim 2, in which the pupil area is spaced from the outer iris area.

4. An artificial eye comprising a muscle engaging cap insertable in the natural eye socket and a detachable artificial eye body connected directly to said cap, and detachable muscle engaging parts carried by the cap.

5. An artificial eye comprising a muscle engaging cap insertable in the natural eye socket, an artificial eye body movably carried by said cap, and means intermediate the body and cap for shifting the axis of the pupil and iris unit relatively to the axis of the cap.

6. An artificial eye comprising a muscle engaging cap insertable in the natural eye socket and an artificial eye body comprising an iris and pupil unit rotatably mounted on the cap, and means intermediate the cap and said unit to change the line of the axis of the iris and pupil unit relative to the axis of the cap.

7. An artificial eye comprising a muscle engaging cap insertable in the natural eye socket and an artificial eye body comprising an iris and pupil unit rotatably mounted on the cap, means intermediate the cap to change the line of the axis of the iris and pupil unit relative to the axis of the cap, and comprising a washer of wedge-shaped thickness between the cap and iris and pupil unit.

8. An iris and pupil unit for artificial eyes comprising three centralized inner, intermediate and outer areas of pigment, two simulating the natural iris, and the third a pupil, the outer area lying in one plane, the intermediate iris area lying inwardly of the outer iris area, the outer and intermediate areas having pigment simulating the natural iris and the inner area having pigment simulating the natural pupil.

9. A unit as claimed in claim 8 in which the intermediate iris area is disposed oblique to the outer iris area.

10. An iris and pupil unit for artificial eyes, comprising three adjacent concentric pigmentized areas of different circumferences, said areas containing pigment simulating the natural iris and pupil, the larger area being vertically disposed and devoid of pigment in the center, the intermediate area being obliquely disposed and terminating in a vertically disposed inner area, the larger and intermediate areas containing pigment simulating the iris and the innermost area containing pigment simulating the pupil.

11. A method of fitting artificial eyes which consists of anchoring the artificial eye vertically to the superior and inferior rectus muscles in a human eye socket from which portions of the eye have been removed, for raising and lowering the eye and separately anchoring the eye horizontally to the lateral and medial rectus muscles in said socket for turning the eye, right and left, thus forming a universal joint connection between the artificial eye and said rectus muscles.

12. In the art of making artificial eyes, the method of matching an artificial eye with a natural eye of a person, which includes assembling selected interlocking and detachable artificial parts into a complete separable part artificial eye unit, emplacing such unit in the eye socket from which parts of the natural eye has been removed for determining extent of simulation of the remaining natural eye under conditions of actual use of the artificial eye unit in such socket, removing such unit, detaching the parts thereof, reassembling the unit with one or more other corresponding more closely matching interlocking artificial eye parts, re-emplacing such reassembled unit in the natural eye socket as such unit is completed for final comparison of the extent of simulation of the natural eye under conditions of actual use of the artificial eye unit, and then removing the matching reassembled unit from the said eye socket and permanently uniting the parts thereof for use in said socket.

13. The method of fitting and matching an artificial eye with a remaining natural eye in the head of a person, which includes anchoring a supporting member to the eye muscles in the natural eye socket which is to receive the artificial eye, attaching to such member detachably interlocked and assembled sclera, and iris and pupil units, to simulate those of the natural eye under normal conditions of the use of the eyes, and then removing such units and substituting other interlocked more closely simulating ones, and reattaching the latter to the anchored supporting member until the closest possible simulation of the natural eye is produced.

14. The method of fitting an artificial eye, which includes anchoring a supporting member to the eye muscles in a human eye socket, movably mounting relatively movable artificial eye parts on the supporting member, and movably adjusting the artificial eye parts for aligning them with those of the natural eye.

15. An artificial eye including a body shaped to fit an eye socket in which said body is to be

placed and means, for attachment of the rectus muscles, secured to said body, an eye prosthesis and means for detachably holding it on the face of the body.

16. An artificial eye comprising a body for emplacement in the natural eye socket of a human being, said eye body having separate provisions for attachment thereof to separate live eye moving muscles in said socket.

17. An artificial eye comprising a body for emplacement in the natural eye socket of a human being, said eye body having separate provisions at the top and bottom, and at the sides thereof, for non-detachably securing thereto of live eye moving muscles in said socket.

18. An artificial eye comprising a body for emplacing in the natural eye socket of a human being, said eye body having separate provisions of openings therein at the sides, top, and bottom for enabling attachment thereof to separate live eye moving muscles in said socket.

19. An artificial eye comprising a muscle engaging base member insertable in a natural eye socket, and an artificial eye unit detachably secured to the base member, and provisions for non-detachably securing the base member to the rectus muscles of the natural eye socket.

20. An artificial eye as claimed in claim 19, in which said provisions include separate members to secure the base member to separate rectus muscles of the natural eye socket.

21. An artificial eye comprising a muscle engaging inner base member insertable in the natural eye socket, means to connect the inner base member to separate of the natural eye muscles, and an artificial eye body detachably carried by said base member.

22. An artificial eye comprising a muscle engaging inner base member insertable in the natural eye socket, means to detachably connect the inner base member to separate of the natural eye muscles, and an artificial eye body detachably carried by said base member.

23. An artificial eye including a body shaped to fit an eye socket in which said body is to be placed, a member for attaching the body to separate rectus muscles, an eye prosthesis, and a member detachably connecting the eye prosthesis to said body.

24. An artificial eye, comprising a body adapted to be secured to an eye muscle, and a shell movable by the said body, the said shell having a back portion engageable with the body and a front portion adjustable relative to the back portion.

25. An artificial eye, comprising a body having a recess and adapted to be secured to an eye muscle, and a shell having a protuberance engaging said recess and movable by the protuberance, said shell having a separate back portion engageable with the protuberance and a separate front portion adjustable relative to the back portion.

26. An artificial eye comprising a supporting member insertable in the socket of a human eye from which portions of the natural eye thereof have been removed, to occupy space previously occupied by said removed portions, said supporting member having separate openings on the supporting member for attaching the same to remaining superior, inferior and recti muscles in said socket, to effect naturalistic movements of the supporting member by said muscles and eye parts imitative of the natural sclera, iris and pupil of the human eye mounted on the anterior portion of the supporting member to move therewith.

27. An artificial eye comprising two parts, one posterior and the other anterior, the posterior part having openings forming separate provisions for attaching thereto separate natural muscles of the human eye, the anterior part simulating the natural sclera, iris and pupil of a natural eye, one of the parts having a projection extending toward the other part and the other part having a recess receiving said projection in direct detachable interlocking connection.

28. The method of producing an artificial eye and its portions imitative of the iris and pupil of an associated natural eye, which includes mounting an anterior part imitating the prosthesis of an eye movably on a posterior part seatable in an eye socket, emplacing between the anterior and posterior parts a third part, and adjusting the said intermediate part to effect alignment of the anterior part with a natural eye adjacent to the artificial eye.

29. The method claimed in claim 28, combined with the step of unifying the intermediate part with one of the anterior and posterior parts after the alignment mentioned is obtained.

30. An artificial eye comprising a body of plastic material for emplacement in the natural eye socket of a human being, said eye body having simulated anterior sclera, iris and pupil portions, and said eye body having separate provisions, located posteriorly of said anterior portions, for attachment of said body to separate live eye moving muscles in said socket.

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