

alter the shape of the lens body. However, the actuating means does not require any force field to maintain the selected shape. Any of the actuating means of the "active" systems and any of the actuating means of the "passive" systems in the embodiments shown and described can be substituted for each other as desired. Furthermore, any of the actuator segments shown can be mounted for rotation in the associated ring similar to the coil 116 and the carrier 136 shown in the FIG. 25. Such an actuator segment would remain magnetized and could be rotated by the instrument 122 to attract or repel an adjacent actuator segment or be oriented in a neutral position.

In accordance with the provisions of the patent statutes, the present invention has been described in what is considered to represent its preferred embodiment. However, it should be noted that the invention can be practiced otherwise than as specifically illustrated and described without departing from its spirit or scope.

What is claimed is:

1. An intraocular lens apparatus for implantation into an eye comprising:

an optically clear, flexible, generally circular lens body having a periphery;

a ring having an inner periphery attached to said periphery of said lens body; and

actuating means attached to one of said lens body and said ring for selectively and reversibly altering a shape of said lens body and maintaining an altered shape to adjust characteristics of said lens body including the characteristics of power and astigmatism, said actuating means being responsive to a presence of an external force field for altering said shape.

2. The lens apparatus according to claim 1 wherein said lens body is formed of silicone material and said ring is formed of polymethyl methacrylate material.

3. The lens apparatus according to claim 1 wherein said actuating means includes a plurality of ferromagnetic material actuator bodies equally spaced about the circumference of said ring.

4. The lens apparatus according to claim 3 wherein each of said actuator bodies is magnetized to attract or repel an adjacent one of said bodies whereby an attached portion of said ring is compressed or expanded respectively.

5. The lens apparatus according to claim 4 wherein said actuator bodies are permanently magnetized whereby the altered shape is maintained.

6. The lens apparatus according to claim 4 wherein said actuator bodies are temporarily magnetized to alter a shape of said ring and said lens body and said ring maintains the altered shape.

7. The lens apparatus according to claim 3 wherein said ring is thicker at said actuator bodies and is thinner between adjacent ones of said actuator bodies.

8. The lens apparatus according to claim 1 including an annular groove formed in said periphery of said lens body and wherein said ring is positioned in said groove.

9. The lens apparatus according to claim 1 wherein said ring has at least two circumferential grooves formed therein and said lens body has a tongue formed thereon, said tongue cooperating with said grooves to attach said lens body to said ring.

10. The lens apparatus according to claim 9 wherein said grooves are interrupted by a plurality of adjustment spaces formed in said ring and said tongue is formed in segments, each said segment being no longer than an associated one of said adjustment spaces.

11. The lens apparatus according to claim 9 wherein said grooves and said tongue are trapezoidal in cross section.

12. The lens apparatus according to claim 1 wherein said actuating means includes a plurality of ferromagnetic material actuator bodies equally spaced about the circumference of said ring and a shape retainer attached to said ring, said actuator bodies being responsive to a presence of an external magnetic field for altering said shape and said shape retainer maintaining said altered shape.

13. The lens apparatus according to claim 12 wherein said shape retainer is a wire embedded in said ring and having a plurality of generally V-shaped portions positioned between adjacent ones of said actuator bodies.

14. The lens apparatus according to claim 12 wherein said shape retainer is a helically coiled wire embedded in said ring.

15. The lens apparatus according to claim 1 including control means for operating said actuating means, said control means generating an external force field and said actuating means being responsive to said force field for altering said shape of said lens body.

16. The lens apparatus according to claim 15 wherein said control means includes a power supply connected to an input of a field strength control having an output connected to at least one coil for applying electrical power to said coil to generate a magnetic field adjacent to said actuating means.

17. An intraocular lens apparatus for implantation into an eye comprising:

an optically clear, flexible, generally circular lens body having a periphery;

a ring having an inner periphery attached to said periphery of said lens body; and

a plurality of actuator means attached to one of said lens body and said ring for selectively and reversibly altering a shape of said lens body and maintaining an altered shape of said lens body to adjust characteristics of said lens body including the characteristics of power and astigmatism, said actuator means being responsive to a presence of an external force field for moving said ring to define said altered shape.

18. The apparatus according to claim 17 wherein said actuator means are formed of a ferromagnetic material and are permanently magnetized by an external magnetic force.

19. The apparatus according to claim 17 wherein said actuator means are formed of a ferromagnetic material and are temporarily magnetized by the external magnetic field and including a shape retainer attached to said ring for maintaining said altered shape.

20. An intraocular lens for implantation into an eye and control means for operating the lens apparatus for changing the power and astigmatism correction of the lens apparatus comprising:

an optically clear, flexible central lens body;

a ring having an inner periphery attached to a periphery of said lens body;

electromagnetic energy responsive actuator means attached to one of said lens body and said ring for selectively and reversibly altering the shape of said lens body to adjust the power and astigmatism correction of said lens body; and

a control means for generating a selectively variable force field for operating said actuating means, said actuating means being responsive to said force field for altering the shape of said lens body.

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