

outwardly against the bag to prevent wrinkling of its posterior capsule **32** and anterior capsule rim about and retain the bag in a shape which conforms closely to its natural shape. The balloon **200l**, silicone **202l**, and the capsular bag **28** form an artificial intraocular lens having a shape and optical characteristics conforming closely to those of the human lens. This artificial lens can be focussed on the retina for distant vision by the surgeon during surgery by refracting the patient and changing the volume and refractive index of the silicone. After recovery from surgery, the patient should be able to focus the lens for near vision by contracting the ciliary muscles of the eye in the usual physiological manner. Another advantage of the balloon resides in the fact that it blocks migration of epithelial cells to the posterior capsule of the bag, thus inhibiting or preventing opacification of this capsule.

The modified balloon implant **50m** of FIG. **42** includes a silicone filled balloon **200m** similar to the balloon **200l** except that balloon **200m** has a stabilizing ring **204m** joined to the anterior wall of the balloon for retaining the balloon within the capsular bag **28**. The balloon performs the same function as the balloon in FIG. **40**. In addition to its purpose of retaining the balloon **200m** within the capsular bag **28**, the retaining ring supports an accommodating lens **206m** within the balloon. To this end, the ring includes a stem **208m** which extends posteriorly from the ring, and the lens **206m** has a bracket **210m** which slides on and is retained against rotation about the stem **208m**. Stem **208m** slopes downwardly at a small angle relative in the same manner as the slides **178i** and **178j** in FIGS. **32** and **35** so that the lens slides rearwardly when the implantee's head is upright and forwardly when the implantee tilts his head downwardly. The lens formed by the balloon **200m** and its contained silicone and the lens **206m** within the balloon can be optically designed to form an accommodating lens system. It is evident, of course, that the lens **206m** may be replaced by any of the earlier described intraocular implants of the invention. FIG. **43** illustrates a balloon implant **50n** comprising a double-walled silicone filled balloon **200n** containing a stabilizing ring **204n**.

It will be evident at this point that the intraocular implants of the invention are implanted in a patient's eye in a position wherein an axis of the lens holder of the implant extends in the anterior and posterior directions of the eye and the holder has anterior and posterior sides relative to the eye. In FIGS. **40-42**, this is the axis of the balloon passing through the centers of the anterior and posterior sides of the balloon. In the other figures, the anterior-posterior axis of the lens holder is the central axis of the base ring of the holder cage. Except for the is embodiment of FIG. **39**, the adjustable focussing lens adjustable along this axis by the surgeon during surgery to focus the implant on the retina of the eye and is postoperatively adjustable along the axis to vary the focus between near and distant object distances by movement of the implantee's head and/or magnetic action. The lens systems of the implants comprising the two lenses in FIG. **39** and the lens and posterior capsule stretcher in other figures, may be optically designed to provide telescopic vision by themselves or in conjunction with external lenses worn by the implantee. The curvature of the posterior surface of the posterior capsule stretcher and the posterior wall of the balloon may be substantially the same, greater than, or less than the natural curvature of the posterior capsule of the capsular bag of the eye. A greater curvature is preferable, however, since it achieves tighter stretching of the posterior capsule across the capsule stretcher of posterior balloon wall, as the case may be, and thereby more effective prevention of opacification of the posterior capsule.

The optical elements of the present intraocular implants may be fabricated from any suitable optical materials. If desired, one or more of these elements may be optically conditioned to block certain wavelengths of light, such as ultraviolet wavelengths, and pass other wavelengths. While the disclosed implants are mounted within the human capsular bag **28**, it is evident that at least some of the implants may be mounted in any of the eye chambers or cavity.

I claim:

**1.** The method of surgically implanting an intraocular lens in a patient's eye through an incision in the eye, comprising the steps of:

inserting said lens and a lens holder into the eye,

implanting said lens holder in the eye, and

adjusting said lens bodily relative to the implanted holder along the axis of the eye to focus said lens on the retina of the eye without changing either the shape of the lens or the position of the lens about said axis.

**2.** The method of claim **1**, wherein:

said implant comprises threaded means connecting said holder and lens including a member which is rotatable to adjust said lens relative to said holder, and

said step of adjusting said lens relative to said holder comprises rotating said rotatable member.

**3.** The method of implanting an intraocular lens in a patient's eye through an incision in the eye, comprising the steps of:

providing a foldable resilient lens holder which has a normal unfolded configuration and is foldable to a compact folded configuration wherein the holder stores elastic strain energy sufficient to unfold the holder from said compact folded configuration to said normal unfolded configuration,

inserting said lens holder into the eye through said incision while the holder is in said compact folded configuration, and then implanting the holder in a fixed implanted position in the eye by releasing the folded holder within the eye to effect unfolding of the holder within the eye by said elastic strain energy from said compact folded configuration to said normal unfolded configuration with the holder disposed in said fixed implanted position in the eye,

inserting said lens into the eye through said incision, and mounting said lens on the unfolded implanted holder while the holder is in said implanted position.

**4.** The method of claim **3** wherein:

said holder in said normal unfolded configuration and implanted position has normally anterior and posterior sides relative to the eye forming a space between said sides which is sized to receive said lens in a portion of said space wherein the lens is adjustable relative to the holder in the anterior/posterior direction of the holder without projection of the lens beyond said sides in said anterior/posterior direction, and light rays entering the eye can pass through the holder in anterior/posterior direction, and

said step of mounting said lens on said holder comprises mounting the lens on the holder with the lens positioned in said portion of said space between said holder sides.

**5.** The method of restoring vision to and maintaining the vitreous volume of a patient's eye containing a capsular bag from which the nucleus and cortex have been removed in such a way as to leave the posterior capsule of the bag intact, comprising the steps of: