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(12) **United States Patent**
Cumming

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(54) **ACCOMMODATING INTRAOCULAR LENS**
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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 30 days.

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(21) **Appl. No.:** 09/829,313

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(65) **Prior Publication Data**

Spencer Thornton, "Accommodating in Pseudophakia", Color Atlas of Lens Implantation, Chapter 25, pp. 159-161.

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Related U.S. Application Data

(57) **ABSTRACT**

(60) Division of application No. 09/740,679, filed on Dec. 19, 2000, which is a continuation of application No. 08/987,531, filed on Dec. 9, 1997, now Pat. No. 6,197,059, which is a continuation-in-part of application No. 08/640,118, filed on Apr. 30, 1996, now abandoned, which is a continuation of application No. 08/500,010, filed on Jul. 10, 1995, now abandoned, which is a continuation of application No. 08/113,215, filed on Aug. 27, 1993, now abandoned, which is a continuation-in-part of application No. 08/020,630, filed on Feb. 22, 1993, now Pat. No. 5,476,514, which is a continuation-in-part of application No. 07/915,453, filed on Jul. 16, 1992, now abandoned, which is a continuation-in-part of application No. 07/515,636, filed on Apr. 27, 1990, now abandoned.

An accommodating intraocular lens to be implanted within the natural capsular bag of a human eye from which the natural lens matrix has been removed through an anterior capsule opening in the bag circumferentially surrounded by an anterior capsular remnant. During a postoperative healing period following surgery, the anterior capsular remnant fuses to the posterior capsule of the bag by fibrosis about haptics on the implanted lens while the ciliary muscle is maintained in its relaxed state by a cycloplegic to prevent dislocation of the lens, and the lens is deflected rearwardly by the fibrosing anterior capsular remnant to a distant vision position against the elastic posterior capsule of the bag in which the posterior capsule is stretched rearwardly. After fibrosis is complete, natural brain-induced contraction and relaxation of the ciliary muscle relaxes and stretches the fibrosed anterior remnant and increases and reduces vitreous pressure in the eye to effect vision accommodation by the remnant, the posterior capsule, and vitreous pressure. A method of utilizing the intraocular lens to provide a patient with vision accommodation.

(51) **Int. Cl.⁷** A61F 2/16
(52) **U.S. Cl.** 623/6.37; 623/6.51; 623/6.44; 623/6.49
(58) **Field of Search** 623/6.11, 6.32-6.55, 623/FOR 105

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36 Claims, 19 Drawing Sheets

