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# United States Patent [19]

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Garabet

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[54] **LENS WITH VARIABLE OPTICAL PROPERTIES**

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[58] Field of Search ..... **623/6; 351/161; 359/666, 667**

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[57] **ABSTRACT**

A variable focus intraocular lens system alters the type of medium which is located between two lens surfaces of the intraocular lens system to alter the accommodation of the lens. A continuous flow path is created in the intraocular lens system which controls the flow of fluid into the optical zone of the intraocular lens. The continuous flow path contains multiple discrete segments of fluid which move through the fluid path of the lens system. The fluid segments can include segments of positively charged fluids, negatively charged fluids, air, oil, water or other fluids. The electric potential that is generated when the ciliary body contracts and relaxes is used to attract and repel certain charged fluid segments to control the type of media that is contained in the optical zone of the lens. By varying the type of media contained in the optical zone, the accommodation of the intraocular lens system can be altered. Further, by utilizing the charge generated by the contraction and relaxation of the ciliary body to move the fluid segments, no external power sources or signals are required to change the accommodation of the variable lens system of the present invention.

**17 Claims, 7 Drawing Sheets**

