US007981155B2

(12) **United States Patent**
Cumming

(10) **Patent No.: US 7,981,155 B2**
(45) **Date of Patent: Jul. 19, 2011**

(54) **HYDROLIC ACCOMMODATING INTRAOCULAR LENS**

(75) Inventor: **J. Stuart Cumming**, Laguna Beach, CA (US)

(73) Assignee: **C&C Vision International Limited**, Dublin (IE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1013 days.

(21) Appl. No.: **11/458,886**

(22) Filed: **Jul. 20, 2006**

(65) **Prior Publication Data**

US 2007/0129801 A1 Jun. 7, 2007

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/297,232, filed on Dec. 7, 2005, now abandoned.

(51) **Int. Cl.**
A61F 2/16 (2006.01)

(52) **U.S. Cl.** **623/6.13**; 623/6.16; 623/6.37; 623/6.51

(58) **Field of Classification Search** 623/6.13, 623/6.32, 6.34, 6.37, 6.44
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,174,543	A	11/1979	Kelman
4,244,060	A	1/1981	Hoffer
4,254,509	A	3/1981	Tennant
4,254,510	A	3/1981	Tennant
4,298,996	A	11/1981	Barnet
4,304,012	A	12/1981	Richard
4,409,691	A	10/1983	Levy
4,424,597	A	1/1984	Schlegel
4,441,217	A	4/1984	Cozean, Jr.
4,477,931	A	10/1984	Kelman
4,573,998	A	3/1986	Mazzocco
4,585,457	A	4/1986	Kalb
4,605,411	A	8/1986	Fedorov et al.
4,629,462	A	12/1986	Feaster
4,664,666	A	5/1987	Barrett
4,673,406	A	6/1987	Schlegel
4,704,123	A	11/1987	Smith
4,718,904	A	1/1988	Thornton
4,738,680	A	4/1988	Herman
4,753,655	A	6/1988	Hecht
4,759,761	A	7/1988	Portnoy
4,778,463	A	10/1988	Hetland
4,813,955	A	3/1989	Achatz et al.
4,816,030	A	3/1989	Robinson
4,840,627	A	6/1989	Blumenthal

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0208546 A 1/1987

(Continued)

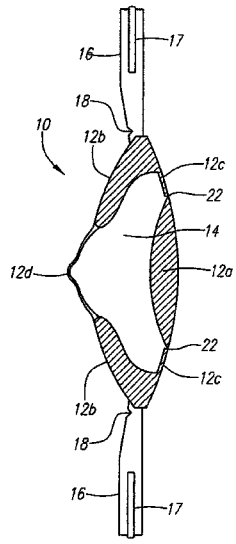
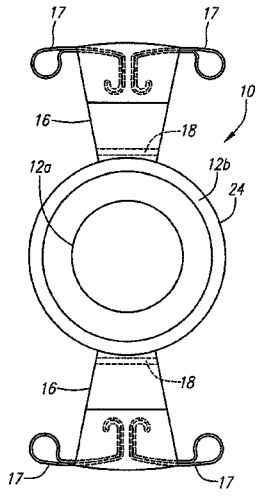
OTHER PUBLICATIONS

Archimede Busacca, Ciliary Muscle Physiology Studied by Gonioscopy, Annals of Oculistics, vol. CLXXXVIII, Jan. 1955 (English Translation), 13 pages.

(Continued)

Primary Examiner — David H. Willse
(74) *Attorney, Agent, or Firm* — Orrick, Herrington & Sutcliffe LLP

(57) **ABSTRACT**

An accommodating intraocular lens comprising an optic made from solid silicone and liquid silicone. The optic has a central anterior area or membrane that can vary in radius and thus change power.

17 Claims, 5 Drawing Sheets