US008109998B2

(12) **United States Patent**
Cumming

(10) **Patent No.: US 8,109,998 B2**
(45) **Date of Patent: Feb. 7, 2012**

(54) **ACCOMMODATING 360 DEGREE SHARP EDGE OPTIC PLATE HAPTIC 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 241 days.

(21) Appl. No.: **12/494,190**

(22) Filed: **Jun. 29, 2009**

(65) **Prior Publication Data**

US 2009/0264999 A1 Oct. 22, 2009

Related U.S. Application Data

(62) Division of application No. 10/888,163, filed on Jul. 8, 2004, now Pat. No. 7,553,327.

(60) Provisional application No. 60/527,340, filed on Dec. 4, 2003.

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

(52) **U.S. Cl.** **623/6.37**

(58) **Field of Classification Search** 623/6.11, 623/6.16, 6.17, 6.37, 6.38–6.54
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,118,808 A 10/1978 Poler
4,122,556 A 10/1978 Poler
4,168,547 A 9/1979 Konstantinov et al.
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
4,298,995 A 11/1981 Poler
4,298,996 A 11/1981 Barnét
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

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0208546 A 1/1987

(Continued)

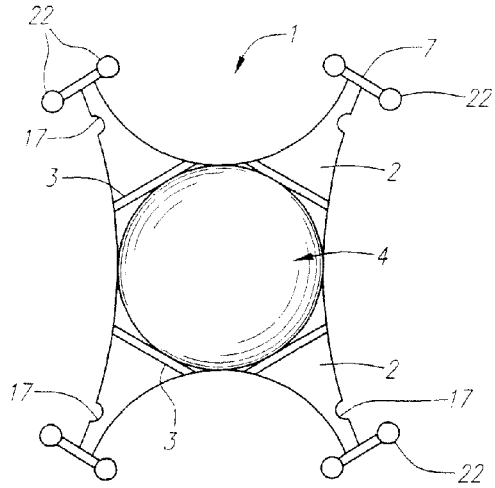
OTHER PUBLICATIONS

EP, Communication pursuant to Article 94(3) EPC, Appln. No. 04028455.6-2320, Feb. 4, 2010.

(Continued)

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

(57) **ABSTRACT**

An accommodating intraocular lens having an optic and portions extending from the optic radially outwards preferably with fixation devices at their distal ends, the optic designed such that it has a sharp posterior edge for 360 degrees of its perimeter and the lens designed such that the optic can move forward and backwards with constriction and relaxation of the ciliary muscle.

8 Claims, 7 Drawing Sheets