

[54] HAPTIC ELEMENT USING ION BEAM IMPLANTATION FOR AN INTRAOCULAR LENS

[76] Inventor: Jerre M. Freeman, 1509 Peabody, Memphis, Tenn. 38104

[21] Appl. No.: 895,944

[22] Filed: Aug. 13, 1986

[51] Int. Cl.⁴ A61F 2/16; A01N 1/02

[52] U.S. Cl. 623/6; 427/2

[58] Field of Search 623/6; 427/2

[56] References Cited

U.S. PATENT DOCUMENTS

4,174,543	11/1979	Kelman	623/6
4,298,995	11/1981	Poler	623/6
4,363,143	12/1982	Callahan	623/6
4,404,694	9/1983	Kelman	623/6
4,418,431	12/1983	Feaster	623/6

OTHER PUBLICATIONS

Dubroff Model 044B Anterior Chamber Lens (advertisement) Intermedics Intraocular, 2 pages, Jan. 1984.
Apple et al, "Biocompatibility of Implant Materials: A Review and Scanning Electron Microscopic Study",

Am. Intra-Ocular Implant Soc. J., vol. 10, pp. 53-66 (1984).

Sionshansi, P., "Ion Beam Modification of Materials for Industry", *Thin Solid Films*, vol. 118, pp. 61-71 (1984).
Sionshansi, et al, "Wear Improvement of Surgical Titanium Alloys by Ion Implantation", *J. Vac. Sci. Technol.*, A 3(b), pp. 2670-2674 (Nov./Dec. 1985).

Surface Modification by Ion Beams", by Spire Corporation, 4 pages (brochure).

Primary Examiner—Ronald L. Frinks

Attorney, Agent, or Firm—Burns, Doane, Swecker & Mathis

[57] ABSTRACT

An implantable intraocular lens for use within a human eye is provided with enhanced carrier or haptic loops for locating, supporting and maintaining the lens device in a desired position within the ocular chamber of an eye. Enhanced haptic longevity and biocompatibility is provided by a surface ion coating the polypropylene haptic on at least the surfaces making tissue contact. The biocompatible protective ion coating is applied by ion beam implantation. The biocompatible protective ion coating is preferably nitrogen, carbon, silicon or aluminum.

21 Claims, 8 Drawing Figures

