

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/055873 A3

(51) International Patent Classification:

A61F 9/00 (2006.01) A61M 5/00 (2006.01)
A61L 33/00 (2006.01)

(21) International Application Number:

PCT/US2004/040661

(22) International Filing Date:

3 December 2004 (03.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/526,963 5 December 2003 (05.12.2003) US
60/565,291 26 April 2004 (26.04.2004) US

(71) Applicant (for all designated States except US): **INNFOCUS, LLC** [US/US]; 12415 SW 136 Avenue, Unit 3, Miami, FL 33186 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PINCHUK, Leonard** [US/US]; 13704 S.W. 92nd Court, Miami, FL 33176 (US). **PAREL, Jean-Marie** [CH/US]; 32 North East 92 Street, Miami Shores, FL 33138 (US). **FANTES, Francisco** [US/US]; 320 West Heather Drive, Key Biscayne, FL 33149 (US). **GOTTLIEB, Saul** [US/US]; 3650 S.W. 141 Avenue, Miramar, FL 33027 (US). **MARTIN,**

John, B., Jr. [US/US]; 3650 SW 141 Avenue, Miramar, FL 33027 (US). **KATO, Yasushi, Pedro** [JP/US]; 311 SW 187 Avenue, Pembroke Pines, FL 33029 (US).

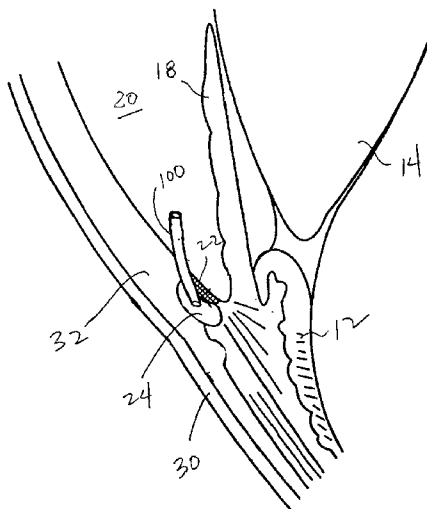
(74) Agents: **GORDON, David, P.** et al.; Gordon & Jacobson, P.C., 60 Long Ridge Road, Suite 407, Stamford, CT 06902 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: IMPROVED GLAUCOMA IMPLANT DEVICE



(57) Abstract: A surgical implant device for treating glaucoma includes an elongate duct structure formed from a material comprising polyisobutylene and a glassy segment. The material of the elongate duct structure preferably has a general block structure with a central elastomeric polyolefinic block and thermoplastic end blocks (e.g., a triblock polymer backbone comprising polystyrene-polyisobutylene-polystyrene). The elongate duct structure provides a fluid passageway for diverting aqueous humor from the anterior chamber of the eye. Preferably, the elongate duct structure defines a lumen channel having an inside diameter between 0.05 mm and 0.3 mm. The material of the elongate duct structure is biocompatible and biostable. Moreover, the material will not encapsulate in the eye and thus provides an unobstructed flowpath that diverts aqueous humor from the anterior chamber. Different embodiments of the implant device divert the aqueous humor to different parts of the eye (e.g., a space between the conjunctiva and sclera, Schlemm's Canal, or a fluid reservoir formed on a posterior surface of the eye).

WO 2005/055873 A3



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

26 July 2007

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/40661

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61M 5/00(2006.01)
A61F 9/00(2006.01);A61L 33/00(2006.01)

USPC: 604/9;606/166;427/2.24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 604/9; 606/166; 427/2.24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,968,058 A (Richter et al.) 09 October 1999 (09.10.1999), Column 7, Line 41 through Column 8, Line 4	1, 15,-18, 21, 26, 28, 29
Y	US 2004/0193095 A1 (Shaddock) 30 September 2004 (30.09.2004), [0021]	1, 21, 22, 23, 30, 44, 45
Y	US 2003/0139729 A1 (Stegmann et al.) 24 June 2003 (24.06.2003), [0039]	1, 21, 22, 23, 24, 25, 27
Y	US 6,001,128, A (Graff et al.) 14 December 1999 (14.12.1999), Entire Document	1, 3, 6, 7, 21, 35, 36
Y, P	US 2004/0236343 A1 (Taylor et al.) 25 November 2004 (24.11.2004), [0040]	1, 21

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

06 March 2007 (06.03.2007)

Date of mailing of the international search report

23 MAY 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Tatyana Zalukaeva
Telephone No. (571) 272-3235