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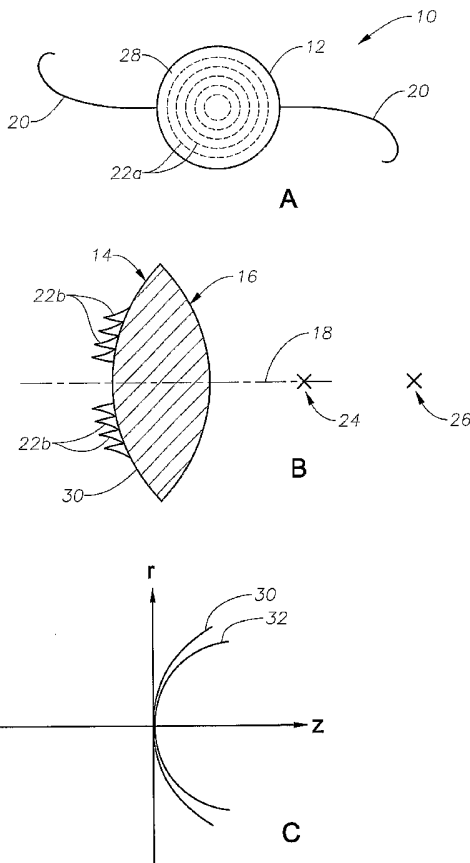
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- (71) Applicant (for all designated States except US): ALCON, INC. [CH/CH]; P.O. Box 62, Bosch 69, CH-6331 Hunenberg (CH).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): SIMPSON, Michael, J. [US/US]; 3004 Waterway Court, Arlington, Texas 76012 (US).
- (74) Agents: PASTRANA, JR., Armando et al.; 6201 South Freeway, Fort Worth, TX 76134 (US).

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(54) Title: APODIZED ASPHERIC DIFFRACTIVE LENSES



(57) Abstract: Aspheric diffractive lenses (10) are disclosed for ophthalmic applications. For example, multifocal intraocular lens (IOLs) are disclosed that include an optic (12) having an anterior surface (14) and a posterior surface (16), at least one of which surfaces includes an aspherical base profile (30) on a portion of which a plurality of diffractive zones (22a) are disposed so as to generate a far focus and a near focus. The aspherical base profile enhances image contrast at the far focus of the lens relative to that obtained by a substantially identical IOL in which the respective base profile is spherical

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INTERNATIONAL SEARCH REPORT

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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)

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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 practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/156014 A1 (PIERS PATRICIA ANN ET AL) 12 August 2004 (2004-08-12)	1,8-10, 12-14, 19,21-23
Y	paragraphs [0001], [0008], [0053], [0059], [0083] - [0090], [0101], [0125] - [0128], [0135]; claim 118	25
A	-----	2,4,5,7, 11,15,24
Y	US 5 824 074 A (KOCH ET AL) 20 October 1998 (1998-10-20)	25
A	column 2, line 40 - line 47 column 4, line 1 - line 7	9,22
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Name and mailing address of the ISA/

European Patent Office, P.B. 5318 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Merté, B

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tional application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/82791 A (UNIVERSITY OF ROCHESTER) 8 November 2001 (2001-11-08) page 6, line 1 - line 2 page 8, lines 4-18 page 25, lines 18-22; figures 22A-C -----	1,21-25
P,X	WO 2005/098518 A (ADVANCED MEDICAL OPTICS, INC; PIERS, PATRICIA, ANN; WEEBER, HENK) 20 October 2005 (2005-10-20)	1,2, 8-11,14, 21-23
P,A	page 4, lines 16-24 page 9, lines 7-10 page 10, line 26 - page 12, line 16 page 14, paragraph 1 page 24, lines 12-26; claims 18,30,31,47; figure 7; table 3 -----	6,12,16, 17,19, 20,24,25

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

/US2005/043324

Patent document cited in search report	A1	Publication date	Patent family member(s)	Publication date
US 2004156014	A1	12-08-2004	NONE	
<hr/>				
US 5824074	A	20-10-1998	AU 1574695 A	21-08-1995
			DE 4403326 C1	22-06-1995
			WO 9520926 A1	10-08-1995
			EP 0742702 A1	20-11-1996
<hr/>				
WO 0182791	A	08-11-2001	AU 5704201 A	12-11-2001
			BR 0110370 A	18-02-2003
			CA 2407082 A1	08-11-2001
			CN 1426286 A	25-06-2003
			EP 1278451 A1	29-01-2003
			JP 2003532150 T	28-10-2003
			MX PA02010624 A	14-10-2003
			TW 500604 B	01-09-2002
			US 6338559 B1	15-01-2002
<hr/>				
WO 2005098518	A	20-10-2005	NONE	
<hr/>				