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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
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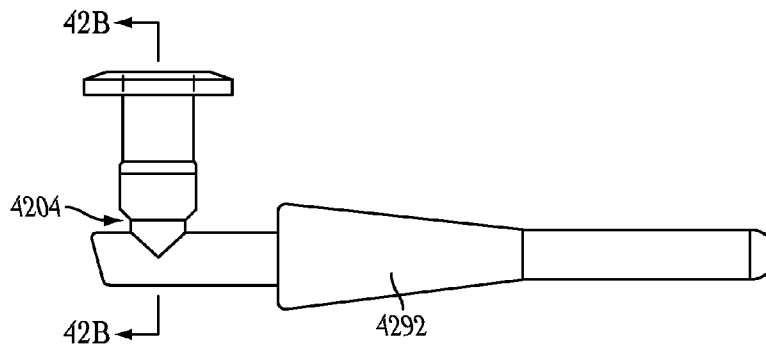


FIG. 42A

(57) Abstract: Lacrimal implants and related methods providing secure, wedgable retention within a lacrimal punctum and associated canaliculus of an eye are disclosed. The lacrimal implants can comprise an implant body configured for at least partial insertion through the lacrimal punctum and into the canaliculus. The implant body can include first and second portions, and can extend from a proximal end of the first portion defining a longitudinal proximal axis to a distal end of the second portion defining a longitudinal distal axis. The implant body can be configured such that, when implanted using an integral dilator, an angled intersection exists between the proximal and distal axes. In this way, at least a portion of the implant body can be biased against at least a portion of the lacrimal canaliculus located at or more distal to a canalicular curvature, thereby retaining an implanted position of the lacrimal implant using anatomical structures.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/025089**A. CLASSIFICATION OF SUBJECT MATTER***A61F 9/00(2006.01)i, A61M 37/00(2006.01)i, A61F 2/14(2006.01)i, A61L 27/52(2006.01)i, A61L 27/04(2006.01)i*

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)

A61F 9/00; G06F 15/16; H04J 3/22; H04B 7/02

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)

eKOMPASS(KIPO internal) & Keywords: lacrimal duct, canaliculus, canalicular canal, implant, insert, punctum plug, drug core, sheath, therapeutic agent, and polymer.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 2006-0020253 A1 (ANTHONY D. PRESCOTT) 26 January 2006 See abstract; paragraphs [22]-[24], 27-[29]; claims 1-11; Figs. 1, 11.	1-3,5-7,43 8-16,24-31,39-42 ,46-51 4,17-23,32-38,44 ,45
X Y A	US 4959048 A1 (EDMUND V. SEDER et al.) 25 September 1990 See abstract; c. 4, l. 62-c. 6, l. 11; claims 1-17; Figs. 7, 8.	44 8-16,24-31 1-7,17-23,32-43 ,45-51
Y A	US 6306114 B1 (C. CURTIS FREEMAN et al.) 23 October 2001 See abstract; c. 4, ll. 51-65; Fig. 10.	39-42 1-38,43-51
Y A	US 2007-0243230 A1 (EUGENE DE JUAN JR. et al.) 18 October 2007 See abstract; paragraphs [124]-[129], [155]; Fig. 10A, 10B, 10C.	46-51 1-45

 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

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/025089

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2008-0181930 A1 (THERON R. RODSTROM et al.) 31 July 2008 See abstract; paragraphs [52]-[68]; claim 1; Figs. 6, 7.	48-50 1-47
X A	US 2006-0106352 A1 (KATSUAKI KURIHASHI) 18 May 2006 See abstract; paragraphs [177]-[182]; Figs. 61-63.	1-3 4-51
A	US 2007-0298075 A1 (MAUREEN J. BORGIA et al.) 27 December 2007 See the whole document.	1-51

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/025089

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

- 1. [] Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2. [] Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. [] Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

This ISA found multiple inventions as follows:

Group I, claims 1-16, 24-31, 44 and 45 are directed to a lacrimal implant comprising a portion having a retainment projection.
Group II, claims 17-23 are directed to a lacrimal implant comprising an intermediate portion having a recess, which stores an expandable material.
Group III, claims 32-38 are directed to a lacrimal implant comprising an intermediate portion having a flat hull-like shape.
Group IV, claims 39-42 are directed to a lacrimal implant comprising a graspable projection.
Group V, claims 43 and 46-51 are directed to a lacrimal implant comprising a cavity and a drug insert; and a manufacturing method of the implant, respectively.
(See the extra sheet.)

- 1. [x] As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. [] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. [] As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. [] No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

- Remark on Protest
[] The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
[] The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
[x] No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/025089

Continuation of Box No. III

The implants of Groups I–V are composed of different elements and have different structure. Therefore, they have no common technical features. In addition, the invention of Group I lacks novelty and/or inventive step with respect to the following documents: US 2006/0020253 A1 and/or US2006/0106352 A1.

Thus, the inventions of Groups I–V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2 they lack the same or corresponding special technical features.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/025089

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0020253 A1	26.01.2006	AU 2005-269599 A1 CA 2573892 A1 EP 1778198 A1 US 2006-0020248 A1 US 7117870 B2 WO 2006-014793 A1	09.02.2006 09.02.2006 02.05.2007 26.01.2006 10.10.2006 09.02.2006
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