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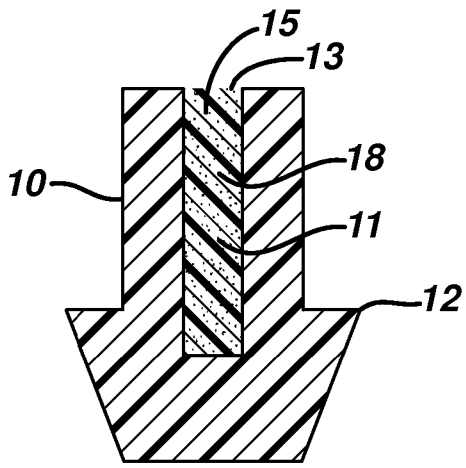
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(54) Title: PUNCTAL PLUGS FOR THE DELIVERY OF ACTIVE AGENTS



(57) Abstract: The invention provides punctal plugs for the delivery of active agent to one or both of the tear fluid of the eye and to the nasolacrimal duct. The plugs of the invention have a body (10), a reservoir (15) contained within the body, and optionally a collarette. The reservoir has at least one opening and contains a polymeric material (11) and at least one active agent (18).

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61F9/00
ADD. A61F9/007

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

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	WO 00/62760 A (EYELAB GROUP LLC [US]) 26 October 2000 (2000-10-26)	1-10
A	page 3, lines 11-19 page 5, lines 16-20 page 7, lines 13,14 page 8, lines 21-30 page 10, lines 1-13; claims 1-3,8,11-13; figures 1,3,4,7-9	11
X	WO 2006/014793 A (CLARITY CORP [US]; PRESCOTT ANTHONY D [US]) 9 February 2006 (2006-02-09) page 5, lines 8-28 page 6, lines 11-20; claims 1,2,6-8,10-12; figures 1-5	1-4,7-9

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[X] Further documents are listed in the continuation of Box C.

[X] 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 document 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 another 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

Date of the actual completion of the international search	Date of mailing of the international search report
2 April 2008	08/08/2008

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Merté, Birgit

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International 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.
X	WO 2004/066980 A (CONTROL DELIVERY SYS INC [US]; ASHTON PAUL [US]; GUO HONG [US]) 12 August 2004 (2004-08-12)	1-8
A	page 5, lines 26-28 page 6, lines 14,15 page 7, line 21 - page 8, line 20 page 16, lines 20-30 page 22, lines 9-14 page 28, lines 16-22; claims 19,20; figures 1,4,5	9-11
A	US 2002/110592 A1 (BRUBAKER MICHAEL J [US] ET AL) 15 August 2002 (2002-08-15) paragraphs [0022] - [0032], [0056], [0068], [0069], [0075], [0076]; figures	1,3-5,7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/071520

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:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers 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.:

see additional sheet(s)

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.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11

A punctal plug, comprising a body having first and second ends, a lateral impermeable surface and an active agent-containing material in a reservoir,
wherein the reservoir comprises at least one opening, in particular an opening at the first end, the second end, or both the first and second ends of the body.

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2. claims: 12-21

A punctal plug for the delivery of active agent to the tear fluid of an eye and to a nasolacrimal duct, comprising a body comprised of a flexible polymeric material and having a collarette that rests on the exterior of the lacrimal puncturn when the punctal plug is inserted into the lacrimal canaliculus.

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3. claims: 22-25

A punctal plug comprising a body having first and second ends and a reservoir contained within the body, wherein the reservoir contains an active agent-containing material that is a fiber or fiber-like structure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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