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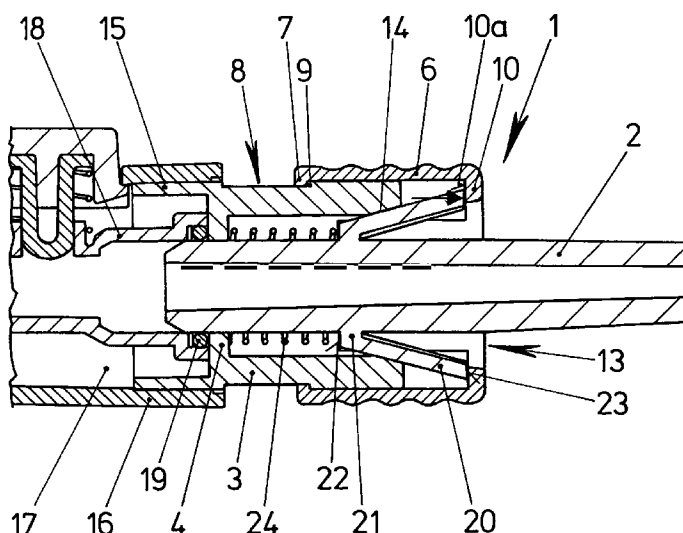
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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: RELEASABLE PLUG CONNECTION BETWEEN A JACK AND A NOZZLE TUBE



(57) Abstract: The invention relates to a releasable plug connection, for inserting a nozzle tube (2) into a jack (1), consisting of a hollow cylinder (3) and a sleeve (6) displaceably mounted on said cylinder. The nozzle tube (2) is provided with radially spring-loaded lugs (20), the free ends of which are in contact with a locking surface (10a) formed on a flange (10) of the sleeve (6) which can slide relative to the hollow cylinder (3). For releasing the connection, the sleeve (6) is pushed back so that the lugs (20) slide along a truncated cone (14) on the hollow cylinder (3) and are pushed inwardly in the process. As a result, the ends of the lugs (20) slide from the locking surface (10a). As soon as the lug ends have left the locking surface (10a), the nozzle tube (2) shoots from the jack (1) under the action of the spring (24).

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2007/010570

A. CLASSIFICATION OF SUBJECT MATTER

INV. F16L37/098 A61C17/02 A61M3/02

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)

F16L A61C A61M

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X X Y	US 4 966 398 A (PETERSON FRANCIS C [US]) 30 October 1990 (1990-10-30) column 1, line 51 - column 2, line 66 column 3, line 25 - column 5, line 27 figures -----	1-3, 5-7, 9 21 26, 27
X	CH 581 273 A5 (LACREX BREVETTI SA) 29 October 1976 (1976-10-29) column 1, line 1 - line 9 column 2, line 40 - column 4, line 9 claims figures ----- -/-	1, 4, 10, 11



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 document but published on or after the international filing date

'L' document which may throw doubts on priority claims 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

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2007/010570

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document with Indication, where appropriate, of the relevant passages	Relevant to claim No
X A	DE 41 23 198 AI (BRAUN AG [DE]) 14 January 1993 (1993-01-14) column 1, line 3 - line 9 column 1, line 31 - line 68 column 2, line 32 - line 36 column 3, line 52 - column 4, line 12 figures -----	13-19 1, 3
X	EP 0 140 995 A (ROSSI PIETRO) 15 May 1985 (1985-05-15) page 3, line 14 - page 6, line 8 figures -----	1,2, 6-11 , 21-25
X	US 5 281 137 A (JOUSSON JEAN-PIERRE [CH]) 25 January 1994 (1994-01-25) column 1, line 6 - line 23 column 2, line 22 - line 34 figures 1,2 -----	13, 14
X	US 5 343 892 A (SAITO SHUNICHI [JP]) 6 September 1994 (1994-09-06) column 3, line 1 - line 44 figures 1,5,6 -----	21-24
X Y	WO 01/21118 A (RAMBUKWELLE WERASERA [NZ]) 29 March 2001 (2001-03-29) page 4, line 16 - page 5, line 4 page 7, line 1 - page 8, line 22 figures -----	12,20 26
Y	US 6 293 792 B1 (HANSON RICHARD W [US]) 25 September 2001 (2001-09-25) column 1, line 6 - line 45 column 2, line 61 - line 64 figures -----	27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2007/010570

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.:

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.

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

1. claims: 1-11

A releasable plug connection

2. claims: 12,14-16,20,26

An ear syringe nozzle tube with lugs

3. claims: 13,14-19,27

A dental water jet nozzle

4. claims: 21-25,27

A jack for a plug connection

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2007/010570

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4966398	A	30-10-1990	NONE	
CH 581273	A5	29-10-1976	NONE ,	
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US 6293792	B1	25-09-2001	NONE	