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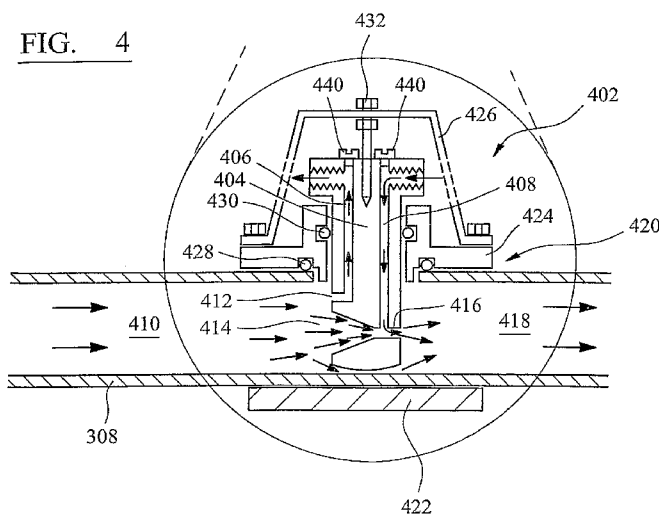
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(54) Title: FLUID DELIVERY DEVICE AND METHOD



(57) Abstract: A fluid delivery device (402) for fixing to and delivering a fluid into a pressurised pipe (308), the device comprising flow restriction means (404) operable to restrict a flow of fluid through the said pipe (308), thereby generating a restricted flow region (416) within the pipe (308) at or around the position of the flow restriction means (404), as compared to an unrestricted flow upstream of the device, the device further comprising a delivery conduit (408) arranged to open into or proximal to the said restricted flow region (416).

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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2009/050036

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|---|--|--|---|--|
| <b>A. CLASSIFICATION OF SUBJECT MATTER</b><br>INV. C02F1/68      B01F5/04      E04H4/12   |  |  |   |  |
| According to International Patent Classification (IPC) or to both national classification and IPC   |  |  |   |  |
| <b>B. FIELDS SEARCHED</b>   |  |  |   |  |
| Minimum documentation searched (classification system followed by classification symbols)<br>E04H F24J B01F C02F  |  |  |   |  |
| 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)<br><br>EPO-Internal  |  |  |   |  |
| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>   |  |  |   |  |
| Category*   | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.  |   |  |
| X<br>A<br>X<br>X  | US 4 261 332 A (STEWART JOHN M)<br>14 April 1981 (1981-04-14)<br>column 2, line 58 - column 6, line 60;<br>figures 1-5<br>-----<br>WO 99/29403 A (CHENGETA CUTHBERT [ZW];<br>ROBERTSON JOHN NEIL [ZA]; PALMER LESLIE<br>RICHA) 17 June 1999 (1999-06-17)<br>page 3, line 6 - page 5, line 21; figure 1<br>-----<br>WO 2006/016032 A (DOSATRON INTERNAT [FR];<br>BARRAS GILBERT [FR]; DARBOIS MATTHIEU<br>[FR]) 16 February 2006 (2006-02-16)<br>page 1, lines 3-12<br>page 4, line 10 - page 5, line 15<br>page 7, lines 21-37; figures 1,2<br>-----<br>-/--   | 1-4,9-28<br><br>7,8<br><br>1,3,<br>12-18,<br>24-29<br><br>1-6,<br>9-11,21,<br>24,26,27 |   |  |
| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.   |  |  |   |  |
| * Special categories of cited documents :   |  |  |   |  |
| <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;">                     *A* document defining the general state of the art which is not considered to be of particular relevance<br/>                     *E* earlier document but published on or after the international filing date<br/>                     *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)<br/>                     *O* document referring to an oral disclosure, use, exhibition or other means<br/>                     *P* document published prior to the international filing date but later than the priority date claimed                 </td> <td style="width: 50%; border: none; vertical-align: top;">                     ** 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<br/>                     *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<br/>                     *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.<br/>                     *&amp;* document member of the same patent family                 </td> </tr> </table> |  |  | *A* document defining the general state of the art which is not considered to be of particular relevance<br>*E* earlier document but published on or after the international filing date<br>*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)<br>*O* document referring to an oral disclosure, use, exhibition or other means<br>*P* document published prior to the international filing date but later than the priority date claimed | ** 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<br>*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<br>*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.<br>*&* document member of the same patent family |
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| Date of the actual completion of the international search<br><br><p style="text-align: center; font-weight: bold;">29 May 2009</p>  | Date of mailing of the international search report<br><br><p style="text-align: center; font-weight: bold;">02/09/2009</p>   |  |   |  |
| Name and mailing address of the ISA/<br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016  | Authorized officer<br><br><p style="text-align: center; font-weight: bold;">Decker, Robert</p>   |  |   |  |

INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2009/050036

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.            |
|-----------|---|----------------------------------|
| X         | US 4 419 233 A (BAKER MARVIN E [US])<br>6 December 1983 (1983-12-06)<br><br>column 2, line 7 - column 4, line 67;<br>figures 1,2<br><br>----- | 1,3,<br>9-13,<br>15-18,<br>23-29 |
| X         | US 7 291 261 B1 (RHODES CHRIS [US])<br>6 November 2007 (2007-11-06)<br><br>column 1, line 32 - column 3, line 23;<br>figures 2,4<br><br>----- | 1,3,<br>9-11,<br>23-30           |

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2009/050036

## 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 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.:

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.

# INTERNATIONAL SEARCH REPORT

International Application No. PCT/GB2009 /050036

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-30

Fluid delivery device for fixing to and delivering a fluid into a pressurized pipe, fluid delivery device for a swimming pool, method of delivering a fluid into a pressurized pipe using a fluid delivery device and a method of dosing a chemical solution into a swimming pool using a fluid delivery device

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2. claim: 31

Method of attaching a fluid delivery device to a pressurized pipe

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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| Patent document cited in search report | A  | Publication date | Patent family member(s) | Publication date |
|--|----|------------------|-------------------------|------------------|
| US 4261332                             | A  | 14-04-1981       | CA 1115608 A1           | 05-01-1982       |
| WO 9929403                             | A  | 17-06-1999       | AU 747828 B2            | 23-05-2002       |
|  |    |                  | AU 1473899 A            | 28-06-1999       |
|  |    |                  | DE 69815387 D1          | 10-07-2003       |
|  |    |                  | DE 69815387 T2          | 22-04-2004       |
|  |    |                  | EP 1035908 A1           | 20-09-2000       |
|  |    |                  | ES 2201559 T3           | 16-03-2004       |
|  |    |                  | PT 1035908 E            | 31-10-2003       |
|  |    |                  | US 6182681 B1           | 06-02-2001       |
| WO 2006016032                          | A  | 16-02-2006       | AT 383196 T             | 15-01-2008       |
|  |    |                  | DE 602005004294 T2      | 02-01-2009       |
|  |    |                  | DK 1773479 T3           | 26-05-2008       |
|  |    |                  | EP 1773479 A1           | 18-04-2007       |
|  |    |                  | ES 2300050 T3           | 01-06-2008       |
|  |    |                  | FR 2873172 A1           | 20-01-2006       |
|  |    |                  | PT 1773479 E            | 07-04-2008       |
|  |    |                  | US 2007227961 A1        | 04-10-2007       |
| US 4419233                             | A  | 06-12-1983       | NONE                    |                  |
| US 7291261                             | B1 | 06-11-2007       | NONE                    |                  |