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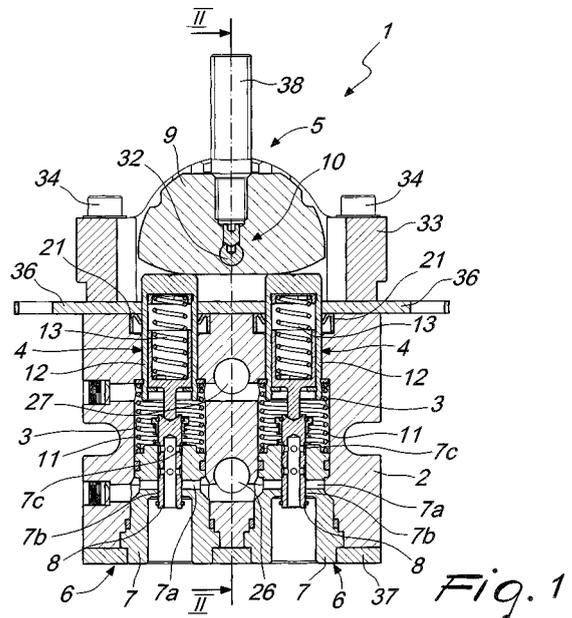
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(54) **Fluid-operated actuation device**

(57) A fluid-operated actuation device (1), comprising at least one supporting body (2), which is associated with at least one substantially through receptacle (3) provided with first and second mutually opposite open ends, at least one preassembled push rod assembly (4), which is inserted so that it can slide along the receptacle (3) at the first end, means (5) for actuating the sliding of the push rod assembly (4) along the receptacle (3) at least toward the second end, and at least one preassembled reduction valve assembly (6), which is associated with the supporting body (2) at the second end and comprises a valve body (7) provided with at least one intake port (7a) for a working fluid at an operating pressure, with at least one port (7b) for the output of the working fluid at a reduced pressure toward a user device, and with at least one discharge port (7c) for the fluid and at least one flow control element (8), which is accommodated within the valve body, can move alternately between an inactive configuration and an active configuration, is interposed between the ports and cooperates with the push rod assembly, the flow control element (8) being adapted to close at least partially the intake port (7a) and to connect the output and discharge ports in the inactive configuration and to close at least partially the discharge port (7c) and connect the intake (7a) and output ports (7b) in the active configuration.





| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |   |  |
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| Category  | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim                                 | CLASSIFICATION OF THE APPLICATION (IPC)    |
| X   | DE 43 16 229 A1 (REXROTH MANNESMANN GMBH [DE] MANNESMANN REXROTH AG [DE])<br>24 November 1994 (1994-11-24)  | 1-9,<br>11-13,<br>16,17,<br>19-25,<br>28-32       | INV.<br>F15B13/042                         |
| Y   | * column 1, line 64 - column 2, line 53 *<br>* column 3, line 30 - column 4, line 18;<br>figures 1,4 *  | 10,18   |  |
| Y   | -----<br>US 5 251 534 A (YONEKUBO YOSHITAKE [JP] ET AL) 12 October 1993 (1993-10-12)<br>* column 1, line 13 - column 2, line 26;<br>figures 1,2 *                                   | 10,18   |  |
| X   | -----<br>US 4 777 981 A (PETRO JOHN D [US])<br>18 October 1988 (1988-10-18)<br><br>* column 2, line 15 - column 3, line 16;<br>figures 1,2,4 *                                      | 1-5,9,<br>13,14,<br>19-35                         |  |
| X   | -----<br>DE 88 06 210 U1 (MBK-HYDRAULIK MEUWSEN & BROCKHAUSEN GMBH & CO KG, 4132 KAMP-LINTFORT,) 7 July 1988 (1988-07-07)<br><br>* page 4, line 12 - page 6, line 24;<br>figure 2 * | 1-5,9,<br>13,14,<br>16,<br>19-22,<br>24,28-32     | TECHNICAL FIELDS<br>SEARCHED (IPC)<br>F15B |
| X   | -----<br>US 6 152 179 A (BUETTNER PETER [DE] ET AL) 28 November 2000 (2000-11-28)<br><br>* column 4, line 63 - column 6, line 25;<br>figure 1 *                                     | 1,4,5,9,<br>13-16,<br>19-22                       |  |
| The present search report has been drawn up for all claims  |   |   |  |
| Place of search<br>The Hague  |   | Date of completion of the search<br>30 March 2007 | Examiner<br>RECHENMACHER, M                |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |   |   |  |

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 10 2309

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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