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[Continued on next page]

(54) Title: DOWNHOLE APPARATUS

(57) Abstract: A downhole apparatus comprises a tubular body including a seat, and an actuating member including a wiper dart and an extrudeable portion adapted to mate with the seat. When a first pressure is applied across the member a function may be performed. Application of a higher second pressure causes the portion to be extruded through the seat.

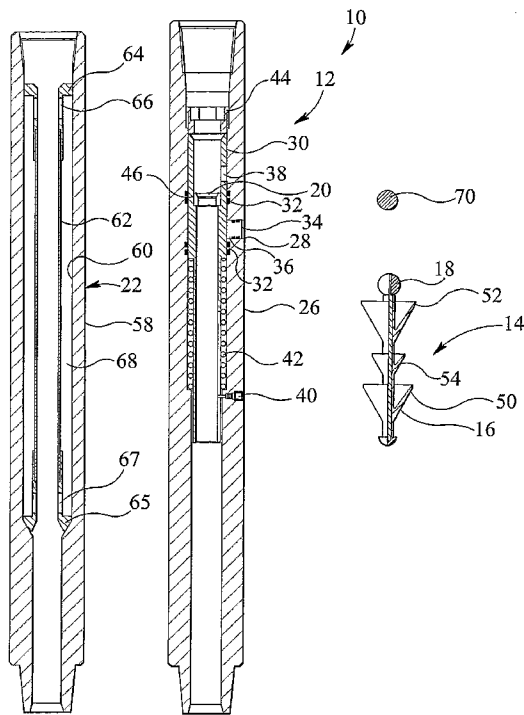


FIG 1

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(88) Date of publication of the international search report:
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INTERNATIONAL SEARCH REPORT

International application No
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| | | |
|---|---|---|
| A. CLASSIFICATION OF SUBJECT MATTER INV. E21B34/14 | | |
| 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) E21B | | |
| 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 | US 6 923 255 B2 (LEE PAUL BERNARD [CA]) 2 August 2005 (2005-08-02) cited in the application | 1, 2, 10-12, 15-17, 25-28, 33, 34, 38-53, 63, 66-68, 74, 80, 82-88, 95 |
| Y | column 2, lines 17-53 column 3, lines 8-15 column 5, lines 26-64; figures 1-4, 9, 10a, 10b | 3, 4, 9, 29-32, 35-37, 69-73, 75 |
| <div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. </div> | | |
| * 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 <p style="text-align: center; font-weight: bold;">26 March 2009</p> | Date of mailing of the international search report <p style="text-align: center; font-weight: bold;">09/04/2009</p> | |
| Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016 | Authorized officer <p style="text-align: center; font-weight: bold;">Bellingacci, F</p> | |

5

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2008/001852

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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| Y | US 6 681 860 B1 (YOKLEY JOHN M [US] ET AL) 27 January 2004 (2004-01-27) column 2, lines 36-42 column 3, lines 6-13 column 5, lines 3-8 | 5-9,13, 14, 18-24, 54-62, 64,65, 76-79,81 |
| Y | US 2007/107908 A1 (VAIDYA NITIN Y [US] ET AL) 17 May 2007 (2007-05-17) paragraph [0016]; figures 1b,1c,3 | 5-9,13, 14,18, 54-62,64 |
| A | US 3 029 875 A (MOLLER BYNUM W) 17 April 1962 (1962-04-17) column 2, lines 58-63; figure 6 | 1-14, 18-62, 64-95 |
| Y | US 4 823 882 A (STOKLEY CHARLES O [US] ET AL) 25 April 1989 (1989-04-25) column 2, lines 20-32 | 19-24, 29-32, 65, 69-73,75 |
| X | US 2 659 438 A (SCHNITTER SYLVESTER B) 17 November 1953 (1953-11-17) | 89-94 |
| Y | column 6, lines 23-55 column 10, lines 29-43; figures 3,6 | 35-37, 76-79,81 |
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| A | US 5 086 844 A (MIMS MICHAEL G [US] ET AL) 11 February 1992 (1992-02-11) figure 4 | 1-14, 18-62, 64-95 |
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2008/001852

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.:

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: 1-4,10-12,25-28,38-53,66-68,74,80,82-88,95

Downhole apparatus comprising an actuating member including a wiper dart provided with a plurality of sealing members

2. claims: 5-9,13,14,18,54-62,64

Downhole apparatus comprising an actuating member including an axially extending extrudeable portion

3. claims: 15-17, 63

Downhole apparatus comprising an actuating member including an extrudeable portion adapted to create a lock

4. claims: 19-24,65

Downhole apparatus comprising an actuating member including an extrudeable portion and a seat, the extrudable portion comprising a more ductile material than the seat

5. claims: 29-32, 69-73, 75

Downhole apparatus comprising a tubular body and an actuating member including an extrudeable portion, the body being adapted to be functioned on two or more occasions.

6. claims: 33-37, 76-79, 81, 89-94

Downhole apparatus comprising a tubular body and an actuating member including an extrudeable portion, the body comprising a valve arrangement including a port in the body wall

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2008/001852

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