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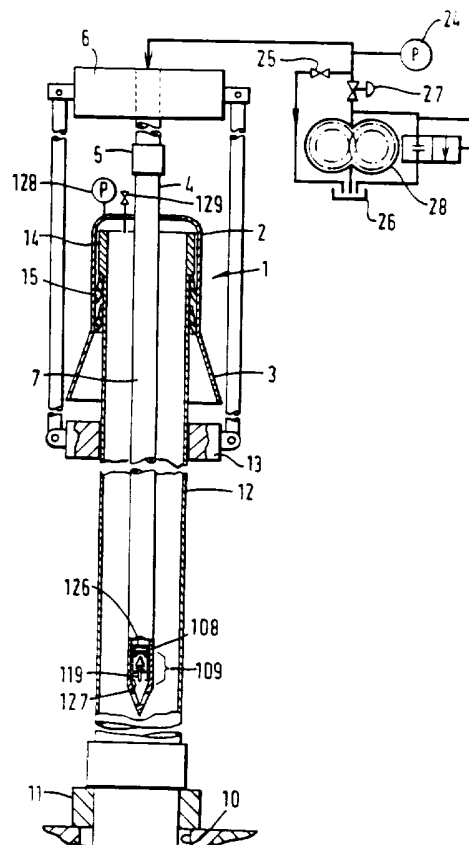
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(54) Title: CASING AND FILLING CIRCULATING HEAD

(57) Abstract

A conventional mud saver valve (9) used to inhibit leakage from fill tubes (7) onto the working platform while new stands of casing are being fitted is replaced by a valve having a metal valve member (109) and a vulcanized rubber seat (120). In addition, a pressure gauge (128) is fitted to the cover (2) of the filling and circulating head (1) to detect excess pressure after circulation. A part (210) is also provided to release the filling and circulating head (1) from "lock-up". Further described is an extension sub which is installed above the filling and circulating head (1) to prevent "lock-ups" of the top drive (6) fixed to elevator (13). The sub is locked in an extended position by hydraulic fluid in a lower chamber. In the case of a "lock-up" the fluid is released into an upper chamber so that the length of the sub is shortened. The top drive can be lowered with respect to the casing (12) to release the elevator (13).



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 95/01981

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 E21B21/10 E21B21/08 E21B17/07

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)

IPC 6 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP,A,0 543 642 (HALLIBURTON CO.) 26 May 1993 see column 4, line 47 - column 5, line 3 see column 6, line 22 - line 41 ---	1,3,4
Y	US,A,4 997 042 (JORDAN ET AL.) 5 March 1991 see column 7, line 45 - column 8, line 4 see column 8, line 52 - line 60 ---	1,3
Y	US,A,4 364 407 (HILLIARD) 21 December 1982 see column 3, line 3 - line 10 ---	1,3
Y	US,A,3 967 679 (LILJESTRAND) 6 July 1976 see column 2, line 4 - line 10 see column 2, line 40 - line 43 see column 4, line 49 - line 53 ---	1,3
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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* "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

12 February 1996

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 95/01981

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US,A,4 901 761 (TAYLOR) 20 February 1990 see column 5, line 8 - line 26 ---	5,6
A	WO,A,89 09869 (WEATHERFORD UK LTD.) 19 October 1989 see page 7, line 19 - line 24 ---	1,7
A	US,A,3 385 370 (KNOX ET AL.) 28 May 1968 see column 3, line 48 - line 52 -----	1,2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB95/01981

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

SEE ANNEX

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

The following inventions have been identified :

I : Claims 1-6

Filling and circulating head having a fill tube with a valve

II : Claims 7-13

Filling and circulating head provided with a part of adjustable length

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 95/01981

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-543642	26-05-93	AU-B- 2848392 CA-A- 2083477	27-05-93 23-05-93
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US-A-4364407	21-12-82	NONE	
US-A-3967679	06-07-76	NONE	
US-A-4901761	20-02-90	NONE	
WO-A-8909869	19-10-89	NONE	
US-A-3385370	28-05-68	NONE	