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- (71) Applicant (for all designated States except US): **INTERWELL TECHNOLOGY AS** [NO/NO]; Strindfjordvegen 1, N-7053 Ranheim (NO).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **HIORTH, Espen** [NO/NO]; Konrad Dahls vei 3, N-7024 Trondheim (NO).
- (74) Agents: **ONSA GERS AS** et al.; P.O. Box 1813, Vika, N-0123 Oslo (NO).
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(54) Title: PLUGGING DEVICE

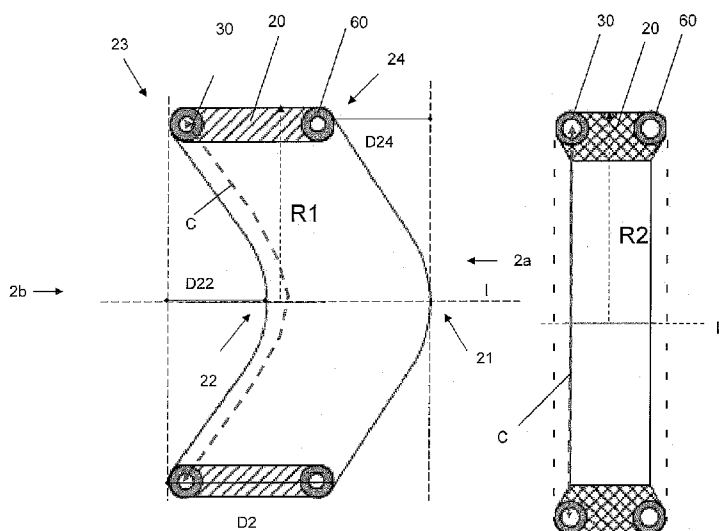


Fig. 8

Fig. 9

(57) Abstract: The present invention relates to a plugging device (1) comprising a housing (10), a packer device (2), a first supporting assembly (3) supporting a first side (2a) of the packer device (2) in the expanded state and a second supporting assembly (4) supporting a second side (2b) of the packer device (2) in the expanded state. The packer device (2) is provided circumferentially around the housing (10); where the packer device (2) is configured to be provided in a retracted state and an expanded state, where the radial radius (R2) of the packer body (20) in the expanded state is larger than the radial radius (R1) of the packer body (20) in the retracted state. The packer device (2) comprises a packer body (20) and a supporting device (30) for supporting the packer body (20) in the expanded state. The first and second sides (2a, 2b) of the packer device (2) and/or the supporting device (30) have the same circumference (C) in the retracted state and the expanded state, where the circumference (C) is larger than the circumference (C₁₀) of the housing (10).

WO 2012/164053 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2012/060321

A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B33/12 E21B33/128
ADD.
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 practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 797 759 A (LONG THOMAS L ET AL) 2 July 1957 (1957-07-02) column 2, lines 1-24; figures 1-6 -----	1,4-7, 14,15
X	US 2003/047880 A1 (ROSS COLBY M [US]) 13 March 2003 (2003-03-13) axially waved structure; paragraph [0035]; figures 8C,9 the whole document paragraph [0033]; figures 1,2 -----	1 2,3
A	US 2011/061857 A1 (WHITE MAX [US]) 17 March 2011 (2011-03-17) paragraphs [0021], [0022]; figures 5A,5B figure 3 ----- -/--	1,17

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	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 28 August 2013	Date of mailing of the international search report 04/09/2013
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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 van Berlo, André
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NO 20 101 759 A (BROENNTEKNOLOGIUTVIKLING AS) 18 June 2012 (2012-06-18)	1
L	page 9, lines 28-38; figure 16 figures 3,4,7	1
X	----- US 2004/149429 A1 (DILBER HALIT [US] ET AL) 5 August 2004 (2004-08-05) figures 4,5 the whole document	17
A	----- US 2002/014339 A1 (ROSS RICHARD [US]) 7 February 2002 (2002-02-07) one axial undulation; paragraphs [0038] - [0041]; figures 4,5 the whole document	17
X	----- US 5 676 384 A (CULPEPPER JESS L [US]) 14 October 1997 (1997-10-14)	17
A	figures 1-9 column 5, line 34 - column 6, line 3 column 6, line 54 - column 7, line 67	8
A	----- WO 2011/037584 A1 (HALLIBURTON ENERGY SERV INC [US]; CLEMENS JACK GAMMILL [US]; LUDWIG WE) 31 March 2011 (2011-03-31) the whole document	17
A	----- EP 1 780 373 A1 (SCHLUMBERGER TECHNOLOGY BV [NL]; SCHLUMBERGER HOLDINGS [VG]; SCHLUMBER) 2 May 2007 (2007-05-02) figures 4a-c figure 1 -----	17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2012/060321

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 all searchable 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: 1-16

 Plugging device ---

2. claim: 17

 Packer body ---

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2012/060321

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2797759	A	02-07-1957	NONE

US 2003047880	A1	13-03-2003	NONE

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			EP 1780373 A1 02-05-2007
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