



- (51) International Patent Classification:
E21B 17/07 (2006.01)
- (21) International Application Number:
PCT/IB2013/056008
- (22) International Filing Date:
22 July 2013 (22.07.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
OM/P/2012/00156 22 July 2012 (22.07.2012) OM
1251340-4 27 November 2012 (27.11.2012) SE
- (71) Applicant: VANGUARD OIL TOOLS & SERVICES
LLC [OM/OM]; P.O. Box: 732, Azaiba, 130 Muscat
(OM).
- (72) Inventors: LOVIKNES, Borre; Fosseveien 45b, 6770
Nordfjordeid (NO). JOHANSSON, Mats; Storgatan 3A,
982 31 Gällivare (SE). BARTON, Len; 50, West Park, In-
verbervie, Angus, Central Scotland, DD5 3UB (GB).
- (74) Agent: ZACCO SWEDEN AB; P.O. Box 5581, 114 85
Stockholm (SE).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC,
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

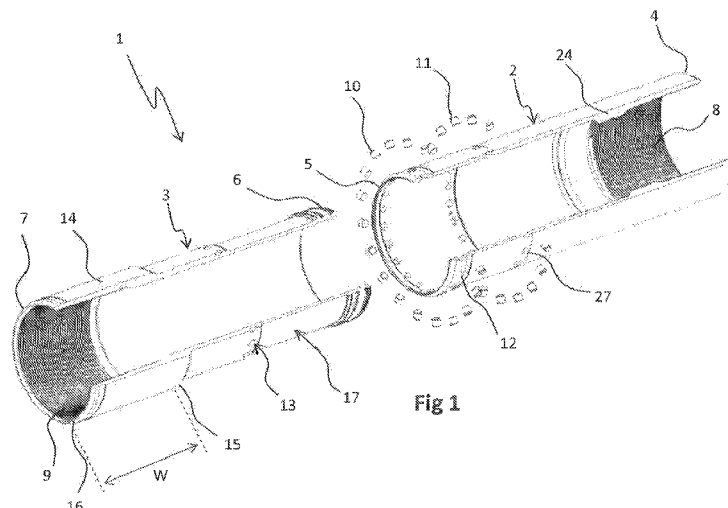
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(88) Date of publication of the international search report:
4 December 2014

(54) Title: A JOINT ELEMENT, A CASING STRING COMPRISING SUCH A JOINT ELEMENT AND A METHOD FOR
COMPENSATING FOR FORCES DUE TO THERMAL EFFECTS IN A CASING STRING



(57) Abstract: The present invention relates to a joint element (1,28) for connecting casing sections of a casing string for transport-
ing fluids and/or gases. According to the invention the joint element (1,28) comprises at least one longitudinal part (2,29) arranged
to be at least partly overlapping a second longitudinal part (3) or a casing section (32,33) and said at least one longitudinal part
(2,29) is provided with connection means (10,11) arranged to connect said longitudinal part (2,29) with the second longitudinal part
(3) or the casing sections (32,33) in a mounted state in such a way that the longitudinal part (2,29) is adapted to move axially relative
to said second longitudinal part (3) or the casing sections (32,33) in an operative state, and that said joint element (1,28) comprises
at least one shear member (10) with a predefined shear value, said shear member (10) is fixed on the first longitudinal part (2,29) and
on the second longitudinal part (3) or the casing sections (32,33) in a mounted state, whereby said shear member (10) is adapted to
shear when an axial force, e.g. due to thermal effects, exceeding the total shear value of said shear member (10) is exerted, allowing
a relative axial movement between the longitudinal parts (2, 3) and the second longitudinal part (3) or the casing sections (32,33).



INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/056008

A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B17/07
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 2009/283256 A1 (LANGESLAG RENE [CA]) 19 November 2009 (2009-11-19) abstract paragraph [0012]; figure 1 paragraphs [0015], [0016] -----	1-15
X	US 5 018 581 A (HALL L D [US]) 28 May 1991 (1991-05-28) abstract figures 2-3 column 3, lines 33-36 column 4, paragraph 1 column 4, lines 33-35 column 5, lines 18-22 -----	1-15

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
- "E" earlier application or patent 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

9 September 2014

Date of mailing of the international search report

17/09/2014

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

Wehland, Florian

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2013/056008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009283256	A1	19-11-2009	NONE

US 5018581	A	28-05-1991	NONE
