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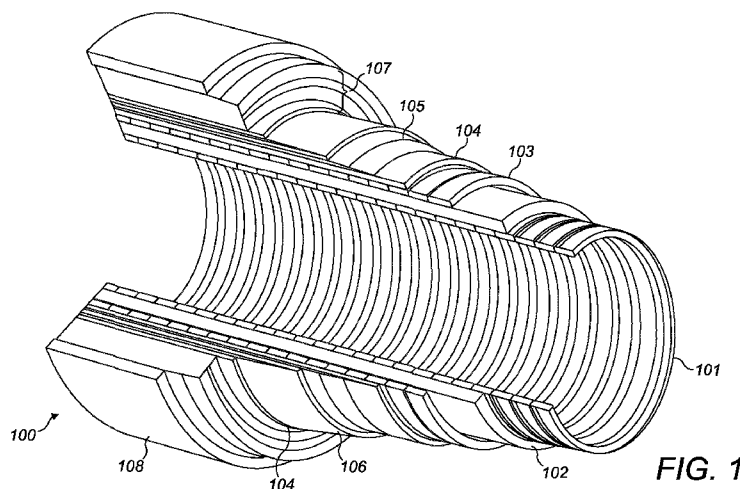


FIG. 1

(57) Abstract: An end fitting (300), flexible pipe (100), riser (203), and method of producing the same are disclosed. A method of venting gas from annuli (312, 319) of a flexible pipe is also disclosed. The end fitting includes a first vent flow fluid communication path (311) and a further vent flow fluid communication path (318). The end fitting is capable of enabling gas to be vented from a flexible pipe body with two annulus regions (312, 319).



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. F16L33/01
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)
F16L

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 123 114 A (SEGUIN BRUNO ROGER [FR] ET AL) 26 September 2000 (2000-09-26)	16,17
A	column 4, lines 6-16, 53-59 column 6, line 47 - column 7, line 18 figures 1-4	1,14,15
X	----- WO 2010/067092 A1 (WELLSTREAM INT LTD [GB]; CLEMENTS RICHARD ALASDAIR [GB]) 17 June 2010 (2010-06-17)	16,17
A	cited in the application the whole document ----- -/--	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	"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
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"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	

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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 Dekker, Derk
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INTERNATIONAL SEARCH REPORT

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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,P	WO 2011/120525 A1 (NKT FLEXIBLES IS [DK]; GLEJBOEL KRISTIAN [DK]) 6 October 2011 (2011-10-06) page 21, line 24 - line 26 page 22, line 18 - line 24 page 31, line 18 - page 34, line 12 and in particular: page 34, lines 3-12 -----	1,14,15
E	WO 2012/092931 A1 (NAT OILWELL VARCO DENMARK I S [DK]; KASSOW KRISTIAN [DK]; GLEJBOEL KRI) 12 July 2012 (2012-07-12) page 9, line 11 - line 26 page 16, line 9 - line 14 page 25, line 18 - page 26, line 9 claims 1,9,12,14,35,48,55; figures -----	1,14,15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/GB2012/050945

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6123114	A	26-09-2000	AU 748169 B2 30-05-2002
			AU 9710798 A 02-09-1999
			BR 9805613 A 09-11-1999
			DK 937932 T3 06-06-2005
			EP 0937932 A2 25-08-1999
			FR 2775052 A1 20-08-1999
			OA 10948 A 27-02-2003
			US 6123114 A 26-09-2000

WO 2010067092	A1	17-06-2010	CN 102239355 A 09-11-2011
			EP 2356361 A1 17-08-2011
			US 2011229271 A1 22-09-2011
			WO 2010067092 A1 17-06-2010

WO 2011120525	A1	06-10-2011	EP 2553305 A1 06-02-2013
			WO 2011120525 A1 06-10-2011

WO 2012092931	A1	12-07-2012	NONE
