



(11)

EP 1 457 731 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
15.02.2006 Bulletin 2006/07

(51) Int Cl.:
F17C 7/02 (2006.01)

(43) Date of publication A2:
15.09.2004 Bulletin 2004/38

(21) Application number: **04003692.3**

(22) Date of filing: **19.02.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

(72) Inventors:
• **Pagliarini, Vincenzo**
36078 Valdagno (Vicenza) (IT)
• **Friso, Danilo**
35033 Bressio di Teolo (Padova) (IT)

(30) Priority: **27.02.2003 IT PD20030035**

(74) Representative: **Modiano, Micaela Nadia et al**
Dr. Modiano & Associati S.p.A.
Via Meravigli 16
20123 Milano (IT)

(71) Applicant: **Interscambio S.R.L.**
35131 Padova (IT)

(54) **Apparatus for emptying fuel from pressurized tanks, particularly for motor vehicle storage tanks**

(57) An apparatus for emptying fuel from pressurized tanks, particularly for motor vehicle storage tanks, comprising two apparatus lines (11, 111), one for liquefied petroleum gas (LPG) and one for methane; each line comprises a burner (13, 113) that can be functionally connected by means of piping to a pressurized tank (12, 112) to be emptied, such as for example the storage tank of a motor vehicle; a pressure reduction block (16, 116) is arranged between the burner and the tank, and first flow control means are provided between the burner and the reduction block; second flow control means are further provided upstream of the reduction block (16, 116).

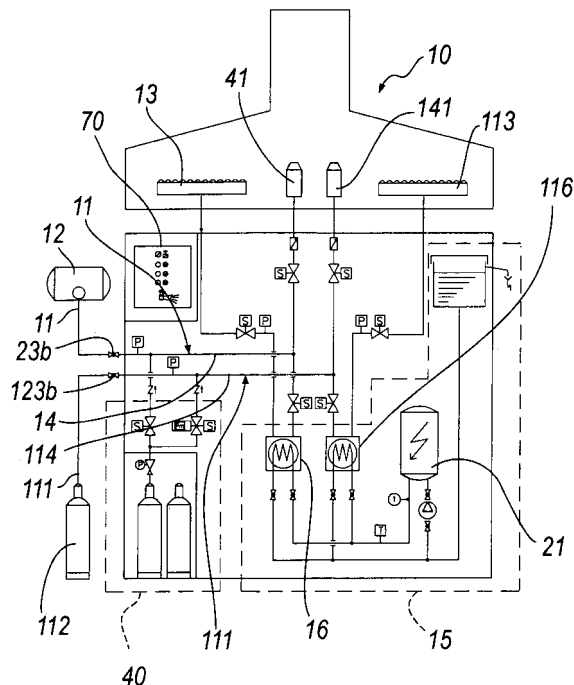


Fig. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 00 3692

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 443 166 B1 (TUNNEY JOSEPH P ET AL) 3 September 2002 (2002-09-03) * column 1, lines 6,2635 * * column 2, lines 2,8 * * column 4, lines 37-40,50-65 * * column 5, lines 25-30 * * column 7, lines 14-16,35-40 * * column 8, lines 19-44 * -----	1,5,9, 10,13-21	F17C7/02
X	US 5 158 067 A (DUTRO ET AL) 27 October 1992 (1992-10-27) * column 3, lines 8,29-32,62 * -----	1,2,15	
A	US 5 513 680 A (HILLIARD, JR. ET AL) 7 May 1996 (1996-05-07) * column 1, lines 18-25 * * column 4, lines 7,11,26,33,53 * * column 5, lines 2,39-43 * * column 6, lines 9,18-30,43,48-53 * -----	1-21	
A	WO 00/47463 A (MOSS MARITIME AS; CHRISTIANSEN, PER, ERIK) 17 August 2000 (2000-08-17) * page 2, lines 8-10 * -----	1-21	TECHNICAL FIELDS SEARCHED (IPC) F17C
A	GB 1 445 459 A (APPLICATION DES GAZ) 11 August 1976 (1976-08-11) * page 3, lines 39-44 * -----	1-21	
A	GB 1 167 385 A (JEAN LOUIS GRATZMULLER) 15 October 1969 (1969-10-15) * page 2, lines 71-88 * -----	1-21	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 December 2005	Examiner Ott, T
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

5
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 00 3692

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-12-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6443166	B1	03-09-2002	NONE
US 5158067	A	27-10-1992	NONE
US 5513680	A	07-05-1996	NONE
WO 0047463	A	17-08-2000	AU 2833300 A 29-08-2000 NO 990686 A 14-08-2000
GB 1445459	A	11-08-1976	DE 2359380 A1 06-06-1974 FR 2208087 A1 21-06-1974 HK 49481 A 23-10-1981 IT 1006653 B 20-10-1976 US 3907490 A 23-09-1975
GB 1167385	A	15-10-1969	FR 1521333 A 19-04-1968