

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 January 2007 (25.01.2007)

PCT

(10) International Publication Number
WO 2007/011237 A3

(51) International Patent Classification:

B63B 35/44 (2006.01)

(21) International Application Number:

PCT/NO2006/000279

(22) International Filing Date: 14 July 2006 (14.07.2006)

(25) Filing Language: Norwegian

(26) Publication Language: English

(30) Priority Data:

20053481 15 July 2005 (15.07.2005) NO

(71) Applicant (for all designated States except US): **AKER KVÆRNER ENGINEERING & TECHNOLOGY AS** [NO/NO]; P.o.box 222, N-NO-1326 Lysaker (NO).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WICHSTRØM, Finn** [NO/NO]; Rugdeveien 38, N-1395 Hvalstad (NO). **LIVERUD, Jon** [NO/NO]; Ostadalsveien 72, N-0753 Oslo (NO).

(74) Agent: **PROTECTOR INTELLECTUAL PROPERTY CONSULTANTS AS**; P.o.box 5074 Majorstuen, N-0301 Oslo (NO).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

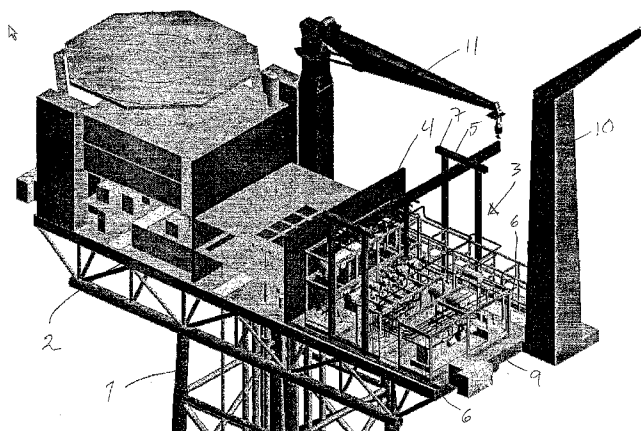
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

10 May 2007

[Continued on next page]

(54) Title: UNMANNED PLATFORM MAINTENANCE



(57) Abstract: An arrangement of process equipment for treatment of hydrocarbons on an installation comprising a deck (2). The deck comprises a permanently unmanned, area (3) in which the process equipment (13) is located, and to which personnel has no access while the process equipment is pressurized and operating, and a manned area to which personnel normally has access. The permanently unmanned area (3) is separated from the manned area by a fire and explosion proof wall (4) which prevents personnel traffic into the permanently unmanned area (3) while the process equipment is pressurized and operating. The unmanned area (3) holds racks (12) that accommodate the process equipment (13). The racks (12) are located at one or more levels, and each rack has a corridor (14) on at least one side. Access to the process equipment in the racks is via a tool introduced into the corridor (14). There is also a description of a process module (30) for tie-in to an installation (31) for treatment of hydrocarbons. The module (30) is provided with connecting means (35) arranged to secure the module (30) at the edge of the platform deck (34).

WO 2007/011237 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO2006/000279

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet

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: B63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 20030205189 A1 (KEY ET AL), 6 November 2003 (06.11.2003), paragraph [0046], fig 2,7, abstract --	1-3
X	GB 2224700 A (GOTAVERKEN ARENDAL AB), 16 May 1990 (16.05.1990), page 2, line 4 - line 20, figures 1, 2, abstract --	1-3
X	GB 2003798 A (MOSS ROSENBERG VERFT A/S), 21 March 1979 (21.03.1979), page 1, line 84 - line 112, abstract --	1-3

☒ 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 March 2007

Date of mailing of the international search report

12 -03- 2007

Name and mailing address of the ISA/
Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer

Carl Fröderberg/EK
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO2006/000279

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9962763 A2 (NAVION AS), 9 December 1999 (09.12.1999), page 3, line 31 - page 4, line 5, figure 1, abstract -----	1-3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NO2006/000279

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 extra 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 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.: 1 – 3

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.

Continuation of box III

The following separate inventions were identified:

1: Claims 1-3 directed to a fire and explosion proof wall for dividing the deck of an offshore surface installation, or an onshore installation, in a manned and an unmanned area, where process equipment for treatment of hydrocarbons are located in the unmanned area.

2: Claims 4-9 directed to racks, for accommodating process equipment for treatment of hydrocarbons, located on the deck area of an offshore surface installation or an onshore installation.

3: Claims 10 and 11 directed to a process module, equipped with connecting means for tie-in to the edge of a platform deck on an installation for treatment of hydrocarbons.

International patent classification (IPC)
B63B 35/44 (2006.01)

Download your patent documents at www.prv.se

The cited patent documents can be downloaded at www.prv.se by following the links:

- In English/Searches and advisory services/Cited documents (service in English) or
- e-tjänster/anförda dokument (service in Swedish).

Use the application number as username.

The password is **KDYHLCWOJU**.

Paper copies can be ordered at a cost of 50 SEK per copy from PRV InterPat (telephone number 08-782 28 85).

Cited literature, if any, will be enclosed in paper form.

INTERNATIONAL SEARCH REPORT

Information on patent family members

26/01/2007

International application No.

PCT/NO2006/000279

US	20030205189	A1	06/11/2003	US	6701861 B	09/03/2004
----	-------------	----	------------	----	-----------	------------

GB	2224700	A	16/05/1990	FI	96589 B,C	15/04/1996
				FI	895322 D	00/00/0000
				GB	8925023 D	00/00/0000
				NO	180580 B,C	03/02/1997
				NO	894396 A	14/05/1990
				SE	468800 B,C	22/03/1993
				SE	8804080 A	11/11/1988
				SG	113892 G	24/12/1992
				US	5036782 A	06/08/1991

GB	2003798	A	21/03/1979	DE	2837227 A	15/03/1979
				ES	473009 A	16/03/1979
				JP	54049789 A	19/04/1979
				NO	773076 A	07/03/1979
				US	4202648 A	13/05/1980

WO	9962763	A2	09/12/1999	AU	5657099 A	20/12/1999
				BR	9910948 A	06/03/2001
				ES	2203265 A,B	01/04/2004
				FI	20002650 A	04/12/2000
				GB	0029257 D	00/00/0000
				GB	2354491 A,B	28/03/2001
				NO	982585 A	06/12/1999
				NO	20005942 A	24/11/2000
				US	6336419 B	08/01/2002
