(11) **EP 1 985 535 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 21.05.2014 Bulletin 2014/21

(51) Int Cl.: **B63B 27/24** (2006.01) **B63B 11/02** (2006.01)

B63B 3/56 (2006.01)

(43) Date of publication A2: 29.10.2008 Bulletin 2008/44

(21) Application number: 07118079.8

(22) Date of filing: **09.10.2007**

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated Extension States:

AL BA HR MK RS

(30) Priority: 27.04.2007 JP 2007117890

(71) Applicant: Shin Kurushima Dockyard Co., Ltd. Chiyoda-ku
Tokyo 100-0005 (JP)

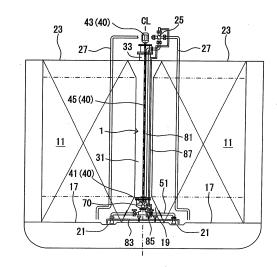
(72) Inventors:

- Tamai, Yasushi Imabari-city Ehime 799-2293 (JP)
- Shigemitsu, Kentaro Imabari-city Ehime 799-2293 (JP)
- (74) Representative: TBK
 Bavariaring 4-6
 80336 München (DE)

(54) Cargo pump apparatus for liquid cargo ship

(57)A cargo pump apparatus is suitable for liquid cargo ships required to carry six to eight types of cargo and having a plurality of holds partitioned by a central bulkhead standing upright on a lower longitudinal stool and transverse bulkheads. Each cargo pump room is provided at an intersecting portion of the central bulkhead and one of the transverse bulkheads, and penetrates a hatch provided on an upper deck and the lower longitudinal stool. One deep well pump is provided in each cargo pump room. The suction side of the deep well pump is connected to a cargo suction portion which has an open end in the hold and penetrates the inclined wall of the lower longitudinal stool. The discharge side of the deep well pump is connected to a cargo discharge pipe connected to a manifold pipe laid on the upper deck through the cargo pump room. Either the cargo suction portion in the cargo pump room is connected through an expansion pipe, or the deep well pump is secured through an expansion pipe.

Fig. 1





EUROPEAN SEARCH REPORT

Application Number EP 07 11 8079

<u>'</u>	DOCUMENTS CONSID					
Category	Citation of document with ir of relevant pass		ppropriate	,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 3 766 875 A (BAK 23 October 1973 (19 * abstract * * figures *					INV. B63B27/24 B63B3/56 B63B11/02
A	DE 29 51 506 A1 (NI 3 July 1980 (1980-6 * figures *	PPON KOKAN 07-03)	KK)			
A	WO 99/54195 A1 (ALL TECHNOLO [PA]; LIBA 28 October 1999 (19 * page 1, line 4 - * page 2, line 10 - * page 6, line 26 - * figures *	NEK OLE JAC(1999-10-28) line 7 * - line 18 *	OB [NO])		
						TECHNICAL FIELDS SEARCHED (IPC)
						B63B
	The present search report has	been drawn up for	all claims			
	Place of search	Date of	completion o	the search		Examiner
	The Hague	16 /	April	2014	Gar	del, Antony
	ATEGORY OF CITED DOCUMENTS		E : eaı	ory or principle ur lier patent docum		
Y : parti docu A : tech	cularly relevant if taken alone cularly relevant if combined with anot ment of the same category nological background written disclosure	her	D : doo L : doo		ther reasons	, corresponding

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

EP 07 11 8079

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.

16-04-2014

JP S5587682 A 02-	
JP S5587682 A 02-	
	03-07-19 02-07-19 12-12-19 27-06-19
CN 1301228 A 27- DE 69906267 D1 30- DE 69906267 T2 29- EP 1071604 A1 31- HR P20000684 A2 31- JP 3883176 B2 21- JP 2002512150 A 23- NO 983204 A 18- PL 343510 A1 27- US 6626121 B1 30-	08-11-19 27-06-20 30-04-20 29-01-20 31-01-20 31-08-20 21-02-20 23-04-20 48-10-19 27-08-20

FORM P0459 © For more details about this annex : see Official Journal of the European Patent Office, No. 12/82