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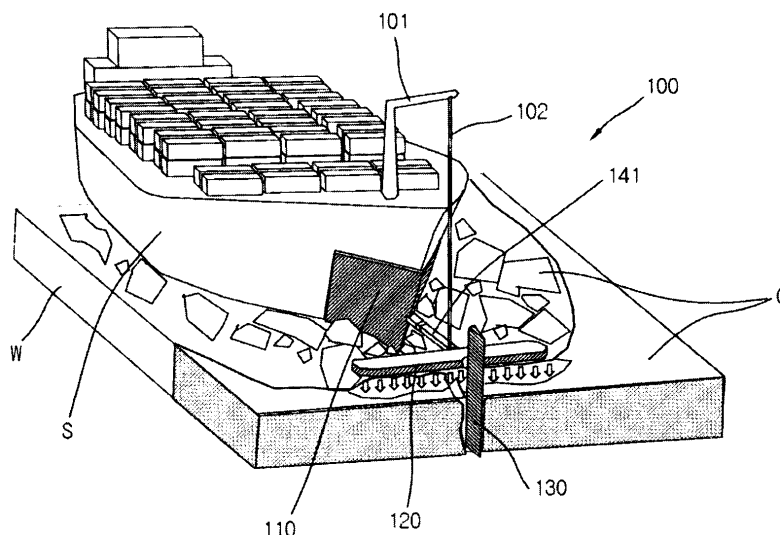
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(54) **Ice melting apparatus for ship voyage**

(57) Disclosed herein is an ice melting apparatus for a ship voyage, including: a boiler (150) configured to heat a thermal medium; a high temperature pump configured to transfer the heated thermal medium; a heating cover unit (110) configured to be heated by the thermal medium

transferred by the high temperature pump and attached to a bow part of a ship; and a hot gas jet unit (120) configured to be disposed in front of the heating cover unit (110) and jet the air heated by the thermal medium.

FIG. 1





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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                    |                                                      |                                         |
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| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | * column 2, line 49 - column 4, line 53;<br>figures *                                                                                                                                              | 2,6,8,9,<br>13,14                                    | F01K15/04<br>B63J2/12<br>B63B35/12      |
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| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                    |                                                      |                                         |
| Place of search<br>Munich                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                    | Date of completion of the search<br>25 February 2015 | Examiner<br>Henkes, Roeland             |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                                                                                                                                                                                    |                                                      |                                         |

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## EUROPEAN SEARCH REPORT

 Application Number  
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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                 |                                  |                                         |
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| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | & DATABASE EPODOC [Online]<br>EUROPEAN PATENT OFFICE, THE HAGUE, NL;<br>27 July 2012 (2012-07-27),<br>ZOTOV IGOR ALEKSEEVICH: "CARRIER SHIP FOR<br>ICEBERG ICE DEVELOPING AND OBTAINING<br>PORTABLE WATER",<br>Database accession no. RU2457143 | 9,13,14                          |                                         |
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| Munich                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                 | 25 February 2015                 | Henkes, Roeland                         |
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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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  
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25-02-2015

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