

Title (en)

ICEBREAKING SHIP

Publication

**EP 0260395 A3 19880622 (DE)**

Application

**EP 87109782 A 19870707**

Priority

DE 3630578 A 19860909

Abstract (en)

[origin: US4864950A] For reducing the adhesive and frictional forces of snow and ice acting on the outer hull plating of an icebreaker and in particular static frictional forces when the ship becomes stuck in the ice, use is made of heating sources present and available in the hull, in order to keep warm the critical outer hull plating zones, a mixture of outside water and hot exhaust gases from the engines being ejected in the critical outer plating zone.

IPC 1-7

**B63B 35/08**

IPC 8 full level

**B63B 35/12** (2006.01); **B63B 35/08** (2006.01)

CPC (source: EP KR US)

**B63B 35/08** (2013.01 - EP KR US); **B63B 35/18** (2013.01 - KR)

Citation (search report)

- GB 2060127 A 19810429 - G SOJUZ Z MEK I KHIM OCHISTKE
- US 4363991 A 19821214 - EDELMAN SEYMOUR
- [X] WO 8304232 A2 19831208 - OMNITHRUSTER INC [US]
- [X] US 4029035 A 19770614 - GERMAN WILLIAM H
- [A] DE 2428801 A1 19751218 - WAAS HEINRICH [DE]
- [A] DE 2106776 A1 19710902
- [AD] DE 2112334 A1 19720921 - WESER AG
- [AD] EP 0079002 A1 19830518 - THYSSEN NORDSEEWERKE GMBH [DE]

Cited by

DE4002844A1

Designated contracting state (EPC)

BE DE FR GB IT NL SE

DOCDB simple family (publication)

**EP 0260395 A2 19880323; EP 0260395 A3 19880622; EP 0260395 B1 19910925;** CA 1311393 C 19921215; CN 1006151 B 19891220; CN 87106189 A 19880504; DE 3630578 A1 19880310; DE 3773314 D1 19911031; FI 873480 A0 19870811; FI 873480 A 19880310; FI 92030 B 19940615; FI 92030 C 19940926; JP S6368487 A 19880328; KR 890004948 A 19890510; NO 873408 D0 19870813; NO 873408 L 19880310; PL 267474 A1 19880721; SU 1612995 A3 19901207; US 4864950 A 19890912

DOCDB simple family (application)

**EP 87109782 A 19870707;** CA 544183 A 19870811; CN 87106189 A 19870908; DE 3630578 A 19860909; DE 3773314 T 19870707; FI 873480 A 19870811; JP 22057487 A 19870904; KR 870009992 A 19870908; NO 873408 A 19870813; PL 26747487 A 19870828; SU 4203250 A 19870903; US 8703387 A 19870819