

Title (en)
RUDDER WITH SLIDING PIVOTING PISTON COUPLING

Title (de)
RUDER MIT GLEITSCHWENKKOLBENANLENKUNG

Title (fr)
GOUVERNAIL A ARTICULATION A PISTON RECTILIGNE BASCULANT

Publication
EP 1446322 A1 20040818 (DE)

Application
EP 02787511 A 20021025

Priority

- DE 20118779 U 20011120
- EP 0211933 W 20021025

Abstract (en)
[origin: US2005000402A1] The invention relates to a rudder for sea vessels, consisting of a main rudder and a fin which is coupled thereto by means of a vertical piston (15), restrictively guided by the main rudder and provided with a horizontal piston (11) The vertical piston (15) and the horizontal piston (11) are connected to each other via a hinge bolt to form a sliding pivoting piston coupling (100) and a bearing housing (16) of the vertical piston (15) is fixed to the hull of the vessel. In order to reduce the forces acting upon the sliding bearing of the vertical coupling bolt and horizontal pivoting bolt in addition to the hinge bolts connecting said bolts, the vertical piston (15) is supported by an additional counter bearing (27) on the hull of the vessel.

IPC 1-7
B63H 25/38

IPC 8 full level
B63H 25/38 (2006.01)

CPC (source: EP KR US)
B63H 25/38 (2013.01 - KR); **B63H 25/381** (2013.01 - EP US)

Citation (search report)
See references of WO 03043882A1

Cited by
US8584610B1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)
US 2005000402 A1 20050106; US 6945186 B2 20050920; AT E314253 T1 20060115; AU 2002351788 A1 20030610; BG 108715 A 20041230; CA 2465370 A1 20030530; CA 2465370 C 20070925; CN 1257086 C 20060524; CN 1589211 A 20050302; DE 20118779 U1 20020214; DE 50205475 D1 20060202; DK 1446322 T3 20060213; EP 1446322 A1 20040818; EP 1446322 B1 20051228; ES 2256573 T3 20060716; HK 1071113 A1 20050708; HR P20040438 A2 20050430; HR P20040438 B1 20120531; JP 2005509561 A 20050414; JP 3978183 B2 20070919; KR 100574379 B1 20060426; KR 20050039743 A 20050429; NO 20042417 L 20040610; NO 336922 B1 20151123; RO 120898 B1 20060929; WO 03043882 A1 20030530

DOCDB simple family (application)
US 49381304 A 20040830; AT 02787511 T 20021025; AU 2002351788 A 20021025; BG 10871504 A 20040511; CA 2465370 A 20021025; CN 02823053 A 20021025; DE 20118779 U 20011120; DE 50205475 T 20021025; DK 02787511 T 20021025; EP 0211933 W 20021025; EP 02787511 A 20021025; ES 02787511 T 20021025; HK 05101423 A 20050218; HR P20040438 A 20040518; JP 2003545532 A 20021025; KR 20047007421 A 20040514; NO 20042417 A 20040610; RO 200400433 A 20021025