

Title (en)

METHOD AND DEVICE FOR COOLING AND/OR LUBRICATING CYLINDERS AND/OR ROLLING STOCK

Title (de)

VERFAHREN UND VORRICHTUNG ZUR KÜHLUNG UND/ODER SCHMIERUNG VON WALZEN UND/ODER WALZGUT

Title (fr)

PROCEDE ET DISPOSITIF DE REFRIGERATION ET/OU DE LUBRIFICATION DE CYLINDRES ET/OU DE PRODUITS LAMINES

Publication

EP 1750864 B2 20160106 (DE)

Application

EP 05745164 A 20050509

Priority

- EP 2005004992 W 20050509
- DE 102004025058 A 20040518

Abstract (en)

[origin: WO2005115651A1] The inventive method for cooling and/or lubricating cylinders (1, 2) and/or rolling stock (3) consists in supplying a cooling medium to the cylinders (1, 2) and a base oil for lubricating the rolling stock from several nozzles or nozzle rows (7, 7', 8, 8', 9, 9') in a gap between cylinders, wherein said nozzles or nozzle rows (7, 7', 8, 8', 9, 9') are individually and independently of each other adjustable, the cooling medium is applied to the cylinders (1, 2) separately from the base oil and exclusively the water-free oil is applied directly to the entire width of rolling stock (3) as a support medium in a quantity lesser than a common quantity. For this purpose, medium locking means (12, 12') are disposed between a nozzle or a nozzle row (9, 9') for applying the cooling medium to the cylinders (1, 2) and between the nozzle rows (7, 7', 8, 8') for applying the base oil to the rolling stock.

IPC 8 full level

B21B 27/10 (2006.01); **B67D 99/00** (2010.01); **B21B 45/02** (2006.01); **B21B 15/00** (2006.01)

CPC (source: EP US)

B21B 27/10 (2013.01 - EP US); **B21B 45/0218** (2013.01 - EP US); **B21B 45/0251** (2013.01 - EP US); **B21B 15/005** (2013.01 - EP US)

Citation (opposition)

Opponent :

- JP H01218710 A 19890831 - NIPPON STEEL CORP
- JP H11267717 A 19991005 - KAWASAKI STEEL CO

Cited by

EP3238843A1; WO2017186910A1; US11161161B2

Designated contracting state (EPC)

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

DOCDB simple family (publication)

WO 2005115651 A1 20051208; CN 100528388 C 20090819; CN 1956804 A 20070502; DE 102004025058 A1 20051208; EP 1750864 A1 20070214; EP 1750864 B1 20120829; EP 1750864 B2 20160106; JP 2007537883 A 20071227; JP 5525687 B2 20140618; RU 2006136010 A 20080420; RU 2330737 C1 20080810; US 2007210104 A1 20070913; US 7690235 B2 20100406

DOCDB simple family (application)

EP 2005004992 W 20050509; CN 200580016265 A 20050509; DE 102004025058 A 20040518; EP 05745164 A 20050509; JP 2007517025 A 20050509; RU 2006136010 A 20050509; US 59678005 A 20050509