

Title (en)

ONE PIECE SUPPORT WITH SEVERAL LEVELS FOR THE THERMAL TREATMENT OF SHAFTS OR AXLES

Publication

EP 0324183 B1 19930317 (FR)

Application

EP 88121890 A 19881230

Priority

FR 8800451 A 19880115

Abstract (en)

[origin: EP0324183A1] Support for thermal treatment of parts (1), such as shafts or axles, in vertical position, characterised in that it comprises a one-piece assembly (4) in the form of a plate which connects simultaneously an upper level (5) formed by support orifices (7, 8), possibly on a number of alternate levels (8a, 8b), for the support and direct centring of the lower end (10) of the parts (1), these orifices (7, 8) being connected by horizontal ribs (9, 9a), a lower level (6), also formed by orifices (11, 12) and ribs (13, 13a), and vertical pillars (14) connecting these ribs (9, 9a; 13, 13a) of one level and another, while allowing large openings (15) to subsist for circulation of the fluids. <IMAGE>

IPC 1-7

C21D 9/00; F27D 3/12; F27D 5/00

IPC 8 full level

C21D 1/00 (2006.01); **C21D 9/00** (2006.01); **C21D 9/28** (2006.01); **F27D 3/12** (2006.01); **F27D 5/00** (2006.01)

CPC (source: EP US)

C21D 9/0025 (2013.01 - EP US); **F27D 5/005** (2013.01 - EP US)

Cited by

CN105349740A; FR2772467A1; CN102483306A; US6318571B1; WO9931284A1

Designated contracting state (EPC)

AT BE DE ES GB IT NL SE

DOCDB simple family (publication)

EP 0324183 A1 19890719; EP 0324183 B1 19930317; AT E87089 T1 19930415; CA 1327815 C 19940315; DE 3879454 D1 19930422; DE 3879454 T2 19930909; ES 2038737 T3 19930801; FR 2626068 A1 19890721; FR 2626068 B1 19900629; JP H01287219 A 19891117; PT 89429 A 19891004; PT 89429 B 19940131; US 4978109 A 19901218

DOCDB simple family (application)

EP 88121890 A 19881230; AT 88121890 T 19881230; CA 587967 A 19890111; DE 3879454 T 19881230; ES 88121890 T 19881230; FR 8800451 A 19880115; JP 753989 A 19890113; PT 8942989 A 19890112; US 28454988 A 19881215