

Title (en)

APPARATUS FOR THERMAL TREATMENTS OF METALS, PARTICULARLY FOR HARDENING AND TEMPERING STEEL

Title (de)

VORRICHTUNG ZUR THERMISCHEN BEHANDLUNG VON METALLEN, INSBESONDERE ZUM HÄRTEN UND VERGÜTEN VON STAHL

Title (fr)

APPAREIL POUR LE TRAITEMENT THERMIQUE DE MÉTAUX, PLUS PARTICULIÈREMENT POUR LA TREMPÉ ET LE DURCISSEMENT DE L'ACIER

Publication

**EP 2980229 B1 20200722 (EN)**

Application

**EP 15166957 A 20150508**

Priority

IT MI20141365 A 20140729

Abstract (en)

[origin: EP2980229A1] An apparatus for thermal treatments of metals, particularly for hardening and tempering steel, comprising a heating furnace (2) and means (3) for moving the material (4) subjected to thermal treatment, the means (3) for moving the material subjected to thermal treatment (4) comprising: - a carriage (5) provided with first supporting elements (6) that define a substantially horizontal resting surface (7) for the material (4) subjected to thermal treatment; the carriage (5) being movable for insertion in the heating furnace (2) and for extraction from the heating furnace (2) of the material (4) subjected to thermal treatment; and - second supporting elements (8), which can be inserted in the heating furnace (2) below the resting surface (7) and are adapted to support the material (4) subjected to thermal treatment as a replacement of the first supporting elements (6); the second supporting elements (8) can move to perform the transition of the material (4) subjected to thermal treatment from the heating furnace (2) to a tank (9) that contains a cooling liquid and vice versa.

IPC 8 full level

**C21D 1/63** (2006.01); **C21D 9/00** (2006.01); **F27B 17/00** (2006.01); **F27D 3/06** (2006.01); **F27D 3/12** (2006.01)

CPC (source: EP)

**C21D 1/63** (2013.01); **C21D 9/0062** (2013.01); **F27B 17/0016** (2013.01); **F27D 3/06** (2013.01); **F27D 3/12** (2013.01)

Cited by

CN106868273A; JP2020132961A; CN117535496A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 2980229 A1 20160203; EP 2980229 B1 20200722**

DOCDB simple family (application)

**EP 15166957 A 20150508**