Title (en)

A DEVICE AND A METHOD FOR SHAPING AND QUENCHING A BEAM

Title (de)

VORRICHTUNG UND VERFAHREN ZUM FORMEN UND ABSCHRECKEN EINES TRÄGERS

Title (fr)

DISPOSITIF ET PROCEDE DESTINES A FORMER ET TREMPER UNE POUTRE

Publication

EP 1755801 A1 20070228 (EN)

Application

EP 05740415 A 20050513

Priority

- SE 2005000687 W 20050513
- SE 0401248 A 20040513
- SE 0401249 A 20040513

Abstract (en)

[origin: WO2005110638A1] A device for shaping a beam from a blank is disclosed, the blank being a profile element in the form of a beam having a closed cross-section, end portions (1A, 1B), a centre portion (1C) and a front flange, a rear flange, an upper web and a lower web. The beam is to be heated to an austenitizing temperature for quenching. The device is characterized in that it comprises an upper tool part (3) and a lower tool part (4) arranged to receive the heated beam blank and shape it, the device comprises a part (9, 9A, 9B) arranged to impress end portions (1.2a) of the rear flange, so that the beam (1) after the shaping has the greatest volume at the centre portion and the smallest volume at the ends (1A, 1B) along a certain distance (X), and parts to bend the beam end portions. The device also comprises means for directing a cooling medium through the internal cavities of the beam. The invention also relates to methods for shaping and quenching hollow beams.

IPC 8 full level

B21C 37/15 (2006.01); **B21D 7/028** (2006.01); **C21D 1/60** (2006.01); **C21D 1/673** (2006.01); **C21D 9/00** (2006.01); **C21D 9/08** (2006.01)

CPC (source: EP KR SE)

B21D 7/028 (2013.01 - EP KR SE); **C21D 1/60** (2013.01 - EP KR); **C21D 1/673** (2013.01 - KR SE); **C21D 9/0068** (2013.01 - EP KR);
C21D 9/08 (2013.01 - EP KR); **C21D 9/085** (2013.01 - SE); C21D 1/673 (2013.01 - EP)

Cited by

DE102013112178A1; DE102014112968A1; US2018171423A1; EP3281814A4; DE102013112178B4; DE102014112968B4; US10415110B2;
US10017833B2; US11078551B2; DE102021116727A1; WO2023274807A1

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 2005110638 A1 20051124; AT E507017 T1 20110515; CN 1984730 A 20070620; CN 1984730 B 20100407;
DE 602005027693 D1 20110609; EP 1755801 A1 20070228; EP 1755801 B1 20110427; EP 1755801 B2 20140820;
KR 101218512 B1 20130103; KR 20070015962 A 20070206

DOCDB simple family (application)

SE 2005000687 W 20050513; AT 05740415 T 20050513; CN 200580023750 A 20050513; DE 602005027693 T 20050513;
EP 05740415 A 20050513; KR 20067026247 A 20050513