

Title (en)  
COOLING SECTION WITH LOWER SPRAY BAR

Title (de)  
KÜHLSTRECKE MIT UNTEREM SPRITZBALKEN

Title (fr)  
SECTION DE REFROIDISSEMENT AVEC RAMPE DE PULVÉRISATION INFÉRIEURE

Publication  
**EP 2978545 A1 20160203 (DE)**

Application  
**EP 14707680 A 20140219**

Priority  
• EP 13160792 A 20130325  
• EP 2014053186 W 20140219  
• EP 14707680 A 20140219

Abstract (en)  
[origin: EP2783766A1] The cooling section has a cooling element with a frame structure (2) in which several transport rollers (3) for flat rolled metal is arranged in a transport direction (x) about a respective roller axis (4). The roller axis is orthogonal to the transport direction and runs horizontally so that the transport rollers have a pass line (5) for flat rolled metal. A guide section (9) has an upper closure element (10) that is arranged on a spray nozzle (11) by means of which the fed coolant in the base block (7) is sprayed from below on the flat rolled metal.

IPC 8 full level  
**B21B 45/02** (2006.01); **C21D 8/02** (2006.01)

CPC (source: EP RU US)  
**B21B 45/02** (2013.01 - RU); **B21B 45/0218** (2013.01 - EP US); **B21B 45/0233** (2013.01 - EP US); **B21B 39/12** (2013.01 - EP US)

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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2783766 A1 20141001**; CN 105163877 A 20151216; CN 105163877 B 20170922; EP 2978545 A1 20160203; EP 2978545 B1 20170329; JP 2016519619 A 20160707; JP 6177990 B2 20170809; RU 2015145470 A 20170503; RU 2659541 C2 20180702; US 2016052034 A1 20160225; US 9878358 B2 20180130; WO 2014154399 A1 20141002

DOCDB simple family (application)  
**EP 13160792 A 20130325**; CN 201480018354 A 20140219; EP 14707680 A 20140219; EP 2014053186 W 20140219; JP 2016504523 A 20140219; RU 2015145470 A 20140219; US 201414779575 A 20140219