

Title (en)  
Cooling device for the rolling frame in a continuous casting machine

Title (de)  
Kühlanordnung für das Walzgerüst einer Stranggussanlage

Title (fr)  
Dispositif de refroidissement pour une cage de laminoir dans une installation de coulée continue

Publication  
**EP 1366838 A1 20031203 (DE)**

Application  
**EP 02004596 A 20020228**

Priority  
EP 02004596 A 20020228

Abstract (en)  
A cooling arrangement for a rolling stand of a continuous casting system for heavy supports with spraying nozzles has lateral supply pipes supplying a cooling liquid and compressed air and laid in a longitudinal direction of the stand. One cooling-liquid pipe and one compressed-air pipe are respectively assigned to each rolling stand side. They have connection points for joining connection plates that are fixedly connected with the nozzles. A cooling arrangement for a rolling stand of a continuous casting system for heavy supports with spraying nozzles (12, 13), can be acted upon by a cooling liquid and by compressed air through supply pipes (1, 2) laid laterally in a longitudinal direction of the rolling stand. One cooling-liquid pipe and one compressed-air pipe are respectively assigned to each rolling stand side. They are laid in parallel with respect to one another and. They are provided with connection points for joining of connection plates that are fixedly connected with the spraying nozzles. Independent claims are included for: (a) a continuous casting system, comprising: a rolling stand operable to support a cast billet (S) for movement in a longitudinal direction of the rolling stand; a cooling liquid pipe extending longitudinally along a first side of the rolling stand; a compressed gas supply pipe extending longitudinally along the first side of the rolling stand, and adjacent to the cooling liquid pipe; connection parts on each of the pipes including respective lateral openings (1a, 2a); a connection plate detachably joined with the connection parts of both of the pipes; a mixing chamber for mixing the cooling liquid and compressed gas to form a cooling mixture from the pipes; and a spraying nozzle fixably supported at the connection plate and operable to spray the cooling mixture against the cast billet on the rolling stand; and (b) a cooling system for cooling cast parts longitudinally movable supported on a stand, comprising a cooling liquid pipe extending in use longitudinally along a first side of the stand; a compressed gas supply pipe extending longitudinally along the first side of the rolling stand, adjacent to the cooling liquid pipe; connection parts on each of the pipes including respective lateral openings; a connection plate detachably joined with the connection parts of both of the pipes; a mixing chamber for mixing the cooling liquid and compressed gas to form a cooling mixture from the pipes; and a spraying nozzle fixably supported at the connection plate and operable to spray the cooling mixture against the cast billet on the stand.

Abstract (de)  
Beschrieben wird eine Kühlanordnung für das Walzgerüst einer Stranggussanlage für schwere Träger, die mit Sprühdüsen versehen ist, welche durch seitlich in Längsrichtung des Walzgerüsts verlegte Versorgungsleitungen (1, 2) mit Kühlflüssigkeit und Druckluft beaufschlagbar sind. Dabei sind jeder Walzgerüstseite nur zwei Versorgungsleitungen für jeweils Kühlflüssigkeit und Druckluft zugeordnet, die parallel zueinander verlegt sind und mit Anschlussflanschen (4) ausgerüstet sind, an denen Anschlussplatten (5) in einfacher Weise anbringbar sind, die ihrerseits fest mit Sprühdüsen (12, 13) verbunden sind. Diese Ausgestaltung ermöglicht eine einfache Montage und Demontage der Sprühdüsen und sichert eine präzise Ausrichtung der Sprühstrahlen (14) auf den zu bearbeitenden Strang (S) zu. <IMAGE>

IPC 1-7  
**B22D 11/124**

IPC 8 full level  
**B22D 11/124** (2006.01)

CPC (source: EP US)  
**B22D 11/1246** (2013.01 - EP US)

Citation (search report)  
• [X] DE 20010074 U1 20000921 - LECHLER GMBH & CO KG [DE]  
• [A] CYGLER M ET AL: "NEAR NET SHAPE CASTING AND ASSOCIATED MILL DEVELOPMENTS", IRON AND STEEL ENGINEER, ASSOCIATION OF IRON AND STEEL ENGINEERS. PITTSBURGH, US, vol. 72, no. 1, 1995, pages 32 - 38, XP000488398, ISSN: 0021-1559

Cited by  
WO2007087893A1; US8522858B2; US8596335B2

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**US 2003159794 A1 20030828; US 6904953 B2 20050614; DE 50211289 D1 20080110; EP 1366838 A1 20031203; EP 1366838 B1 20071128**

DOCDB simple family (application)  
**US 18804202 A 20020703; DE 50211289 T 20020228; EP 02004596 A 20020228**