

Title (en)
IMMERSION NOZZLE

Title (de)
TAUCHDÜSE

Title (fr)
BUSE IMMERGÉE

Publication
EP 3915696 A4 20220914 (EN)

Application
EP 20744229 A 20200115

Priority
• JP 2019007948 A 20190121
• JP 2020001078 W 20200115

Abstract (en)
[origin: EP3915696A1] It is intended to provide a flat immersion nozzle capable of stabilizing a molten steel discharge flow to stabilize an in-mold bath surface, i.e., reduce the fluctuation of the in-mold bath surface. Provided is an immersion nozzle having a flat portion whose inner bore has a thickness T_n and a width W_n greater than the thickness T_n , wherein two lateral protrusions 1 each protruding in a thickness direction are provided on each of opposed walls of the flat portion extending in a width direction. The lateral protrusions 1 are arranged at axial symmetrical positions with respect to a longitudinal central axis of the width-directionally extending walls, in pairs, such that each of them extends obliquely downwardly in the width direction, wherein two pairs of the lateral protrusions are arranged, respectively, on the opposed width-directionally extending walls, in opposed relation.

IPC 8 full level
B22D 11/10 (2006.01); **B22D 11/04** (2006.01); **B22D 41/50** (2006.01)

CPC (source: EP US)
B22D 11/0408 (2013.01 - EP); **B22D 11/10** (2013.01 - EP); **B22D 41/50** (2013.01 - EP US)

Citation (search report)
• [XDI] WO 2017081934 A1 20170518 - KROSAKIHARIMA CORP [JP]
• See references of WO 2020153195A1

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 3915696 A1 20211201; **EP 3915696 A4 20220914**; BR 112021010225 A2 20210824; CA 3121954 A1 20200730; CN 113226594 A 20210806; CN 113226594 B 20230314; JP 2020116591 A 20200806; JP 7134105 B2 20220909; TW 202035036 A 20201001; TW I731561 B 20210621; US 2022134420 A1 20220505; WO 2020153195 A1 20200730; ZA 202103504 B 20220727

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