

Title (en)

HEAT TREATMENT OF METAL CASTINGS AND IN-FURNACE SAND RECLAMATION

Title (de)

WÄRMEBEHANDLUNG VON GIESSSTÜCKEN UND SANDRÜCKGEWINNUNG IM OFEN

Title (fr)

TRAITEMENT THERMIQUE DE PIÈCES COULÉES EN MÉTAL ET RÉCUPÉRATION DU SABLE DANS LE FOUR

Publication

EP 0612276 B2 20041117 (EN)

Application

EP 93904665 A 19930127

Priority

- US 9300722 W 19930127
- US 93019392 A 19920813

Abstract (en)

[origin: WO9404297A1] The method and apparatus for reclaiming substantially pure sand from a heat treating furnace (19); wherein a casting with sand core and/or sand mold, comprising sand bound by a combustible binder, attached thereto is introduced into the heat treating furnace (19); or, wherein portions of sand core and/or sand mold that are not attached to a casting are introduced into the heat treating furnace (19). Wherein, the reclaiming within the furnace (19) is carried out, in part, by a fluidizer (40) that promotes binder combustion by one or more processes of agitating, heating, and oxygenating. Wherein the characteristics of the reclaimed sand (25) are selectively controlled by controlling the dwell time of the sand (25) within the heat treating furnace (19).

IPC 1-7

B22D 17/22; **B22D 29/00**; **B22C 5/08**

IPC 8 full level

B22F 3/02 (2006.01); **B22C 5/00** (2006.01); **B22C 5/04** (2006.01); **B22C 5/08** (2006.01); **B22D 17/20** (2006.01); **B22D 29/00** (2006.01); **B22D 31/00** (2006.01); **B22F 3/00** (2006.01); **B22F 3/16** (2006.01); **B22F 3/24** (2006.01); **B22F 5/08** (2006.01); **C21D 1/53** (2006.01); **C21D 7/04** (2006.01); **C21D 7/06** (2006.01); **C22C 33/02** (2006.01); **C22C 38/00** (2006.01)

CPC (source: EP)

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Citation (opposition)

Opponent :

- JP S5825860 A 19830216 - NIPPON FURNACE KOGYO KK, et al
- JP S59219410 A 19841210 - TRINITY IND CORP
- JP S5653867 A 19810513 - SANKEN SANGYO KK
- US 3871438 A 19750318 - VISSERS BASTIAAN, et al
- US 4427375 A 19840124 - DI ROSA GAETANO [IT]
- GB 2137114 A 19841003 - COSWORTH RES & DEV LTD
- Heat Treating, Aging System also permits core sand removal by Paul m. Crafton Jr, Modern Casting Sept. 1989

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DE102014110826A1; CN113333434A; RU2635598C2; DE10352180A1; DE10352180B4; WO2015032427A1; DE102007008149A1; DE202008018001U1; EP2329900A2; US9737927B2; WO2016016035A1; US9890439B2; EP3597329A1

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