

Title (en)

WATER COOLED BOX FOR A METAL MAKING FURNACE

Title (de)

WASSERGEKÜHLTER KASTEN FÜR EINEN OFEN ZUR METALLHERSTELLUNG

Title (fr)

BOÎTE REFROIDIE À L'EAU POUR UN FOUR DE FABRICATION DE MÉTAL

Publication

EP 3540350 A1 20190918 (EN)

Application

EP 19162911 A 20190314

Priority

US 201815922608 A 20180315

Abstract (en)

A water cooled box to be installed in the side wall of a metal making furnace to hold and protect implements such as a burner, a lance, or a material (i.e., carbon or lime) injection device. The box preferably comprises a copper outer shell and a steel inner shell liner welded together, whereby a chamber is formed through which cooling water passes. The box further comprises an inlet and outlet for the water flow and a plurality of conduit passages between the copper and steel shells for mounting the aforementioned implements. The copper shell has bars or slots for slag retention and the steel shell has means for mounting the box into the furnace wall. The copper shell is formed into a curved U-shape for preventing cracking due to thermal mechanical stress and to raise the natural frequency of the panel to resist vibration which can also cause cracking.

IPC 8 full level

F27B 3/24 (2006.01); **F27D 1/12** (2006.01); **F27D 9/00** (2006.01)

CPC (source: EP)

F27B 3/24 (2013.01); **F27D 1/12** (2013.01); **F27D 9/00** (2013.01); **F27D 2009/0043** (2013.01); **F27D 2009/0062** (2013.01)

Citation (search report)

- [E] EP 3480543 A2 20190508 - BERRY METAL CO [US]
- [A] GB 1451601 A 19761006 - BRITISH GAS CORP
- [A] US 7824604 B2 20101102 - HIGGINS CHRISTOPHER K [US], et al

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 3540350 A1 20190918; **EP 3540350 B1 20210915**; ES 2902376 T3 20220328

DOCDB simple family (application)

EP 19162911 A 20190314; ES 19162911 T 20190314