

Title (en)
HEAT EXCHANGER, ESPECIALLY AN ALUMINIUM WATER-AIR COOLER

Publication
EP 0326813 B1 19910502 (DE)

Application
EP 89100302 A 19890110

Priority
DE 8801411 U 19880205

Abstract (en)
[origin: EP0326813A1] The heat exchanger consists of a plurality of flat tubes (1) which are aligned with their side faces mutually parallel and are held in a leakproof fashion with both ends in corresponding openings of tube bottoms (3). In the region of the plane of the tube bottoms (3), there is provided at least one supporting web (5), which extends between the parallel tube walls (4) of the flat tubes (1) and is formed by lugs (6, 6') which are stamped from the tube wall (4) and bent inwards. Owing to these measures, the flat tubes are more stably formed in the region in which denting is to be feared because of the pressure forces of the tube bottoms. <IMAGE>

IPC 1-7
F28F 9/16

IPC 8 full level
F28D 1/053 (2006.01); **F28F 9/16** (2006.01); **F28F 9/18** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP)
F28D 1/0535 (2013.01); **F28F 9/182** (2013.01); **F28F 21/084** (2013.01)

Cited by
US5787973A; ES2153262A1; DE4129573A1; DE9309822U1; EP0660064A3; US5749414A; DE9203734U1; CN110553533A

Designated contracting state (EPC)
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DE 8801411 U1 19880324; DE 58900097 D1 19910606; EP 0326813 A1 19890809; EP 0326813 B1 19910502; ES 2021886 B3 19911116

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DE 8801411 U 19880205; DE 58900097 T 19890110; EP 89100302 A 19890110; ES 89100302 T 19890110