

Title (en)
U-tube heat exchanger with anti-blow-out supporting device

Title (de)
Wärmetauscher mit U-Rohren und Anti-Auftriebshalterung

Title (fr)
Echangeur de chaleur, à tubes en U équipés d'un dispositif de supportage anti-envol

Publication
EP 0544579 B1 19960821 (FR)

Application
EP 92403155 A 19921124

Priority
FR 9114655 A 19911127

Abstract (en)
[origin: CA2083578A1] DESCRIPTIVE In a heat exchanger, such as a steam generator equipping a nuclear power station, the U tubes (14) grouped into a bundle forming parallel layers, are maintained in their intermediate, inwardly curved part (14c) by antivibration bars (36a, 36b', 36c') placed between each pair of adjacent layers, said bars being interconnected outside the bundle by connecting or joining pins (38a, 38b, 38c). To prevent the fly-off of the assembly formed by the antivibration bars and the connecting pins, at least part of the antivibration bars (36a, 36b', 36c') is placed in slots formed in an elongated structure (40) fixed to the spacing plate (34a) closest to the inwardly curved part of the tubes. (Fig. 4) . B 11163 GP

IPC 1-7
F22B 37/20; **F28F 9/00**

IPC 8 full level
F28D 7/06 (2006.01); **F22B 37/20** (2006.01); **F28F 9/00** (2006.01); **F28F 9/013** (2006.01); **G21D 1/00** (2006.01)

CPC (source: EP KR US)
F22B 37/206 (2013.01 - EP US); **F28D 7/00** (2013.01 - KR); **F28D 7/06** (2013.01 - EP US); **F28F 9/0132** (2013.01 - EP US)

Cited by
EP0633427A1; FR2707382A1; US5515911A; US7699093B2; DE102007040183A1; WO2007047603A1

Designated contracting state (EPC)
BE CH DE ES GB IT LI NL

DOCDB simple family (publication)
EP 0544579 A1 19930602; **EP 0544579 B1 19960821**; CA 2083578 A1 19930528; CN 1049517 C 20000216; CN 1073032 A 19930609; CZ 284455 B6 19981216; CZ 347492 A3 19930616; DE 69212961 D1 19960926; FR 2684172 A1 19930528; FR 2684172 B1 19931231; JP H05240592 A 19930917; KR 100256198 B1 20000515; KR 930010515 A 19930622; RU 2068165 C1 19961020; US 5269371 A 19931214

DOCDB simple family (application)
EP 92403155 A 19921124; CA 2083578 A 19921123; CN 92113656 A 19921126; CS 347492 A 19921124; DE 69212961 T 19921124; FR 9114655 A 19911127; JP 31717692 A 19921126; KR 920022065 A 19921123; RU 92004508 A 19921126; US 98122992 A 19921125