

Title (en)
DEVICE FOR SECURING A PERFORATED SHEET TO AN END PLATE OF A HEAT EXCHANGER

Publication
EP 0237070 B1 19890802 (FR)

Application
EP 87103597 A 19870312

Priority
FR 8603692 A 19860314

Abstract (en)
[origin: US4697634A] A device for fixing a perforated sheet (8) against the perforated tube plate (1) of a heat exchanger having a bundle of tubes (4, 5), the perforated sheet (8) controlling the rate of fluid flow along the tubes, and the device comprising hollow pins (10) inserted in the ends of some of the tubes (4) and expanded therein, the hollow pins terminating outside the tubes with threaded ends (12) onto which respective nuts (15) are screwed for clamping the perforated sheet against the perforated tube plate, the nuts having heads including respective axial fluid-flow controlling bores (17).

IPC 1-7
F28F 27/02

IPC 8 full level
F28F 9/22 (2006.01); **F28F 9/10** (2006.01); **F28F 27/02** (2006.01)

CPC (source: EP KR US)
F28F 9/0282 (2013.01 - EP US); **F28F 9/22** (2013.01 - KR); **F28F 27/02** (2013.01 - KR)

Cited by
FR2717256A1

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

DOCDB simple family (publication)
EP 0237070 A1 19870916; EP 0237070 B1 19890802; CA 1284317 C 19910521; DE 3760400 D1 19890907; ES 2009810 B3 19891016; FR 2595805 A1 19870918; FR 2595805 B1 19880513; IN 168873 B 19910629; JP H0454877 B2 19920901; JP S633196 A 19880108; KR 870009205 A 19871024; KR 950014056 B1 19951120; US 4697634 A 19871006

DOCDB simple family (application)
EP 87103597 A 19870312; CA 532026 A 19870313; DE 3760400 T 19870312; ES 87103597 T 19870312; FR 8603692 A 19860314; IN 181DE1987 A 19870303; JP 5390387 A 19870309; KR 870002253 A 19870313; US 2505087 A 19870312