

Title (en)

Heat exchanger and air conditioner using the same

Title (de)

Wärmetauscher und damit ausgerüstete Klimaanlage

Title (fr)

Echangeur de chaleur et appareil de climatisation utilisant celui-ci

Publication

**EP 1770348 A3 20120328 (EN)**

Application

**EP 06020325 A 20060927**

Priority

JP 2005286858 A 20050930

Abstract (en)

[origin: EP1770348A2] In an air conditioner equipped with a heat exchanger (19) including a pair of pipe plates (19a, 19b), plural radiating fins (19c) located between the pair of pipe plates, and a refrigerant pipe (19d) that are passed through holes formed in the pair of pipe plates and the radiating fins in a meandering form, gap keeping projections are provided on the inner surfaces of the pipe plates that face the radiating fins adjacent to the pipe plates so that each pipe plate is spaced from the corresponding adjacent radiating fin at a predetermined distance.

IPC 8 full level

**F24F 1/00** (2011.01); **F24F 1/0063** (2019.01); **F24F 13/30** (2006.01); **F25B 39/02** (2006.01); **F28D 1/047** (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP KR US)

**F24F 1/0063** (2019.01 - EP US); **F24F 13/30** (2013.01 - EP); **F28D 1/0477** (2013.01 - EP); **F28F 1/30** (2013.01 - KR); **F28F 1/32** (2013.01 - KR); **F28F 9/02** (2013.01 - EP); **F24F 2221/14** (2013.01 - EP)

Citation (search report)

- [XY] US 1704409 A 19290305 - SCOTT CLIFFORD E
- [YD] JP H09243291 A 19970919 - MATSUSHITA ELECTRIC IND CO LTD
- [A] US 2948515 A 19600809 - RICHARD MEHALICK JOHN, et al
- [A] US 2001003309 A1 20010614 - AOYAGI OSAMU [JP], et al

Cited by

CN101858626A; CN103759363A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

**EP 1770348 A2 20070404**; **EP 1770348 A3 20120328**; CN 1940456 A 20070404; JP 2007093176 A 20070412; KR 100809839 B1 20080304; KR 20070037294 A 20070404

DOCDB simple family (application)

**EP 06020325 A 20060927**; CN 200610108789 A 20060816; JP 2005286858 A 20050930; KR 20060056140 A 20060622