

Title (en)
Refrigerator

Title (de)
Kältegerät

Title (fr)
Réfrigérateur

Publication
EP 1793186 B1 20150909 (EN)

Application
EP 07001116 A 20020313

Priority
• EP 02705107 A 20020313
• JP 2001069976 A 20010313

Abstract (en)
[origin: EP1369650A1] In a refrigerator employing a combustible refrigerant, a plurality of grass-tube heaters for defrosting is disposed close to an evaporator of a combustible-refrigerant-sealed refrigeration cycle. By controlling the application of an electric current or voltage to the glass-tube heater, the surface temperature of the heater can be kept below the ignition temperature of the combustible refrigerant. Furthermore, following structures are effective in decreasing the surface temperature of the heater - i) making contact the glass-tube heater to fins of the evaporator, ii) forming the glass-tube heater into a tube-in-tube structure and disposing a sealing member at an end of the glass tube. Such structured refrigerator prevents the combustible refrigerant from catching fire even if defrosting is performed in an environment where leakage of the refrigerant occurs, and improves poor refrigeration due to residual frost. <IMAGE>

IPC 8 full level
F25D 21/14 (2006.01); **F25B 1/00** (2006.01); **F25D 21/08** (2006.01); **H05B 3/44** (2006.01); **H05B 3/50** (2006.01)

CPC (source: EP KR)
F25D 21/08 (2013.01 - EP KR); **H05B 3/44** (2013.01 - EP); **H05B 3/50** (2013.01 - EP); **F25B 2400/12** (2013.01 - EP); **F25D 21/14** (2013.01 - EP); **F25D 2400/04** (2013.01 - EP); **F25D 2400/24** (2013.01 - EP)

Cited by
WO2011124452A3; WO2020093114A1

Designated contracting state (EPC)
DE FR GB IT SE

DOCDB simple family (publication)
EP 1369650 A1 20031210; EP 1369650 A4 20060426; EP 1369650 B1 20090624; CN 100439831 C 20081203; CN 100513949 C 20090715; CN 1327177 C 20070718; CN 1620585 A 20050525; CN 1940419 A 20070404; CN 1945177 A 20070411; DE 60232715 D1 20090806; EP 1793186 A2 20070606; EP 1793186 A3 20120613; EP 1793186 B1 20150909; HK 1075696 A1 20051223; JP 2002267331 A 20020918; KR 100600185 B1 20060712; KR 20030094279 A 20031211; TW 539838 B 20030701; WO 02073106 A1 20020919

DOCDB simple family (application)
EP 02705107 A 20020313; CN 02806570 A 20020313; CN 200610159292 A 20020313; CN 200610159294 A 20020313; DE 60232715 T 20020313; EP 07001116 A 20020313; HK 05107788 A 20050905; JP 0202332 W 20020313; JP 2001069976 A 20010313; KR 20037011895 A 20030909; TW 91104619 A 20020312