

Title (en)
STIRLING COOLING DEVICE, COOLING CHAMBER, AND REFRIGERATOR

Title (de)
STIRLING-KÜHLVORRICHTUNG, -KÜHLKAMMER UND -KÜHLSCHRANK

Title (fr)
REFROIDISSEUR A CYCLE DE STIRLING, CHAMBRE DE REFROIDISSEMENT ET REFRIGERATEUR

Publication
EP 1312875 A4 20040526 (EN)

Application
EP 01955705 A 20010813

Priority
• JP 0106994 W 20010813
• JP 2000256074 A 20000825
• JP 2001014357 A 20010123

Abstract (en)
[origin: EP1312875A1] In a Stirling cooling apparatus, a refrigerant is circulated within a refrigerant circulation circuit in such a way that the refrigerant receives cold, as latent heat, from a Stirling chiller and then releases the cold, by absorbing heat of vaporization, as it vaporizes in an evaporator, thereby cooling the inside of a refrigerator chamber. As the refrigerant, carbon dioxide, a natural refrigerant, can be suitably used.
<IMAGE>

IPC 1-7
F25B 9/14; **F25D 11/00**; **F25D 17/00**; **F25B 25/00**

IPC 8 full level
F25B 9/14 (2006.01); **F25B 25/00** (2006.01); **F25D 11/00** (2006.01); **F25D 11/02** (2006.01); **F25D 17/06** (2006.01)

CPC (source: EP KR)
F25B 9/14 (2013.01 - KR); **F25B 25/005** (2013.01 - EP); **F25D 11/00** (2013.01 - EP); **F25D 11/025** (2013.01 - EP); **F25B 9/14** (2013.01 - EP); **F25B 2309/06** (2013.01 - EP); **F25D 17/062** (2013.01 - EP)

Citation (search report)
• [X] EP 0454491 A2 19911030 - FORMA SCIENT INC [US]
• [X] US 2836964 A 19580603 - KLAAS ROOZENDAAL, et al
• [X] US 2889686 A 19590609 - LAURENS KOHLER JACOB WILLEM
• [X] EP 0999420 A2 20000510 - SANYO ELECTRIC CO [JP]
• [XD] US 5927079 A 19990727 - SEKIYA HIROSHI [JP], et al
• [E] EP 1167900 A1 20020102 - TSUIN BADO KOGYO KK [JP]
• [A] US 5735131 A 19980407 - LAMBRIGHT JR HARLEY [US], et al
• [A] US 5094083 A 19920310 - HORN STUART B [US], et al
• [X] D.M. BERCHOWITZ: "Design and testing of a 40W free-piston stirling cycle cooling unit", 20TH INTERNATIONAL CONGRESS OF REFRIGERATION, vol. 2, 19 September 1999 (1999-09-19) - 24 September 1999 (1999-09-24), SYDNEY, XP001165441
• [X] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 04 30 April 1997 (1997-04-30)
• [A] PATENT ABSTRACTS OF JAPAN vol. 0090, no. 19 (E - 292) 25 January 1985 (1985-01-25)
• [XP] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 19 5 June 2001 (2001-06-05)
• See references of WO 0216836A1

Cited by
EP1696231A1; US7487643B2; US7306656B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
EP 1312875 A1 20030521; **EP 1312875 A4 20040526**; BR 0113516 A 20030729; CA 2420028 A1 20030218; CN 1447890 A 20031008; KR 20030029843 A 20030416; RU 2253075 C2 20050527; TW 514716 B 20021221; WO 0216836 A1 20020228

DOCDB simple family (application)
EP 01955705 A 20010813; BR 0113516 A 20010813; CA 2420028 A 20010813; CN 01814400 A 20010813; JP 0106994 W 20010813; KR 20037002650 A 20030224; RU 2003107928 A 20010813; TW 90120890 A 20010824