

Title (en)

DOOR OPENING AND CLOSING SYSTEM, AND A REFRIGERATOR COMPRISING THE DOOR OPENING AND CLOSING SYSTEM

Title (de)

TÜRÖFFNUNGS- UND -SCHLIESSYSTEM UND KÜHLSCHRANK MIT DEM TÜRÖFFNUNGS- UND -SCHLIESSYSTEM

Title (fr)

SYSTÈME D'OUVERTURE ET DE FERMETURE DE PORTE ET RÉFRIGÉRATEUR COMPRENANT LE SYSTÈME D'OUVERTURE ET DE FERMETURE DE PORTE

Publication

EP 3431906 A1 20190123 (EN)

Application

EP 17182607 A 20170721

Priority

EP 17182607 A 20170721

Abstract (en)

A door opening and closing system (1) having a door (2) and a frame (3), such that one of the edge (4) of the door (2) is in mechanical coupling to one of the edge (5) of the frame (3) for closing or opening of the door (2), the door opening and closing system (1) comprising an arrangement of a first part (6) and a second part (7), the first part (6) is having a cavity (8), and the second part (7) is having a complimentary structure (9) with respect to the cavity (8), such that the complimentary structure (9) is adapted to make a fitting into the cavity (8) of the first part (6) when the second part (7) is mechanically coupled to the first part (6) to close the door (2), and the complimentary structure (9) is adapted to release from the fitting to open the door (2), wherein one of the parts (6, 7) is placed on the edge (4) of the door (2) and other part (6, 7) is on the edge (5) of the frame (3) which are in the mechanical coupling for closing or opening of the door (2). At least one of the first part (6) or the second part (7) is having a flexible reservoir (10), and adapted to house water either in solid state or liquid state, the system (1) further comprising a heating and cooling mechanism (11) adapted to be in heat exchange coupling with the water inside the flexible reservoir (10) and adapted to change water into solid state to liquid state, or liquid state to solid state, wherein when the door (2) is to be opened, the heating and cooling mechanism (11) heats the water to change from solid state to liquid state, and when the door (2) is to be closed, the heating and cooling mechanism (11) converts water from liquid state to solid state.

IPC 8 full level

F25D 23/02 (2006.01); **E05B 47/00** (2006.01); **E05B 65/00** (2006.01)

CPC (source: EP)

E05B 51/02 (2013.01); **E05B 65/0042** (2013.01); **F25D 23/02** (2013.01); **E05B 17/0016** (2013.01)

Citation (applicant)

- WO 9511362 A1 19950427 - PARK BYUNG KI [KR]
- US 5530992 A 19960702 - BAERMANN ECKHARD [DE]

Citation (search report)

- [IY] US 5520424 A 19960528 - HAPKE KENYON A [US], et al
- [Y] US 2009322531 A1 20091231 - ESTEVEZ LEONARDO W [US], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3431906 A1 20190123; TR 201711041 A2 20190221

DOCDB simple family (application)

EP 17182607 A 20170721; TR 201711041 A 20170727