

Title (en)  
REFRIGERATOR

Title (de)  
KÜHLSCHRANK

Title (fr)  
RÉFRIGÉRATEUR

Publication  
**EP 3896369 A4 20220209 (EN)**

Application  
**EP 19895386 A 20191204**

Priority  
• JP 2018231166 A 20181210  
• CN 2019123013 W 20191204

Abstract (en)  
[origin: EP3896369A1] A refrigerator (10) capable of reducing operation noises generated by opening and closing operations of a fan cover. A shielding device (60) of the refrigerator (10) comprises the fan cover (61) covering a blower fan (50) from the outer side of a cooling chamber (23), a drive shaft (62) driving the fan cover (61) to open or close, and an electric motor (93) rotating the drive shaft (62). A control device (70) performs a closing operation for closing an air passage by rotating the drive shaft (62) in one direction to cause the fan cover (61) to approach the fan (50); and the control device performs an opening operation for opening the air passage by rotating the drive shaft (62) in another direction to cause the fan cover (61) to move away from the blower fan (50). Moreover, the control device (70) performs, during a termination period of the closing operation or opening operation, a silence operation to reduce operation noises caused by the operation of the electric motor (93).

IPC 8 full level  
**F25D 17/06** (2006.01); **F25D 17/04** (2006.01)

CPC (source: EP)  
**F25D 17/045** (2013.01); **F25D 17/065** (2013.01); **F25B 2500/12** (2013.01); **F25B 2600/112** (2013.01); **F25D 2317/0681** (2013.01)

Citation (search report)  
• [YA] WO 2018103652 A1 20180614 - QINGDAO HAIER JOINT STOCK CO LTD [CN], et al  
• [Y] JP H11159936 A 19990615 - MITSUBISHI ELECTRIC CORP  
• [A] JP H09184675 A 19970715 - SANKYO SEIKI SEISAKUSHO KK  
• [A] JP 2017110857 A 20170622 - QINGDAO HAIER CO LTD, et al  
• See also references of WO 2020119550A1

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 3896369 A1 20211020; EP 3896369 A4 20220209; EP 3896369 B1 20230830**; CN 112262289 A 20210122; CN 112262289 B 20230120; JP 2020094709 A 20200618; JP 2023073505 A 20230525; JP 7261444 B2 20230420; JP 7495164 B2 20240604; WO 2020119550 A1 20200618

DOCDB simple family (application)  
**EP 19895386 A 20191204**; CN 2019123013 W 20191204; CN 201980028126 A 20191204; JP 2018231166 A 20181210; JP 2023060033 A 20230403