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Application
EP 16853883 A 20161005

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- JP 2015197377 A 20151005
- JP 2015202100 A 20151013
- JP 2015209684 A 20151026
- JP 2015230997 A 20151126
- JP 2016034241 A 20160225
- JP 2016063403 A 20160328
- JP 2016077275 A 20160407
- KR 20160118112 A 20160913
- KR 2016011138 W 20161005

Abstract (en)
[origin: EP3889526A1] Provided herein is a door opening and closing apparatus capable of reducing torque of a motor required for removing an adhesive force between a door and a housing. The door opening and closing apparatus includes a motor (M) configured to output power for opening and closing a door (D), a power transmission apparatus (40) configured to transmit the power of the motor to a hinge (Z) by rotation of a plurality of driving gears, and an auxiliary apparatus (30) configured to generate an auxiliary force for moving the door at a closing position toward an opening position, where the auxiliary force is generated at the auxiliary apparatus by the power of the motor before the power of the motor is transmitted to the hinge through the power transmission apparatus.

IPC 8 full level
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Citation (search report)

- [XY] KR 101537377 B1 20150716 - JISAN SYSTEM CO LTD [KR]
- [Y] CN 104121748 A 20141029 - HITACHI APPLIANCE INC
- [Y] JP 2006023041 A 20060126 - MATSUSHITA ELECTRIC IND CO LTD
- [A] KR 100813916 B1 20080318 - SAMSUNG ELECTRO MECH [KR]
- See references of WO 2017061767A1

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

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DOCDB simple family (application)
EP 21173817 A 20161005; EP 16853883 A 20161005; JP 2016077275 A 20160407