

Title (en)

DOOR HANGING APPARATUS AND DOOR APPARATUS PROVIDED WITH THE SAME

Title (de)

TÜRAUFHÄNGUNGSVORRICHTUNG UND TÜRVORRICHTUNG DAMIT

Title (fr)

APPAREIL DE SUSPENSION DE PORTE, ET DISPOSITIF DE PORTE ÉQUIPÉ DE CET APPAREIL

Publication

**EP 2503087 A4 20170322 (EN)**

Application

**EP 10831423 A 20101021**

Priority

- JP 2009262000 A 20091117
- JP 2010068608 W 20101021

Abstract (en)

[origin: EP2503087A1] A door hanging apparatus is provided that can reliably prevent the derailing of door rollers and the tilting of a door when the door is opened and closed, while having little running resistance caused by a derailing prevention mechanism. Upper and lower rails (13a, 13b) are provided with running surfaces (18a, 18b) opposing each other in the vertical direction. First door rollers (19, 20) run in contact with the lower rail 13b, and are rotatably supported to a first door roller supporting member 21 that suspends a door 11. Second door rollers (24, 25) are rotatably supported to swing members (22, 23) swingably connected to the first door roller supporting member 21, and are provided so as to be capable of coming into contact with the upper rail 13a. A drive connection portion 26 is provided for holding and connecting the door 11 to an open-close drive mechanism 12. An elastic connection mechanism 27 includes an elastic portion (30a, 30b) capable of changing the relative position between the second door rollers (24, 25) and the drive connection portion 26, and connects the swing members (22, 23) to the drive connection portion 26.

IPC 8 full level

**E05D 15/06** (2006.01); **E05F 7/04** (2006.01); **E05F 15/632** (2015.01)

CPC (source: EP KR US)

**B61D 19/00** (2013.01 - KR); **E05D 15/06** (2013.01 - KR); **E05D 15/0626** (2013.01 - EP US); **E05F 7/04** (2013.01 - EP KR US); **E05F 15/632** (2015.01 - KR); **E05F 15/635** (2015.01 - EP US); **E05F 15/643** (2015.01 - EP US); **E05F 15/652** (2015.01 - EP US); **E05Y 2201/614** (2013.01 - EP); **E05Y 2900/51** (2013.01 - EP)

Citation (search report)

- [XAI] WO 2005028794 A1 20050331 - EDSCHA AG [DE], et al
- [IA] GB 1084812 A 19670927 - DEANS AND LIGHTALLOYS LTD
- [A] US 2005081737 A1 20050421 - SMALLWOOD JOHN C [AU]
- See references of WO 2011062027A1

Cited by

AT514881A3; AT514881B1; US10035522B2; US9249609B2

Designated contracting state (EPC)

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DOCDB simple family (application)

**EP 10831423 A 20101021**; CN 201080052127 A 20101021; HK 12112782 A 20121211; JP 2010068608 W 20101021; JP 2011541859 A 20101021; KR 20127011887 A 20101021; TW 99137754 A 20101103