

Title (en)

Charging device, in particular exhaust gas turbocharger for a motor vehicle

Title (de)

Ladevorrichtung, insbesondere Abgasturbolader für ein Kraftfahrzeug

Title (fr)

Dispositif de chargement, notamment turbosoufflante de gaz d'échappement pour un véhicule automobile

Publication

EP 2280177 A3 20120111 (DE)

Application

EP 10169668 A 20100715

Priority

DE 102009035629 A 20090731

Abstract (en)

[origin: EP2280177A2] The charging device (1) has a shaft (3) carrying a compressor wheel (2), and a fixing device (4) for fixing the compressor wheel on the shaft. A sealing bush (5), a partition (6) of the bush and a spacer disk (7) are fixed on the shaft and fixed together with the compressor wheel by the fixing device. Expansion coefficient of the bush, partition and the disk is smaller than expansion coefficient of the compressor wheel at a predetermined temperature range. The shaft is made of steel or steel alloy.

IPC 8 full level

F04D 29/02 (2006.01); **F01D 5/02** (2006.01); **F04D 29/26** (2006.01); **F04D 29/28** (2006.01)

CPC (source: EP US)

F01D 5/025 (2013.01 - EP US); **F04D 29/023** (2013.01 - EP US); **F04D 29/266** (2013.01 - EP US); **F04D 29/284** (2013.01 - EP US); **F05D 2220/40** (2013.01 - EP US); **F05D 2300/121** (2013.01 - EP US); **F05D 2300/133** (2013.01 - EP US); **F05D 2300/50212** (2013.01 - EP US)

Citation (search report)

- [X1] EP 1193370 A2 20020403 - GEN MOTORS CORP [US]
- [X1] EP 1467062 A2 20041013 - GEN MOTORS CORP [US]
- [X1] EP 1803941 A1 20070704 - KOMATSU MFG CO LTD [JP]
- [X1] US 2002001522 A1 20020103 - MUKHERJEE SHANKAR [US], et al
- [X1] US 3019039 A 19620130 - CLAVELL THOMAS W
- [A] DE 3039961 A1 19820603 - VOLKSWAGENWERK AG [DE]

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 SE SI SK SM TR

Designated extension state (EPC)

BA ME RS

DOCDB simple family (publication)

EP 2280177 A2 20110202; **EP 2280177 A3 20120111**; **EP 2280177 B1 20160330**; DE 102009035629 A1 20110217;
US 2011033282 A1 20110210

DOCDB simple family (application)

EP 10169668 A 20100715; DE 102009035629 A 20090731; US 84723910 A 20100730