

Title (en)  
MULTI-SPEED GEARBOX

Title (de)  
MEHRSTUFENGETRIEBE

Title (fr)  
BOÎTE DE VITESSES MULTI-ÉTAGÉE

Publication  
**EP 2864666 A1 20150429 (DE)**

Application  
**EP 13722431 A 20130514**

Priority  
• DE 102012210864 A 20120626  
• EP 2013059879 W 20130514

Abstract (en)  
[origin: WO2014000943A1] The invention relates to a multi-speed gearbox having four planetary gear sets (P1, P2, P3, P4), eight rotatable shafts (1, 2, 3, 4, 5, 6, 7, 8) and six shift elements (03, 04, 13, 14, 26, 27), wherein the sun gear of the first planetary gear set (P1) is connected to the third shaft (3), which is detachably connected to the drive shaft (1) by means of a first clutch (13) and can be coupled to the housing (G) by means of a first brake (03). The drive shaft (1) can be detachably connected to the fourth shaft (4) which is connected to the planet carrier of the third planetary gear set (P3) by means of a second clutch (14), which can be coupled to the planet carrier of the first planetary gear set (P1) by means of a second brake (04) and is coupled to the housing (G). The drive shaft (1) is connected to the sun gear of the fourth planetary gear set (P4). The eighth shaft (8) is connected to the ring gear of the first planetary gear set (P1), to the sun gear of the second planetary gear set (P2) and to the sun gear of the third planetary gear set (P3). The fifth shaft (5) is connected to the planet carrier of the second planetary gear set (P2), to the ring gear of the third planetary gear set (P3) and to the ring gear of the fourth planetary gear set (P4). The sixth shaft (6) connects to the ring gear of the second planetary gear set (P2) and can be detachably connected to the output shaft (2) of the gearbox by means of a fourth clutch (26), which can be detachably connected to the seventh shaft (7) which is connected to the planet carrier of the fourth planetary gear set (P4) by means of a third clutch (27).

IPC 8 full level  
**F16H 3/66** (2006.01)

CPC (source: CN EP US)  
**F16H 3/666** (2013.01 - CN EP US); **F16H 2003/447** (2013.01 - EP US); **F16H 2200/0065** (2013.01 - EP US);  
**F16H 2200/0069** (2013.01 - CN EP US); **F16H 2200/2012** (2013.01 - CN EP US); **F16H 2200/2046** (2013.01 - CN EP US);  
**F16H 2200/2064** (2013.01 - CN EP US); **F16H 2200/2094** (2013.01 - CN EP US); **F16H 2200/2097** (2013.01 - CN EP US)

Citation (search report)  
See references of WO 2014000943A1

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)  
**DE 102012210864 A1 20140102**; CN 104350305 A 20150211; CN 104350305 B 20170315; EP 2864666 A1 20150429;  
US 2015184725 A1 20150702; US 9212729 B2 20151215; WO 2014000943 A1 20140103

DOCDB simple family (application)  
**DE 102012210864 A 20120626**; CN 201380030304 A 20130514; EP 13722431 A 20130514; EP 2013059879 W 20130514;  
US 201314410729 A 20130514