

Title (en)
MULTI-SPEED GEARBOX

Title (de)
MEHRSTUFENGETRIEBE

Title (fr)
BOÎTE DE VITESSES MULTI-ÉTAGÉE

Publication
EP 2841810 A1 20150304 (DE)

Application
EP 13710358 A 20130313

Priority
• DE 102012206773 A 20120425
• EP 2013055083 W 20130313

Abstract (en)
[origin: WO2013160004A1] 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 (04, 05, 14, 17, 18, 38), wherein the sun gear of the first planetary gear set (P1) is connected to the fifth shaft (5), which is connected to the sun gear of the second planetary gear set (P2) and can be coupled to the housing (G) by means of a second brake (05). The drive shaft (1) can be connected to the fourth shaft (4) by means of a first clutch (14), which connects to the planet carrier of the second planetary gear set (P2) and can be coupled to the housing (G) by means of a second brake (04). The drive shaft (1) can be connected to the seventh shaft (7) which is connected to the ring gear of the second planetary gear set (P2) and to the sun gear of the third planetary gear set (P3) by means of a second clutch (17), and can be connected to the eighth shaft (8) which is connected to the planet carrier of the third planetary gear set (P3) by means of a third clutch (18), which can be connected third shaft (3) which is connected to the ring gear of the fourth planetary gear set (P4) by means of a fourth clutch (38). The sixth shaft (38) is connected to the ring gear of the third planetary gear set (P3) and to the planet carrier of the first planetary gear set (P1). The sun gear of the fourth planetary gear set (P4) is coupled to the housing (G). The output shaft (2) is connected to the planet carrier of the fourth planetary gear set (P4) and to the ring gear of the first planetary gear set (P1).

IPC 8 full level
F16H 3/66 (2006.01)

CPC (source: CN EP US)
F16H 3/66 (2013.01 - CN EP US); **F16H 2003/445** (2013.01 - CN EP US); **F16H 2200/0065** (2013.01 - CN EP US); **F16H 2200/0082** (2013.01 - US); **F16H 2200/2012** (2013.01 - CN EP US); **F16H 2200/2046** (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 2013160004A1

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)
WO 2013160004 A1 20131031; CN 104271984 A 20150107; CN 104271984 B 20170308; DE 102012206773 A1 20131031; DE 102012206773 B4 20210311; EP 2841810 A1 20150304; US 2015087472 A1 20150326; US 9360086 B2 20160607

DOCDB simple family (application)
EP 2013055083 W 20130313; CN 201380021117 A 20130313; DE 102012206773 A 20120425; EP 13710358 A 20130313; US 201314396070 A 20130313