

Title (en)
MECHANICAL REDUCTION GEARING AND ASSOCIATED GEARED MOTOR

Title (de)
MECHANISCHES UNTERSETZUNGSGETRIEBE UND ZUGEHÖRIGER GETRIEBEMOTOR

Title (fr)
REDUCTEUR MECANIQUE ET MOTO-REDUCTEUR ASSOCIE

Publication
EP 3850243 A1 20210721 (FR)

Application
EP 19749317 A 20190731

Priority
• FR 1858107 A 20180910
• EP 2019070668 W 20190731

Abstract (en)
[origin: WO2020052859A1] The present invention relates to a mechanical reduction gearing (1) comprising: - an input shaft (3), - a sun gear (5) coupled in rotation to the input shaft (3), - a planet carrier (7) rotatable with respect to the input shaft (3) and supporting an output shaft (74) coaxial with the input shaft (3), said planet carrier (7) comprising at least one planet shaft (s1, s2, s3) extending parallel to the input shaft (3), - at least one cam (13) arranged around the planet shaft (s1, s2, s3) and comprising a first axial portion (p1) concentric to the planet shaft (s1, s2, s3) and at least one second eccentric axial portion (p2, p3), said at least one planet shaft (s1, s2, s3) being mounted rotatably with respect to the planet carrier (7) and/or said at least one cam (13) being mounted rotatably with respect to the associated planet shaft, - at least one planet gear (15) coupled in rotation to the cam (13) at its first concentric axial portion (p1) and configured to engage with the sun gear (5), - a peripheral annulus (17) arranged concentrically to the input shaft (3) and comprising an inner toothing, - at least one toothed wheel (r1, r2) intended to engage with the inner toothing of the peripheral annulus (17) and comprising at least one through-orifice offset with respect to the centre of the toothed wheel (r1, r2) and configured to cooperate with the second axial portion (p2, p3) of the cam (13) such that the rotation of the cam (13) causes the toothed wheel (r1, r2) to roll against the peripheral annulus (17), said rolling movement of the toothed wheel (r1, r2) being accompanied by the rotation of the planet carrier (7) with respect to the input shaft (3), and wherein the toothings of the peripheral annulus (17) and of the at least one toothed wheel (r1, r2) are toothings in the form of an involute to a circle.

IPC 8 full level
F16H 1/32 (2006.01)

CPC (source: EP US)
F16H 1/32 (2013.01 - EP US); **F16H 1/46** (2013.01 - US); **F16H 57/082** (2013.01 - US); **F16H 2001/323** (2013.01 - US);
F16H 2001/327 (2013.01 - US)

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)
FR 3085651 A1 20200313; **FR 3085651 B1 20231027**; CN 112673192 A 20210416; EP 3850243 A1 20210721; JP 2021536558 A 20211227;
JP 7479355 B2 20240508; US 11506262 B2 20221122; US 2022049758 A1 20220217; WO 2020052859 A1 20200319

DOCDB simple family (application)
FR 1858107 A 20180910; CN 201980058881 A 20190731; EP 19749317 A 20190731; EP 2019070668 W 20190731;
JP 2021513227 A 20190731; US 201917275073 A 20190731