

Title (en)

METHOD AND DEVICE FOR SHIFTING GEARS ON AN ELECTRIC BICYCLE

Title (de)

VERFAHREN UND VORRICHTUNG ZUM GANGSCHALTEN AN EINEM ELEKTROFAHRRAD

Title (fr)

PROCÉDÉ ET DISPOSITIF DE CHANGEMENT DE VITESSES SUR UNE BICYCLETTE ÉLECTRIQUE

Publication

EP 2739523 A1 20140611 (EN)

Application

EP 13707263 A 20130129

Priority

- CZ 2012933 A 20121219
- CZ 2012704 A 20121016
- CZ 2013000006 W 20130129

Abstract (en)

[origin: WO2014059953A1] The electric bicycle (1) is equipped with a central electric motor (2) to assist the drive of the chainwheel (3), which uses a chain (8) to power a driven wheel (9). In order to eliminate the shocks and stress on the front derailleur (14) of chainwheel (3), rear derailleur (17), and other parts of the bicycle (1) when shifting gears while the electric motor (2) is providing power, in accordance with the invention, the bicycle (1) is equipped with motion sensors (22, 23), which detect the movement of the front and rear derailleur shifter (12, 15) or inner cables (13, 16), and using an electrical signal fed to the electronic control unit (20) cause the elimination of the effect of the electric motor (2) or a reduction of its torque acting on the chainwheel (3) during gear shifting. The design improves riding comfort and increases the life span of the gearshifting equipment, particularly allowing for a wide use of multi-row chainwheels (3) with front derailleurs (14) in combination with a central electric motor (2) on power assisted electric bicycles (1).

IPC 8 full level

B62M 6/55 (2010.01)

CPC (source: EP US)

B62J 45/411 (2020.02 - EP US); **B62M 6/45** (2013.01 - EP); **B62M 6/55** (2013.01 - EP US); **B62M 25/04** (2013.01 - EP)

Citation (search report)

See references of WO 2014059953A1

Citation (examination)

- WO 2011158220 A2 20111222 - CLEAN MOBILE AG [SG], et al
- EP 0820926 A2 19980128 - SHIMANO KK [JP]
- JP 2011136655 A 20110714 - BRIDGESTONE CYCLE CO
- US 2003141126 A1 20030731 - HAYS MARCUS [US], et al
- EP 2452866 A1 20120516 - TECHWAY IND CO LTD [TW]

Citation (third parties)

Third party :

- WO 2011158220 A2 20111222 - CLEAN MOBILE AG [SG], et al
- US 2003141126 A1 20030731 - HAYS MARCUS [US], et al
- EP 0820926 B1 20040519 - SHIMANO KK [JP]
- JP 2011136655 A 20110714 - BRIDGESTONE CYCLE CO

Cited by

EP3527476A1

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

DOCDB simple family (publication)

WO 2014059953 A1 20140424; EP 2739523 A1 20140611

DOCDB simple family (application)

CZ 2013000006 W 20130129; EP 13707263 A 20130129