

Title (en)

Cable type window winder with simplified kinematic chain and electrical or manual drive

Title (de)

Seilfensterheber mit vereinfachter, kinematischer Kette und elektrischem oder manuellem Antrieb

Title (fr)

Lève-vitre à câble avec chaîne cinématique simplifiée et commande électrique ou manuelle

Publication

EP 0653538 B1 19991027 (EN)

Application

EP 94500179 A 19941111

Priority

ES 9302365 A 19931112

Abstract (en)

[origin: EP0653538A2] The invention relates to a window winder with an closed cable-type, kinematic chain (6) of great simplicity as regards its components and their arrangement, in which all the traditional items for guiding, driving or tensing the cable have been eliminated, as have the supports and parts which are welded or riveted together, all of which makes for great ease of construction, which can be performed simply, practically automatically, with the consequent very considerable saving in time and, therefore, in manufacturing cost. Moreover, a very compact unit is presented, especially in the simple electrical version, which becomes a single item secured to the vehicle door by tightening three nuts which have been previously arranged on the corresponding bolts or screws fastened to it, thus making the assembly operation extremely easy, being extended to its use in a double rail by simply duplicating its kinematic chain and adding the synchronizing element between both. There is a rail or guide element (1) along which a drive slide (2) moves. The rail is equipped with a set of end supports and the drive slide is connected to a steel cable (6) which travels through these supports, with the ends of the cable converging at a tensioner drum (5) mounted on the rail. <IMAGE>

IPC 1-7

E05F 11/48

IPC 8 full level

E05F 11/48 (2006.01); **E05F 15/16** (2006.01); **E05F 11/38** (2006.01)

CPC (source: EP)

E05F 11/483 (2013.01); **E05F 15/689** (2015.01); **E05F 11/385** (2013.01); **E05F 11/486** (2013.01); **E05F 11/488** (2013.01); **E05Y 2201/654** (2013.01); **E05Y 2201/66** (2013.01); **E05Y 2201/672** (2013.01); **E05Y 2201/72** (2013.01); **E05Y 2600/50** (2013.01); **E05Y 2600/56** (2013.01); **E05Y 2600/62** (2013.01); **E05Y 2800/00** (2013.01); **E05Y 2800/692** (2013.01); **E05Y 2900/55** (2013.01)

Cited by

CN108779656A; EP1422375A1; FR2847612A1; EP0824178A3; CN117103532A; CN108756585A; US6256929B1; EP1069271A1; US7121044B2; WO9833999A1; WO9605398A1; WO03083240A1; WO2007142128A1; US8024892B2; US8127496B2

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

EP 0653538 A2 19950517; **EP 0653538 A3 19950823**; **EP 0653538 B1 19991027**; DE 69421361 D1 19991202; DE 69421361 T2 20000608; ES 2089950 A2 19961001; ES 2089950 B1 19980816; ES 2089950 R 19971216; ES 2140518 T3 20000301

DOCDB simple family (application)

EP 94500179 A 19941111; DE 69421361 T 19941111; ES 9302365 A 19931112; ES 94500179 T 19941111