

Title (en)

DEVICE FOR OPENING AND CLOSING A MOBILE ELEMENT

Title (de)

VORRICHTUNG ZUM ÖFFNEN UND SCHLIESSEN EINES BEWEGLICHEN TEILS

Title (fr)

DISPOSITIF D'OUVERTURE ET DE FERMETURE D'UN ELEMENT MOBILE

Publication

EP 1442189 A1 20040804 (DE)

Application

EP 02787341 A 20021008

Priority

- DE 0203480 W 20021008
- DE 10151556 A 20011023

Abstract (en)

[origin: WO03038221A1] The invention relates to a device for opening and closing an opening (11), especially on a vehicle, by means of a motor-driven, mobile element (10). The inventive device comprises a control unit (26) and an anti-pinch sensor (14) that is substantially disposed along an edge (20) of the element (10) and/or the frame profile (12) limiting the opening (11) and that detects an obstacle (24) in the path of adjustment of the element (10) when the element (10) is closed, and that forwards a signal to the control unit (26) to stop or reverse the movement of the element (10). Said anti-pinch sensor (14) comprises a highly elastic electroactive polymer (EAP) material (30), especially polyurethane, fluoroelastomer, polybutadiene, fluorosilicone or silicone disposed between the electrodes (28, 34, 36) and effecting a change in voltage o the electrodes (28, 34, 36) when deformed.

IPC 1-7

E05F 15/00; H01H 3/14

IPC 8 full level

H10N 30/00 (2023.01); **E05F 15/42** (2015.01); **H01H 3/14** (2006.01)

CPC (source: EP US)

E05F 15/42 (2015.01 - EP US); **H01H 3/142** (2013.01 - EP US); **E05Y 2900/55** (2013.01 - EP US); **H01H 2209/002** (2013.01 - EP US);
Y10S 310/80 (2013.01 - EP US)

Cited by

DE102010055651A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

WO 03038221 A1 20030508; AT E363578 T1 20070615; DE 10151556 A1 20030430; DE 50210246 D1 20070712; EP 1442189 A1 20040804;
EP 1442189 B1 20070530; US 2004070316 A1 20040415; US 7362040 B2 20080422

DOCDB simple family (application)

DE 0203480 W 20021008; AT 02787341 T 20021008; DE 10151556 A 20011023; DE 50210246 T 20021008; EP 02787341 A 20021008;
US 45098503 A 20031117