

Title (en)  
Roller shutter

Title (de)  
Rolladen

Title (fr)  
Volet roulant

Publication  
**EP 0964129 A3 20011114 (DE)**

Application  
**EP 99110063 A 19990522**

Priority  
DE 29810292 U 19980609

Abstract (en)  
[origin: EP0964129A2] Free ends of cables (6,6') of the counterweight system are attached to coiling drums (31,32), between which is a torsion spring (4). One free end is linked to one of the drums and the other free end is linked to the spindle (7) carrying the drums. Between the spindle and the torsion spring is at least one spacer member (9). Preferably the outside diameter of the spacer member is smaller than the inside diameter of the torsion spring. A protective tube (5) can be fixed over the torsion spring and the free ends of the coiling drums.

IPC 1-7  
**E06B 9/11**; **E06B 9/62**

IPC 8 full level  
**E06B 9/11** (2006.01); **E06B 9/62** (2006.01)

CPC (source: EP)  
**E06B 9/115** (2013.01)

Citation (search report)  
[DA] DE 29618802 U1 19970206 - REHAU AG & CO [DE], et al

Cited by  
US6672691B1; FR2893016A1; EP2292889A3

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**EP 0964129 A2 19991215**; **EP 0964129 A3 20011114**; **EP 0964129 B1 20040506**; AT E266142 T1 20040515; AU 3394999 A 20000120; CN 1137326 C 20040204; CN 1243192 A 20000202; DE 29810292 U1 19980910; DE 59909373 D1 20040609; TW 418279 B 20010111

DOCDB simple family (application)  
**EP 99110063 A 19990522**; AT 99110063 T 19990522; AU 3394999 A 19990608; CN 99108343 A 19990609; DE 29810292 U 19980609; DE 59909373 T 19990522; TW 88109639 A 19990701