

Title (en)  
Secured hatch

Title (de)  
Gesicherte Klappe

Title (fr)  
Trappe sécurisée

Publication  
**EP 2014857 A1 20090114 (FR)**

Application  
**EP 08004329 A 20041005**

Priority  
• EP 04292361 A 20041005  
• EP 08004329 A 20041005

Abstract (en)  
The door has a door (2) rotating with respect to a chassis (1) around an axis (3), and including hinges (8-10) integrated to it. End bearings are integrated to the chassis. One damping cushion is inserted along the axis between each bearing and hinge, and is made of elastomer or metallic foam. The cushion is deformable in plastic or elastic manner. Intermediary bearings stop translation of the cushion along the axis. An independent claim is also included for application of a protected trap door for the protection of an operator of an armored vehicle against impact caused by the movements in site or in the field of turret or weapon.

Abstract (fr)  
L'invention concerne une trappe sécurisée comprenant une porte 2 ouvrable relativement au châssis 1 par rotation autour d'un axe 3, ledit axe 3 traversant au moins un palier solidaire du châssis 1 et au moins une charnière 8, 9, 10 solidaire de la porte 2. La trappe comprend au moins une biellette amortissante (17) intercalée entre le châssis (1) et la porte (2) selon une direction sensiblement perpendiculaire à la porte (2), ladite biellette (17) comprenant une première extrémité (18) solidaire du châssis (1) et une seconde extrémité (19) solidaire de la porte (2). Une telle trappe est capable d'amortir des chocs dans toutes les directions.

IPC 8 full level  
**E05F 5/02** (2006.01); **F41H 5/22** (2006.01)

CPC (source: EP)  
**E05F 5/022** (2013.01); **F41H 5/22** (2013.01); **E05D 11/00** (2013.01); **E05Y 2201/212** (2013.01); **E05Y 2201/264** (2013.01); **E05Y 2900/504** (2013.01); **E05Y 2900/546** (2013.01)

Citation (search report)  
• [XA] DE 19912557 A1 20000921 - KRAUSS MAFFEI WEGMANN GMBH & C [DE]  
• [XA] GB 511868 A 19390825 - BEATON & SON LTD G, et al  
• [X] FR 2578017 A1 19860829 - FICHTEL & SACHS IND INC [US]

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL HR LT LV MK

DOCDB simple family (publication)  
**EP 1645834 A1 20060412**; **EP 1645834 B1 20100310**; AT E460636 T1 20100315; AT E503073 T1 20110415; DE 602004025938 D1 20100422; DE 602004031990 D1 20110505; EP 2014857 A1 20090114; EP 2014857 B1 20110323; ES 2342284 T3 20100705; ES 2363453 T3 20110804

DOCDB simple family (application)  
**EP 04292361 A 20041005**; AT 04292361 T 20041005; AT 08004329 T 20041005; DE 602004025938 T 20041005; DE 602004031990 T 20041005; EP 08004329 A 20041005; ES 04292361 T 20041005; ES 08004329 T 20041005