

Title (en)

Front carriage of a train equipped with a front structure that absorbs energy in case of collision

Title (de)

Frontwagen eines Zuges mit einer energieabsorbierenden Struktur

Title (fr)

Véhicule de tête de train, doté d'une structure qui absorbe de l'énergie en cas de choc

Publication

**EP 1930226 A1 20080611 (EN)**

Application

**EP 07122184 A 20071203**

Priority

IT TO20060863 A 20061204

Abstract (en)

A front carriage (2) of a train (1) is equipped with an automatic coupler (6), which extends longitudinally (3) and is connected to a load-carrying frame (5) of the front carriage (2); the front carriage (2) is also provided with a front structure (24), which is carried by the frame (5) to absorb energy in case of collision and has a substantially vertical and relatively rigid support plate (16); a first absorber (9) constitutes part of the coupler (6) and is plastically deformable to absorb energy in a first stage during a head-on collision, while second absorbers (27,29) are carried by the support plate (16), project from the front of the support plate (16) and are plastically deformable to absorb energy in a second stage during the collision after the first stage has terminated.

IPC 8 full level

**B61D 15/06** (2006.01); **B61D 17/06** (2006.01)

CPC (source: EP)

**B61D 15/06** (2013.01); **B61D 17/06** (2013.01)

Citation (applicant)

- EP 0802100 A1 19971022 - ALSTOM DDF [FR]
- EP 0952062 A1 19991027 - DWA DEUTSCHE WAGGONBAU GMBH [DE], et al
- FR 2879549 A1 20060623 - ALSTOM TRANSPORT SA [FR]

Citation (search report)

- [XY] EP 0802100 A1 19971022 - ALSTOM DDF [FR]
- [X] EP 0952062 A1 19991027 - DWA DEUTSCHE WAGGONBAU GMBH [DE], et al
- [XY] FR 2698840 A1 19940610 - DIETRICH & CIE DE [FR]
- [X] EP 0888946 A1 19990107 - ALSTOM DDF [FR]
- [X] EP 0655565 A1 19950531 - GEC ALSTHOM TRANSPORT SA [FR]
- [A] FR 2879549 A1 20060623 - ALSTOM TRANSPORT SA [FR]

Cited by

CN110667618A; CN112298257A; RU174223U1; CN109063304A; CN111845834A; GB2588401A; GB2588401B; EP3415396A1; EP3456602A1; US11167778B2; WO2022001387A1; WO2022088780A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

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