

CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

TRANSPORTING

B61 RAILWAYS

(NOTE omitted)

B61F RAIL VEHICLE SUSPENSIONS, e.g. UNDERFRAMES, BOGIES OR ARRANGEMENTS OF WHEEL AXLES; RAIL VEHICLES FOR USE ON TRACKS OF DIFFERENT WIDTH; PREVENTING DERAILING OF RAIL VEHICLES; WHEEL GUARDS, OBSTRUCTION REMOVERS OR THE LIKE FOR RAIL VEHICLES (for vehicles in general [B60](#); axles or wheels [B60B](#); vehicle tyres [B60C](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00	Underframes (making railway vehicle underframes by forging or pressing B21K 7/12)	5/125	. . . . {with rubber elements (B61F 5/08 takes precedence)}
1/02	. with a single central sill	5/127	. . . . {with fluid as a damping medium}
1/04	. of triangulated type	5/14	. . Side bearings
1/06	. specially adapted for locomotives or motor-driven railcars	5/142	. . . {made of rubber elements, graphite or the like}
1/08	. Details	5/144	. . . {comprising fluid damping devices (B61F 5/146 takes precedence)}
1/10	. . End constructions	5/146	. . . {of the oil bath type; Lubrication devices for side bearings}
1/12	. . Cross bearers	5/148	. . . {between bolsterless bogies and underframes (B61F 5/142 - B61F 5/146 take precedence)}
1/14	. . Attaching or supporting vehicle body-structure		
3/00	Types of bogies (B61F 5/00 takes precedence)	5/16	. . Centre bearings or other swivel connections between underframes and bolsters or bogies
3/02	. with more than one axle	5/18	. . . King-bolts
3/04	. . with driven axles or wheels	5/20	. . . with springs allowing transverse movements
3/06	. . . with three or more axles	5/22	. . Guiding of the vehicle underframes with respect to the bogies
3/08	. . without driven axles or wheels	5/24	. . . Means for damping or minimising the canting, skewing, pitching, or plunging movements of the underframes
3/10	. . . with three or more axles		
3/12	. specially modified for carrying adjacent vehicle bodies of articulated trains	5/245	. . . . {by active damping, i.e. with means to vary the damping characteristics in accordance with track or vehicle induced reactions, especially in high speed mode}
3/125	. . {with more than one axle or wheel set}		
3/14	. specially modified for reducing air resistance	5/26	. Mounting or securing axle-boxes in vehicle or bogie underframes
3/16	. with a separate axle for each wheel	5/28	. . Axle-boxes integral with, or directly secured to, vehicle or bogie underframes
5/00	Constructional details of bogies; Connections between bogies and vehicle underframes; Arrangements or devices for adjusting or allowing self-adjustment of wheel axles or bogies when rounding curves	5/30	. . Axle-boxes mounted for movement under spring control in vehicle or bogie underframes {(B61F 5/36 takes precedence over B61F 5/305 - B61F 5/34)}
5/02	. Arrangements permitting limited transverse relative movements between vehicle underframe or bolster and bogie; Connections between underframes and bogies	5/301	. . . {incorporating metal springs}
5/04	. . Bolster supports or mountings (side bearings B61F 5/14)	5/302	. . . . {Leaf springs}
5/06	. . . incorporating metal springs	5/304	. . . . {Torsion-bar springs}
5/08	. . . incorporating rubber springs	5/305	. . . {incorporating rubber springs}
5/10	. . . incorporating fluid springs	5/307	. . . {incorporating fluid springs}
5/12	. . . incorporating dampers	5/308	. . . {incorporating damping devices}
5/122	. . . . {with friction surfaces}	5/32	. . . Guides, e.g. plates, for axle-boxes

5/325	. . . . {The guiding device including swinging arms or the like to ensure the parallelism of the axles}	17/02	. with oil
5/34	. . . . Wedge mechanisms for adjusting clearance between underframes and axles	17/04	. . Lubrication by stationary devices
5/36	. . . Arrangements for equalising or adjusting the load on wheels or springs, e.g. yokes	17/06	. . . by means of a wick or the like
5/38	. Arrangements or devices for adjusting or allowing self- adjustment of wheel axles or bogies when rounding curves, e.g. sliding axles, swinging axles	17/08	. . . . Devices for pressing the wick or the like against the rotating axle
5/383	. . {Adjustment controlled by non-mechanical devices, e.g. scanning trackside elements}	17/10	. . . by means of an oil bath
5/386	. . {fluid actuated}	17/12	. . . by gravity
5/40	. . Bogies with side frames mounted for longitudinal relative movements	17/14	. . Rotating lubricating devices
5/42	. . Adjustment controlled by buffer or coupling gear	17/16	. . . with rings
5/44	. . Adjustment controlled by movements of vehicle body	17/18	. . . with chains
5/46	. . Adjustment controlled by a sliding axle under the same vehicle underframe	17/20	. . . with scoops or the like attached to, or coupled with, the axle
5/48	. . Trailing or leading bogies for locomotives or motor- driven railcars (B61F 5/40 takes precedence)	17/22	. . . with discs, rollers, or belts engaging the axle
5/50	. Other details	17/24	. . by built-in lubricating pumps
5/52	. . Bogie frames	17/26	. . by external feeding means, e.g. pneumatic devices
5/523	. . . {comprising parts made from fibre-reinforced matrix material}	17/28	. . Applications of oil cleaners not otherwise provided for
5/526	. . . {comprising noise reducing devices}	17/30	. with grease
7/00	Rail vehicles equipped for use on tracks of different width	17/32	. . by manually-operated lubricators, e.g. screw cups
9/00	Rail vehicles characterised by means for preventing derailling, e.g. by use of guide wheels	17/34	. . by automatic means, e.g. with spring action
9/005	. {by use of non-mechanical means, e.g. acoustic or electromagnetic devices}	17/36	. with other, e.g. mixed, lubricating agents
11/00	Rail vehicles characterised by rail-engaging elements other than wheels, e.g. balls	19/00	Wheel guards; Bumpers; Obstruction removers or the like (for vehicles in general B60R 19/00)
13/00	Rail vehicles characterised by wheel arrangements, not otherwise provided for	19/02	. Wheel guards
15/00	Axle-boxes (mounting or securing axle-boxes B61F 5/26; lubrication B61F 17/00; bearings in general F16C)	19/04	. Bumpers or like collision guards
15/02	. with journal bearings	19/06	. Nets, catchers, or the like for catching obstacles or removing them from the track (mailbag catchers B61K 1/02)
15/04	. . for locomotives	19/08	. . of the drop-down type
15/06	. . for cars	19/10	. . . automatically operated by engagement with obstacle
15/08	. . the axle being slidable or tiltable in the bearings	99/00	Subject matter not provided for in other groups of this subclass
15/10	. . . and having springs opposing such movements		
15/12	. with roller, needle, or ball bearings		
15/14	. . constructed for taking-up axial pressure		
15/16	. . the axle being slidable or tiltable in the bearings		
15/18	. . . and having springs opposing such movements		
15/20	. Details		
15/22	. . Sealing means preventing entrance of dust or leakage of oil		
15/24	. . . preventing oil leakage when vehicle is tilted or inverted		
15/26	. . Covers; Sealing thereof		
15/28	. . Axle-boxes modified to ensure electrical conductivity		
17/00	Lubrication specially adapted for axle-boxes of rail vehicles (lubrication in general F16N)		