

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](#))

1/00	Underframes (making railway vehicle underframes by forging or pressing B21K 7/12)	5/142	. . . {made of rubber elements, graphite or the like}
1/02	. with a single central sill	5/144	. . . {comprising fluid damping devices (B61F 5/146 takes precedence)}
1/04	. of triangulated type	5/146	. . . {of the oil bath type; Lubrication devices for side bearings}
1/06	. specially adapted for locomotives or motor-driven railcars	5/148	. . . {between bolsterless bogies and underframes (B61F 5/142 - B61F 5/146 take precedence)}
1/08	. Details	5/16	. . Centre bearings or other swivel connections between underframes and bolsters or bogies
1/10	. . End constructions	5/18	. . . King-bolts
1/12	. . Cross bearers	5/20	. . . with springs allowing transverse movements
1/14	. . Attaching or supporting vehicle body-structure	5/22	. . Guiding of the vehicle underframes with respect to the bogies
3/00	Types of bogies (B61F 5/00 takes precedence)	5/24	. . . Means for damping or minimising the canting, skewing, pitching, or plunging movements of the underframes
3/02	. with more than one axle	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}
3/04	. . with driven axles or wheels	5/26	. Mounting or securing axle-boxes in vehicle or bogie underframes
3/06	. . . with three or more axles	5/28	. . Axle-boxes integral with, or directly secured to, vehicle or bogie underframes
3/08	. . without driven axles or wheels	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)}
3/10	. . . with three or more axles	5/301	. . . . {incorporating metal springs}
3/12	. specially modified for carrying adjacent vehicle bodies of articulated trains	5/302	. . . . {Leaf springs}
3/125	. . {with more than one axle or wheel set}	5/304	. . . . {Torsion-bar springs}
3/14	. specially modified for reducing air resistance	5/305	. . . . {incorporating rubber springs}
3/16	. with a separate axle for each wheel	5/307	. . . . {incorporating fluid springs}
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	5/308	. . . . {incorporating damping devices}
5/02	. Arrangements permitting limited transverse relative movements between vehicle underframe or bolster and bogie; Connections between underframes and bogies	5/32	. . . Guides, e.g. plates, for axle-boxes
5/04	. . Bolster supports or mountings (side bearings B61F 5/14)	5/325	. . . . {The guiding device including swinging arms or the like to ensure the parallelism of the axles}
5/06	. . . incorporating metal springs	5/34	. . . . Wedge mechanisms for adjusting clearance between underframes and axles
5/08	. . . incorporating rubber springs	5/36	. . . Arrangements for equalising or adjusting the load on wheels or springs, e.g. yokes
5/10	. . . incorporating fluid springs		
5/12	. . . incorporating dampers		
5/122	. . . . {with friction surfaces}		
5/125	. . . . {with rubber elements (B61F 5/08 takes precedence)}		
5/127	. . . . {with fluid as a damping medium}		
5/14	. . Side bearings		

- 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
- 5/383 . . {Adjustment controlled by non-mechanical devices, e.g. scanning trackside elements}
- 5/386 . . {fluid actuated}
- 5/40 . . Bogies with side frames mounted for longitudinal relative movements
- 5/42 . . Adjustment controlled by buffer or coupling gear
- 5/44 . . Adjustment controlled by movements of vehicle body
- 5/46 . . Adjustment controlled by a sliding axle under the same vehicle underframe
- 5/48 . . Trailing or leading bogies for locomotives or motor- driven railcars ([B61F 5/40](#) takes precedence)
- 5/50 . Other details
- 5/52 . . Bogie frames
- 5/523 . . . {comprising parts made from fibre-reinforced matrix material}
- 5/526 . . . {comprising noise reducing devices}
- 7/00 Rail vehicles equipped for use on tracks of different width**
- 9/00 Rail vehicles characterised by means for preventing derailling, e.g. by use of guide wheels**
- 9/005 . {by use of non-mechanical means, e.g. acoustic or electromagnetic devices}
- 11/00 Rail vehicles characterised by rail-engaging elements other than wheels, e.g. balls**
- 13/00 Rail vehicles characterised by wheel arrangements, not otherwise provided for**
- 15/00 Axle-boxes ([mounting or securing axle-boxes B61F 5/26](#); lubrication [B61F 17/00](#); bearings in general [F16C](#))**
- 15/02 . with journal bearings
- 15/04 . . for locomotives
- 15/06 . . for cars
- 15/08 . . the axle being slidable or tiltable in the bearings
- 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](#))**
- 17/02 . with oil
- 17/04 . . Lubrication by stationary devices
- 17/06 . . . by means of a wick or the like
- 17/08 Devices for pressing the wick or the like against the rotating axle
- 17/10 . . . by means of an oil bath
- 17/12 . . . by gravity
- 17/14 . . Rotating lubricating devices
- 17/16 . . . with rings
- 17/18 . . . with chains
- 17/20 . . . with scoops or the like attached to, or coupled with, the axle
- 17/22 . . . with discs, rollers, or belts engaging the axle
- 17/24 . . by built-in lubricating pumps
- 17/26 . . by external feeding means, e.g. pneumatic devices
- 17/28 . . Applications of oil cleaners not otherwise provided for
- 17/30 . with grease
- 17/32 . . by manually-operated lubricators, e.g. screw cups
- 17/34 . . by automatic means, e.g. with spring action
- 17/36 . with other, e.g. mixed, lubricating agents
- 19/00 Wheel guards; Bumpers; Obstruction removers or the like ([for vehicles in general B60R 19/00](#))**
- 19/02 . Wheel guards
- 19/04 . Bumpers or like collision guards
- 19/06 . Nets, catchers, or the like for catching obstacles or removing them from the track ([mailbag catchers B61K 1/02](#))
- 19/08 . . of the drop-down type
- 19/10 . . . automatically operated by engagement with obstacle
- 99/00 Subject matter not provided for in other groups of this subclass**