

# CPC COOPERATIVE PATENT CLASSIFICATION

## 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](#))

<b>1/00</b>	<b>Underframes (making railway vehicle underframes by forging or pressing <a href="#">B21K 7/12</a>)</b>	5/20	. . . with springs allowing transverse movements
1/02	. with a single central sill	5/22	. . Guiding of the vehicle underframes with respect to the bogies
1/04	. of triangulated type	5/24	. . . Means for damping or minimising the canting, skewing, pitching, or plunging movements of the underframes
1/06	. specially adapted for locomotives or motor-driven railcars	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}
1/08	. Details	5/26	. Mounting or securing axle-boxes in vehicle or bogie underframes
1/10	. . End constructions	5/28	. . Axle-boxes integral with, or directly secured to, vehicle or bogie underframes
1/12	. . Cross bearers	5/30	. . Axle-boxes mounted for movement under spring control in vehicle or bogie underframes { <a href="#">(B61F 5/36 takes precedence over B61F 5/305 - B61F 5/34)</a> }
1/14	. . Attaching or supporting vehicle body-structure	5/301	. . . {incorporating metal springs}
<b>3/00</b>	<b>Types of bogies (<a href="#">B61F 5/00 takes precedence</a>)</b>	5/302	. . . . {Leaf springs}
3/02	. with more than one axle	5/304	. . . . {Torsion-bar springs}
3/04	. . with driven axles or wheels	5/305	. . . {incorporating rubber springs}
3/06	. . . with three or more axles	5/307	. . . {incorporating fluid springs}
3/08	. . without driven axles or wheels	5/308	. . . {incorporating damping devices}
3/10	. . . with three or more axles	5/32	. . . Guides, e.g. plates, for axle-boxes
3/12	. specially modified for carrying adjacent vehicle bodies of articulated trains	5/325	. . . . {The guiding device including swinging arms or the like to ensure the parallelism of the axles}
3/125	. . {with more than one axle or wheel set}	5/34	. . . . Wedge mechanisms for adjusting clearance between underframes and axles
3/14	. specially modified for reducing air resistance	5/36	. . . Arrangements for equalising or adjusting the load on wheels or springs, e.g. yokes
3/16	. with a separate axle for each wheel	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
<b>5/00</b>	<b>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</b>	5/383	. . {Adjustment controlled by non-mechanical devices, e.g. scanning trackside elements}
5/02	. Arrangements permitting limited transverse relative movements between vehicle underframe or bolster and bogie; Connections between underframes and bogies	5/386	. . {fluid actuated}
5/04	. . Bolster supports or mountings ( <a href="#">side bearings <a href="#">B61F 5/14</a></a> )	5/40	. . Bogies with side frames mounted for longitudinal relative movements
5/06	. . . incorporating metal springs	5/42	. . Adjustment controlled by buffer or coupling gear
5/08	. . . incorporating rubber springs	5/44	. . Adjustment controlled by movements of vehicle body
5/10	. . . incorporating fluid springs	5/46	. . Adjustment controlled by a sliding axle under the same vehicle underframe
5/12	. . . incorporating dampers	5/48	. . Trailing or leading bogies for locomotives or motor-driven railcars ( <a href="#">B61F 5/40 takes precedence</a> )
5/122	. . . . {with friction surfaces}	5/50	. Other details
5/125	. . . . {with rubber elements ( <a href="#">B61F 5/08 takes precedence</a> )}	5/52	. . Bogie frames
5/127	. . . . {with fluid as a damping medium}	5/523	. . . {comprising parts made from fibre-reinforced matrix material}
5/14	. . Side bearings		
5/142	. . . {made of rubber elements, graphite or the like}		
5/144	. . . {comprising fluid damping devices ( <a href="#">B61F 5/146 takes precedence</a> )}		
5/146	. . . {of the oil bath type; Lubrication devices for side bearings}		
5/148	. . . {between bolsterless bogies and underframes ( <a href="#">B61F 5/142 - B61F 5/146 take precedence</a> )}		
5/16	. . Centre bearings or other swivel connections between underframes and bolsters or bogies		
5/18	. . . King-bolts		

5/526	. . . { <a href="#">comprising noise reducing devices</a> }	19/06	. Nets, catchers, or the like for catching obstacles or removing them from the track ( <a href="#">mailbag catchers B61K 1/02</a> )
<b>7/00</b>	<b>Rail vehicles equipped for use on tracks of different width</b>	19/08	. . of the drop-down type
<b>9/00</b>	<b>Rail vehicles characterised by means for preventing derailling, e.g. by use of guide wheels</b>	19/10	. . . automatically operated by engagement with obstacle
9/005	. { <a href="#">by use of non-mechanical means, e.g. acoustic or electromagnetic devices</a> }	<b>99/00</b>	<b>Subject matter not provided for in other groups of this subclass</b>
<b>11/00</b>	<b>Rail vehicles characterised by rail-engaging elements other than wheels, e.g. balls</b>		
<b>13/00</b>	<b>Rail vehicles characterised by wheel arrangements, not otherwise provided for</b>		
<b>15/00</b>	<b>Axle-boxes (<a href="#">mounting or securing axle-boxes B61F 5/26</a>; lubrication <a href="#">B61F 17/00</a>; bearings in general <a href="#">F16C</a>)</b>		
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		
<b>17/00</b>	<b>Lubrication specially adapted for axle-boxes of rail vehicles (<a href="#">lubrication in general F16N</a>)</b>		
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		
<b>19/00</b>	<b>Wheel guards; Bumpers; Obstruction removers or the like (<a href="#">for vehicles in general B60R 19/00</a>)</b>		
19/02	. Wheel guards		
19/04	. Bumpers or like collision guards		