

## SECTION B — PERFORMING OPERATIONS; TRANSPORTING

### B61 RAILWAYS

**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)

#### Subclass index

##### FRAMES, RUNNING GEAR

Underframes, bogies, connections therebetween.....1/00, 3/00, 5/00  
 For different gauges.....7/00  
 For preventing derailment.....9/00  
 Track-engaging means other than wheels.....11/00

WHEEL ARRANGEMENTS.....13/00

AXLE-BOXES; FORM, MOUNTING; LUBRICATION THEREOF.....15/00, 5/00, 17/00

WHEEL GUARDS, BUMPERS, OBSTRUCTION REMOVERS.....19/00

SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS.....99/00

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- |             |   |      |  |
|-------------|---|------|--|
| <b>1/00</b> | <b>Underframes</b> (making railway vehicle underframes by forging or pressing B21K 7/12) [1, 2006.01]   | 5/08 | • • • incorporating rubber springs [1, 2006.01]  |
| 1/02        | • with a single central sill [1, 2006.01]   | 5/10 | • • • incorporating fluid springs [1, 2006.01]   |
| 1/04        | • of triangulated type [1, 2006.01]   | 5/12 | • • • incorporating dampers [1, 2006.01]   |
| 1/06        | • specially adapted for locomotives or motor-driven railcars [1, 2006.01]   | 5/14 | • • Side bearings [1, 2006.01]   |
| 1/08        | • Details [1, 2006.01]  | 5/16 | • • Centre bearings or other swivel connections between underframes and bolsters or bogies [1, 2006.01]  |
| 1/10        | • • End constructions [1, 2006.01]  | 5/18 | • • • King-bolts [1, 2006.01]  |
| 1/12        | • • Cross bearers [1, 2006.01]  | 5/20 | • • • with springs allowing transverse movements [1, 2006.01]  |
| 1/14        | • • Attaching or supporting vehicle body structure [1, 2006.01]   | 5/22 | • • Guiding of the vehicle underframes with respect to the bogies [1, 2006.01]   |
| <b>3/00</b> | <b>Types of bogies</b> (B61F 5/00 takes precedence) [1, 2006.01]  | 5/24 | • • • Means for damping or minimising the canting, skewing, pitching, or plunging movements of the underframes [1, 2006.01]  |
| 3/02        | • with more than one axle [1, 2006.01]  | 5/26 | • Mounting or securing axle-boxes in vehicle or bogie underframes [1, 2006.01]   |
| 3/04        | • • with driven axles or wheels [1, 2006.01]  | 5/28 | • • Axle-boxes integral with, or directly secured to, vehicle or bogie underframes [1, 2006.01]  |
| 3/06        | • • • with three or more axles [1, 2006.01]   | 5/30 | • • Axle-boxes mounted for movement under spring control in vehicle or bogie underframes [1, 2006.01]  |
| 3/08        | • • without driven axles or wheels [1, 2006.01]   | 5/32 | • • • Guides, e.g. plates, for axle-boxes [1, 2006.01]   |
| 3/10        | • • • with three or more axles [1, 2006.01]   | 5/34 | • • • • Wedge mechanisms for adjusting clearance between underframes and axles [1, 2006.01]  |
| 3/12        | • specially modified for carrying adjacent vehicle bodies of articulated trains [1, 2006.01]  | 5/36 | • • • Arrangements for equalising or adjusting the load on wheels or springs, e.g. yokes [1, 2006.01]  |
| 3/14        | • specially modified for reducing air resistance [1, 2006.01]   | 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 [1, 2006.01] |
| 3/16        | • with a separate axle for each wheel [1, 2006.01]  | 5/40 | • • Bogies with side frames mounted for longitudinal relative movements [1, 2006.01]   |
| <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> [1, 2006.01] | 5/42 | • • Adjustment controlled by buffer or coupling gear [1, 2006.01]  |
| 5/02        | • Arrangements permitting limited transverse relative movements between vehicle underframe or bolster and bogie; Connections between underframes and bogies [1, 2006.01]  |      |  |
| 5/04        | • • Bolster supports or mountings (side bearings B61F 5/14) [1, 2006.01]  |      |  |
| 5/06        | • • • incorporating metal springs [1, 2006.01]  |      |  |

## B61F

- 5/44 • • Adjustment controlled by movements of vehicle body [1, 2006.01]
- 5/46 • • Adjustment controlled by a sliding axle under the same vehicle underframe [1, 2006.01]
- 5/48 • • Trailing or leading bogies for locomotives or motor-driven railcars (B61F 5/40 takes precedence) [1, 2, 2006.01]
- 5/50 • Other details [1, 2006.01]
- 5/52 • • Bogie frames [1, 2006.01]
- 7/00 Rail vehicles equipped for use on tracks of different width [1, 2006.01]**
- 9/00 Rail vehicles characterised by means for preventing derailling, e.g. by use of guide wheels [1, 2006.01]**
- 11/00 Rail vehicles characterised by rail-engaging elements other than wheels, e.g. balls [1, 2006.01]**
- 13/00 Rail vehicles characterised by wheel arrangements, not otherwise provided for [1, 2006.01]**
- 15/00 Axle-boxes** (mounting or securing axle-boxes B61F 5/26; lubrication B61F 17/00; bearings in general F16C) [1, 2006.01]
  - 15/02 • with journal bearings [1, 2006.01]
  - 15/04 • • for locomotives [1, 2006.01]
  - 15/06 • • for cars [1, 2006.01]
  - 15/08 • • the axle being slidable or tiltable in the bearings [1, 2006.01]
  - 15/10 • • • and having springs opposing such movements [1, 2006.01]
  - 15/12 • with roller, needle, or ball bearings [1, 2006.01]
  - 15/14 • • constructed for taking-up axial pressure [1, 2006.01]
  - 15/16 • • the axle being slidable or tiltable in the bearings [1, 2006.01]
  - 15/18 • • • and having springs opposing such movements [1, 2006.01]
  - 15/20 • Details [1, 2006.01]
  - 15/22 • • Sealing means preventing entrance of dust or leakage of oil [1, 2006.01]
  - 15/24 • • • preventing oil leakage when vehicle is tilted or inverted [1, 2006.01]
  - 15/26 • • Covers; Sealing thereof [1, 2006.01]

- 15/28 • • Axle-boxes modified to ensure electrical conductivity [1, 2006.01]
- 17/00 Lubrication specially adapted for axle-boxes of rail vehicles** (lubrication in general F16N) [1, 2006.01]
  - 17/02 • with oil [1, 2006.01]
  - 17/04 • • Lubrication by stationary devices [1, 2006.01]
  - 17/06 • • • by means of a wick or the like [1, 2006.01]
  - 17/08 • • • Devices for pressing the wick or the like against the rotating axle [1, 2006.01]
  - 17/10 • • • by means of an oil bath [1, 2006.01]
  - 17/12 • • • by gravity [1, 2006.01]
  - 17/14 • • Rotating lubricating devices [1, 2006.01]
  - 17/16 • • • with rings [1, 2006.01]
  - 17/18 • • • with chains [1, 2006.01]
  - 17/20 • • • with scoops or the like attached to, or coupled with, the axle [1, 2006.01]
  - 17/22 • • • with discs, rollers, or belts engaging the axle [1, 2006.01]
  - 17/24 • • by built-in lubricating pumps [1, 2006.01]
  - 17/26 • • by external feeding means, e.g. pneumatic devices [1, 2006.01]
  - 17/28 • • Applications of oil cleaners not otherwise provided for [1, 2006.01]
  - 17/30 • with grease [1, 2006.01]
  - 17/32 • • by manually-operated lubricators, e.g. screw cups [1, 2006.01]
  - 17/34 • • by automatic means, e.g. with spring action [1, 2006.01]
  - 17/36 • with other, e.g. mixed, lubricating agents [1, 2006.01]
- 19/00 Wheel guards; Bumpers; Obstruction removers or the like** (for vehicles in general B60R 19/00) [1, 2006.01]
  - 19/02 • Wheel guards [1, 2006.01]
  - 19/04 • Bumpers or like collision guards [1, 2006.01]
  - 19/06 • Nets, catchers, or the like for catching obstacles or removing them from the track (mailbag catchers B61K 1/02) [1, 2006.01]
  - 19/08 • • of the drop-down type [1, 2006.01]
  - 19/10 • • • automatically operated by engagement with obstacle [1, 2006.01]
- 99/00 Subject matter not provided for in other groups of this subclass [2006.01]**