

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

### TRANSPORTING

#### B61 RAILWAYS

(NOTE omitted)

#### B61C LOCOMOTIVES; MOTOR RAILCARS (vehicles in general [B60](#); frames or bogies [B61F](#); special railroad equipment for locomotives [B61J](#), [B61K](#))

##### NOTE

This subclass covers :

- general design features or items of locomotives and motor railcars not otherwise provided for;
- non-electric features of electric locomotives

##### 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.

##### Locomotives or motor railcars in general or characterised by the types of motive power plant used

- |             |  |
|-------------|--|
| 1/00        | <b>Steam locomotives or railcars</b> (engines <a href="#">F01</a> ; characterised by power transmissions <a href="#">B61C 9/00</a> ; boilers <a href="#">F22B</a> )                      |
| 1/02        | • of articulated construction; with two or more engines (appliances of booster engines <a href="#">B61C 15/02</a> )  |
| 1/04        | • with steam accumulators (steam accumulators <a href="#">F01K</a> )   |
| 1/06        | • Streamlining (of coachwork <a href="#">B61D</a> )  |
| 1/08        | • Arrangement or disposition of combustion apparatus or accessories therefor   |
| 1/10        | • Arrangement or disposition of steam generators   |
| 1/12        | • Arrangement or disposition of condensers   |
| 1/14        | • Arrangement or disposition of exhaust apparatus  |
| <b>3/00</b> | <b>Electric locomotives or railcars</b> (characterised by power transmission <a href="#">B61C 9/00</a> ; electrical features <a href="#">B60L</a> ; <a href="#">H02</a> )                |
| 3/02        | • with electric accumulators   |
| <b>5/00</b> | <b>Locomotives or motor railcars with IC engines or gas turbines</b> (characterised by power transmission <a href="#">B61C 9/00</a> ; engines <a href="#">F02</a> )                      |
| 5/02        | • Arrangement or disposition of intakes and apparatus for supplying, circulating, and filtering air for combustion and engine-cooling purposes   |
| 5/04        | • Arrangement or disposition of exhaust apparatus  |
| <b>7/00</b> | <b>Other locomotives or motor railcars characterised by the type of motive power plant used; Locomotives or motor railcars with two or more different kinds or types of motive power</b> |
| 7/02        | • Locomotives or motor railcars with pneumatic accumulators  |
| 7/04        | • Locomotives or motor railcars with two or more different kinds or types of engines, e.g. steam and IC engines  |

8/00

**Filling stations for steam- or pneumatic-accumulator locomotives or motor railcars**

9/00

**Locomotives or motor railcars characterised by the type of transmission system used; Transmission systems specially adapted for locomotives or motor railcars** (machine elements [F16](#))

9/02

• Transmission systems in or for locomotives or motor railcars with reciprocating piston steam engines

9/04

• . . consisting of cranked axles and coupling rods

9/06

• . . having toothed, chain, friction, or belt gearing

9/08

• Transmission systems in or for locomotives or motor railcars with IC reciprocating piston engines

9/10

• . mechanical (combined with hydraulic gearing [B61C 9/14](#))

9/12

• . . . with change-speed gearing

9/14

• . . hydraulic, including combinations with mechanical gearing

9/16

• . . . using gearing of the hydrostatic type

9/18

• . . . using gearing of the hydrokinetic type

9/20

• . . . . with mechanical change-speed gearing

9/22

• . pneumatic

9/24

• . electric ([B61C 9/38](#) takes precedence)

9/26

• . with transmission shafts at an angle to the driving axles

9/28

• Transmission systems in or for locomotives or motor railcars with rotary prime movers, e.g. turbines

9/30

• . mechanical (combined with hydraulic gearing [B61C 9/34](#))

9/32

• . . . with change-speed gearing

9/34

• . hydraulic, including combinations with mechanical gearing

9/36

• . electric ([B61C 9/38](#) takes precedence)

- |      |   |        |   |
|------|---|--------|---|
| 9/38 | . Transmission systems in or for locomotives or motor railcars with electric motor propulsion (electrical features <a href="#">B60L</a> ) | 15/08  | . Preventing wheel slippage (adjusting wheel-braking force to prevent wheel slippage <a href="#">B60T 8/00</a> ; removing undesirable matter from the permanent way of railways <a href="#">E01H 8/00</a> ) |
| 9/40 | . . with cranked axles and coupling rods  | 15/085 | . . {by dispersion of a fluid, e.g. containing chemicals}   |
| 9/42 | . . hydraulic   | 15/10  | . . by depositing sand or like friction increasing materials (for vehicles in general <a href="#">B60B</a> ; combined control of sanding apparatus and brakes <a href="#">B61H</a> )                        |
| 9/44 | . . with hollow transmission shaft concentric with wheel axis   | 15/102 | . . . {with sanding equipment of mechanical or fluid type, e.g. by means of steam}  |
| 9/46 | . . with motors forming parts of wheels   | 15/105 | . . . {with gravity activated sanding equipment}  |
| 9/48 | . . with motors supported on vehicle frames and driving axles, e.g. axle or nose suspension   | 15/107 | . . . {with electrically or electromagnetically controlled sanding equipment}   |
| 9/50 | . . . in bogies   | 15/12  | . . by reducing the driving power   |
| 9/52 | . . with transmission shafts at an angle to the driving axles   | 15/14  | . controlling distribution of tractive effort between driving wheels  |

**Locomotives or motor railcars characterised by the type of means applying the tractive effort, or by their application to special railway systems or purposes**

- |              |   |              |  |
|--------------|---|--------------|--|
| <b>11/00</b> | <b>Locomotives or motor railcars characterised by the type of means applying the tractive effort; Arrangement or disposition of running gear other than normal driving wheel (constructions wheels <a href="#">B60B</a>)</b>  | <b>17/00</b> | <b>Arrangement or disposition of parts; Details or accessories not otherwise provided for; Use of control gear and control systems</b>   |
| 11/005       | . {tractive effort applied by a transported road vehicle (railway wagons or vans adapted for carrying vehicles in general <a href="#">B61D 3/18</a> ; vehicles for use both on rail and road, e.g. with rail and road wheels on the same axle <a href="#">B60F</a> )}   | 17/02        | . Bunkers; Tanks; Tenders ( <a href="#">coachwork B61D</a> ); Water or fuel pick-up or scoop apparatus; Water or fuel supply fittings (trackside installations, e.g. bunkers, tanks, for filling locomotives with sand or water <a href="#">B61K 11/00</a> )   |
| 11/02        | . tractive effort applied to cables or chains   | 17/04        | . Arrangement or disposition of driving cabins, footplates or engine rooms; Ventilation thereof ( <a href="#">driving cabins and accessories B61D</a> )  |
| 11/04        | . tractive effort applied to racks  | 17/06        | . Power storing devices  |
| 11/06        | . tractive effort applied or supplied by aerodynamic force or fluid reaction, e.g. air-screws and jet or rocket propulsion  | 17/08        | . Lubrication systems (in general <a href="#">F16N</a> )   |
| <b>13/00</b> | <b>Locomotives or motor railcars characterised by their application to special systems or purposes (<a href="#">B61C 11/00</a> takes precedence; self-propelled scaffold cars, break-down cranes, inspection trolleys <a href="#">B61D 15/00</a>; general design of track recording vehicles <a href="#">B61K 9/00</a>)</b> | 17/10        | . Connecting-rods for driving wheels; Arrangements of their bearings ( <a href="#">connection-rods or bearings, in general F16C 7/00, B61C 9/04</a> )  |
| 13/02        | . for towing or transporting ships or for like special purposes   | 17/12        | . Control gear; Arrangements for controlling locomotives from remote points in the train or when operating in multiple units (control from points outside the train <a href="#">B61L 3/00</a> ; fluid-actuated telemotors, servomotors <a href="#">F15B</a> ; control devices in general <a href="#">G05</a> ) |
| 13/04        | . for elevated railways with rigid rails ( <a href="#">B61C 13/08</a> takes precedence)   |              |  |
| 13/06        | . for railways with suspended flexible tracks, i.e. rope railways   |              |  |
| 13/08        | . for saddle or like balanced type railways   |              |  |

**Details or accessories not otherwise provided for**

- |              |   |
|--------------|---|
| <b>15/00</b> | <b>Maintaining or augmenting the starting or braking power by auxiliary devices and measures; Preventing wheel slippage; Controlling distribution of tractive effort between driving wheels (propelling locomotives or motor railcars by special means <a href="#">B61C 11/00</a>; driving wheels with non-slipping devices <a href="#">B60B</a>; brakes <a href="#">B61H</a>; wetting or lubricating rails <a href="#">B61K</a>)</b> |
| 15/02        | . by auxiliary driving wheels; by temporary coupling or use of fly wheels or booster engines  |
| 15/04        | . by controlling wheel pressure, e.g. by movable weights or heavy parts or by magnetic devices ( <a href="#">magnetic brakes B61H</a> )   |
| 15/045       | . . {Specially adapted for tunnel systems vehicles, e.g. with pressure increasing arrangements}   |
| 15/06        | . . by displacing fuel, ballast, or the like  |