

# 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 Steam locomotives or railcars (engines [F01](#); characterised by power transmissions [B61C 9/00](#); boilers [F22B](#))
- 1/02 . of articulated construction; with two or more engines (appliances of booster engines [B61C 15/02](#))
- 1/04 . with steam accumulators (steam accumulators [F01K](#))
- 1/06 . Streamlining (of coachwork [B61D](#))
- 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
- 3/00 Electric locomotives or railcars (characterised by power transmission [B61C 9/00](#); electrical features [B60L](#); [H02](#))
- 3/02 . with electric accumulators
- 5/00 Locomotives or motor railcars with IC engines or gas turbines (characterised by power transmission [B61C 9/00](#); engines [F02](#))
- 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
- 7/00 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
- 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)

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| <p>9/38 . Transmission systems in or for locomotives or motor railcars with electric motor propulsion (electrical features <a href="#">B60L</a>)</p> <p>9/40 . . with cranked axles and coupling rods</p> <p>9/42 . . hydraulic</p> <p>9/44 . . with hollow transmission shaft concentric with wheel axis</p> <p>9/46 . . with motors forming parts of wheels</p> <p>9/48 . . with motors supported on vehicle frames and driving axles, e.g. axle or nose suspension</p> <p>9/50 . . . in bogies</p> <p>9/52 . . with transmission shafts at an angle to the driving axles</p> | <p>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>})</p> <p>15/085 . . {by dispersion of a fluid, e.g. containing chemicals}</p> <p>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>)</p> <p>15/102 . . . {with sanding equipment of mechanical or fluid type, e.g. by means of steam}</p> <p>15/105 . . . {with gravity activated sanding equipment}</p> <p>15/107 . . . {with electrically or electromagnetically controlled sanding equipment}</p> <p>15/12 . . by reducing the driving power</p> <p>15/14 . controlling distribution of tractive effort between driving wheels</p> |
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**Locomotives or motor railcars characterised by the type of means applying the tractive effort, or by their application to special railway systems or purposes**

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| <p><b>11/00 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></p> <p>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>)}</p> <p>11/02 . tractive effort applied to cables or chains</p> <p>11/04 . tractive effort applied to racks</p> <p>11/06 . tractive effort applied or supplied by aerodynamic force or fluid reaction, e.g. air-screws and jet or rocket propulsion</p> <p><b>13/00 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></p> <p>13/02 . for towing or transporting ships or for like special purposes</p> <p>13/04 . for elevated railways with rigid rails (<a href="#">B61C 13/08</a> takes precedence)</p> <p>13/06 . for railways with suspended flexible tracks, i.e. rope railways</p> <p>13/08 . for saddle or like balanced type railways</p> | <p><b>17/00 Arrangement or disposition of parts; Details or accessories not otherwise provided for; Use of control gear and control systems</b></p> <p>17/02 . Bunkers; Tanks; Tenders (coachwork <a href="#">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>)</p> <p>17/04 . Arrangement or disposition of driving cabins, footplates or engine rooms; Ventilation thereof (driving cabins and accessories <a href="#">B61D</a>)</p> <p>17/06 . Power storing devices</p> <p>17/08 . Lubrication systems (in general <a href="#">F16N</a>)</p> <p>17/10 . Connecting-rods for driving wheels; Arrangements of their bearings (connection-rods or bearings, in general <a href="#">F16C 7/00</a>, <a href="#">B61C 9/04</a>)</p> <p>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>)</p> |
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**Details or accessories not otherwise provided for**

- 15/00 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 [B61C 11/00](#); driving wheels with non-slipping devices [B60B](#); brakes [B61H](#); wetting or lubricating rails [B61K](#))**
- 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 (magnetic brakes [B61H](#))
- 15/045 . . {Specially adapted for tunnel systems vehicles, e.g. with pressure increasing arrangements}
- 15/06 . . by displacing fuel, ballast, or the like