

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

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| <p>1/00 Steam locomotives or railcars (engines F01; characterised by power transmissions B61C 9/00; boilers F22B)</p> <p>1/02 . of articulated construction; with two or more engines (appliances of booster engines B61C 15/02)</p> <p>1/04 . with steam accumulators (steam accumulators F01K)</p> <p>1/06 . Streamlining (of coachwork B61D)</p> <p>1/08 . Arrangement or disposition of combustion apparatus or accessories therefor</p> <p>1/10 . Arrangement or disposition of steam generators</p> <p>1/12 . Arrangement or disposition of condensers</p> <p>1/14 . Arrangement or disposition of exhaust apparatus</p> <p>3/00 Electric locomotives or railcars (characterised by power transmission B61C 9/00; electrical features B60L; H02)</p> <p>3/02 . with electric accumulators</p> <p>5/00 Locomotives or motor railcars with IC engines or gas turbines (characterised by power transmission B61C 9/00; engines F02)</p> <p>5/02 . Arrangement or disposition of intakes and apparatus for supplying, circulating, and filtering air for combustion and engine-cooling purposes</p> <p>5/04 . Arrangement or disposition of exhaust apparatus</p> <p>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</p> <p>7/02 . Locomotives or motor railcars with pneumatic accumulators</p> <p>7/04 . Locomotives or motor railcars with two or more different kinds or types of engines, e.g. steam and IC engines</p> | <p>8/00 Filling stations for steam- or pneumatic-accumulator locomotives or motor railcars</p> <p>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)</p> <p>9/02 . Transmission systems in or for locomotives or motor railcars with reciprocating piston steam engines</p> <p>9/04 . . consisting of cranked axles and coupling rods</p> <p>9/06 . . having toothed, chain, friction, or belt gearing</p> <p>9/08 . Transmission systems in or for locomotives or motor railcars with IC reciprocating piston engines</p> <p>9/10 . . mechanical (combined with hydraulic gearing B61C 9/14)</p> <p>9/12 . . . with change-speed gearing</p> <p>9/14 . . hydraulic, including combinations with mechanical gearing</p> <p>9/16 . . . using gearing of the hydrostatic type</p> <p>9/18 . . . using gearing of the hydrokinetic type</p> <p>9/20 with mechanical change-speed gearing</p> <p>9/22 . . pneumatic</p> <p>9/24 . . electric (B61C 9/38 takes precedence)</p> <p>9/26 . . with transmission shafts at an angle to the driving axles</p> <p>9/28 . Transmission systems in or for locomotives or motor railcars with rotary prime movers, e.g. turbines</p> <p>9/30 . . mechanical (combined with hydraulic gearing B61C 9/34)</p> <p>9/32 . . . with change-speed gearing</p> <p>9/34 . . hydraulic, including combinations with mechanical gearing</p> <p>9/36 . . electric (B61C 9/38 takes precedence)</p> |
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| <p>9/38 . Transmission systems in or for locomotives or motor railcars with electric motor propulsion (electrical features B60L)</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 B60T 8/00 {; removing undesirable matter from the permanent way of railways E01H 8/00})</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 B60B; combined control of sanding apparatus and brakes B61H)</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>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 B60B)</p> <p>11/005 . {tractive effort applied by a transported road vehicle (railway wagons or vans adapted for carrying vehicles in general B61D 3/18; vehicles for use both on rail and road, e.g. with rail and road wheels on the same axle B60F)}</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>13/00 Locomotives or motor railcars characterised by their application to special systems or purposes (B61C 11/00 takes precedence; self-propelled scaffold cars, break-down cranes, inspection trolleys B61D 15/00; general design of track recording vehicles B61K 9/00)</p> <p>13/02 . for towing or transporting ships or for like special purposes</p> <p>13/04 . for elevated railways with rigid rails (B61C 13/08 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>17/00 Arrangement or disposition of parts; Details or accessories not otherwise provided for; Use of control gear and control systems</p> <p>17/02 . Bunkers; Tanks; Tenders (coachwork B61D); 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 B61K 11/00)</p> <p>17/04 . Arrangement or disposition of driving cabins, footplates or engine rooms; Ventilation thereof (driving cabins and accessories B61D)</p> <p>17/06 . Power storing devices</p> <p>17/08 . Lubrication systems (in general F16N)</p> <p>17/10 . Connecting-rods for driving wheels; Arrangements of their bearings (connection-rods or bearings, in general F16C 7/00, B61C 9/04)</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 B61L 3/00; fluid-actuated telemotors, servomotors F15B; control devices in general G05)</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