

CPC COOPERATIVE PATENT CLASSIFICATION

E FIXED CONSTRUCTIONS

BUILDING

E01 CONSTRUCTION OF ROADS, RAILWAYS, OR BRIDGES (of tunnels [E21D](#))

E01B PERMANENT WAY; PERMANENT-WAY TOOLS; MACHINES FOR MAKING RAILWAYS OF ALL KINDS (derailing or rerailling blocks on track, track brakes or retarders [B61K](#))

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.

Structure of the permanent way for railways or tramways

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| 1/00 | Ballastway; Other means for supporting the sleepers or the track; Drainage of the ballastway (draining by trenches, culverts, or conduits E01F 5/00) | 3/24 | . . Slabs; Blocks; Pot sleepers; Fastening tie-rods to them |
| 1/001 | . {Track with ballast} | 3/26 | . . combined with inserts of wood artificial stone or other material |
| 1/002 | . {Ballastless track, e.g. concrete slab trackway, or with asphalt layers} | 3/28 | . made from concrete or from natural or artificial stone (manufacture B28) |
| 1/004 | . . {with prefabricated elements embedded in fresh concrete or asphalt} | 3/30 | . . Hollow sleepers |
| 1/005 | . . {with sleeper shoes} | 3/32 | . . with armouring or reinforcement (hollow sleepers E01B 3/30) |
| 1/007 | . . {with interlocking means to withstand horizontal forces} | 3/34 | . . . with pre-tensioned armouring or reinforcement (pre-tensioned armouring or reinforcing elements E04C 5/00) |
| 1/008 | . {Drainage of track} | 3/36 | . . Composite sleepers |
| 2/00 | General structure of permanent way (railway networks B61B 1/00; foundations for pavings E01C 3/00; foundations in general E02D) | 3/38 | . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers; Layers of concrete supporting both rails |
| 2/003 | . {Arrangement of tracks on bridges or in tunnels} | 3/40 | . . Slabs; Blocks; Pot sleepers; Fastening tie-rods to them |
| 2/006 | . {Deep foundation of tracks} | 3/42 | . . combined with inserts of wood or other material |
| 3/00 | Transverse or longitudinal sleepers (for switches or crossings E01B 7/22); Other means resting directly on the ballastway for supporting rails | 3/44 | . made from other materials only if the material is essential |
| 3/02 | . made from wood (drying or impregnating B27K) | 3/46 | . made from different materials (E01B 3/26 , E01B 3/42 take precedence) |
| 3/04 | . . Means for preventing cleaving | 3/48 | . Distance keepers or tie-rods for sleepers |
| 3/06 | . . . Anti-cracking dogs | 5/00 | Rails; Guard rails (manufacture of rails B21B); Distance-keeping means for them |
| 3/08 | . . . Straps or bands for hooping or encircling sleepers (apparatus for hooping wooden railway sleepers on the spot E01B 31/28) | 5/02 | . Rails |
| 3/10 | . . Composite sleepers | 5/04 | . . Grooved rails |
| 3/12 | . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers | 5/06 | . . Reversible or invertible rails |
| 3/14 | . . Slabs; Blocks; Fastening tie-rods to them | 5/08 | . . Composite rails; Compound rails with dismountable or non-dismountable parts |
| 3/16 | . made from steel | 5/10 | . . . Composite grooved rails; Inserts for grooved rails |
| 3/18 | . . Composite sleepers | 5/12 | . . Rails with a foot serving as a sleeper |
| 3/20 | . . Sleeper construction for special purposes, e.g. with openings for ballast working (sleepers for shiftable track for heavy loads E01B 23/12) | 5/14 | . . Rails for special parts of the track, e.g. for curves |
| 3/22 | . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers | 5/16 | . Distance keepers |
| | | 5/18 | . Guard rails; Connecting, fastening or adjusting means therefor |
| | | 7/00 | Switches; Crossings (operating mechanisms B61L) |
| | | 7/02 | . Tongues; Associated constructions |

- 7/04 . . Constructions with tongues turning about a vertical pivot at the end
- 7/06 . . Constructions with flexible tongues or flexible fishplates
- 7/08 . . Other constructions of tongues, e.g. tilting about an axis parallel to the rail, movable tongue blocks or rails
- 7/10 . Frogs
- 7/12 . . Fixed frogs made of one part or composite
- 7/14 . . with movable parts
- 7/16 . . Jump-over frogs
- 7/18 . Combinations of switches and crossings
- 7/20 . Safety means for switches, e.g. switch point protectors, auxiliary or guiding rail members
- 7/22 . Special sleepers for switches or crossings; Fastening means therefor
- 7/24 . Heating of switches
- 7/26 . Lubricating of switches ([lubricating of rails B61K 3/00](#))
- 7/28 . Crossings
- 7/30 . . Jump-over crossings
- 9/00 Fastening rails on sleepers, or the like ([fastening rails to bridges E01D 19/12](#))**
- 9/02 . Fastening rails, tie-plates, or chairs directly on sleepers or foundations; Means therefor
- 9/04 . . Fastening on wooden or concrete sleepers or on masonry without clamp members
- 9/06 . . . Railways spikes ([nails in general F16B](#))
- 9/08 . . . Elastic spikes
- 9/10 . . . Screws or bolts for sleepers ([screws or bolts in general F16B](#))
- 9/12 . . . Retaining or locking devices for spikes or screws
- 9/14 . . . Plugs, sleeves, thread linings, or other inserts for holes in sleepers ([inserting plugs or sleeves E01B 31/26](#))
- 9/16 for wooden sleepers
- 9/18 for concrete sleepers
- 9/20 . . . by keys
- 9/22 . . Fastening on steel sleepers without clamp members
- 9/24 . . . by keys
- 9/26 . . . Welded fastenings
- 9/28 . . Fastening on wooden or concrete sleepers or on masonry with clamp members
- 9/30 . . . by resilient steel clips
- 9/303 {the clip being a shaped bar}
- 9/306 {the clip being a shaped plate}
- 9/32 . . Fastening on steel sleepers with clamp members
- 9/34 . . . by resilient steel clips
- 9/36 . . Metal sole-plates for rails which rails are directly fastened to sleepers
- 9/38 . Indirect fastening of rails by using tie-plates or chairs; Fastening of rails on the tie-plates or in the chairs
- 9/40 . . Tie-plates for flat-bottom rails ([manufacture B21](#))
- 9/42 . . . of two or more parts
- 9/44 . . Fastening the rail on the tie-plate
- 9/46 . . . by clamps
- 9/48 by resilient steel clips
- 9/483 {the clip being a shaped bar}
- 9/486 {the clip being a shaped plate}
- 9/50 . . . by keys
- 9/52 by resilient keys
- 9/54 . . Rail chairs
- 9/56 . . . for rails with two or more treads
- 9/58 . . Fastening the rail in the chair
- 9/60 . Rail fastenings making use of clamps or braces supporting the side of the rail
- 9/62 . Rail fastenings incorporating resilient supports
- 9/64 . Rail fastenings gripping or encircling the sleeper
- 9/66 . Rail fastenings allowing the adjustment of the position of the rails, so far as not included in the preceding groups
- 9/68 . Pads or the like, e.g. of wood, rubber, placed under the rail, tie-plate, or chair
- NOTE**
If the subject to be classified has more than one characteristic, classification is made in group [E01B 9/68](#) and indexing codes for the different characteristics are given
- 9/681 . . {characterised by the material}
- 9/683 . . . {layered or composite}
- 9/685 . . {characterised by their shape}
- 9/686 . . . {with textured surface}
- 9/688 . . . {with internal cavities}
- 11/00 Rail joints ([electrical connection of the rail B60M 5/00](#))**
- 11/02 . Dismountable rail joints
- 11/04 . . Flat fishplates
- 11/06 . . . with keys or pins
- 11/08 . . Angle fishplates
- 11/10 . . Fishplates with parts supporting or surrounding the rail foot
- 11/12 . . Fishplates engaging only the rail foot
- 11/14 . . Rail foot flange clips in one piece
- 11/16 . . Fishplates for joining rails of different sections
- 11/18 . . Fishplates for temporarily repairing broken rails
- 11/20 . . with gap-bridging
- 11/22 . . . by parts of the rails
- 11/24 with oblique or overlapping rail ends
- 11/26 with interlocking rail ends
- 11/28 . . . by parts of the joining members
- 11/30 Fishplates with integral tread parts lying in the cross-section of the rail head
- 11/32 . . . by separate parts, Inserts bridging both rail heads
- 11/34 Auxiliary rail beside gap
- 11/36 . . Fastening means for fishplates
- 11/38 . . . Locking arrangements for fastening means ([locking means for nuts or bolts in general F16B](#))
- 11/40 . . Dismountable rail joints combined with welded parts
- 11/42 . Joint constructions for relatively movable rails, e.g. rails on turntables, traversers, or swing bridges
- 11/44 . Non-dismountable rail joints; Welded joints ([welding methods B23K](#))
- 11/46 . . General methods for making gapless tracks
- 11/48 . . Joints made by flame welding
- 11/50 . . Joints made by electric welding
- 11/52 . . Joints made by alumino-thermal welding
- 11/54 . Electrically-insulating rail joints

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| 11/56 | <ul style="list-style-type: none"> Special arrangements for supporting rail ends (foot supports E01B 11/08 - E01B 11/14) | 25/24 | <ul style="list-style-type: none"> Supporting rails; Auxiliary balancing rails; Supports or connections for rails |
| 11/58 | <ul style="list-style-type: none"> Bridge plates | 25/26 | <ul style="list-style-type: none"> Switches; Crossings |
| 11/60 | <ul style="list-style-type: none"> with wedges | 25/28 | <ul style="list-style-type: none"> Rail tracks for guiding vehicles when running on road or similar surface (wheel tracks on roads E01C 9/02) |
| 11/62 | <ul style="list-style-type: none"> Bridge chairs (chairs E01B 9/54 - E01B 9/58) | 25/30 | <ul style="list-style-type: none"> Tracks for magnetic suspension or levitation vehicles |
| 13/00 | Arrangements preventing shifting of the track | 25/305 | <ul style="list-style-type: none"> {Rails or supporting constructions} |
| 13/02 | <ul style="list-style-type: none"> Rail anchors | 25/32 | <ul style="list-style-type: none"> Stators, guide rails or slide rails |
| 15/00 | Guards for preventing a person's foot being trapped in grooved rails | 25/34 | <ul style="list-style-type: none"> Switches; Frogs; Crossings |
| 17/00 | Cattle guards connected to the permanent way (grids in general for preventing cattle from straying A01K 3/00) | 26/00 | Tracks or track components not covered by any one of the preceding groups |
| 19/00 | Protection of permanent way against development of dust or against the effect of wind, sun, frost, or corrosion; Means to reduce development of noise (snow fences E01F 7/02, snow-ploughs E01H 8/02, watering E01H 11/00) | 26/005 | <ul style="list-style-type: none"> {Means for fixing posts, barriers, fences or the like to rails} |
| 19/003 | <ul style="list-style-type: none"> {Means for reducing the development or propagation of noise} | <u>Making, maintaining, renewing, or taking-up the ballastway or the track; Tools or machines specially designed therefor (derailing or rerailling of machines B61K 5/00; removal of foreign matter from the permanent way, vegetation control applying liquids E01H)</u> | |
| 19/006 | <ul style="list-style-type: none"> {Means for protecting the underground against spillage} | 27/00 | Placing, renewing, working, cleaning, or taking-up the ballast, with or without concurrent work on the track; Devices therefor; Packing sleepers |
| 21/00 | Track superstructure adapted for tramways in paved streets (paving E01C 9/04, E01C 9/06) | 27/02 | <ul style="list-style-type: none"> Placing the ballast; Making ballastway; Redistributing ballasting material; Machines or devices therefor; Levelling means |
| 21/02 | <ul style="list-style-type: none"> Special supporting means; Draining of rails | 27/021 | <ul style="list-style-type: none"> {by devices moving underneath the track, e.g. ballast sleighs} |
| 21/04 | <ul style="list-style-type: none"> Special fastenings, joint constructions, or tie-rods | 27/022 | <ul style="list-style-type: none"> {by devices moving on the track with or without spreading or levelling} |
| 23/00 | Easily dismountable or movable tracks, e.g. temporary railways; Details specially adapted therefor | 27/023 | <ul style="list-style-type: none"> {Spreading, levelling or redistributing ballast already placed} |
| 23/02 | <ul style="list-style-type: none"> Tracks for light railways, e.g. for field, colliery, or mine use | 27/025 | <ul style="list-style-type: none"> {by means of non-driven tools} |
| 23/04 | <ul style="list-style-type: none"> Fastening or joining means | 27/026 | <ul style="list-style-type: none"> {by means of driven tools, e.g. rotating brooms or digging devices} |
| 23/06 | <ul style="list-style-type: none"> Switches (turntables B60S, B61J); Portable switches; Turnouts | 27/027 | <ul style="list-style-type: none"> {Loosening ballasting material} |
| 23/08 | <ul style="list-style-type: none"> Temporary tracks for use while repairing tramways | 27/028 | <ul style="list-style-type: none"> {Compacting ballasting material; Performing ballast cores or seats for sleepers} |
| 23/10 | <ul style="list-style-type: none"> Shiftable tracks for heavy loads, e.g. carrying excavators | 27/04 | <ul style="list-style-type: none"> Removing the ballast; Machines therefor, whether or not additionally adapted for taking-up ballast (E01B 27/06, E01B 27/12 takes precedence; redistributing ballasting material E01B 27/02) |
| 23/12 | <ul style="list-style-type: none"> Sleepers | 27/06 | <ul style="list-style-type: none"> Renewing or cleaning the ballast in situ, with or without concurrent work on the track |
| 23/14 | <ul style="list-style-type: none"> Fastening or joining means (fastening of rails by keys E01B 9/24) | 27/08 | <ul style="list-style-type: none"> the track having been taken-up (E01B 27/11 takes precedence) |
| 23/16 | <ul style="list-style-type: none"> Switches | 27/10 | <ul style="list-style-type: none"> without taking-up track (E01B 27/11 takes precedence) |
| 25/00 | Tracks for special kinds of railways (systems B61B; wheel tracks on roads E01C 9/02) | 27/102 | <ul style="list-style-type: none"> {Removing unwanted material without removing the ballast} |
| 25/02 | <ul style="list-style-type: none"> Tracks for rack railways | 27/105 | <ul style="list-style-type: none"> {the track having been lifted} |
| 25/04 | <ul style="list-style-type: none"> Rack rails; Supports or connections for rack rails | 27/107 | <ul style="list-style-type: none"> {along between the tracks only} |
| 25/06 | <ul style="list-style-type: none"> Switches; Frogs; Crossings | 27/11 | <ul style="list-style-type: none"> combined with concurrent renewal of track components |
| 25/08 | <ul style="list-style-type: none"> Tracks for mono-rails with centre of gravity of vehicle above the load-bearing rail | 27/12 | <ul style="list-style-type: none"> Packing sleepers, with or without concurrent work on the track; Compacting track-carrying ballast |
| 25/10 | <ul style="list-style-type: none"> Mono-rails; Auxiliary balancing rails; Supports or connections for rails | 27/13 | <ul style="list-style-type: none"> Packing sleepers, with or without concurrent work on the track (preforming ballast cores or seats for sleepers E01B 27/02) |
| 25/12 | <ul style="list-style-type: none"> Switches; Crossings | 27/14 | <ul style="list-style-type: none"> Manual tools or hand-held power tools therefor |
| 25/14 | <ul style="list-style-type: none"> Tracks for cable-drawn railway vehicles | 27/16 | <ul style="list-style-type: none"> Sleeper-tamping machines |
| 25/15 | <ul style="list-style-type: none"> Switches; Crossings | 27/17 | <ul style="list-style-type: none"> combined with means for lifting, levelling or slewing the track |
| 25/16 | <ul style="list-style-type: none"> Tracks for aerial rope railways with a stationary rope | | |
| 25/18 | <ul style="list-style-type: none"> Ropes; Supports, fastening or straining means for ropes (ropes in general D07B; masts E04H 12/00; ropes sockets F16G) | | |
| 25/20 | <ul style="list-style-type: none"> Switches; Crossings | | |
| 25/22 | <ul style="list-style-type: none"> Tracks for railways with the vehicle suspended from rigid supporting rails | | |

- 27/18 by introducing additional fresh material under the sleepers, e.g. by the measured-shovel method, by the blowing method
- 27/20 . . Compacting the material of the track-carrying ballastway, e.g. by vibrating the track, by surface vibrators (of trackless ballastway [E01B 27/02](#); for packing sleepers [E01B 27/12](#))
- 29/00 Laying, rebuilding, or taking-up tracks; Tools or machines therefor ([E01B 27/00](#), [E01B 31/00](#) take precedence)**
- 29/005 . {Making of concrete parts of the track [in situ](#)}
- 29/02 . Transporting, laying, removing, or renewing lengths of assembled track, assembled switches, or assembled crossings ([E01B 29/04](#) takes precedence)
- 29/04 . Lifting or levelling of tracks (lifting devices in general [B66F](#))
- 29/05 . Transporting, laying, removing, or renewing both rails and sleepers (as assembled units [E01B 29/02](#))
- 29/06 . Transporting, laying, removing or renewing sleepers ([E01B 29/05](#) takes precedence; carrying devices [B65G 7/12](#))
- 29/09 . . under, or from under, installed rails
- 29/10 . . . for inserting or removing sleepers
- 29/11 Removal involving destruction of the sleeper, e.g. the sectioning thereof
- 29/13 . . . for moving sleepers in a direction parallel to the rails, e.g. for spacing or aligning them ([E01B 29/10](#) takes precedence)
- 29/14 . . . for lifting sleepers up to the rails (lifting devices in general [B66F](#))
- 29/16 . Transporting, laying, removing, or replacing rails; Moving rails placed on sleepers in the track ([E01B 29/05](#) takes precedence; moving or tilting heavy loads in general [B65G 7/00](#))
- 29/17 . . Lengths of rails assembled into strings, e.g. welded together
- 29/20 . . Moving rails placed on installed sleepers in the plane track
- 29/22 . . Raising rails from sleepers, e.g. for inserting sole-plates (lifting devices in general [B66F](#))
- 29/24 . Fixing or removing detachable fastening means or accessories thereof; Pre-assembling track components by detachable fastening means ([E01B 29/02](#), [E01B 31/26](#) take precedence)
- 29/26 . . the fastening means being spikes ([E01B 29/16](#) takes precedence; hand-held tools for nail or staple driving or extracting [B25C](#))
- 29/28 . . the fastening means being of screw-and-nut type (portable apparatus for fixing or removing screws or the like [B25B](#)); Apparatus therefor, adapted to additionally drilling holes
- 29/29 . . . for horizontally-arranged fastening elements, e.g. fish-bolts
- 29/32 . Installing or removing track components, not covered by the preceding groups, e.g. sole-plates, rail anchors ([E01B 31/26](#) takes precedence)
- 29/40 . Means or arrangements for temporarily supporting laid tracks, or rails or sleepers in the track (temporary fishplates [E01B 11/18](#))
- 29/42 . Undetachably joining or fastening track components in or on the track, e.g. by welding, by gluing; Pre-assembling track components by gluing; Sealing joints with filling components ([E01B 31/26](#) takes precedence; independent heating means [E01B 31/18](#); welding in general [B23K](#); gluing metal parts in general [F16B 11/00](#))
- 29/44 . . Methods for effecting joining of rails in the track, e.g. taking account of ambient temperature
- 29/46 . . Devices for holding, positioning, or urging together the rail ends (adjusting the joint by moving rails [E01B 29/20](#))
- 31/00 Working rails, sleepers, baseplates, or the like, in or on the line; Machines, tools, or auxiliary devices specially designed therefor (characterised by features independent of use on assembled track [B21](#), [B23](#) - [B25](#), [B27](#))**
- 31/02 . Working rail or other metal track components on the spot
- 31/04 . . Sectioning or slitting, e.g. by sawing, shearing, flame-cutting
- 31/06 . . Making holes, e.g. by drilling, punching, flame-cutting
- 31/08 . . Bending, e.g. for straightening rails or rail joints (for aligning rail ends to be welded [E01B 29/46](#))
- 31/12 . . Removing metal from rails, rail joints, or baseplates, e.g. for deburring welds, reconditioning worn rails
- 31/13 . . . by milling
- 31/15 . . . by planing or filing
- 31/17 . . . by grinding
- 31/175 {using grinding belts}
- 31/18 . . Reconditioning or repairing worn or damaged parts on the spot, e.g. applying inlays, building-up rails by welding ([E01B 31/04](#) - [E01B 31/12](#) take precedence); Heating or cooling of parts on the spot, e.g. for reducing joint gaps, for hardening rails
- 31/20 . Working or treating non-metal sleepers in or on the line, e.g. marking, creosoting (working metal sleepers [E01B 31/02](#))
- 31/22 . . Cutting or grinding wooden sleepers, e.g. for forming rail seats ([E01B 31/24](#) takes precedence)
- 31/23 . . . Sectioning (combined with removal of segments from track [E01B 29/11](#))
- 31/24 . . Forming, treating, reconditioning, or cleaning holes in sleepers; Drilling-templates ([E01B 29/28](#), [E01B 31/26](#) take precedence)
- 31/26 . . Inserting or removing inserts or fillings for holes in sleepers, e.g. plugs, sleeves
- 31/28 . . Applying or removing anti-splitting or like reinforcing means ([E01B 31/26](#) takes precedence; straps or bands therefor [E01B 3/08](#))
- 33/00 Machines or devices for shifting tracks, with or without lifting, e.g. for aligning track, for shifting excavator track (combined with sleeper packing machines [E01B 27/17](#))**
- 33/02 . for slewing, i.e. transversely shifting, in steps
- 33/04 . . Manual tools; Devices not mounted on vehicles
- 33/06 . for slewing in a continuous operation, e.g. for tracks which carry excavators
- 33/08 . . Boom track-slewing machines
- 33/10 . . Bridge track-slewing machines

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| 33/12 | . . Combined boom and bridge track-slewing machines | 2203/021 | . . Blowing |
| 33/18 | . . Details not peculiar to a particular type of machine | 2203/022 | . . Horizontal chain |
| 33/21 | . . . Arrangement or construction of rollers moving the rails | 2203/024 | . . Inclined chain |
| | | 2203/025 | . . Suction |
| | | 2203/027 | . . Sweeping |
| | | 2203/028 | . . Alternative ways |
| 35/00 | Applications of measuring apparatus or devices for track-building purposes (apparatus on locomotives or cars to indicate or record bad track sections B61K 9/00; measuring angles, linear dimensions, or irregularities in general G01B, G01C) | 2203/03 | . Displacing or storing ballast |
| 35/02 | . for spacing, for cross levelling; for laying-out curves | 2203/032 | . . with special use or configuration of conveyor belts |
| 35/04 | . . Wheeled apparatus | 2203/034 | . . using storing containers |
| 35/06 | . for measuring irregularities in longitudinal direction | 2203/036 | . . . fixed to vehicle |
| 35/08 | . . for levelling | 2203/038 | . . . detachable from the vehicle |
| 35/10 | . . for aligning | 2203/04 | . Cleaning or reconditioning ballast or ground beneath |
| 35/12 | . for measuring movement of the track or of the components thereof under rolling loads, e.g. depression of sleepers, increase of gauge | 2203/042 | . . <u>in situ</u> , e.g. vacuum-cleaners |
| | | 2203/045 | . . the ballast having been taken up |
| | | 2203/047 | . . Adding material, e.g. tar, glue, protective layers |
| | | 2203/06 | . Placing ballast |
| | | 2203/062 | . . New ballast |
| | | 2203/065 | . . Re-use of ballast |
| | | 2203/067 | . . Special methods for posing or quantifying ballast |
| 37/00 | Making, maintaining, renewing, or taking-up the ballastway or the track, not provided for in a single one of groups E01B 27/00 - E01B 35/00 | 2203/08 | . Levelling ballast or ground beneath |
| | | 2203/083 | . . Ploughs |
| | | 2203/086 | . . Rotating brooms |
| | | 2203/10 | . Track-lifting or-lining devices or methods |
| | | 2203/12 | . Tamping devices |
| | | 2203/122 | . . for straight track |
| | | 2203/125 | . . adapted for switches or crossings |
| | | 2203/127 | . . vibrating the track surface |
| | | 2203/14 | . Way of locomotion or support |
| | | 2203/141 | . . on the track to be treated |
| | | 2203/143 | . . on a side-track |
| | | 2203/145 | . . on the ballast |
| | | 2203/146 | . . using other means than driven wheels as propulsion means |
| | | 2203/148 | . . having wheelsets that can be displaced horizontally or vertically |
| | | 2203/15 | . Reducing impact of devices on environment |
| | | 2203/16 | . Guiding or measuring means, e.g. for alignment, canting, stepwise propagation |
| | | 2203/17 | . continually advancing |
| | | 2204/00 | Characteristics of the track and its foundations |
| | | 2204/01 | . Elastic layers other than rail-pads, e.g. sleeper-shoes, bituconcrete |
| | | 2204/02 | . Ballast bags |
| | | 2204/03 | . Injecting, mixing or spraying additives into or onto ballast or underground |
| | | 2204/04 | . Direct mechanical or chemical fixing of sleepers onto underground |
| | | 2204/05 | . Use of geotextiles |
| | | 2204/06 | . Height or lateral adjustment means or positioning means for slabs, sleepers or rails |
| | | 2204/07 | . Drainage |
| | | 2204/08 | . Deep or vertical foundation |
| | | 2204/09 | . Ballastless systems |
| | | 2204/10 | . Making longitudinal or transverse sleepers or slabs <u>in situ</u> or embedding them |
| | | 2204/11 | . Embedded tracks, using prefab elements or injecting or pouring a curable material |
| | | 2204/12 | . Floating rails or sleepers |
| | | 2204/13 | . Dowels for slabs, sleepers or rail-fixings |
| | | 2204/14 | . Vegetation on or around railway-tracks |
| 2201/00 | Fastening or restraining methods | | |
| 2201/02 | . by wedging action | | |
| 2201/04 | . by bolting, nailing or the like | | |
| 2201/06 | . by eccentric or levering action | | |
| 2201/08 | . by plastic or elastic deformation of fastener | | |
| 2201/10 | . in alternative ways, e.g. glueing, welding, form-fits | | |
| <u>Making, maintaining, renewing, or taking-up the ballastway or the track; Tools or machines specially designed therefor (derailing or rerailing of machines B61K 5/00; removal of foreign matter from the permanent way, vegetation control applying liquids E01H)</u> | | | |
| 2202/00 | Characteristics of moving parts of rail systems, e.g. switches, special frogs, tongues | | |
| 2202/02 | . Nature of the movement | | |
| 2202/021 | . . Turning or tilting or elastically bending | | |
| 2202/022 | . . . about horizontal axis | | |
| 2202/024 | . . . about vertical axis | | |
| 2202/025 | . . Pure translation | | |
| 2202/027 | . . Including a component perpendicular to the plane of the rails | | |
| 2202/028 | . . . Movement along an inclined surface | | |
| 2202/04 | . Nature of the support or bearing | | |
| 2202/042 | . . Sliding | | |
| 2202/044 | . . Rolling | | |
| 2202/046 | . . . with rolls on fixed part | | |
| 2202/048 | . . . with rolls on moving part | | |
| 2202/06 | . . Use of friction-reducing surfaces | | |
| 2202/08 | . Locking devices or mechanisms for inhibiting movement | | |
| 2203/00 | Devices for working the railway-superstructure | | |
| 2203/01 | . with track | | |
| 2203/012 | . . present, i.e. in its normal position | | |
| 2203/015 | . . present but lifted | | |
| 2203/017 | . . removed or not present yet | | |
| 2203/02 | . Removing or re-contouring ballast | | |

Making, maintaining, renewing, or taking-up the ballastway or the track; Tools or machines specially designed therefor

E01B

2204/15 . Layout or geometry of the track

2204/16 . Specific granulometry of the ballast

2205/00 Electrical insulation of railway track parts