

## SECTION 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 rerailing blocks on track, track brakes or retarders B61K; removal of foreign matter from the permanent way, vegetation control, applying liquids E01H)

##### Subclass index

##### STRUCTURE OF THE PERMANENT WAY

General structure..... 2/00  
Ballastway, transverse or longitudinal sleepers ..... 1/00, 3/00  
Rails or switches for general application.....5/00 to 13/00, 26/00

Rails or switches for particular application ..... 21/00 to 26/00  
Protective arrangements ..... 15/00 to 19/00

MAKING, MAINTAINING, RENEWING, OR TAKING-UP THE BALLASTWAY OR THE TRACK..... 27/00 to 37/00

##### Structure of the permanent way for railways or tramways

**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)

**2/00 General structure of permanent way** (railway networks B61B 1/00; foundations for pavings E01C 3/00; foundations in general E02D)

**3/00 Transverse or longitudinal sleepers** (for switches or crossings E01B 7/22); **Other means resting directly on the ballastway for supporting rails**

3/02 . made from wood (drying or impregnating B27K)

3/04 . . Means for preventing cleaving

3/06 . . . Anti-cracking dogs

3/08 . . . Straps or bands for hooping or encircling sleepers (apparatus for hooping wooden railway sleepers on the spot E01B 31/28)

3/10 . . Composite sleepers

3/12 . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers

3/14 . . Slabs; Blocks; Fastening tie-rods to them

3/16 . made from steel

3/18 . . Composite sleepers

3/20 . . Sleeper construction for special purposes, e.g. with openings for ballast working (sleepers for shiftable track for heavy loads E01B 23/12)

3/22 . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers

3/24 . . Slabs; Blocks; Pot sleepers; Fastening tie-rods to them

3/26 . . combined with inserts of wood, artificial stone, or other material

3/28 . made from concrete or from natural or artificial stone (manufacture B28)

3/30 . . Hollow sleepers

3/32 . . with armouring or reinforcement (hollow sleepers E01B 3/30)

3/34 . . . with pre-tensioned armouring or reinforcement (pre-tensioned armouring or reinforcing elements E04C 5/00)

3/36 . . Composite sleepers

3/38 . . Longitudinal sleepers; Longitudinal sleepers integral or combined with tie-rods; Combined longitudinal and transverse sleepers; Layers of concrete supporting both rails

3/40 . . Slabs; Blocks; Pot sleepers; Fastening tie-rods to them

3/42 . . combined with inserts of wood or other material

3/44 . made from other materials only if the material is essential

3/46 . made from different materials (E01B 3/26, E01B 3/42 take precedence)

3/48 . Distance keepers or tie-rods for sleepers

**5/00 Rails; Guard rails** (manufacture of rails B21B); **Distance-keeping means for them**

5/02 . Rails

5/04 . . Grooved rails

5/06 . . Reversible or invertible rails

5/08 . . Composite rails; Compound rails with dismountable or non-dismountable parts

5/10 . . . Composite grooved rails; Inserts for grooved rails

5/12 . . Rails with a foot serving as a sleeper

5/14 . . Rails for special parts of the track, e.g. for curves

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	9/66	. Rail fastenings allowing the adjustment of the position of the rails, so far as not covered by the preceding groups
7/12	. . Fixed frogs made of one part or composite	9/68	. Pads or the like, e.g. of wood, rubber, placed under the rail, tie-plate, or chair
7/14	. . with movable parts	11/00	<b>Rail joints</b> (electrical connection of rails B60M 5/00)
7/16	. . Jump-over frogs	11/02	. Dismountable rail joints
7/18	. Combinations of switches and crossings	11/04	. . Flat fishplates
7/20	. Safety means for switches, e.g. switch point protectors, auxiliary or guiding rail members	11/06	. . . with keys or pins
7/22	. Special sleepers for switches or crossings; Fastening means therefor	11/08	. . Angle fishplates
7/24	. Heating of switches	11/10	. . Fishplates with parts supporting or surrounding the rail foot
7/26	. Lubricating of switches (lubricating of rails B61K 3/00)	11/12	. . Fishplates engaging only the rail foot
7/28	. Crossings	11/14	. . Rail foot flange clips in one piece
7/30	. . Jump-over crossings	11/16	. . Fishplates for joining rails of different sections
9/00	<b>Fastening rails on sleepers, or the like</b> (fastening rails to bridges E01D 19/12)	11/18	. . Fishplates for temporarily repairing broken rails
9/02	. Fastening rails, tie-plates, or chairs directly on sleepers or foundations; Means therefor	11/20	. . with gap-bridging
9/04	. . Fastening on wooden or concrete sleepers or on masonry without clamp members	11/22	. . . by parts of the rails
9/06	. . . Railways spikes (nails in general F16B)	11/24	. . . . with oblique or overlapping rail ends
9/08	. . . . Elastic spikes	11/26	. . . . with interlocking rail ends
9/10	. . . Screws or bolts for sleepers (screws or bolts in general F16B)	11/28	. . . by parts of the joining members
9/12	. . . Retaining or locking devices for spikes or screws	11/30	. . . Fishplates with integral tread parts lying in the cross-section of the rail head
9/14	. . . Plugs, sleeves, thread linings, or other inserts for holes in sleepers (inserting plugs or sleeves E01B 31/26)	11/32	. . . by separate parts; Inserts bridging both rail heads
9/16	. . . . for wooden sleepers	11/34	. . . . Auxiliary rail beside the gap
9/18	. . . . for concrete sleepers	11/36	. . Fastening means for fishplates
9/20	. . . by keys	11/38	. . . Locking arrangements for fastening means (locking means for nuts or bolts in general F16B)
9/22	. . Fastening on steel sleepers without clamp members	11/40	. . Dismountable rail joints combined with welded parts
9/24	. . . by keys	11/42	. Joint constructions for relatively movable rails, e.g. rails on turntables, traversers, or swing bridges
9/26	. . . Welded fastenings	11/44	. Non-dismountable rail joints; Welded joints (welding methods B23K)
9/28	. . Fastening on wooden or concrete sleepers or on masonry with clamp members	11/46	. . General methods for making gapless tracks
9/30	. . . by resilient steel clips	11/48	. . Joints made by flame welding
9/32	. . Fastening on steel sleepers with clamp members	11/50	. . Joints made by electric welding
9/34	. . . by resilient steel clips	11/52	. . Joints made by alumino-thermal welding
9/36	. . Metal sole-plates for rails which rails are directly fastened to sleepers	11/54	. Electrically-insulating rail joints
9/38	. Indirect fastening of rails by using tie-plates or chairs; Fastening of rails on the tie-plates or in the chairs	11/56	. Special arrangements for supporting rail ends (foot supports E01B 11/08 to E01B 11/14)
9/40	. . Tie-plates for flat-bottom rails (manufacture thereof B21)	11/58	. . Bridge plates
9/42	. . . of two or more parts	11/60	. . . with wedges
9/44	. . Fastening the rail on the tie-plate	11/62	. . Bridge chairs (chairs E01B 9/54 to E01B 9/58)
9/46	. . . by clamps	13/00	<b>Arrangements preventing shifting of the track</b>
9/48	. . . . by resilient steel clips	13/02	. Rail anchors
9/50	. . . by keys	15/00	<b>Guards for preventing a person's foot being trapped in grooved rails</b>
9/52	. . . . by resilient keys	17/00	<b>Cattle guards connected to the permanent way</b> (grids in general for preventing cattle from straying A01K 3/00)
9/54	. . Rail chairs	19/00	<b>Protection of permanent way against development of dust or against the effect of wind, sun, frost, or corrosion; Means to reduce development of noise</b> (snow fences E01F 7/02; snow-ploughs E01H 8/02; watering E01H 11/00)
9/56	. . . for rails with two or more treads	21/00	<b>Track superstructure specially adapted for tramways in paved streets</b> (paving E01C 9/04, E01C 9/06)
9/58	. . Fastening the rail in the chair	21/02	. Special supporting means; Draining of rails
9/60	. Rail fastenings making use of clamps or braces supporting the side or head of the rail	21/04	. Special fastenings, joint constructions, or tie-rods
9/62	. Rail fastenings incorporating resilient supports		
9/64	. Rail fastenings gripping or encircling the sleeper		

**23/00 Easily dismountable or movable tracks, e.g. temporary railways; Details specially adapted therefor**

- 23/02 . Tracks for light railways, e.g. for field, colliery, or mine use
- 23/04 . . Fastening or joining means
- 23/06 . . Switches (turntables B60S, B61J); Portable switches; Turnouts
- 23/08 . Temporary tracks for use while repairing tramways
- 23/10 . Shiftable tracks for heavy loads, e.g. carrying excavators
- 23/12 . . Sleepers
- 23/14 . . Fastening or joining means (fastening of rails by keys E01B 9/24)
- 23/16 . . Switches

**25/00 Tracks for special kinds of railways (systems B61B; wheel tracks on roads E01C 9/02)**

**Note**

In this group, the following term is used with the meaning indicated:

- “track” includes non-load-carrying guide rails.

- 25/02 . Tracks for rack railways
- 25/04 . . Rack rails; Supports or connections for rack rails
- 25/06 . . Switches; Frogs; Crossings
- 25/08 . Tracks for mono-rails with centre of gravity of vehicle above the load-bearing rail (E01B 25/30 takes precedence) [1,7]
- 25/10 . . Mono-rails; Auxiliary balancing rails; Supports or connections for rails
- 25/12 . . Switches; Crossings
- 25/14 . Tracks for cable-drawn railway vehicles
- 25/15 . . Switches; Crossings
- 25/16 . Tracks for aerial rope railways with a stationary rope
- 25/18 . . Ropes; Supports, fastening or straining means for ropes (ropes in general D07B; masts E04H 12/00; rope sockets F16G)
- 25/20 . . Switches; Crossings
- 25/22 . Tracks for railways with the vehicle suspended from rigid supporting rails
- 25/24 . . Supporting rails; Auxiliary balancing rails; Supports or connections for rails
- 25/26 . . Switches; Crossings
- 25/28 . Rail tracks for guiding vehicles when running on road or similar surface (wheel tracks on roads E01C 9/02)
- 25/30 . Tracks for magnetic suspension or levitation vehicles [7]
- 25/32 . . Stators, guide rails or slide rails [7]
- 25/34 . . Switches; Frogs; Crossings [7]

**26/00 Tracks or track components not covered by any one of main groups E01B 1/00 to E01B 25/00**

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

**27/00 Placing, renewing, working, cleaning, or taking-up the ballast, with or without concurrent work on the track; Devices therefor; Packing sleepers**

- 27/02 . Placing the ballast; Making the ballastway; Redistributing ballasting material; Machines or devices therefor; Levelling means

- 27/04 . Removing the ballast; Machines therefor, whether or not additionally adapted for taking-up ballast (E01B 27/06, E01B 27/12 take precedence; redistributing ballasting material E01B 27/02)
- 27/06 . Renewing or cleaning the ballast *in situ*, with or without concurrent work on the track
- 27/08 . . the track having been taken-up (E01B 27/11 takes precedence)
- 27/10 . . without taking-up the track (E01B 27/11 takes precedence)
- 27/11 . . combined with concurrent renewal of track components
- 27/12 . Packing sleepers, with or without concurrent work on the track; Compacting track-carrying ballast
- 27/13 . . Packing sleepers, with or without concurrent work on the track (preforming ballast cores or seats for sleepers E01B 27/02)
- 27/14 . . . Manual tools or hand-held power tools therefor
- 27/16 . . . Machines therefor, e.g. so-called sleeper-tamping machines
- 27/17 . . . . combined with means for lifting, levelling, or slewing the track
- 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)**

- 29/02 . 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 of the 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 to 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
- 31/18 . . Reconditioning or repairing worn or damaged parts on the spot, e.g. applying inlays, building-up rails by welding (E01B 31/04 to 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
- 33/12 . . Combined boom and bridge track-slewing machines
- 33/18 . . Details not peculiar to a particular type of machine
- 33/21 . . . Arrangement or construction of rollers moving the rails
- 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)
- 35/02 . for spacing; for cross levelling; for laying-out curves
- 35/04 . . Wheeled apparatus
- 35/06 . for measuring irregularities in longitudinal direction
- 35/08 . . for levelling
- 35/10 . . for aligning
- 35/12 . for measuring movement of the track or of components thereof under rolling loads, e.g. depression of sleepers, increase of gauge
- 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 to E01B 35/00**

**E01C CONSTRUCTION OF, OR SURFACES FOR, ROADS, SPORTS GROUNDS, OR THE LIKE; MACHINES OR AUXILIARY TOOLS FOR CONSTRUCTION OR REPAIR** (forming road or like surfaces by compacting or grading snow or ice E01H)

**Subclass index**

DESIGN; FOUNDATIONS.....	1/00; 3/00, 13/00	Special paving.....	9/00, 13/00, 15/00
PAVING FOR ROADS, PLAYGROUNDS, OR THE LIKE		Details .....	11/00, 17/00
Paving in general .....	5/00, 7/00	CONSTRUCTION OR REPAIR OF ROADS, PLAYGROUNDS, OR THE LIKE.....	21/00, 19/00, 23/00

- 1/00 Design or layout of roads, e.g. for noise abatement, for gas absorption** (design or layout of sports grounds A63C 19/00; design or layout of airfields B64F)
- 1/02 . Crossings, junctions, or interconnections between roads on the same level
- 1/04 . Road crossings on different levels; Interconnections between roads on different levels

### **Structure of roads, playgrounds, sports grounds, airfields**

- 3/00 Foundations for pavings** (specially adapted for playgrounds or sports grounds E01C 13/02; foundations in general E02D)
- 3/02 . Concrete base for bituminous paving
- 3/04 . Foundations produced by soil stabilisation
- 3/06 . Methods or arrangements for protecting foundations from destructive influences of moisture, frost or vibration

- 5/00 Pavings made of prefabricated single units** (specially adapted for playgrounds or sports grounds E01C 13/04, for footpaths, sidewalks or cycle tracks E01C 15/00; making artificial stones C04B; building stones E04C; flooring E04F)

- 5/02 . made of natural stones, e.g. sett stones
- 5/04 . made of bricks
- 5/06 . made of units with cement or like binders
- 5/08 . . Reinforced units
- 5/10 . . . Prestressed reinforced units
- 5/12 . made of units with bituminous binders
- 5/14 . made of wooden units
- 5/16 . made of metallic units (steel gratings E01C 9/10)
- 5/18 . made of rubber units
- 5/20 . made of units of plastics (E01C 5/18 takes precedence)
- 5/22 . made of units composed of a mixture of materials covered by two or more of groups E01C 5/02 to E01C 5/20

- 7/00 Coherent pavings made in situ** (specially adapted for playgrounds or sports grounds E01C 13/06, for footpaths, sidewalks or cycle tracks E01C 15/00)

- 7/02 . made of road-metal without binders
- 7/04 . . of broken stones, gravel, or like materials
- 7/06 . . by melting, burning, or vitrifying road-metal in situ
- 7/08 . made of road-metal and binders
- 7/10 . . of road-metal and cement or like binders (cement or like binders, composition of mortars C04B)
- 7/12 . . . Mortar-bound paving
- 7/14 . . . Concrete paving
- 7/16 . . . . Prestressed concrete paving
- 7/18 . . of road-metal and bituminous binders
- 7/20 . . . Binder incorporated in cold state, e.g. natural asphalt
- 7/22 . . . Binder incorporated in hot state, e.g. heated bitumen
- 7/24 . . . Binder incorporated as an emulsion or solution (making dispersions or emulsions for road building C04B)
- 7/26 . . . mixed with other materials, e.g. cement, rubber, leather, fibre
- 7/30 . . of road-metal and other binders, e.g. synthetic material
- 7/32 . . of courses of different kind made in situ

- 7/34 . . . made of several courses which are not bound to each other
- 7/35 . . Topping or surface dressings; Methods of mixing, impregnating, or spreading them
- 7/36 . by subjecting soil to stabilisation

- 9/00 Special pavings** (specially adapted for playgrounds or sports grounds E01C 13/00, for footpaths, sidewalks or cycle tracks E01C 15/00); **Pavings for special parts of roads or airfields** (pavement lights E01C 17/00; manholes or like covers or frames E02D 29/14)

- 9/02 . Wheel tracks (rail tracks for guiding vehicles E01B 25/28)
- 9/04 . Pavings for railroad level-crossings
- 9/06 . Pavings adjacent tramways rails
- 9/08 . Temporary pavings (steel gratings E01C 9/10)
- 9/10 . Steel gratings (gully gratings E03F 5/06; as building elements in general E04C)

- 11/00 Details of pavings**

- 11/02 . Arrangement or construction of joints; Methods of making joints; Packing for joints (sealing joints not restricted to road or airfield paving E04B 1/68)
- 11/04 . . for cement concrete paving
- 11/06 . . . Methods of making joints
- 11/08 . . . Packing of metal
- 11/10 . . . Packing of plastic or elastic materials
- 11/12 . . . Packing of metal and plastic or elastic materials
- 11/14 . . . Dowel assembly
- 11/16 . Reinforcements (for building in general E04C)
- 11/18 . . for cement concrete pavings
- 11/20 . . . for prestressed concrete pavings
- 11/22 . Gutters; Kerbs (kerbs specially adapted for informing road users E01F 9/053)
- 11/24 . Methods or arrangements for preventing slipperiness or protecting against influences of the weather
- 11/26 . . Permanently-installed heating or blowing devices

- 13/00 Pavings or foundations specially adapted for playgrounds or sports grounds** (general layout A63C 19/00)

- 13/02 . Foundations, e.g. with drainage or heating arrangements [6]
- 13/04 . Pavings made of prefabricated single units (E01C 13/08, E01C 13/10 take precedence) [6]
- 13/06 . Pavings made in situ (E01C 13/08, E01C 13/10 take precedence) [6]
- 13/08 . Surfaces simulating grass [6]
- 13/10 . for artificial surfaces for outdoor or indoor practice of snow or ice sports (E01C 13/08 takes precedence; production of snow or ice for winter sports or similar recreational purposes F25C 3/00) [6]
- 13/12 . . for snow sports [6]

- 15/00 Pavings specially adapted for footpaths, sidewalks, or cycle tracks**

- 17/00 Pavement lights, i.e. translucent constructions forming part of the surface** (blocks specially designed for marking roads E01F 9/04)

**Machines, tools or auxiliary devices for constructing or repairing the surfacing of roads or like structures**

- 19/00** **Machines, tools, or auxiliary devices for preparing or distributing paving materials, for working the placed materials, or for forming, consolidating, or finishing the paving** (surface stabilisation E01C 21/00; apparatus specially adapted for reconditioning or repairing paving E01C 23/00)
- 19/02 . for preparing the materials
- 19/05 . . Crushing, pulverising, or disintegrating apparatus (in general B02C); Aggregate screening, cleaning, or heating apparatus
- 19/08 . . Apparatus for transporting and melting asphalt, bitumen, tar, or the like (stationarily-arranged melting boilers for tar, asphalt, or the like, in general C10C 3/12)
- 19/10 . . Apparatus or plants for premixing or precoating aggregate or fillers with non-hydraulic binders, e.g. with bitumen, with resins; Apparatus for premixing non-hydraulic mixtures prior to placing or for reconditioning salvaged non-hydraulic compositions
- 19/12 . for distributing granular or liquid materials (E01C 23/07 takes precedence; for filling joints or grooves E01C 23/02, E01C 23/09)
- 19/15 . . for laying-down uncoated stone or similar materials, or for striking-off or spreading same without compacting, e.g. for crushed rock base courses, sand cushions for paving (E01C 19/52 takes precedence; distributing E01C 19/20)
- 19/16 . . for applying or spreading liquid materials, e.g. bitumen slurries (E01C 19/45, E01C 23/02, E01C 23/03, E01C 23/16 take precedence; spraying or spreading liquids or other fluent materials to surfaces in general B05)
- 19/17 . . . Application by spraying
- 19/18 . . Devices for distributing road-metals mixed with binders, e.g. cement, bitumen, without consolidating or ironing effect (E01C 19/20, E01C 19/47 take precedence; conveying installations for concrete or the like B65G)
- 19/20 . . Apparatus for distributing, e.g. spreading, granular or pulverulent materials, e.g. sand, gravel, salt, dry binders (fertiliser distributors A01C 15/00)
- 19/21 . . for simultaneously but separately applying liquid material and granular or pulverulent material, e.g. bitumen and grit, with or without spreading
- 19/22 . for consolidating or finishing laid-down unset materials (E01C 23/02 takes precedence; apparatus for generating vibrations in general B06B)
- 19/23 . . Rollers therefor; Such rollers usable also for compacting soil (E01C 19/43 takes precedence; specially adapted for agricultural purposes A01B 29/00; garden rollers A01G 1/12; making or maintaining surfaces of snow or ice E01H 4/00; solely for soil compaction E02D 3/026)
- 19/24 . . . hand propelled (E01C 19/27 to E01C 19/29 take precedence)
- 19/25 . . . propelled by animals or vehicles (E01C 19/26 to E01C 19/29 take precedence)
- 19/26 . . . self-propelled or fitted to road vehicles (E01C 19/27 to E01C 19/29 take precedence)
- 19/27 . . . with elastically-deformable rolling elements, e.g. pneumatic tyres (vibrating or impacting E01C 19/28)
- 19/28 . . . Vibrated rollers or rollers subjected to impacts, e.g. hammering blows (E01C 19/29 takes precedence)
- 19/29 . . . Rolling apparatus adapted to apply a rolling pressure less than its weight, e.g. roller finishers travelling on formrails
- 19/30 . . Tamping or vibrating apparatus other than rollers (E01C 23/02, E01C 23/04 take precedence; vibrated depositing devices E01C 19/12; tamping or vibrating rollers E01C 19/28; portable percussion tools in general B25D; tamping or vibrating soil in general E02D 3/046)
- 19/32 . . . Hand-held hand-actuated rammers or tampers
- 19/34 . . . Power-driven rammers or tampers
- 19/35 . . . . Hand-held or hand-guided tools (E01C 19/36 to E01C 19/40 take precedence)
- 19/36 . . . . with direct-acting explosion chambers
- 19/38 . . . . with means specifically for generating vibrations
- 19/40 . . . . adapted to impart a smooth finish to the paving, e.g. tamping or vibrating finishers
- 19/41 . . Apparatus having both rolling tools and ramming, tamping, or vibrating tools
- 19/42 . . Machines for imparting a smooth finish to freshly-laid paving courses other than by rolling, tamping, or vibrating (for distributing only E01C 19/12)
- 19/43 . . Machines or arrangements for roughening or patterning freshly-laid paving courses, e.g. indenting rollers
- 19/44 . . Hand-actuated tools other than rollers, dampers, or vibrators, specially adapted for imparting a required surface finish to freshly-laid paving courses (E01C 19/43 takes precedence)
- 19/45 . Portable apparatus for preparing, or for preparing and applying to the road, compound liquid binders, e.g. emulsified bitumen, fluxed asphalt (applying only E01C 19/16)
- 19/46 . for preparing and placing the materials (E01C 19/45 takes precedence; making surfaces by mixing borrowed aggregate with binders E01C 21/00)
- 19/47 . . Hydraulic cement concrete mixers combined with distributing means specially adapted for road building (concrete mixers per se B28C)
- 19/48 . for laying-down the materials and consolidating them, or finishing the surface
- 19/50 . Removable forms or shutterings for road-building purposes (E01C 23/02, E01C 23/04 take precedence; permanent forms E01C 3/00 to E01C 7/00; slip forms E01C 19/48); Devices or arrangements for forming individual paving elements, e.g. kerbs, in situ
- 19/52 . Apparatus for laying individual preformed surface elements, e.g. kerbs (preforming and placing continuous strip E01C 19/46; forming paving elements in situ E01C 19/50)
- 21/00** **Apparatus or processes for surface stabilisation for road building or like purposes, e.g. mixing borrowed aggregate with binder** (stabilising soil under existing surfacing E01C 23/10; soil-conditioning or soil-stabilising materials C09K 17/00; soil-consolidation in general E02D 3/12)
- 21/02 . Fusing, calcining, or burning soil in situ

- 23/00 Auxiliary devices or arrangements for constructing, repairing, reconditioning, or taking-up road or like surfaces** (apparatus for reconditioning of salvaged non-hydraulic compositions E01C 19/10)
- 23/01** . . . Devices or auxiliary means for setting-out or checking the configuration of new surfacing, e.g. templates, screed supports (form rails E01C 19/50); Applications of apparatus for measuring, indicating, or recording the surface configuration of existing surfacing, e.g. profilographs (E01C 23/07 takes precedence; measuring roughness or irregularity in general G01B)
- 23/02** . . . Devices for making, treating, or filling grooves or like channels in not-yet-hardened paving, e.g. for joints or markings (surface patterning E01C 19/43); Removable forms therefor (non-removable forms E01C 11/02); Devices for introducing inserts or removable insert-supports in not-yet-hardened paving (E01C 23/04 takes precedence; non-removable insert supports E01C 11/02)
- 23/03** . . . Arrangements for curing paving; Devices for applying curing means; Devices for laying prefabricated underlay, e.g. sheets, membranes (reinforcing elements E01C 23/04); Protecting paving under construction or while curing, e.g. use of tents (road barriers E01F 13/00)
- 23/04** . . . Devices for laying reinforcing elements or dowel bars; Removable supports for reinforcing elements (non-removable supports therefor E01C 11/16; side forms adapted to supporting reinforcement E01C 19/50); Devices, e.g. removable forms, for making essentially horizontal ducts in paving, e.g. for prestressed reinforcement
- 23/05** . . . Devices for installing or removing forms
- 23/06** . . . Devices or arrangements for working the finished surface (working freshly-laid paving E01C 19/42 to E01C 19/44, E01C 23/02; mining picks E21C 35/18); Devices for repairing the surface of damaged paving [6]
- 23/07** . . . Apparatus combining measurement of the surface configuration of paving with application of material in proportion to the measured irregularities (measuring means only E01C 23/01)
- 23/08** . . . for roughening or patterning; for removing high spots or material bonded to the surface, e.g. markings (removing matter not bonded to the surface E01H 1/00; roughening or detaching ice E01H 5/12)
- 23/082** . . . . . using non-powered tools [6]
- 23/085** . . . . . using power-driven tools, e.g. vibratory tools [6]
- 23/088** . . . . . Rotary tools, e.g. milling drums [6]
- 23/09** . . . . . for forming cuts, grooves, or recesses, e.g. for making joints or channels for markings, for cutting-out sections to be removed; for cleaning, treating, or filling cuts, grooves, recesses, or fissures; for trimming paving edges
- 23/10** . . . for raising or levelling sunken paving; for filling voids under paving; for introducing material into substructure (consolidating soil in general E02D 3/12)
- 23/12** . . . for taking-up, tearing-up, or breaking-up paving (adapted to both placing and removing paving E01C 19/52)
- 23/14** . . . for heating or drying foundation, paving, or materials thereon, e.g. paint (E01C 23/03 takes precedence; heating or drying devices incorporated in the paving E01C 11/26; surface stabilisation by fusing, calcining, or burning soil *in situ* E01C 21/02; for street cleaning E01H 1/08; melting snow or ice on surfacing E01H 5/10)
- 23/16** . . . Devices for marking-out, applying, or forming traffic or like markings on finished paving (E01C 23/14 takes precedence; inserting or forming in not-yet-hardened paving E01C 23/02, in recesses formed in fully-set paving E01C 23/09; marking-out playing courts or playgrounds A63C 19/06; applying liquids or other fluent materials to surfaces in general B05; road surface markings *per se* E01F 9/04); Protecting fresh markings
- 23/18** . . . for applying prefabricated markings [6]
- 23/20** . . . for forming markings *in situ* [6]
- 23/22** . . . . . by spraying [6]
- 23/24** . . . . . by pouring [6]

**E01D BRIDGES** (bridges extending between terminal buildings and aircraft for embarking or disembarking passengers B64F 1/305)

### Note

In this subclass, it is desirable to add the indexing codes of group E01D 101/00. [6]

### Subclass index

BRIDGES IN GENERAL.....	1/00	DETAILS .....	19/00
BRIDGES CHARACTERISED BY THE CROSS-SECTION OF THEIR BEARING SPANNING STRUCTURE .....	2/00	ERECTING OR ASSEMBLING BRIDGES .....	21/00
BRIDGES CHARACTERISED BY THEIR STRUCTURAL TYPE.....	4/00 to 15/00	REPAIRING OR STRENGTHENING EXISTING BRIDGES.....	22/00
BRIDGES CHARACTERISED BY THEIR FUNCTION.....	18/00	DISMANTLING BRIDGES .....	24/00

**1/00 Bridges in general** (characterised by their structural type E01D 4/00 to E01D 15/00) [6]

**2/00 Bridges characterised by the cross-section of their bearing spanning structure** [6]

**2/02** . . . of the I-girder type [6]

**2/04** . . . of the box-girder type [6]

<b>4/00</b>	<b>Arch-type bridges [6]</b>	<b>19/00</b>	<b>Details of bridges</b>
<b>6/00</b>	<b>Truss-type bridges [6]</b>	19/02	. Piers; Abutments (foundations E02D)
6/02	. of bowstring type [6]	19/04	. Bearings; Hinges
<b>11/00</b>	<b>Suspension or cable-stayed bridges [6]</b>	19/06	. Arrangement, construction, or bridging of expansion joints
11/02	. Suspension bridges [6]	19/08	. Damp-proof or other insulating layers; Drainage arrangements or devices
11/04	. Cable-stayed bridges [6]	19/10	. Railings; Protectors against smoke or gases, e.g. of locomotives; Maintenance travellers; Fastening of pipes or cables to bridges
<b>12/00</b>	<b>Bridges characterised by a combination of structures not covered as a whole by a single one of groups E01D 2/00 to E01D 11/00 [6]</b>	19/12	. Grating or flooring for bridges; Fastening railway sleepers or tracks to bridges
<b>15/00</b>	<b>Movable or portable bridges</b> (arrangement of ship-based outboard ramps or gangways B63B 27/14; loading ramps B65G 69/28); <b>Floating bridges</b>	19/14	. Towers; Anchors; Saddle supports [6]
15/02	. Vertical lift bridges	19/16	. Suspension cables; Cable clamps for suspension cables [6]
15/04	. Swing bridges	<b>21/00</b>	<b>Methods or apparatus specially adapted for erecting or assembling bridges [6]</b>
15/06	. Bascule bridges; Roller bascule bridges, e.g. of Scherzer type	21/06	. by translational movement of the bridge or bridge sections [6]
15/08	. Drawbridges	21/08	. by rotational movement of the bridge or bridge sections [6]
15/10	. Travelling bridges; Sliding bridges; Rotary cylinder bridges, i.e. rotating about longitudinal axis to invert and raise the road	21/10	. Cantilevered erection [6]
15/12	. Portable or sectional bridges (floating bridges E01D 15/14)	<b>22/00</b>	<b>Methods or apparatus for repairing or strengthening existing bridges [6]</b>
15/127	. . combined with ground-supported vehicles for the transport, handling or placing of such bridges or of sections thereof [6]	<b>24/00</b>	<b>Methods or apparatus for dismantling bridges [8]</b>
15/133	. . built-up from readily separable standardised sections or elements, e.g. Bailey bridges (E01D 15/127 takes precedence) [6]	<b>Indexing scheme associated with groups E01D 1/00 to E01D 22/00, relating to the material constitution of bridges. [6]</b>	
15/14	. Floating bridges, e.g. pontoon bridges (landing bridges E01D 15/24; floating bodies or pontoons B63B) [6]	<b>101/00</b>	<b>Material constitution of bridges [6]</b>
15/20	. . collapsible, expandable, inflatable or the like (E01D 15/22 takes precedence) [6]	101/10	. Wood [6]
15/22	. . designed as, or mounted on, vehicles [6]	101/20	. Concrete, stone or stone-like material [6]
15/24	. Bridges or similar structures, based on land or on a fixed structure and designed to give access to ships or other floating structures [6]	101/22	. . Masonry; Bricks [6]
<b>18/00</b>	<b>Bridges specially adapted for particular applications or functions not provided for elsewhere, e.g. aqueducts, bridges for supporting pipe-lines [6]</b>	101/24	. . Concrete [6]
		101/26	. . . reinforced [6]
		101/28	. . . prestressed [6]
		101/30	. Metal (E01D 101/26 takes precedence) [6]
		101/32	. . prestressed [6]
		101/34	. . non-ferrous, e.g. aluminium [6]
		101/40	. Plastics [6]

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**E01F      ADDITIONAL WORK, SUCH AS EQUIPPING ROADS OR THE CONSTRUCTION OF PLATFORMS, HELICOPTER LANDING STAGES, SIGNS, SNOW FENCES, OR THE LIKE**

**Subclass index**

ARRANGEMENTS FOR ROADS OR  
RAILWAYS.....1/00,  
5/00 to 8/00

ARRANGEMENTS FOR FACILITATING  
THE USE OF ROADS .....9/00 to 15/00  
LANDING STAGES FOR HELICOPTERS ..... 3/00

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**Arrangement or construction of additional equipment for roads or railways; Landing stages for helicopters**

- 1/00**      **Construction of platforms or refuge islands** (general arrangement of railway platforms B61B)
- 3/00**      **Landing stages for helicopters, e.g. located above buildings** (layout of airfields B64F; buildings or like structures for special purposes E04H)

- 5/00**      **Draining the sub-base of roads or ballastway of railways by trenches, culverts, or conduits** (underground drainage E02D; conduits for sewerage E03F)



**7/00 Devices affording protection against snow, sand drifts, side-wind effects, snowslides, avalanches or falling rocks** (permanently installed heating or blowing devices for roads E01C 11/26); **Anti-dazzle arrangements**

- 7/02 . Snow fences or similar devices, e.g. devices affording protection against sand drifts or side-wind effects (fences in general E04H 17/00)
- 7/04 . Devices affording protection against snowslides, avalanches or falling rocks, e.g. avalanche preventing structures, galleries (securing of slopes E02D 17/20; roof snow-traps E04D 13/10)
- 7/06 . Anti-dazzle arrangements (E01F 8/00 takes precedence) [3]

**8/00 Arrangements for absorbing or reflecting air transmitted noise from road or railway traffic** (ground installations for reducing aircraft noise B64F 1/26; general building constructions for absorbing or reflecting noise, noise absorption or reflection for buildings E04B 1/74) [3]

- 8/02 . specially adapted for sustaining vegetation or for accommodating plants (receptacles for cultivation of plants A01G 9/02; securing slopes or inclines E02D 17/20; retaining or protecting walls E02D 29/02) [6]

**Arrangements for facilitating the use of roads**

**9/00 Arrangement of road signs or traffic signals** (signals, signalling systems G08; signs, attachment thereof to supports G09F); **Arrangements for enforcing caution, e.g. speed bumps** [6]

- 9/011 . Upright bodies, e.g. marker posts or bollards; Supports for road signs (posts or poles in general E04H 12/00; means for attaching signs to a supporting structure in general G09F 7/18) [6]
- 9/012 . . free-standing, e.g. traffic cones, foldable or inflatable devices [6]
- 9/013 . . intended to be readily removable, e.g. for insertion into road-stud sockets (E01F 9/012 takes precedence) [6]
- 9/014 . . Storing, transporting, placing or retrieving portable devices [6]
- 9/015 . . with reflectors, e.g. with means for keeping clean [6]
- 9/016 . . illuminated (for obstructing or restricting traffic E01F 13/00) [6]
- 9/017 . . self-righting after deflection or displacement [6]
- 9/018 . . specially adapted for breaking, disengaging, collapsing or permanent deformation upon deflection or displacement, e.g. upon vehicle impact [6]
- 9/019 . . extensible, collapsible or pivotable (E01F 9/017, E01F 9/018 take precedence) [6]
- 9/03 . . Arrangements for fastening signs or signals to safety barriers or the like [6]
- 9/04 . Road surface markings; Kerbs or road edgings, specially adapted for informing road users, e.g. illuminated (for redirecting vehicles E01F 15/00) [6]

- 9/047 . . specially adapted for audible or vibrational signalling, e.g. rumble strips, or for enforcing reduced speed, e.g. speed bumps [6]
- 9/053 . . Kerbs or road edgings, specially adapted for informing road users, e.g. illuminated [6]
- 9/06 . . Traffic studs; Marking blocks
- 9/07 . . . having deflectable or displaceable parts, with or without return to original position, e.g. flexible flaps [6]
- 9/08 . . Traffic lines
- 9/087 . . . Lane delineators for physically separating traffic lanes and discouraging but not preventing crossing [6]
- 9/093 . . . movable for repeated use at different locations [6]

**11/00 Embedding pads or other sensitive devices in paving or other road surfaces** (pressure-sensitive elements G01L; traffic control systems G08G)

**13/00 Arrangements for obstructing or restricting traffic, e.g. gates, barricades** (for railway crossings B61L)

- 13/02 . free-standing [6]
- 13/04 . movable to allow or prevent passage [6]
- 13/06 . . by swinging into open position about a horizontal axis parallel to the road direction, i.e. swinging gates [6]
- 13/08 . . by swinging into closed position about a transverse axis situated in the road surface, e.g. tiltable sections of the road surface, tiltable parking posts [6]
- 13/10 . Vehicle barriers specially adapted for allowing passage in one direction only [6]
- 13/12 . for forcibly arresting or disabling vehicles, e.g. spiked mats [6]

**15/00 Safety arrangements for slowing, redirecting or stopping errant vehicles, e.g. guard posts or bollards; Arrangements for reducing damage to roadside structures due to vehicular impact** (arrangements for fastening signs or signals to safety barriers or the like E01F 9/03; for forcibly arresting vehicles E01F 13/00) [6]

- 15/02 . Continuous barriers extending along roads or between traffic lanes (crossable-lane separators E01F 9/087) [6]
- 15/04 . . essentially made of longitudinal beams or rigid strips (E01F 15/10, E01F 15/12 take precedence) [6]
- 15/06 . . essentially made of cables, nettings or the like (E01F 15/10, E01F 15/12 take precedence; protection against falling rocks E01F 7/04; arresting gear for aircraft B64F 1/02) [6]
- 15/08 . . essentially made of walls or wall-like elements (E01F 15/10, E01F 15/12 take precedence) [6]
- 15/10 . . portable, e.g. for temporary use [6]
- 15/12 . . and having means for providing occasional passage, e.g. for emergency vehicles [6]
- 15/14 . specially adapted for local protection, e.g. for bridge piers, for traffic islands [6]

**E01H STREET CLEANING; CLEANING OF PERMANENT WAYS; CLEANING BEACHES; CLEANING LAND; DISPERSING FOG IN GENERAL** (mowers convertible to apparatus for sweeping or cleaning lawns or other surfaces, e.g. to remove snow, or capable of sweeping or cleaning lawns or other surfaces A01D 42/06; cleaning in general B08B) [4]

### Subclass index

STREET CLEANING .....	1/00, 3/00, 5/00, 6/00, 11/00	CLEANING OF PERMANENT WAYS .....	8/00, 11/00
MAKING OR MAINTAINING SURFACES OF SNOW OR ICE; IMPROVING GRIPPING POWER .....	4/00; 10/00	CLEANING BEACHES .....	12/00
		OTHER CLEANING OF LAND .....	15/00
		DISPERSING FOG .....	13/00

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|---|--|
| <p><b>1/00 Removing undesirable matter from roads or like surfaces, with or without moistening of the surface</b> (for snow or ice E01H 5/00; cleaning tramway rails E01H 8/00; obstruction-removers on vehicles B60R 19/00; in combination with application of bitumen or the like E01C 19/16; in combination with application of traffic lines E01C 23/16)</p> <p><b>1/02</b> . Brushing apparatus (E01H 1/08 to E01H 1/14 take precedence; brushes in general A46B)</p> <p><b>1/04</b> . . taking-up the sweepings, e.g. for collecting, for loading</p> <p><b>1/05</b> . . with driven brushes (E01H 1/04 takes precedence)</p> <p><b>1/08</b> . Pneumatically dislodging or taking-up undesirable matter (suction cleaners in general A47L 5/00 to A47L 9/00); Drying by heat only, or by streams of gas (permanently-installed heating or blowing devices E01C 11/26; heating or drying for road building or repairing E01C 23/14); Cleaning by projecting abrasive particles (sand-blasting in general B24C)</p> <p><b>1/10</b> . Hydraulically loosening or dislodging undesirable matter (stationary flushing devices E01H 3/04); Raking or scraping apparatus (hand implements E01H 1/12)</p> <p><b>1/12</b> . Hand implements, e.g. litter pickers (rakes A01D 7/00)</p> <p><b>1/14</b> . Removing by magnetic effect</p> <p><b>3/00 Applying liquids to roads or like surfaces, e.g. for dust control; Stationary flushing devices</b> (combined with removal of undesirable matter E01H 1/00; spray heads, other outlets B05B)</p> <p><b>3/02</b> . Mobile apparatus, e.g. watering-vehicles (vehicle features B60P 3/22; applying liquid materials for road paving E01C 19/16)</p> <p><b>3/04</b> . Fixed devices, e.g. permanently-installed flushing means (hydrants E03B 9/02)</p> <p><b>4/00 Working on surfaces of snow or ice in order to make them suitable for traffic or sporting purposes, e.g. by compacting snow</b> (production of artificial snow F25C 3/04) [4]</p> <p><b>4/02</b> . for sporting purposes, e.g. preparation of ski trails (production of snow or ice for winter sports or similar recreational purposes F25C 3/00) [4]</p> <p><b>5/00 Removing snow or ice from roads or like surfaces; Grading or roughening snow or ice</b> (by applying de-icing agents E01H 10/00; obstruction removers on vehicles B60R 19/00; sand, gravel or salt spreaders E01C 19/20) [4]</p> <p><b>5/02</b> . Hand implements (E01H 5/04, E01H 5/10, E01H 5/12 take precedence)</p> | <p><b>5/04</b> . Apparatus propelled by animal or engine power; Apparatus propelled by hand with driven dislodging or conveying elements, e.g. conveying pneumatically (E01H 5/10, E01H 5/12 take precedence)</p> <p><b>5/06</b> . . dislodging essentially by non-driven elements, e.g. scraper blades</p> <p><b>5/07</b> . . . and conveying dislodged material by driven or pneumatic means</p> <p><b>5/08</b> . . dislodging essentially by driven elements</p> <p><b>5/09</b> . . . the elements being rotary or moving along a closed circular path, e.g. rotary cutter, digging wheels</p> <p><b>5/10</b> . by application of heat (stationary blowing or paving-heating means E01C 11/26)</p> <p><b>5/12</b> . Apparatus or implements specially adapted for breaking, disintegrating, or loosening layers of ice or hard snow</p> <p><b>6/00 Apparatus equipped with, or having provisions for equipping with, both elements for removal of refuse or the like and elements for removal of snow or ice</b> (E01H 8/10 takes precedence)</p> <p><b>8/00 Removing undesirable matter from the permanent way of railways; Removing undesirable matter from tramway rails</b> (E01H 1/00 to E01H 6/00 take precedence)</p> <p><b>8/02</b> . Methods or apparatus for removing ice or snow from railway tracks, e.g. using snow-ploughs (operating only on rails or flange grooves E01H 8/10)</p> <p><b>8/04</b> . . essentially by non-driven elements</p> <p><b>8/06</b> . . essentially by driven tools</p> <p><b>8/08</b> . . by application of heat (heated track E01B 19/00)</p> <p><b>8/10</b> . Removing undesirable matter from rails, flange grooves, or the like, e.g. removing ice from contact rails, removing mud from flange grooves (heating, blowing, or fluid-applying devices installed in the track E01B 19/00; built-in draining devices for rails E01B 21/02; removing ballast from rails E01B 27/04)</p> <p><b>8/12</b> . . specially adapted to grooved rails, flangeways, or the like</p> <p><b>10/00 Improving gripping of ice-bound or other slippery traffic surfaces, e.g. using gritting or thawing materials</b> (roughening ice by means of tools E01H 5/12; applying de-icing agents to rails E01H 8/10; thawing materials C09K 3/18; by constructional features E01C 11/24)</p> <p><b>11/00 Control of undesirable vegetation on roads or permanent ways of railways</b> (destruction of undesirable vegetation in general A01M 7/00 to A01M 15/00, A01M 21/00; weeding involving working the ballast E01B 27/00); <b>Applying liquids, e.g. water, weed-killer, bitumen, to permanent ways</b> (specially to rails E01H 8/10; for preserving sleepers E01B 31/20)</p> |
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**12/00**    **Cleaning beaches**

**13/00**    **Dispersing fog in general, e.g. on roads, on airfields**

**15/00**    **Removing undesirable matter, e.g. rubbish, from the land, not otherwise provided for** (gatherers for removing stones, roots or the like from the soil A01B 43/00) **[4]**