

CLASS 104, RAILWAYS**SECTION I - CLASS DEFINITION**

This class includes railway rolling stock and track, each of which is modified for interrelation and cooperation with each other, as in the case of traction and propulsion systems not otherwise classified; railway track other than normal surface track; car-stopping devices of abutting type associated with the track; amusement railway apparatus, such as used in recreation parks; track layers, shifters, and repairers; railway fixtures, such as turntables, transfer tables, and terminal features; appliances for use with railway track, such as hose bridges, car replacers, and car derailleurs, and miscellaneous features relating to railway track not elsewhere classified.

SECTION II - REFERENCES TO OTHER CLASSES**SEE OR SEARCH CLASS:**

- 404, Road Structure, Process, or Apparatus, subclass 1, for a road system.
- 446, Amusement Devices: Toys, subclasses 444 through 447 for a toy railway wherein the energy for moving the rolling stock is supplied by the child, such as a wind-up toy, or where a feature peculiar to Class 446 is claimed.

SUBCLASSES**2 TRACK LAYERS:**

This subclass is indented under the class definition. Apparatus and tools for distributing track material along the grade, for placing the rails and ties and assembling the track, and for adjusting the track and tamping the same into final position.

3 Built-up sections:

This subclass is indented under subclass 2. Apparatus and tools in which the rails and ties are spiked or fastened together in completed sections before they are positioned on the roadbed.

4 Portable shifter:

This subclass is indented under subclass 2. Apparatus in which the detachable track sections are continuously shifted from the rear of the moving vehicle to the front thereof.

5 Distributers:

This subclass is indented under subclass 2. Apparatus comprising one or more cars or a train with means for distributing the rails and ties to the roadbed in advance of the train.

6 Transverse tie placer:

This subclass is indented under subclass 5. Distributor which delivers the ties transversely of and upon the roadbed substantially in final position.

7.1 Track raising car:

This subclass is indented under subclass 2. Apparatus comprising a track-supported vehicle which includes means to raise connected rails and ties to a higher position as it passes slowly over the track.

7.2 With means to transversely shift track (i.e., aligning):

This subclass is indented under subclass 7.1. Apparatus wherein the track-supported vehicle further includes means to shift the completed track laterally to a new position as it passes along the track.

7.3 Under-track ballast sled or plow:

This subclass is indented under subclass 7.1. Apparatus wherein the track-supported vehicle includes means inserted between the roadbed and connected rails and ties for raising the track from the roadbed as it passes along underneath the track; the track raising means further functioning to either (1) evenly distribute, level, or smooth the roadbed material supporting the track before allowing the levelled or smoothed roadbed, or (2) scrape away a portion of the roadbed material supporting the track before allowing the raised track to settle back onto the remaining roadbed or sub-grade.

8 Sluer:

This subclass is indented under subclass 2. Track cars which slue or shift the completed track laterally to a new position as they pass along the track.

9 Tie replacer:

This subclass is indented under subclass 2. Devices mounted upon track trucks for removing and replacing ties in track repair.

- 10 Tamper:**
This subclass is indented under subclass 2. Apparatus and tools for tamping the ballast, cement, or earth around ties.
- SEE OR SEARCH CLASS:
81, Tools, subclass 463 for impact tools of general application and see the Notes thereto for other impact tools.
173, Tool Driving or Impacting, subclasses 90 through 212 and see the search notes therein for a means to impact a tool or the like.
- 11 Pneumatic injector:**
This subclass is indented under subclass 10. Pneumatic injection apparatus for forcing cement or concrete beneath and around ties.
- 12 Car mounted:**
This subclass is indented under subclass 10. Tampers mounted on cars which are adapted to run on the track rails.
- 13 Hand tools:**
This subclass is indented under subclass 10. Hand implements for tamping ballast in place.
- 14 Pneumatic:**
This subclass is indented under subclass 13. Hand tools of the pneumatic-hammer type for placing ballast around the ties.
- 15 Joint welders:**
This subclass is indented under subclass 2. Electric welding apparatus for operation on a completed track, such as making welded rail joints.
- 16 Tie platers:**
This subclass is indented under subclass 2. Apparatus for permanently seating tie plates in position on the ties.
- 17.1 Track rail mounted spike driver:**
This subclass is indented under subclass 2. Apparatus comprising a track rail supported vehicle or carriage specially adapted to secure the track rails to the ties by means of forcing large elongated nail-like fasteners into the ties.
- SEE OR SEARCH CLASS:
173, Tool Driving or Impacting, subclasses 90 through 212 and see the search notes therein for a means to impact a tool or the like.
227, Elongated-Member-Driving Apparatus, appropriate subclasses for apparatus for applying a member, e.g., spike, not mounted on a track.
- 17.2 Track rail mounted rail anchor applicator:**
This subclass is indented under subclass 2. Apparatus comprising a track-supported vehicle or carriage having means to attach spring clip members (which are intended to span and resiliently grip a track rail base) to a track rail base and abut them against a side of the ties or tie plates, whereby the attached spring clip members prevent longitudinal movement of a track rail relative to the ties.
- 18 MOVING TRAIN:**
This subclass is indented under the class definition. Load transfer to and from moving trains.
- SEE OR SEARCH CLASS:
258, Railway Mail Delivery, appropriate subclasses for mailbag and train order transfer, and also for loading or unloading aircraft in flight.
- 19 Safety lander:**
This subclass is indented under subclass 18. Apparatus for enabling a train-man in case of danger to land safely from a rapidly moving train or locomotive.
- 20 Passenger transfer:**
This subclass is indented under subclass 18. Apparatus for the transfer of passengers to and from a continuously moving train.
- 21 Revolving terminal:**
This subclass is indented under subclass 20. Apparatus comprising a terminal having a large turntable which travels with the train as the latter runs around the periphery of the turntable.
- 22 BALLOON:**
This subclass is indented under the class definition. Balloons connected with cars or trucks which are designed to travel along defined tracks.

23.1 FLUID SUPPORTED CAR OR SIMULATED AERIAL VEHICLE:

This subclass is indented under the class definition. Railway under the class definition either (1) wherein a vehicle travels along a guideway and is supported entirely or in part by a fluid medium while still being constrained to move along the guideway; or (2) wherein a vehicle travels along a rail or cable way and represents an air vehicle, but is incapable of being, at least in part, aerodynamically supported.

23.2 Car supported by fluid current pushing against surface:

This subclass is indented under subclass 23.1. Railway wherein the vehicle is supported above the guideway by a current of fluid moving between a surface of the vehicle and a supporting surface, the movement of the fluid forcing the two surfaces away from one another so as to sustain the vehicle out of contact with, but in close proximity to the supporting surface.

- (1) Note. The “supporting surface” may either constitute the guideway or be located on or near the guideway.

SEE OR SEARCH CLASS:

- 114, Ships, appropriate subclasses for a surface effect marine vehicle utilizing water as a supporting surface.
180, Motor Vehicles, subclasses 116 through 130 for a surface effect vehicle which is not track guided.

24 SAILING DEVICES:

This subclass is indented under the class definition. Rail vehicles provided with sails for effecting the movement of such vehicles.

25 ENDLESS TRAIN:

This subclass is indented under the class definition. Passenger cars or carriers connected in endless horizontal trains.

SEE OR SEARCH CLASS:

- 198, Conveyors: Power-Driven, subclasses 321 through 338 for endless carriers of the escalator type.

26.1 CAR YARD:

This subclass is indented under the class definition. Apparatus comprising an arrangement of a plurality of railway tracks, means to facilitate the making-up of a train of railway cars, means to facilitate the sorting of railway cars, or the general arrangement of a railway yard designed to receive, distribute, or classify railway cars.

26.2 Track brake:

This subclass is indented under subclass 26.1. Apparatus comprising car retarding means located on or in the vicinity of a railway track of a car yard for reducing the speed of a railway car moving along the track, not on the vehicle.

SEE OR SEARCH CLASS:

- 188, Brakes, subclasses 62-63, for brakes for track guided vehicles, the brakes being mounted solely on the track, not on the vehicle.

27 TERMINALS AND STATIONS:

This subclass is indented under the class definition. Railway stopping places for the receipt or discharge of passengers or freight.

28 Passenger:

This subclass is indented under subclass 27. Arrangements of stations for the handling of passenger traffic.

29 Freight:

This subclass is indented under subclass 27. Arrangements of stations for the handling of freight traffic.

30 Platforms:

This subclass is indented under subclass 27. Platforms and fixtures thereon for railway stations.

31 Shifting:

This subclass is indented under subclass 30. Station platforms having portions shiftable to facilitate passenger movement or the handling of freight.

32.1 TRUCK CHANGER:

This subclass is indented under the class definition. Apparatus for removing and replacing trucks or wheels and axles on railway rolling

- stock or yard fixtures for removing car or locomotive bodies from their trucks.
- 33 Wheel-gauge changers:**
This subclass is indented under subclass 32.1. Gauge frogs or other track fixtures for effecting the change of the wheel gauge on trucks.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 178 for changeable gauge trucks.
- 34 VEHICLE BATTERY REPLACER:**
This subclass is indented under the class definition. Station apparatus for effecting battery interchange and supply on electric vehicles.
- 35 TURNTABLES:**
This subclass is indented under the class definition. Intermediately pivoted rotary track sections for shifting vehicles angularly.
- 36 Actuators:**
This subclass is indented under subclass 35. Operating mechanism for rotating turntables not otherwise classified below.
- 37 Fluid pressure:**
This subclass is indented under subclass 36. Mechanism comprising compressed air or steam motor devices for rotating turntables.
- 38 Electric control:**
This subclass is indented under subclass 36. Turntable operators comprising electric motors and control therefor and electric controlling systems for other motors.
- 39 Traction cable:**
This subclass is indented under subclass 36. Turntables actuated directly or indirectly by traction cables such as are used for car propulsion.
- 40 Vehicle operated:**
This subclass is indented under subclass 36. Turntables in which the vehicle which is to be shifted furnishes the power for operating the turntable.
- 41 Drive wheel:**
This subclass is indented under subclass 40. Turntables in which the vehicle traction drive wheels operate friction drive wheels on the turntable to effect the operation of the latter.
- 42 Gravity:**
This subclass is indented under subclass 40. Turntables in which the weight of the vehicle is used to operate the turntable.
- 43 Traction wheel:**
This subclass is indented under subclass 36. Turntables in which rotation is effected by power driven traction wheels, which may also act as the end carriers of the turntable.
- 44 Automobile:**
This subclass is indented under subclass 35. Turntables designed for handling automobiles.
- 45 Portable:**
This subclass is indented under subclass 35. Portable turntables carried by or separate from the vehicles, designed for temporary use wherever desired.
- 46 Bearings and pivots:**
This subclass is indented under subclass 35. Center bearings and end supports for turntables which involve a substantial modification of the turntable structure to accommodate them.
- 47 Locks:**
This subclass is indented under subclass 35. Locking devices for holding turntables in fixed positions. These locks are usually associated with the aligning rail ends.
- 48 TRANSFER TABLES:**
This subclass is indented under the class definition. Trucks carrying tracks to receive vehicles and carry them laterally or longitudinally to fixed tracks adapted to register with the tracks on the trucks.
- 49 Swinging:**
This subclass is indented under subclass 48. Transfer tables pivoted at one end, adapted to receive and carry a vehicle during the swinging of the transfer table.

- 50 Operating mechanism:**
This subclass is indented under subclass 48. Mechanism for effecting the movement of transfer tables.
- 51 LOCOMOTIVE SHED FIXTURES:**
This subclass is indented under the class definition. Fixed apparatus in locomotive sheds or roundhouses for use with locomotives.
- 52 Smoke jacks:**
This subclass is indented under subclass 51. Smoke removers for use in roundhouses and train sheds over locomotive smoke stacks. They may or may not be provided with means for producing an artificial draft.
- 53 AMUSEMENT:**
This subclass is indented under the class definition. Railway and analogous devices for use in amusement parks.
- SEE OR SEARCH CLASS:
472, Amusement Devices, particularly subclasses 1 through 47 for an amusement roundabout.
- 54 Gap jumpers:**
This subclass is indented under subclass 53. Apparatus comprising special forms of track and vehicles in which the moving vehicle jumps across gaps between sections of the track.
- 55 Loop:**
This subclass is indented under subclass 53. Apparatus comprising a track provided with substantially vertical loops, around which the vehicles travel.
- 56 Helical:**
This subclass is indented under subclass 53. Apparatus comprising a track in helical form, which may vary to substantially spiral form with substantially vertical axes.
- 57 Rotating:**
This subclass is indented under subclass 56. Apparatus in which a helical track rotates, and thus causes the car to move by gravity, similar to the action of the Archimedean screw.
- 58 Moving-wave track:**
This subclass is indented under subclass 53. Apparatus comprising a track made of flexible sheet metal in which waves or undulations are produced to cause the movement of the cars located on the track.
- 59 Drifting tub:**
This subclass is indented under subclass 53. Apparatus in which passenger carrying tubs usually provided with roller bottoms, coast by gravity down inclined track surfaces provided with surface variations or obstacles.
- 60 Racing:**
This subclass is indented under subclass 53. Devices which include parallel track arrangements, speed controlling devices, electric circuit control, and other features designed particularly for producing racing effects. The vehicle may or may not carry passengers.
- 61 Horse simulation:**
This subclass is indented under subclass 53. Vehicles and tracks for simulating horseback riding.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
60, for devices particularly designed to produce racing effects.
- 62 Physical training:**
This subclass is indented under subclass 53. Apparatus comprising vehicles traveling along fixed ways for use in physical training.
- 63 Tortuous alinement:**
This subclass is indented under subclass 53. Apparatus having railway tracks distorted in alinement in all directions for producing surprising and pleasing shocks during travel.
- 64 Horizontal zigzag:**
This subclass is indented under subclass 63. Railway tracks arranged in a generally horizontal zigzag layout when viewed in plan.
- 65 Exchanging gears:**
This subclass is indented under subclass 64. Apparatus in which the vehicles are moved in arcuate paths by interrelated wheels, each of

- which carries the vehicle through a certain arc and then passes it to another wheel.
- 66 Chain drive:**
This subclass is indented under subclass 64. Apparatus in which the vehicles are connected for endless chain drive through a horizontal zigzag path.
- 67 Switchback:**
This subclass is indented under subclass 53. Apparatus in which the cars have a back-and-forth movement over track sections connected at their ends by switches, where the car movement is reversed.
- 68 Bowl, cylinder, or globe:**
This subclass is indented under subclass 53. Special circular tracks for bicycles and motor vehicles for exhibition purposes.
- 69 Chutes:**
This subclass is indented under subclass 53. Inclined slideways and tracks for coasting.
- 70 Water dive:**
This subclass is indented under subclass 69. Apparatus, with the track terminal ending in a body of water.
- 71 Submarines:**
This subclass is indented under subclass 53. Apparatus having boats and cars designed to run entirely submerged and having guideways for determining their path of movement.
- 72 Splasher:**
This subclass is indented under subclass 53. Apparatus having cars with boatlike bottoms and a path of travel an intermediate portion of which causes the car to trail over the surface of a body of water.
- 73 Canals:**
This subclass is indented under subclass 53. Apparatus comprising canal walls and moving currents of water to guide and carry the boat or car throughout its course of travel.
- SEE OR SEARCH CLASS:
472, Amusement Devices, particularly subclass 13 for a marine amusement roundabout.
- 74 Rotary car on truck:**
This subclass is indented under subclass 53. Apparatus in which the car body is designed to rotate relatively to the truck on which it is carried.
- SEE OR SEARCH CLASS:
472, Amusement Devices, particularly subclass 3 for an amusement roundabout having a feature for facilitating transport by a vehicle.
- 75 Vertical axis:**
This subclass is indented under subclass 74. The car body rotates about a vertical axis on the truck.
- 76 Horizontal axis:**
This subclass is indented under subclass 74. The car body rotates about a horizontal axis on the truck.
- 77 Car in wheel:**
This subclass is indented under subclass 53. Apparatus in which the car travels on a track inside a wheel.
- 78 Traveling:**
This subclass is indented under subclass 77. Apparatus in which the wheel in which the car travels is itself adapted to travel along a track.
- 79 Seesaw track:**
This subclass is indented under subclass 53. Apparatus in which the cars are designed to travel back and forth along a teetering track.
- 80 Seesaw car drive:**
This subclass is indented under subclass 53. Apparatus in which the teeter or seesaw track is mounted upon a wheeled truck and the oscillating track is connected in driving relation to the wheeled truck to propel it along a track.
- 81 Swing car drive:**
This subclass is indented under subclass 53. Apparatus in which the oscillations of a swing suspended from a wheeled truck cause the truck to move along a track.

- 82 Passenger jumper:**
This subclass is indented under subclass 53. Devices for giving a passenger a vertical jolt or movement on a vehicle for the purpose of simulating horseback riding or giving a thrilling effect.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
61, for horse simulation devices.
- 83 Illusion vehicles:**
This subclass is indented under subclass 53. Imitation cars or boats which simulate rapid movement.
- 84 Optical illusion:**
This subclass is indented under subclass 53. Scenic illusion effects other than static scenery, associated with traveling vehicles for giving the passenger a false impression as to his traveling conditions and surroundings.
- 85 Physical illusion:**
This subclass is indented under subclass 53. Means associated with traveling vehicles for producing unexpected physical effects.
- 86 Hydraulic effects:**
This subclass is indented under subclass 53. Apparatus having water movement display operatively associated with moving vehicles.
- 87 CABLE AND RIGID COMBINED:**
This subclass is indented under the class definition. Apparatus in which a rigid rail track merges into a cable rail track, or vice-versa.
- (1) Note. This subclass includes rigid curved rail sections for cable rail.
- 88.01 SELECTIVE DELIVERY:**
This subclass is indented under the class definition. Subject matter for predetermined delivery of rolling stock at selected locations on a plurality of tracks.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
170 through 171, for traction truck-freight handling systems.
- SEE OR SEARCH CLASS:
406, Conveyors: Fluid Current, subclasses 1 through 9 for fluid current conveyors having selective delivery.
- 88.02 Electrical control:**
This subclass is indented under subclass 88.01. Subject matter wherein the delivery of the rolling stock is regulated by a device which is electrically powered.
- (1) Note. The device for this subclass may include a control means comprising an electrically operated mechanical mechanism such as an electrically operated fluid-pressure control means.
- SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclass 28 for automatic electric control for signals.
- 88.03 Centralized:**
This subclass is indented under subclass 88.02. Subject matter wherein the device is a single dominant source for controlling the delivery.
- 88.04 Including local control:**
This subclass is indented under subclass 88.03. Subject matter wherein the device, in conjunction with a secondary control means, performs a function of the delivery.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
117.1, for automatic stopping or reversing means for cable rails.
- 88.05 Including override feature:**
This subclass is indented under subclass 88.02. Subject matter wherein the device includes a control means which upon actuation nullifies the action directed by the device.
- SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclasses 25 through 26 for signal clearing operation.

- 88.06 Including pre-established manual setting:**
This subclass is indented under subclass 88.02. Subject matter wherein the device is secured in a calibrated position by a human operator before actuation.
- 89 SUSPENDED:**
This subclass is indented under the class definition. Railways having overhead track for rolling stock in which the load carrying parts are suspended below the trucks and rails upon which they run.
- SEE OR SEARCH CLASS:
16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 94 through 96, for tracks for panel hangers and travelers.
- 90 Ferry:**
This subclass is indented under subclass 89. Railways comprising suspended cars having a load carrying platform or track designed to travel between and in alignment with two stationary track sections or platforms, like a ferry boat.
- 91 Track systems:**
This subclass is indented under subclass 89. Trolley or overhead track systems involving special arrangements and relative track location.
- 92 Swing boom track:**
This subclass is indented under subclass 89. Overhead track terminating in a laterally swinging boom track.
- 93 Single-rail type:**
This subclass is indented under subclass 89. Overhead or trolley track structure having a single rail.
- SEE OR SEARCH CLASS:
16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 87 through 107, for panel hangers and travelers.
- 94 Double inner rail:**
This subclass is indented under subclass 89. Overhead or trolley track structure having two rails, with a clear space between them for passage of car suspenders.
- 95 Double outer rail:**
This subclass is indented under subclass 89. Track structure for carrying outwardly-projecting rails or a single rail with two oppositely-extending rail tread-surfaces. In either case the truck-wheels for use on such tracks have opposite inwardly-extending track-wheels.
- 96 TROLLEY TRANSFER:**
This subclass is indented under the class definition. Apparatus for the shifting and transfer of trolley and suspended cars on their track systems.
- 97 Beef-jack type:**
This subclass is indented under subclass 96. A shifting device for bodily lifting a trolley from one track and placing it on another track.
- 98 Overhead crane:**
This subclass is indented under subclass 96. Apparatus having the traveling-bridge trolley-track of an overhead crane is designed to register with a series of fixed track sections, so that the trolley may pass from the bridge to any registering track-section, or vice versa.
- 99 Turntable type:**
This subclass is indented under subclass 96. Devices comprising frog-pieces and switches of turntable type having intermediate vertical axes.
- 100 Horizontal end pivot:**
This subclass is indented under subclass 96. Devices comprising switch or frog pieces having transverse horizontal end pivots, so that the pieces may swing upwardly in the vertical plane of the track.
- 101 Longitudinal pivot:**
This subclass is indented under subclass 96. Devices comprising switch or frog pieces having horizontal axes running longitudinally of the track, so that the pieces may swing in vertical planes transversally to the track.

- 102 Sliding shift:**
This subclass is indented under subclass 96. Devices comprising switch or frog pieces having transverse sliding movement.
- 103 Swing stub:**
This subclass is indented under subclass 96. Stub-switches pivoted at one end and swinging in horizontal planes.
- 104 Split point:**
This subclass is indented under subclass 96. Devices comprising switch and frog pieces of the split-point type.
- 105 Rigid frog:**
This subclass is indented under subclass 96. Devices comprising fixed frogs having no movable parts.
- 106 TROLLEY RAILS:**
This subclass is indented under the class definition. Rail-forms for suspended or trolley tracks.
- SEE OR SEARCH CLASS:
16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 94 through 96 for tracks for panel hangers and travelers.
248, Supports, subclasses 49 through 74.5 for pipe and cable supports which are closely related in structure to rail supports.
- 107 Two tread:**
This subclass is indented under subclass 106. Trolley-rails provided with a plurality of tread-surfaces.
- 108 Slotted tube:**
This subclass is indented under subclass 107. Trolley-rails of slotted-tube form, in which the interior surfaces of the opposed slot edges form the tread-surfaces.
- 109 Integral:**
This subclass is indented under subclass 107. Trolley-rails which are integral and have tread-surfaces on their opposite sides.
- 110 Single tread:**
This subclass is indented under subclass 106. Trolley-rails each having a single tread-surface.
- 111 Hangers:**
This subclass is indented under subclass 106. Devices comprising hangers and suspension means for trolley-rails.
- 112 CABLE RAILS:**
This subclass is indented under the class definition. Elevated or suspended railways in which the tracks are formed of cables.
- SEE OR SEARCH CLASS:
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for apparatus for hauling or hoisting a load including a driven device which contacts and either (a) pulls a cable attached to the load, or (b) travels with the load along a cable.
- 113 Gravity:**
This subclass is indented under subclass 112. Inclined or inclinable cable-tracks upon which the cars or trolleys travel by gravity.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
164, for tilting, track railway propulsion systems.
- 114 Extensible marine:**
This subclass is indented under subclass 112. Cable-railways of marine type in which the track length is continually changing, as, for example, in coaling vessels at sea.
- 115 Hangers and saddles:**
This subclass is indented under subclass 112. Devices comprising hangers, suspension devices, and saddles for cable-rails.
- 116 Vertible movement:**
This subclass is indented under subclass 115. Cable rail suspension devices which permit of vertical movement of the cable ends.

- 117 Tension regulators and anchors:**
Devices under subclasses 112 comprising cable-rail tension regulators and anchoring devices for the ends of cable-rails.
- 117.1 With automatic stopping or reversing:**
This subclass is indented under subclass 112. Apparatus including means for bringing a vehicle riding on the cable to a halt or reversing its direction of movement at a predetermined location or time, without manual intervention.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
303, for other electric railways having means externally to the vehicle for reversing the direction of travel of the vehicle.
- 118 MONORAIL:**
This subclass is indented under the class definition. Apparatus comprising monorail track structure for cars in which the load-carrying body is above the rail, in contradistinction to a suspended-car system.
- 119 With side guides:**
This subclass is indented under subclass 118. Monorail track structure having side guides or tracks to prevent the cars tipping over.
- 120 Raised center rail:**
This subclass is indented under subclass 118. Apparatus, in which the truck or car bottom is of saddle form seated over a raised center rail.
- 121 Single top guide:**
This subclass is indented under subclass 118. Apparatus comprising track structure having a bottom rail and an upper suspended rail, between which the rolling-stock, with wheels at the top and bottom thereof, is adapted to be supported and vertically maintained in its travel.
- 122 DROP PICK UP:**
This subclass is indented under the class definition. Devices adapted to be lowered from an overhead car for picking up passengers or freight.
- 123 WAY SUSPENSION:**
This subclass is indented under the class definition. Railways comprising catenary cable or chain suspension of suspension-bridge type and towers or posts with inclined tie-rods or cables for track suspension.
- 124 ELEVATED STRUCTURE:**
This subclass is indented under the class definition. Railways comprising the horizontal portion of elevated track structure and horizontal trussing therefor.
- 125 POSTS AND TOWERS:**
This subclass is indented under the class definition. Railways comprising the vertical main supports, such as towers or posts, for elevated track structure.
- 126 PORTABLE ELEVATED:**
This subclass is indented under the class definition. Portable elevated tracks as for use with trenchwork, or shiftable tower-tracks, as used in handling coal or ore.
- 127 ELEVATORS:**
This subclass is indented under the class definition. Apparatus comprising passenger and freight elevators interconnected in operation with elevated railways.
- SEE OR SEARCH CLASS:
187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclass 403 for elevator car structure having means for engaging the wheels of a carried vehicle.
- 128 Car:**
This subclass is indented under subclass 127. Elevators for handling railway rolling-stock.
- 129 Track control:**
This subclass is indented under subclass 127. Elevators, interconnected in operation with adjacent rail or track structure.
- 130.01 SWITCHES:**
This subclass is indented under the class definition. Subject matter comprising a device having a plurality of track sections of a railway track which, in conjunction with a control means, is used for guiding the rolling stock

from one railway track to an adjacent or intersecting railway track.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

96, for suspended trolley transfer devices.
195, for cable conduit slot switches.

SEE OR SEARCH CLASS:

246, Railway Switches and Signals, for railway switches of general utility, especially subclass 419 for switches more or less modified in construction by the presence of the conduits, third rails, and cables and conducting wires of cable and electric railways.

130.02 For levitated vehicle:

This subclass is indented under subclass 130.01. Subject matter wherein the device is adapted for guiding the rolling stock which is elevated above the track by a magnetic or pneumatic source.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

292, for a motor element for a linear motor generating a magnetic field for a propulsion of a railway rolling stock.

130.03 Having movable track elements:

This subclass is indented under subclass 130.02. Subject matter wherein the device includes at least one moving component for guiding the rolling stock.

130.04 For vertical guide:

This subclass is indented under subclass 130.01. Subject matter wherein the device is used for guiding rolling stock to or from tracks at different heights.

130.05 Having longitudinal pivot axis:

This subclass is indented under subclass 130.01. Subject matter wherein the device rotates about its horizontal axis which is longitudinal to the track.

130.06 Having horizontal sliding shift:

This subclass is indented under subclass 130.01. Subject matter wherein the device is operated by sliding it in the direction transverse to the track.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

102, for trolley transfer switch or frog pieces having a transverse sliding movement.

130.07 Having all stationary track elements:

This subclass is indented under subclass 130.01. Subject matter wherein all track sections of the device are fixed in place with respect to one another.

(1) Note. In this subclass the device operates in conjunction with a guiding member located on the body of the rolling stock.

130.08 For toothed rail:

This subclass is indented under subclass 130.01. Subject matter wherein the device is adapted for rack or cogged railways.

130.09 Having movable track element for slot-guided vehicle:

This subclass is indented under subclass 130.01. Subject matter wherein (a) at least one of the components of the track sections of the device changes its position for guiding the rolling stock on the railway track, and (b) the railway track consists of a narrow and continuous groove wherein means projecting (e.g., pins, posts) from the body of the rolling stock are traveling during operation.

130.11 Having flexible element:

This subclass is indented under subclass 130.01. Subject matter wherein one of the components of the track section of the device bends when a force is applied and retracts to its original position when the force is removed.

(1) Note. The component of the track section for this subclass includes a single bendable member or a plurality of members jointed at ends by means (e.g., hinges) which allow the members to move as a unit.

133 DROPPINGS CATCHER:

This subclass is indented under the class definition. Railway apparatus comprising drip-pans, nets, etc., for catching liquids, dirt, or articles that might fall from an elevated railway.

- 134 SLEDWAYS:**
This subclass is indented under the class definition. Railways in which the vehicles move over a defined track by sliding contact.
- 135 Roller track:**
This subclass is indented under subclass 134. Sledways having the track-surface made up of a series of rollers, over which the nonwheeled vehicles slide.
- 136 Ice track:**
This subclass is indented under subclass 134. Sledways in which the defined track-surface is formed of ice, along which the vehicles are adapted to slide.
- 137 TRAVELING TRACK:**
This subclass is indented under the class definition. Railways in which a traveling track is interposed between a bottom fixed track and a traveling vehicle.
- 138.1 TUBULAR WAY:**
This subclass is indented under the class definition. Railway having an enclosed tubular form.
- 138.2 Internal service device:**
This subclass is indented under subclass 138.1. Tubular way including a means movable there-within for inspecting, servicing, treating, cleaning, or performing some other maintenance function upon the interior of the tubular way.
- (1) Note. This subclass contains patents directed to the motive systems for carrying and moving the actual servicing tools through the interior of a tubular way. If the specific servicing tool is more than nominally claimed (even in combination with the motive carrying device), the patent is located in the appropriate classes provided for the tool.
- 139 TRUCK IN CONDUIT:**
This subclass is indented under the class definition. Railways, having a track with a slot opening into an enlarged conduit, in which a truck travels. The car-body is above the slot and has connecting-bars passing downwardly through the slot and fastened to the truck.
- 140 SLOTTED CONDUIT:**
This subclass is indented under the class definition. Railways in which the trackway is provided with an underground slotted conduit for the reception of traction elements, such as electric conductors or traction-cables.
- 141 Crossings:**
This subclass is indented under subclass 140. Apparatus comprising crossings for slotted-conduit railway-track. The conduit-slot rails enter into the structure.
- 142 Yokes:**
This subclass is indented under subclass 140. Apparatus comprising transverse yoke or U-beam structure for support of the track-rails and a slotted conduit.
- (1) Note. This subclass is largely composed of built-up rolled and cast sectional yokes.
- 143 Concrete:**
This subclass is indented under subclass 142. Yokes or slotted conduit structure made of concrete or concrete with metal structure.
- 144 Integral metallic:**
This subclass is indented under subclass 142. Yokes or slotted conduit structure composed of a single piece of metal.
- 145 Grip or plow traps:**
This subclass is indented under subclass 140. Apparatus comprising conduit enlargements and surface trap-doors for conduits for facilitating the insertion and removal of electric plow shoes or cable-grippers and devices for handling the trap-doors, plows, or grippers.
- 146 Adjustable slots:**
This subclass is indented under subclass 140. Conduit construction provided with slots, in which means are provided for laterally adjusting the slot-irons to increase or diminish the width of the slot.
- 154 Hydraulic:**
This subclass is indented under subclass 287. Car-propulsion systems in which the power is hydraulic and propulsion is effected through the cooperation of the car-carried mechanism

- and mechanism, such as nozzles and troughs, located along the trackway.
- 155 Pneumatic:**
This subclass is indented under subclass 287. Car-propulsion systems in which the power is pneumatic and propulsion is effected through the cooperation of the car-carried mechanism and mechanism located along the trackway and not otherwise classified below.
- SEE OR SEARCH CLASS:
406, Conveyors: Fluid Current, for propulsion of carriers through tubes by means of a current of air flowing through the tube. Class 104 provides for similar subject matter having tracks on which the carriers ride through the tubes.
- 156 Piston tube:**
This subclass is indented under subclass 155. Pneumatic car-propulsion systems in which a car-carried piston slides in a slotted tube extending longitudinally along the trackway and is acted upon by air therein for effecting the propulsion of the car.
- 157 Motor charging:**
This subclass is indented under subclass 155. Mechanism located along the trackway and adapted to cooperate with car-carried mechanism for charging the air-cylinders of the car and not otherwise classified below.
- 158 Moving car:**
This subclass is indented under subclass 157. Mechanism, allowing the charging of the car while in motion, and not otherwise classified below.
- 159 Longitudinal supply tube:**
This subclass is indented under subclass 158. Moving-car pneumatic motor-charging systems in which a longitudinal air-supply tube is located along the trackway and is adapted to charge the car by means of a car-carried receiver adapted to slide in a slot in said tube.
- 160 Sliding-sleeve receiver:**
This subclass is indented under subclass 159. Moving-car pneumatic motor-charging systems, the receiver being adapted to surround
- the supply-tube and slide on the outer surface thereof.
- 161 Sealing slot closers:**
This subclass is indented under subclass 155. Devices for closing the receiver slots in longitudinal air-supply or piston tubes to prevent the escape of air therefrom and adapted for movement to allow the passage of the receiver or piston shank therealong.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
194, for slot closers for traction cable conduits.
- 162 Pusher:**
This subclass is indented under subclass 165. Car propelling means comprising piston-rods or reciprocating plungers or ratchet-bars located on the track for pushing cars.
- 163 Rotary:**
This subclass is indented under subclass 162. Pushers comprising horizontal rotary arms or armed wheels for pushing cars around curves and vertical wheel devices for peripheral engagement with cars to raise them to a higher level.
- 164 TILTING TRACK:**
This subclass is indented under the class definition. Railways having rigid track sections horizontally pivoted, whereby upon tilting of a track section a car may move on the same by gravity.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
113, for gravity cable rails.
- 165 TRACTION:**
This subclass is indented under the class definition. Track and rolling stock in which the car-propelling means consists of a moving element or elements located along the trackway adapted to engage or be engaged by mechanism on the car for effecting movement thereof and not otherwise classified below.

- attached to the load, or (b) travels with the load along a cable.
- 166 Longitudinal rotary shafts:**
This subclass is indented under subclass 165. Car-propelling means in which the moving element in the road-bed consists of a longitudinally-extending rotary shaft.
- 167 Helical:**
This subclass is indented under subclass 165. Car-propelling means in which rotary shafts along the track are provided with helical or screw surfaces for propelling the car, on the principle of the screw or worm gear.
- 168 Transverse live roll:**
This subclass is indented under subclass 165. Car-propelling means in which the moving element in the road-bed consists of vertically or transversely extending live-rolls for engagement with car parts.
- 169 Reciprocating farm tool:**
This subclass is indented under subclass 165. Traction railways in which field farm tools are adapted to reciprocate transversely of the field by traction and to move longitudinally thereof at the same time or adapted for transverse and longitudinal movement independent of each other.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
235, for whelp-wheel traction.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 23 through 26.6 for earth working implements driven from or guided by a stationary object. A patent claiming an earth working implement by name only and concerned with a drive therefor, as defined in subclass 169, is classified in Class 104. Claiming some manipulation of the implement additional to traverse over the field or some detail concerned with earth working causes classification in Class 172.
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for apparatus for hauling or hoisting a load including a driven device which contacts and either (a) pulls a cable
- 170 Truck distribution:**
This subclass is indented under subclass 165. Freight-handling systems in which the freight is distributed from one point to another, as from car to warehouse, by means of small trucks operated by traction system, such as traveling cables or chains.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
88.01, through 88.06, for selective delivery features.
- 171 Two-wheel type:**
This subclass is indented under subclass 170. Freight-handling systems in which trucks of the two-wheel type are adapted to be engaged by traction cables or chains.
- 172.1 Chain:**
This subclass is indented under subclass 165. Car-propelling means in which the moving element along the trackway effecting the movement of a car comprises a flexible series of joined links carrying means for selectively engaging a car or adapted to be selectively engaged by a car-carried mechanism.
- 172.2 Tow pin or mast:**
This subclass is indented under subclass 172.1. Car-propelling means in which the car carries a movably attached car-propelling pin or member wwhich is movable through a guide slot into engagement with a traction chain moving within a channel disposed behind the guide slot; the weight of the car and its load, if any, is supported on a floor surface while the car is propelled and guided along the floor surface by the moving traction chain.
- (1) Note. Although the drive chain usually moves along a level below that of the surface which supports the car (i.e., below floor level), also included herein is a drive chain moving along a level above the car, in which case the car carries a rather long upwardly extending mast-like member in order to engage the overhead drive chain.

172.3 Beneath vehicle:

This subclass is indented under subclass 172.1. Car-propelling means in which the car is always located directly above the traction chain during the time it is being propelled thereby.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

172.2, for a chain for propelling a car which is usually located underneath the car.

172.4 Suspended:

This subclass is indented under subclass 172.1. Car-propelling means having an overhead rail or track for supporting and guiding a movable truck thereon, and further having an overhead traction chain for propelling the truck along the rail or track, whereby the load carrying parts are suspended or hung below the truck and the rail or track upon which it runs.

- (1) Note. An overhead conveyor which merely tows or pulls a floor-supported car therealong is not included herein. To be included in this subclass, an overhead conveyor must also have an overhead rail which supports the weight of the car or truck and its load.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

89 through 95, for an overhead track for rolling stock in which the load carrying parts are suspended below the truck and the rail upon which it runs.

172.5 Chain construction:

This subclass is indented under subclass 172.1. Subject matter pertaining to the structure of the traction chain, per se.

173.1 Cable:

This subclass is indented under subclass 165. Car-propelling means in which the moving element along the trackway effecting the movement of a car comprises a flexible belt or a thick, heavy, flexible rope or wire which carries means for selectively engaging a car or adapted to be selectively engaged by a car-carried mechanism.

SEE OR SEARCH CLASS:

- 226, Advancing Material of Indeterminate Length, appropriate subclasses for methods of, and apparatus for feeding material without utilizing the leading or trailing ends to effect movement of the material.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for apparatus for hauling or hoisting a load including a driven device which contacts and either (a) pulls a cable attached to the load, or (b) travels with the load along a cable.

173.2 Ski tow:

This subclass is indented under subclass 173.1. Traction means in which the traction cable is specifically adapted to pull, haul, or carry skiers participating in the sport of skiing from one place to another.

- (1) Note. Although most of the traction cables included herein are directed to the sport of snow skiing, also included herein are traction cables directed to the sports of water skiing and surfing.
- (2) Note. Subclasses 174-240, also indented under subclass 173.1, were not screened upon the creation of this subclass. Therefore, patents directed to "Ski tow" traction cables may still be present in subclasses 174-240.

174 Counterbalanced system:

This subclass is indented under subclass 173.1. Cable-operated car systems in which cars traveling downgrade under gravity are adapted to move or assist in moving other cars upgrade, not classified below.

175 Weight:

This subclass is indented under subclass 174. Cable-operated car systems in which cars travelling downgrade under gravity are adapted to lift a weight, which acting under gravity, moves or assists in moving other cars upgrade.

- 176 Mule car:**
This subclass is indented under subclass 173.1. Car-haul systems having a pushing car or mule operated by traction-cables and adapted to engage the railroad cars by means of a pusher-arm for moving the same. The pusher-arm in many of these patents is depressible to allow the mule to pass under the car.
- 177 Mail:**
This subclass is indented under subclass 173.1. Traction-cable systems in which a mail-carrying car is suspended from a trackway and adapted to ply between two points, as between a farmhouse and the road, and in which the car is propelled by cables operated by means of hand-cranks.
- 178 Drive and control:**
This subclass is indented under subclass 173.1. Apparatus for driving and braking railway traction cables or chains and also controlling means for the driving-motors thereof.
- 179 Signals:**
This subclass is indented under subclass 178. Devices for signaling to the power-house in case of injury to the traction-cable.
- 180 Running and carrying cable:**
This subclass is indented under subclass 173.1. Traction-cable systems in which a single cable is utilized for both propelling and supporting the cable-car.
- 181 Mail:**
This subclass is indented under subclass 180. Traction-cable systems in which the car is adapted to carry mail and ply between two points, as farmhouse and road, the cable being operated by means of a hand-crank.
- 182 Clearing-way hangers:**
This subclass is indented under subclass 173.1. Cable apparatus comprising hangers for load-carrying cables which are displaceable with respect to the cables to permit the unobstructed passage of the load-carriers.
- 183 Drum-wind draft:**
This subclass is indented under subclass 173.1. Traction-cable systems in which the car is propelled by means of a single draft cable having one end attached to the car and the other end adapted to be wound upon a drum operated by hand or by power.
- 184 At switches:**
This subclass is indented under subclass 173.1. Special arrangements of traction cables at switches and modifications in the track-way structure for their adaptation.
- 185 Crossing conduit:**
This subclass is indented under subclass 173.1. Special arrangements of traction cables and cable apparatus at crossing conduits and modifications in the conduit construction for their adaptation.
- 186 Cable depressors:**
This subclass is indented under subclass 185. Cable apparatus having means for depressing the cable of one line at or near the point where it is crossed by another in such manner that the grip on the car of the crossing line shall not come in contact with the cable of the crossed line.
- 187 Auxiliary car propulsion:**
This subclass is indented under subclass 185. Cable apparatus having means for impelling the cars of one line across the crossing line by means auxiliary to the cable, in cases where it is necessary temporarily to let go the cable altogether.
- 188 At swing bridges:**
This subclass is indented under subclass 173.1. Special arrangements of traction cables and cable apparatus at swing-bridges. This subclass shows the method of passing the cable across the stream and for propelling the car while on the bridge.
- 189 Curves:**
This subclass is indented under subclass 173.1. Special arrangements of traction cables and cable apparatus at curves.
- 190 Auxiliary car propulsion:**
This subclass is indented under subclass 189. Cable apparatus having means for impelling the car around the curve auxiliary to the main cable, either to allow a reduction in speed at the curve or to allow the main cable to continue

- along the straight track as the car takes the curve onto a crossing track.
- 191 Horizontal pulley:**
This subclass is indented under subclass 189. Special arrangements involving the construction and arrangement of horizontal pulleys for guiding a single traction cable around the curve.
- SEE OR SEARCH CLASS:
474, Endless Belt Power Transmission Systems or Components, particularly subclasses 152 through 165 for a positive drive pulley or guide roll; and subclasses 166-199 for a friction drive pulley or guide roll.
- 192 Double-rope system:**
This subclass is indented under subclass 189. Cable apparatus having means for conducting the two traction cables of a double rope-system around a curve without interfering with each other.
- 193 Draft-cable coupling:**
This subclass is indented under subclass 173.1. Devices for detachably coupling the end of a draft cable to a car. This subclass is largely composed of automatic uncoupling means.
- 194 Slot closers:**
This subclass is indented under subclass 173.1. Devices for closing the grip-slots in longitudinal cable and electric conduits to prevent the admission of dirt therein and adapted for movement to allow the passage of the grip-shank therealong.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
161, for pneumatic conduit-slot closers.
- 195 Slot switches:**
This subclass is indented under subclass 173.1. Cable apparatus comprising switches in conduit-slots and modifications in the conduit construction for their adaptation.
- SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclass 419 for switches having some modification in connection with the
- conduits, cables, etc., of cable railways.
- 196 Take-ups:**
This subclass is indented under subclass 173.1. Mechanism adapted to regulate the tension in traction cables during use to take up slack and compensate the variations in the length occurring from fluctuations of load or weather conditions or from shifting track conditions.
- 197 Supporting pulley:**
This subclass is indented under subclass 173.1. Cable apparatus comprising supporting pulleys for railway traction cables and modifications in the track or conduit structure for their adaptation.
- SEE OR SEARCH CLASS:
474, Endless Belt Power Transmission Systems or Components, particularly subclasses 152 through 165 for a positive drive pulley or guide roll; and subclasses 166-199 for a friction drive pulley or guide roll.
- 198 Cable shifters:**
This subclass is indented under subclass 173.1. Apparatus for switching traction cables, adapted to be placed within the cable conduit and operating to move the cable out of its normal position into position to be grasped by the grip-jaws or to move one cable out of gripping position while shifting another cable into gripping position.
- 199 Cable lifters:**
This subclass is indented under subclass 173.1. Apparatus for lifting traction cables adapted to be placed within the cable conduit and operating to lift the cable from its normal position up into position to be grasped by the grip-jaws of the car; also car-carried devices adapted to lift the cable into gripping position.
- 200 Cable clips:**
This subclass is indented under subclass 173.1. Devices in the nature of clips whereby buckets or suspension-cars may be secured to the cable of tramways for sustaining and carrying the buckets or cars and not otherwise classified below.

- 201 Strand engaging:**
This subclass is indented under subclass 200. Cable clips provided with head portions adapted to be inserted wholly or partly between the shanks of the cables.
- 202 Grippers:**
This subclass is indented under subclass 173.1. Cable apparatus comprising grasping devices on cable-railway cars by which a car can be attached to the traction cable or released therefrom at will.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, Etc., subclasses 115 through 136 for cord and rope holders of general application.
182, Fire Escape, Ladder, or Scaffold, subclasses 5 through 7 for strand-engaging torso harness, and subclasses 10-11 for a carrier supported for movement on an inclined cable.
188, Brakes, subclasses 65.1 through 65.5 for strand grippers employed as brakes.
226, Advancing Material of Indeterminate Length, appropriate subclasses for methods of, and apparatus for, feeding material without utilizing the leading or trailing ends to effect movement of the material.
- 203 Pneumatically operated:**
This subclass is indented under subclass 202. Cable apparatus comprising pneumatic power means and controlling devices therefor for operation of cable-gripping jaws.
- 204 Automatic grip control:**
This subclass is indented under subclass 202. Devices located along the trackway for causing an application of car-carried cable-gripping jaws to the traction cable or the release of said jaws from said cable.
- 205 Trip lever:**
This subclass is indented under subclass 204. Devices having the gripping-jaws operatively connected to a trip-lever on the car or trolley. The trip-lever being operated by a stop or ramp located along the track.
- 206 Toggle-operated jaw:**
This subclass is indented under subclass 205. Devices which have a pair of toggle-links directly connected to one or both of the gripping jaws.
- 207 Releasable pawl:**
This subclass is indented under subclass 204. Devices having pawls locking the grip-control levers to their ratchet segments and released by the action of track-trips.
- 208 Weight-operated jaw:**
This subclass is indented under subclass 204. Devices in which the weight of the trolley load holds the gripping-jaws to the traction cable and track ramps or trips raise the trolley-load to release the jaws.
- 209 Spring-pressed jaw:**
This subclass is indented under subclass 204. Devices in which trip-controlled spring-pressed gripping-jaws either normally tend to grip the traction cable or normally tend to release it.
- 210 Screw operated:**
This subclass is indented under subclass 204. Devices in which trip-controlled gripping-jaws are actuated by a screw or helical cam.
- 211 Cam operated:**
This subclass is indented under subclass 204. Devices having trip-controlled gripping-jaws actuated by a cam.
- 212 Wedge operated:**
This subclass is indented under subclass 204. Devices in which the gripping-jaws may be wedge-formed or are operated by wedges or beveled arms.
- 213 Longitudinal buffer:**
This subclass is indented under subclass 202. Cable apparatus having longitudinal buffers for grip-carriers on cars to dissipate the abruptness of the jerk when the gripper engages the running cable.
- 214 Laterally movable jaws:**
This subclass is indented under subclass 202. Grippers in which each of the jaws is pivotally, flexibly, or slidably mounted so as to be mov-

- able laterally in a horizontal sense to engage the cable.
- 215 With guide rollers:**
This subclass is indented under subclass 214. Grippers, having end guide-rollers adjacent the jaws for sustaining the cable while disengaged from the gripping-jaws.
- 216 Pivoted and fixed jaws:**
This subclass is indented under subclass 202. Grippers having one jaw fixed and the other jaw is pivoted so as to be movable toward the fixed jaw.
- 217 Forceps:**
This subclass is indented under subclass 202. Grippers having two pivoted jaws of forceps type with lever-jaws having intermediate fulcrums.
- 218 Vertically movable jaws:**
This subclass is indented under subclass 202. Grippers in which one or both of the jaws slide vertically.
- 219 Pawl lever and link:**
This subclass is indented under subclass 218. Grippers, with links connecting the movable jaw or jaws with the operating lever and the latter carrying a pawl engaging a ratchet segment.
- 220 With guide rollers:**
This subclass is indented under subclass 218. Grippers with end guide-rollers adjacent the jaws for sustaining the cable while disengaged from the gripping-jaws.
- 221 Pawl lever and link:**
This subclass is indented under subclass 220. Grippers having pawl lever and link jaw operators.
- 222 Wedge:**
This subclass is indented under subclass 202. Grippers having wedge devices for operating one or both of the gripping-jaws.
- 223 Screw:**
This subclass is indented under subclass 202. Grippers having screw devices for operating one or both of the gripping-jaws.
- 224 Cam:**
This subclass is indented under subclass 202. Grippers having cam devices for operating one or both of the gripping-jaws.
- 225 V-clips or hooks:**
This subclass is indented under subclass 202. Grippers in the form of forks, clips, or hooks with V-shaped recesses for engaging the traction-cable.
- 226 Friction belt:**
This subclass is indented under subclass 202. Grippers in which one or both of the gripping-jaw faces are formed of an endless belt parallel to the running cable, the endless belts having restricted movement with the traction-cables.
- 227 Overstepping:**
This subclass is indented under subclass 202. Cable apparatus in which the gripper on the car releases from the traction-cable, raises up, passes over an overlying crossing cable, and, dropping down again, engages its traction-cable.
- 228 Revolving:**
This subclass is indented under subclass 227. Apparatus having a recessed wheel associated with the gripper on the car for passing an overlying cable on a cable-crossing.
- 229 Rollers:**
This subclass is indented under subclass 202. Apparatus in which the cable-engaging faces of the gripping-jaws are rollers.
- 230 Power transmitting:**
This subclass is indented under subclass 229. Apparatus in which one or more of the rollers is used for transmitting power for use on the car.
- 231 Laterally movable:**
This subclass is indented under subclass 229. Grippers having laterally movable roller-type jaws.
- 232 Vertically movable:**
This subclass is indented under subclass 229. Grippers having vertically movable roller-type jaws.

- 233 Opposing twin:**
This subclass is indented under subclass 232. Grippers in which the cable-engaging faces are alined opposing pairs of rollers.
- 234 Staggered:**
This subclass is indented under subclass 232. Grippers in which the cable-engaging faces are staggered opposing series of rollers.
- 235 Whelp wheel:**
This subclass is indented under subclass 202. Cable apparatus in which the cable extending along a trackway has intermediate its length one or more coils around one or more drums or pulleys mounted on a vehicle, the vehicle being caused to move in either direction by relative movement of the cable and drum or drums.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
169, for farm tools similarly operated.
- 236 Sprocket wheel:**
This subclass is indented under subclass 202. Cable apparatus in which a sprocket-wheel on the car engages a cable, to which are affixed buttons or stops adapted to engage the sprocket-wheel.
- 237 Sprocket belt:**
This subclass is indented under subclass 202. Grippers having one or both faces of the gripping-jaws formed of sprocket-belts extending parallel to the traction-cable.
- 238 Drive stops on car:**
This subclass is indented under subclass 202. Cable apparatus comprising car-carried stops and abutments for engagement with buttons or stops on traction-cables.
- 239 Cable-driving stops:**
This subclass is indented under subclass 202. Devices comprising buttons or stops attached to traction-cables.
- 240 Cable construction:**
This subclass is indented under subclass 173.1. Features of traction cable construction.
- 241 SEAT-GUARD CONTROL:**
This subclass is indented under the class definition. Devices located along the track for controlling the locking of seat-guards to retain passengers in their seats, as used on amusement railways.
- 242 DERAILEMENT GUARDS:**
This subclass is indented under the class definition. Apparatus for preventing cars from becoming derailed and for safeguarding them after derailment.
- (1) Note. Subject matter under this definition includes track-like guides for steering a nontrack supported vehicle without the intervention of a power actuated means.
- SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 401 for a motor vehicle provided with steering gear which includes a land-based steering datum and means on the vehicle for sensing the datum, which means cooperates with a steering motor on the vehicle for the purpose of controlling the course of the vehicle.
- 243 Supplemental car wheels and rails:**
This subclass is indented under subclass 242. Derailment guards in which the truck or car is provided with normally inactive wheels, which in case of derailment come into bearing upon supplemental rails other than the regular traction-rails.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
119, for side guides for monorail railways.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 215.1 for supplemental wheels without supplemental rails.
- 244 Inclined wheels:**
This subclass is indented under subclass 242. Derailment guards, comprising inclined traction and supplemental wheels to guard against derailment.

244.1 Furrow feelers:

This subclass is indented under subclass 242. Devices comprising a feeler element for a vehicle, said feeler element being adapted to contact a furrow or channel previously made in the ground to guide the vehicle on a path determined by the direction of said furrow or channel.

- (1) Note. The feeler element must not be a load supporting member such as a load supporting wheel of the vehicle; it must be an added element for the purpose only of guiding the vehicle. The feeler element may, however, be a part added to a load supporting wheel to function as a furrow follower.
- (2) Note. The previously made furrow must not be freshly made by an earth working element ahead of the feeler. It must have been made on a previous pass of the apparatus or made by some other apparatus.
- (3) Note. The vehicle may be an earth working implement claimed by name only.

SEE OR SEARCH CLASS:

- 33, Geometrical Instruments, subclasses 41.1 through 45 for scribe means for producing a line at an unvarying distance from a guiding edge or the like.
- 172, Earth Working, subclass 26 for an earth working implement guided by a feeler element running in a furrow, subclasses 278-291 for earth working implements with wheel steering means or means for horizontally angling a wheel axis, subclass 126 for earth marker apparatus, earth markers often being mounted on a vehicle in a manner similar to that of furrow followers, subclasses 383-386 for earth working implements with an angularly adjustable wheel or with means for locking it against swinging, subclasses 387-394 for an earth working implement with a wheel substitute, subclasses 395-429 for an earth working implement with a ground support vertically adjustable relative to the

frame, and subclasses 669-676 for an earth working implement with a wheel.

- 180, Motor Vehicles, subclass 401 as explained in the reference thereto appearing in subclass 242 above.
- 280, Land Vehicles, subclass 87.2 for a land vehicle of the wheeled type provided with means whereby one or more of its wheels may be steered by an occupant and wherein the steering means controls also a wheel offset from the principal supporting wheels of the vehicle, and see the search notes of that subclass (87.2) for the line with this class (104); and subclass 776 for a wheeled vehicle of the occupant steered type wherein bias means is provided for maintaining a steerable wheel in engagement with an elongate, more or less vertical surface (e.g., a curb) for a vehicle-steering purpose.

245 Guide rollers:

This subclass is indented under subclass 242. Derailment guards, comprising nonload carrying guide-rollers for preventing derailment, or the rollers may constitute the sole guiding means for the vehicle.

SEE OR SEARCH CLASS:

- 492, Roll or Roller, for a roll, per se, not elsewhere provided for, and see the notes thereunder.

246 Rail interlock:

This subclass is indented under subclass 245. Derailment guards in which the guide-rollers have interlocking engagement with the rails to prevent upward movement of the rollers from the rails.

247 Horizontal thrust only:

This subclass is indented under subclass 245. Derailment guards, in which the guide-rollers have horizontal thrust only, without any restraining means against vertical displacement.

- 248 Rail-interlocking lugs:**
This subclass is indented under subclass 242. Derailment guards comprising car-carried lugs or fingers having interlocking engagement with the rails.
- 249 CAR STOPS:**
This subclass is indented under the class definition. Apparatus comprising impact devices on the trackway for stopping cars.
- 250 Special track:**
This subclass is indented under subclass 249. Buffers for tracks other than surface tracks, such as suspended and cable tracks.
- 251 Car retaining:**
This subclass is indented under subclass 250. Buffers and stops which are adapted to become locked to and retain the car.
- 252 Releasable feed:**
This subclass is indented under subclass 249. Apparatus comprising releasable stops which are removable from the trackway, so that no obstruction is left for the further forward movement of the car.
- 253 Alternate:**
This subclass is indented under subclass 252. Car stops in which there are a plurality of releasable stops arranged in tandem for feeding out one car at a time.
- 254 Bumpers:**
This subclass is indented under subclass 249. Stop-bumpers for cars on surface tracks.
- SEE OR SEARCH CLASS:
267, Spring Devices, subclasses 139 through 140 for a bumper spring device of the solid material spring element type.
- 255 Counterweight:**
This subclass is indented under subclass 254. Car-stop devices in which the momentum of the car is wholly or in part taken up by counterweights.
- 256 Fluid pressure:**
This subclass is indented under subclass 254. Car-stops comprising fluid pressure devices for car stoppage.
- SEE OR SEARCH CLASS:
188, Brakes, subclasses 297 through 320 for a fluid-pressure shock absorber of general utility.
267, Spring Devices, subclass 116 for a fluid spring device useful in bumper construction.
- 257 Displaceable chock:**
This subclass is indented under subclass 249. Car-stops comprising wheel-chocks located along the trackway for engagement with car-wheels and designed to be seated on the rail or shifted therefrom at will.
- 258 Rail-clamp chocks:**
This subclass is indented under subclass 249. Car-stops comprising chock-blocks having base flanges or clamps for securing them to the rail.
- 259 Sliding:**
This subclass is indented under subclass 249. Car-stops comprising bumpers and chock-blocks adapted to have sliding engagement with the track when in action.
- 260 Wheel skid:**
This subclass is indented under subclass 249. Car-stops comprising chock-blocks adapted to remove the wheel from contact with the rail and to slide along the same.
- 261 CAR-ATTACHED DERAILER:**
This subclass is indented under the class definition. Devices carried by the car and adapted to be dropped to the track when in operative position to derail the car.
- 262 CAR REPLACER:**
This subclass is indented under the class definition. Devices for replacing car-wheels on the track-rails when they have been derailed.
- 263 Car attached:**
This subclass is indented under subclass 262. Car-replacing devices operatively attached to and normally carried by the car.

- 264 Special track:**
This subclass is indented under subclass 262. Car-replacing devices comprising fixed track parts and supplemental rails designed to restore derailed wheels to the rails.
- 265 Two-way:**
This subclass is indented under subclass 262. Car-replacing frog-blocks adapted for use at one side of a rail and operative in either direction of movement of a car-wheel over the same.
- 266 With rollers:**
This subclass is indented under subclass 265. Car-replacing frog-blocks, having antifriction-rollers to facilitate the lateral shifting of the car-wheels.
- 267 Double:**
This subclass is indented under subclass 265. Car-replacing frog-blocks with the car-replacing frogs in duplicate on each side of each rail.
- 268 One way:**
This subclass is indented under subclass 262. Car-replacing frog-blocks which are operative in only one direction of the car-wheel relatively to said block.
- 269 Symmetrical:**
This subclass is indented under subclass 268. Car-replacing frog-blocks, the frog-blocks being symmetrical longitudinally, so that they are applicable to either side of a rail for operation in the same direction, thus obviating the manufacture of rights and lefts.
- 270 Saddles:**
This subclass is indented under subclass 268. Car-replacing devices comprising two frog-blocks connected together in saddle-like form to seat over a rail-head.
- 271 Pivoted ramp:**
This subclass is indented under subclass 268. Car-replacing devices comprising a ramp or bar pivoted to a rail-engaging block and forming the track for the derailed wheel.
- 272 Articulated extension:**
This subclass is indented under subclass 262. Car-replacers provided with pivoted or articulated extensions on the main car-replacing element.
- 273 Shifting jack:**
This subclass is indented under subclass 262. Car-replacers comprising laterally-shifting jacks and wheel-carriers for wheel-replacing.
- 274 Rail clamps:**
This subclass is indented under subclass 262. Car-replacing apparatus comprising rail-attaching devices particularly adapted for use on car-replacers.
- 275 HOSE BRIDGES:**
This subclass is indented under the class definition. Devices for the crossing of railway-tracks by fire-hose, so as to avoid interference with car movement.
- 276 Overhead:**
This subclass is indented under subclass 275. Railway hose-bridges for elevation of the hose, so that it will be carried over the car-track above the car-stops.
- 277 Under rail:**
This subclass is indented under subclass 275. Hose-crossings located beneath the track-rails.
- 279 TRACK CLEARERS:**
This subclass is indented under the class definition. Devices for cleaning or clearing railway-tracks.
- (1) Note. This subclass includes combinations of railway-track-clearing elements which if claimed separately would go into different official classes.
- SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, for apparatus for cleaning by any of the following operations; brushing, beating, shaking, shottling, wiping, or the use of a squeegee, particularly subclasses 54 through 55 for rail sweepers.

- 37, Excavating, particularly subclasses 198 through 218 for railway snow excavators.
- 56, Harvesters, subclasses 230 through 232 for rail-road vehicle mounted vegetation cutters.
- 118, Coating Apparatus, subclass 307 for track guided cars with means to spray a liquid onto the rails.
- 126, Stoves and Furnaces, subclasses 271.1 through 271.3 for surface heaters.
- 239, Fluid Sprinkling, Spraying, and Diffusing, particularly subclasses 173 and 174 for railroad sprinklers.
- 256, Fences, subclass 12.5 for driftage control fences.
- 280 Conduit:**
This subclass is indented under subclass 279. Devices for cleaning slotted conduits used in cable and electric railway tracks.
- 281 MAGNETICALLY SUSPENDED CAR:**
This subclass is indented under the class definition. Railways wherein a vehicle adapted to travel along a guideway is suspended above the guideway by a magnetic field.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
130.01, through 130.11, for means to switch a magnetically suspended vehicle from one guideway to an adjacent or intersecting guideway.
- SEE OR SEARCH CLASS:
310, Electrical Generator or Motor Structure, subclass 90.5 for magnetic bearing supports.
- 282 Propulsion means employed to suspend car:**
This subclass is indented under subclass 281. Propulsion means employed to suspend car: Apparatus wherein the magnetic field employed to suspend the vehicle above the guideway is due at least in part to elements employed to move the vehicle along the guideway.
- 283 By permanent magnets only:**
This subclass is indented under subclass 281. Apparatus wherein the magnetic field is caused solely by material on the vehicle or guideway
- having inherent magnetic characteristics, rather than by an electric current.
- 284 Including means to sense or control car position or attitude with respect to guideway:**
This subclass is indented under subclass 281. Apparatus wherein means are provided which either detects or initiates vertical, lateral, or rotational displacement of the vehicle with respect to the guideway.
- (1) Note. Suspension systems which display inherent stability (e.g., repulsive systems) are not proper for this subclass on that basis alone.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
293, for vehicles propelled by linear motor having means to regulate the gap between linear elements.
- 285 With cooling means:**
This subclass is indented under subclass 281. Apparatus wherein means are provided to remove heat from the apparatus.
- 286 Construction or composition of suspension elements:**
This subclass is indented under subclass 281. Apparatus relating to particular structure or material of a magnet or reaction surface on the vehicle or guideway.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
294, for specific structure or material of linear motor elements used to propel vehicles.
- 287 CAR-CARRIED PROPULSION SYSTEM:**
This subclass is indented under the class definition. Railways wherein the vehicle is propelled along a guideway by means carried by a vehicle and cooperating with static structure provided on a modified guideway.
- (1) Note. A stationary conduit along the guideway which confines a propelling fluid current is considered to be a "static structure" as defined above.

288 Electric:

This subclass is indented under subclass 287. Apparatus wherein electric current is supplied to either the vehicle or guideway to propel the vehicle along the guideway.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclasses 49 through 61 for electrically-powered locomotion.

191, Electricity: Transmission to Vehicles, appropriate subclasses for devices for electrically propelled vehicles for transmitting electricity from a conductor along the guideway to the vehicle.

289 With regenerative energy means:

This subclass is indented under subclass 288. Apparatus wherein kinetic energy of the vehicle is converted for alternate or later use.

290 Linear motor:

This subclass is indented under subclass 288. Apparatus wherein either a primary or secondary motor element of a linear induction motor is carried by the vehicle, and the other is formed or adjacent on the guideway to mutually propel the vehicle along the guideway.

SEE OR SEARCH THIS CLASS, SUBCLASS:

282, for linear motors which, in addition to propelling the vehicle, are also employed to suspend it above the guideway.

SEE OR SEARCH CLASS:

310, Electrical Generator or Motor Structure, subclasses 12 through 14 for a linear motor, per se. Patents disclosing a linear motor for use with a railway system and positively claiming either a vehicle carrying one of the linear motor elements or track structure in addition to a motor element are properly classified in Class 104.

318, Electricity: Motive Power Systems, subclasses 38, 135 and 687 for linear motors in combination with an electrical system. Patents disclosing a linear motor and associated control system for use with a railway system, and

claiming in addition to the combination either a vehicle or track structure in addition to a motor element are properly classified in Class 104.

291 Suspension between truck and vehicle body:

This subclass is indented under subclass 290. Suspension between truck and vehicle body: Apparatus relating to the particular connection between a portion of the vehicle carrying the primary or secondary motor element and the remainder of the vehicle.

292 Propulsion by active guideway; e.g., linear synchronous motor, etc.:

This subclass is indented under subclass 290. Apparatus wherein the motor element associated with the guideway includes a current-carrying conductor for generating a magnetic field, the current being induced by means other than the motor element carried by the vehicle.

SEE OR SEARCH CLASS:

310, Electrical Generator or Motor Structure, subclass 13 for a linear motor having fixed and movable wound elements.

293 Including means to control gap:

This subclass is indented under subclass 290. Apparatus wherein means are provided to regulate that distance between the primary and secondary linear motor elements carried on the vehicle and guideway.

SEE OR SEARCH THIS CLASS, SUBCLASS:

284, for magnetically-suspended railway vehicles having means to control the position or attitude of the vehicle with respect to the guideway.

294 Construction or composition of motor elements:

This subclass is indented under subclass 290. Apparatus relating to specific structure or material of the primary or secondary element motor of the linear motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

286, for specific structure or material of magnet or reaction surfaces used for magnetically supporting a vehicle.

- 295 External car control:**
This subclass is indented under subclass 288. Apparatus wherein means causing propulsion of the vehicle is controlled from a point externally of the vehicle.
- SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclasses 187 through 188 for external control of propulsion not associated with a peculiar type of railway.
- 296 Auxiliary function on car:**
This subclass is indented under subclass 295. Apparatus wherein a vehicle-carried electrical device, other than a vehicle-propelling motor, is controlled externally of the vehicle.
- 297 Superimposed signal on same conductor:**
This subclass is indented under subclass 296. Apparatus comprising a multiplex system for transmitting concurrently along a common conductor a signal for operating or controlling means propelling the vehicle and a signal for operating or controlling the electrical device.
- 298 By block system:**
This subclass is indented under subclass 295. Apparatus wherein the railway is divided into serially arranged sections electrically insulated from one another, each section provided with vehicle-controlling means.
- SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclasses 20+ for propulsion-controlling railway block systems not associated with a peculiar type of railway.
- 299 Of spacing between cars:**
This subclass is indented under subclass 295. Apparatus including means for regulating the speed or dispatch of one vehicle in response to a sensed condition regarding another vehicle.
- 300 Car-carried speed regulator:**
This subclass is indented under subclass 295. Apparatus wherein a device, in addition to the propelling means, is provided on the vehicle to alter the speed of the vehicle over the guideway.
- 301 Of multiple trains on same track:**
This subclass is indented under subclass 295. Apparatus wherein means are provided to independently control propulsion means of a plurality of vehicles guided on a common continuous guideway.
- 302 Reversing of car movement or conductor current:**
This subclass is indented under subclass 295. Apparatus wherein either (a) means externally of the vehicle are provided for controlling the direction of movement of the vehicle along the guideway, or (b) means are provided whereby the polarity of propulsion current at a propulsion motor is kept constant.
- 303 By switch responsive to discrete means along guideway:**
This subclass is indented under subclass 302. Apparatus including a polarity-reversing switch activated in response to a vehicle passing either a device on or adjacent the guideway or a modified section of the guideway.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
117.1, for automatic stopping or reversing of vehicles riding on cableways.
- 304 Of steerable car:**
This subclass is indented under subclass 295. Apparatus wherein the vehicle is movable laterally back and forth across the guideway and means are provided externally of the vehicle to control the lateral movement.
- (1) Note. Mere pivotal movement of the car as it is propelled along the guideway is not sufficient to cause classification in this subclass.
- SEE OR SEARCH CLASS:
238, Railways: Surface Track, subclass 10 for portable track structure having slots to guideway vehicles.
463, Amusement Devices: Games, subclasses 58 through 69 for portable track structure and steerable cars claimed in combination with a game feature (e.g., lap counter, clock, plural simultaneous racing cars, etc.).

305 Of slot-guided car:

This subclass is indented under subclass 295. Apparatus including a groove along the length of the guideway adapted to be engaged by a protuberance on the vehicle to maintain the vehicle on the guideway.

SEE OR SEARCH CLASS:

238, Railways: Surface Track, subclass 10 for portable track structure having slots to guide vehicles.

463, Amusement Devices: Games, subclasses 58 through 69 for portable track structure and steerable cars claimed in combination with a game feature (e.g., lap counter, clock, plural simultaneous racing cars, etc.).

306 WITH RUNNING GEAR:

This subclass is indented under the class definition. Railway combined with a railway vehicle support wheel adapted to roll over a railway rail, the wheel and the rail being modified for interrelation and cooperation with each other.

307 MISCELLANEOUS:

This subclass is indented under the class definition. Apparatus not otherwise classified above.

END