

CLASS 213, RAILWAY DRAFT APPLIANCES**SECTION I - CLASS DEFINITION**

This class contains patents involving means for connecting together the various elements of a railway train. It also contains patents involving means for resiliently absorbing the shocks and blows incident to the movement of the train and to give cushioning effect to starting and stopping thereof. Devices relating to this purpose may be formed as a part of the coupling devices or may be separate devices secured to or built into the car construction, either to cooperate with the coupling device or to engage and cooperate with similar structure on another car.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

- (1) Note. Elements of a car, which are also elements of the subject matter of this class, but are modified in structure for use in combination with other elements of the car, the problem involved being more that of car construction than relating to the subject matter of this class, will be found in Class 105, Railway Rolling Stock. Copies of the patents in Class 105 which might be of value as references in this class have been placed in the class as cross references.
- (2) Note. Patents claiming combinations between car couplers and devices for other purposes incident to the use and operation of the car will be found in the classes in which such other devices are classified. The combination of a car coupler and means for coupling train-pipe service for air or steam forms an exception to the rule above noted and will be found in this Class 213, subclass 76. However, where such train line is secured to a coupler or drawbar and its operation is the same as though hung to any other part of the car the combination will be found in Class 285, Pipe Joints or Couplings, subclasses 24+ and 62+. The combination of a car coupler and connecting means for electric circuits forms another exception to the above rule and will be found in this Class 213, subclasses 1.3+. Where the combination is between a coupler and a brake see Class 188, Brakes. Where the combination is between a car

coupler and means for unloading or loading a car, see Class 414, Material or Article Handling.

- (3) Note. Devices adapted to attach draft animals to cars will be found in Class 278, Land Vehicles: Animal Draft Appliances.
- (4) Note. For coupling and draft devices for trains of vehicles other than track vehicles see Class 180, Motor Vehicles, subclasses 14.1+, and Class 280, Land Vehicles, subclasses 400+.

SUBCLASSES

- 1 MISCELLANEOUS:**
This subclass is indented under the class definition. Devices not falling specifically within the definitions of the following subclasses.
- 1.3 COMBINED COUPLER AND ELECTRIC CONNECTOR:**
This subclass is indented under the class definition. Combinations of railway draft couplers with electrical connecting means.

SEE OR SEARCH CLASS:
280, Land Vehicles, subclass 422 for electric service connections in land vehicle trains.
439, Electrical Connectors, for electric connectors, per se, especially subclasses 34+ for combinations of electric connectors with vehicle structures other than draft couplers.
- 1.6 With additional circuit-making or breaking means:**
This subclass is indented under subclass 1.3. Combinations having an electric switch or other means for opening or controlling a circuit through the connector contacts without separating said contacts.

(1) Note. The switch or other circuit opening or control means is usually, but not necessarily, located at a point remote from the car coupler and electric connector, and may be interlocked therewith so as to require operation of the switch

before the connector contacts or car-couplers can be separated.

SEE OR SEARCH CLASS:

307, Electrical Transmission or Interconnection Systems, for miscellaneous electrical systems in general especially subclasses 9.1+ for vehicle mounted systems.

2 LOCOMOTIVE AND TENDER:
This subclass is indented under the class definition. Draft devices for connecting together a locomotive and tender, the forward end of the locomotive or the rear end of a tender to the other cars of a train.

3 Locomotive to tender:
This subclass is indented under subclass 2. Devices where the connecting means is between the locomotive and tender.

4 Movable to inoperative position:
This subclass is indented under subclass 2. Draft device which is capable of being moved to an inoperative or out-of-the-way position when not in use.

5 With drawbar-lifting means:
This subclass is indented under subclass 4. Devices having in combination therewith means for raising the draft device in a vertical direction.

6 Pocket type:
This subclass is indented under subclass 2. Devices made in the form of a pocket secured to an end portion (usually the rear end of a tender) for holding a coupling device.

7 CUSHIONED:
This subclass is indented under the class definition. Patents providing means for cushioning the movement of the draft device.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 120 for a spring device of the expansible-chamber fluid spring type, for cushioning a rail vehicle body on its undercarriage.

8 Continuous:
This subclass is indented under subclass 7. The draft device is continuous from one end of the car to the other.

9 Combined with car end buffer:
This subclass is indented under subclass 7. Means wherein a cushioned draft device is operatively connected to a car end buffer and functions therewith for any purpose.

(1) Note. See search note below for definition of a car end buffer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

220, for definition of a car end buffer.

10 Single center sill:
This subclass is indented under subclass 7. Devices where the car is of the type having a single center sill.

11 Bolster-positioned:
This subclass is indented under subclass 7. Devices where the cushioning means extends into or through the bolster of the car and the bolster is modified to cooperate therewith.

12 Radially movable:
This subclass is indented under subclass 7. Wherein the draft device is movable angularly in any direction.

(1) Note. Patents showing looseness of parts which permits angular movement do not fall in this subclass unless the structure is specially designed to take advantage of such looseness to give angular movement.

13 Vertically:
This subclass is indented under subclass 12. Means wherein the movement of the draft device is in a vertical direction.

14 Combined horizontally:
This subclass is indented under subclass 13. Structure under subclass wherein vertical movement of the draft device is combined with a horizontal movement.

- and in which no claim sets forth a spring device limited to use as railway draft appliance.
- 15 Truck-controlled:**
This subclass is indented under subclass 12. Structure wherein the movement of the draft device is controlled by the movement of the car truck.
- 16 Hand-controlling devices:**
This subclass is indented under subclass 12. Devices wherein means are provided to move by hand the draft device to bring the coupling part to a position to facilitate coupling.
- 17 Combined uncoupling levers:**
This subclass is indented under subclass 16. Devices wherein the hand-controlling means also operates as means for unlocking or uncoupling the coupler.
- 18 Swing head:**
This subclass is indented under subclass 12. Means wherein the center of radial movement of the draft device is on a pivot connecting the coupler head to the drawbar.
- 19 Centering devices:**
This subclass is indented under subclass 18. Devices wherein self-acting means are employed to return the head and drawbar into alignment.
- 20 Centering devices:**
This subclass is indented under subclass 18. Devices wherein self-acting means are employed to move the draft devices into alignment with the center line of the car.
- 21 Drawbar carriers:**
This subclass is indented under subclass 20. Structure wherein the centering means for the draft device is carried by or formed as part of the drawbar carrier.
- 22 Combined spring and friction:**
This subclass is indented under subclass 7. Devices using the combined action of springs and friction as means for cushioning movement of the draft devices.
- SEE OR SEARCH CLASS:
267, Spring Devices, subclasses 196+ for spring and friction retarder devices specifically disclosed as having utility other than as a railway draft appliance
- 23 Preliminary spring:**
This subclass is indented under subclass 22. Devices wherein the cushioning action is against the action of a spring preliminary to the combined action of spring and friction.
- 24 Shoes and wedges with casings:**
This subclass is indented under subclass 23. Cushioning devices is of a type comprising a casing with friction shoes engaging the casing and wedges to force the shoes into engagement therewith.
- 25 Springs only on draft:**
This subclass is indented under subclass 22. Means wherein spring action only cushions a draft movement of the device, with combined spring and friction on buffing movement.
- 26 Differential spring compression:**
This subclass is indented under subclass 22. Combined spring and friction devices in which compression of the springs is greater or less than the movement of the draft device.
- 27 Rotating friction elements:**
This subclass is indented under subclass 26. Devices wherein the friction is generated by rotative movement of friction elements.
- 28 Rotating friction elements:**
This subclass is indented under subclass 22. Devices wherein the friction is generated by the rotative movement of friction elements.
- 29 Interengaging friction springs:**
This subclass is indented under subclass 22. Devices wherein interengaging springs generate the frictional resistance by movement upon each other.
- 30 Plate springs:**
This subclass is indented under subclass 29. Devices wherein the springs are plate springs.
- 31 Friction casings:**
This subclass is indented under subclass 22. Devices wherein one of the friction elements of the device is a casing.

- and in which no claim sets forth a spring device limited to use as a railway draft appliance.
- 32 Shoes and wedges:**
This subclass is indented under subclass 31. Devices wherein the friction is generated by wedging of shoes outwardly against the inner walls of the casing.
- 33 Interleaved friction plates:**
This subclass is indented under subclass 32. Devices wherein there are also provided interleaved friction plates, some being movable relative to others.
- 34 Compound wedges:**
This subclass is indented under subclass 33. Devices wherein the wedges are formed of a plurality of parts.
- 35 Central friction post:**
This subclass is indented under subclass 22. Devices wherein one of the friction elements is in the form of a post centrally disposed.
- 36 Shoes and wedges:**
This subclass is indented under subclass 35. Devices wherein the wedges are employed to force shoes into engagement with the friction post.
- 37 Transversely movable friction element:**
This subclass is indented under subclass 22. Devices wherein the friction is generated by movement of friction devices transversely thereof.
- 38 Transverse springs:**
This subclass is indented under subclass 37. Devices wherein spring resistance is disposed transversely thereof.
- 39 Inwardly movable:**
This subclass is indented under subclass 38. Devices wherein the movement of the friction element is in an inward direction.
- 40 Springs:**
This subclass is indented under subclass 7. The cushioning device for the draft is in the form of a spring.
- SEE OR SEARCH CLASS:
267, Spring Devices, for spring devices specifically disclosed as having utility other than as a railway draft appliance
- 41 Varying resistance:**
This subclass is indented under subclass 40. Devices wherein the spring resistance is increased to give greater resistance to movement of the draft device per unit of travel according to the amount of travel of the draft device or to provide a greater resistance to impact shock than to pulling strains.
- 42 Tension:**
This subclass is indented under subclass 40. Devices wherein the springs are tension springs.
- 43 Fluid:**
This subclass is indented under subclass 40. Wherein devices of the class indicated the spring is the compression of a pneumatic fluid or dashpot action of a liquid fluid.
- 44 Multiple:**
This subclass is indented under subclass 40. Wherein devices of the class indicated a plurality of springs are employed in the device.
- 45 Tandem arrangement:**
This subclass is indented under subclass 44. Wherein devices of the class indicated the springs are arranged in tandem relation.
- 46 Separate springs for buff and draft:**
This subclass is indented under subclass 45. Wherein devices of the class indicated one spring or set of springs are used for draft strains and another spring or set of springs are used for buffing shocks, the springs or sets of springs having tandem relation.
- 47 With yokes:**
This subclass is indented under subclass 45. Wherein a tandem-spring device a U-shaped member surrounds the springs and is engaged to the drawbar by the legs of the member.
- 48 Opposed overlying plungers:**
This subclass is indented under subclass 47. Wherein devices of the class indicated overlapping plungers adapted for movement in opposite directions are employed as means for compressing the springs.

- 49 Parallel arrangement:**
This subclass is indented under subclass 44. Wherein devices of the class indicated springs are arranged so that lines through their axes of compression are parallel to each other.
- (1) Note. This does not include a plurality of springs where this line is common to all the springs.
- 50 Cooperating parts fixed to car:**
This subclass is indented under subclass 7. That part of the car construction or separate means fixed thereto which cooperates with the draft devices.
- 50.5 Draft key retainers:**
This subclass is indented under subclass 50. Devices in which parts of the car construction or separate means attached thereto prevent unintentional displacement of the draft key which couples the draft means to the cushioning means.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
69, for draft key retainers in cushioned draft connections which do not include parts fixed to the car.
- SEE OR SEARCH CLASS:
411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclass 351 for a draft key fastener, per se.
- 51 Draft sills:**
This subclass is indented under subclass 50. That part of the car through which the force of pull or buff on the draft devices is transferred to the car.
- (1) Note. Only the construction of the draft sills which directly cooperates with the draft device will be found in this class.
- SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 413 and indented subclasses.
- 52 Parallel-spring arrangement:**
This subclass is indented under subclass 51. Devices of the class indicated adapted for use with parallel-arranged type of draft gear.
- 53 Tandem-spring arrangement:**
This subclass is indented under subclass 51. Devices of the class indicated adapted for use with tandem-arranged type of draft gear.
- 54 Cheek plates:**
This subclass is indented under subclass 50. Plates adapted to be secured to the faces of car sills to provide means whereby the force of buff or draft is transferred to the car through the sills.
- 55 Tandem-spring arrangement:**
This subclass is indented under subclass 54. Devices of the class indicated adapted for use with tandem-arranged type of draft gear.
- 56 Individual-follower stops:**
This subclass is indented under subclass 50. Devices secured to the car in the form of a single means for acting as a stop for an individual follower element of a draft device.
- 57 Combined bolster casting:**
This subclass is indented under subclass 56. Where the stops of the class indicated also form an element of the bolster of the car.
- 58 Striking block:**
This subclass is indented under subclass 50. Means secured to the end of a car and adapted to receive and limit the inward movement of the draft device.
- (1) Note. The coupler is provided with an upwardly-projecting part (called the coupler horn) which engages the striking block at the end of its inward movement.
- 59 Resilient:**
This subclass is indented under subclass 58. Where the striking block is resiliently supported to cushion the inward movement of the coupler.

- 60 Combined drawbar carrier:**
This subclass is indented under subclass 58. Where the striking block also acts as drawbar carrier.
- 61 Drawbar carrier:**
This subclass is indented under subclass 50. Means for supporting the drawbar in a horizontal position.
- 62 Drawbars:**
This subclass is indented under subclass 7. That part of a draft device to which the coupler head and the cushioning element are secured.
- 63 Extensions:**
This subclass is indented under subclass 62. Means secured to the rear end of the drawbar and adapted to lengthen it.
- 64 Connections to cushion:**
This subclass is indented under subclass 62. Means for connecting the rear end of the drawbar or drawbar extension to the cushion.
- 65 Friction casings:**
This subclass is indented under subclass 64. Wherein devices of the class indicated the cushion consists in part of a friction case and special means are employed to connect the drawbar to the casing.
- (1) Note. Types of means for this purpose that are capable of use with other types of cushion will be found in other subclasses of this class.
- 66 Links:**
This subclass is indented under subclass 64. Wherein devices of the class indicated the connecting means are in form of links.
- 67 Yokes:**
This subclass is indented under subclass 64. Wherein devices of the class indicated the connecting means are U-shaped, surround the cushion, and are connected to the drawbar at the ends of the legs of the U.
- 68 Longitudinally divided:**
This subclass is indented under subclass 67. Wherein devices of the class indicated the yoke is longitudinally divided into separate parts.
- 69 Drawbar connections:**
This subclass is indented under subclass 67. Devices of the class indicated where the novelty lies in the manner of connecting the drawbar to the yoke.
- 70 Hooded:**
This subclass is indented under subclass 69. Wherein devices of the class indicated the yoke is provided with a hooded end.
- 71 Pivotal:**
This subclass is indented under subclass 70. Wherein devices of the class indicated the connection is such as to pivot the yoke to the drawbar.
- 72 Pivotal:**
This subclass is indented under subclass 69. Wherein devices of the class indicated the connection is such as to pivot the yoke to the drawbar.
- 73 CONTINUOUS:**
This subclass is indented under the class definition. Where the draft device extends continuously the length of the car and is not of such character that it falls in any subclass noted above.
- 74 RADIALLY MOVABLE:**
This subclass is indented under the class definition. Where the draft device is radially movable and is not of such character that it falls in any subclass noted above.
- 75 COUPLINGS:**
This subclass is indented under the class definition. The element of a draft device by which cars are coupled together.
- SEE OR SEARCH CLASS:
403, Joints and Connections, appropriate subclasses for connections between two members in general.
- 76 Combined car and air train line:**
This subclass is indented under subclass 75. Couplings that are adapted for securing together cars and when coupled or during the coupling operation also coupling the train service pipe for air or steam.

- (1) Note. Couplings to which are secured automatic devices for coupling air or steam pipes and in which the coupling thereof is independent of the coupling action of the car coupler will be found elsewhere. See the Search Class note below.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
1.3+, for couplings of the type provided for herein (subclass 76) when claimed in combination with electrical connecting means.
- SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 347+ for valved couplings on railway car structure and subclasses 614+ for pipe couplings having plural serial valves.
251, Valves and Valve Actuation, subclasses 148+ for a valved pipe coupling.
285, Pipe Joints or Couplings, subclasses 24+ and 62+. See the (1) Note above.
439, Electrical Connectors, subclasses 191+ for combinations of electric connectors with fluid line conduits or couplings.
- 77 Counterpart:**
This subclass is indented under subclass 75. Coupling devices that are alike in all their elements and can be coupled to each other without use of any additional element or elements.
- 78 Link or bar type:**
This subclass is indented under subclass 77. Those in which a link or bar is used as the coupling means.
- 79 Selective coupling element:**
This subclass is indented under subclass 78. Wherein devices of the class indicated a selection of a coupling element of either coupler is made to effect the coupling. The selection may be either manual or automatic.
- 80 Beveled link and swing catch:**
This subclass is indented under subclass 79. Wherein devices of the class indicated a beveled link on one coupler is engaged and held by a swinging catch on the other coupler.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
91, and 176.
- 81 Arrowhead type:**
This subclass is indented under subclass 80. Wherein devices of the class indicated the beveled link is formed at one end like and arrowhead.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
92, and 177.
- 82 Hook and link:**
This subclass is indented under subclass 79. Wherein devices of the class indicated a link on one coupler engages a hook on the other coupler.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
93, 178, 179, and 180.
- 83 Bails:**
This subclass is indented under subclass 82. Where the link is in the form of a bail.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
94, and 181.
- 84 Hook and link combined:**
This subclass is indented under subclass 79. Wherein devices of the class indicated each coupler comprises a hook and link formed together, the link of either coupler adapted to engage the hook of the other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
95,
- 85 Headed link and shouldered slot:**
This subclass is indented under subclass 79. Wherein devices of the class indicated a headed link is adapted to be engaged in a slot having fixed shoulders.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
96, 97, 182, 183, and 184.

- 86 Pin and link:**
This subclass is indented under subclass 79. Wherein devices of the class indicated an open link on one coupler is engaged and held by a pin passing through the opening.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
98, 188 and 189.
- 87 Swing pin:**
This subclass is indented under subclass 86. Where the pin is pivotally supported to be swung rearwardly by an entering link and to move by gravity or a spring to engaged in the opening in the link.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
99, and 190.
- 88 Hook and catch:**
This subclass is indented under subclass 78. Wherein devices of the class indicated each coupler is provided with a hook and catch and when coupled the hooks on both couplers engage with the catches on the opposing coupling.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
79, and 175.
- 89 Pivoted hooks:**
This subclass is indented under subclass 88. Where the hooks are pivoted.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
79, and 175.
- 90 Horizontally swinging:**
This subclass is indented under subclass 89. Where the hooks are pivoted to swing in a horizontal plane.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
79,
- 91 Beveled link and swing catch:**
This subclass is indented under subclass 78. Wherein devices of the class indicated a beveled link on each coupler engages a swinging catch on the other coupler.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
80, and 176.
- 92 Arrowhead type:**
This subclass is indented under subclass 91. Where the end of each link is fashioned like an arrowhead.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
81, and 177.
- 93 Hook and link:**
This subclass is indented under subclass 78. Where each coupler is provided with a hook and a link and the link on each coupler engages with the hook on the other coupler.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
82, 178, 179, and 180.
- 94 Bails:**
This subclass is indented under subclass 93. Wherein devices of the class indicated the link is in the form of a bail.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
83, and 181.
- 95 Hook and link combined:**
This subclass is indented under subclass 78. Wherein devices of the class indicated each coupler comprises a hook and link formed together and the link on each coupler engages with the hook on the other coupler.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
84,

- 96 Headed link and shouldered slot:**
This subclass is indented under subclass 78. Wherein devices of the class indicated a headed link on each coupler is adapted to be engaged in a slot having fixed shoulders.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
85, 182, 183, and 184.
- 97 Rotary head or link:**
This subclass is indented under subclass 96. Where a head on the link or the link itself is adapted for rotative movement to engage or disengage from the shouldered slot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
184,
- 98 Pin and link:**
This subclass is indented under subclass 78. Where each coupler is provided with a pin and an open link and the pin on each coupler engages with the open link on the other coupler.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
86, 188 and 189.
- 99 Swing pins:**
This subclass is indented under subclass 98. Wherein devices of the class indicated the pin is a pivotally supported to be swung rearwardly by an entering link and to be moved by gravity or a spring to engage in the opening in the link.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
87, and 190.
- 100 Interengaging hooks and knuckles:**
This subclass is indented under subclass 77. Wherein devices of the class indicated a hook or knuckle on one coupler is adapted for engagement with a similar hook or knuckle on a mating coupler.
- 101 Arrowhead type:**
This subclass is indented under subclass 100. Wherein a device of the class indicated the hook or knuckle is formed as an arrowhead.
- 102 Plural:**
This subclass is indented under subclass 101. Where a plurality of arrowheads are used in each coupler.
- 103 Transversely sliding bill:**
This subclass is indented under subclass 100. Where the hook or knuckle is formed with a transversely-sliding bill.
- 104 Horizontally swinging:**
This subclass is indented under subclass 100. When the hook or knuckle is pivoted to swing in a horizontal plane.
- 105 Miller hooks:**
This subclass is indented under subclass 104. A type of coupler known when used by the railroads of this country as the Miller hook and consisting of a drawbar pivoted to swing in a horizontal plane and provided with a hooking bill at its outer end.
- 106 Movable bill:**
This subclass is indented under subclass 105. Where the bill of the hook in this type of coupler is also movable.
- 107 Star wheel**
This subclass is indented under subclass 104. Where the knuckle is in the form of a rotatable star wheel, any one of the branches of the wheel adapted to be engaged in the coupled position.
- 108 Plural:**
This subclass is indented under subclass 104. Wherein devices of the class indicated each coupling is formed of a plurality of horizontally swinging hooks or knuckles.
- 109 Janney type:**
This subclass is indented under subclass 104. A type of coupler now used on the railroads of this country and known as the Janney type, which consists essentially of a coupling head having a guard arm on one side and an angular knuckle pivoted to the other side thereof, one of the legs of the knuckle being the coupling part and the other the knuckle tail, and means to lock the knuckle in coupling position. This means usually engages the knuckle tail. More highly developed couplers of this type have

- additional features, as is indicated by some of the subclasses indented hereunder.
- 110 Always in coupling position:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the coupler when disconnected from a companion coupler can be automatically coupled without manipulation or change in position of parts at the hands of a trainman.
- 111 Auxiliary and emergency:**
This subclass is indented under subclass 109. Wherein devices of the class indicated modification of structure or additional devices function to adapt the coupler for auxiliary or emergency coupler purposes.
- 112 Transition construction and devices:**
This subclass is indented under subclass 111. Wherein devices of the class indicated the modification of structure or the use of the additional device are to adapt the coupler to couple with other used types of couplers. The purpose is to adapt the Janney type for use on railroads equipped with other types during the transition period from the type used to the Janney type.
- 113 Plural-tailed knuckles:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the knuckle is provided with a plurality of tails.
- 114 Pinless knuckles:**
This subclass is indented under subclass 109. Where other means than a pin is employed to pivot the knuckle to the head.
- 115 Knuckle openers:**
This subclass is indented under subclass 109. Wherein devices of the class indicated means are employed to throw the knuckle to its open position after the lock for the knuckle is released.
- 116 Springs:**
This subclass is indented under subclass 115. Where a spring performs this function.
- 117 Gravity:**
This subclass is indented under subclass 115. Where the force of gravity is employed to perform this function.
- 118 Knuckles:**
This subclass is indented under subclass 117. Where a downward movement of the knuckle operates to swing it on its pivot to an open position.
- 119 Combined locks:**
This subclass is indented under subclass 115. Where the knuckle-opening device is formed as a part of or secured to the lock and the knuckle opening operation follows a preliminary movement to unlock the knuckle.
- 120 Vertically movable and horizontally rotatable:**
This subclass is indented under subclass 119. Wherein devices of the class indicated the lock is both vertically movable and horizontally rotatable, the latter movement opening the knuckle.
- 121 Vertically movable and tilting:**
This subclass is indented under subclass 119. Wherein devices of the class indicated the lock is both vertically movable and tilting, the latter movement opening the knuckle.
- 122 Vertically sliding:**
This subclass is indented under subclass 119. Wherein devices of the class indicated the lock has vertical movement only, the latter part of the vertical movement opening the knuckle.
- 123 Pivotaly-attached member:**
This subclass is indented under subclass 122. Where the opening operation is effected by a member pivoted to the knuckle.
- 124 Pivoted or rotatable:**
This subclass is indented under subclass 119. Wherein devices of the class indicated the lock is pivoted or rotatable, the latter part of this movement opening the knuckle.
- 125 Lock-operated:**
This subclass is indented under subclass 115. Wherein devices of the class indicated the coupler is provided with means for opening the knuckle which is operated by movement of the lock after a preliminary movement thereof to unlock the knuckle.

- 126 Vertically sliding locks:**
This subclass is indented under subclass 125. Where the lock is vertically sliding only and in the latter part of its vertical movement engages means to open the knuckle.
- 127 And rearwardly swinging:**
This subclass is indented under subclass 126. Where the lock is vertically sliding and rearwardly swinging and in the latter movement engages means to open the knuckle. This type is the basis of the coupler which is standard on the railroads of this country.
- 128 Vertically swinging levers:**
This subclass is indented under subclass 126. Wherein devices of the class indicated the lock in the latter part of its vertical movement engages a vertically-swinging lever to open the knuckle.
- 129 Vertically swinging locks:**
This subclass is indented under subclass 125. Wherein devices of the class indicated the lock is vertically swinging only and in the latter part of this movement engages and operates knuckle-opening means.
- 130 Horizontally sliding locks:**
This subclass is indented under subclass 125. Wherein devices of the class indicated the lock is horizontally sliding only and in the latter part of this movement engages and operates means to open the knuckle.
- 131 Lock-operating:**
This subclass is indented under subclass 115. Wherein devices of the class indicated means which is employed for operating the lock to its unlocked position can upon further movement thereof operate to open the knuckle.
- 132 Continuing movement:**
This subclass is indented under subclass 131. Wherein devices of the class indicated the movement of the means to open the knuckle is continuing and in the same direction as that by which it operated the lock.
- 133 Horizontally rotating shaft:**
This subclass is indented under subclass 132. Wherein devices of the class indicated the lock operator comprises a horizontally-rotating shaft.
- 134 Pivoted levers:**
This subclass is indented under subclass 132. Wherein devices of the class indicated the lock operator comprises a pivoted lever or levers.
- 135 Sliding:**
This subclass is indented under subclass 130. Wherein devices of the class indicated the lock operator is a sliding element.
- 136 Vertically:**
This subclass is indented under subclass 135. Wherein devices of the class indicated the direction of movement of the sliding element is vertical.
- 137 Separate movement:**
This subclass is indented under subclass 131. Wherein devices of the class indicated the means for operating the lock has a movement in another direction for opening the knuckle.
- 138 Rotating and sliding:**
This subclass is indented under subclass 137. Wherein devices of the class indicated the means rotates for one purpose and slides for the other purpose.
- 139 Gravity locks:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the lock moves by gravity to its locking position.
- 140 Knuckle-attached:**
This subclass is indented under subclass 139. Wherein devices of the class indicated the lock is attached to and carried by the knuckle tail.
- 141 Vertically swinging:**
This subclass is indented under subclass 139. Wherein devices of the class indicated the lock is pivoted to swing in a vertical plane.
- 142 With lock set and anticreep:**
This subclass is indented under subclass 141. Wherein devices of the class indicated means is provided for holding the lock temporarily in its

- unlocking position until the knuckle swings towards open position. This means is called the lock set and there is also provided means to prevent accidental movement of the lock to unlocking position during service of the coupler, this means being called the anti-creep.
- 143 With lock set:**
This subclass is indented under subclass 141. Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position.
- 144 With anticreep:**
This subclass is indented under subclass 141. Wherein devices of the class indicated means is provided to prevent accidental movement of the lock to unlocking position during service of the coupler.
- 145 Vertically sliding:**
This subclass is indented under subclass 139. Wherein devices of the class indicated the lock has sliding movement in a vertical direction.
- 146 With lock set and anticreep:**
This subclass is indented under subclass 145. Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position. This means is called the lock set and there is also provided means to prevent accidental movement of the lock to unlocking position during service of the coupler, this means being called the anticreep.
- 147 With lock set:**
This subclass is indented under subclass 145. Wherein devices of the class indicated means is provided for holding the lock temporarily in its unlocking position until the knuckle swings towards open position.
- 148 With anticreep:**
This subclass is indented under subclass 145. Wherein devices of the class indicated means is provided to prevent accidental movement of the lock to unlocking position during service of the coupler.
- 149 Horizontally sliding locks:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the lock has sliding movement in a horizontal direction.
- 150 Horizontally swinging locks:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the lock is pivoted to swing in a horizontal plane.
- 151 Contour:**
This subclass is indented under subclass 109. Patents relating to the contour of the coupler.
- 152 Knuckle and head interengagement:**
This subclass is indented under subclass 109. Patents showing interengaging means on the knuckle and coupler head, usually to relieve the knuckle pin from strain.
- 153 Vertical disengagement prevention:**
This subclass is indented under subclass 109. Wherein devices of the class indicated means are employed to prevent disengagement of the coupler due to excessive vertical movement.
- 154 Guard-arm construction:**
This subclass is indented under subclass 109. Patents relating to the construction of the guard arm of the coupler.
- 155 Knuckle and knuckle pins:**
This subclass is indented under subclass 109. Patents relating to the knuckle and the knuckle pin.
- 156 Knuckle-pin bottom retainers:**
This subclass is indented under subclass 109. Wherein devices of the class indicated means positioned below the pin are employed to hold the knuckle pin as a whole or in part, if accidentally broken, against downward movement.
- 157 Detachable ears:**
This subclass is indented under subclass 109. Wherein devices of the class indicated the ears are removable. The ears are that part of the coupler head to which the knuckle is pivoted.
- 158 Lifter and lock-hole closures:**
This subclass is indented under subclass 109. Patents showing closures for the opening in the top of a coupler head through which passes a

- lifter for the lock or the lock itself. These closures are generally used when bottom operating means are used for the lock.
- 159 Uncoupling devices:**
This subclass is indented under subclass 109. Wherein devices of the class indicated auxiliary means are employed for moving the lock to permit uncoupling of the coupler.
- 160 Emergency:**
This subclass is indented under subclass 159. Automatic devices adapted to function under abnormal conditions--viz., when the car leaves the track or when the draft gear breaks.
- 161 Selectively movable:**
This subclass is indented under subclass 159. Where the uncoupling device has a plurality of possible movements, any one of which may be selected by a trainman.
- 162 Pull rods, chains or ropes:**
This subclass is indented under subclass 159. Where the uncoupling device is operated by pull upon a rod, chain or rope.
- 163 Interengaging levers:**
This subclass is indented under subclass 159. Where the uncoupling device comprises a plurality of interengaging levers.
- 164 Vertically swinging:**
This subclass is indented under subclass 163. Wherein devices of the class indicated at least one of the levers is fulcrumed to swing in a vertical plane.
- 165 Vertically swinging:**
This subclass is indented under subclass 159. Where the uncoupling device has a single lever pivoted to swing in a vertical plane.
- 166 Rotating horizontal shafts:**
This subclass is indented under subclass 159. Where the uncoupling device comprises a horizontal rotating shaft.
- 167 Journalled to coupler head:**
This subclass is indented under subclass 166. Wherein devices of the class indicated the inner end of the shaft is journalled to the coupler head.
- 168 Directly connected to lock:**
This subclass is indented under subclass 166. Wherein devices of the class indicated the shaft is directly connected to the lock.
- 169 Horizontal link to lock:**
This subclass is indented under subclass 166. Wherein devices of the class indicated a horizontally-extending link connects the shaft to the lock.
- 170 Vertical link to lock:**
This subclass is indented under subclass 166. Wherein devices of the class indicated a single substantially vertically extending link connects the shaft to the lock.
- 171 Brackets:**
This subclass is indented under subclass 159. Brackets adapted to secure the uncoupling devices to the car.
- 172 Vertically swinging:**
This subclass is indented under subclass 100. Wherein devices of the class indicated the hook or knuckle is pivoted to swing in a vertical plane.
- 173 Vertical hook:**
This subclass is indented under subclass 172. Wherein devices of the class indicated the hook or knuckle is vertically disposed.
- 174 Rotating:**
This subclass is indented under subclass 100. Wherein devices of the class indicated the hook or knuckle is adapted for rotation about its vertical axis.
- 175 Hook and catch:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a hooked member engaging a catch and which would not be classified in ... of this class or any indented subclass.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
79, and 88.

- 176 Beveled link and wing catch:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a beveled link being engaged and held by a swinging catch, and which would not be classified in ... of this class or any indented subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
80, and 91.
- 177 Arrowhead type:**
This subclass is indented under subclass 176. Where an end of each link is fashioned like an arrowhead.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
81, and 92.
- 178 Hook and link:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a hook engaging an opening in a link, and which would not be classified in ... of this class or any indented subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
82, and 93.
- 179 Pivoted hook:**
This subclass is indented under subclass 178. Wherein devices of the class indicated the hooks are pivoted.
- 180 Multiple:**
This subclass is indented under subclass 179. Wherein devices of the class indicated there are provided a plurality of hooks.
- 181 Bails:**
This subclass is indented under subclass 178. Wherein devices of the class indicated the link is in the form of a bail.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
83, and 94.
- 182 Headed link and shouldered slot:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a headed link engaging in a shouldered slot, and which would not be classified in ... of this class or any indented subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
85, and 96.
- 183 Pivoted head:**
This subclass is indented under subclass 182. Wherein devices of the class indicated the head of the link moves on a pivot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
85, and 96.
- 184 Rotating head or link:**
This subclass is indented under subclass 182. Where a head on the link or the link itself is adapted for rotative movement to engage or disengage from the shouldered slot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
97,
- 185 Beveled link and sliding catch:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated the link is formed with a beveled end which is engaged by a sliding catch, and which would not be classified in ... of this class.
- 186 Arrowhead type:**
This subclass is indented under subclass 185. Wherein devices of the class indicated the link is formed as an arrowhead, at its engaging end, and which would not be classified in ... of this class.
- 187 Beveled link and fixed catch:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a beveled link engaging a fixed catch, and which would not be classified in ... of this class.

- 188 Pin and open link:**
This subclass is indented under the unnumbered subclass, Link or bar type. Wherein devices of the class indicated coupling is effected by a pin passing through an opening in an open link, and which would not be classified in ... of the class or any indented subclass.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86, and 98.
- 189 Automatic pin moving:**
This subclass is indented under subclass 188. Wherein devices of the class indicated means are employed to automatically move the pin to a position to permit the link to enter the coupler, the pin then being permitted to move to a position to lock the link, or with the pin in an uncoupling position is positively moved by the entering link to its coupling position.
- 190 Swing pin:**
This subclass is indented under subclass 189. Wherein devices of the class indicated the pin is pivotally supported to be swung rearwardly by an entering link and to be moved by gravity or a spring to engage in the opening in the link, or with the pin in an uncoupling position is positively moved by the entering link to its coupling position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
87, and 99.
- 191 To coupling position:**
This subclass is indented under subclass 190. Wherein devices of the class indicated the pin is swung by the entering link to the coupling position.
- 192 Pin supports:**
This subclass is indented under subclass 188. Wherein devices of the class indicated means are employed to hold the pin in a position to permit the link to enter the coupler, there being a subsequent release to permit the pin to move to a position to lock the link.
- 193 Tilting pin:**
This subclass is indented under subclass 192. Wherein devices of the class indicated the pin is tilted to engage a part of the coupler.
- 194 Gravity:**
This subclass is indented under subclass 192. Wherein devices of the class indicated the action of gravity moves the support to a pin-engaging position when the pin is manually raised.
- 195 Combined link lifters and supports:**
This subclass is indented under subclass 194. Wherein devices of the class indicated the support also acts as means for holding the link in a horizontally extending position.
- 196 Rollers:**
This subclass is indented under subclass 195. Wherein devices of the class indicated the supporting means is in the form of a roller.
- 197 Pivoted latches:**
This subclass is indented under subclass 194. Wherein devices of the class indicated the supporting member is in the form of a pivoted latch.
- 198 Pin-attached:**
This subclass is indented under subclass 197. Wherein devices of the class indicated the latch is attached to the pin.
- 199 Stirrups:**
This subclass is indented under subclass 197. Wherein devices of the class indicated the latch is in the form of a stirrup.
- 200 Spring:**
This subclass is indented under subclass 192. Wherein devices of the class indicated the supporting member is a spring or a spring operated member.
- 201 Combined link lifters and supports:**
This subclass is indented under subclass 200. Wherein devices of the class indicated the support also acts as means for holding the link in a horizontally-extending position.

- 202 Horizontally sliding:**
This subclass is indented under subclass 200. Wherein devices of the class indicated the support is horizontally sliding.
- 203 Link-operated:**
This subclass is indented under subclass 202. Wherein devices of the class indicated the supporting member is moved from its supporting position by the entering link.
- 204 Pivoted:**
This subclass is indented under subclass 200. Wherein devices of the class indicated the supporting member is pivoted.
- 205 Link lifters and supports:**
This subclass is indented under subclass 188. Wherein devices of the class indicated means are provided for holding or lifting the link in a horizontal position to enter an engaging coupler.
- 206 Opposed car:**
This subclass is indented under subclass 205. Wherein devices of the class indicated a lifting means on one car engages a link on an opposed car to guide it to coupled position.
- 207 Levers:**
This subclass is indented under subclass 205. Wherein devices of the class indicated the holding or lifting means is a lever.
- 208 Links:**
This subclass is indented under the unnumbered subclass, Link or bar type. That element of a coupler of the type indicated known as the link.
- 209 End opening:**
This subclass is indented under subclass 208. Where the link is provided with means permitting its opening at the end.
- 210 Handled:**
This subclass is indented under subclass 208. Where the link is provided with a handle.
- 211 Uncoupling devices:**
This subclass is indented under subclass 75. Wherein devices of the class indicated auxiliary means are employed for moving the lock means to permit uncoupling of the couplers.
- 212 Central control:**
This subclass is indented under subclass 211. Wherein devices of the class indicated control of the uncoupling means is located at a central station (usually the cab of the engine), permitting uncoupling selectively at any point in the train.
- 213 Operable from car top or side:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the uncoupling means can be operated from either the top or side of the car.
- 214 Rotating vertical shaft:**
This subclass is indented under subclass 213. Wherein devices of the class indicated the uncoupling means comprises a rotating vertical shaft.
- 215 Operable from car top only:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the uncoupling means is operable from the car top only.
- 216 Rotating vertical shafts:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the coupling means comprises a rotating vertical shaft.
- 217 Flexible:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the means for operating the uncoupling means comprises a flexible element.
- 218 Vertically swinging lever:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the uncoupling means comprises a vertically-swinging lever.

- 219 Rotating horizontal shafts:**
This subclass is indented under subclass 211. Wherein devices of the class indicated the uncoupling means comprises a rotating horizontal shaft.
- 220 CAR-END BUMPERS OR BUFFERS:**
This subclass is indented under subclass 75. Means secured to the end of the car and adapted to engage similar means on another car to receive the force of impact therebetween.
- SEE OR SEARCH CLASS:
267, Spring Devices, subclass 115, for a fluid spring draft gear cushioning device, positionable between bodies in tow relation; and subclass 138, for a draft-gear-cushioning spring device, other than the fluid spring type.
- 221 Resilient:**
This subclass is indented under subclass 220. Wherein devices of the class indicated the buffer is resiliently supported.
- 222 Car platform type:**
This subclass is indented under subclass 221. Wherein devices of the class indicated the construction of the buffer adapts it for use as a whole or part of the car platform.
- 223 Fluid:**
This subclass is indented under subclass 221. Wherein devices of the class indicated the buffer is supported by a fluid cushion.
- 224 SIDE-TRACK PUSH RODS:**
This subclass is indented under the class definition. Means whereby a motive power on one track can be used to move a car or cars located on a parallel track.

END