

CLASS 305, WHEEL SUBSTITUTES FOR LAND VEHICLES**SECTION I - CLASS DEFINITION**

This class relates to apparatus intended to be substituted for the wheel or runner of a land vehicle. The apparatus of this class bears the same general relationship to a land vehicle as a wheel or runner and serves generally the same function but is so constructed that it can be called neither a wheel nor a runner. The apparatus of the class, however, may include wheels or runners as subcombination portions thereof.

Apparatus of the class is characterized by the provision of means which facilitate the movement of the vehicle over rough terrain or increases the traction of the vehicle with respect to the ground. Devices characteristic of the class are usually known as "Steppers" or "Endless Track Apparatus".

- (1) Note. The scope of this class is limited to wheel substitutes, per se, and subcombination portions thereof and does not include the combination of land vehicles with wheel substitutes, except where the claimed combination includes only a nominal recitation of the land vehicle. For land vehicles provided with wheel substitutes see the appropriate vehicle classes as indicated in the Search Notes below.

Wherever a drawing is associated with a definition, it is merely used to illustrate the basic concept encompassed by the definition of that subclass and should not be construed as limiting the scope of the subject matter covered by that subclass.

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

- 59, Chain, Staple, and Horseshoe Making, subclasses 78+ for chains of general utility.
- 152, Resilient Tires and Wheels, subclasses 1+ for spring wheels, subclasses 213+ for anti-skid devices for resilient tire. Class 305 takes patents where the sole specific disclosure or a claim is to an anti-skid device which is adapted to be trained about a pair of longitudinally spaced resilient tires and intended to operate as an endless track apparatus.

- 180, Motor Vehicles, subclass 6.7 for an endless track vehicle which is steered by driving, subclasses 7.1+ for a motor vehicle driven in some other way than by the mere rotation of road wheels as traction wheels, subclasses 116+ for surface effect vehicles, subclass 164 for a motor vehicle provided with powered means for creating a fluid force to attract the vehicle to a surface of travel (neither subclasses 116+ nor 164 requiring the claiming of a propulsion means or specific vehicle structure), and subclasses 182+ for a motor vehicle which includes one or more ski-like or runner members. Class 180 (noting the specified exceptions) takes patents relating to a vehicle, disclosed as a motor vehicle where some vehicle structure or a special relationship between the vehicle frame and the wheel substitute is set forth in the claims, irrespective of whether or not any driving means is claimed. However such expressions as a "vehicle frame", "an axle", "a pivotal connection between the vehicle frame and wheel substitute carrying frame" in claims which are otherwise directed to specific wheel substitute structure are considered mere nominal recitations of vehicle structure and are not excluded from Class 305. Also Class 180 takes patents claiming some element of the driving means of a wheel substitute except that the mere broad recitation of a drive means, drive axle or drive sprocket for a wheel substitute is not sufficient to exclude the patent from Class 305, if the vehicle is otherwise only nominally recited in the claims.

- 188, Brakes, for brakes, per se. Class 305 takes the combination of a wheel substitute and brake therefor if some wheel substitute structure is claimed. The mere nominal recitation of a wheel substitute in the claims is not sufficient to be classified in Class 305.

- 198, Conveyors: Power-Driven, appropriate subclasses for endless belt conveyors.

- 244, Aeronautics and Astronautics, subclasses 100+ for an aircraft landing gear in the form of a wheel substitute. Class 305 takes wheel substitute landing gears for aircraft where no aircraft structure is claimed or where only a nominal relationship between the aircraft and landing gear is claimed.

- 280, Land Vehicles, subclass 5.22 for land vehicles provided with endless tracks especially adapted for ascending steps, subclasses 12.11 and 12.12 for land vehicles provided with a stepper run-

ning gear and subclass 28.5 for land vehicles provided with wheel substitute ground engaging support means. To be placed in Class 280 a patent must claim some vehicle structure or more than a mere nominal relationship between the vehicle frame and the wheel substitute apparatus. For example the broad recitation of a vehicle frame, an axle, or a pivotal connection between the vehicle frame and the wheel substitute apparatus are considered mere nominal vehicle structure and a claim with these limitations would be classified in Class 305, if the claim is otherwise directed to the wheel substitute apparatus.

- 301, Land Vehicles: Wheels and Axles, subclasses 41.1+ and especially subclasses 45+ for traction increasing devices for wheels. Class 305 takes traction increasing devices in the form of plates pivotally secured to the rim of a wheel and adapted to extend in a plane parallel to the ground when in contact therewith to simulate the action of feet even though the plates are provided with ground penetrating cleats. These devices distinguish from the subject matter in Class 301, subclasses 45+ in that the traction increasing devices therein are limited to ground penetrating cleats which are movably mounted on the rim of a wheel but are not mounted on plates which are adapted to simulate the action of feet when in contact with the ground.
- 384, Bearings, appropriate subclasses for a bearings for a rotary element and particularly subclass 417 for a bearing support for an idler pulley.
- 474, Endless Belt Power Transmission Systems or Components, appropriate subclasses for power transmission belts or chains of general utility either alone or in combination with a driving sprocket, and for guides or tensioners for such belts or chains. Class 305 takes a patent for a flexible track and wheel combination or a flexible track or element thereof, per se, wherein the sole disclosure or a claim is to a flexible track apparatus for a land vehicle. Class 474, takes a pulley, sprocket, or guide roll, per se, even though the pulley, sprocket, or guide roll is solely disclosed for use in connection with an endless track for a land wheel.

SECTION III - GLOSSARY

FLEXIBLE TRACK

An annular band made either of a single piece of flexible material or of a plurality of individual treads or sections movably connected together.

TREAD

A unitary ground engaging block or plate made of flexible or rigid material or a combination of both and provided with securing means for connection to similar devices to form a flexible track.

WHEEL

The term "wheel" as used in connection with this class includes resilient tires, sprocket gears, rollers or any other annular members rotatable about an axis and adapted to propel a flexible track or support a portion thereof.

SUBCLASSES

1 **STEPPER TYPE:**

This subclass is indented under the class definition. Apparatus comprising ground engaging feet or plates operating by a step-by-step movement during the forward travel of the apparatus.

SEE OR SEARCH CLASS:

- 180, Motor Vehicles, subclass 187 for a motor vehicle provided with one or more ski-like or runner members and wherein the vehicle has at least one surface-engaging propulsion element of a type which shuffles along the surface; and subclasses 8.1+ for a motor vehicle provided with a special driving device of the mechanical leg type.
- 301, Land Vehicles: Wheels and Axles, subclasses 41.1+, especially subclasses 45+ for traction increasing devices for wheels. See the class definition of Class 305 for the line between these devices and the steppers of Class 305.

2 **Cam positioned:**

This subclass is indented under subclass 1. Apparatus wherein the ground engaging feet are positioned for ground engagement by cam means.

3 Having plural link connector elements:
This subclass is indented under subclass 1. Apparatus wherein each of the ground engaging feet are pivotally connected to a rotating support by a plurality of links.

4 Feet attached to rim:
This subclass is indented under subclass 1. Apparatus wherein the ground engaging feet or plates are movably connected to the rim of a wheel.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

19, for an endless flexible track trained about a single wheel.

SEE OR SEARCH CLASS:

301, Land Vehicles: Wheels and Axles, subclasses 44.1+ for ground engaging cleats movably secured directly to the rim of a wheel rather than to plates or feet which are movably secured to the rim of a wheel.

5 Spring biased:
This subclass is indented under subclass 4. Apparatus in which the ground engaging feet are resiliently mounted.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 5+ for spring wheels.
301, Land Vehicles: Wheels and Axles, subclass 51 for spring projected ground engaging cleats movably secured to the rim of a wheel.

6 RIGID PORTABLE TRACK:
This subclass is indented under the class definition. Apparatus comprising a rigid track adapted to be mounted on a vehicle to travel therewith and to form the ground support therefor.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 9 for motor vehicles provided with rigid portable tracks.

7 Circular:
This subclass is indented under subclass 6. Apparatus wherein said rigid track comprises a rigid circular rim.

(1) Note. Apparatus under this definition usually comprises a rigid circular rim and a wheel or roller within the rim, the axis of which is eccentrically positioned with relation to the axis of the rim, said wheel or roller being adapted to roll on a lower portion of the periphery of the rim.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 17+ for a spring wheel provided with a rigid annular band extending about the periphery of the wheel outside of the springs, the axis of the wheel and band being concentric.
180, Motor Vehicles, subclass 10 for rigid circular tracks provided with driving means.
384, Bearings, subclasses 586+ for a wheel structure comprising a fixed inner portion, an outer rim and antifriction elements interposed between the fixed inner portion and the rim.

8 WITH RAIL ENGAGING MEANS:
This subclass is indented under the class definition. Apparatus provided with means adapting the apparatus to travel over a railroad rail.

9 WITH BRAKE:
This subclass is indented under the class definition. Apparatus comprising means for retarding the motion of or stopping the apparatus either by friction or by positive engagement of elements.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 6.7 for a motor vehicle provided with a flexible track which is steered by braking the track on one side or the other of the vehicle.
188, Brakes, appropriate subclasses for brakes, per se, or a brake combined with a nominally claimed wheel substitute.

15 COMBINED OR CONVERTIBLE:

This subclass is indented under the class definition. Apparatus (1) combined with a device outside of the class definition and not provided for in other subclasses of this class or (2) so constructed that by rearrangement of its parts it may be converted from an apparatus performing a function within the class definition to an apparatus performing a distinctly different kind of function either within or without the class definition.

- (1) Note. This subclass contains, for example, patents relating to a device comprising a wheel and an endless track each contacting the ground in operative position simultaneously, (2) a device comprising a wheel having a flexible rim which can be deformed to an elliptical shape and be made to operate as a flexible track, and (3) a device comprising a wheel and a flexible track combined therewith in such a way that the wheel alone may contact the ground or by a manipulation of the parts, the flexible track may be made to contact the ground.
- (2) Note. Patents relating to wheel substitute devices (e.g., flexible tracks) disclosed as merely assembled with or substituted for a wheel or wheels to convert the wheel or wheels to a wheel substitute device are not included in this definition. See search notes below. If however the patent relates to a device in which a wheel contacting the ground and a wheel substitute means are each present at the same time the patent comes within the definition. See part (3) of (1) Note.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 51, for an attachment to be secured to a track tread to prevent the cleats of the tread from digging into the ground.
- 124+, and 143+, for wheel substitute devices which may comprise track means associated with wheels to convert the wheels to a wheel substitute, the track means not being present in the device when the wheel is in operation so as to contact the ground.

- 187+, for a detachable ground penetrating cleat for a track tread.

SEE OR SEARCH CLASS:

- 180, Motor Vehicles, subclasses 9.26+ for a wheel vehicle adapted to be converted into an endless flexible track vehicle.

19 SINGLE WHEEL TYPE:

This subclass is indented under the class definition. Apparatus comprising a flexible track mounted about the periphery of a single wheel to completely surround such wheel and be carried solely thereby.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 4, for steppers comprising plates pivotally secured to the rim of a wheel to act as ground engaging feet.

SEE OR SEARCH CLASS:

- 152, Resilient Tires and Wheels, subclasses 208+ for antiskid devices for resilient tires.
- 301, Land Vehicles: Wheels and Axles, subclass 42 for chain-type antiskid devices for wheels.

20 WHEEL ON TOP OF UPPER TRACK RUN:

This subclass is indented under the class definition. Apparatus comprising a flexible track apparatus including wheels and wherein one of the wheels is positioned on top of the upper track run.

- (1) Note. For the meaning of "wheel" see the class definition.

33 WITH INTERPOSED FRICTION DRIVE BELT:

This subclass is indented under the class definition. Apparatus comprising a flexible track apparatus including a pair of longitudinally spaced wheels, a flexible track trained about said wheels and a flexible belt interposed between and in engagement with the track and wheels to cause the track to run over the wheels.

34 INFLATABLE MEANS:

This subclass is indented under the class definition. Apparatus wherein a portion of the apparatus is adapted to be extended or swelled with a fluid.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 450+ for pneumatic tires.

40 Cable connected treads:

This subclass is indented under subclass 185. Apparatus wherein a flexible track comprises a plurality of ground engaging treads connected together by means of an elongated flexible element.

- (1) Note. Included under this definition are tracks formed of metallic treads connected together by means of ropes, metal cables or elongated metallic bands.

SEE OR SEARCH THIS CLASS, SUBCLASS:

157+, for treads connected together by means of elongated nonmetallic straps or bands which may or may not be metal reinforced.

41 Resilient connection between treads:

This subclass is indented under subclass 185. Apparatus in which the connecting means between the track treads includes an element having spring-like qualities to form a resilient connection.

42 Torsion bushing:

This subclass is indented under subclass 41. Apparatus wherein the tread connecting means includes a transverse pin extending through a bushing made of resilient compressible material, the bushing being either vulcanized to the pin or press fitted thereon so that rotation of the pin can only be effected by torsional distortion of the bushing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

202+, for track treads connected together by means for a transversely extending horizontal connector pin.

43 Resilient compressible hinge:

This subclass is indented under subclass 41. Apparatus wherein said element is a compressible rubber-like member.

44 Steerable:

This subclass is indented under subclass 185. Apparatus wherein the track is especially designed to permit steering of said track while traveling over the ground.

- (1) Note. The specifically designed feature to permit steering usually comprises a special relationship of the track with its ground run support to prevent disengagement of the flexible track from its supporting structure when steering, or means such as a universal connection between the track treads to prevent undue stress between track treads when steering.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34, and 157+, for tracks made of flexible nonmetallic material.
40, for tracks formed of rigid treads connected together by means of elongated flexible cables.
43, for track treads interconnected by means of a longitudinally extending rubber hinge member.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 6.7 for a motor vehicle with an endless flexible track which is steered by driving and subclasses 9.44+ for a motor vehicle with an endless flexible track which is provided with steering means.

45 Adjustable connection between treads:

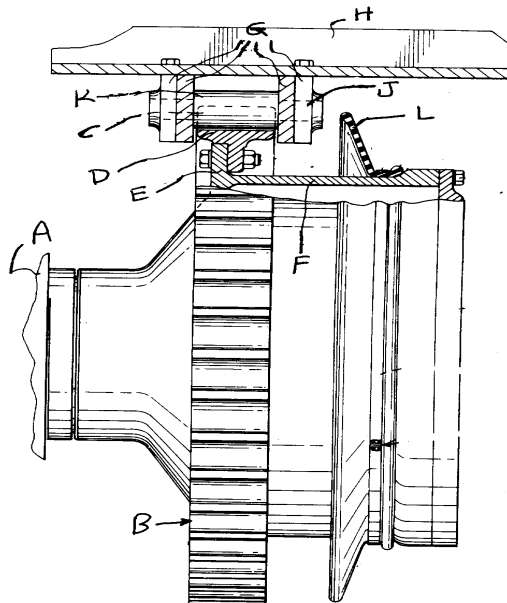
This subclass is indented under subclass 185. Apparatus wherein the connection between the individual track treads is such as to allow the distance between adjacent treads to be selectively increased or decreased.

- 46 With resiliently biased ground engaging portion:**
This subclass is indented under subclass 185. Apparatus in which the track treads are provided with a spring or rubber biased ground engaging portion.
- 47 With sag prevention means:**
This subclass is indented under subclass 185. Apparatus in which means are provided on the track treads to prevent the track from flexing in one direction.
- 48 Projecting truss type:**
This subclass is indented under subclass 47. Apparatus in which said means includes outstanding projections on each track tread which projections coact to prevent flexing of the track in one direction.
- 49 Truss interconnected:**
This subclass is indented under subclass 48. Apparatus in which means are provided for connecting adjacent outstanding projections together for limited relative movement.
- 50 Track treads interconnected without separate fastening means:**
This subclass is indented under subclass 185. Apparatus wherein the treads are provided with interengaging fastening portions formed either integrally therewith of preassembled thereto so that adjacent treads may be secured together without the addition of a separate connecting or fastening member.
- SEE OR SEARCH CLASS:
160, Flexible or Portable Closure, Partition, or Panel, subclass 235 for adjacent panels secured together by means of interengaging curled or bent side edges on the panels.
- 51 With street plate:**
This subclass is indented under subclass 185. Apparatus comprising an attachment secured to a track tread to prevent ground penetrating cleats on the track tread from cutting into a road surface.
- 52 With roller means:**
This subclass is indented under subclass 185. Apparatus wherein a track tread has an anti-friction roller means mounted thereon adapted to contact a track supporting frame or wheel, or adapted to form the ground engaging portion of the track.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
122, for a frame carried track provided with roller antifriction means.
- 53 One piece track tread:**
This subclass is indented under subclass 185. Apparatus in which a complete track tread is formed in one piece.
- (1) Note. To be classified under this definition the complete tread as finally assembled to form the track must be made in one piece, either cast, molded, machined or bent into shape from a single piece of sheet metal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
47+, for one-piece treads provided with means to prevent track sag.
50, for one-piece treads which are adapted to be secured to each other without the use of separate fasteners.
157+, for molded rubber-like treads.
- 59 Including noncylindrical or hollow connector pin:**
This subclass is indented under subclass 202. Apparatus wherein at least a portion of the cylindrical element has a cavity or opening formed thereon or has a surface which is not circular in cross section.
- (1) Note. The noncircular portion of the pin must be a part thereof which engages within a bearing portion of the parts to be connected, and not merely the head of the pin.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
118, for a connector pin having a passage formed therein for transmitting a lubricating fluid.

60 MISCELLANEOUS:
This subclass is indented under the class definition. Apparatus not provided for in any of the above subclasses.

100 WITH MEANS TO REMOVE OR EXCLUDE FOREIGN MATTER (E.G., SEAL, SCRAPER):

This subclass is indented under the class definition. Apparatus including a seal, scraper, guide, or shroud to expel or prevent the entry of dirt or other outlying object from any part of the apparatus.



A - Main frame; B - Drive sprocket; C - Teeth; D - Segment; E - Hub flange; F - Hub; G - Interconnected links; H - Track shoe; J - Pin; K - Intermediate bushing; L - Annular shroud or guard

SEE OR SEARCH THIS CLASS, SUBCLASS:

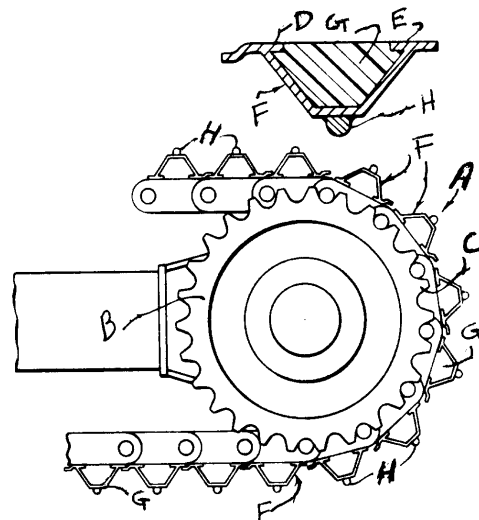
- 122, for a track carried roller antifriction means.
- 167+, for a metallic embedded reinforcement including snowmobile clip.

SEE OR SEARCH CLASS:

- 74, Machine Element or Mechanism, subclasses 608+ for a guard for a rotary member.
- 180, Motor Vehicles, subclass 84 for a dust guard in general.

- 184, Lubrication, subclasses 15.1+ for a belt, cable, chain, or conveyor lubricator.
- 277, Seal for a Joint or Juncture, for a generic sealing means or process.
- 280, Land Vehicles, subclasses 855+ for a wheel scraper or cleaner.
- 474, Endless Belt Power Transmission Systems or Components, subclass 92 for a cleaning device for a belt, pulley, or guide roll in general.

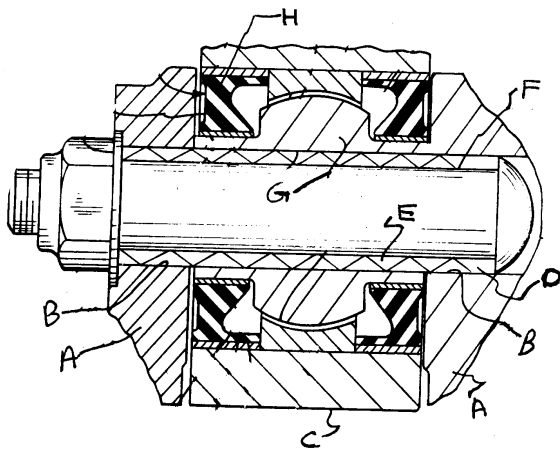
101 With means between track links or shoes:
This subclass is indented under subclass 100. Apparatus including means integral or made separately to present a sealed outer surface both when in a horizontal position or when in a curved position, thereby preventing the undesirable ingress of foreign matter between the tread segments.



A - Chain track; B - Sprocket wheel; C - Sprockets; D, E - Chain plate; F - Cleat having same thickness as chain plate; G - Opening filled with elastomeric material ; H - Projecting pieces for improved traction

102 With peripheral seal between bushing and track link:

This subclass is indented under subclass 100. Apparatus including a waterproof and dust-proof elastomeric ring or similar element located on each side at or near the surface of the sleeve around the connecting pin.



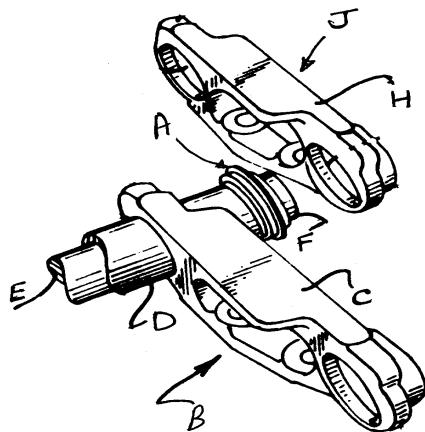
A, B, C - Track shoe collars; D, E, F - Track pin assembly; G - Spherical bearing; H - Elastomeric seal

SEE OR SEARCH CLASS:

- 384, Bearing, subclasses 13+ for a rotary plain bearing having a specified seal.
 474, Endless Belt Power Transmission Systems or Components, subclass 207 for a positive drive belt formed of rigid links having a nonmetallic part.

103 With end seal between bushing and track link:

This subclass is indented under subclass 100. Apparatus including a waterproof and dust-proof elastomeric ring or similar element located at the outermost section to engage the removable sleeve of metal or other material joining the two inflexible belt components.



A - Seal assembly; B - Inner link; C - Main body portion; D - Track pin bushing; E - Track pin; F - Track pin outer end portion; H - Main body portion; J - Outer link

SEE OR SEARCH THIS CLASS, SUB-CLASS:

117+, for a distinct lubricating passage.

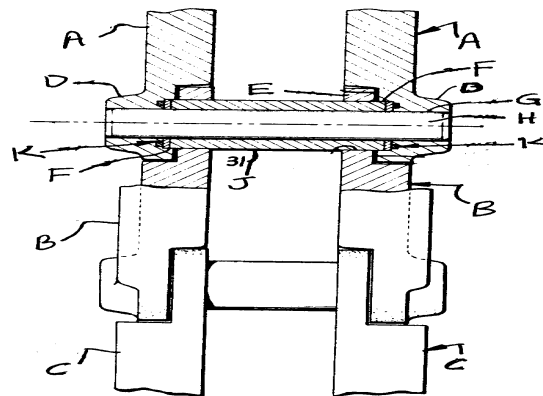
SEE OR SEARCH CLASS:

- 267, Spring Devices, subclasses 161+ for a ring or annular spider.
 474, Endless Belt Power Transmission Systems or Components, subclass 91 for a structure facilitating lubrication of belt, pulley, or guide roll; subclass 207 for a belt formed of rigid links including a nonmetallic part; subclasses 226+ for a link including discrete members forming laterally spaced sides of opening for a pulley tooth.

104 And at connector pin:

This subclass is indented under subclass 103. Apparatus wherein the seal is located about a pivot pin which interconnects the overlapped ends of a pair of inflexible belt components.

- (1) Note. The pin connecting each pair of inflexible belt components allows flexing to enable the track to pass around the driver and idler sprockets and to accommodate unevenness of terrain.
- (2) Note. The end seal is between bushing, track, and the connector pin.



A, B, C - Upper, middle and lower links; D - Offset boss; E - Overlap; F - Counter bore; G -

Central hole in offset boss; H - Pin; J - Bushing; K - Seal

SEE OR SEARCH THIS CLASS, SUBCLASS:

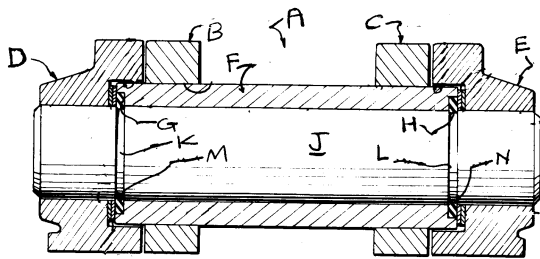
- 42, for a torsion bushing between the pin and the track link.
- 47+, for a track or tread having a sag prevention means.
- 59, for a noncylindrical or hollow connector pin.

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 380+ for means to retain a pintle in a hinge.
- 267, Spring Devices, subclasses 161+ for a ring or annular spider

105 With seal between connector pin and bushing:

This subclass is indented under subclass 100. Apparatus including a waterproof and dustproof elastomeric ring or similar element located between a cylindrical element used to fasten two adjacent belt links and the removable sleeve of metal or other material.



A - Track link assembly; B, C - Pair of link members; D, E - Pair of link members; F - Bushing; G, H - Annular recess in the bushing end; portions; J - Track pins; K, L - Circumferential sealing grooves in the; connector pin; M, N - Sealing members between the bushing; and connector pin

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 102, for a peripheral seal between the bushing and track link.
- 103+, for an end seal between the bushing and track link.

106, for a seal between the connector pin and track link.

SEE OR SEARCH CLASS:

- 474, Endless Belt Power Transmission Systems or Components, subclass 207 for a positive drive belt formed of rigid links and having a nonmetallic part.

106 With seal between connector pin and track link:

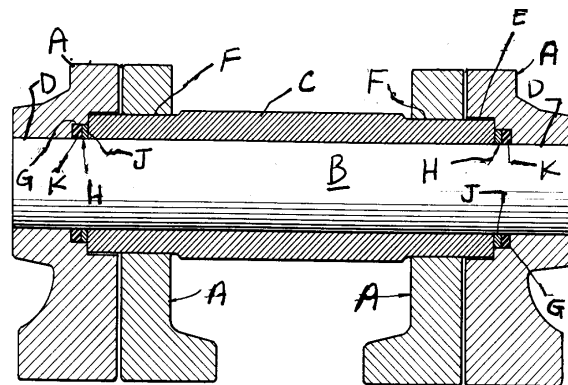
This subclass is indented under subclass 100. Apparatus wherein the dustproof and waterproof elastomeric element is located between a usually cylindrical element used to fasten the two inflexible belt components and the recess formed in one of the two belt components itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 103+, for a seal between bushing and track link.

SEE OR SEARCH CLASS:

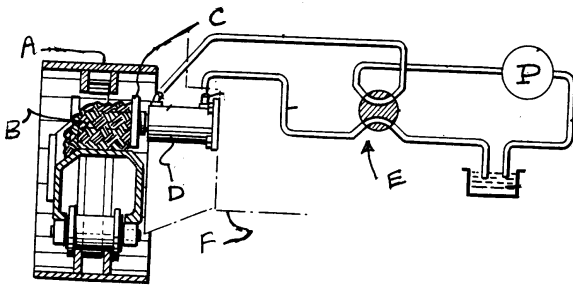
- 74, Machine Element or Mechanism, subclasses 18+ for a flexible sealing diaphragm attached to a moving rod and to a casing.
- 384, Bearings, subclass 138 for a unitary bearing and seal; and subclass 256 for an adjustable roller end support.
- 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclass 353 for a securing means rotatable about fastener element and having opposed ramp surfaces; and subclass 517 for a resilient metallic retainer ring.



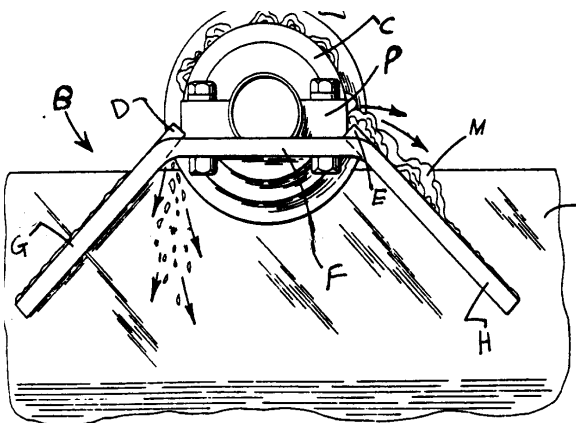
A - Side link; B - Connector pin; C - Bushing or sleeve; D - Link opening for pin; E - Annular recess in link for sleeve; F - Link opening for sleeve; G - Annular recess in link for seal; H - Seal assembly; J - Seal ring; K - Annular resilient member

107 With deflector plate, track guide means, or scraper:

This subclass is indented under subclass 100. Apparatus including a smooth, usually nearly flat and relatively thin piece of metal or other material or a single or plurality of a set of teeth or blades to push or expel the accumulated dirt, to prevent dirt and debris from entering the elements, or to maintain the surface clean of mud and rocks and having a contrivance with a directing edge, surface, or channel for maintaining the tracks on wheels.



A - Track; B - Dirt, mud; C - Pusher plate supported by hyd. cylinder; D - Hydraulic cylinder; E - Hydraulic control mechanism for pusher plate; F - Main frame



A - Side frame; B - Scraper assembly; C - Support roller of upper track section; D, E - Scraper teeth; F - Bridge section; G, H - Side wing sections; M - Mud; P - Pillow blocks

SEE OR SEARCH THIS CLASS, SUB-CLASS:

15, for combined or convertible wheel substitutes.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 6.7 for an endless flexible track; subclass 8.7 for an endless, flexible driving device including tracks substituted for driving wheels; and subclasses 184+ for a propulsion element of endless track type.

280, Land Vehicles, subclasses 95+ for a wheel scraper or cleaner.

440, Marine Propulsion, subclasses 95+ for a flexible endless propelling means.

474, Endless Belt Power Transmission Systems or Components, subclass 92 for a cleaning device for a belt, pulley, or guide roll.

108 With deflector or guard mounted to track body:

This subclass is indented under subclass 107. Apparatus including a lug or a beveled or wedge-shaped projecting rib secured to endless belt shoe for aiding in cleaning the belt, support wheels, or vehicle undercarriage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

111+, for a self-cleaning tread or track unit.

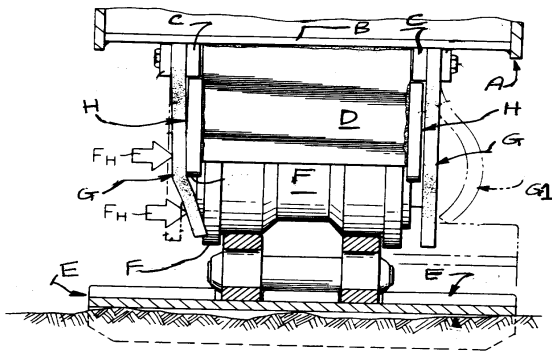
SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 190+ for an endless track type element.

198, Conveyors: Power-Driven, subclasses 494+ for a conveyor having means to facilitate cleaning of the conveyor.

109 With deflector plate mounted to lateral side of track:

This subclass is indented under subclass 107. Apparatus including a scraper plate or a flexible guard element secured on the track roller frame or vehicle body to prevent foreign matter from entering the track area or to guide the rollers or track relative to one another.



A, B, C, D - Track roller frame assembly; E - Track assembly; F - Pair of track rollers or track links; G, G1 - Flexible guard rail; H - Backup detector plate

SEE OR SEARCH THIS CLASS, SUB-CLASS:

60, for miscellaneous subject matter.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 6.7 for an endless flexible track; subclass 8.7 for an endless or rotary type stepper; and subclass 9.64 for a belt- or chain-driven toothed wheel drive.

198, Conveyors: Power-Driven, subclasses 494+ for a conveyor having means to facilitate cleaning.

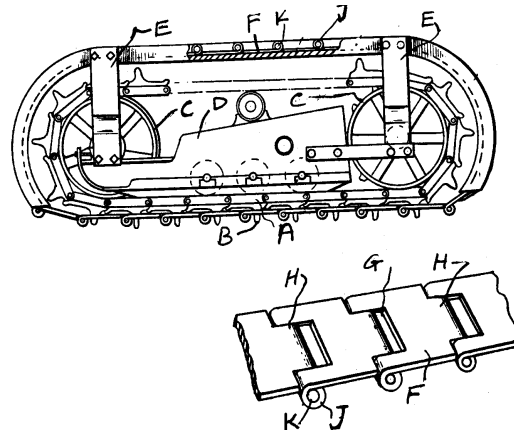
280, Land Vehicles, subclasses 855+ for a wheel scraper or cleaner.

110 With scraper mounted to scrape track or wheel:

This subclass is indented under subclass 107. Apparatus including a plate positioned on the vehicle body to remove debris from at least one surface of the drive wheels or support rollers.

111 With self-cleaning tread or track unit:

This subclass is indented under subclass 100. Apparatus including an endless chain of pivotally connected links having a notch at one end and a tongue at the other end traveling with the track unit to scrape automatically from the track shoes or other part of the vehicle any accumulation of dirt, snow, or mud.



Cleaner or cleaning chain F traverse with track to clean track A. A - Endless chain or link track; B - Track shoe; C - Sprocket wheel; D - Support frame; E - Support; F - Cleaning or cleaning link; G - Notch; H - Tongue; J - Loop; K - Pivot

SEE OR SEARCH CLASS:

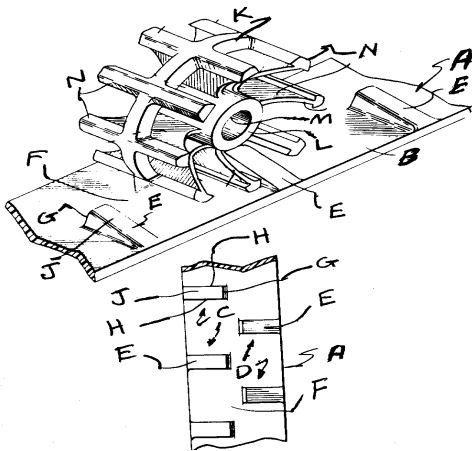
180, Motor Vehicles, subclasses 190+ for an endless track type element having a surface-engaging propulsion element.

474, Endless Power Transmission Systems or Components, subclass 901 for a pulley or guide roll for a track of an endless track vehicle.

112 Including self-cleaning endless belt:

This subclass is indented under subclass 111. Apparatus including a continuous track for automatic removal of mud, snow, and other debris.

- (1) Note. The continuous track includes at least a pair of laterally spaced driving teeth, wherein the teeth in one row are located in staggered relation to the teeth in the other row and the staggered and spaced location of the driving teeth result in automatic removal of debris.



A - Endless track; B - Belt portion; C, D - Laterally spaced rows of teeth; E - Driving teeth; F - Belt strip; G, H, J - Inner/outer teeth surface; K - Driving sprocket rim; L, M - Hub with central; N - Driving lugs

SEE OR SEARCH THIS CLASS, SUB-CLASS:

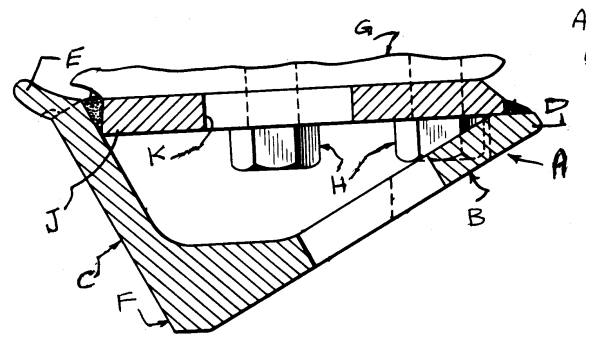
20, for a wheel on top of upper track run.
195+, for a sprocket and track engagement.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 9.62+ for a belt or chain driven toothed wheel drive.
474, Endless Belt Power Transmission Systems or Components, subclass 153 for a positive drive pulley or guide roll having a particular belt; subclass 205 wherein the drive surfaces are formed integral with a continuous flexible member.

113 Having openings through side or base of shoe or link:

This subclass is indented under subclass 111. Apparatus including an endless positive track composed of individual track shoes being connected together to afford the ready passage, discharge, or extrusion of the mud, snow, chips, and other debris.



A - Track shoe; B, C - Track shoe sidewalls; D, E - Adjacent track shoe lugs; F - Common grouser; G - Link; H - Fastening means; J - Support plate; K - Opening thru plate "J" provides egress; of entrapped debris

SEE OR SEARCH THIS CLASS, SUB-CLASS:

195, for a sprocket and track engagement.
202+, for a separate transverse connector pin between treads.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 225+ for a plate or bar type antiskid device.
474, Endless Belt Power Transmission Systems or Components, subclasses 156+ for a belt formed of rigid links having sequential links pivoted about discrete pivot pin; subclasses 233+ for a positive drive belt formed of rigid links having a discrete member interconnecting pulley-tooth receiving links.

114 With particular shoe, lug, grouser structure, or material:

This subclass is indented under subclass 111. Apparatus wherein the surfaces of a metal socket or plate or a projection or ridge are formed to extend angularly with respect to the socket or ridge axis and with respect to each other, thereby squeezing or extruding mud or dirt from between the operating parts.

(1) Note. The significance is attributed to the configuration of the shoe, lug, or grouser, which facilitates cleaning or prevents collection of mud, snow, or debris.

