COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING
(NOTES omitted)

TRANSPORTING

B62 LAND VEHICLES FOR TRAVELLING OTHERWISE THAN ON RAILS

B62D MOTOR VEHICLES; TRAILERS (steering, or guiding on a desired track, of agricultural machines or implements A01B 69/00; wheels, castors, axles, increasing wheel adhesion B60B; vehicle tyres, tyre inflation or tyre changing B60C; connections between vehicles of a train or the like B60D; vehicles for use on rail and road, amphibious or convertible vehicles B60F; suspension arrangements B60G; heating, cooling, ventilating or other air treating devices B60H; windows, windscreens, non-fixed roofs, doors or similar devices, protective coverings for vehicles not in use B60I; propulsion plant arrangements, auxiliary drives, transmissions, controls, instrumentation or dashboards B60K; electric equipment or propulsion of electrically-propelled vehicles B60L; power supply for electrically-propelled vehicles B60M; passenger accommodation not otherwise provided for B60N; adaptations for load transportation or to carry special loads or objects B60P; arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general B60Q; vehicles, vehicle fittings or vehicle parts not otherwise provided for B60R; servicing, cleaning, repairing, supporting, lifting, or manoeuvring, not otherwise provided for, B60S; brake arrangements, brake control systems or parts thereof B60T; air-cushion vehicles B60V; motor-cycles, accessories therefor B62J, B62K; testing of vehicles G01M)

NOTE
In this subclass, the following terms are used with the meanings indicated:
- "vehicles" include motor vehicles and trailers;
- "trailers" include forecars or sidecars.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - B62D 25/13 covered by B60J 1/20, B60R 13/07
   - B62D 25/22 covered by B60R 3/00
   - B62D 65/08 covered by B60J 10/45
   - B62D 101/00-B62D 137/00 covered by B62D 6/00 - B62D 6/008
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Steering of motor vehicles or trailers

NOTE
Steering devices acting on ground-engaging wheels, endless tracks or the like and also applicable to aircraft are classified in B62D 1/00 and relevant subsequent groups; these groups take precedence over B64C; These elaborations also embrace steering of vehicles in general but applicable to land vehicles

1/00 Steering controls, i.e. means for initiating a change of direction of the vehicle
1/02 . vehicle-mounted
1/04 . Hand wheels
1/043 . . . {with a device allowing single-hand operation of the steering wheel}

1/06 . . . Rims, e.g. with heating means; Rim covers (B62D 1/11 takes precedence)
1/065 . . . {Steering wheels with heating and ventilating means (heating and ventilating arrangements for spaces of vehicles B60H)}
1/08 . . . Spokes, e.g. resilient (B62D 1/11 takes precedence)
1/10 . . . Hubs; Connecting hubs to steering columns, e.g. adjustable (B62D 1/11 takes precedence)
1/105 . . . {Non-rotatable hubs, e.g. the central part of the steering wheel not rotating (for storing airbags B60R 21/2032)}
Steering of motor vehicles or trailers

1/11 . . . incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (padded linings associated with the steering wheel B60R 21/05; shock absorbers using plastic deformation of members in general F16F 7/12)

1/12 . . . Hand levers

1/14 . . . Tillers, i.e. hand levers operating on steering columns

1/16 . . . Steering columns

1/163 . . . [Part of the steering column replaced by flexible means, e.g. cable or belt]

1/166 . . . [Means changing the transfer ratio between steering wheel and steering gear (by continuous supply of energy, e.g. from electric motor B62D 5/008; controlling steering depending on driving conditions sensed and responded to B62D 6/00)]

1/18 . . . yieldable or adjustable, e.g. tiltable (padded linings associated with the steering column B60R 21/05)

**NOTE**


1/181 . . . with power actuated adjustment, e.g. with position memory

1/183 . . . adjustable between in-use and out-of-use positions, e.g. to improve access

1/184 . . . Mechanisms for locking columns at selected positions ([locking of telescopic systems in general F16B 7/101)

1/185 . . . adjustable by axial displacement, e.g. telescopically (B62D 1/183; B62D 1/187, B62D 1/19 take precedence)

1/187 . . . with tilt adjustment; with tilt and axial adjustment (B62D 1/183, B62D 1/19 takes precedence)

1/189 . . . . the entire column being tiltable as a unit

1/19 . . . . incorporating energy-absorbing arrangements, e.g. by being yieldable or collapsible (shock absorbers using plastic deformation of members in general F16F 7/12)

1/192 . . . . [Yieldable or collapsible columns]

1/195 . . . . [Yieldable supports for the steering column]

1/197 . . . . [incorporating devices for preventing ingress of the steering column into the passengers space in case of accident]

1/20 . . . Connecting steering column to steering gear

1/22 . . . Alternative steering-control elements, e.g. for teaching purposes

1/24 . . . not vehicle-mounted ([special adaptations of automatic tractor steering A01B 69/008; devices for lifting, movable on wheels, automatically guided B60F 9/063])

1/26 . . . mechanical, e.g. by a non-load-bearing guide (railways B61)

1/265 . . . [especially adapted for guiding road vehicles carrying loads or passengers, e.g. in urban networks for public transportation]

1/28 . . . non-mechanical, e.g. following a line or other known markers (steering position indicators B62D 15/02; steering aids B62D 15/025; parking aids B62D 15/027; steering assistants B62D 15/029; determination or calculation of trajectory of land vehicles G05D 1/021, B60W 60/0027)

1/283 . . . [for unmanned vehicles]

1/286 . . . [Systems for interrupting non-mechanical steering due to driver intervention]

3/00 **Steering gears** (power assisted or power driven B62D 5/00; steering linkages B62D 7/00; for non-deflectable wheels B62D 11/00; gearing in general F16H)

3/02 . . . mechanical

3/04 . . . of worm type

3/06 . . . with screw and nut

3/08 . . . using intermediate balls or the like

3/10 . . . with worm engaging in sector or roller gear

3/12 . . . of rack-and-pinion type

3/123 . . . [characterised by pressure yokes]

3/126 . . . [characterised by the rack]

3/14 . . . hydraulic

5/00 **Power-assisted or power-driven steering** ([controlling steering depending on driving conditions sensed and responded to B62D 6/00;] for non-deflectable wheels B62D 11/00; fluid pressure servomotors in general F15B)

5/001 . . . [Mechanical aspects of steer-by-wire systems, not otherwise provided in B62D 5/00 (hydraulic steer-by-wire systems B62D 5/091)]

5/003 . . . [Backup systems, e.g. for manual steering (B62D 5/30 takes precedence)]

5/005 . . . [means for generating torque on steering wheel, e.g. feedback]

5/006 . . . . [power actuated (control thereof B62D 6/008)]

5/008 . . . [Changing the transfer ratio between the steering wheel and the steering gear by variable supply of energy, e.g. by using a superposition gear]

5/02 . . . mechanical, e.g. using a power-take-off mechanism for taking power from a rotating shaft of the vehicle and applying it to the steering gear

5/04 . . . electrical, e.g. using an electric servo-motor connected to, or forming part of, the steering gear

5/0403 . . . [characterised by constructional features, e.g. common housing for motor and gear box]

5/0406 . . . . [including housing for electronic control unit]

5/0409 . . . [Electric motor acting on the steering column]

5/0412 . . . . [the axes of motor and steering column being parallel]

5/0415 . . . . [the axes being coaxial]

5/0418 . . . . [Electric motor acting on road wheel carriers]

5/0421 . . . . [Electric motor acting on or near steering gear]

5/0424 . . . . [the axes of motor and final driven element of steering gear, e.g. rack, being parallel]

5/0427 . . . . . [the axes being coaxial]

5/043 . . . . [characterised by clutch means between driving element, e.g. motor, and driven element, e.g. steering column or steering gear]

5/0433 . . . . [the clutch being of on-off type]

5/0436 . . . . . [the clutch being a controlled emergency clutch, e.g. for disconnecting at motor breakdown]
Steering of motor vehicles or trailers

5/0439 . . . {Controllable friction clutches (B62D 5/0436 takes precedence)}
5/0442 . . . {Conversion of rotational into longitudinal movement}
5/0445 . . . {Screw drives (screw mechanisms in general F16H 25/20)}
5/0448 . . . {Ball nuts}
5/0451 . . . {Roller spindle drives}
5/0454 . . . {Worm gears}
5/0457 . . . {characterised by control features of the drive means as such (controlling steering depending on driving conditions sensed and responded to B62D 6/00; determination of steering angle B62D 15/021; measuring torque applied to steering wheels G01L 5/221; control of electric motor as such H02PI)}
5/046 . . . {Controlling the motor}
5/0463 . . . {for generating assisting torque}
5/0466 . . . {for returning the steering wheel to neutral position}
5/0469 . . . {End-of-stroke control}
5/0472 . . . {for damping vibrations}
5/0475 . . . {Controlling other elements}
5/0478 . . . . {Clutches}
5/0481 . . . . {monitoring the steering system, e.g. failures}
5/0484 . . . . {for reaction to failures, e.g. limp home}
5/0487 . . . . {detecting motor faults (B62D 5/0496 takes precedence)}
5/049 . . . . {detecting sensor failures}
5/0493 . . . . {detecting processor errors, e.g. plausibility of steering direction}
5/0496 . . . . . {by using a temperature sensor}
5/06 . fluid, i.e. using a pressurised fluid for most or all the force required for steering a vehicle
5/061 . . . . . {provided with effort, steering lock, or end-of-stroke limiters}
5/062 . . . . {Details, component parts}
5/063 . . . . {Pump driven by vehicle engine (B62D 5/065 takes precedence)}
5/064 . . . . {Pump driven independently from vehicle engine, e.g. electric driven pump (B62D 5/065 takes precedence)}
5/065 . . . . {characterised by specially adapted means for varying pressurised fluid supply based on need, e.g. on-demand, variable assist}
5/07 . . . Supply of pressurised fluid for steering also supplying other consumers {; control thereof}
5/075 . . . . . {using priority valves (priority valves in general F15B 13/022)}
5/08 . . . . {characterised by type of (steering) valve used (valves in general F16K)}
5/081 . . . . {Seat valves}
5/083 . . . Rotary valves
5/0832 . . . . {with elastic means other than a torsion bar, e.g. leaf springs}
5/0835 . . . . . {characterised by means for actively limiting the deflection angle, e.g. depending on driving parameters (controlling steering depending on driving conditions sensed and responded to B62D 6/00)}
5/0837 . . . . . {characterised by the shape of the control edges, e.g. to reduce noise}
5/087 . . . . {Sliding spool valves}
5/09 . . . . {characterised by means for actuating valves
5/091 . . . . . {Hydraulic steer-by-wire systems, e.g. the valve being actuated by an electric motor}
5/092 . . . . . {the electric motor being connected to the final driven element of the steering gear, e.g. rack}
5/093 . . . . {Telemotor driven by steering wheel movement (hydraulic steering gear B62D 3/14)}
5/097 . . . . . {gerotor type}
5/10 . . . . {characterised by type of power unit}
5/12 . . . . {Piston and cylinder}
5/14 . . . {Rotary motor}
5/16 . . . {Expansible chamber with flexible wall}
5/18 . . . {characterised by power transmitting means}
5/20 . . . {specially adapted for particular type of steering gear or particular application (steering gears per se B62D 3/00; steering linkages not characterised by being power-assisted or power-driven B62D 7/00)}
5/22 . . . . {for rack-and-pinion type ((pressure yokes B62D 3/123))}
5/24 . . . {for worm type}
5/26 . . . {for pivoted axles}
5/28 . . . {for pivoted bogies}
5/30 . . . {Safety devices, e.g. alternate emergency power supply or transmission means to ensure steering upon failure of the primary steering means}
5/32 . . . . {for telemotor systems}

6/00 Arrangements for automatically controlling steering depending on driving conditions sensed and responded to, e.g. control circuits (means for initiating a change in direction B62D 1/00; steering valves B62D 5/06; combined with means for inclining the vehicle body or wheels on bends B62D 9/00)

NOTE
When classifying in this group, classification is also made in the appropriate one of groups B62D 1/00 - B62D 5/00 or B62D 7/00 - B62D 19/00 if other aspects of the steering system are of interest

6/001 . . {the torque NOT being among the input parameters}
6/002 . . . {computing target steering angles for front or rear wheels (B62D 7/159 takes precedence)}
6/003 . . . . {in order to control vehicle yaw movement, i.e. around a vertical axis (B62D 6/007 takes precedence); stability systems acting on the brakes B60T 8/1755)}
6/005 . . . . {treating sensor outputs to obtain the actual yaw rate}
6/006 . . . . {using a measured or estimated road friction coefficient}
6/007 . . . {adjustable by the driver, e.g. sport mode}
6/008 . . . {Control of feed-back to the steering input member, e.g. simulating road feel in steer-by-wire applications}
6/02 . . . {responsive only to vehicle speed}
6/04 . . . {responsive only to forces disturbing the intended course of the vehicle, e.g. forces acting transversely to the direction of vehicle travel}
6/06 . . . {responsive only to vehicle vibration dampening arrangements (steering dampers for cycles B62K 21/08)}
Steering of motor vehicles or trailers

7/1581 . . . . [characterised by comprising an electrical interconnecting system between the steering control means of the different axles; (power-assisted electrical steering per se B62D 5/04)]

7/159 . . . . [characterised by computing methods or stabilisation processes or systems, e.g. responding to yaw rate, lateral wind, load, road condition]

7/16 . . . . Arrangement of linkage connections (pivots per se F16C [e.g. ball joints F16C 11/06])

7/163 . . . . (substantially in axial direction, e.g. between rack bar and tie-rod)

7/166 . . . . (substantially perpendicular, e.g. between tie-rod and steering knuckle (steering knuckles in general B62D 7/18))

7/18 . . . . Steering knuckles; King pins

7/20 . . . . Links, e.g. track rods (means for adjusting camber, castor, or toe-in B62D 17/00)

7/22 . . . . Arrangements for reducing or eliminating reaction, e.g. vibration, from parts, e.g. wheels, of the steering system (dampers in general F16F)

7/222 . . . . (acting on the steering wheel)

7/224 . . . . (acting between the steering wheel and the steering gear, e.g. on the steering column)

7/226 . . . . (acting on the steering gear)

7/228 . . . . (acting between the steering gear and the road wheels, e.g. on tie-rod)

9/00 Steering deflectable wheels not otherwise provided for (steering position indicators B62D 15/02)

9/002 . . . . (combined with means for differentially distributing power on the deflectable wheels during cornering)

9/005 . . . . (Emergency systems using brakes for steering)

9/007 . . . . (Emergency systems using the steering system for braking)

9/02 . . . . combined with means for inwardly inclining vehicle body on bends

9/04 . . . . combined with means for [inwardly] inclining wheels on bends (B62D 9/02 takes precedence)

11/00 Steering non-deflectable wheels; Steering endless tracks or the like

NOTE

Gearings of interest apart from this application are also classified in the relevant group of subclass F16H covering gearings per se

11/001 . . . . [control systems B62D 11/013 takes precedence]

NOTE

When classifying in this group, classification is also made in the appropriate one of groups B62D 11/02 - B62D 11/24 if other aspects of the steering system are of interest

11/003 . . . . [Electric or electronic control systems]

11/005 . . . . [Hydraulic control systems]

11/006 . . . . [Mechanical control systems]

11/008 . . . . [Pneumatic control systems]

11/02 . . . . by differentially driving ground-engaging elements on opposite vehicle sides

11/04 . . . . by means of separate power sources

11/06 . . . . by means of a single main power source
Steering of motor vehicles or trailers

11/08 . . . using brakes or clutches as main steering-effecting means

11/10 . . . using gearings with differential power outputs on opposite sides, e.g. with twin-differential or epicyclic gears (arrangements or mounting of transmissions in vehicles B60K 17/00; gearing in general F16H)

11/105 . . . [using variable ratio belt and pulley gearings (gearing for conveying rotary motion by endless flexible members F16H 7/00; F16H 9/00)]

11/12 . . . using separate change-speed gearings

11/14 . . . differential power outputs being effected by additional power supply to one side, e.g. power originating from secondary power source

11/16 . . . . . . the additional power supply being supplied mechanically

11/18 . . . . . . the additional power supply being supplied hydraulically

11/183 . . . . . . [Control systems therefor]

11/186 . . . . . . [Uncoupling devices for the hydraulic motors, e.g. to allow towing]

11/20 . . Endless-track steering having pivoted bogie carrying track (B62D 11/02 takes precedence)

11/22 . . Endless track steering being effected by deflecting endless track rollers or the like

11/24 . . Endless track steering specially adapted for vehicles having both steerable wheels and endless track

12/00 Steering specially adapted for vehicles operating in tandem or having pivotally connected frames (steering endless tracks or the like B62D 11/00; steering specially adapted for trailers B62D 13/00)

12/02 . . for vehicles operating in tandem

13/00 Steering specially adapted for trailers (combined traction and steering hitches B60D)

13/005 . . . [operated from tractor steering system]

13/02 . . for centrally-pivoted axles

13/025 . . [the pivoted movement being initiated by the coupling means between tractor and trailer]

13/04 . . for individually-pivoted wheels

13/06 . . for backing a normally drawn trailer

15/00 Steering not otherwise provided for

15/02 . . Steering position indicators [: ; Steering position determination; Steering aids]

15/0205 . . . [Mechanical indicators, e.g. in or near steering wheel]

15/021 . . . (Determination of steering angle (sensors in general G01B)]

15/0215 . . . [by measuring on the steering column]

15/022 . . . . . . (on or near the connection between the steering wheel and steering column)

15/0225 . . . [by measuring on a steering gear element, e.g. on a rack bar]

15/023 . . . [by measuring on the king pin]

15/0235 . . . [by measuring or deriving directly at the electric power steering motor]

15/024 . . . [Other means for determination of steering angle without directly measuring it, e.g. deriving from wheel speeds on different sides of the car]

15/0245 . . . [Means or methods for determination of the central position of the steering system, e.g. straight ahead position]

15/025 . . . (Active steering aids, e.g. helping the driver by actively influencing the steering system after environment evaluation (B62D 1/28 takes precedence; parking aids B62D 15/027)]

15/0255 . . . [Automatic changing of lane, e.g. for passing another vehicle]

15/026 . . . [combined with automatic distance control, i.e. electronic tow bar]

15/0265 . . . [Automatic obstacle avoidance by steering]

15/027 . . . [Parking aids, e.g. instruction means]

15/0275 . . . . . . . . . . . . (by overlaying a vehicle path based on present steering angle over an image without processing that image)

15/028 . . . . . . . . . . . . (Guided parking by providing commands to the driver, e.g. acoustically or optically)

15/0285 . . . . . . . . . . . . [Parking performed automatically]

15/029 . . . . . . . . . . . . [Steering assistants using warnings or proposing actions to the driver without influencing the steering system (parking aids B62D 15/027; determination or calculation of trajectory of land vehicles G05D 1/021; B60W 60/0027; image processing G06T)]

15/0295 . . . . . . . . . . . . (by overlaying a vehicle path based on present steering angle over an image without processing that image)

17/00 Means on vehicles for determining steering angle

19/00 Radius rods, i.e. distance members

Understructures: Superstructures: Vehicle bodies

21/00 Understructures, i.e. chassis frame on which a vehicle body may be mounted (combined frame and vehicle body B62D 23/00 [: characterised by the material thereof B62D 29/00)]

21/02 . . . comprising longitudinally or transversely arranged frame members

21/03 . . . transverse members providing body support

21/04 . . . single longitudinal type

21/05 . . . pinched frame type, i.e. formed of at least two longitudinal frame sections connected by other longitudinal frame sections of lesser transverse dimension

21/06 . . . of X-shaped or fork-shaped construction, i.e. having members which form an X or fork as the frame is seen in plan view

21/07 . . . wide-hipped frame type, i.e. a wide box-shaped mid portion with narrower sections extending from said mid portion in both fore and aft directions

21/08 . . . built up with interlaced cross members

21/09 . . . Means for mounting load bearing surfaces

21/10 . . . in which the main member is plate-like

21/11 . . . . . . . . . . . . . . . . . . with resilient means for suspension [. e.g. of wheels or engine; sub-frames for mounting engine or suspensions]

NOTE
This group does not cover subject matter primarily relating to the suspension, with only a nominal recitation of frame structure, which are covered by subclass B60G
Understructures; Superstructures; Vehicle bodies

21/12 . assembled from readily detachable parts
21/14 . of adjustable length or width
21/15 . having impact absorbing means, e.g. a frame designed to permanently or temporarily change shape or dimension upon impact with another body (bumpers B60R 19/02; shock absorbers in general E16F)
21/152 . [Front or rear frames]
21/155 . . . [Sub-frames or underguards]
21/157 . . . [for side impacts]
21/16 . having fluid storage compartment
21/17 . forming fluid or electrical conduit means or having other means to accommodate the transmission of a force or signal
21/18 . characterised by the vehicle type and not provided for in groups B62D 21/02 - B62D 21/17
21/183 . . . [specially adapted for sports vehicles, e.g. race, dune buggies, go-karts (tubular skeleton B62D 23/005)]
21/186 . . . [for building site vehicles or multi-purpose tractors (tracked vehicles B62D 55/10; tractors in general B62D 49/00; building site vehicles in general E02F; lift-trucks B66F)]
21/20 . . . trailer type, i.e. a frame specifically constructed for use in a non-powered vehicle

23/00 Combined superstructure and frame, i.e. monocoque constructions ([having impact absorbing means B62D 21/15; superstructure [or monocoque structure] sub-units [or parts or details thereof] B62D 25/000; characterised by the material thereof B62D 29/001])
23/005 . . . [with integrated chassis in the whole shell, e.g. meshwork, tubes, or the like (B62D 33/044 takes precedence)]

24/00 Connections between vehicle body and vehicle frame (B62D 23/00, B62D 33/077 take precedence)
24/02 . Vehicle body, not intended to move relatively to the vehicle frame, and mounted on vibration absorbing mountings, e.g. rubber pads
24/04 . Vehicle body mounted on resilient suspension for movement relative to the vehicle frame

25/00 Superstructure [or monocoque structure] sub-units; Parts or details thereof not otherwise provided for ({having impact absorbing means B62D 21/15; running-boards, steps, or the like as superstructure sub-unit B60R 3/00})
25/02 . Side panels ([B62D 33/046 takes precedence; sideboards for open load compartments B62D 33/023])
25/025 . . . [Side sills thereof]
25/04 . Door pillars: [windshield pillars]
25/06 . Fixed roofs (non-fixed roofs or like shelters B60J 7/00; roof liners B60R 13/02; insulating elements B60R 13/08)
25/07 . . . having water drainage or guide means integral with roof structure
25/08 . Front or rear portions: ([sub-frames for mounting engine or suspensions B62D 21/11])
25/081 . . . [Cowls (ventilating openings situated directly in front of the vehicle front window B60H 1/28)]
25/082 . . . [Engine compartments]
25/084 . . . [Radiator supports]
25/085 . . . [Front-end modules]
25/087 . . . [Luggage compartments]
25/088 . . . [Details of structures as upper supports for springs or dampers]
25/10 . Bonnets or lids, [e.g. for trucks, tractors, busses, work vehicles (for truck beds B60J 7/1607; for boats B63B 19/12; doors arranged at the vehicle rear B60J 5/10; inlet covers for vehicle fuel tanks B60K 15/05; for protecting non-occupants of a vehicle B60R 21/38)]
25/105 . . . [for motor cars]
25/12 . . . Parts or details thereof (locks E05B, [E05B 8/316; devices for holding open E05C 7/000, e.g. while carrying oversized objects E05C 7/041]; hinges E05D; counterbalancing means E05F; [checks, stops, buffers E05F 5/00; springs, e.g. pneumatic springs] F16P)
25/14 . . . Dashboards as superstructure sub-units (other dashboard aspects B60K)
25/142 . . . [having ventilation channels incorporated therein]
25/145 . . . [having a crossbeam incorporated therein]
25/147 . . . [with adjustable connection to the A-pillars]
25/16 . Mud-guards or wings; Wheel cover panels (equipped with means for freeing wheels or tyres from foreign matter B60S)
25/161 . . . [Mud-guards made of non-conventional material, e.g. rubber, plastics]
25/163 . . . [Mounting devices]
25/165 . . . . . . [including sealing devices]
25/166 . . . . . . [by rods or other distance-keeping devices]
25/168 . . . . . . [Mud guards for utility vehicles]
25/16A . . . . . . [Parts or details thereof, e.g. mudguard flaps]
25/18 . . . . . . [Movable mudguards, or mudguard flaps comprising movable or detachable parts (B62D 25/188 takes precedence)]
25/184 . . . . . . [to facilitate access to wheels]
25/186 . . . . . . [being attached or suspended laterally from the wheel (B62D 25/184 takes precedence)]
25/188 . . . . . . [Mud-guard flaps for utility vehicles]
25/20 . Floors or bottom sub-units ([sub-frames for mounting engine or suspensions B62D 21/211; drip trays F16N 31/006])
25/2009 . . . . [in connection with other superstructure sub-units]
25/2018 . . . . [the subunits being front structures]
25/2027 . . . . [the subunits being rear structures]
25/2036 . . . . [the subunits being side panels, sills or pillars (B62D 21/152 takes precedence)]
25/2045 . . . . [the subunits being fire walls]
25/2054 . . . . [Load carrying floors for commercial vehicles]
25/2063 . . . . [Floor elements for repairs]
25/2072 . . . . [Floor protection, e.g. from corrosion or scratching (floor mats B60N 3/04, armour F41H 7/042, insulation B60R 13/08; streamlining B62D 33/02)]
25/2081 . . . . [Jack receiving devices]
25/209 . . . . [Arrangements for the mounting of vehicle hitches (vehicle connections in general B60D)]
Understructures; Superstructures; Vehicle bodies

25/24 . Superstructure sub-units with access [or drainage] openings having movable or removable closures; (Sealing means therefor) (inlet covers for vehicle fuel tanks B60K 15/05)

27/00 Connections between superstructure [or understructure] sub-units (B62D 33/0207, B62D 33/044 take precedence; between sub-units predominantly made of synthetic material B62D 29/048)

27/02 . rigid

27/03 . . . {Assembly of structural joints}

27/06 . . . readily releasable

27/05 . . . {[Connections by glue bonding (in general F16B 11/00; processes C09J 5/00)]

27/04 . . . resilient

27/06 . . . {[Connections by screwthread (connection of crossbeam to A- pillars B62D 25/147; mounting load bearing surfaces B62D 21/09; securing mudguards B62D 25/163; connections for synthetic parts B62D 29/048)]

29/00 Superstructures, [understructures, or sub-units thereof] characterised by the material thereof (B62D 33/044, B62D 33/048 take precedence)

29/001 . {characterised by combining metal and synthetic material}

29/002 . . . (a foambable synthetic material or metal being added in situ (shaping of substances in a plastic state by foaming, in general B29C 44/00))

29/004 . . . (the metal being over-moulded by the synthetic material, e.g. in a mould)

29/005 . . . (preformed metal and synthetic material elements being joined together, e.g. by adhesives)

29/007 . . . (predominantly of special steel or specially treated steel, e.g. stainless steel or locally surface hardened steel)

29/008 . . . (predominantly of light alloys, e.g. extruded)

29/02 . . . {predominantly of wood}

29/04 . . . {predominantly of synthetic material (working of plastics or substances in a plastic state B29)}

29/041 . . . {[Understructures]

29/043 . . . {[Superstructures (B62D 25/161 takes precedence)]

29/045 . . . {Van bodies composed of substantially rectangular panels}

29/046 . . . {[Combined superstructure and frame, i.e. monocoque constructions]

29/048 . . . {[Connections therefore, e.g. joints (B62D 29/045 takes precedence)]

31/00 Superstructures for passenger vehicles (passenger vehicles specially adapted to co-operate with aircraft or terminal buildings B64F 1/31)

31/003 . . . {[compact cars, e.g. city cars]

31/006 . . . {[foldable (droppable B60F 5/006)]

31/02 . . . for carrying large numbers of passengers, e.g. omnibus

31/025 . . . {[having modular sections]

31/04 . . . with more than one deck

33/00 Superstructures for load-carrying vehicles

33/02 . . {Platforms; Open load compartments [flat wagons including posts or standards B61D 3/08]}

33/0207 . . . {[Connections of movable or detachable racks or stanchions to platforms]

33/0215 . . . . {[for log hauling vehicles (vehicles for log transport in general B60P 3/41)]

33/0222 . . . {[Connecting elements between stanchions, e.g. roof supporting elements, stiffeners (non-fixed roofs B60J 7/00); securing and covering of load B60P 7/00)]

33/023 . . . {Sideboard or tailgate structures [vehicle side panels in general B62D 25/02]}

33/027 . . . movable

33/0273 . . . . {[Movable tailboards for vehicles comprising non-movable sideboards, e.g. pick-up trucks (B62D 33/037 takes precedence)]

33/0276 . . . . {[by vertical translation ([B62D 33/0273 takes precedence)]

33/03 . . . . {[by swinging down ([B62D 33/0273 takes precedence)]

33/033 . . . . . {[removable ([B62D 33/0273 takes precedence)]

33/037 . . . . . . {[Latching means therefore}

33/04 . . . Enclosed load compartments [Frameworks for movable panels, tarpaulins or side curtains (tarpaulins per se B60J 7/00; B60P 7/04; side curtains per se B60F 5/065)]

33/042 . . . . {[divided into compartments (movable bulk heads B60P 7/14; cattle transport B60P 3/04; bottled liquids B60P 3/22)]

33/044 . . . . {[built up with profiles of constant elongated shape, e.g. extruded, mechanically interconnected by coupling members, e.g. by clamping, riveting or bolting]}

33/046 . . . . {[built up with flat self-supporting panels; Fixed connections between panels (B62D 29/045, B62D 33/048 take precedence)]

33/048 . . . . {[for refrigerated goods vehicles]

33/06 . . . {Drivers’ cabs [overhead guards, e.g. against loads falling down B60R 21/11; roll-over protection B60R 21/13]}

33/0604 . . . {Cabs insulated against vibrations or noise, e.g. with elastic suspension (resilient connections between superstructure sub-units B62D 27/04; damping noise in general G10K 11/00; for vehicles in general B60R 13/08)]]

33/0608 . . . . {[pneumatic or hydraulic suspension]

33/0612 . . . . {[Cabin with living accommodation, especially for long distance road vehicles, i.e. sleeping, cooking, or other facilities (beds in general adapted to be used in vehicles A47C 17/80; sanitation devices in vehicles in general B60R 15/00; living accommodation in vehicles in general B60P 3/32; passenger fittings in general B60N 3/00)]

33/0617 . . . . {[for tractors or off-the-road vehicles (protective devices for drivers in case of overturning of tractors B60R 21/131)]

33/0621 . . . . . {[able to be dismantled, folding]
Motor vehicles or trailers classified according to type; Parts or accessories thereof (frames for vehicles of special type B62D 21/18)

47/00 Motor vehicles or trailers predominantly for carrying passengers (superstructures B62D 31/00)

47/003 . . . convertible in order to modify the number of seats (foldable compact cars B62D 31/006; convertible from one use to a different one B60P 3/42)

47/006 . . . Vehicles which can be divided in sub-vehicles; nestable vehicles

47/02 . . . for large numbers of passengers, e.g. omnibus

47/025 . . . [articulated buses with interconnecting passageway, e.g. bellows (coupling aspects B60D 5/00)]

49/00 Tractors (of walk type B62D 51/04; endless-track features B62D 55/00; tractors for handling aircraft B64F 1/22; transport specially adapted for underground galleries E21F 13/02)

49/002 . . . [characterised by being of the low ground pressure type]

49/005 . . . [Tractors for semi-trailers (combinations of tractor plus semi-trailer B62D 53/006)]

49/007 . . . [Tractors for handling trailers, e.g. roll-trailers in terminals]

49/02 . . . modified to take lifting devices

49/04 . . . modified to take pushing devices

49/06 . . . adapted for multi-purpose use

49/0607 . . . [Straddle tractors, used for instance above vine stocks, rows of bushes, or the like]

49/0614 . . . [equipped with visual aids for positioning implements or to control working condition (optical signalling for vehicles in general B60Q 1/26)]

49/0621 . . . [comprising traction increasing arrangements, e.g. all-wheel traction devices, multiple-axle traction arrangements, auxiliary traction increasing devices (anti-skid or anti-slip devices fitted onto the wheels B60B 15/02, B60B 39/12; arrangements of transmission for driving both front and rear wheels or tandem wheels of vehicles B60K 17/34, B60K 17/36)]

49/0628 . . . [using detachable weights (counterweights against overturning B62D 49/085; movable stabilisation masses B62D 37/04)]

49/0635 . . . [using additional ground engaging means, e.g. endless tracks (vehicles with endless tracks and either additional or alternative ground wheels B62D 55/02, B62D 55/04)]

49/0642 . . . [by coupling of tractors]

49/065 . . . [Coupling of multi-purpose tractors with equipment (towing bars B60D; with load transfer B62D 53/08; power take-off B60K; with lifting devices B62D 49/02; pushing gear B62D 49/04)]

49/0657 . . . [Asymmetrical tractors]

49/0664 . . . [Light, simple, and economical tractors (B62D 49/02 takes precedence)]

49/0671 . . . [the driver riding on the tractor]

49/0678 . . . [Tractors of variable track width or wheel base (for vehicles in general B60B 23/12 and B60B 35/10)]

49/0685 . . . [Reversible tractors adapted for shuttle work]

49/0692 . . . [characterised by the particular arrangement of control devices, e.g. having more than one control stand, operable from vehicle extension (control devices or systems characterised by mechanical features only)]

49/08 . . . having means for preventing overturning or tipping (safety devices for propulsion-unit control, specially adapted for, or arranged in, vehicles B60K 28/00)
Motor vehicles or trailers classified according to type; Parts or accessories thereof

53/067 . . . [Multi-purpose, convertible or extendable load surface semi-trailers (for container transport B60P 1/6418; convertible road transport vehicles in general B60P 3/42)]

53/068 . . . [having devices to equalise or modify the load between the fifth wheel and the rear wheels (adjustable coupling saddles per se B62D 53/0871; load transfer devices to permit coupling or uncoupling B62D 53/0857; anti-jack-knifing devices B62D 53/0871)]

53/08 . . . Fifth wheel traction couplings (tractors for handling trailers in terminals B62D 49/007)

53/0807 . . . [adjustable coupling saddles mounted on sub-frames; Mounting plates therefor]

53/0814 . . . [with adjustment of the clearance between the tractor or the trailer (devices modifying the load in tractor-trailer combinations B62D 53/0869)]

53/0821 . . . [Lifting saddles, i.e. to lift the trailer front (lifting body constructions B60P)]

53/0828 . . . [Removable or fold-away traction couplings for non-specialised tractor vehicles]

53/0835 . . . [Coupling saddles able to rock in all directions, e.g. for use in rough terrain]

53/0842 . . . [King pins]

53/085 . . . [fitted with anti-coupling devices, pivotal or retractable king pins, e.g. to prevent theft (vehicle fittings for preventing theft in general B60R 25/00)]

53/0857 . . . [Auxiliary semi-trailer handling or loading equipment, e.g. ramps, rigs, coupling supports]

53/0864 . . . [Dollies for fifth wheel coupling]

53/0871 . . . [with stabilising means, e.g. to prevent jack-knifing, pitching, rolling, buck jumping (stabilising in general B62D 37/00; tractors B62D 49/008)]

53/0878 . . . [the fifth wheel coupling incorporating braking or restraining means]

53/0885 . . . [Comprising devices to limit or to compensate for wear or excessive play; Lubricating, shock absorbing, bearing devices, or the like]

53/0892 . . . [comprising power transmission shafts (tractors with driven ground wheels B62D 59/00)]

53/10 . . . [with means for preventing accidental uncoupling]

53/12 . . . [engaging automatically]

53/125 . . . [with simultaneous coupling of the service lines]

55/00 . . . [Endless track vehicles (steering aspects B62D 11/00; characterised by the driver not being seated B62D 51/007)]

55/02 . . . [with tracks and additional ground wheels ((for multi-purpose tractors B62D 49/0635)]

55/04 . . . [with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle and vice versa ((for multi-purpose tractors B62D 49/0635)]

55/06 . . . [with tracks without ground wheels]

55/062 . . . [Tracked vehicles of great dimensions adapted for moving bulky loads or gear]

55/065 . . . [Multi-track vehicles, i.e. more than two tracks ((soil-shifting machines E02F; mining machines E21C)]
Endless track units; Parts thereof

Arrangement, location, or adaptation of rollers

Sprockets

Arrangement, location, or adaptation of driving frames (vehicle suspension in general B60G Suspension devices for wheels, rollers, bogies or axles (B62D 55/07 takes precedence)

Endless-track units or carriages mounted on three points, e.g. by an equaliser bar

Tracks (self-cleaning track links B62D 55/088)

Tracks (with lubrication means B62D 55/092)

Bitubular chain links assembled by pins and double connectors

Master track links

Resilient connections between links

Arrangements for preventing or modifying back-flexing

of continuously flexible type, e.g. rubber belts

The flexible band being semi-rigid for resisting back-flexing and contributing to spring the vehicle

Moulded in one piece, with either smooth surfaces or surfaces having projections, e.g. incorporating reinforcing elements

Gas filled or inflatable flexible tracks (connection of valves to inflatable elastic bodies B60C 29/00)

having elements interconnected by one or more cables or like elements

Ground engaging parts or elements (tracks specially adapted for amphibious vehicles B60F 3/0015)

having magnetic or pneumatic adhesion

having different types of crampons for progression over varying ground

with street plate, i.e. means to prevent tread from cutting into road surface

detachable

and movable, e.g. around an axis or perpendicularly to the track

For soft grounds, e.g. consisting of snow or swamp

Track-tensioning means

[acting on pivotably mounted idlers]

Assembly, disassembly, repair or servicing of endless-track systems

Vehicles characterised by having other propulsion or other ground-engaging means than wheels or endless track, alone or in addition to wheels or endless track (sledges B62B; motor sledges B62M)

with ground-engaging propulsion means, e.g. walking members

the ground engaging means being sequentially inflatable bags for peristaltic movement (B62D 57/024 takes precedence)

consisting of members having both translational and rotational movements

specially adapted for moving on inclined or vertical surfaces (endless-track vehicles for ascending or descending stairs B62D 55/075; hand-carts with provision for travelling up or down stairs B62B 5/02)

having wheels and mechanical legs (B62D 57/024 takes precedence; ground-engaging vehicle fittings for supporting, lifting or manoeuvring the vehicle, wholly or in part B60S 9/00)
Motor vehicles or trailers classified according to type; Parts or accessories thereof

65/00 Designing, manufacturing, e.g. assembling, facilitating disassembly, or structurally modifying motor vehicles or trailers, not otherwise provided for

65/005 . [Inspection and final control devices]

65/02 . Joining sub-units or components to, or positioning sub-units or components with respect to, body shell or other sub-units or components

65/022 . [Transferring or handling sub-units or components, e.g. in work stations or between workstations and transportation systems]

65/024 . [Positioning of sub-units or components with respect to body shell or other sub-units or components]

65/026 . . . [by using a jig or the like; Positioning of the jig]

65/028 . . . [by determining relative positions by measurement]

65/04 . Joining preassembled modular units composed of sub-units performing diverse functions, e.g. engine and bonnet (B62D 65/06 - B62D 65/16 take precedence)

65/06 . . . the sub-units or components being doors, windows, openable roofs, lids, bonnets, or weather strips or seals therefor (assembling sealing arrangements with vehicle parts, e.g. doors, windows B60I 10/45)

65/10 . . . the sub-units or components being engines, clutches or transmissions

65/12 . . . the sub-units or components being suspensions, brakes or wheel units

65/14 . . . the sub-units or components being passenger compartment fittings, e.g. seats, linings, trim, instrument panels

65/16 . . . the sub-units or components being exterior fittings, e.g. bumpers, lights, wipers (. exhausts)

65/18 . . . Transportation, conveyor or haulage systems specially adapted for motor vehicle or trailer assembly lines (conveyors and haulage in general B65G)

67/00 Systematic disassembly of vehicles for recovery of salvageable components, e.g. for recycling (for disposal of vehicles by destroying or transformation B09B 3/00, B09B 5/00; . general arrangement of separating plants B03B 9/00; recovery of plastics B29B 17/00)