COOPERATIVE PATENT CLASSIFICATION

PERFORMING OPERATIONS; TRANSPORTING

NOTES omitted

TRANSPORTING

LAND VEHICLES FOR TRAVELLING OTHERWISE THAN ON RAILS

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, windcreens, non-fixed roofs, doors or similar devices, protective coverings for vehicles not in use B60J; 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)

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 6100 - B62D 6408

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 controls, i.e. means for initiating a change of direction of the vehicle

1/00

1/02 . . . vehicle-mounted
1/04 . . . Hand wheels
1/043 . . . [with a device allowing single-hand operation of the steering wheel]
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 passenger 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 steering-by-wire systems B62D 5/001)]

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

B62D

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 H02P)]
5/046 . . . [Controlling the motor]
5/0466 . . . [for generating assisting torque]
5/0466 . . . [for returning the steering wheel to neutral position]
5/0469 . . . [End-of-control stroke]
5/047 . . . [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

7/00 Steering linkage; Stub axles or their mountings

7/02 for pivoted bogies
7/03 (Steering turntables)
7/04 with more than one wheel
7/06 for individually-pivoted wheels, e.g. on king-pins
7/08 the pivotal axes being situated in a single plane transversal to the longitudinal centre line of the vehicle
7/09 characterised by means varying the ratio between the steering angles of the steered wheels (varying the ratio automatically depending on driving conditions B62D 6/00)
7/10 with single-output steering gear
7/12 with twin-output steering gear
7/14 the pivotal axes being situated in more than one plane transverse to the longitudinal centre line of the vehicle, e.g. all-wheel steering
7/142 specially adapted for particular vehicles, e.g. tractors, carts, earth-moving vehicles, trucks
7/144 for vehicles with more than two axles
7/146 characterised by comprising means for steering by acting on the suspension system, e.g. on the mountings of the suspension arms (means on vehicle for adjusting camber, castor or toe-in B62D 17/00)
7/148 provided with safety devices
7/15 characterised by means varying the ratio between the steering angles of the steered wheels (B62D 7/148 takes precedence)
7/1509 with different steering modes, e.g. crab-steering, or steering specially adapted for reversing of the vehicle
7/1518 comprising a mechanical interconnecting system between the steering control means of the different axles
7/1527 comprising only mechanical parts, i.e. without assistance means
7/1536 provided with hydraulic assistance; (power-assisted fluid steering per se B62D 5/06)
7/1545 provided with electrical assistance; (power-assisted electrical steering per se B62D 5/04)
7/1554 comprising a fluid interconnecting system between the steering control means of the different axles; (power-assisted fluid steering per se B62D 5/06)
7/1563 provided with fluid control means; (B62D 7/1572 takes precedence)
7/1572 provided with electro-hydraulic control means
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
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 11/183 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
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 1/21; 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 automatically changing lane
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
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
F16E)
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 E02Q; lift-trucks B66D)]
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 29/000)]
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 linings 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 83/16; devices for holding open
E05C 17/00, e.g. while carrying oversize
objects E05C 17/042], 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]
25/168 . . . . . . [Parts or details thereof, e.g. mudguard flaps
25/18 . . . . . . [Movable mudguards, or mudguards
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 21/11; drip
trays F16N 31/006)]
25/209 . . . . . . [in connection with other superstructure
subunits]
25/209 . . . . . . [the subunits being front structures]
25/207 . . . . . . [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 35/02)]
25/2081 . . . . . . [Jack receiving devices]
25/209 . . . . . . [Arrangements for the mounting of vehicle
hitches (vehicle connections in general B60D)]
Understructures; Superstructures; Vehicle bodies

33/00 Superstructures for load-carrying vehicles

33/02 Platforms; Open load compartments

33/0207 Connections of movable or detachable racks or stanchions to platforms

33/0215 1) 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 B60I 7/00); securing and covering of load B60P 7/00

33/0223 Sideboard or tailgate structures

33/027 2) Movable

33/0273 Movable tailboards for vehicles comprising non-movable sideboards, e.g. pick-up trucks (B62D 33/307 takes precedence)

33/0276 (by vertical translation (B62D 33/207 takes precedence)

33/03 by swinging down (B62D 33/207 takes precedence)

33/033 removable (B62D 33/207 takes precedence)

33/037 Latching means therefor

33/04 Enclosed load compartments

33/044 built 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 takes precedence)

33/048 for refrigerated goods vehicles

33/06 Drivers’ cabs

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 Cabins 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

47/002 for large numbers of passengers, e.g. omnibus

47/005 [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 53/06)]

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

49/002 modified to take lifting devices

49/04 modified to take pushing devices

49/06 adapted for multi-purpose use

49/067 [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 53/087); load transfer devices to permitcoupling or uncoupling B62D 53/0857; anti-jack-knife devices B62D 53/0871]

53/08 . . . Fifth wheel traction couplings (tractors for handling trailers in terminals B62D 49/0807)

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 53/068)]

53/0821 . . . [Lifting saddles, i.e. to lift the trailer front (tilting 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-knife, pitching, rolling, buck jumping (stabilising in general B62D 37/00: tractors B62D 49/08)]

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 (trailers 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 49/0835)

55/04 . . . with tracks and alternative ground wheels, e.g. changeable from endless track vehicle into wheeled vehicle or vice versa (for multi-purpose tractors B62D 49/0835)

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 B02F; mining machines E21C)]
Motor vehicles or trailers classified according to type; Parts or accessories thereof

55/0655 . . . [Articulated endless track vehicles (steering specially adapted for trailers B62D 13/00; articulated buses B62D 47/025; tractor-trailer combinations or road trains comprising a uniaxle unit and a uniaxle trailer B62D 53/02)]

55/07 . . . Mono-track vehicles

55/075 . . . Tracked vehicles for ascending or descending stairs, [steep slopes or vertical surfaces] (magnetic or pneumatic ground-engaging parts B62D 55/255; chains or multi-track cycles specially adapted for invalids A61G 5/00)

55/08 . . . Endless track units; Parts thereof

55/084 . . . Endless-track units or carriages mounted separately, adjustably or extensibly on vehicles, e.g. portable track units (B62D 55/07 takes precedence)

55/0842 . . . [Tracked vehicle with track carriages suspended on three points, e.g. by an equaliser bar]

55/0845 . . . [Protection devices]

55/0847 . . . [Track blocking devices mounted on the frame; Track guides]

55/088 . . . with means to exclude or remove foreign matter, e.g. sealing means, self-cleaning track links or sprockets, deflector plates or scrapers

55/0882 . . . [Track or sprocket cleaning devices mounted on the frame (wheel cleaning devices in general B60S)]

55/0885 . . . [Self-cleaning sprockets]

55/0887 . . . [Track-articulation sealings against dust, water, mud or the like (sealing of bearings in general F16C 33/72; chain bushings in general F16G 15/00)]

55/092 . . . with lubrication means (lubricating in general F16N)

55/096 . . . with noise reducing means

55/0963 . . . [Anti-noise driving sprockets]

55/0966 . . . [Low noise rollers, e.g. with antivibration means (elastic wheel rims in general B60B 9/00)]

55/10 . . . Bogies; Frames (track-tensioning means B62D 55/30)

55/104 . . . Suspension devices for wheels, rollers, bogies or frames (vehicle suspension in general B60G)

55/108 . . . with mechanical springs, e.g. torsion bars

55/1083 . . . [Torsion-bar springs]

55/1086 . . . [Rubber springs]

55/112 . . . with fluid springs, e.g. hydraulic pneumatic

55/1125 . . . [Hydro-pneumatic or pneumatic, e.g. air-cushioned]

55/116 . . . Attitude or position control of chassis by action on suspension, e.g. to compensate for a slope

55/12 . . . Arrangement, location, or adaptation of driving sprockets

55/125 . . . Final drives

55/13 . . . readily interchangeable modular type

55/135 . . . with dismountable driving crown

55/14 . . . Arrangement, location, or adaptation of rollers

55/145 . . . [Rollers with replaceable wear rings or rims (driving sprockets with replaceable rims B62D 55/12)]

55/15 . . . Mounting devices, e.g. bushings, axles, bearings, sealings [(with lubrication means B62D 55/092)]

55/18 . . . Tracks (self-cleaning track links B62D 55/088)

55/20 . . . of articulated type, e.g. chains [(with lubrication means B62D 55/092)]

55/202 . . . [Wheel engaging parts; Wheel guides on links]

55/205 . . . Connections between track links

55/21 . . . Links connected by transverse pivot pins

55/211 . . . . . . . [Bitubular chain links assembled by pins and double connectors]

55/213 . . . . . . . [Master track links]

55/215 . . . . . . . Resilient connections between links

55/22 . . . Arrangements for preventing or modifying back-flexing

55/24 . . . of continuously flexible type, e.g. rubber belts

55/242 . . . [The flexible band being semi-rigid for resisting back-flexing and contributing to spring the vehicle]

55/244 . . . . . . . [Moulded in one piece, with either smooth surfaces or surfaces having projections, e.g. incorporating reinforcing elements]

55/247 . . . . . . . Gas filled or inflatable flexible tracks (connection of valves to inflatable elastic bodies B60C 29/00)

55/253 . . . . . . . having elements interconnected by one or more cables or like elements

55/26 . . . Ground engaging parts or elements ((tracks specially adapted for amphibious vehicles B60F 3/0015))

55/265 . . . . . . . having magnetic or pneumatic adhesion

55/27 . . . . . . . having different types of crampons for progression over varying ground

55/275 . . . . . . . with street plate, i.e. means to prevent tread from cutting into road surface

55/28 . . . . . . . detachable

55/283 . . . . . . . (and movable, e.g. around an axis or perpendicularly to the track)

55/286 . . . . . . . [For soft grounds, e.g. consisting of snow or swamp]

55/30 . . . . . . . Track-tensioning means

55/305 . . . . . . . [acting on pivotably mounted idlers]

55/32 . . . . . . . Assembly, disassembly, repair or servicing of endless-track systems

57/00 . . . 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)

57/02 . . . [with ground-engaging propulsion means, e.g. walking members]

57/021 . . . . . . . [the ground engaging means being sequentially inflatable bags for peristaltic movement (B62D 57/024 takes precedence)]

57/022 . . . . . . . [consisting of members having both rotational and walking movements]

57/024 . . . . . . . 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)

57/028 . . . [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)

57/032 . . with alternately or sequentially lifted supporting base and legs; with alternately or sequentially lifted feet or skid (B62D 57/024 takes precedence)

57/036 . . screw type, e.g., Archimedian screw (amphibious vehicles comprising screw-type ground-engaging means B60F 3/0023)

57/04 . . having other than ground-engaging propulsion means, e.g., having propellers (arrangement of jet-propulsion units B60K)

59/00 Trailers with driven ground wheels or the like

59/02 . . driven from external propulsion unit

59/04 . . driven from propulsion unit on trailer

61/00 Motor vehicles or trailers, characterised by the arrangement or number of wheels, not otherwise provided for, e.g., four wheels in diamond pattern

61/02 . . with two road wheels in tandem on the longitudinal centre line of the vehicle

61/04 . . with two other wheels which are coaxial

61/06 . . with only three wheels

61/08 . . with single front wheel

61/10 . . with more than four wheels [(tractors of the low ground pressure type B62D 49/002)]

61/12 . . with variable number of ground engaging wheels, e.g., with some wheels arranged higher than others, or with retractable wheels (for manoeuvring purposes only B60K)

61/125 . . . [the retractable wheel being a part of a set of tandem wheels (resilient suspension for a single set of tandem wheels B60G 5/00)]

63/00 Motor vehicles or trailers not otherwise provided for

63/02 . . Motor vehicles

63/025 . . . [Modular vehicles (superstructures for busses having modular sections B62D 31/025)]

63/04 . . Component parts or accessories

63/06 . . Trailers (vehicles comprising living accommodation for people, e.g. caravans, camping or like vehicles B60P 3/32)

63/061 . . . [Foldable, extensible or yielding trailers (foldable caravans B60P 3/34; adjustable chassis frames B62D 21/14)]

63/062 . . . [Trailers with one axle or two wheels (semi-trailers B62D 53/06)]

63/064 . . . [light luggage or equipment trailers, e.g., for batteries, gas generators, gas bottles, stretchers (luggage carriers per se B60R)]

63/065 . . . [forming an extension of the towing vehicle, i.e. with two point fixation]

63/067 . . . . [single wheeled (rigid or semi-rigid coupling)]

63/068 . . . [with more than two axles or more than four wheels (vehicles with more than four wheels in general B62D 61/10)]

63/08 . . Component parts or accessories

65/00 Joining sub-units or components to, or positioning sub-units or components with respect to, body shell or other sub-units or components