

CPC COOPERATIVE PATENT CLASSIFICATION

B60S SERVICING, CLEANING, REPAIRING, SUPPORTING, LIFTING, OR MANOEUVRING OF VEHICLES, NOT OTHERWISE PROVIDED FOR

NOTE

Attention is drawn to the Note following the title of class [B60](#).

1/00	Cleaning of vehicles (by apparatus not integral with vehicle B60S 3/00 ; cleaning in general B08B ; de-icing of aircraft B64D ; heating arrangements specially adapted for transparent or reflecting areas H05B 3/84)	1/0463	. . . . . {Arrangement of the cow}
1/02	. Cleaning windscreens, windows or optical devices {(wind deflectors specially adapted for preventing soiling of windows or windscreens B60J 1/2002)}	1/0466	. . . . . {Arrangement of wipers on openable windows}
1/023	. . {including defroster or demisting means}	1/0469	. . . . . {Devices for assisting the wiper positioning on the vehicle}
1/026	. . . {using electrical means}	1/0472	. . . . . {Arrangement of the wipers on right or left-hand drive vehicles}
1/04	. . Wipers or the like, e.g. scrapers	1/0475	. . . {Cleaning of wiper blades}
1/0402	. . . {completely or partially concealed in a cavity}	1/0477	. . . . . {Arrangement for deicing or for removing debris from wiper blades (heated wiper blade B60S 1/3805)}
1/0405	. . . . {the cavity being equipped with a movable cover}	1/048	. . . . . {with a heating device for the wiper parking position}
1/0408	. . . {Means for influencing the aerodynamic quality of wipers, e.g. clip-on wind deflectors (B60S 1/32 takes precedence)}	1/0483	. . . . . {the cleaning device being separated from the vehicle (renovating blade rubbers B60S 2001/3846)}
1/0411	. . . {the windscreens, windows or optical devices being movable with respect to fixed wipers}	1/0486	. . . . . {the cleaning device being integrated with the vehicle}
1/0413	. . . {Modular wiper assembly}	1/0488	. . . {Wiper arrangement for crash protection or impact absorption}
1/0416	. . . . {including other vehicle fittings}	1/0491	. . . {Additional elements being fixed on wipers or parts of wipers not otherwise provided for, e.g. covers, antennae or lights}
1/0419	. . . . {the support structure being integrally molded}	1/0494	. . . {Wipers actuated by wind force only}
1/0422	. . . . {having a separate transverse element}	1/0497	. . . {Wiper units as items separate from vehicle, e.g. for emergency use or retro-fittable}
1/0425	. . . . . {characterised by the attachment of the wiper shaft holders to the transverse element}	1/06	. . . characterised by the drive (producing other than swinging movement B60S 1/44)
1/0427	. . . . . {characterised by the attachment of the wiper motor holder to the transverse element}	1/08	. . . . . electrically driven {(conjoint control of windscreen wiper motor and liquid supply of windscreen washer B60S 1/482 ; conjoint control of windscreen wiper motor and means for cleaning parts o parts other than windscreens or front windows B60S 1/56 , B60S 1/58 , B60S 1/606)}
1/043	. . . {Attachment of the wiper assembly to the vehicle}	1/0803	. . . . . {Intermittent control circuits}
1/0433	. . . . {Attachement of a wiper modular assembly to the vehicle}	1/0807	. . . . . {using electronic control means, e.g. tubes, semiconductors (B60S 1/0818 , B60S 1/0896 take precedence)}
1/0436	. . . . {Attachement of separate wiper shaft holders to the vehicle (B60S 1/0425 takes precedence)}	1/0811	. . . . . {combined with mechanical control means, e.g. thermal relays}
1/0438	. . . . {Attachement of separate wiper motor assembly to the vehicle}	1/0814	. . . . . {using several drive motors; motor synchronisation circuits}
1/0441	. . . . {characterised by the attachment means}	1/0818	. . . . . {including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like}
1/0444	. . . . {comprising vibration or noise absorbing means}	1/0822	. . . . . {characterized by the arrangement or type of detection means}
1/0447	. . . . . {non-screw fixation, (e.g. snap-in, bayonet-type..)}	1/0825	. . . . . {Capacitive rain sensor}
1/045	. . . . . {having a pre-attachment device (i.e. to hold elements in position during mounting)}	1/0829	. . . . . {Oscillator-resonator rain sensor}
1/0452	. . . {Position of the wipers relative to the vehicle}	1/0833	. . . . . {Optical rain sensor}
1/0455	. . . . {Device for lifting the wipers off the screen in its parking position or at extremes of wipe}	1/0837	. . . . . {with a particular arrangement of the optical elements}
1/0458	. . . . {Arrangement wherein the windscreen frame cooperates with the wipers}		
1/0461	. . . . . {Arrangement of the side pillars}		

1/084	. . . . . {including a hologram}	1/34	. . . . Wiper arms; Mountings therefor {wiper arms provided with liquid spreading means B60S 1/522 ; with gas spreading means B60S 1/544 }
1/0844	. . . . . {including a camera}		
1/0848	. . . . . {Cleaning devices for cameras on vehicle}	1/3402	. . . . . {with means for obtaining particular wiping patterns (by varying the effective length of the angularly oscillating arm B60S 1/365)}
1/0851	. . . . . {Resistive rain sensor}	1/3404	. . . . . {the wiper blades being moved substantially parallel with themselves}
1/0855	. . . . . {Ultrasonic rain sensor}	1/3406	. . . . . {the wiper blades being rotated with respect to the wiper arms around an axis perpendicular to the wiped field (B60S 1/3404 takes precedence)}
1/0859	. . . . . {Other types of detection of rain, e.g. by measuring friction or rain drop impact}	1/3409	. . . . . {the wiper arms consisting of two or more articulated elements}
1/0862	. . . . . {including additional sensors (vehicle speed sensors B60S 1/0896)}	1/3411	. . . . . {with means for varying wiper-blade pressure on windshield during operation}
1/0866	. . . . . {including a temperature sensor (heating devices for windshield B60H)}	1/3413	. . . . . {with means for holding the arm off the glass in an intermediate position between the working position and the fully folded back position}
1/087	. . . . . {including an ambient light sensor (control of vehicle lights B60Q)}	1/3415	. . . . . {with means for supplying cleaning fluid to windscreen cleaners, e.g. washers (arrangement of nozzles B60S 1/52)}
1/0874	. . . . . {characterized by the position of the sensor on the windshield}	1/3418	. . . . . {with means for additionally adjusting the wiper arm working position with respect to the surface to be wiped}
1/0877	. . . . . {at least part of the sensor being positioned between layers of the windshield}	1/342	. . . . . {with means for temporarily uncoupling the wiper arm from the drive}
1/0881	. . . . . {characterized by the attachment means on the windshield}	1/3422	. . . . . {Means arranged in the wiper structure to lift the arm at extremes of wipe (means arranged on the vehicle body B60S 1/0455)}
1/0885	. . . . . {the sensor being integrated in a rear-view mirror module}	1/3425	. . . . . {Constructional aspects of the arm}
1/0888	. . . . . {characterized by the attachment of the elements in a unit}	1/3427	. . . . . {Arm piece, link piece and mounting head formed as one element}
1/0892	. . . . . {Testing and production of rain sensors}	1/3429	. . . . . {Arm pieces}
1/0896	. . . . . {including control systems responsive to a vehicle driving condition, e.g. speed}	1/3431	. . . . . {Link pieces}
1/10	. . . . . pneumatically driven	1/3434	. . . . . {Manufacturing details thereof}
1/105	. . . . . {with means for stopping or setting the wipers at their limit of movement}	1/3436	. . . . . {Mounting heads}
1/12	. . . . . hydraulically driven	1/3438	. . . . . {Manufacturing details thereof}
1/125	. . . . . {with means for stopping or setting the wipers at their limit of movement}	1/344	. . . . . {Flat-type mounting heads}
1/14	. . . . . personally driven	1/3443	. . . . . {Wiper shafts}
1/16	. . . . . Means for transmitting drive	1/3445	. . . . . {Joints between elements}
1/163	. . . . . {with means for stopping or setting the wipers at their limit of movement}	1/3447	. . . . . {the elements being an arm piece and a link piece}
1/166	. . . . . {characterised by the combination of a motor-reduction unit and a mechanism for converting rotary into oscillatory movement}	1/345	. . . . . {the elements being a link piece and a mounting head}
1/18	. . . . . mechanically {(B60S 1/166 takes precedence)}	1/3452	. . . . . {the joint being a snap fit pivot joint}
1/185	. . . . . {with means for stopping or setting the wipers at their limit of movement}	1/3454	. . . . . {the joint being at end of mounting head furthest away from blade}
1/20	. . . . . by cable drives; by flexible shafts	1/3456	. . . . . {Locks or stays for holding arms in fully folded back position}
1/22	. . . . . by rotary cams	1/3459	. . . . . {the element being a mounting head and a shaft}
1/24	. . . . . by rotary cranks	1/3461	. . . . . {with means to adjust the orientation of the head relative to shaft}
1/245	. . . . . {with particular rod arrangements between the motor driven axle and the wiper arm axle}	1/3463	. . . . . {Means to press blade onto screen}
1/26	. . . . . by toothed gearing	1/3465	. . . . . {with coil springs}
1/28	. . . . . characterised by a plurality of wipers (B60S 1/06 takes precedence)	1/3468	. . . . . {Mountings therefor}
1/30	. . . . . arranged both outside and inside		
1/32	. . . . . characterised by constructional features of wiper blade arms {or blades}		

1/347	. . . . .	{ with adjustment means to adjust wiping pressure (during wiping B60S 1/3411)}	2001/3827	. . . . .	{ characterised by the squeegee or blade rubber or wiping element}
1/3472	. . . . .	{ with adjustment means to keep wiping pressure constant (varying wiping pressure B60S 1/3411)}	2001/3829	. . . . .	{ characterised by the material of the squeegee or coating thereof}
1/3475	. . . . .	{ with blade or leaf springs}	2001/3831	. . . . .	{ cleaning by scrubbing or abrasive action}
1/3477	. . . . .	{ with elastomeric or rubber springs}	2001/3832	. . . . .	{ cleaning by rigid or semi-rigid scraping elements, e.g. for removing ice}
1/3479	. . . . .	{ Means to cover the wiper parts}	2001/3834	. . . . .	{ equipped with brush-like elements}
1/3481	. . . . .	{ for mounting head}	2001/3836	. . . . .	{ characterised by cross-sectional shape}
1/3484	. . . . .	{ integral with arm or link piece}	2001/3837	. . . . .	{ with more than one wiping edge or lip}
1/3486	. . . . .	{ Means to allow blade to follow curvature of the screen (i.e. rotation along longitudinal axis of the arm)}	2001/3839	. . . . .	{ with longitudinally split squeegee, with squeegee parts}
1/3488	. . . . .	{ Means for mounting wiper arms onto the vehicle}	2001/3841	. . . . .	{ Squeegee modifications to prevent longitudinally sliding of squeegee in support structure}
1/349	. . . . .	{ Means for mounting the wiper bearing to the vehicle body}	2001/3843	. . . . .	{ equipped with removable cover or protective elements}
1/3493	. . . . .	{ Means for mounting the wiper shaft in the wiper bearing}	2001/3844	. . . . .	{ equipped with means to indicate wear or usage of blade}
1/3495	. . . . .	{ Means for mounting the drive mechanism to the wiper shaft}	2001/3846	. . . . .	{ Devices for renewing or renovating blade wiping edges, e.g. cutters}
1/3497	. . . . .	{ Additional means for guiding the blade other than the arm or blade joint}	1/3848	. . . . .	{ Flat-type wiper blade, i.e. without harness}
1/36	. . . . .	Variable-length arms	1/3849	. . . . .	{ Connectors therefor; Connection to wiper arm; Attached to blade}
1/365	. . . . .	{ the effective length being automatically varied during angular oscillation of the arm}	1/3851	. . . . .	{ Mounting of connector to blade assembly}
1/38	. . . . .	Wiper blades {(provided with liquid spreading means B60S 1/524; provided with gas spreading means B60S 1/546)}	1/3853	. . . . .	{ Snap-fit, e.g. elastic connection}
1/3801	. . . . .	{ characterised by a blade support harness consisting of several articulated elements (B60S 1/3803, B60S 1/3806 take precedence)}	1/3855	. . . . .	{ by welding, gluing or the like}
1/3803	. . . . .	{ heated wiper blades}	1/3856	. . . . .	{ Gripping the blade}
1/3805	. . . . .	{ electrically}	1/3858	. . . . .	{ with protrusions cooperating with holes}
1/3806	. . . . .	{ Means, or measures taken, for influencing the aerodynamic quality of the wiper blades}	1/386	. . . . .	{ made in two halves}
1/3808	. . . . .	{ Spoiler integral with the squeegee}	1/3862	. . . . .	{ Transport of liquid there through}
1/381	. . . . .	{ Spoilers mounted on the squeegee or on the vertebra}	1/3863	. . . . .	{ Connectors having a spoiler}
2001/3812	. . . . .	{ Means of supporting or holding the squeegee or blade rubber}	1/3865	. . . . .	{ Connectors having an integral pivot pin for connection with the wiper arm}
2001/3813	. . . . .	{ characterised by a support harness consisting of several articulated elements}	1/3867	. . . . .	{ pin formed on the interior of side walls}
2001/3815	. . . . .	{ characterised by the joint between elements}	1/3868	. . . . .	{ pin formed on the exterior of side walls}
2001/3817	. . . . .	{ characterised by a backing strip to aid mounting of squeegee in support}	1/387	. . . . .	{ the connector being suitable for receiving different types of adapter}
2001/3818	. . . . .	{ the backing strip being a channel-like element, e.g. not continuous}	1/3872	. . . . .	{ without connector, e.g. connection to wiper arm via squeegee or vertebra}
2001/382	. . . . .	{ the backing strip being an essentially planar reinforcing strip, e.g. vertebra}	1/3874	. . . . .	{ with a reinforcing vertebra}
2001/3822	. . . . .	{ characterised by additional means to prevent longitudinal sliding of squeegee in support, e.g. clips}	1/3875	. . . . .	{ rectangular section}
2001/3824	. . . . .	{ the blade or squeegee pivoting about an axis parallel to blade longitudinal axis}	1/3877	. . . . .	{ embedded in the squeegee}
2001/3825	. . . . .	{ the squeegee mounted directly to or in wiper blade arm}	1/3879	. . . . .	{ placed in side grooves in the squeegee}
			1/3881	. . . . .	{ in additional element, e.g. spoiler}
			1/3882	. . . . .	{ C-shape section}
			1/3884	. . . . .	{ Wire-shaped section}
			1/3886	. . . . .	{ End caps}
			1/3887	. . . . .	{ Mounting of end caps}
			1/3889	. . . . .	{ cooperating with holes in the vertebra}
			1/3891	. . . . .	{ with locking device}

1/3893	. . . . .	{cooperating with holes in the squeegee}	1/4074	. . . . .	{with means provided on the blade for locking the side pin}
1/3894	. . . . .	{having a particular shape}	1/4077	. . . . .	{characterised by the connecting part of, or an intermediate element mounted on, the wiper blade (means for locking the side pin B60S 1/4074)}
1/3896	. . . . .	{with openings at the longitudinal extremities}	2001/408	. . . . .	{the connecting part or the intermediate element being provided with holes for different diameters of pivoting pin}
2001/3898	. . . . .	{method for manufacturing wiper blades}	1/4083	. . . . .	{for arms provided with a flat end}
1/40	. . . . .	Connections between blades and arms	1/4087	. . . . .	{the end being provided with protrusions or holes}
1/4003	. . . . .	{Multi-purpose connections for two or more kinds of arm ends}	2001/409	. . . . .	{characterised by the arm or connecting part mounted on the arm presenting a shaped opening for bearing the pivot axis}
NOTE			2001/4093	. . . . .	{characterised by the mounting of the pivot on the main yoke of the blade}
Multi-aspect classification is applied for technical subjects relating to the arms and covered by subgroups B60S 1/4006 - B60S 1/4083			2001/4096	. . . . .	{Connections between arm and blade not using a cylindrical pivot axis on the blade}
1/4006	. . . . .	{for arms provided with a hook-shaped end}	1/42	. . . . .	resilient
1/4009	. . . . .	{comprising a detachable intermediate element mounted on the hook-shaped end}	1/44	. . . . .	the wiper blades having other than swinging movement, e.g. rotary {(the wiper blade support member, e.g. arm, having a swinging movement B60S 1/32)}
2001/4012	. . . . .	{the element being provided with bearing surfaces on its side walls}	1/46	. . . . .	using liquid; Windscreen washers
1/4016	. . . . .	{the element being provided with retention means co-operating with the hook-shaped end of the arm}	1/48	. . . . .	Liquid supply therefor
1/4019	. . . . .	{the retention means being protrusions or holes}	1/481	. . . . .	{the operation of at least part of the liquid supply being controlled by electric means (electrical washing liquid warming-up means B60S 1/488)}
2001/4022	. . . . .	{the element being provided with a locking element movable thereon}	1/482	. . . . .	{combined with the operation of windscreen wipers}
2001/4025	. . . . .	{the element being able to receive pivot pins of different diameters}	1/483	. . . . .	{using a supply pump driven by the windscreen-wiper motor}
2001/4029	. . . . .	{the element being able to receive arms of different widths}	1/485	. . . . .	{including control systems responsive to external conditions, e.g. by detection of moisture, dirt or the like}
2001/4032	. . . . .	{the element being able to receive arms with hooks of different radiuses}	1/486	. . . . .	{including control systems responsive to a vehicle driving condition, e.g. speed}
2001/4035	. . . . .	{the connection being covered by a removable cover mounted on the blade}	1/487	. . . . .	{the liquid being heated (nozzles provided with heating means B60S 1/52)}
1/4038	. . . . .	{for arms provided with a channel-shaped end}	1/488	. . . . .	{electrically}
1/4041	. . . . .	{the channel-shaped end comprising a pivot pin mounted between the side walls}	1/50	. . . . .	Arrangement of reservoir
1/4045	. . . . .	{comprising a detachable intermediate element mounted on the channel-shaped end}	1/52	. . . . .	Arrangement of nozzles; {Liquid spreading means} (nozzles per se B05B)
1/4048	. . . . .	{the element being provided with retention means co-operating with the channel-shaped end of the arm}	1/522	. . . . .	{moving liquid spreading means, e.g. arranged in wiper arms}
2001/4051	. . . . .	{the intermediate element engaging the side walls of the arm}	1/524	. . . . .	{arranged in wiper blades}
2001/4054	. . . . .	{the intermediate element engaging the back part of the arm}	1/526	. . . . .	{according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind}
2001/4058	. . . . .	{comprising a separate locking element, e.g. in addition to an intermediate element}	1/528	. . . . .	{the spreading means being moved between a rest position and a working position (B60S 1/526 takes precedence)}
2001/4061	. . . . .	{covered by a removable cover mounted on the blade}	1/54	. . . . .	using gas, e.g. hot air
1/4064	. . . . .	{the channel-shaped end being provided with protrusions on, or holes in, the side walls to create a pivot}	1/542	. . . . .	{using wiping devices}
1/4067	. . . . .	{for arms provided with a side pin}	1/544	. . . . .	{moving gas spreading means, e.g. arranged in wiper arms}
1/407	. . . . .	{with means provided on the arm for locking the side pin}	1/546	. . . . .	{arranged in wiper blades}
			1/548	. . . . .	{according to vehicle movement characteristics, e.g. speed, or climatic conditions, e.g. wind}

- 1/56 . . . specially adapted for cleaning other parts or devices than front windows or windscreens {[\(rear-view mirror arrangements mounted on vehicle exterior including cleaning devices B60R 1/0602\)](#)}
- 1/563 . . . {for registration, licensing or like devices}
- 1/566 . . . {including wiping devices ([B60S 1/563](#), [B60S 1/583](#) take precedence)}
- 1/58 . . . for rear windows
- 1/583 {including wiping devices}
- 1/586 {including defroster or demisting means}
- 1/60 . . . for signalling devices, e.g. reflectors
- 1/603 {the operation of at least a part of the cleaning means being controlled by electric means}
- 1/606 {combined with the operation of windscreen or front window cleaning means}
- 1/62 . Other vehicle fittings for cleaning
- 1/64 . . for cleaning vehicle interiors, e.g. built-in vacuum cleaners
- 1/66 . . for cleaning vehicle exterior
- 1/68 . . . for freeing wheels or tyres from foreign matter, e.g. wheel scrapers
- 1/685 {for two-wheeled vehicles}
- 3/00 Vehicle cleaning apparatus not integral with vehicles** (cleaning in general [B08B](#); cleaning peculiar to waterborne vessels [B63B 57/00](#), [B63B 59/00](#); ground equipment for cleaning aircraft [B64F 5/00](#); {multistage treatment applied to waste water from vehicle wash installations [C02F 9/00](#)})
- 3/002 . {Vehicle drying apparatus}
- 3/004 . {Conveyors for vehicle cleaning apparatus}
- 3/006 . {specially adapted for railway vehicles ([B60S 3/008](#) takes precedence)}
- 3/008 . {for interiors of land vehicles}
- 3/04 . for exteriors of land vehicles {([B60S 3/002](#), [B60S 3/004](#) take precedence; specially adapted for railway vehicles [B60S 3/006](#))}
- 3/041 . . {specially adapted for two-wheeled vehicles}
- 3/042 . . {Wheel cleaning devices (integral with vehicle [B60S 1/00](#))}
- 3/044 . . {Hand-held cleaning arrangements with liquid or gas distributing means ([B60S 3/045](#) takes precedence)}
- 3/045 . . {Other hand-held cleaning arrangements, e.g. with sponges, brushes, scrapers or the like ([brushes per se A46B](#))}
- 3/047 . . . {using liquid or gas distributing means ([B60S 3/048](#) takes precedence)}
- 3/048 . . . {with rotary or vibratory bodies contacting the vehicle}
- 3/06 . . with rotary bodies contacting the vehicle {(hand-held [B60S 3/048](#))}
- 3/063 . . . {the axis of rotation being approximately vertical}
- 3/066 . . . {the axis of rotation being approximately horizontal}

- 5/00 Servicing, maintaining, repairing or refitting of vehicles** ({collecting or removing exhaust gases in workshops [B08B 15/002](#); straightening vehicle body parts [B21D 1/12](#), [B21D 1/14](#)}; vehicles adapted to carry a workshop for servicing or maintenance [B60P 3/14](#); servicing rail locomotives [B61K](#); {registering or indicating the working of vehicles [G07C 5/00](#); testing of vehicles [G01M 17/00](#); arrangements for electrical testing [G01R 31/00](#); devices for monitoring or checking brake systems [B60T 17/22](#); filling or draining lubricant [F01M 11/04](#); means for collecting, retaining, or draining-off lubricant [F16N 31/00](#); draining of lubricant from gearing [F16H 57/0406](#); assembly or repair of springs or dampers [F16F 9/3271](#); tool, instrument or work supports or storage means used in association with vehicles [B25H 5/00](#)})
- 5/02 . Supplying fuel to vehicles; General disposition of plant in filling stations (apparatus for transferring measured quantities of petrol, oil, or the like from storage space to vehicles [B67D](#))
- 5/04 . Supplying air for tyre inflation (arrangement of tyre inflating devices on vehicles [B60C 23/00](#); tyre pressure gauges [G01L 17/00](#); {pumps actuated by muscle power [F04B 33/00](#)})
- 5/043 . . {characterised by the inflation control means or the drive of the air pressure system}
- 5/046 . . . {using electrical or electronical means}
- 5/06 . Supplying batteries to, or removing batteries from, vehicles (circuit arrangements for charging batteries [H02J 7/00](#))
- 9/00 Ground-engaging vehicle fittings for supporting, lifting, or manoeuvring the vehicle, wholly or in part, e.g. built-in jacks** ({props for vehicle draw bars [B60D 1/66](#); anti-theft devices acting on vehicle jacking means [B60R 25/001](#)}; lifting devices in general [B66F](#), supports in general [F16M](#))
- 9/02 . for only lifting or supporting
- 9/04 . . mechanically
- 9/06 . . . of screw-and-nut type
- 9/08 the screw axis being substantially vertical
- 9/10 . . by fluid pressure
- 9/12 . . . of telescopic type
- 9/14 . for both lifting and manoeuvring
- 9/16 . . for operating only on one end of vehicle ([B60S 9/205](#) takes precedence)
- 9/18 . . . mechanically
- 9/20 . . . with fluid-pressure lift
- 9/205 . . Power driven manoeuvring fittings, e.g. reciprocally driven steppers or rotatably driven cams (vehicles with ground-engaging propulsion means, e.g. walking members, [B62D 57/02](#))
- 9/21 . . . comprising a rotatably driven auxiliary wheel or endless track, e.g. driven by ground wheel (track vehicles with additional or alternative ground wheels [B62D 55/02](#), [B62D 55/04](#); auxiliary drives from a ground wheel [B60K 25/08](#))
- 9/215 driven by an auxiliary motor
- 9/22 . Means for attaching lifting, supporting, or manoeuvring devices to vehicles (for separate devices [B60S 11/00](#))

- 11/00 **Vehicle modifications for receiving separate lifting, supporting, or manoeuvring devices**
- 13/00 **Vehicle-manoeuving devices separate from the vehicle** (vehicle lifting {, e.g. liftable turntables} or pushing devices [B66F](#); {workshop equipment [B25H](#)})
- 13/02 . Turntables; Traversers (incorporated in vehicle-storing garages [E04H](#); {rotary display stands [A47F 5/02](#)})