

CPC**COOPERATIVE PATENT CLASSIFICATION****A01B**

SOIL WORKING IN AGRICULTURE OR FORESTRY; PARTS, DETAILS, OR ACCESSORIES OF AGRICULTURAL MACHINES OR IMPLEMENTS, IN GENERAL([making or covering furrows or holes for sowing, planting, or manuring A01C 5/00](#) ; soil working for engineering purposes [E01](#) , [E02](#) , [E21](#) ; { measuring areas for agricultural purposes [G01B](#) })

WARNING

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

A01B 69/04	covered by	A01B 69/008
A01B 69/06	covered by	A01B 69/005
A01B 69/08	covered by	A01B 69/006

A01B 1/00

Hand tools([edge trimmers for lawns A01G 3/06](#) ; { machines for working soil [A01B 35/00](#) ; making hand tools [B21D](#) })

A01B 1/02

. Spades; Shovels{ [hand-operated dredgers E02F 3/02](#) }

A01B 1/022

.. {[Collapsible; extensible; combinations with other tools](#)}

A01B 1/024

.. {[Foot protectors attached to the blade](#)}

A01B 1/026

.. {[with auxiliary handles for facilitating lifting](#)}

A01B 1/028

.. {[with ground abutment shoes or earth anchors for facilitating lifting](#)}

A01B 1/04

.. with teeth

A01B 1/06

. Hoes; Hand cultivators{ [rakes A01D 7/00](#) ; [forks A01D 9/00](#) ; [picks B25D](#) }

A01B 1/065

.. {[powered](#)}

A01B 1/08

.. with a single blade

A01B 1/10

.. with two or more blades

A01B 1/12

.. with blades provided with teeth

A01B 1/14

.. with teeth only

A01B 1/16

. Tools for uprooting weeds

A01B 1/165

.. {[adapted for extracting a substantially cylindrical plug out of the earth](#)}

A01B 1/18

.. Tong-like tools

A01B 1/20

. Combinations of different kinds of hand tools

A01B 1/22

. Attaching the blades or the like to handles([handles for tools, or their attachment, in general B25G](#)); Interchangeable or adjustable blades

A01B 1/222

.. {[Adjustable blades](#)}

A01B 1/225

... {[around a substantially horizontal axis](#)}

A01B 1/227

.. {[Interchangable blades](#)}

A01B 1/24

. for treating meadows or lawns

A01B 1/243

.. {[for aerating](#)}

A01B 1/246

.. {[for cutting sods or turves](#)}

Guidance heading: Ploughs**A01B 3/00****Ploughs with fixed plough-shares**

- A01B 3/02 . Man-driven ploughs
- A01B 3/04 . Animal-drawn ploughs
- A01B 3/06 .. without alternating possibility, i.e. incapable of making an adjacent furrow on return journey,{i.e. **conventional ploughing**}
- A01B 3/08 ... Swing ploughs
- A01B 3/10 ... Trussed-beam ploughs; Single-wheel ploughs
- A01B 3/12 ... Two-wheel beam ploughs
- A01B 3/14 ... Frame ploughs
- A01B 3/16 .. Alternating ploughs, i.e. capable of making an adjacent furrow on return journey
- A01B 3/18 ... Turn-wrest ploughs
- A01B 3/20 ... Balance ploughs
- A01B 3/22 ... with parallel plough units used alternately
- A01B 3/24 . Tractor-drawn ploughs([A01B 3/04 takes precedence](#))
- A01B 3/26 .. without alternating possibility
- A01B 3/28 .. Alternating ploughs
- A01B 3/30 ... Turn-wrest ploughs
- A01B 3/32 ... Balance ploughs
- A01B 3/34 ... with parallel plough units used alternately
- A01B 3/36 . Ploughs mounted on tractors
- A01B 3/38 .. without alternating possibility
- A01B 3/40 .. Alternating ploughs
- A01B 3/42 ... Turn-wrest ploughs
- A01B 3/421 with a headstock frame made in one piece
- A01B 3/4215 {the headstock being provided with two or more hydraulic cylinders}
- A01B 3/426 with a headstock frame made of two or more parts
- A01B 3/44 ... with parallel plough units used alternately
- A01B 3/46 . Ploughs supported partly by tractor and partly by their own wheels
- A01B 3/462 .. {Alternating ploughs with frame rotating about a vertical axis}
- A01B 3/464 .. {Alternating ploughs with frame rotating about a horizontal axis, e.g. turn-wrest ploughs}
- A01B 3/466 ... {the frame comprising an articulated beam}
- A01B 3/468 .. {the plough wheels being actively driven}
- A01B 3/50 . Self-propelled ploughs
- A01B 3/52 .. with three or more wheels, or endless tracks
- A01B 3/54 ... without alternating possibility
- A01B 3/56 ... Alternating ploughs;{**Balance ploughs**}
- A01B 3/58 .. with two wheels

- A01B 3/60 . . . Alternating ploughs
- A01B 3/62 Balance ploughs
- A01B 3/64 . Cable ploughs; Indicating or signalling devices for cable plough systems{(vehicles towed by cable [B60D](#))}
- A01B 3/66 . . with motor-driven winding apparatus mounted on the plough
- A01B 3/68 . . Cable systems with one or two engines;{e.g. electrically-driven or with diesel generating set}
- A01B 3/70 . . . Systems with one engine for working uphill
- A01B 3/72 . . Means for anchoring the cables
- A01B 3/74 . Use of electric power for propelling ploughs{for rotary cultivators or the like(electric current collectors [B60L 5/00](#))}

- A01B 5/00** **Ploughs with rolling non-driven tools, e.g. discs(with rotary driven tools [A01B 9/00](#))**
- A01B 5/02 . drawn by animals
- A01B 5/04 . drawn by tractors
- A01B 5/06 . . without alternating possibility,{e.g. with rotary counters provided with scrapers}
- A01B 5/08 . . Alternating ploughs
- A01B 5/10 . mounted or partly-mounted on tractors
- A01B 5/12 . . without alternating possibility
- A01B 5/14 . . Alternating ploughs
- A01B 5/16 . Self-propelled disc or like ploughs

- A01B 7/00** **Disc-like soil-working implements usable either as ploughs or as harrows, or the like**

- A01B 9/00** **Ploughs with rotary driven tools(tilling implements with rotary driven tools [A01B 33/00](#))**
- A01B 9/003 . {with tools on horizontal shaft transverse to direction of travel}
- A01B 9/006 . {with tools on horizontal shaft parallel to direction of travel}

- A01B 11/00** **Ploughs with oscillating, digging or piercing tools{driven or not}**

- A01B 13/00** **Ploughs or like machines for special purposes(for drainage [E02B 11/02](#));{Ditch diggers, trench ploughs, forestry ploughs, ploughs for land or marsh reclamation(machines for aerating meadows [A01B 45/02](#) ; making furrows [A01C 5/00](#) ; dredging machines in general [E02F](#))}**
- A01B 13/02 . for making or working ridges, e.g. with symmetrically arranged mouldboards,{e.g. ridging plough}
- A01B 13/025 . . {with passively driven rotating disc-like elements for forming the ridge}
- A01B 13/04 . for working in vineyards, orchards, or the like
- A01B 13/06 . . Arrangements for preventing damage to the vines, or the like,{e.g. hydraulic(machines specially adapted for working in vineyards [A01B 39/16](#))}
- A01B 13/08 . for working subsoil
- A01B 13/10 . . Special implements for lifting subsoil layers
- A01B 13/12 . . . Means for distributing the layers on the surface

- A01B 13/14 . for working soil in two or more layers
- A01B 13/16 . Machines for combating erosion, e.g. basin-diggers, furrow-dammers
- A01B 15/00** **Elements, tools, or details of ploughs**
- A01B 15/02 . Plough blades; Fixing the blades
- A01B 15/025 . . {specially adapted for working subsoil}
- A01B 15/04 . . Shares{(making ploughshares by rolling [B21H](#))}
- A01B 15/06 . . . Interchangeable or adjustable shares
- A01B 15/08 . . Mouldboards
- A01B 15/10 . . . Interchangeable or adjustable mouldboards
- A01B 15/12 . Beams; Handles(handles for tools or their attachment in general [B25G](#))
- A01B 15/125 . . {Articulated beams}
- A01B 15/14 . Frames(means or arrangements to facilitate transportation [A01B 73/00](#))
- A01B 15/145 . . {the plough blades being connected to the plough beam for unison adjustment of the furrow width}
- A01B 15/16 . Discs(bearings therefor [A01B 71/04](#)); Scrapers for cleaning discs; Sharpening attachments(sharpening in general [B24](#))
- A01B 15/18 . Coulters
- A01B 15/20 . Special adjusting means for tools of ploughs drawn by, or mounted on tractors working on hillsides or slopes

- A01B 17/00** **Ploughs with special additional arrangements, e.g. means for putting manure under the soil, clod-crushers([A01B 49/00](#) takes precedence);{Means for breaking the subsoil}**
- A01B 17/002 . {Means for putting manure, debris, straw or the like under the soil(to plough-in weeds [A01B 39/18](#))}
- A01B 17/004 . {Clod-crushers}
- A01B 17/006 . . {with driven tools}
- A01B 17/008 . . . {rotating about a vertical or steeply inclined axis}

Guidance heading: Harrows

- A01B 19/00** **Harrows with non-rotating tools{(harrows for working in vineyards [A01B 39/16](#))}**
- A01B 19/02 . with tools rigidly or elastically attached to a tool-frame
- A01B 19/04 . . with two or more tool-frames
- A01B 19/06 . . with tools or tool-frames moved to-and-fro mechanically
- A01B 19/08 . with link network supporting tooth-like tools
- A01B 19/10 . Lifting or cleaning apparatus
- A01B 21/00** **Harrows with rotary non-driven tools(tilling implements with rotary driven tools [A01B 33/00](#))**
- A01B 21/02 . with tooth-like tools
- A01B 21/04 . . on horizontally-arranged axles

- A01B 21/06 . . . on vertically-arranged axles
- A01B 21/08 . . with disc-like tools
- A01B 21/083 . . . {of the type comprising four individual disk groups each pivotally connected at fixed locations to a substantially rigid frame}
- A01B 21/086 . . . {of the type in which the disc-like tools are individually mounted}

A01B 23/00**Elements, tools, or details of harrows**

- A01B 23/02 . . Teeth; Fixing the teeth
- A01B 23/04 . . Frames(means or arrangements to facilitate transportation [A01B 73/00](#)); Drawing-arrangements
- A01B 23/043 . . . {specially adapted for harrows with non-rotating tools}
- A01B 23/046 . . . {Specially adapted for harrows with rotating tools}
- A01B 23/06 . . Discs([A01B 15/16](#) takes precedence; bearings therefor [A01B 71/04](#)); Scrapers for cleaning discs; Sharpening attachments;{Lubrication of bearings} (sharpening in general [B24](#))

A01B 25/00

Harrows with special additional arrangements, e.g. means for distributing fertilisers; Harrows for special purposes([A01B 39/00](#) takes precedence; { fertiliser distributors [A01C 15/00](#) })

Guidance heading: Other machines for working soil**A01B 27/00****Clod-crushers**

- A01B 27/005 . . {comprising roller-type tools moving on the ground}

A01B 29/00**Rollers{(rollers for roads [E01C](#))}**

- A01B 29/02 . . with smooth surface
- A01B 29/04 . . with non-smooth surface formed of rotatably-mounted rings or discs or with projections or ribs on the roller body; Land packers
- A01B 29/041 . . . {of "Cambridge"-type, i.e. the soil-pressing rings being stacked on a shaft}
- A01B 29/043 {Tire-packers}
- A01B 29/045 . . . {the soil-pressing body being a drum}
- A01B 29/046 . . . {the soil-pressing body being a helical coil}
- A01B 29/048 . . . {Bar cage rollers}
- A01B 29/06 . . with special additional arrangements

A01B 31/00**Drags{graders for field cultivators(graders in general [E02F](#))}****A01B 33/00****Tilling implements with rotary driven tools,{e.g. in combination with fertiliser distributors or seeders, with grubbing chains, with sloping axles, with driven discs}**

- A01B 33/02 . . with tools on horizontal shaft transverse to direction of travel
- A01B 33/021 . . . {with rigid tools}
- A01B 33/022 {with helicoidal tools}
- A01B 33/024 {with disk-like tools}

- A01B 33/025 . . {with spring tools, i.e. resiliently- or flexibly-attached rigid tools}
- A01B 33/027 . . {Operator supported tools, e.g. using a harness for supporting the tool or power unit}
- A01B 33/028 . . {of the walk-behind type([walk-type tractors B62D 51/04](#))}
- A01B 33/04 . with tools on horizontal shaft parallel to direction of travel
- A01B 33/06 . with tools on vertical or steeply-inclined shaft
- A01B 33/065 . . {comprising a plurality of rotors carried by an elongate, substantially closed transmission casing, transversely connectable to a tractor}
- A01B 33/08 . Tools; Details, e.g. adaptations of transmissions or gearings
- A01B 33/082 . . {Transmissions; Gearings; Power distribution}
- A01B 33/085 . . . {specially adapted for tools on a vertical shaft}
- A01B 33/087 . . {Lifting devices; Depth regulation devices; Mountings}
- A01B 33/10 . . Structural or functional features of the tools;{Theoretical aspects of the cutting action}
- A01B 33/103 . . . {the rotating shaft being oriented horizontally}
- A01B 33/106 . . . {the rotating shaft being oriented vertically or steeply inclined}
- A01B 33/12 . . Arrangement of the tools; Screening of the tools
- A01B 33/125 . . . {screening of tools rotating about a vertical shaft}
- A01B 33/14 . . Attaching the tools to the rotating shaft, e.g. resiliently{or flexibly}-attached tools
- A01B 33/142 . . . {the rotating shaft being oriented horizontally}
- A01B 33/144 {with spring tools or resiliently-attached rigid tools}
- A01B 33/146 . . . {the rotating shaft being oriented vertically or steeply inclined}
- A01B 33/148 {with spring tools or resiliently-attached rigid tools}
- A01B 33/16 . with special additional arrangements([A01B 49/00](#) takes precedence; for sowing or fertilising [A01B 49/06](#))

- A01B 35/00** **Other machines for working soil{not specially adapted for working soil on which crops are growing}** ([A01B 37/00](#) , [A01B 39/00](#) , [A01B 77/00](#) take precedence; { hand tools [A01B 1/00](#) })
- A01B 35/02 . with non-rotating tools
- A01B 35/04 . . drawn by animal or tractor{or man-power}
- A01B 35/06 . . . with spring tools{or with resiliently- or flexibly-attached rigid tools}
- A01B 35/08 . . . with rigid tools
- A01B 35/10 . . mounted on tractors
- A01B 35/12 . . . with spring tools{or with resiliently-or flexibly-attached rigid tools}
- A01B 35/14 . . . with rigid tools
- A01B 35/16 . with rotating or circulating non-propelled tools
- A01B 35/18 . with both rotating and non-rotating tools
- A01B 35/20 . Tools; Details
- A01B 35/22 . . non-rotating tools;{Resilient or flexible mounting of rigid tools}
- A01B 35/225 . . . {the tools being adapted to allow the chisel point to be easily fitted or removed from the shank}

A01B 35/24	... Spring tools
A01B 35/26	... Rigid tools
A01B 35/28	.. Rotating tools; Mounting rotating tools
A01B 35/30	.. Undercarriages(A01B 23/04 takes precedence)
A01B 35/32	. with special additional arrangements
A01B 37/00	Devices for loosening soil compacted by wheels or the like
A01B 39/00	Other machines specially adapted for working soil on which crops are growing
A01B 39/02	. with non-rotating tools
A01B 39/04	.. drawn by animal or tractor
A01B 39/06	.. Self-propelled machines
A01B 39/08	. with rotating tools{such as weeding machines}
A01B 39/085	.. {the rotating tools being actively driven}
A01B 39/10	. with oscillating tools{driven or not}
A01B 39/12	. for special purposes,{e.g. for special culture}
A01B 39/14	.. for working ridges,{e.g. for rows of plants and/or furrows}
A01B 39/16	.. for working in vineyards, orchards, or the like;{Arrangements for preventing damage to vines(ploughs adapted for working in vineyards A01B 13/06)}
A01B 39/163	... {comprising rotating tools}
A01B 39/166 {actively driven}
A01B 39/18	.. for weeding
A01B 39/19	... Rod weeders, i.e. weeder with rotary rods propelled beneath the soil surface
A01B 39/20	. Tools; Details
A01B 39/22	.. Tools; Mounting tools
A01B 39/24	.. Undercarriages(A01B 23/04 takes precedence)
A01B 39/26	.. Arrangements for protecting plants,{e.g. fenders}
A01B 39/28	. with special additional arrangements(A01B 49/00 takes precedence)
A01B 41/00	Thinning machines
A01B 41/02	. with oscillating tools
A01B 41/04	. with rotating tools
A01B 41/06	. with electric, e.g. photo-electric control of thinning operations
A01B 43/00	Gatherers for removing stones, undesirable roots of the like from the soil, e.g. tractor-drawn rakes{for harvesting root crops A01D}
A01B 43/005	. {Windrower-type machines}
A01B 45/00	Machines for treating meadows or lawns,{e.g. for sports grounds}
A01B 45/02	. for aerating
A01B 45/023	.. {Perforators comprising spiking tools actively driven in a reciprocating movement through a crankshaft or eccentric mechanism}

- A01B 45/026 .. {Scarifiers comprising a knife reel actively driven around a substantially horizontal shaft}
- A01B 45/04 . for cutting sods or turves{ machines for lifting and treating soil [A01B 77/00](#) }
- A01B 45/045 .. {the machine being adapted for stacking sods or sod rolls}

A01B 47/00 Soil-working with electric potential applied between tools and soil

A01B 49/00 Combined machines(auxiliary devices attached to machines of a different kind, e.g. harrows attached to ploughs, see the relevant groups for the machines)

- A01B 49/02 . with two or more soil-working tools of different kind
- A01B 49/022 .. {at least one tool being actively driven}
- A01B 49/025 ... {about a substantially vertical axis}
- A01B 49/027 .. {with a rotating, soil working support element, e.g. a roller}
- A01B 49/04 . Combinations of soil-working tools with non-soil-working tools, e.g. planting tools{ seeding machines [A01C 7/00](#) ; harvesters combined with soil-working implements [A01D 43/12](#) }
- A01B 49/06 .. for sowing or fertilising
- A01B 49/065 ... {the soil-working tools being actively driven}

Guidance heading: **Parts, details or accessories of agricultural machines or implements, in general**(seat constructions [A47C](#) ; wheels [B60B](#) ; shelters for drivers [B60J](#) ; seats specially adapted for vehicles [B60N 2/00](#) ; wheel scrapers [B60S 1/68](#))

A01B 51/00 Undercarriages specially adapted for mounting-on various kinds of agricultural tools or apparatus(general vehicle aspects, see the relevant subclass of class [B60](#) or [B62](#))

- A01B 51/02 . propelled by a motor
- A01B 51/023 .. {of the Gantry-type}
- A01B 51/026 .. {of the automotive vehicle type, e.g. including driver accomodation([A01B 51/023](#) takes precedence)}
- A01B 51/04 . drawn by animal or tractor
- A01B 51/045 .. {drawn by animals}

A01B 59/00 Devices specially adapted for connection between animals or tractors and agricultural machines or implements([A01B 63/00](#) takes precedence; vehicle connections in general [B60D](#); draught assemblies for animal drawn vehicles, in general [B62C 5/00](#))

- A01B 59/002 . {Details, component parts}
- A01B 59/004 .. {Length-adjustable links}
- A01B 59/006 .. {Latched hooks}
- A01B 59/008 .. {Link connectors with spherical surfaces}
- A01B 59/02 . for animal-drawn machines
- A01B 59/04 . for machines pulled or pushed by a tractor
- A01B 59/041 .. preventing or limiting side-play of implements(preventing overstrain [A01B 61/00](#))
- A01B 59/0415 ... {by hydraulic or pneumatic means acting on the lower draft links}

- A01B 59/042 . . . having pulling means arranged on the rear part of the tractor
- A01B 59/043 . . . supported at three points, e.g. by quick-release couplings([A01B 59/06](#) takes precedence)
- A01B 59/044 . . . having pulling means arranged on the middle part of the tractor
- A01B 59/046 . . . having pulling or pushing means arranged on the side of the tractor
- A01B 59/048 . . . having pulling or pushing means arranged on the front part of the tractor
- A01B 59/06 . . for machines mounted on tractors
- A01B 59/061 . . {specially adapted for enabling connection or disconnection controlled from the driver's seat(not used, see subgroups)}
- A01B 59/062 . . . {the connection comprising a rigid interface frame on the tractor}
- A01B 59/063 . . . {the connection comprising longitudinally oriented tang-and-sheath elements}
- A01B 59/064 . . {for connection to the front of the tractor}
- A01B 59/065 . . {for ploughs or like implements([A01B 59/061](#) and subgroups take precedence)}
- A01B 59/066 . . {of the type comprising at least two lower arms and one upper arm generally arranged in a triangle (e.g. three-point hitches)}
- A01B 59/067 . . . {the lower arms being lifted or lowered by power actuator means internally incorporated in the tractor}
- A01B 59/068 . . . {the lower arms being lifted or lowered by power actuator means provided externally on the tractor}
- A01B 59/069 . . {with means for weighing the implement}

- A01B 61/00** **Devices for, or parts of, agricultural machines or implements for preventing overstrain**(preventing overstrain in vehicle connections, in general [B60D](#); preventing overstrain in couplings per se [F16D](#))
 - A01B 61/02 . . of the coupling devices between tractor and machine
 - A01B 61/025 . . {the driving connections}
 - A01B 61/04 . . of the connection between tools and carrier beam or frame
 - A01B 61/042 . . {with shearing devices}
 - A01B 61/044 . . {the connection enabling a yielding pivoting movement around a substantially horizontal and transverse axis}
 - A01B 61/046 . . . {the device including an energy accumulator for restoring the tool to its working position}
 - A01B 61/048 . . . {the connection or the energy accumulator being active in two opposite directions, e.g. for reversible plows}

- A01B 63/00** **Lifting or adjusting devices or arrangements for agricultural machines or implements**(lifting mechanisms for the cutter-bar of a mower [A01D 34/24](#) ; adjusting devices for the cutter-bar of a mower [A01D 34/28](#) ; constructional features of lifting devices per se [B66F](#))
 - A01B 63/002 . . {Devices for adjusting or regulating the position of tools or wheels(preventing overstrain [A01B 61/00](#) ; wheels adjustable relatively to the frame for drawn implements [A01B 3/16](#) ; tools or tool holders adjustable relatively to the frame for drawn implements [A01B 63/24](#))}

WARNING

Documents of group [A01B 63/002](#) and subgroups are in the process of being reorganised to groups [A01B 63/111](#) , [A01B 63/16](#) , [A01B 63/24](#)

- A01B 63/004 .. {Lateral adjustment of tools}
- A01B 63/006 .. {Lateral adjustment of wheels}
- A01B 63/008 .. {Vertical adjustment of tools([A01B 63/10](#) takes precedence)}
- A01B 63/02 . for implements mounted on tractors
- A01B 63/023 .. {Lateral adjustment of their tools}
- A01B 63/026 .. {Lateral adjustment of their wheels}
- A01B 63/04 .. Hand devices; Hand devices with mechanical accumulators, e.g. springs
- A01B 63/045 ... {for vertically adjusting wheels or similar rotary supporting elements}
- A01B 63/06 .. operated mechanically by tractor motor
- A01B 63/08 .. operated by the movement of the tractor
- A01B 63/10 .. operated by hydraulic or pneumatic means
- A01B 63/1006 ... {the hydraulic or pneumatic means structurally belonging to the tractor}
- A01B 63/1013 {and being located inside the tractor body}
- A01B 63/102 ... characterised by the location of the mounting on the tractor, e.g. on the rear part
- A01B 63/104 on the middle part, i.e. between front and rear wheels
- A01B 63/106 on the side
- A01B 63/108 on the front part
- A01B 63/11 ... for controlling weight transfer between implements and tractor wheels
- A01B 63/111 ... regulating working depth of implements
- A01B 63/1112 {using a non-tactile ground distance measurement, e.g. using reflection of waves}
- A01B 63/1115 {using a mechanical ground contact sensor}
- A01B 63/1117 {using a hitch position sensor}
- A01B 63/112 to control draught load, i.e. tractive force
- A01B 63/114 to achieve a constant working depth
- A01B 63/1145 {for controlling weight transfer between implements and tractor wheels}
- A01B 63/118 ... Mounting implements on power-lift linkages([A01B 59/043](#) takes precedence; preventing or limiting side-play of implements [A01B 59/041](#) ; preventing overstrain [A01B 61/00](#))
- A01B 63/12 .. operated by an electric motor
- A01B 63/14 . for implements drawn by animals or tractors
- A01B 63/145 .. {for controlling weight transfer between implements and tractor wheels}
- A01B 63/16 .. with wheels adjustable relatively to the frame
- A01B 63/163 ... {laterally adjustable}
- A01B 63/166 ... {manually adjustable}
- A01B 63/18 ... with clutch between Z-type axle and wheel
- A01B 63/20 ... with gear and rack
- A01B 63/22 ... operated by hydraulic or pneumatic means

- A01B 63/24 . . Tools or tool-holders adjustable relatively to the frame
- A01B 63/245 . . . {laterally adjustable}
- A01B 63/26 . . . by man-power
- A01B 63/28 . . . operated by the machine or implement
- A01B 63/30 . . . operated by motor power through a mechanical transmission
- A01B 63/32 . . . operated by hydraulic or pneumatic means{without automatic control}

A01B 67/00 **Devices for controlling the tractor motor by resistance of tools**(preventing overstrain [A01B 61/00](#))

A01B 69/00 **Steering of agricultural machines or implements; Guiding agricultural machines or implements on a desired track**(vehicle course control in general [G05D 1/02](#))

NOTE

In this group it is obligatory to classify subject-matter in the first appropriate place. It is however allowed to apply multiple classification where considered useful for search

- A01B 69/001 . {Steering by means of optical assistance, e.g. television cameras(steering devices for road marking vehicles [E01C 23/163](#))}
- A01B 69/002 . {Steering or guiding on a substantially circular or spiral path}
- A01B 69/003 . {Steering or guiding of machines or implements pushed or pulled by or mounted on agricultural vehicles such as tractors, e.g. by lateral shifting of the towing connection}
- A01B 69/004 . . {automatic}
- A01B 69/005 . . {by an additional operator}
- A01B 69/006 . . {derived from the steering of the tractor}
- A01B 69/007 . {Steering or guiding of agricultural vehicles, e.g. steering of the tractor to keep the plough in the furrow}
- A01B 69/008 . . {automatic}
- A01B 69/02 . Ridge-marking or like devices; Checkrow wires; Accessories therefor
- A01B 69/022 . . {Ridge marking by deposition of a chemical substance, e.g. foam, on the surface of the soil}
- A01B 69/024 . . {adapted to cut and form a ridge or forrow in the soil surface, e.g. with a disc}
- A01B 69/026 . . {Checkrow wires}
- A01B 69/028 . . . {the wire being located above the ground}

A01B 71/00 **Construction or arrangement of setting or adjusting mechanisms, of implement or tool drive or of power take-off; Means for protecting parts against dust, or the like; Adapting machine elements to or for agricultural purposes**{(adjusting mechanisms in general [G05G](#))}

- A01B 71/02 . Setting or adjusting mechanisms
- A01B 71/04 . Bearings of rotating parts, e.g. for soil-working discs({ discs [A01B 15/16](#) , [A01B 23/06](#) } ; bearings in general [F16C](#))
- A01B 71/06 . Special adaptations of coupling means between power take-off and transmission shaft to the implement or machine(couplings for transmitting rotation [F16D](#))

- A01B 71/063 . . {for enabling transmission coupling and connection between tractor and implements to be controlled from the driver's seat}
- A01B 71/066 . . {for enabling pitch, roll or yaw movements of trailed implements or machines}
- A01B 71/08 . Means for protecting against dust, or the like, or for cleaning agricultural implements([A01B 15/16](#) , [A01B 19/10](#) and [A01B 23/06](#) take precedence; screening of rotary driven tilling tools [A01B 33/12](#) ; screening of rotary parts in general [F16P 1/00](#))

- A01B 73/00** **Means or arrangements to facilitate transportation of agricultural machines or implements, e.g. folding frames to reduce overall width**(arrangements of lifting devices for soil working implements [A01B 63/00](#) ; { carriers for harvesters or mowers [A01D 75/002](#) ; arrangements or carriers for haymakers [A01D 78/1007](#) , [A01D 80/005](#) ; } vehicles adapted for load transportation or to transport, to carry or to comprise special loads or objects [B60P](#) ; motor vehicles, trailers [B62D](#))
- A01B 73/005 . {for endwise transportation, i.e. the direction of transport being substantially perpendicular to the direction of agricultural operation([A01B 73/02](#) takes precedence)}
- A01B 73/02 . Folding frames
- A01B 73/04 . . foldable about a horizontal axis
- A01B 73/042 . . . {specially adapted for actively driven implements}
- A01B 73/044 . . . { the axis being oriented in a longitudinal direction [A01B 73/042](#) takes precedence }
- A01B 73/046 {each folding frame part being foldable in itself}
- A01B 73/048 . . . { the axis being oriented in transverse direction [A01B 73/042](#) takes precedence }
- A01B 73/06 . . foldable about a vertical axis
- A01B 73/062 . . . {of the type comprising four vertical folding axes each disposed at a substantially fixed location of a supporting frame}
- A01B 73/065 . . . {to a position essentially forward of the axis, in relation to the direction of travel}
- A01B 73/067 . . . {to a position essentially rearward of the axis, in relation to the direction of travel}

- A01B 75/00** **Carriers for supporting persons when working in the field, e.g. while thinning beet**

- A01B 76/00** **Parts, details or accessories of agricultural machines or implements, not provided for in groups [A01B 51/00](#) to [A01B 75/00](#)**

- A01B 77/00** **Machines for lifting and treating soil**(biocides, pest repellants or attractants, plant growth regulators [A01N 25/00](#) to [A01N 65/00](#) ; fertilisers [C05](#) ; soil-conditioning or soil-stabilising materials [C09K 17/00](#))

- A01B 79/00** **Methods for working soil**(essentially requiring the use of particular machines, see the relevant groups for the machines)
- A01B 79/005 . {Precision agriculture}
- A01B 79/02 . combined with other agricultural processing, e.g. fertilising, planting