CPC  COOPERATIVE PATENT CLASSIFICATION

A  HUMAN NECESSITIES

AGRICULTURE

A01  AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING

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})

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:
   - A01B 69/04 covered by A01B 69/008
   - A01B 69/06 covered by A01B 69/005
   - A01B 69/08 covered by A01B 69/006
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.

1/00  Hand tools (edge trimmers for lawns A01G 3/06; machines for working soil A01B 35/00; making hand tools B21D)
   1/02  . Spades; Shovels { (hand-operated dredgers E02F 3/02)
   1/022  . [Collapsible; extensible; combinations with other tools]
   1/024  . [Foot protectors attached to the blade]
   1/026  . [with auxiliary handles for facilitating lifting]
   1/028  . [with ground abutment shoes or earth anchors for facilitating lifting]
   1/04  . with teeth
   1/06  . Hoes; Hand cultivators { (rakes A01D 7/00; forks A01D 9/00; picks B25D)
   1/065  . [powered]
   1/08  . with a single blade
   1/10  . with two or more blades
   1/12  . with blades provided with teeth
   1/14  . with teeth only
   1/16  . Tools for uprooting weeds
   1/165  . [adapted for extracting a substantially cylindrical plug out of the earth]
   1/18  . Tong-like tools
   1/20  . Combinations of different kinds of hand tools
   1/22  . Attaching the blades or the like to handles (handles for tools, or their attachment, in general B25G); Interchangeable or adjustable blades
   1/222  . [Adjustable blades]
   1/225  . [around a substantially horizontal axis]
   1/227  . [Interchangeable blades]
   1/24  . for treating meadows or lawns
   1/243  . [for aerating]
   1/246  . [for cutting sods or turves]
Ploughs

13/02 . . {Alternating ploughs with frame rotating about a vertical axis}
13/04 . . {Alternating ploughs with frame rotating about a horizontal axis, e.g. turn-wrest ploughs}
3/466 . . . {the frame comprising an articulated beam}
3/468 . . . {the plough wheels being actively driven}
3/50 . . Self-propelled ploughs
3/52 . . with three or more wheels, or endless tracks
3/54 . . . without alternating possibility
3/55 . . . Alternating ploughs [: Balance ploughs]
13/04 . . Arrangements for preventing damage to the vines, or the like
3/46 . . Alternating ploughs
3/60 . . . with two wheels
13/06 . . . Alternating ploughs
5/00 . . . Balance ploughs
5/64 . . . Cable ploughs; Indicating or signalling devices for cable plough systems {(vehicles towed by cable B60D)}
3/66 . . . with motor-driven winding apparatus mounted on the plough
3/68 . . . Cable systems with one or two engines [: e.g. electrically-driven or with diesel generating set]
3/70 . . . Systems with one engine for working uphill
3/72 . . . Means for anchoring the cables
3/74 . . Use of electric power for propelling ploughs {for rotary cultivators or the like (electric current collectors B60L 5/00)}
5/00 Ploughs with rolling non-driven tools, e.g. discs (with rotary driven tools A01B 9/00)
5/02 . . drawn by animals
5/04 . . drawn by tractors
5/06 . . . without alternating possibility, e.g. with rotary counters provided with scrapers
5/08 . . . Alternating ploughs
5/10 . . mounted or partly-mounted on tractors
5/12 . . . without alternating possibility
5/14 . . . Alternating ploughs
5/16 . . . Self-propelled disc or like ploughs
7/00 Disc-like soil-working implements usable either as ploughs or as harrows, or the like
9/00 Ploughs with rotary driven tools (tiling implements with rotary driven tools A01B 33/00)
9/003 . . [with tools on horizontal shaft transverse to direction of travel]
9/006 . . [with tools on horizontal shaft parallel to direction of travel]
11/00 Ploughs with oscillating, digging or piercing tools (driven or not)
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)}
13/02 . . {with tools or tool-frames moved to-and-fro}
13/04 . . . with symmetrically arranged mouldboards, e.g. ridging plough
13/04 . . . {with passively driven rotating disc-like elements for forming the ridge}
13/06 . . . {with tools or tool-frames moved to-and-fro}
13/08 . . . for working subsoil
13/10 . . . Special implements for lifting subsoil layers
13/12 . . . Means for distributing the layers on the surface
13/14 . . . for working soil in two or more layers
13/16 . . . Machines for combating erosion, e.g. basin-diggers, furrow-dammers
15/00 Elements, tools, or details of ploughs
15/02 . . Plough blades; Fixing the blades
15/025 . . {specially adapted for working subsoil}
15/04 . . . Shares {making ploughshares by rolling B21H}
15/06 . . . Interchangeable or adjustable shares
15/08 . . . Mouldboards
15/10 . . . Interchangeable or adjustable mouldboards
15/12 . . . Beams; Handles (handles for tools or their attachment in general B25G)
15/125 . . . {Articulated beams}
15/14 . . Frames (means or arrangements to facilitate transportation A01B 73/00)
15/145 . . . {the plough blades being connected to the plough beam for unisono adjustment of the furrow width}
15/16 . . Discs (bearings therefor A01B 71/04); Scrapers for cleaning discs; Sharpening attachments (sharpening in general B24)
15/18 . . Coulters
15/20 . . Special adjusting means for tools of ploughs drawn by, or mounted on tractors working on hillsides or slopes
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}
17/002 . . {Means for putting manure, debris, straw or the like under the soil (to plough-in weeds A01B 39/18)}
17/004 . . {Clod-crushers}
17/006 . . . {with driven tools}
17/008 . . . {rotating about a vertical or steeply inclined axis}

Harrow

19/00 Harrows with non-rotating tools {harrow for working in vineyards A01B 39/16}
19/02 . . with tools rigidly or elastically attached to a tool-frame
19/04 . . . with two or more tool-frames
19/06 . . . with tools or tool-frames moved to-and-fro mechanically
19/08 . . . with link network supporting tooth-like tools
19/10 . . Lifting or closing apparatus
21/00 Harrows with rotary non-driven tools (tiling implements with rotary driven tools A01B 33/00)
21/02 . . with tooth-like tools
21/04 . . . on horizontally-arranged axes
21/06 . . . on vertically-arranged axes
21/08 . . . with disc-like tools
21/083 . . . {of the type comprising four individual disk groups each pivotally connected at fixed locations to a substantially rigid frame}
21/086 . . . {of the type in which the disc-like tools are individually mounted}
23/00 Elements, tools, or details of harrows
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))

Other machines for working soil

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

33/02 . with tools on horizontal shaft transverse to direction of travel
33/03 . with rigid tools
33/04 . with helicoidal tools
33/05 . with disk-like tools
33/06 . with spring tools, i.e. resiliently- or flexibly-attached rigid tools
33/07 . Operator supported tools, e.g. using a harness for supporting the tool or power unit
33/08 . (of the walk-behind type (walk-type tractors B62D 51/04))
33/09 . with tools on horizontal shaft parallel to direction of travel
33/10 . with tools on vertical or steeply-inclined shaft
33/11 . comprising a plurality of rotors carried by an elongate, substantially closed transmission casing, transversely connectable to a tractor
33/12 . Tools; Details, e.g. adaptations of transmissions or gearings
33/13 . (Transmissions; Gearings; Power distribution)
33/14 . specially adapted for tools on a vertical shaft
33/15 . Lifting devices; Depth regulation devices; Mountings

33/10 . Structural or functional features of the tools ; Theoretical aspects of the cutting action
33/113 . [the rotating shaft being oriented horizontally]
33/106 . [the rotating shaft being oriented vertically or steeply inclined]
33/112 . Arrangement of the tools; Screening of the tools
33/115 . [screening of tools rotating about a vertical shaft]
33/114 . Attaching the tools to the rotating shaft, e.g. resiliently { or flexibly } - attached tools
33/112 . [the rotating shaft being oriented horizontally]
33/114 . . . . . with spring tools or resiliently-attached rigid tools
33/116 . . . . with rigid tools
33/117 . mounted on tractors
33/118 . . . with spring tools or resiliently- or flexibly-attached rigid tools
33/120 . with rigid tools
33/121 . drawn by animal or tractor { or man-power }
33/122 . . . with spring tools { or with resiliently- or flexibly-attached rigid tools }
33/125 . . . with rigid tools
33/126 . mounted on tractors
33/127 . . . with spring tools or resiliently- or flexibly-attached rigid tools
33/128 . with rigid tools
33/129 . . . with spring tools or resiliently- or flexibly-attached rigid tools
33/130 . with special additional arrangements

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))

35/02 . with non-rotating tools
35/03 . drawn by animal or tractor { or man-power }
35/04 . . . with spring tools { or with resiliently- or flexibly-attached rigid tools }
35/07 . . . with rigid tools
35/08 . mounted on tractors
35/09 . . . with spring tools or resiliently- or flexibly-attached rigid tools
35/10 . with rigid tools
35/11 . . . with spring tools or resiliently- or flexibly-attached rigid tools
35/12 . with rigid tools
35/13 . . . with spring tools or resiliently- or flexibly-attached rigid tools
35/14 . with rigid tools
35/15 . with rotating or circulating non-propelled tools
35/16 . with both rotating and non-rotating tools
35/17 . with special additional arrangements
35/18 . Tools; Details
35/19 . . . Non-rotating tools; [Resilient or flexible mounting of rigid tools]
35/20 . . . . . [the tools being adapted to allow the chisel point to be easily fitted or removed from the shank]
35/21 . . . Spring tools
35/22 . . . Rigid tools
35/23 . . . Rotating tools; Mounting rotating tools
35/24 . Undercarriages (A01B 23/04 takes precedence)
35/25 . with special additional arrangements

37/00 Devices for loosening soil compacted by wheels or the like

39/00 Other machines specially adapted for working soil on which crops are growing

39/01 . with non-rotating tools
39/02 . drawn by animal or tractor
39/03 . Self-propelled machines
39/04 . with rotating tools { such as weeding machines }
39/05 . (the rotating tools being actively driven)
39/06 . with oscillating tools { driven or not }
39/07 . for special purposes { e.g. for special culture }
39/08 . for working ridges { e.g. for rows of plants and/or furrows }
Other machines for working soil

39/16 . . . for working in vineyards, orchards, or the like
[; Arrangements for preventing damage to vines
(A01B 13/06)]
39/163 . . . [comprising rotating tools]
39/166 . . . . [actively driven]
39/18 . . . for weeding
39/19 . . . Rod weeder, i.e. weeder with rotary rods
propelled beneath the soil surface
39/20 . Tools; Details
39/22 . Tools; Mounting tools
39/24 . . . Undercarriages (A01B 23/04 takes precedence)
39/26 . . . Arrangements for protecting plants [, e.g.
fenders]
39/28 . with special additional arrangements (A01B 49/00
takes precedence)
41/00 Thinning machines
41/02 . . . with oscillating tools
41/04 . . . with rotating tools
41/06 . . . with electric, e.g. photo-electric control of thinning
operations
43/00 Gatherers for removing stones, undesirable roots
or the like from the soil, e.g. tractor-drawn rakes
({for harvesting root crops A01D})
43/005 . . [Windrower-type machines]
45/00 Machines for treating meadows or lawns, {e.g. for
sports grounds}
45/02 . . . for aerating
45/023 . . . [Perforators comprising spiking tools actively
driven in a reciprocating movement through a
crankshaft or eccentric mechanism]
45/026 . . . [Scarifiers comprising a knife reel actively driven
around a substantially horizontal shaft]
47/00 Soil-working with electric potential applied
between tools and soil
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)
49/02 . . . with two or more soil-working tools of different
kind
49/022 . . . [at least one tool being actively driven]
49/025 . . . [about a substantially vertical axis]
49/027 . . . [with a rotating, soil working support element,
e.g. a roller]
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}]
49/06 . . . for sowing or fertilising
49/065 . . . [the soil-working tools being actively driven]

Parts, details or accessories of agricultural machines or
implements, in general [seat constructions A47C; wheels B60B;
shelters for drivers B60F; seats specially adapted for vehicles
B60N 2/00; wheel scrapers B60S 1/68]

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)
51/02 . propelled by a motor
51/023 . . [of the Gantry-type]
Parts, details or accessories of agricultural machines or implements, in general

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)

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)]

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

63/20 . . . with gear and rack
63/22 . . . operated by hydraulic or pneumatic means
63/24 . . . Tools or tool-holders adjustable relatively to the frame
63/245 . . . [laterally adjustable]
63/26 . . . by man-power
63/28 . . . operated by the machine or implement
63/30 . . . operated by motor power through a mechanical transmission
63/32 . . . operated by hydraulic or pneumatic means [without automatic control]

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

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

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

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)]

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

71/063 . . . {for enabling transmission coupling and connection between tractor and implements to be controlled from the driver's seat}

71/066 . . . {for enabling pitch, roll or yaw movements of trailed implements or machines}

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)

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)

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)}

73/02 . . Folding frames

73/04 . . . foldable about a horizontal axis

73/042 . . . {specially adapted for actively driven implements}

73/044 . . . {the axis being oriented in a longitudinal direction (A01B 73/042 takes precedence)}

73/046 . . . . {each folding frame part being foldable in itself}

73/048 . . . {the axis being oriented in transverse direction (A01B 73/042 takes precedence)}

73/06 . . . foldable about a vertical axis

73/062 . . . . {of the type comprising four vertical folding axes each disposed at a substantially fixed location of a supporting frame}

73/065 . . . . . {to a position essentially forward of the axis, in relation to the direction of travel}

73/067 . . . . . . {to a position essentially rearward of the axis, in relation to the direction of travel}

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

76/00 Parts, details or accessories of agricultural machines or implements, not provided for in groups A01B 51/00 - A01B 75/00

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

79/00 Methods for working soil (essentially requiring the use of particular machines, see the relevant groups for the machines)

79/005 . . {Precision agriculture}

79/02 . . combined with other agricultural processing, e.g. fertilising, planting