

## SECTION A — HUMAN NECESSITIES

## 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; machines for harvesting root crops A01D; mowers convertible to soil working apparatus or capable of soil working A01D 42/04; mowers combined with soil working implements A01D 43/12; soil working for engineering purposes E01, E02, E21)

**Subclass index**

HAND TOOLS.....	1/00
PLOUGHS	
General construction.....	3/00, 5/00, 9/00, 11/00
Special adaptations.....	13/00, 17/00
Details.....	15/00
HARROWS	
General construction.....	19/00, 21/00
Special applications.....	25/00
Details.....	23/00
IMPLEMENTS USABLE EITHER AS PLOUGHS OR AS HARROWS OR THE LIKE.....	7/00
OTHER MACHINES.....	27/00-45/00, 49/00, 77/00
ELEMENTS OR PARTS OF MACHINES OR IMPLEMENTS.....	59/00-71/00
TRANSPORT IN AGRICULTURE.....	51/00, 73/00, 75/00
OTHER PARTS, DETAILS OR ACCESSORIES OF AGRICULTURAL MACHINES OR IMPLEMENTS.....	76/00
PARTICULAR METHODS FOR WORKING SOIL.....	47/00, 79/00

<b>1/00 Hand tools</b> (edge trimmers for lawns A01G 3/06)	3/20	• • • Balance ploughs
1/02 • Spades; Shovels	3/22	• • • with parallel plough units used alternately
1/04 • • with teeth	3/24	• Tractor-drawn ploughs (A01B 3/04 takes precedence)
1/06 • Hoes; Hand cultivators	3/26	• • without alternating possibility
1/08 • • with a single blade	3/28	• • Alternating ploughs
1/10 • • with two or more blades	3/30	• • • Turn-wrest ploughs
1/12 • • with blades provided with teeth	3/32	• • • Balance ploughs
1/14 • • with teeth only	3/34	• • • with parallel plough units used alternately
1/16 • Tools for uprooting weeds	3/36	• Ploughs mounted on tractors
1/18 • • Tong-like tools	3/38	• • without alternating possibility
1/20 • Combinations of different kinds of hand tools	3/40	• • Alternating ploughs
1/22 • Attaching the blades or the like to handles (handles for tools, or their attachment, in general B25G); Interchangeable or adjustable blades	3/42	• • • Turn-wrest ploughs
1/24 • for treating meadows or lawns [2]	3/421	• • • with a headstock frame made in one piece [2]
	3/426	• • • • with a headstock frame made of two or more parts [2]
	3/44	• • • with parallel plough units used alternately
<b>Ploughs</b>	3/46	• Ploughs supported partly by tractor and partly by their own wheels
<b>3/00 Ploughs with fixed plough-shares</b>	3/50	• Self-propelled ploughs
3/02 • Man-driven ploughs	3/52	• • with three or more wheels, or endless tracks
3/04 • Animal-drawn ploughs	3/54	• • • without alternating possibility
3/06 • • without alternating possibility, i.e. incapable of making an adjacent furrow on return journey	3/56	• • • Alternating ploughs
3/08 • • • Swing ploughs	3/58	• • with two wheels
3/10 • • • Trussed-beam ploughs; Single-wheel ploughs	3/60	• • • Alternating ploughs
3/12 • • • Two-wheel beam ploughs	3/62	• • • • Balance ploughs
3/14 • • • Frame ploughs	3/64	• Cable ploughs; Indicating or signalling devices for cable plough systems
3/16 • • Alternating ploughs, i.e. capable of making an adjacent furrow on return journey	3/66	• • with motor-driven winding apparatus mounted on the plough
3/18 • • • Turn-wrest ploughs		

## A01B

- 3/68 • • Cable systems with one or two engines
- 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 (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
- 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** (tilling implements with rotary driven tools A01B 33/00)

### 11/00 **Ploughs with oscillating, digging or piercing tools**

### 13/00 **Ploughs or like machines for special purposes** (for drainage E02B 11/02)

- 13/02 • for making or working ridges, e.g. with symmetrically arranged mouldboards
- 13/04 • for working in vineyards, orchards, or the like
- 13/06 • • Arrangements for preventing damage to the vines, or the like
- 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
- 15/04 • • Shares
- 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)
- 15/14 • Frames (means or arrangements to facilitate transportation A01B 73/00) [4]
- 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; ploughs for working subsoil A01B 13/08) [2]

## Harrows

### 19/00 **Harrows with non-rotating tools**

- 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 cleaning apparatus

### 21/00 **Harrows with rotary non-driven tools** (tilling implements with rotary driven tools A01B 33/00)

- 21/02 • with tooth-like tools
- 21/04 • • on horizontally-arranged axles
- 21/06 • • on vertically-arranged axles
- 21/08 • with disc-like tools

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

- 23/02 • Teeth; Fixing the teeth
- 23/04 • Frames (means or arrangements to facilitate transportation A01B 73/00); Drawing-arrangements [4]
- 23/06 • Discs (A01B 15/16 takes precedence; bearings therefor A01B 71/04); Scrapers for cleaning discs; Sharpening attachments (sharpening in general B24) [2]

### 25/00 **Harrows with special additional arrangements, e.g. means for distributing fertilisers; Harrows for special purposes** (A01B 39/00 takes precedence)

## Other machines for working soil

### 27/00 **Clod-crushers**

### 29/00 **Rollers**

- 29/02 • with smooth surface
- 29/04 • with non-smooth surface formed of rotatably-mounted rings or discs or with projections or ribs on the roller body; Land packers
- 29/06 • with special additional arrangements

### 31/00 **Drags**

### 33/00 **Tilling implements with rotary driven tools**

- 33/02 • with tools on horizontal shaft transverse to direction of travel
- 33/04 • with tools on horizontal shaft parallel to direction of travel
- 33/06 • with tools on vertical or steeply-inclined shaft
- 33/08 • Tools; Details, e.g. adaptations of transmissions or gearings
- 33/10 • • Structural or functional features of the tools
- 33/12 • • Arrangement of the tools; Screening of the tools
- 33/14 • • Attaching the tools to the rotating shaft, e.g. resiliently-attached tools
- 33/16 • with special additional arrangements (A01B 49/00 takes precedence; for sowing or fertilising A01B 49/06) [2]

### 35/00 **Other machines for working soil** (A01B 37/00, A01B 39/00, A01B 77/00 take precedence)

- 35/02 • with non-rotating tools
- 35/04 • • drawn by animal or tractor
- 35/06 • • • with spring tools
- 35/08 • • • with rigid tools
- 35/10 • • mounted on tractors
- 35/12 • • • with spring tools
- 35/14 • • • with rigid tools
- 35/16 • with rotating or circulating non-propelled tools
- 35/18 • with both rotating and non-rotating tools

- 35/20 • Tools; Details
- 35/22 • • Non-rotating tools; Mounting non-rotating tools
- 35/24 • • • Spring tools
- 35/26 • • • Rigid tools
- 35/28 • • Rotating tools; Mounting rotating tools
- 35/30 • • Undercarriages (A01B 23/04 takes precedence) [2]
- 35/32 • 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**
- 39/02 • with non-rotating tools
- 39/04 • • drawn by animal or tractor
- 39/06 • • Self-propelled machines
- 39/08 • with rotating tools
- 39/10 • with oscillating tools
- 39/12 • for special purposes
- 39/14 • • for working ridges
- 39/16 • • for working in vineyards, orchards, or the like
- 39/18 • • for weeding
- 39/19 • • • Rod weeders, 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) [2]
- 39/26 • • Arrangements for protecting plants
- 39/28 • with special additional arrangements (A01B 49/00 takes precedence) [2]
  
- 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 [4]**
  
- 45/00 Machines for treating meadows or lawns**
- 45/02 • for aerating
- 45/04 • for cutting sods or turf
  
- 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
- 49/04 • Combinations of soil-working tools with non-soil-working tools, e.g. planting tools
- 49/06 • • for sowing or fertilising
  
- Parts, details or accessories of agricultural machines or implements, in general [3]**
  
- 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
- 51/04 • drawn by animal or tractor
  
- 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) [3]
- 59/02 • for animal-drawn machines
- 59/04 • for machines pulled or pushed by a tractor
- 59/041 • • preventing or limiting side-play of implements (preventing overstrain A01B 61/00) [2]
- 59/042 • • having pulling means arranged on the rear part of the tractor
- 59/043 • • • supported at three points, e.g. by quick-release couplings (A01B 59/06 takes precedence)
- 59/044 • • having pulling means arranged on the middle part of the tractor
- 59/046 • • having pulling or pushing means arranged on the side of the tractor
- 59/048 • • having pulling or pushing means arranged on the front part of the tractor
- 59/06 • for machines mounted on tractors
  
- 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) [3]
- 61/02 • of the coupling devices between tractor and machine
- 61/04 • of the connection between tools and carrier beam or frame
  
- 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) [3]
- 63/02 • for implements mounted on tractors
- 63/04 • • Hand devices; Hand devices with mechanical accumulators, e.g. springs
- 63/06 • • operated mechanically by tractor motor
- 63/08 • • operated by the movement of the tractor
- 63/10 • • operated by hydraulic or pneumatic means
- 63/102 • • • 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 [2]
- 63/111 • • • regulating working depth of implements
- 63/112 • • • • to control draught load, i.e. tractive force [2]
- 63/114 • • • • to achieve a constant working depth [2]
- 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) [2]
- 63/12 • • operated by an electric motor
- 63/14 • for implements drawn by animals or tractors
- 63/16 • • with wheels adjustable relatively to the frame
- 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
- 63/26 • • • by man-power
- 63/28 • • • operated by the machine or implement

## A01B

- 63/30 • • • operated by motor power through a mechanical transmission
  - 63/32 • • • operated by hydraulic or pneumatic means
  - 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 [3]**
  - 69/02 • Ridge-marking or like devices; Checkrow wires; Accessories therefor
  - 69/04 • Special adaptations of automatic tractor steering, e.g. electric system for contour ploughing
  - 69/06 • Lateral steering of machines by an additional operator
  - 69/08 • Lateral steering of machines derived from the lateral movement of tractor
  - 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**
  - 71/02 • Setting or adjusting mechanisms
  - 71/04 • Bearings of rotating parts, e.g. for soil-working discs (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)
  - 71/08 • Means for protecting against dust or the like, or for cleaning agricultural implements (A01B 15/16, A01B 19/10, A01B 23/06 take precedence; screening of rotary driven tilling tools A01B 33/12; screening of rotary parts in general F16P 1/00) [2]
  - 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; vehicles adapted for load transportation or to transport, to carry or to comprise special loads or objects B60P; motor vehicles, trailers B62D) [4]
  - 73/02 • Folding frames [4]
  - 73/04 • • foldable about a horizontal axis [4]
  - 73/06 • • foldable about a vertical axis [4]
  - 75/00 Carriers for supporting persons when working in the field, e.g. while thinning beet**
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- 76/00 Parts, details or accessories of agricultural machines or implements, not provided for in groups A01B 51/00-A01B 75/00 [2006.01]**
  - 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)
  - 79/02 • combined with other agricultural processing, e.g. fertilising, planting