

**45            Agriculture, forestry, animal husbandry, hunting,  
trapping, fishing**

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<b>45a</b>	<b>Soil working</b>
<b>45a</b>	<b>(IPC: A01B) Soil working</b>
<b>45b</b>	<b>Sowing and fertilising</b>
<b>45b</b>	<b>(IPC: A01C) Planting; Sowing; Fertilising</b>
<b>45c</b>	<b>Harvesting</b>
<b>45c</b>	<b>(IPC: A01D) Harvesting</b>
<b>45d</b>	<b>Animal engines, treadmills</b>
<b>45d</b>	<b>(IPC: A01H) New plants</b>
<b>45e</b>	<b>Processing of harvested produce</b>
<b>45e</b>	<b>(IPC: A01F) Processing of harvested produce; Hay and straw presses; Devices for storing agricultural or horticultural produce</b>
<b>45f</b>	<b>Gardening, culture of vegetables, fruit, vines, and hops, forestry, watering</b>
<b>45f</b>	<b>(IPC: A01G) Culture of vegetables, flowers, fruit, vines, and hops; Forestry; Watering</b>
<b>45g</b>	<b>Manufacture of dairy products, mechanic part</b>
<b>45g</b>	<b>(IPC: A01J) Manufacture of dairy products, mechanic part</b>
<b>45h</b>	<b>Animal husbandry, fishing</b>
<b>45h</b>	<b>(IPC: A01K) Animal husbandry; Care of birds, fishes, insects; Fishing</b>
<b>45i</b>	<b>Shoeing of animals</b>
<b>45i</b>	<b>(IPC: A01L) Shoeing of animals</b>
<b>45k</b>	<b>Combating noxious animals or weeds, trapping of animals, hunting appliances</b>
<b>45k</b>	<b>(IPC: A01M) Catching and trapping of animals; Apparatus for the destruction of noxious animals or noxious plants</b>
<b>45l</b>	<b>Preservation of animals and plants, pesticides and herbicides</b>
<b>45l</b>	<b>(IPC: A01N) Preserved animals or plants or parts thereof; Chemical treatment e.g. disinfection, of soil or living plant material; Pesticides or herbicides</b>
<b>45m</b>	<b>(IPC: A23N) Machines or apparatus for treating harvested fruit, vegetables in bulk, not provided for elsewhere; Apparatus for preparing animal feeding-stuffs</b>

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**45a Soil working****Hand tools for soil working**

- 45a-1 Hoes for soil working (manufacture from sheet metal 7c-41; rolling 7f-3)
- 45a-2 Hand tools for extraction of weeds (apparatus for extermination of weeds by steam; chemical agents etc. 45k-4/53)
- 45a-4 Spades and shovels for soil working (7c-41; 7f-3; 69-23; shovels for excavation 84d-1/01)
- 45a-5 Miscellaneous hand tools for soil working; details applicable to different types of tools

**Ploughs**

- 45a-6/01 Details of horse-drawn ploughs (45a-38; rolling of plough blades 7f-3)
- 45a-6/50 Carts for transporting ploughs
- 45a-7 Horse-drawn ploughs with front frames
- 45a-8 Adjustment mechanisms for swing ploughs
- 45a-9 Adjustment or lifting devices for wheeled ploughs in general
- 45a-10 Adjustment or lifting devices for wheeled ploughs of the Ventzki type
- 45a-11 Ploughs for working subsoil
- 45a-12 Ploughs with rotating shares and mouldboards
- 45a-13 Alternating ploughs for one furrow
- 45a-14 Alternating ploughs for multiple furrows
- 45a-15 Man-driven ploughs
- 45a-16 Ploughs with manure-spreaders, clod-crushers, harrows etc. (45a-39)
- 45a-17 Double-turn ploughs (45b-8)
- 45a-18 Ploughs for vineyards
- 45a-19 Ploughs for weeding; ploughs with means for exterminating weeds or pests (45k-4/53; 45a-50)
- 45a-20/01 Simple ploughs for making ditches
- 45a-20/02 Devices with rotating tools for making ditches
- 45a-20/03 Devices with digging tools for making ditches
- 45a-20/04 Draining devices with tools pulled underground, mole ploughs
- 45a-20/05 Special tools and machines for lifting agriculturally valuable subsoil layers, for example clay etc.
- 45a-20/06 Means for distributing subsoil layers on the surface
- 45a-20/10 Ploughs for forestry
- 45a-20/11 Special devices for ploughs for forestry, e.g. stump deflectors
- 45a-21 Motor ploughs in general, motor ploughs with shares, articulated ploughs
- 45a-22 Tractors for field implements; field vehicles with wheels, with chain tracks or with driving traction elements (63c-30 – 63c-32)
- 45a-23 Ploughs carried by tractors
- 45a-24/01 Ploughs drawn by tractors etc.
- 45a-24/02 Devices for connecting ploughs and other implements, in particular wide implements, to tractors
- 45a-25 Motor-driven alternating ploughs
- 45a-26 Motor-driven ploughs with hauling equipment for pulling cable ploughs or for working along a cable (hoists for extracting stumps 45f-18)
- 45a-27 Small motor-driven ploughs
- 45a-28 Motor-driven ploughs with rotary tools, cultivators
- 45a-29 Motor-driven ploughs with oscillating, digging or piercing tools
- 45a-30 Machines for pulling cable ploughs cables, cable systems with one or two engines
- 45a-31 Vehicles, poles or rails for anchoring cable ploughs
- 45a-32 Electrically driven ploughs and other earth-working machines
- 45a-33 Balance ploughs for cable systems
- 45a-34 Alternating ploughs for cable systems

- 45a-35 Traction wheels for motor-driven ploughs and agricultural tractors, also with adjustable traction elements (63d-22/01 – 63d-22/03; 63c-29/01)
- 45a-36 Devices for raising or lowering the earth-working tools of motor-driven or tractor-drawn ploughs, in which the lifting is initiated by the operator, but not carried out by manual force
- 45a-37 Devices for steering motor-driven earth-working implements and keeping them in track
- 45a-38 Plough shares which yield at overload, also with devices for controlling or stopping the engine
- 45a-39 Combined motor-driven earth-working implements (45b-13)
- 45a-40 Special driving arrangements, gearings, dust-protection devices, etc., for tractors or motor-driven agricultural machines

### Harrows

- 45a-41 Harrows with solid frames
- 45a-42 Harrows with links, articulated harrows
- 45a-43 Rotating harrows (45a-28)

### Other machines or implements for earth working

- 45a-44 Cultivators
- 45a-45 Clod crushers except 45a-48, also earth working by blasting (45f-18)
- 45a-46 Drags for earth working (19c-10; manure spreaders 45b-6/20)
- 45a-47 Devices for gathering stones
- 45a-48 Rollers for earth working
- 45a-49/01 Implements for treating meadows or lawns, slitting of meadows
- 45a-49/30 Cutting turf (cutters for lawn edges 45f-4/05)

### Machines for weeding and hoeing

- 45a-50 Machines for weeding (apparatus for extermination of weeds by steam, chemical agents etc. 45k-4/53)
- 45a-51 Hoeing machines with tools on oscillating arms or parallelogram linkages
- 45a-52 Steering mechanisms for hoeing machines, manure spreaders and sowing machines (45a-37)
- 45a-53 Hoeing machines with oscillating tools, also for thinning
- 45a-54 Hoeing machines with rotating tools, also for thinning

### Watering, drainage

- 45a-55 Watering and drainage of the ground for agricultural purposes (85d-1; ploughs and other machines for making ditches 45a-20/01 – 45a-20/03; in gardens and greenhouses 45f-9/08; watering above the ground, artificial rain 45f-22 – 45f-25)

## 45a (IPC: A01B) Soil working

- 45a-1/00 Hand tools** (manufacture from sheet metal 7c-41, by rolling 7f-3)
- 45a-1/02 . Spades; Shovels
  - 45a-1/04 . . with teeth
  - 45a-1/06 . Hoes; Hand cultivators
  - 45a-1/08 . . with a single blade
  - 45a-1/10 . . with two or more blades
  - 45a-1/12 . . with blades provided with teeth
  - 45a-1/14 . . with teeth only
  - 45a-1/16 . Tools for uprooting weeds (apparatus for the destruction of unwanted vegetation by means of steam, chemicals, burning, or electricity 45k-21/00)
  - 45a-1/18 . . Tong-like tools
  - 45a-1/20 . Combinations of different kinds of hand tools
  - 45a-1/22 . Attaching the blades or the like to handles; Interchangeable or adjustable blades

### Ploughs

- 45a-3/00 Ploughs with fixed plough-shares**
- 45a-3/02 . Man-driven ploughs

- 45a-3/04 . Animal-drawn ploughs
- 45a-3/06 . . without alternating possibility, i.e. incapable of making an adjacent furrow on return journey
- 45a-3/08 . . . Swing ploughs
- 45a-3/10 . . . Trussed-beam ploughs; Single-wheel ploughs
- 45a-3/12 . . . Two-wheel beam ploughs
- 45a-3/14 . . . Frame ploughs
- 45a-3/16 . . Alternating ploughs, i.e. capable of making an adjacent furrow on return journey
- 45a-3/18 . . . Turn-wrest ploughs
- 45a-3/20 . . . Balance ploughs
- 45a-3/22 . . . with parallel plough units used alternately
- 45a-3/24 . Tractor-drawn ploughs
- 45a-3/26 . . without alternating possibility
- 45a-3/28 . . Alternating ploughs
- 45a-3/30 . . . Turn-wrest ploughs
- 45a-3/32 . . . Balance ploughs
- 45a-3/34 . . . with parallel plough units used alternately
- 45a-3/36 . Ploughs mounted on tractors
- 45a-3/38 . . without alternating possibility
- 45a-3/40 . . Alternating ploughs
- 45a-3/42 . . . Turn-wrest ploughs
- 45a-3/44 . . . with parallel plough units used alternately
- 45a-3/46 . Ploughs supported partly by tractor and partly by their own wheels
- 45a-3/50 . Self-propelled ploughs
- 45a-3/52 . . with three or more wheels, or endless tracks
- 45a-3/54 . . . without alternating possibility
- 45a-3/56 . . . Alternating ploughs
- 45a-3/58 . . with two wheels
- 45a-3/60 . . . Alternating ploughs
- 45a-3/62 . . . . Balance ploughs
- 45a-3/64 . Cable ploughs; Indicating or signalling devices for cable plough systems
- 45a-3/66 . . with motor-driven winding apparatus mounted on the plough
- 45a-3/68 . . Cable systems with one or two engines
- 45a-3/70 . . . Systems with one engine for working uphill
- 45a-3/72 . . Means for anchoring the cables
- 45a-3/74 . Using electric power for propelling ploughs
  
- 45a-5/00 Ploughs with rolling non-driven tools, e.g. discs**
- 45a-5/02 . drawn by animals
- 45a-5/04 . drawn by tractors
- 45a-5/06 . . without alternating possibility
- 45a-5/08 . . Alternating ploughs
- 45a-5/10 . mounted or partly-mounted on tractors
- 45a-5/12 . . without alternating possibility
- 45a-5/14 . . Alternating ploughs
- 45a-5/16 . Self-propelled disc or like ploughs
  
- 45a-7/00 Disc-like soil-working implements usable either as ploughs or as harrows, etc.**
  
- 45a-9/00 Ploughs with rotating propelled tools**
  
- 45a-11/00 Ploughs with oscillating, digging or piercing tools**
  
- 45a-13/00 Ploughs or like machines for special purposes**
- 45a-13/02 . for making or working ridges, e.g. with symmetrically arranged mouldboards (machines for making or covering holes for sowing or planting 45b-5/04, trench-digging equipment in general 84d-6/01, 84d-5/00)
- 45a-13/04 . for working in vineyards, orchards, or the like
- 45a-13/06 . . Arrangements for preventing damage to the vines, etc.
- 45a-13/08 . for working subsoil
- 45a-13/10 . . Special implements for lifting subsoil layers

45a-13/12	. . . Means for distributing the layers on the surface
45a-13/14	. for working soil in two or more layers
45a-13/16	. Machines for combating erosion, e.g. basin-diggers, furrow-dammers
<b>45a-15/00</b>	<b>Elements, tools, or details of ploughs</b>
45a-15/02	. Plough blades; Fixing the blades
45a-15/04	. . Shares (rolling of shares 7f-3)
45a-15/06	. . . Interchangeable or adjustable shares
45a-15/08	. . Mouldboards
45a-15/10	. . . Interchangeable or adjustable mouldboards
45a-15/12	. Beams; Handles
45a-15/14	. Frames
45a-15/16	. Discs; Bearings for discs, Scrapers for cleaning discs
45a-15/18	. Coulters
45a-15/20	. Special adjusting means for tools of ploughs drawn by, or mounted on tractors working on hillsides or slopes
<b>45a-17/00</b>	<b>Ploughs with special additional arrangements, e.g. means for putting manure under the soil, clod-crushers (combined apparatus for soil working 45a-49/02)</b>
<b><u>Harrows</u></b>	
<b>45a-19/00</b>	<b>Harrows with non-rotating tools</b>
45a-19/02	. with tools rigidly or elastically attached to a tool-frame
45a-19/04	. . with two or more tool-frames
45a-19/06	. . with tools or tool-frames moved to-and-fro mechanically
45a-19/08	. with link network supporting tooth-like tools
45a-19/10	. Lifting or cleaning apparatus
<b>45a-21/00</b>	<b>Harrows with rotating non-propelled tools (with rotary propelled tools 45a-33/00)</b>
45a-21/02	. with tooth-like tools
45a-21/04	. . on horizontally-arranged axles
45a-21/06	. . on vertically-arranged axles
45a-21/08	. with disc-like tools
<b>45a-23/00</b>	<b>Elements, tools, or details of harrows</b>
45a-23/02	. Teeth; Fixing the teeth
45a-23/04	. Frames; Drawing-arrangements
45a-23/06	. Discs; Bearings therefor; Scrapers for cleaning discs
<b>45a-25/00</b>	<b>Harrows with special additional arrangements, e.g. means for distributing fertilisers; Harrows for special purposes</b>
<b><u>Other machines for working soil</u></b>	
<b>45a-27/00</b>	<b>Clod-crushers</b>
<b>45a-29/00</b>	<b>Rollers</b>
45a-29/02	. with smooth surface
45a-29/04	. with non-smooth surface formed of rotatably-mounted rings or discs or with projections or ribs on the roller body; Land packers
45a-29/06	. with special additional arrangements
<b>45a-31/00</b>	<b>Drags (road graders 19c-10/10, 84d-3/62)</b>
<b>45a-33/00</b>	<b>Tilling implements with rotary propelled tools</b>
45a-33/02	. with tools on horizontal shaft transverse to direction of travel
45a-33/04	. with tools on horizontal shaft parallel to direction of travel
45a-33/06	. with tools on vertical or steeply-inclined shaft
45a-33/08	. Tools; Details, e.g. adaptations of transmissions or gearings
45a-33/10	. . Structural or functional features of the tools
45a-33/12	. . Arrangement of the tools; Screening of the tools
45a-33/14	. . Attaching the tools to the rotating shaft, e.g. resiliently-attached tools

- 45a-33/16 . with special additional arrangements (for sowing or fertilising 45a-49/06)
- 45a-35/00 Other machines for working soil** (45a-37/00, 45a-39/00, 45a-77/00 take precedence)
  - 45a-35/02 . with non-rotating tools
  - 45a-35/04 . . drawn by animal or tractor
  - 45a-35/06 . . . with spring tools
  - 45a-35/08 . . . with rigid tools
  - 45a-35/10 . . mounted on tractors
  - 45a-35/12 . . . with spring tools
  - 45a-35/14 . . . with rigid tools
  - 45a-35/16 . with rotating or circulating non-propelled tools
  - 45a-35/18 . with both rotating and non-rotating tools
  - 45a-35/20 . Tools; Details
  - 45a-35/22 . . Non-rotating tools; Mounting non-rotating tools
  - 45a-35/24 . . . Spring tools
  - 45a-35/26 . . . Rigid tools
  - 45a-35/28 . . Rotating tools; Mounting rotating tools
  - 45a-35/30 . . Undercarriages
  - 45a-35/32 . with special additional arrangements
- 45a-37/00 Devices for loosening soil compacted by wheels or the like**
- 45a-39/00 Other machines specially adapted for working soil on which crops are growing**
  - 45a-39/02 . with non-rotating tools
  - 45a-39/04 . . drawn by animal or tractor
  - 45a-39/06 . . Self-propelled machines
  - 45a-39/08 . with rotating tools
  - 45a-39/10 . with oscillating tools
  - 45a-39/12 . for special purposes
  - 45a-39/14 . . for working ridges
  - 45a-39/16 . . for working in vineyards, orchards, or the like
  - 45a-39/18 . . for weeding (apparatus for the destruction of unwanted vegetation by means of steam, chemicals, burning, or electricity 45k-21/00)
    - 45a-39/19 . . . Rod weeders, i.e. weeders with rotary rods propelled beneath the soil surface
  - 45a-39/20 . Tools; Details
  - 45a-39/22 . . Tools; Mounting tools
  - 45a-39/24 . . Undercarriages
  - 45a-39/26 . . Arrangements for protecting plants
  - 45a-39/28 . with special additional arrangements
- 45a-41/00 Thinning machines**
  - 45a-41/02 . with oscillating tools
  - 45a-41/04 . with rotating tools
  - 45a-41/06 . with electric, e.g. photo-electric control of thinning operations
- 45a-43/00 Stone-gatherers**
- 45a-45/00 Machines for treating meadows or lawns**
  - 45a-45/02 . for aerating
  - 45a-45/04 . for cutting sods or turves (edge trimmers for lawns 45f-3/06)
- 45a-47/00 Soil-working with electric potential applied between tools and soil**
- 45a-49/00 Combined machines** (auxiliary devices attached to machines of a different kind, e.g. harrows attached to ploughs, in the relevant groups for the machines)
  - 45a-49/02 . with two or more soil-working tools of different kind
  - 45a-49/04 . Combination of soil-working tools with non-soil-working tools, e.g. planting tools (harvesters combined with soil-working implements 45c-43/12)
  - 45a-49/06 . . for sowing or fertilising

**45a-51/00 Undercarriages specially adapted for mounting-on various kinds of agricultural tools or apparatus**

- 45a-51/02 . propelled by a motor
- 45a-51/04 . drawn by animal or tractor

**45a-53/00 Tractors adapted for agricultural purposes (tractors in general 63c-3 – 63c-5, 63c-30 – 63c-32)**

- 45a-53/02 . with two axles
- 45a-53/04 . . Construction of the frames
- 45a-53/06 . . Lateral wheel base adjustment
- 45a-53/08 . . Arrangement of the steering means
- 45a-53/10 . . Arrangement of power take-off
- 45a-53/12 . . Arrangement for displacing the centre of gravity
- 45a-53/14 . with one axle
- 45a-53/16 . . provided with a seat
- 45a-53/18 . . Arrangement of power take-off

**Elements or parts of agricultural machines or implements****45a-55/00 Wheels**

- 45a-55/02 . with special parts preventing slipping or sinking (wheels in general 63d)

**45a-57/00 Seats, supports and shelters for the driver****45a-59/00 Devices specially adapted for connection between animals or tractors and soil-working machines**

- 45a-59/02 . for animal-drawn machines
- 45a-59/04 . for machines pulled or pushed by a tractor
- 45a-59/042 . . having pulling means arranged on the rear part of the tractor
- 45a-59/043 . . . supported at three points (45a-59/06 takes precedence)
- 45a-59/044 . . having pulling means arranged on the middle part of the tractor
- 45a-59/046 . . having pulling or pushing means arranged on the side of the tractor
- 45a-59/048 . . having pulling or pushing means arranged on the front part of the tractor
- 45a-59/06 . for machines mounted on tractors

**45a-61/00 Devices or parts specially adapted for preventing overstrain in soil-working machines**

- 45a-61/02 . of the coupling devices between tractor and machine
- 45a-61/04 . of the connection between tools and carrier beam or frame

**45a-63/00 Special arrangements or adaptation of lifting devices for soil-working implements**

- 45a-63/02 . for implements mounted on tractors
- 45a-63/04 . . Hand devices; Hand devices with mechanical accumulators, e.g. springs
- 45a-63/06 . . operated mechanically by tractor motor
- 45a-63/08 . . operated by the movement of the tractor
- 45a-63/10 . . operated by hydraulic or pneumatic means (servomotors in general 60, hydraulic actuation of lifting devices 35d-5, 35d-10/05, hydraulic actuation of loading devices 81e-84 – 81e-91, for grading and excavation 84d-1/06, 84d-3/00, 84d-9/00)
- 45a-63/12 . . operated by an electric motor
- 45a-63/14 . for implements drawn by animals or tractors
- 45a-63/16 . . with wheels adjustable relatively to the frame
- 45a-63/18 . . . with clutch between Z-type axle and wheel
- 45a-63/20 . . . with gear and rack
- 45a-63/22 . . . operated by hydraulic or pneumatic means (servomotors in general 60, hydraulic actuation of lifting devices 35d-5, 35d-10/05, hydraulic actuation of loading devices 81e-84 – 81e-91, for grading and excavation 84d-1/06, 84d-3/00, 84d-9/00)
- 45a-63/24 . . Tools or tool-holders adjustable relatively to the frame
- 45a-63/26 . . . by man-power
- 45a-63/28 . . . operated by the machine or implement

45a-63/30	. . . operated by motor power through a mechanical transmission
45a-63/32	. . . operated by hydraulic or pneumatic means (servomotors in general 60, hydraulic actuation of lifting devices 35d-5, 35d-10/05, hydraulic actuation of loading devices 81e-84 – 81e-91, for grading and excavation 84d-1/06, 84d-3/00, 84d-9/00)
<b>45a-65/00</b>	<b>Devices for adjusting or regulating the position of tools or wheels</b> (preventing overstrain 45a-61/00)
45a-65/02	. Lateral adjustment of tools
45a-65/04	. Lateral adjustment of wheels
45a-65/06	. Vertical adjustment of tools (using the lifting devices 45a-63/00); Control of working depth
45a-65/08	. . Independent control of the vertical position by hydraulic or pneumatic means
<b>45a-67/00</b>	<b>Devices for controlling the tractor motor by resistance of tools</b> (preventing overstrain 45a-61/00)
<b>45a-69/00</b>	<b>Steering devices for soil-working implements; Devices for guiding the tractor or implement along the desired track</b>
45a-69/02	. Ridge-marking or like devices; Checkrow wires; Accessories therefor
45a-69/04	. Special adaptations of automatic tractor steering, e.g. electric system for contour ploughing
45a-69/06	. Lateral steering of machines by an additional operator
45a-69/08	. Lateral steering of machines derived from the lateral movement of tractor
<b>45a-71/00</b>	<b>Construction or arrangement of setting or adjusting mechanisms, of implement or tool drive or of power take-off; Means for protecting parts against dust, etc.; Adapting machine elements to or for agricultural purposes</b>
45a-71/02	. Setting or adjusting mechanisms
45a-71/04	. Bearings of rotating parts, e.g. for soil-working discs
45a-71/06	. Special adaptations of coupling means between power take-off and transmission shaft to the implement or machine
45a-71/08	. Means for protecting against dust, etc.
<b>45a-73/00</b>	<b>Means for transporting agricultural machines or implements</b>
<b>45a-75/00</b>	<b>Carriers for supporting persons when working in the field, e.g. while thinning beet</b>
<b>45a-77/00</b>	<b>Machines for lifting and treating soil</b> (chemical treatment of soil 45l-7/00)
<b>45a-79/00</b>	<b>Methods for working soil</b> (essentially requiring the use of particular machines in the relevant groups for the machines)
45a-79/02	. combined with other agricultural processing, e.g. fertilising, planting

## **45b Sowing and fertilising**

### **Treatment of seed and soil for planting, hand tools**

45b-1/01	Treatment of seed before sowing (45f-5), also germinating apparatus (53g-4; 6a-10), seed tapes, seed strips, coating (coating compositions with fertilisers added 16; growth-promoting agents 45l-4/04)
45b-1/50	Seed dressing (pesticides 45l-4)
45b-2	Manure handling apparatus, e.g. pits for liquid manure, stacks
45b-3	Devices for hand sowing or hand fertilising
45b-4	Ploughs with devices for sowing or fertilising (45b-25) except 45a-16
45b-5	Spreaders for liquid manure, vats or wagons for liquid manure, devices for putting liquid manure into the soil (19b-4; fertilising watering installations 45f-22 – 45f-25)
45b-6/01	Manure spreaders
45b-6/10	Manure loaders (suspended railways 19a-23; loading devices in general 81e, 35b)
45b-6/20	Dung spreaders, dung forks (45c-2), disintegrating dung clods (45a-42, 45a-46)



- 45b-7 Hand tools for making holes or furrows for planting (implements for transplanting 45f-20)
- 45b-8 Machines for making or covering drills or furrows for sowing or fertilising (45a-17)
- 45b-9 Machines for making or covering holes for planting (45a-17)
- Sowing machines**
- 45b-10 Sowing methods, broadcast seeders or seeders depositing seeds in rows (steering devices 45a-52)
- 45b-11 Single-grain seeders with or without suction devices
- 45b-12 Combined sowing machines and fertiliser spreaders
- 45b-13 Motor-driven sowing machines and fertiliser spreaders (45a-39; devices for connecting implements to tractors 45a-24)
- 45b-14 Parts of seeders for conducting and depositing seed
- 45b-15 Devices for adjusting the seed-box
- 45b-16 Seeders with toothed wheels; devices for conversion between overfeed and underfeed
- 45b-17 Seeders with spoon wheels
- 45b-18 Seeders with cell wheels
- 45b-19 Seeders with other distributing devices which are not covered by 45b-34, e.g. brushes, discs, screws, slides
- 45b-20 Machines for depositing seeds at intervals, other than those covered by 45b-11 – 45b-19

**Potato planters**

- 45b-21 Potato planters in general
- 45b-22 Potato planters with bucket wheels or cell wheels
- 45b-23 Potato planters with piercing or grasping devices
- 45b-24 Potato planters with other distributing devices, e.g. flaps, screws, horizontal turning plates
- 45b-25 Potato planters mounted on ploughs (45b-4)

**Transplanting machines**

- 45b-26/01 Transplanting machines for seedlings (for gardening, hand tools 45f-20)
- 45b-26/10 Machines for deeper setting or shifting of standing plants
- 45b-26/50 Machines for planting of sugar cane and the like

**Fertiliser distributors (19b-5)**

- 45b-27 Fertiliser distributing and fertiliser distributors in general (45b-12, 45b-13), distributing by means of compressed air (fertilising methods 45l-2; steering devices 45a-52)
- 45b-28 Fertiliser distributors with simple distributing slots
- 45b-29 Fertiliser distributors with pushers or stirrers in the slots
- 45b-30 Fertiliser distributors with reciprocating pushers
- 45b-31 Fertiliser distributors with movable parts of the receptacle
- 45b-32 Fertiliser distributors with means for feeding out the fertiliser, e.g. by rollers
- 45b-33/01 Fertiliser distributors with means for pushing out the fertiliser
- 45b-33/10 Fertiliser distributors with endless chains
- 45b-34 Fertiliser distributors or seeders with centrifugal wheels (45b-3)

**45b (IPC: A01C) Planting; Sowing; Fertilising**

- 45b-1/00 Apparatus, or methods of use thereof, for testing or treating seed, roots, or the like, prior to sowing or planting (chemicals therefor 45l-21/00 – 45l-21/04)**
- 45b-1/02 . Germinating apparatus; Determining germination capacity of seeds or the like (fermenting vessels for the production of malt 6a-10)
- 45b-1/04 . Arranging seed on carriers, e.g. on tapes, on cords
- 45b-1/06 . Coating or dressing seed (coating compositions with fertilisers added 16; growth-promoting agents 45l-21/02)

45b-1/08	. Immunising seed (immunising agents 45I-21/00, 45I-21/04)
<b>45b-3/00</b>	<b>Treating manure; Manuring</b> (dung forks 45c-9/00)
45b-3/02	. Storage places for manure, e.g. cisterns for liquid manure; Installations for fermenting manure
45b-3/04	. Manure loaders (suspended railways 19a-23, 19a-25/00; grabs in general 35b-6; loaders in general 81e)
45b-3/06	. Manure distributors
<b>45b-5/00</b>	<b>Making and/or covering furrows or holes for sowing, planting, or manuring</b>
45b-5/02	. Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees 45f-23/02)
45b-5/04	. Machines for making or covering holes for sowing or planting (ploughs for making or working ridges 45a-13/02)
45b-5/06	. Machines for making or covering drills or furrows for sowing or planting
45b-5/08	. Machines for both manuring and sowing or both manuring and planting
<b>45b-7/00</b>	<b>Sowing</b> (by motor-driven tools 45b-19/00; devices for guiding sowing machines along the desired track 45a-69/00)
45b-7/02	. Hand sowing implements
45b-7/04	. Single-grain seeders with or without suction devices
45b-7/06	. Seeders combined with fertilising apparatus (soil-working implements connected to devices not working the ground 45a-49/04)
45b-7/08	. Broadcast seeders; Seeders depositing seeds in rows
45b-7/10	. . Devices for adjusting the seed-box
45b-7/12	. . Seeders with feeding-wheels
45b-7/14	. . . Seeders with spoon or bucket wheels
45b-7/16	. . Seeders with other distributing devices, e.g. brushes, discs, screws, slides (with endless chains 45b-15/18)
45b-7/18	. Machines for depositing quantities of seed at intervals
45b-7/20	. Parts of seeders for conducting and depositing seed
<b>45b-9/00</b>	<b>Potato planters</b> (combined with soil-working implements 45a-49/04)
45b-9/02	. with conveyer belts
45b-9/04	. with bucket wheels
45b-9/06	. with piercing or grasping devices
45b-9/08	. with other distributing devices, e.g. flaps, screws, horizontal turning plates
<b>45b-11/00</b>	<b>Transplanting machines</b> (transplanting devices for trees 45f-23/02)
45b-11/02	. for seedlings
45b-11/04	. for deeper setting or shifting of plants
<b>45b-13/00</b>	<b>Machines or apparatus for consolidating soil around plants</b>
<b>45b-15/00</b>	<b>Fertiliser distributors</b> (with motor-driven tools 45b-19/00; connected to a sowing machine 45b-7/06)
45b-15/02	. for hand use
45b-15/04	. using blowers
45b-15/06	. with distributing slots
45b-15/08	. . with pushers or stirrers in the slots
45b-15/10	. . with reciprocating pushers
45b-15/12	. with movable parts of the receptacle
45b-15/14	. with means for lifting out the fertiliser
45b-15/16	. with means for pushing out the fertiliser, e.g. by a roller
45b-15/18	. with endless chains
<b>45b-17/00</b>	<b>Fertilisers or seeders with centrifugal wheels</b>
<b>45b-19/00</b>	<b>Fertilisers or seeders with motor-driven tools</b>
<b>45b-21/00</b>	<b>Methods of fertilising</b> (chemical treatment of soil 45I-7/00)

<b>45b-23/00</b>	<b>Distributing devices specially adapted for liquid manure or other fertilising liquid, including ammonia, e.g. transport tanks, sprinkling wagons</b> (watering fields in general 45f-25/00)
45b-23/02	. Special arrangements for delivering the liquid directly into the soil
45b-23/04	. Distributing under pressure; Distributing mud; Adaptation of watering systems for fertilising liquids

**45c****Harvesting****Hand implements**

## Rakes for harvesting

- 45c-1/01 with tines rigidly connected to the rake-bar
- 45c-1/02 with adjustable rake-bar
- 45c-1/03 with tines specially shaped or attached
- 45c-1/04 with exchangeable tines
- 45c-1/05 combined with strippers, grippers, or the like or with forks or other tools

## Forks, e.g. for hay and straw (dung forks 45b-6/20)

- 45c-2/01 with tines rigidly connected to the handle
- 45c-2/02 with exchangeable tines
- 45c-2/03 combined with strippers, grippers, or the like
- 45c-2/04 Handles and other details

## Scythes, sickles and knives (manufacture 7c-42; 7f-5)

- 45c-3/01 with simple fastening of the blade by means of screwing, by rings etc.
- 45c-3/02 with blade fastening by means of eccentric levers
- 45c-3/03 with blades adjustable in several ways
- 45c-3/04 Handles; Accessories, e.g. scythe baskets, safety devices
- 45c-3/10 Sickles
- 45c-3/20 Knives

## Percussive or pressing sharpening devices for scythes, sickles, or the like

- 45c-4/01 with percussive tools
- 45c-4/02 with pressing jaws
- 45c-4/03 with pressing rollers or pressing discs
- 45c-4/04 Details, e.g. scythe anvils, scythe guides
- 45c-4/10 Containers for whetstones (abrasive tools 67c-4)

**Hand implements**

- 45c-5/01 for lifting beet, potatoes, or other root crops
- 45c-5/02 for handling root crops, e.g. potato shovels
- 45c-5/03 for cropping beet or other root crops

**Potato harvesters**

- 45c-6 Potato ploughs
- Potato harvesters with sieve grates but without conveying mechanisms
  - 45c-7/01 with rigid grates
  - 45c-7/02 with moving grates
- Potato harvesters with sieving and conveying mechanisms
  - 45c-8 above the sieving device
  - 45c-9 below the sieving device
- Potato harvesters with sieving and disintegrating mechanisms
  - 45c-10/01 with rollers or disc screens
  - 45c-10/02 with shaker type screens
  - 45c-10/03 with sieving and disintegrating mechanisms acting on the potato ridge from above

- Potato harvesters with band or chain conveyors
- 45c-11/01 with smooth conveyor belts, lath bands, or rake bands
  - 45c-11/02 with sifter bands, endless chain sieves
  - 45c-11/03 with scoop wheels or drums
  - 45c-11/04 with several co-operating sifter bands
- Potato harvesters
- 45c-12/01 with cylindrical screens without a conveyor spiral
  - 45c-12/02 with cylindrical screens with a conveyor spiral
  - 45c-12/03 with several co-operating cylindrical screens
- Potato harvesters med with centrifugal wheels, drums, or spinners rotating round a horizontal axis arranged parallel to the direction of travel
- 45c-13/01 with scoop wheels or drums
  - 45c-13/02 with working tools arranged on an endless chain
  - 45c-13/03 with receiving screens and implements for depositing the root crops
- Potato harvesters with working tools arranged on an approximately vertical axis
- 45c-14/01 with one screening wheel
  - 45c-14/02 with several screening wheels
  - 45c-14/03 with screen tine chains
  - 45c-15 Potato harvesters with working tools rotating round a horizontal axis arranged transverse to the direction of travel
- Potato harvesters med with potato-picking implements
- 45c-16/01 with picking tools moved up-and-down
  - 45c-16/02 with rotating picking tools
  - 45c-16/20 Special potato harvesters, e.g. combined with seeders, planters, haymakers, etc.
- Devices for separation of stones and foliage
- 45c-17/01 Crop collecting devices, with or without weighing apparatus
  - 45c-17/03 Special sorting and cleaning mechanisms
  - 45c-17/04 Driving mechanisms, with or without motor; clutches and lifting and lowering mechanisms for the tools
  - 45c-17/10 Other details
- Machines for harvesting beet and other root crops**
- Lifters for beet or like crops
- 45c-18/01 with rigid tools
  - 45c-18/02 with moving or rotating tools
  - 45c-18/03 Collecting and depositing devices and other details
  - 45c-18/50 Harvesters for peanuts, onions, chicory, etc.
- Topping machines
- 45c-19/01 cutting the tops before being lifted
  - 45c-19/02 cutting the tops after being lifted
  - 45c-19/03 with collecting and depositing devices for the tops, devices for protecting the tops against damage and other details
- Harvesting machines for grass, cereals or other crops**
- Harvesters with reciprocating cutter-bars without delivering devices
- 45c-20/01 Harvesters for grass
  - 45c-20/02 Driving mechanisms for the knives of grass harvesters, cranks, cams, connecting-rods
  - 45c-20/03 Mechanisms for lifting the cutting apparatus by means of manual power or power derived from the driving wheels

- 45c-20/04 Mechanisms for adjusting the cutting apparatus
- 45c-20/05 Devices for disconnecting the cutting apparatus when lifting the cutting apparatus
- 45c-20/06 Harvesters cutting both to the left and the right
- 45c-20/07 Harvesters with the cutting apparatus placed centrally in front of the driving mechanism (45c-26/30)
- 45c-20/10 Harvesters except 45c-20/01 – 45c-20/07, also in connection with other agricultural machines, e.g. hay rakes, tedders, ploughs, harrows
- Harvesters with delivering devices**
- 45c-21/01 Harvesters for cereals
- 45c-21/02 Harvesters for cereals med tilting tables
- 45c-21/03 Devices for delivering standing stalks (45c-24/05; 45c-29/03)
- 45c-21/04 Delivering devices with rakes rotating around a vertical axis
- 45c-21/05 Delivering devices with reels
- 45c-21/06 Adjustable reels
- 45c-21/07 Endless conveyors used as reels
- 45c-21/08 Swinging rakes used as reels
- 45c-21/09 Fans used as reels
- 45c-21/10 Devices for laying out twine (45c-29/10)
- Cutting apparatus for harvesters**
- 45c-22/01 Cutting apparatus with reciprocating cutting-blades
- 45c-22/02 Knives, counter-knives
- 45c-22/03 Guides for the knives
- 45c-22/04 Holding-down devices for the knives
- 45c-22/05 Fingers
- 45c-22/06 Finger bars
- 45c-22/10 Cutting apparatus with horizontally rotating knives
- 45c-22/11 Helical rotating knives (rotary cutting cylinders for lawn-mowers 45c-25)
- 45c-22/12 Swinging knives
- 45c-22/13 Cutters with blades on endless belts or sprocket chains
- 45c-22/14 Cutting apparatus except 45c-22/01 – 45c-22/13
- 45c-23/01 Grain-crop lifters
- 45c-23/02 Rods for lifting laying crops, driving mechanisms therefor
- 45c-23/03 Grain-crop lifters arranged in front of the wheels
- 45c-23/10 Dividers
- 45c-23/20 Devices for protecting animals
- Harvesters convertible from grass harvesters to cereal harvesters**
- 45c-24/01 Grass harvesters with additional delivering devices, auxiliary plates, delivery rakes
- 45c-24/02 Endless conveyors for delivering
- 45c-24/03 Tilttable tables for delivering
- 45c-24/04 Tilttable grates for delivering
- 45c-24/05 Devices for delivering standing stalks (45c-21/03; 45c-29/03)
- Lawn-mowers**
- 45c-25/01 with rotary cutting cylinders
- 45c-25/02 with reciprocating cutting-blades (45c-22/01 – 45c-22/06 )
- 45c-25/03 with hand-driven cutting-tools (grass shears, hedge shears 45f-4/02, 45f-4/05)
- 45c-25/04 with other cutting apparatus, e.g. combining several cutters or cutters without fingers
- 45c-25/05 Lawn-mowers for lawn edges (for lawn edges for lawns 45f-4/05)
- 45c-25/06 Arrangements for leading the grass to the cutter
- 45c-25/07 Delivery devices (45c-21; 45c-24; lawn sweepers 45f-4/05)
- 45c-25/08 Details of lawn-mowers

- Motor-driven harvesters
- 45c-26/01 with manual steering
- 45c-26/05 Motor-driven lawn-mowers with rotary cutting cylinders
- 45c-26/10 Motor-driven grass harvesters with the cutting apparatus arranged at the side [-59]
- 45c-26/15 Motor-driven cereal harvesters with the cutting apparatus arranged at the side
- 45c-26/20 Motor-driven binders equipped with engines
- 45c-26/30 Motor-driven harvesters with the cutting apparatus placed centrally in front of the driving mechanism (motor-driven combines 45c-28)
- 45c-26/40 Motor-driven cutting apparatus, devices for disconnection of the driven when hitting an obstacle
- 45c-26/41 Electrical driving mechanisms for rotating knives
- 45c-26/42 Electrical driving mechanisms for reciprocating knives
- 45c-26/50 Auxiliary harvesters for tractors
- 45c-26/60 Tractor-drawn harvesters, driven by power take-off
- 45c-26/65 Arrangements for trailing two or more harvesters or mowers
- 45c-27/01 Headers
- 45c-27/10 Harvesters with non-movable knives, stalk cutters
- 45c-27/20 Harvesters for grass seed
- 45c-27/30 Harvesters for flax, machines for up-rooting flax
- 45c-27/40 Reed cutters, harvesters for reed
- 45c-27/50 Harvesters for sugar cane
- 45c-27/60 Harvesters for maize
- 45c-27/71 Cotton harvesters with blowers
- 45c-27/72 Cotton harvesters with pickers
- 45c-27/80 Other harvester, not covered by 45c-27/01 – 45c-27/72, e.g. for rice, tobacco, coffee, tea, beans, peas
- Combines (threshers 45e-2 – 45e-11)
- 45c-28/01 in general
- 45c-28/05 for threshing standing stalks
- 45c-28/10 with headers (45c-27/01)
- 45c-28/20 motor-driven
- 45c-28/30 Tractor-driven combines
- 45c-28/50 Details
- 45c-28/80 with windrow pick-up apparatus
- Self-binders
- 45c-29/01 binding with threads or wire
- 45c-29/02 Low binders
- 45c-29/03 conveying the stalks in vertical position (45c-21/03; 45c-24/05)
- 45c-29/10 binding with stalks or straw bands (45c-21/10)
- 45c-29/20 Sheaf carriers, sheaf collectors
- 45c-29/30 Sheaf shockers or stokers (45c-37/20)
- 45c-29/40 Self-binders, also as auxiliary device of harvesters (hay binders 45c-37/10)
- 45c-30 Binding apparatus, transmissions therefor
- 45c-31 Knotters, packers, needles
- 45c-32/01 Transporting devices for self-binders (81e)
- 45c-32/02 Fabric conveyors
- 45c-32/04 Chain conveyors
- 45c-32/10 Crop loaders (45c-37)
- 45c-33/01 Collectors for lost grains for harvesters
- 45c-33/02 Undercarriages, frames, mechanisms for adjusting the frame (adjusting the cutting apparatus 45c-20/04), platforms

- 45c-33/03 Sheaf counters  
 45c-33/04 Sharpening apparatus (67a)  
 45c-33/05 Gearings (45c-20/02; 47h)  
 45c-33/06 Clutches (47c); brakes (47c-17; 63a-45 – 63a-54)  
 45c-33/07 Lubrication (47e)  
 45c-33/08 Wheels, scrapers for removing dirt from wheels (63d; grain-crop lifters arranged in front of the wheels 45c-23/03)  
 45c-33/10 Attachment of connecting-rods, connecting-rod linkages  
 45c-33/11 Main bearings for connecting-rods  
 45c-33/20 Miscellaneous details not covered by 45c-33/01 – 45c-33/11, e.g. protection against rain and wind, tools for extraction of knives

#### Draught assemblies

- 45c-34/01 Front wheel assemblies, also with steering (63c)  
 45c-34/02 Draught assemblies  
 45c-34/03 Poles (63a-19 – 63a-24)  
 45c-34/04 Supports or wheels for poles  
 45c-34/05 Preventing or limiting side-play of implements  
 45c-34/06 Front wheel assemblies for harvesters  
 45c-34/07 Front wheel assemblies for lawn-mowers

#### Implements for haymaking

- 45c-35/01 Horse rakes with automatic or manual delivery  
 45c-35/05 Wheel rakes (45c-1)  
 45c-35/06 Pushed rakes, pulled rakes, motor-driven pulled rakes  
 45c-35/10 Rotating rakes for windrowing  
 45c-36/01 Rotating tedders, tedders for turning or windrowing  
 45c-36/02 Eccentric control mechanisms for rotating turners  
 45c-36/10 Tedders with forks  
 45c-36/20 Turners with rake cylinder, combined machines  
 45c-36/30 Other turners or tedders (45c-20/10)

#### Hay loaders

- 45c-37/01 with rakes, also pushed rakes  
 45c-37/02 without rakes  
 45c-37/03 with oscillating rakes or forks  
 45c-37/04 with windrow rakes  
 45c-37/05 with blowers (81e-65)  
 45c-37/06 with baling presses  
 45c-37/07 Miscellaneous hay loaders not covered by 45c-37/01 – 45c-37/06  
 45c-37/10 Hay gatherers with binding mechanism (45c-29/40)  
 45c-37/20 Devices for stacking hay (sheaf shockers 45c-29/30)  
 45c-37/30 Loaders for sheaves or stacks

### 45c (IPC: A01D) Harvesting

#### Hand implements

- 45c-1/00 Hand cutting implements for harvesting** (rolling of scythes, sickles and knives 7f-5)  
 45c-1/02 . Scythes (manufacture from sheet metal 7c-42)  
 45c-1/04 . Sickles (manufacture from sheet metal 7c-42)  
 45c-1/06 . Knives (manufacture from sheet metal 7c-41)  
 45c-1/08 . Attaching means for blades  
 45c-1/10 . . with fastening by means of eccentric levers  
 45c-1/12 . . with blades adjustable in several ways  
 45c-1/14 . Handles; Accessories, e.g. scythe baskets, safety devices

<b>45c-3/00</b>	<b>Non-abrasive sharpening devices for scythes, sickles, or the like</b>
45c-3/02	. with percussive tools
45c-3/04	. with pressing jaws
45c-3/06	. with pressing rollers or pressing discs
45c-3/08	. Details, e.g. scythe anvils, scythe guides
<b>45c-5/00</b>	<b>Containers for whetstones for use during harvesting (whetting implements 67c-4)</b>
<b>45c-7/00</b>	<b>Rakes</b>
45c-7/02	. with tines rigidly connected to the rake-bar
45c-7/04	. with adjustable rake-bar
45c-7/06	. with tines specially shaped or attached
45c-7/08	. with exchangeable tines
45c-7/10	. combined with strippers, grippers, or the like
<b>45c-9/00</b>	<b>Forks</b>
45c-9/02	. with tines rigidly connected to the handle
45c-9/04	. with exchangeable tines
45c-9/06	. combined with strippers, grippers, or the like
<b>45c-11/00</b>	<b>Other hand implements</b>
45c-11/02	. for lifting or cropping beet, potatoes, or other root crops
45c-11/04	. for handling root crops, e.g. shovels, fork-like shovels
45c-11/06	. Combined implements, e.g. fork and rake
<b><u>Machines for harvesting root crops</u></b>	
<b>45c-13/00</b>	<b>Diggers, e.g. potato ploughs</b>
<b>45c-15/00</b>	<b>Digging machines with sieve grates but without conveying mechanisms</b>
45c-15/02	. with rigid grates
45c-15/04	. with moving or vibrating grates
<b>45c-17/00</b>	<b>Digging machines with sieving and conveying mechanisms</b>
45c-17/02	. with conveyers arranged above the sieving device
45c-17/04	. with conveyers arranged below the sieving device
45c-17/06	. with rollers or disc screens
45c-17/08	. with shaker type screens
45c-17/10	. with smooth conveyor belts, lath bands, or rake bands
45c-17/12	. with bucket conveyors
45c-17/14	. with cylindrical screens
45c-17/16	. . with a conveyor spiral
45c-17/18	. . without a conveyor spiral
45c-17/20	. . with several co-operating screens
45c-17/22	. . with several co-operating sifter bands
<b>45c-19/00</b>	<b>Digging machines with centrifugal wheels, drums, or spinners</b>
45c-19/02	. with working tools rotating round a horizontal axis arranged transverse to the direction of travel
45c-19/04	. with working tools rotating round a horizontal axis arranged parallel to the direction of travel
45c-19/06	. . with scoop wheels or drums
45c-19/08	. . with scoop tine chains
45c-19/10	. . with receiving screens; Implements for depositing the root crops
45c-19/12	. with working tools arranged on an approximately vertical axis
45c-19/14	. . with one screening wheel
45c-19/16	. . with several screening wheels
45c-19/18	. . with screen tine chains
<b>45c-21/00</b>	<b>Digging machines with potato-picking implements</b>
45c-21/02	. with picking tools moved up-and-down
45c-21/04	. with rotating picking tools



<b>45c-23/00</b>	<b>Topping machines</b>
45c-23/02	. cutting the tops before being lifted
45c-23/04	. cutting the tops after being lifted
45c-23/06	. with collecting and depositing devices for the tops; Devices for protecting the tops against damage
<b>45c-25/00</b>	<b>Lifters for beet or like crops</b>
45c-25/02	. Machines with rigid tools
45c-25/04	. Machines with moving or rotating tools
<b>45c-27/00</b>	<b>Machines with both topping and lifting mechanisms</b>
45c-27/02	. with rigid tools
45c-27/04	. with moving or rotating tools
<b>45c-29/00</b>	<b>Harvesters for peanuts</b>
<b>45c-31/00</b>	<b>Other digging harvesters</b>
45c-31/02	. combined with other agricultural machines, e.g. drilling, planting, hay-harvesting machines
<b>45c-33/00</b>	<b>Accessories for digging harvesters</b>
45c-33/02	. Foliage-separating mechanisms
45c-33/04	. Stone-separating mechanisms
45c-33/06	. Haulm-cutting mechanisms
45c-33/08	. Special sorting and cleaning mechanisms
45c-33/10	. Crop collecting devices, with or without weighing apparatus
45c-33/12	. Driving mechanisms, with or without motor
45c-33/14	. Lifting and lowering mechanisms for the tools
<b><u>Harvesting machines for grass, cereals or other crops</u></b>	
<b>45c-35/00</b>	<b>Harvesters; Mowers</b> (hand-driven lawn-mowers 45c-53/00 – 45c-53/14)
45c-35/02	. with lateral reciprocating cutter-bars
45c-35/04	. . drawn by horse or tractor
45c-35/06	. . . with cutter-bars at the front
45c-35/08	. . . with cutter-bars at the side
45c-35/10	. . . with cutter-bars driven by a power take-off from the tractor
45c-35/12	. . Mowers mounted on tractors; Self-propelled mowers
45c-35/14	. . . with cutter-bars at the front
45c-35/16	. . . with cutter-bars at the side
45c-35/18	. . . with cutter-bars at the back
45c-35/20	. . guided by hand
45c-35/22	. . . Delivering devices; Collecting devices, e.g. grass-boxes
45c-35/24	. with motor-driven rotary cutting-cylinders
45c-35/26	. with motor-driven cutting-blades rotating round a vertical axis
45c-35/28	. for use on embankments, ditches, hills, etc.
<b>45c-37/00</b>	<b>Reaper-binders</b>
45c-37/02	. with receiving platform and binding apparatus but without elevating canvases
45c-37/04	. conveying the stalks in vertical position (delivery devices for vertical straws 45c-57/22)
45c-37/06	. binding with stalks or straw bands (devices for supplying sheaf bands 45c-75/16)
<b>45c-39/00</b>	<b>Independent binders; Binders attachable to mowers; Hay-binders</b>
<b>45c-41/00</b>	<b>Harvester-threshers; Combines</b> (threshing, cleaning, pressing and chopping devices for combines 45e-7/00 – 45e-7/58)
45c-41/02	. Self-propelled combines
45c-41/04	. Tractor-driven combines
45c-41/06	. Combines with headers (headers 45c-47/00)
45c-41/08	. Combines which thresh before the stalk is cut
45c-41/10	. Field threshers with windrow pick-up apparatus
45c-41/12	. Details of combines

<b>45c-43/00</b>	<b>Harvesters combined with other machines or apparatus</b>
45c-43/02	. with rakes
45c-43/04	. with tedders
45c-43/06	. with loaders (loaders for hay and similar crops 45c-87/00)
45c-43/08	. with chaff-cutters (construction of the chaff-cutter 45e-29/00 – 45e-29/20)
45c-43/10	. with arrangements for bruising the stalk
45c-43/12	. with ploughs or other implements for cultivating the soil
<b>45c-45/00</b>	<b>Harvesters for special crops (for fruit or hops 45f-19/00 – 45f-19/08)</b>
45c-45/02	. for maize
45c-45/04	. for rice
45c-45/06	. for flax
45c-45/08	. for underwater plants
45c-45/10	. for sugar-cane
45c-45/12	. for tea
45c-45/14	. for coffee
45c-45/16	. for tobacco
45c-45/18	. for cotton
45c-45/20	. . Pneumatic pickers
45c-45/22	. for beans
45c-45/24	. for peas
45c-45/26	. for cabbage
45c-45/28	. for spinach
45c-45/30	. of grass or like seeds
<b>45c-47/00</b>	<b>Headers</b>
<b>45c-49/00</b>	<b>Stalk cutters or crushers; Flail harvesters or mowers</b>
<b>45c-51/00</b>	<b>Apparatus for gathering together crops spread on the soil, e.g. apples, beets, nuts, potatoes</b>
<b>45c-53/00</b>	<b>Lawn-mowers driven by hand (motor mowers 45c-35/24, 45c-35/26)</b>
45c-53/02	. with rotary cutting cylinders
45c-53/04	. . Arrangements for leading the grass to the cutter
45c-53/06	. . Collecting devices, e.g. grass-boxes
45c-53/08	. . Other details (horizontally rotating cutters 45c-55/18)
45c-53/10	. with reciprocating cutting-blades (cutter bars with reciprocating cutters for harvesting machines 45c-55/02 – 45c-55/14)
45c-53/12	. with separate hand-drive for cutting-tools (lawn clippers 45f-3/06)
45c-53/14	. for lawn edges (for lawn edges 45f-3/06)
<b><u>Components of harvesting machines for grass or cereals</u></b>	
<b>45c-55/00</b>	<b>Cutting apparatus</b>
45c-55/02	. with reciprocating cutting-blades
45c-55/04	. . Knife-bars
45c-55/06	. . Guides for the knife-bar in the ledger-plate
45c-55/08	. . Holding-down devices for the knife
45c-55/10	. . Guard fingers; Ledger-plates
45c-55/12	. . Ledger-plate bars
45c-55/14	. . . Shoes therefor
45c-55/16	. with additional vertical cutter-bar
45c-55/18	. with rotating cutters
45c-55/20	. . with spirally-shaped rotating cutters
45c-55/22	. with swinging knives
45c-55/24	. with blades on endless belts or sprocket chains
45c-55/26	. Driving mechanisms for the knives or blades
45c-55/28	. Mechanisms for lifting the cutter-bar
45c-55/30	. . Devices for disengaging the knife-driving mechanisms during the lifting of the cutter-bar
45c-55/32	. Adjusting devices for the cutter-bar

<b>45c-57/00</b>	<b>Delivering mechanisms for harvesters</b>
45c-57/02	. Reels or the like
45c-57/04	. . Arrangements for changing the position of the reels
45c-57/06	. . Endless conveyors used as reels
45c-57/08	. . Swinging rakes used as reels
45c-57/10	. . Fans used as reels
45c-57/12	. Rotating rakes
45c-57/14	. Single-platform rakes
45c-57/16	. Tilting tables
45c-57/18	. Bunching devices, e.g. with tipping bars
45c-57/20	. with conveyor belts
45c-57/22	. for standing stalks
45c-57/24	. Grass-boards
45c-57/26	. Plates arranged behind the cutter-bar for guiding the cut grass or straw
45c-57/28	. Windrower attachments with tines
45c-57/30	. Rotating attachments for forming windrows
45c-57/32	. Detachable reels for converting a mower into a harvester
<b>45c-59/00</b>	<b>Binding equipment for harvesters</b>
45c-59/02	. Packers
45c-59/04	. Knotters
45c-59/06	. Needles
45c-59/08	. Discharge arms
45c-59/10	. Devices for separating cohering sheaves
45c-59/12	. Containers for the twine (twine balls and their manufacture 76d)
45c-59/14	. Sheaf counters
<b>45c-61/00</b>	<b>Elevators or conveyors for binders or combines (conveying in general 81e)</b>
45c-61/02	. Endless belts
45c-61/04	. Chains
<b>45c-63/00</b>	<b>Outside dividers</b>
45c-63/02	. Rotating dividers
45c-63/04	. Non-rotating dividers
<b>45c-65/00</b>	<b>Grain-crop lifters</b>
45c-65/02	. Lifting fingers
45c-65/04	. with revolving staffs
45c-65/06	. Lifting devices arranged on the inner side of the cutter-bar
45c-65/08	. Guard attachments for the wheels
<b>45c-67/00</b>	<b>Undercarriages specially adapted for harvesting machines; Frames specially adapted for harvesting machines; Mechanisms for adjusting the frame (adjusting devices for the cutter-bar 45c-55/32); Platforms</b>
45c-67/02	. Protection against weather
45c-67/04	. Seats
<b>45c-69/00</b>	<b>Driving mechanisms; Parts thereof</b>
45c-69/02	. Electric drive
45c-69/04	. . for mowers
45c-69/06	. Gearings (in general 47h)
45c-69/08	. Clutches (in general 47c)
45c-69/10	. Brakes (in general 47c)
45c-69/12	. Lubrication (in general 47e)
45c-69/14	. Connecting-rods for knife-driving mechanisms (connecting rods in general 47b-18)
45c-69/16	. . Devices for connecting the rod to the knife-bar
45c-69/18	. . Devices for connecting the rod to the crank-pin of the driving mechanism
<b>45c-71/00</b>	<b>Wheels (wheels for agricultural machines in general 45a-55/00)</b>
45c-71/02	. Scrapers for removing dirt
<b>45c-73/00</b>	<b>Other component parts</b>

**Accessories for harvesters for grass or cereals****45c-75/00****Accessories**

- 45c-75/02 . Implements for collecting grain crop
- 45c-75/04 . Sheaf carriers
- 45c-75/06 . Sheaf shockers or stokers (hay stackers 45c-85/00)
- 45c-75/08 . Sharpening apparatus fixed to the harvester (sharpening machines for mower cutters 67a-8)
- 45c-75/10 . Devices for reconditioning the knife-bar, e.g. removing the knife from its backing
- 45c-75/12 . Instruments for removing the knife-bar from the cutter
- 45c-75/14 . Arrangements for resetting the harvester
- 45c-75/16 . Implements for laying-out bands for sheaves
- 45c-75/18 . Safety devices for parts of the machines
- 45c-75/20 . Devices for protecting men or animals
- 45c-75/22 . Carriers for the transport of harvesters or haymakers
- 45c-75/24 . Special devices for harvesters drawn by animals (draft poles in general 63a-19)
- 45c-75/26 . Front trucks; Axle-pivot steering of front trucks
- 45c-75/28 . Control mechanisms for harvesters when moving on slopes; Devices preventing lateral pull
- 45c-75/30 . Arrangements for trailing two or more mowers

**Haymakers****45c-77/00****Hay-rakes**

- 45c-77/02 . Hand-operated wheeled rakes
- 45c-77/04 . Hay sweeps
- 45c-77/06 . Side delivery rakes

**45c-79/00****Turners; Tedders**

- 45c-79/02 . Rotating turners
- 45c-79/04 . . Control mechanisms therefor
- 45c-79/06 . with forks

**45c-81/00****Universal haymaking mechanisms for raking, turning, or tedding, with propelled tools****45c-83/00****Haymakers with tools rolling on the soil****45c-84/00****Haymakers not provided for in a single one of group 45c-77/00 – 45c-83/00****45c-85/00****Arrangements for making or setting stacks (sheaf stackers, shockers 45c-75/06)****45c-87/00****Loaders for hay or like field crops (collectors for picking up crops from the ground, e.g. apples, nuts, potatoes, beets 45c-51/00)**

- 45c-87/02 . with conveyor belts
- 45c-87/04 . . with rakes feeding the crop to the conveyor
- 45c-87/06 . with oscillating or reciprocating rake-bars
- 45c-87/08 . with sweep rakes
- 45c-87/10 . with blowers (suction conveyors in general 81e-65)
- 45c-87/12 . Loaders for sheaves, stacks, or bales

**45c-89/00****Pick-ups for loaders, chaff-cutters, balers, field-threshers, etc.**

(construction of chaff-cutters 45e-29/00 – 45e-29/20, of balers 45e-15/00 – 45e-15/18, of threshers 45e-7/00 – 45e-7/58)

**45c-90/00****Vehicles for carrying harvested crops, with means for picking-up, with or without means for packaging or unloading (vehicles for transporting loads and modified to facilitate loading 63a-35, 63c-39; with scraper-bucket pick-up means 84d-3/64)**

**45c-91/00** **Methods for harvesting agricultural products** (essentially requiring the use of particular machines, see the relevant groups for the machines)  
 45c-91/02 . products growing in the soil  
 45c-91/04 . products growing above the soil (fruit, hops 45f-19/00)

**45d** **Animal engines, treadmills**

45d-1 Animal engines in general  
 45d-2 Draught assemblies, yielding harness, horse protectors (63a-21; 63a-23; 63a-42)  
 45d-3 Safety devices for animal engines  
 45d-4 Gearings and clutches for animal engines  
 45d-5 Treadmills (46e-5; 46e-6)

**45d** **(IPC: A01H) New plants**

**Processes**

**45d-1/00** **Processes for modifying genotypes**

45d-1/02 . Methods or apparatus for hybridisation; Artificial pollination  
 45d-1/04 . Processes of selection  
 45d-1/06 . Processes for producing mutations, e.g. treatments with chemicals or with radiation  
 45d-1/08 . . Methods or apparatus for producing changes in chromosome number

**45d-3/00** **Processes for modifying phenotypes** (influencing the growth of plants without producing new plants 45i-5/00)

45d-3/02 . by controlling duration, wavelength, intensity, or periodicity of illumination  
 45d-3/04 . by treatment with chemicals

**Products**

**45d-5/00** **Flowering plants, i.e. angiosperms**

45d-5/02 . Flowers  
 45d-5/04 . Stems  
 45d-5/06 . Roots  
 45d-5/08 . Fruits  
 45d-5/10 . Seeds  
 45d-5/12 . Leaves

**45d-7/00** **Gymnosperms, e.g. conifers**

**45d-9/00** **Pteridophytes, e.g. ferns, club-mosses, horse-tails**

**45d-11/00** **Bryophytes, e.g. mosses, liverworts**

**45d-13/00** **Algae**

**45d-15/00** **Fungi; Lichens**

**45d-17/00** **Symbiotic or parasitic combinations including one or more new plants, e.g. mycorrhiza** (lichens 45d-15/00)

**45e** **Processing of harvested produce**

45e-1/01 Hand implements for binding sheaves  
 45e-1/02 Fastening or tying devices  
 45e-1/03 Sheaf presses  
 45e-1/04 Devices for bundling sheaves  
 45e-1/05 Hand-operated implements for cutting-up hay or straw and for threshing

**Threshing machines for cereals** (45e-28)

45e-2/01 with one-piece straw shakers (45e-7/01)  
 45e-2/02 with multi-part straw shakers (45e-7/02)  
 45e-2/03 with several straw shakers in series arrangement  
 45e-2/04 with roller, rake or drum shakers (45e-7/03; 45e-7/04)

- 45e-2/05 without shakers
- Details of threshing machines, except cylinders and straw shakers
- 45e-3/01 Driving mechanisms, brakes and bearings
- 45e-3/02 Apparatus for removing awns from the grain (45e-21/01)
- 45e-3/03 Grain cleaners (45e-12 – 45e-18/50)
- 45e-3/04 Mechanical grain conveyors (81e-29)
- 45e-3/05 Air conduits or blowers for grain (81e-71 – 81e-75; 45e-11/02)
- 45e-3/06 Crushers and cutters
- 45e-3/07 Headers
- 45e-3/08 Sack-filling devices; Counting or weighing devices (42f-19; 42p-5/01; 81a-3/01; 81a-3/10; 81a-4)
- 45e-3/09 Arrangements for returning unthreshed grain to the threshing device
- 45e-3/10 Devices for securing threshing machines to the ground, e.g. for compensating for unevenness of the ground
- 45e-3/11 Details except 45e-3/01 – 45e-3/10
- 45e-4/01 Axial threshing machines
- 45e-4/02 Threshing machines with flails
- 45e-4/03 Threshing machines of special construction (combines 45c-28)
- 45e-5/01 Sheaf binders for threshing machines
- 45e-5/02 Balling presses for threshing machines (45e-23/01 – 45e-28)
- Threshing devices for threshing machines
- 45e-6/01 Threshing cylinders with ribs
- 45e-6/02 Threshing cylinders with teeth
- 45e-6/03 One-part threshing concaves
- 45e-6/04 Multi-part threshing concaves
- Straw shakers for threshing machines
- 45e-7/01 One-piece shakers (45e-2/01)
- 45e-7/02 Multi-part shakers (45e-2/02)
- 45e-7/03 Roller shakers (45e-2/04)
- 45e-7/04 Rake or drum shakers etc. (45e-2/04)
- 45e-7/05 Sieves (45e-14/01)
- Safety devices for threshing machines
- 45e-10/01 Feeders without band-cutters
- 45e-10/02 Feeders with band-cutters
- 45e-10/03 Details of feeders
- 45e-10/04 Safety devices for feeders
- 45e-10/05 Dust collecting and removing installations for threshing machines
- Straw conveyors for threshing machines
- 45e-11/01 Mechanical conveyors
- 45e-11/02 Pneumatic conveyors
- Cleaning and sorting of grain (50a; 50d; 1a; 1b)**
- 45e-12 Cleaning and sorting machines with flat sieves and blowers (1a-28/01 – 1a-28/10; 50d-7/50)
- 45e-13 Cleaning and sorting machines with flat sieves without blowers (50d-3/01 – 50d-5/30; 1a-22/01 – 1a-23)
- 45e-14/01 Flat sieves (1a-22/01; 50d-3/01 – 50d-3/30)
- 45e-14/50 Devices for cleaning sieves (50d-6/20; 50d-6/30)
- 45e-15/01 Cleaning and sorting machines with rotating sieve cylinder (1a-27; 50d-1)
- 45e-15/50 Cleaning and sorting machines with sieve cylinder and brushes or beaters (50d-2)
- 45e-16 Cleaning and sorting machines med cell cylinders

45e-17           Cleaning and sorting machines med endless conveyors  
 45e-18/01       Cleaning and sorting machines with centrifugal action  
 45e-18/10       Cleaning and sorting by air stream  
 45e-18/20       Cleaning and sorting by liquids  
 45e-18/30       Magnetic and electric cleaning and sorting (1b)  
 45e-18/40       Screw cleaners  
 45e-18/50       Cleaning and sorting machines of special construction  
 45e-19/01       Devices for separating stones from the grain  
 45e-19/10       Feeders for cleaning and sorting machines (50b-5/01; 50b-5/10)  
 45e-19/20       Samplers (42l-17; 50b-5/40)

### **Cleaning and sorting of fruit, berries and root crops**

45e-20/01       Cleaning and sorting machines with flat sieves  
 45e-20/02       Cleaning and sorting machines with sieve cylinders  
 45e-20/03       Cleaning and sorting machines with rollers  
 45e-20/04       Cleaning and sorting machines with endless conveyors, wires etc.  
 45e-20/05       Cleaning and sorting using a liquid stream (1a-5 – 1a-7)  
 45e-20/06       Sorting according to weight  
 45e-20/07       Cleaning by means of brushes  
 45e-20/08       Separation of stones  
 45e-20/09       Cleaning and sorting machines of special construction or for products other than fruit  
 45e-21/01       Removing awns or decorticating by flail cylinders and sieve cylinders (45e-3/02)  
 45e-21/02       Removing awns or decorticating by rollers  
 45e-21/03       Details of awns removers or decorticators  
 45e-21/10       Devices for husking and subdividing maize cobs  
 45e-21/11       Details of maize huskers  
 45e-21/12       Devices for cleaning of maize  
 45e-21/20       Threshing of oil crops, e.g. palm fruits, flax  
 45e-21/21       Threshing of clover  
 45e-21/22       Threshing and stripping of peas and beans  
 45e-21/23       Threshing and hulling of rice  
 45e-21/30       Treatment of coffee  
 45e-21/31       Sorting coffee according to colour (42h-34/06)  
 45e-21/40       Treatment of tea  
 45e-21/41       Tea rolling machines  
 45e-21/50       Harvesting and treating hops (6a-11 – 6a-13; 6b-14)  
 45e-21/60       Disintegrating and marking of grain  
 45e-21/70       Heating and destroying the germination capacity of grain  
 45e-21/80       Winning of pith  
 45e-22/01       Washing machines for agricultural products (89a-1; 89a-2)  
 45e-22/02       Devices for mixing, washing and drying agricultural products  
 45e-22/03       Washing and blanching of fruit

### **Baling presses (45e-5; 58b-14)**

45e-23/01       Presses with press-boxes  
 45e-23/02       Plunger presses operated by crank mechanisms  
 45e-23/03       Plunger presses operated by winches or pulleys  
 45e-23/04       Plunger presses operated by worm gears or rack and pinion mechanisms  
 45e-23/05       Double-sided presses  
 45e-23/06       Details of presses  
 45e-23/07       Presses of special construction  
 45e-24           Feeding devices for the material to be pressed

- 45e-25 Feeding devices for the ties
- 45e-26 Tying devices
- 45e-27 Division blocks
- 45e-28 Presses with endless conveyors, rollers, screw conveyors etc.

### **Storing agricultural products**

- 45e-29/01 Clamps, pits, etc.
- 45e-29/02 Covering of clamps
- 45e-29/03 Containers etc. (34i-22; 34i-3)
- 45e-29/04 Silos or presses for fodder, presses for silage (37f-2/02; 53g-5/01)
- 45e-29/05 Coverings and rain protection for stacks, ricks, etc.
- 45e-29/06 Barns for drying (82a)
- 45e-29/07 Ventilation of stacks etc. (82a)
- 45e-29/08 Devices for setting stacks (7b-5/01; 37d-36; 82a)
- 45e-29/09 Setting shocks or stooks

### **Stacking (45c-37/20)**

- 45e-29/10 using buckets travelling over an inclined surface
- 45e-29/11 using pushers travelling over an inclined surface
- 45e-29/12 using endless conveyors (81e-113)
- 45e-29/13 using throwing machines
- 45e-29/14 using tilting buckets
- 45e-29/15 using fans
- 45e-29/16 using other means

### **Loading, unloading and transport of agricultural products**

- 45e-30/01 Cranes
- 45e-30/02 Grapples
- 45e-30/03 Slings
- 45e-30/04 Devices for lifting and loading
- 45e-30/05 Tilting of wagons
- 45e-30/06 Distributing crops in barns
- 45e-30/07 Securing loads on wagons

### **Fodder cutters**

- 45e-32/01 with knives on rotating discs
- 45e-32/02 with knives on rotary barrels
- 45e-32/03 with reciprocating knives
- 45e-32/04 Machines for cutting-up straw for bedding-down animals etc.
- 45e-32/05 Feeding or discharging devices, blowers
- 45e-33/01 Pushing or pressing devices
- 45e-33/02 Driving and control devices
- 45e-33/03 Frames, bearings and other details
- 45e-34/01 Safety devices for the machines, removing foreign matter, braking devices
- 45e-34/02 Mixing devices for chaff or like fodder

### **Machines for cutting, splitting, shredding or straining vegetables in bulk (domestic implements 34b)**

- 45e-35 with knives on rotary discs
- 45e-36/01 with knives on rotary barrels or like surfaces
- 45e-36/10 with knives on rollers
- 45e-37/01 with oscillating or reciprocating knives
- 45e-37/10 Fodder mashers (34b-3/02)
- 45e-38 Machines for cutting vegetables into cubes
- 45e-39/01 Grating machines (34b-8)



	<b>Crushing machines</b>
45e-39/05	with rollers
45e-39/06	with feed-worms (58b-9)
45e-39/07	with roller and counter-surface
45e-39/08	Straining machines (34I-18/02)
45e-39/10	Machines for cutting, splitting, shredding combined with arrangements for extracting juice (cooking vessels for extracting juice 34I-2/01, domestic implements for extracting juice 34b-9, 34b-10)
45e-39/20	Apparatus for breaking oil cakes (crushing machines in general 50c)
	<b>Machines for stoning fruit in bulk (for stoning single fruits 34b-11)</b>
45e-40/01	with feeder-drums
45e-40/02	with endless feeder-belts
45e-40/03	with feeder-tables
45e-40/04	for both splitting and stoning
45e-41/01	for stoning fruit with small pips, e.g. raisins
45e-41/02	for coring fruit
	<b>Machines for hulling, husking, or cracking nuts</b>
45e-42/01	with reciprocating tools for pressing, crushing, beating or splitting
45e-42/02	with rotary tools acting by centrifugal effect
45e-42/03	with rotary beating or cutting tools
45e-42/04	Machines for removing fleshy or fibrous hulls of nuts
45e-42/05	Machines for skinning nut kernels
45e-43	Machines for removing the stones of fruits with soft skin and soft stones
	<b>Machines for peeling vegetables or fruit in bulk (34b-7)</b>
45e-44/01	with peeling knives
45e-44/02	with grating tools
45e-44/03	with grating surfaces
45e-44/04	Driving mechanisms, other details
45e-44/10	Machines for peeling cooked potatoes
45e-44/20	Machines for peeling fruit and removing seed-containing sections
45e-45/01	Machines for peeling asparagus (34b-7/07)
45e-45/02	Machines for stringing or cutting beans
	<b>Machines for other treatment of vegetables or fruit in bulk</b>
45e-46/01	Machines for stemming, piercing or stripping fruit, for removing sprouts of potatoes (34b-12)
45e-46/02	Machines for drying, roasting, washing, or blanching of nuts or other fruits
45e-46/03	Devices for other treatment of fruit, e.g. marking, maturing, polishing (45f-6/05)
45e-47	Devices for topping fruit or vegetables (hand implements 45c-5/03)
<b>45e</b>	<b>(IPC: A01F) Processing of harvested produce; Hay and straw presses; Devices for storing agricultural or horticultural produce</b>
<b>45e-1/00</b>	<b>Forming or tying straw into bundles or trusses</b>
45e-1/02	. Hand-operated tools
45e-1/04	. Fastening or tying devices
45e-1/06	. Ties for straw bundles
<b>45e-3/00</b>	<b>Hand-operated implements for cutting-up hay or straw (mechanically-driven straw cutters 45e-29/00, 45e-31/00)</b>
<b><u>Threshing</u></b>	
<b>45e-5/00</b>	<b>Hand-operated implements for threshing</b>

<b>45e-7/00</b>	<b>Threshing machines (with flails 45e-9/00); Threshing devices for combines</b>
45e-7/02	. with rotating tools
45e-7/04	. with axles transverse to the feeding direction
45e-7/06	. with axles in line with the feeding direction
45e-7/08	. Parts or details of threshing machines
45e-7/10	. . Feeders
45e-7/12	. . . without band-cutters
45e-7/14	. . . with band-cutters
45e-7/16	. . . Safety devices
45e-7/18	. . Threshing devices
45e-7/20	. . . Threshing cylinders with ribs
45e-7/22	. . . Threshing cylinders with teeth
45e-7/24	. . . One-part threshing concaves
45e-7/26	. . . Multi-part threshing concaves
45e-7/28	. . . Devices for adjusting the concaves
45e-7/30	. . Straw shakers
45e-7/32	. . . with shaker screens or sieves
45e-7/34	. . . . Sieve elements; Linings for shakers
45e-7/36	. . . . Sieve elements for handling short straw
45e-7/38	. . . with juxtaposed and independently-moved shaker bars or the like
45e-7/40	. . Straw crushing or cutting; Chaff-cutters
45e-7/42	. . Snapping-apparatus for removing awns from the grain
45e-7/44	. . Grain cleaners; Separators
45e-7/46	. . Mechanical grain conveyors (conveyors in general 81e)
45e-7/48	. . Air conduits or blowers for grain
45e-7/50	. . Sack-filling devices; Counting or weighing devices (construction of weighing apparatus 42f; counting mechanisms 42p)
45e-7/52	. . Arrangements for returning unthreshed grain to the threshing device
45e-7/54	. . Dust collecting and removing installations
45e-7/56	. . Driving mechanisms for the threshing parts
45e-7/58	. . Steering devices; Brakes; Bearings

**45e-9/00 Threshing machines with flails**

**45e-11/00 Threshing machines adapted for special crops**

45e-11/02	. for flax
45e-11/04	. for clover
45e-11/06	. for maize, e.g. removing kernels from cobs
45e-11/08	. for palm fruit, e.g. releasing the fruit from the stalk

**45e-12/00 Parts or details of threshing machines**

45e-12/10	. Feeders
45e-12/12	. . without band-cutters
45e-12/14	. . with band-cutters
45e-12/16	. . Safety devices
45e-12/18	. Threshing devices
45e-12/20	. . Threshing cylinders with ribs
45e-12/22	. . Threshing cylinders with teeth
45e-12/24	. . One-part threshing concaves
45e-12/26	. . Multi-part threshing concaves
45e-12/28	. . Devices for adjusting the concaves
45e-12/30	. Straw shakers
45e-12/32	. . with shaker screens or sieves
45e-12/34	. . . Sieve elements; Linings for shakers
45e-12/36	. . . . Sieve elements for handling short straw
45e-12/38	. . with juxtaposed and independently-moved shaker bars or the like
45e-12/40	. Straw crushing or cutting; Chaff-cutters
45e-12/42	. Snapping-apparatus for removing awns from the grain
45e-12/44	. Grain cleaners; Separators
45e-12/46	. Mechanical grain conveyors

- 45e-12/48 . Air conduits or blowers for grain
- 45e-12/50 . Sack-filling devices; Counting or weighing devices (weighing apparatus per se 42f; counting mechanisms per se 42p)
- 45e-12/52 . Arrangements for returning unthreshed grain to the threshing device
- 45e-12/54 . Dust collecting and removing installations
- 45e-12/56 . Driving mechanisms for the threshing parts
- 45e-12/58 . Steering devices; Brakes; Bearings

### **Baling straw or the like**

#### **45e-13/00 Hand-operated baling apparatus**

#### **45e-15/00 Baling presses for straw, hay or the like (baling presses in general 58b-14)**

- 45e-15/02 . with press-boxes
- 45e-15/04 . Plunger presses
- 45e-15/06 . . with double-action plunger
- 45e-15/08 . Parts
- 45e-15/10 . . Feeding devices for the material
- 45e-15/12 . . Feeding devices for the ties
- 45e-15/14 . . Tying devices
- 45e-15/16 . . Division blocks
- 45e-15/18 . . Endless belts, rolls, etc.

### **Accessories for threshing machines or baling presses**

#### **45e-17/00 Straw conveyors for threshing machines or baling presses**

- 45e-17/02 . Mechanical conveyors
- 45e-17/04 . Pneumatic conveyors

#### **45e-19/00 Devices for securing threshing machines for baling presses to the ground, e.g. for compensating for unevenness of the ground**

#### **45e-21/00 Devices for protecting men**

### **Handling or storing harvested fruit or vegetables (tea leaf rollers 53d)**

#### **45e-23/00 Removing pith from stems**

#### **45e-25/00 Storing agricultural or horticultural produce (storing goods which do not decay 81e; packing or storing hops 6a-13)**

- 45e-25/02 . Clamps; Pits
- 45e-25/04 . Stacks, ricks, etc.
- 45e-25/06 . . Coverings
- 45e-25/08 . . Ventilating means
- 45e-25/10 . . Shelters
- 45e-25/12 . Racks for drying purposes
- 45e-25/14 . Containers specially adapted for storing
- 45e-25/16 . Arrangements in forage silos (construction 37f; loading and unloading arrangements 81e)

#### **45e-27/00 Machines for washing potatoes, mangold, apples or like fruit (washing and drying grain 50a, washing of sugar beet or potatoes in factories for making sugar, starch or alcohol 89a, drying arrangements 82a)**

#### **45e-29/00 Special adaptations of cutting machines for cutting straw or fodder**

- 45e-29/02 . with knives on rotating discs
- 45e-29/04 . with knives on rotary barrels or like surfaces
- 45e-29/06 . with oscillating or reciprocating knives
- 45e-29/08 . Feeding or distributing devices; Blower conveyors
- 45e-29/10 . . Devices for feeding and pressing the material
- 45e-29/12 . Driving devices
- 45e-29/14 . Safety devices for the machines, e.g. for removing foreign matter; Braking devices
- 45e-29/16 . Devices for protecting men
- 45e-29/18 . Frames; Bearings or other details
- 45e-29/20 . Mixing devices for chaff or like fodder

**45e-31/00 Special adaptations of cutting machines for cutting-up straw for bedding-down animals or like purposes****45e-33/00 Fodder mashers** (household implements for mashing potatoes or other foodstuffs 34b-37/00)**45e-35/00 Machines for cutting, splitting, shredding or straining vegetables in bulk** (for domestic purposes 34b-3/10 – 34b-3/50)

- 45e-35/02 . with knives on rotary discs
- 45e-35/04 . with knives on rotary barrels or like surfaces
- 45e-35/06 . with rotary cutting-rolls without knives
- 45e-35/08 . with oscillating or reciprocating knives
- 45e-35/10 . for cutting vegetables into cubes
- 45e-35/12 . for grating fruit
- 45e-35/14 . Crushing machines
- 45e-35/16 . . with rollers
- 45e-35/18 . . with feed-worms (screw presses for liquid products in general 58b-9; spindle and cone presses for leeches sugar beet chips 89b-5)
- 45e-35/20 . Machines for cutting, splitting, shredding combined with arrangements for extracting juice (cooking vessels for extracting juice 34l-2/01)
- 45e-35/22 . Straining products (extracting-presses 58b-10)
- 45e-35/24 . Apparatus for breaking oil cakes (breakers and crushing machines in general 50c)

**45e-37/00 Machines for stoning fruit in bulk**

- 45e-37/02 . with feeder-drums
- 45e-37/04 . with endless feeder-belts
- 45e-37/06 . with feeder-tables
- 45e-37/08 . for both splitting and stoning
- 45e-37/10 . for stoning fruit with small pips, e.g. raisins
- 45e-37/12 . for coring fruit
- 45e-37/14 . for removing seed-containing sections from cut fruit

**45e-39/00 Machines for hulling, husking, or cracking nuts**

- 45e-39/02 . with reciprocating tools
- 45e-39/04 . with rotary tools
- 45e-39/06 . . with rotary tools acting by centrifugal effect
- 45e-39/08 . for removing fleshy or fibrous hulls of nuts
- 45e-39/10 . for skinning nut kernels

**45e-41/00 Machines for peeling vegetables or fruit in bulk** (peeling machines with cutting or paring tools 34b-7/10 – 34b-7/20)

- 45e-41/02 . for peeling potatoes or apples
- 45e-41/04 . for peeling asparagus
- 45e-41/06 . for stringing or cutting beans
- 45e-41/08 . for peeling fruit and removing seed-containing sections
- 45e-41/10 . Driving mechanisms

**45e-43/00 Machines for other treatment of fruit in bulk** (of coffee 53d; of cocoa 53f)

- 45e-43/02 . for stemming, piercing or stripping fruit; Removing sprouts of potatoes (devices for stemming fruit for domestic purposes 34b-12, 34b-21/00)
- 45e-43/04 . for drying, roasting, washing, or blanching fruits, e.g. coffee, nuts (drying machines in general 82a; coffee or like roasters 82a-30/50 – 82a-30/52)
- 45e-43/06 . Devices for topping fruit or vegetables
- 45e-43/08 . Devices for other treatment of fruit, e.g. marking, maturing, polishing

**45f Gardening, culture of vegetables, fruit, vines, and hops, forestry, watering****Gardening, culture of vegetables**

- 45f-1 Gardening and culture of vegetables in general, edging for beds, lawns, etc, fence binding, cultivation of asparagus and tools therefor, devices for cultivation of

- mushrooms (soil for mushroom cultivation 45l-2; composts or fertilisers for cultivating mushrooms 16)
- 45f-2 Grafting
- 45f-3 Name-plates for plants
- 45f-4/01 Flower or fruit shears, secateurs (45f-17)
- 45f-4/02 Apparatus for trimming hedges, hand-driven or machine-driven
- 45f-4/05 Edge trimmers, shears and sweeping apparatus for lawns, tools for cultivating turf, garden rollers (45a-49; lawn-mowers 45c-25)
- 45f-4/07 Removing thorns from flower stalks
- 45f-4/09 Tools for boring plant holes (5a-21; 5c-3; 84c; 45b-7)
- 45f-4/20 Other gardening tool, e.g. scrapes for removing insects from trees

### **Botany in general, treatment of plants**

- 45f-5/01 Treatment of plants with carbon dioxide (45f-11/04)
- 45f-5/02 Electric or magnetic treatment of plants for promoting growth (21g-16)
- 45f-5/05 Treatment of plants for special purposes (appliances for biological experiments 30h-14)
- 45f-5/07 Dying and preparatory conservation of living wood (38h-2 – 38h-5)
- 45f-5/10 Protective coverings, devices for laying-out coverings (45f-11/01)
- 45f-6/01 Apparatus for binding bouquets or wreaths
- 45f-6/03 Mountings for wreaths, etc., racks or holders for flowers
- 45f-6/05 Devices for preserving flowers (chemical agents 45l-1/03), methods and devices for marking plants

### **Cultivation of flowers or vegetables in receptacles, forcing-frames, or greenhouses**

- 45f-7/01 Flower-pots or boxes, glasses for cultivating flowers, hanging flower baskets, holders for flower-pots (34f-6/01 – 34f-6/03; decorative covers for flower pots 34f-6/04)
- 45f-7/03 Pots for seedlings; Soil-blocks for seedlings; Means for forming soil-blocks
- 45f-7/05 Flower-pot saucers
- 45f-7/08 Devices for cleaning flower-pots
- 45f-7/10 Devices for filling-up flower-pots and for setting plants in pots
- 45f-8 Supports for plants, trellis for strawberries (45f-7/01; 45f-15/01)
- 45f-9/01 Greenhouses in general
- 45f-9/03 Dismountable or portable greenhouses (37f-4)
- 45f-9/04 Forcing-frames and window frames
- 45f-9/06 Shades or blinds
- 45f-9/08 Devices for heating, ventilating, regulating temperature, or watering, in greenhouses, forcing-frames, etc. (36a; 36c)
- 45f-9/15 Electric heating devices for greenhouses, forcing-frames, etc.
- 45f-10 Devices or methods for influencing weather conditions, dispersion of natural fog (dispersion of artificial fog 61b-1/03; 62c-20/02; 65a2-72; 72g-7/04)

### **Protecting plants**

- 45f-11/01 Weather protection (45f-5/10)
- 45f-11/03 Devices for generating heat, smoke, or fog; generating fog to prevent damage by frost (45k-4/50)
- 45f-11/04 Devices for affording protection against animals, birds, or other pests (45k-5; scaring devices 45l-3/08), protection against human beings, protection for trees

### **Cultivation of hops, vines or fruit**

- 45f-12 Cultivation of hops or vines in general
- 45f-13/01 Supports for hops, vines, or trees
- 45f-13/02 Tools for attaching hops, vines, or boughs to trellis-work, tying devices
- 45f-14 Tree-bands (glue rings 45k-2/05)

- 45f-15/01 Props for trees or vines, devices for driving-in or pulling-out props (45f-8)  
 45f-15/05 Holders for boughs or branches, filling-up wounds in trees  
 45f-16/01 Implements for harvesting fruit, fruit pickers with or without cutters, hand-operated berry pickers, devices for fruit or berry harvesting attachable to the hand, berry-picking machines, catching devices for trees, elevators, catching cloths, baskets or bags attachable to the picker, ladders (34l-23; 61a-1 – 61a-4)  
 45f-16/20 Devices for hanging-up harvested fruit  
 45f-17 Shears or saws for pruning or branching (45f-4/01)

### **Forestry**

- 45f-18 Devices for uprooting or pulling-up trees or stumps, horizontally or vertically: pulleys, levers and ratchets, screw, rack-and-pinion or hydraulic mechanisms; eliminating stumps by boring, milling, sawing, burning, blowing or splitting with wedges  
 45f-19 Devices for felling trees by sawing, drilling, burning, blowing, etc. (construction of saws and drills 38a, 38e); felling trees by means of wedges, milling apparatus, pulleys; devices for avoiding splitting of trunks  
 45f-20 Transplanting of trees, root extractors, plant boxes (45b-26)  
 45f-21 Tapping of tree-juices, e.g. caoutchouc, gum, etc.; receptacles for juices, tapping-spouts, etc.

### **Devices for watering gardens, fields, sports grounds, etc.**

- 45f-22 Devices for watering making use of perforated pipe-lines  
 45f-23/01 Devices for watering by means of spray nozzles, sprinkler nozzles, intermittent watering devices  
 45f-23/02 Devices for watering making use of perforated pipe-lines located in the soil  
 45f-23/05 Mobile liquid sprayers with water tanks or pumps  
 45f-23/10 Watering with liquid fertilisers, sludge, electrically charged water  
 45f-24 Details of watering devices (47); hose or pipe vehicles or reels (61a-15); holders for hoses or watering devices (61a-15); mixing and regulating devices  
 45f-25 Watering nozzles of special form, sprinklers, sprayers (45k-4/25; 61a-16/01; 85g-2; 85g-3)  
 45f-26 Watering cans, flower sprayers, sprayers for vines or fruit trees (45k-4/01 – 45k-4/20); automatic watering devices and humidifying devices, automatic watering of pot plants  
 45f-27 Watering of roots, injecting fertilisers into the roots

## **45f (IPC: A01G) Culture of vegetables, flowers, fruit, vines, and hops; Forestry; Watering**

- 45f-1/00 Horticulture; Cultivation of vegetables** (implements for digging planting holes 45b-5/02, 45b-5/04)  
 45f-1/02 . Cultivation of asparagus  
 45f-1/04 . Cultivation of mushrooms (composts or fertilisers for cultivating mushrooms 16)  
 45f-1/06 . Grafting (grafting-wax 45l-3/04)  
 45f-1/08 . Edging for beds, lawns, etc., e.g. using tiles  
 45f-1/10 . Name-plates for plants, sown seeds, etc.  
 45f-1/12 . Tools for cultivating turf; Sweeping apparatus for lawns; Garden rollers (machines for treating meadows or lawns 45a-45/00; lawn-mowers 45c-35/00 – 45c-35/26, 45c-53/00 – 45-53/14)
- 45f-3/00 Cutting implements specially adapted for horticultural purposes**  
 45f-3/02 . Secateurs; Flower or fruit shears  
 45f-3/04 . Apparatus for trimming hedges; Hedge shears  
 45f-3/06 . Edge trimmers for lawns; Shears for lawns (machines for lawn sod 45a-45/04)  
 45f-3/08 . Saws for pruning or branching
- 45f-5/00 Floral handling**  
 45f-5/02 . Apparatus for binding bouquets or wreaths  
 45f-5/04 . Mountings for wreaths, etc.; Racks or holders for flowers

45f-5/06	. Devices for preserving flowers (chemical substances 45l-3/02; flower vases 34f-6/03)
<b>45f-7/00</b>	<b>Botany in general</b> (cultivation without soil 45f-31/00)
45f-7/02	. Treatment of plants with carbon dioxide (greenhouses therefor 45f-9/18)
45f-7/04	. Electric or magnetic treatment of plants for promoting growth
45f-7/06	. Treatment of growing trees or plants, e.g. for preventing decay of wood, for tingeing flowers or wood, for prolonging the life of plants (preserving wood in general 38h-2)
<b>45f-9/00</b>	<b>Cultivation of flowers or vegetables in receptacles, forcing-frames, or greenhouses</b> (cultivation without soil 45f-31/00)
45f-9/02	. Receptacles, e.g. flower-pots or boxes (hanging flower baskets, holders or containers for flower-pots 34f-6/02; decorative covers for flower pots 34f-6/04); Glasses for cultivating flowers
45f-9/04	. Flower-pot saucers
45f-9/06	. Devices for cleaning flower-pots
45f-9/08	. Devices for filling-up flower-pots; Devices for setting plants in pots
45f-9/10	. Pots for seedlings; Soil-blocks for seedlings; Means for forming soil-blocks
45f-9/12	. Supports for plants; Trellis for strawberries or the like (stays for trees, props for vines 45f-17/14)
45f-9/14	. Greenhouses (cloches 45f-13/04)
45f-9/16	. . Dismountable or portable greenhouses (dismountable buildings in general 37f-4)
45f-9/18	. Greenhouses for treating plants with carbon dioxide or the like
45f-9/20	. Forcing-frames; Lights
45f-9/22	. Shades or blinds for greenhouses, etc.
45f-9/24	. Devices for heating, ventilating, regulating temperature, or watering, in greenhouses, forcing-frames, etc. (heating devices in general 36c; electric heating devices 21h; ventilation devices in general 36d)
45f-9/26	. . Electric devices
<b>45f-11/00</b>	<b>Sterilising soil by steam</b> (chemical treatment 45l-7/00)
<b>45f-13/00</b>	<b>Protecting plants</b>
45f-13/02	. Protective coverings for plants; Devices for laying-out coverings
45f-13/04	. . Cloches
45f-13/06	. Devices for generating heat, smoke, or fog in gardens, orchards, or forests, e.g. to prevent damage by frost (chemical section 78d; infrared radiators 36b)
45f-13/08	. Mechanical apparatus for circulating the air
45f-13/10	. Devices for affording protection against animals, birds, or other pests (traps 45k-23/00; chemical deterrents 45l-9/00)
<b>45f-15/00</b>	<b>Devices or methods for influencing weather conditions</b> (dispersing fog in general 19b-7)
<b>45f-17/00</b>	<b>Cultivation of hops, vines, fruit trees, or like trees</b>
45f-17/02	. Cultivation of hops or vines
45f-17/04	. Supports for hops, vines, or trees
45f-17/06	. . Trellis-work
45f-17/08	. . . Tools for attaching hops, vines, or boughs to trellis-work; Tying devices
45f-17/10	. . Holders for boughs or branches
45f-17/12	. . Tree-bands (glue rings for trees 45k-1/18)
45f-17/14	. . Props; Stays
45f-17/16	. . . Devices for driving-in or pulling-out props
45f-17/18	. Means for filling-up wounds in trees
<b>45f-19/00</b>	<b>Picking hops or fruit</b>
45f-19/02	. Picking hops
45f-19/04	. Platforms with lifting and lowering devices
45f-19/06	. Baskets or bags attachable to the picker
45f-19/08	. Appliances for picking apples or like fruit (ladders 34l-23)
<b>45f-21/00</b>	<b>Devices for hanging-up harvested fruit</b>

<b>45f-23/00</b>	<b>Forestry</b>
45f-23/02	. Transplanting, uprooting, or felling trees (transplanting machines 45b-11/00)
45f-23/04	. . Transplanting trees; Devices for grasping the root ball, e.g. stump forceps; Wrappings or packages for transporting trees
45f-23/06	. . Devices for uprooting or pulling-up trees; Devices for extracting or eliminating stumps (crow bars 35d-2/01)
45f-23/08	. . Devices for felling trees (saws 38a; axes 69-22)
45f-23/10	. Tapping of tree-juices, e.g. caoutchouc, gum
45f-23/12	. . Knives or axes for tapping
45f-23/14	. . Tapping-spouts; Receptacles for juices
<b>45f-25/00</b>	<b>Watering gardens, fields, sports grounds, etc.</b> (special apparatus or adaptations for fertilising-liquids 45b-23/00; nozzles 85g)
45f-25/02	. Watering arrangements making use of perforated pipe-lines located above the soil
45f-25/04	. Watering by means of spray nozzles, sprinkler nozzles, fine sprinklers or rotating sprinklers, intermittent watering devices (pipe connections 47f, nozzles, valves or filters for sprayers 45k-7/22)
45f-25/06	. Watering arrangements making use of perforated pipe-lines located in the soil
45f-25/08	. Mobile liquid sprayers [sprinklers] with water tanks or pumps (construction of pumps 59a, 59b)
45f-25/10	. Spraying of electrically charged water
45f-25/12	. Details of watering installations (hose vehicles or reels 81c, 61a-15); Supports for garden watering systems
45f-25/14	. Hand watering devices, e.g. watering cans (sprayers for pesticides 45k-7/00 – 45k-7/22)
<b>45f-27/00</b>	<b>Self-acting watering devices, e.g. for flower-pots</b>
<b>45f-29/00</b>	<b>Root feeders; Injecting fertilisers into the roots</b>
<b>45f-31/00</b>	<b>Hydroponics; Cultivation without soil</b>
45f-31/02	. Special apparatus therefor (apparatus for cultivation in receptacles or greenhouses in general 45f-9/00; self-acting watering devices 45f-27/00)
<b>45g</b>	<b>Manufacture of dairy products, mechanic part</b> (chemical part 53e, separators 82b)
	<b>Milking devices, also in combination with straining or cooling devices</b>
45g-1/01	Devices for milking by hand in general
45g-1/02	Milking stools
45g-1/03	Milking pails, also combined with milking stools
45g-1/04	Holding or supporting devices for milking receptacles
45g-1/05	Milk receptacles with straining or filtering devices
45g-1/06	Milk receptacles with cooling arrangements
45g-1/07	Milk receptacles with self-closing valve
45g-1/08	Devices for protecting the udders when milking
45g-2	Milking with catheters
45g-3	Mechanically operated milking machines
45g-4/01	Milking machines operating with suction
45g-4/02	Milking machines operating with pneumatic or hydraulic pressure
45g-4/03	Milking machines operating suction and pressure
45g-4/04	Pulsators for milking machines in general
45g-4/05	Membrane pulsators
45g-4/06	Electromagnetic pulsators
45g-4/10	Teat-cups for milking machines
45g-4/11	Teat-cups with pulsators
45g-4/12	Devices for attaching teat-cups
45g-4/16	Details of milking machines, e.g. manifolds, discharge devices, closures and control devices for suction lines, etc.



**Treatment of milk**

- 45g-5/01 Preventing or destroying foam (12a-1; 82b-16)
- 45g-5/02 Appliances for aerating or de-aerating milk, deodorising, also combined with cooling (82b-16)
- 45g-5/08 Strainers or filters for milk (filters 12d-25)
- 45g-5/09 Holders for strainers or cloth filters
- 45g-5/10 Special purifying devices
- 45g-7/01 Cream settling devices (separators 82b)
- 45g-7/02 Cream separators
- 45g-7/03 Cream skimmers
- 45g-7/05 Tanks for treating cream

**Devices for manufacture or treatment of butter**

- 45g-15/01 Stationary churns with one beater rotating around a vertical or inclined axis
- 45g-15/02 Stationary churns with beaters oscillating around a vertical or inclined axis
- 45g-15/03 Stationary churns with two or more beaters rotating around a vertical or inclined axis
- 45g-15/06 Stationary churns with one beater rotating around a horizontal axis
- 45g-15/07 Stationary churns with two or more beaters rotating around a horizontal axis
- 45g-15/08 Stationary churns with beaters oscillating around a horizontal axis
- 45g-15/12 Rotating churns with stationary or mobile beaters or vanes
- 45g-15/15 Devices for heating, cooling or aerating of the material in churns with beaters
- 45g-16 Centrifugal churns

**Churns without beaters**

- 45g-17/01 reciprocating
- 45g-17/02 oscillating
- 45g-17/03 vertically moving
- 45g-18/01 Special devices for manufacturing butter other than by churns
- 45g-18/02 Churns with arrangements for making butter by blowing-in air
- 45g-19/01 Details of churns with beaters
- 45g-19/02 Lids or covers for butter churns
- 45g-19/03 Beaters for butter churns
- 45g-20 Small dairy plants: arrangement of separators, churns and kneading machines
- 45g-21/01 Kneading machines for butter
- 45g-21/02 Driving arrangements for kneading machines
- 45g-22/01 Churns with hand- or foot-driven plunger
- 45g-22/02 Churns with more than one plunger
- 45g-22/03 Churns with mechanically driven plungers
- 45g-22/04 Plungers
- 45g-23/01 Butter kneading machines with roller and stationary kneading table (53h-2)
- 45g-23/02 Butter kneading machines with roller and rotating kneading table (53h-2)
- 45g-23/03 Butter kneading machines of special construction (53h-2)

**Cheese-making, mechanical part (chemical part 53e)**

- 45g-24/01 Cheese-making plant, e.g. heating and ventilation of storage cellars, maturing of cheese, etc.
- 45g-24/02 Cheese basins
- 45g-24/03 Devices for cleaning cheese basins
- 45g-24/04 Devices for dividing curdled milk
- 45g-24/05 Devices for removing cheese from basins
- 45g-24/06 Devices for cheese-making: mills, presses, moulds, shaping machines
- 45g-24/07 Devices for treating cheese during ripening

**Forming butter (34b)**

- 45g-25/01 Hand devices for forming slabs of butter (34b)
- 45g-25/03 Machines for forming slabs of butter by pressing into moulds (2b)
- 45g-25/06 Machines for forming slabs of butter by extruding and cutting (2b)
- 45g-25/09 Devices for dividing bulk butter (2b)

**45g (IPC: A01J) Manufacture of dairy products, mechanic part****Milking****45g-1/00 Devices or accessories for milking by hand**

- 45g-1/02 . Single-leg milking stools (stools and chairs in general 34g)

**45g-3/00 Milking with catheters****45g-5/00 Appliances for milking mechanically**

- 45g-5/02 . with mechanical treatment of teats
- 45g-5/04 . with pneumatic treatment of teats
- 45g-5/06 . . Teat-cups with one chamber
- 45g-5/08 . . Teat-cups with two chambers
- 45g-5/10 . . Pulsators arranged otherwise than on teat-cups
- 45g-5/12 . . . with membranes
- 45g-5/14 . . . electromagnetically controlled
- 45g-5/16 . . Teat-cups with pulsating devices

**45g-7/00 Other accessories for milking machines****45g-9/00 Milk receptacles (containers in general 81c)**

- 45g-9/02 . with straining and filtering devices
- 45g-9/04 . with cooling arrangements
- 45g-9/06 . with self-closing valve
- 45g-9/08 . Holding or supporting devices for milking receptacles
- 45g-9/10 . Milking pails connected with milking stools

**Treatment of milk or cream****45g-11/00 Apparatus for treating milk (pasteurising 53e)**

- 45g-11/02 . Appliances for preventing or destroying foam (in centrifuges 82b-16)
- 45g-11/04 . Appliances for aerating or de-aerating milk (in centrifuges 82b-16)
- 45g-11/06 . Strainers or filters for milk (filtering materials 12d-25)
- 45g-11/08 . . Holders for strainers or cloth filters
- 45g-11/10 . Separating milk from cream (milk centrifuges 82b)
- 45g-11/12 . . Appliances for removing cream
- 45g-11/14 . . . by raising the level of the milk
- 45g-11/16 . Homogenising milk

**45g-13/00 Tanks for treating cream****Manufacturing butter****45g-15/00 Manufacturing butter**

- 45g-15/02 . Stationary churns with beating equipment
- 45g-15/04 . Rotating or oscillating churns
- 45g-15/06 . . with beating equipment which is movable in respect of the churn wall
- 45g-15/08 . . without beating equipment which is movable in respect of the churn wall
- 45g-15/10 . Devices for manufacturing butter other than by churns
- 45g-15/12 . . with arrangements for making butter in a continuous process
- 45g-15/14 . Churns with arrangements for making butter by blowing-in air
- 45g-15/16 . Details; Accessories
- 45g-15/18 . . Devices for de-aerating
- 45g-15/20 . . Incorporation of revolution counters; Incorporation of alarm devices
- 45g-15/22 . . Lids or covers for butter churns
- 45g-15/24 . . Beaters for butter churns
- 45g-15/25 . . Means for removing butter from churns or the like

- 45g-15/26 . Combined appliances for separating, churning and kneading
- 45g-15/28 . Driving mechanisms

### **Kneading or forming butter; Kneading or forming margarine or butter substitutes**

- 45g-17/00 Kneading machines for butter, etc.**
- 45g-19/00 Hand devices for forming slabs of butter, etc.**
- 45g-21/00 Machines for forming slabs of butter, etc.** (dough moulding machines 2b-7/01)
  - 45g-21/02 . with extruding arrangements and cutting devices, with or without packing devices
- 45g-23/00 Devices for dividing bulk butter, etc.** (domestic cutting or dividing tools for butter 34b-6/10)

### **Cheese-making**

- 45g-25/00 Cheese-making** (methods 53e-6)
  - 45g-25/02 . Cheese basins
  - 45g-25/04 . . Devices for cleaning cheese basins
  - 45g-25/06 . Devices for dividing curdled milk
  - 45g-25/08 . Devices for removing cheese from basins
  - 45g-25/10 . Devices for removing whey from basins
  - 45g-25/11 . Separating whey from curds; Washing the curds
  - 45g-25/12 . Forming the cheese
    - 45g-25/13 . . Moulds therefor
    - 45g-25/14 . . Moulds or presses therefor
    - 45g-25/15 . . Presses therefor
  - 45g-25/16 . Devices for treating cheese during ripening
- 45g-27/00 After-treatment of cheese; Coating the cheese**
  - 45g-27/02 . Coating the cheese, e.g. with paraffin wax
  - 45g-27/04 . Milling or recasting cheese

## **45h Animal husbandry, fishing**

### **Animal husbandry in general, cattle-raising** (accessories for biological experiments 30h-14)

- 45h-1 Equipment for stables, e.g. flooring, partitions, feed racks (ventilation of stables 36d; 37d-6/01; 37d-7/01; 37f-2/01)
- 45h-2 Devices for fastening animals, e.g. toggles, neck-bars, chain fastenings (halters 56b-23)
- 45h-3 Arrangements for releasing animals
- 45h-4 Feeding devices for stock or game (for poultry 45h-14/01, 45h-14/20)
- 45h-5 Automatic feeding devices
- 45h-6 Watering equipment for stock or game
- 45h-7 Sucking apparatus for young stock
- 45h-8 Marking of animals (for poultry 45h-13/10; sealing tongs 87b-5; registration stamps 43a-14; date stamps 15h-1/09)
- 45h-9 Devices for grooming or caring of animals, e.g. curry-combs (scissors 69-5), fetlock rings (30c-7/01), tail holders, devices for preventing crib-biting, washing devices (for medical purposes 30e-7/02), protection against sunlight or insects
- 45h-10 Devices for taming animals, e.g. nose-rings, lassos; fettering devices for taming in general, training equipment, supports for mating (supports for shoeing 45i-13/50), fettering devices for particular purposes 30c-5; 56b-26; 66a-4/01)
- 45h-11 Special devices for animal husbandry, e.g. for dehorning, horn training, weaning or preventing mating, manure or urine pouches
- 45h-12/01 Muzzles
- 45h-12/50 Leads or collars, e.g. for dogs

**Aviculture; devices and methods for testing, cleaning, stamping, weighing or grading eggs**

## Aviculture in general

- 45h-13/01 Nests
- 45h-13/02 Nest-eggs
- 45h-13/03 Aviculture appliances, e.g. devices for determining whether a bird is about to lay
- 45h-13/10 Marking poultry, e.g. with foot rings
- 45h-13/20 Constraining birds, e.g. wing clamps
- 45h-13/50 Nest-boxes
- 45h-13/60 Artificial hens
- 45h-14/01 Devices for feeding poultry
- 45h-14/10 Devices for watering poultry
- 45h-14/20 Combined feeding and watering devices
- 45h-14/30 Devices for force-feeding poultry
- 45h-15/01 Incubators for poultry in general (heating cabinets 42i-12/01)
- 45h-15/02 Heating devices, also for artificial hens
- 45h-15/03 Controlling humidity in incubators (36d-1/14; 42i-19/01)
- 45h-15/04 Egg-turning appliances for incubators
- 45h-15/50 Electrically heated incubators
- 45h-16/01 Testing eggs by candling
- 45h-16/02 Grading eggs according to size
- 45h-16/03 Grading eggs according to weight
- 45h-16/04 Cleaning eggs
- 45h-16/05 Stamps for eggs, combined with grading devices etc. (egg stamps in general 15h-1/09)
- 45h-17/01 Chicken coops or houses
- 45h-17/02 Arrangements at perches, also protection against insects
- 45h-17/03 Devices for automatic opening and closing of the coop door (counting of poultry 42p-6, 42p-8)
- 45h-17/04 Devices for gathering and removing excrement
- 45h-17/07 Poultry cages (81c)
- 45h-17/08 Collapsible poultry cages
- 45h-17/09 Doors for cages
- 45h-17/12 Bird cages, aviaries and dovecotes
- 45h-17/13 Collapsible bird cages

**Breeding worms and insects, apiculture**

- 45h-18 Breeding worms and insects
- 45h-19/01 Honey extractors
- 45h-19/05 Devices for uncapping honeycombs
- 45h-19/10 Devices for extracting wax from honeycombs (23a-1)
- 45h-20/01 Beehives
- 45h-20/10 Construction or arrangement of frames for honeycombs
- 45h-20/20 Artificial honeycombs
- 45h-20/25 Details of beehives, e.g. ventilating devices, entrances to hives, guards, partitions, bee escapes
- 45h-20/30 Rearing-boxes; auxiliary cages
- 45h-20/35 Appliances for treating beehives or parts thereof
- 45h-21 Feeding or drinking appliances for bees
- 45h-22 Bee-smokers, bee-keepers' smoking pipes
- 45h-23 Appliances for providing, preventing, or catching swarms; drone-catching devices

**Pisciculture**

- 45h-24/01 Culture of fish, mussels, crayfish, lobsters, sponges, pearls, etc.
- 45h-24/02 Feeding devices for fish
- 45h-25 Devices for reconditioning of water in receptacles for live fish (85c)
- 45h-26 Aquaria, terraria

**Fishing with nets**

- 45h-27/01 Trawling nets
- 45h-27/10 Traps
- 45h-27/15 Fixed nets
- 45h-27/20 Landing-nets, landing spoons
- 45h-27/25 Illuminating devices for nets
- 45h-27/30 Catching fish by means of electricity
- 45h-27/40 Other methods or means, except angling, of catching fish, also devices for indicating shoals
- 45h-28/01 Devices for lateral spreading of trawling nets
- 45h-28/10 Devices for vertical spreading of trawling nets, floats
- 45h-28/20 Ground-line rollers, sinkers

**Fishing with projectiles**

- 45h-29/01 Harpoons
- 45h-29/02 Fish-spears

**Angling**

- 45h-30/01 Hooks in general
- 45h-30/02 Expanding fish-hook assemblies
- 45h-30/03 Hooks with special gripping arms
- 45h-30/10 Artificial baits of animal form with hooks, in general
- 45h-30/11 Artificial baits with jerking hooks
- 45h-30/12 Artificial baits flat bodies
- 45h-30/13 Artificial flies
- 45h-30/14 Artificial baits with mechanical drive
- 45h-30/20 Holders for bait
- 45h-31/01 Angling rods in general
- 45h-31/02 Connecting devices for parts of the rods
- 45h-31/03 Fishing-line guides on rods
- 45h-31/04 Devices for fixing reels on rods
- 45h-31/10 Reels in general
- 45h-31/11 Brake devices for reels
- 45h-31/12 Line guides on reels
- 45h-31/20 Reels for drying fish lines
- 45h-31/25 Lines, manufacture and treatment
- 45h-31/30 Devices for casting lines
- 45h-31/35 Devices for connecting hooks to lines
- 45h-31/40 Supports for rods
- 45h-31/45 Containers for rods
- 45h-31/50 Containers and holders for hooks
- 45h-31/55 Containers for baits
- 45h-31/60 Floats
- 45h-31/65 Sinkers
- 45h-31/70 Devices for signalling or hauling when biting
- 45h-31/75 Gaffs etc. for landing the catch
- 45h-31/80 Other tools and devices for angling

**45h (IPC: A01K) Animal husbandry; Care of birds, fishes, insects; Fishing****Animal husbandry in general, especially cattle-raising****45h-1/00 Housing animals; Equipment therefor** (ventilating buildings 36d; building construction, features of buildings 37f-2/01)

45h-1/02 . Pigsties; Dog-kennels; Rabbit-hutches or the like

45h-1/04 . Tethering-poles or the like

45h-1/06 . Devices for fastening animals, e.g. halters, toggles, neck-bars, chain fastenings

45h-1/08 . Arrangements for simultaneously releasing several animals

45h-1/10 . Feed racks

**45h-3/00 Pasturing equipment, e.g. tethering devices; Grids for preventing cattle from straying; Mechanical aspects of electrified wire fencing** (electric circuits for fences 21g-7/02)**45h-5/00 Feeding devices for stock or game** (for poultry 45h-39/00)

45h-5/02 . Automatic devices

**45h-7/00 Watering equipment for stock or game**

45h-7/02 . Automatic devices

**45h-9/00 Sucking apparatus for young stock****45h-11/00 Marking of animals** (of poultry 45h-35/00; lead-sealing pliers 87b-5)**45h-13/00 Devices for grooming or caring of animals, e.g. curry-combs** (scissors 69-5); **Fetlock rings** (bandages, poultices 30c-7/01); **Tail-holders; Devices for preventing crib-biting; Washing devices** (for medical purposes 30e-7/02); **Protection against weather conditions or insects****45h-15/00 Devices for taming animals, e.g. nose-rings, hobbles; Devices for overturning animals in general; Training equipment; Covering boxes** (devices for veterinary purposes 30c-5)**45h-17/00 Dehorers; Horn trainers****45h-19/00 Weaning apparatus****45h-21/00 Devices for assisting or preventing mating** (stands 45h-15/00)**45h-23/00 Manure or urine pouches****45h-25/00 Muzzles****45h-27/00 Leads or collars, e.g. for dogs****45h-29/00 Other apparatus for animal husbandry****Aviculture; Testing, cleaning, stamping, or grading eggs****45h-31/00 Housing birds**

45h-31/02 . Door appliances; Automatic door-openers (counters for specific applications 42p, 42m7)

45h-31/04 . Dropping-boards; Devices for removing excrement

45h-31/06 . Cages (transport containers in general 81c)

45h-31/08 . . Collapsible cages

45h-31/10 . Doors; Trap-doors

45h-31/12 . Perches

45h-31/14 . Nest-boxes

45h-31/16 . . Laying nests for poultry

45h-31/18 . Chicken coops or houses; Brooders

45h-31/20 . . Heating arrangements

45h-31/22 . Poultry runs

- 45h-33/00 Nest-eggs**
- 45h-35/00 Marking poultry or other birds**
- 45h-37/00 Constraining birds, e.g. wing clamps**
- 45h-39/00 Feeding appliances for poultry or other birds**  
 45h-39/02 . Drinking appliances (construction of valves 47g)  
 45h-39/04 . Combined feeding and drinking appliances  
 45h-39/06 . Cramming appliances
- 45h-41/00 Incubators for poultry**  
 45h-41/02 . Heating arrangements  
 45h-41/04 . Controlling humidity in incubators  
 45h-41/06 . Egg-turning appliances for incubators
- 45h-43/00 Testing, sorting, or cleaning eggs**  
 45h-43/02 . Testing by candling  
 45h-43/04 . Grading eggs  
 45h-43/06 . . according to size  
 45h-43/08 . . according to weight (sorting according to weight in general 42f)  
 45h-43/10 . . Grading and stamping (stamping in general 15h)
- 45h-45/00 Other aviculture appliances, e.g. devices for determining whether a bird is about to lay or for determining or influencing the sex**

**Apiculture**

- 45h-47/00 Beehives**  
 45h-47/02 . Construction or arrangement of frames for honeycombs  
 45h-47/04 . Artificial honeycombs  
 45h-47/06 . Other details of beehives, e.g. ventilating devices, entrances to hives, guards, partitions, bee escapes
- 45h-49/00 Rearing-boxes; Queen transporting or introducing cages**
- 45h-51/00 Appliances for treating beehives or parts thereof, e.g. for cleaning or disinfecting**
- 45h-53/00 Feeding or drinking appliances for bees**
- 45h-55/00 Bee-smokers; Bee-keepers' accessories, e.g. veils, smoking pipes**
- 45h-57/00 Appliances for providing, preventing, or catching swarms; Drone-catching devices**
- 45h-59/00 Honey collection**  
 45h-59/02 . Devices for uncapping honeycombs  
 45h-59/04 . Honey strainers  
 45h-59/06 . Devices for extracting wax (extraction of waxes by melting, in general 23a-1)

**Pisciculture**

- 45h-61/00 Culture of fish, mussels, crayfish, lobsters, sponges, pearls, etc.**  
 45h-61/02 . Feeding devices for fish
- 45h-63/00 Receptacles for live fish; Reconditioning of water in such receptacles**  
 (sewage purification in general 85c)  
 45h-63/02 . Devices for transporting live fish  
 45h-63/04 . Aquaria; Terraria
- 45h-64/00 Aquaria; Terraria**
- 45h-65/00 Fish stringers**
- 45h-67/00 Rearing living beings in general**  
 45h-67/02 . Methods for breeding vertebrates

45h-67/04 . Silkworms

## **Fishing**

### **45h-69/00 Stationary catching devices**

- 45h-69/02 . Fixed nets without traps
- 45h-69/04 . Fixed nets with traps
- 45h-69/06 . Traps
- 45h-69/08 . . Rigid traps, e.g. lobster pots
- 45h-69/10 . . Collapsible traps

### **45h-71/00 Floating nets**

#### **45h-73/00 Drawn nets**

- 45h-73/02 . Trawling nets
- 45h-73/04 . . Devices for spreading or lateral sheering of trawl boards
- 45h-73/06 . . Hauling devices for the headlines
- 45h-73/08 . . Ground-line rollers; Sinkers (for angling 45h-95/00)
- 45h-73/10 . . Determining the quantity of the catch, e.g. by the pull or drag on the lines
- 45h-73/12 . Nets held vertically in the water, e.g. seines

#### **45h-75/00 Other catching nets or like; Accessories**

- 45h-75/02 . Illuminating devices for nets

#### **45h-77/00 Landing-nets; Landing-spoons**

#### **45h-79/00 Other methods or means of catching fish in bulk**

- 45h-79/02 . by electrocution (electric circuits therefor 21g-7/03)

#### **45h-81/00 Fishing with projectiles**

- 45h-81/02 . Harpoons (electric circuits therefor 21g-7/04)
- 45h-81/04 . Fish-spears
- 45h-81/06 . Equipment for hunting fish under water (swimming equipment 77a-31/00 – 77a-35/00)

## **Angling**

#### **45h-83/00 Fish-hooks**

- 45h-83/02 . Expanding fish-hook assembly
- 45h-83/04 . with special gripping arms
- 45h-83/06 . Devices for holding bait on hooks

#### **45h-85/00 Artificial baits**

- 45h-85/02 . with jerking hooks
- 45h-85/04 . with flat bodies
- 45h-85/06 . with mechanical drive
- 45h-85/08 . Artificial flies

#### **45h-87/00 Rods**

- 45h-87/02 . Connecting devices for parts of the rods
- 45h-87/04 . Fishing-line guides on rods
- 45h-87/06 . Devices for fixing reels on rods

#### **45h-89/00 Reels**

- 45h-89/02 . Brake devices for reels
- 45h-89/04 . Guides on reels

#### **45h-91/00 Lines**

- 45h-91/02 . Devices for casting lines
- 45h-91/04 . Devices for connecting hooks to lines

#### **45h-93/00 Floats, with or without signalling devices**

#### **45h-95/00 Sinkers (for trawling 45h-73/08)**

#### **45h-97/00 Accessories for angling**

- 45h-97/02 . Devices for laying ground-bait



45h-97/04	. Containers for baits
45h-97/06	. Containers and holders for hooks
45h-97/08	. Containers for rods
45h-97/10	. Supports for rods
45h-97/12	. Signalling devices, e.g. tip-up devices
45h-97/14	. Gaffs
45h-97/16	. Devices for drying fishing lines

## 45i Shoeing of animals

### Shoes for horses or other solipeds fastened with nails (49i-1)

45i-1/01	Horseshoes consisting of one part
45i-1/02	Welded calks and studs (49i-1)
45i-1/03	Screwed calks and studs (49i-1)
45i-1/04	Insertable calks and studs (49i-1)
45i-1/05	Insertable calks and studs with securing means
45i-1/06	Other removable calks and studs, ice studs (71b-13)
45i-1/07	Removable calk and stud plates
45i-1/08	Elastic calks and studs

### Horseshoes consisting of multiple parts, fastened with nails

45i-2/01	with superimposed parts of iron
45i-2/02	with superimposed parts of iron and elastic material
45i-2/03	Horseshoes with hinges

### Horseshoes fastened by means other than nails

45i-3/01	one-part, with special fastening means encircling the hoof
45i-3/02	one-part, with fastening means penetrating the hoof
45i-3/03	one-part, with clamps
45i-3/04	with hinges and fastening boots
45i-3/05	Bog shoes

### Horseshoes made of elastic materials

45i-4/01	of plate-like or horseshoe form, with metal reinforcement
45i-4/02	of plate-like or horseshoe form, without metal reinforcement
45i-4/03	Hoof boots

### Elastic inserts or soles for horseshoes fastened with nails

45i-5/01	covering the hoof
45i-5/02	of horseshoe form
45i-5/03	for the heels
45i-5/04	in grooved horseshoes
45i-5/05	in special recesses

45i-13/01	Farriers' tools and appliances in general
45i-13/02	Devices for spreading and removing horseshoes
45i-13/03	Devices for measuring horseshoes
45i-13/04	Hammers for horseshoe nails and devices for clinching the nail
45i-13/05	Devices for working on the hoof
45i-13/50	Supports for shoeing
45i-14	Horseshoe nails
45i-15	Shoes for artiodactyls, e.g. oxen
45i-16	Substances and apparatus or for the care of hoofs

<b>45i</b>	<b>(IPC: A01L) Shoeing of animals</b>
<b>45i-1/00</b>	<b>Shoes for horses or other solipeds fastened with nails</b> (manufacturing horse shoes by forging 49i-1, 7h-15/02)
45i-1/02	. Solid horseshoes consisting of one part
45i-1/04	. Solid horseshoes consisting of multiple parts
<b>45i-3/00</b>	<b>Horseshoes fastened by means other than nails, with or without additional fastening by nailing</b>
45i-3/02	. Horseshoes consisting of one part
45i-3/04	. Horseshoes consisting of two or more parts connected by hinged joints
45i-3/06	. Shoe-like appliances enabling draught animals to walk on bogs or the like
<b>45i-5/00</b>	<b>Horseshoes made of elastic materials</b>
<b>45i-7/00</b>	<b>Accessories for shoeing animals</b>
45i-7/02	. Elastic inserts or soles for horseshoes
45i-7/04	. Solid calks or studs (making shoe calks by forging 49i-2)
45i-7/06	. Elastic calks or studs
45i-7/08	. Ice-spurs for horseshoes (for normal shoes 71b-5/06)
45i-7/10	. Horseshoe nails
<b>45i-9/00</b>	<b>Shoes for other animals, e.g. oxen</b>
<b>45i-11/00</b>	<b>Farriers' tools and appliances</b>
<b>45i-13/00</b>	<b>Pens for animals while being shod</b>
<b>45i-15/00</b>	<b>Apparatus or use of substances for the care of hoofs</b>
<b>45k</b>	<b>Combating noxious animals or weeds</b> (chemical part 45l; exterminating weeds by soil working 45a-2, 45a-19, 45a-50), <b>trapping of animals</b> (fishing 45h), <b>hunting appliances</b>
	Methods and devices for catching and killing insects
45k-1/01	for flying insects, e.g. fly glasses
45k-1/02	for creeping insects
45k-1/03	using attracting illumination except 45k-1/04, 45k-1/06
45k-1/04	using blowers (catching insects on the animal body 45h-9)
45k-1/05	Manual implements, e.g. fly-swatters, pistols (45k-3/02)
45k-1/06	by electric means (45k-9/02)
45k-1/07	Insect traps, automatic catching implements
45k-1/10	by poisoning, narcotising or burning
45k-1/20	Arrangements connected with buildings, doors, windows, etc.
	Catching insects by adhesive surfaces
45k-2/01	Fly papers or ribbons (adhesive application 54d-6; machines for manufacturing flycatchers 54f-3/05)
45k-2/02	Suspending and supporting devices, stands (tacks 70e-7/01)
45k-2/05	Adhesive bands for trees
45k-2/10	Adhesive bodies, e.g. fly cones
45k-2/11	Adhesive bodies with attracting lights
45k-2/12	Miscellaneous insect catchers with adhesive surfaces
	Devices for collecting insects (collections for educational or display purposes 42n-10/02)
45k-3/01	in fields and gardens
45k-3/02	transportable, with means for stripping-off or brushing-off insects, with adhesive surfaces, for fields and gardens (hand implements 45k-1/05)
45k-3/05	with fans, for fields and gardens (45k-1/04; cotton harvesting 45c-27/71)

- Sprayers for liquids and powders, smoke generators (garden sprayers 45f-26; 30i-2; 30k-9; 61a-12; 75c)
- 45k-4/01 Hand-held liquid sprayers (30k-9)
- 45k-4/02 Injector sprayers for liquids (30k-9; nozzles in general 85g-3)
- 45k-4/05 Liquid sprayers without pumps, with pressurised gas containers, e.g. air bottles, with gas-generating apparatus
- 45k-4/10 Liquid sprayers without pumps, portable or transportable
- 45k-4/20 Motor-driven liquid sprayers
- 45k-4/25 Details, e.g. nozzles, manifolds, filling devices
- 45k-4/26 Liquid sprayers for connection to water mains, poison cartridges
- 45k-4/30 Hand-held powder sprayers (30k-11)
- 45k-4/32 Portable powder sprayers, e.g. as back-packs
- 45k-4/33 Transportable powder sprayers
- 45k-4/35 Motor-driven powder sprayers, also for aircraft (62c-20/02)
- 45k-4/40 Combined powder and liquid sprayers
- 45k-4/50 Smoke generators, devices for vaporising and fog generation (12g-3; 30i-2; 45f-10; 62c-20/02; 65a2-73; 72g-7/04; 78d-1/02)
- 45k-4/51 Fire-throwers (72g-6)
- 45k-4/52 Apparatus for the destruction of noxious animals by hot water or steam
- 45k-4/53 Apparatus for the destruction of weeds by steam, chemicals or burning (hand tools for extraction of weeds 45a-2)
- 45k-4/54 Devices for the extermination of noxious animals in the ground or in materials etc. (30i-2)
- 45k-5/01 Scaring devices, e.g. scare-crows
- 45k-5/02 Automatic guns
- 45k-5/03 Devices for preventing access of insects or other animals, e.g. tree rings (adhesive rings 45k-2/05; protecting trees etc. from animal bites 45f-11/04), insect nets (for furniture 34g-20; for travelling 33d-9/06)
- 45k-5/04 Extermination of moths (substances therefor 45l)
- Collecting traps**
- 45k-6/01 with tipping platforms, with locking mechanism
- 45k-6/02 with tipping platforms, without locking mechanism
- 45k-6/03 with tipping platforms, with openings for entry
- 45k-6/04 with rotating cylinders or turnstiles
- 45k-6/05 with devices for throwing the animal to a collecting chamber
- 45k-6/10 Special bottle-formed traps etc. for birds or water animals
- 45k-6/20 Traps which are automatically reset by the caught animal
- Box traps**
- 45k-7/01 with pivoted closure flaps
- 45k-7/02 with dropping doors or slides
- 45k-7/03 with holed covers (traps with beaters 45k-8/11)
- 45k-8/01 Foothold traps
- 45k-8/02 Devices for setting traps
- 45k-8/10 Break-back traps
- 45k-8/11 Traps with beaters
- 45k-8/12 Racket net traps
- 45k-8/13 Traps with snares
- 45k-8/14 Squeezing traps
- 45k-8/15 Tong-like traps
- 45k-8/16 Piercing traps

- 45k-9/01 Miscellaneous devices for catching animals (45h-13; slaughtering traps 66a-4/05; caltrops 72g-8)
- 45k-9/02 Electric traps (for insects 45k-1/06)
- 45k-9/03 Poisoning devices (45b-3)
- 45k-10 Guns operated by the victim (68a-36; 74a-29)

### Hunting appliances

- 45k-11/01 Shooting stands (37e; 45f-16; 72f-15; hunting chairs or stools 34g-6/03; hunting screens 33a-10), beater rattles etc.
- 45k-11/02 Decoys etc.

## 45k (IPC: A01M) Catching and trapping of animals; Apparatus for the destruction of noxious animals or noxious plants

### 45k-1/00 Stationary means for catching and/or killing insects

- 45k-1/02 . with devices attracting the insects
- 45k-1/04 . . using illumination
- 45k-1/06 . using a suction effect
- 45k-1/08 . using combined illumination and suction effects
- 45k-1/10 . Traps
- 45k-1/12 . . automatically reset
- 45k-1/14 . Catching by adhesive surfaces
- 45k-1/16 . . Fly papers or ribbons (adhesive application 54d-6; machines for manufacturing flycatchers 54f-3/05)
- 45k-1/18 . . Adhesive bands or coatings for trees
- 45k-1/20 . Poisoning, narcotising, or burning insects
- 45k-1/22 . by electric means
- 45k-1/24 . Arrangements connected with buildings, doors, windows, etc.

### 45k-3/00 Manual implements, other than sprayers or powder distributors, for catching or killing insects, e.g. butterfly nets (nets for protection against insects in connection with furniture 34g-20)

- 45k-3/02 . Fly-swatters
- 45k-3/04 . with adhesive surfaces

### 45k-5/00 Catching insects in fields, gardens, or forests by movable appliances

- 45k-5/02 . Portable appliances
- 45k-5/04 . Wheeled machines, with means for stripping-off or brushing-off insects
- 45k-5/06 . . with adhesive surfaces
- 45k-5/08 . . with fans

### 45k-7/00 Special adaptations or arrangements of liquid-spraying apparatus for purposes covered by this sub-class (spraying of liquid fertilisers 45b-23/00; for disinfectants 30i; for therapeutic or cosmetic purposes 30k; for fire-fighting 61a; spray guns 75c)

- 45k-7/02 . Injector sprayers
- 45k-7/04 . for connection to water supply systems
- 45k-7/06 . Sprayers without pumps; Sprayers with compressible bulbs; Sprayers with gas-generating apparatus
- 45k-7/08 . Sprayers with pumps
- 45k-7/10 . . manually operated pumps; pumps driven by vehicle wheels
- 45k-7/12 . . . Portable sprayers
- 45k-7/14 . . . Sprayers mounted on wheels
- 45k-7/16 . . motor-operated pumps
- 45k-7/18 . . . Sprayer mounted on wheels, carriages or airplanes
- 45k-7/20 . Details, e.g. manifolds, filling devices
- 45k-7/22 . . Nozzles, valves, filters etc. (nozzles in general 85g-3; watering by means of spray nozzles, sprinkler nozzles, fine sprinklers or rotating sprinklers 45f-25/04)

<b>45k-9/00</b>	<b>Special adaptations or arrangements of powder-spraying apparatus for purposes covered by this subclass</b> (for therapeutic or cosmetic purposes 30k-11)
45k-9/02	. hand-operated
45k-9/04	. . Portable sprayers
45k-9/06	. . mounted on wheels
45k-9/08	. motor-operated
45k-9/10	. . mounted on wheels, carriages or airplanes
<b>45k-11/00</b>	<b>Combined liquid- and powder-spraying apparatus</b>
<b>45k-13/00</b>	<b>Fumigators, mechanical part</b> (chemical part 78d-1/02); <b>Apparatus for distributing gases</b> (smoke generators in general 78d-1/02)
<b>45k-15/00</b>	<b>Flame-throwers</b> (as weapons 72g-6)
<b>45k-17/00</b>	<b>Apparatus for the destruction of vermin in soil or in foodstuffs</b> (apparatus for disinfection and sterilisation in general 30i-2)
<b>45k-19/00</b>	<b>Apparatus for the destruction of noxious animals, other than insects, by hot water, steam, hot air, or electricity</b>
<b>45k-21/00</b>	<b>Destruction of unwanted vegetation, e.g. weeds</b> (chemical aspects 45i-5/00; weed control on permanent ways 19b-11/00)
45k-21/02	. Apparatus for mechanical destruction
45k-21/04	. Apparatus for destruction by steam, chemicals, burning, or electricity
<b>45k-23/00</b>	<b>Traps for animals</b>
45k-23/02	. Collecting-traps
45k-23/04	. . with tipping platforms
45k-23/06	. . . with locking mechanism for the tipping platform
45k-23/08	. . with approaches permitting entry only
45k-23/10	. . with rotating cylinders or turnstiles
45k-23/12	. . with devices for throwing the animal to a collecting chamber
45k-23/14	. . Other traps automatically reset
45k-23/16	. Box traps
45k-23/18	. . with pivoted closure flaps
45k-23/20	. . with dropping doors or slides
45k-23/22	. . with dropping covers
45k-23/24	. Jaw or like spring traps
45k-23/26	. . of the double-jaw or pincer type
45k-23/28	. . . Jaw trap setting-devices
45k-23/30	. . Break-back traps
45k-23/32	. . Racket net traps
45k-23/34	. . with snares
45k-23/36	. . with arrangements for piercing the victim
45k-23/38	. Electric traps
<b>45k-25/00</b>	<b>Devices for dispensing poison for animals</b> (for insects 45k-1/20)
<b>45k-27/00</b>	<b>Guns operated by the victim</b>
<b>45k-29/00</b>	<b>Scaring devices, e.g. bird-scaring apparatus</b>
45k-29/02	. with automatic guns (locks with detonating alarm 68a-36; detonating alarms for theft prevention 74a-29)
<b>45k-31/00</b>	<b>Hunting appliances</b>
45k-31/02	. Shooting stands (folding seats 34g-6)
45k-31/04	. Beater rattles
45k-31/06	. Decoys
<b>45l</b>	<b>Preservation of animals and plants, pesticides and herbicides</b>
45l-1/01	Preservation of corpses of animals, or parts of animals and humans (30i-3; 30i-9)

45I-1/02	Preservation of plants (45e-21)
45I-1/03	Chemical substances for keeping cut flowers fresh (devices 45f-6/05)
45I-1/04	Chemical substances for influencing the growth of trees and other plants, e.g. grafting wax, injections (fertilisers 16)
45I-2	Mushroom cultures, composition of agricultural soil (devices 45f-1; compost for culture of mushrooms 16)
45I-3/01	Chemical substances and methods for the destruction of noxious animals or noxious plants (devices 45k)
45I-3/02	Smoke-generating substances
45I-3/03	Vaporisable substances
45I-3/04	Substances of plant origin (alkaloids)
45I-3/05	Substances for exterminating animals that damage textiles (devices 34I-30/05)
45I-3/06	Substances for exterminating rodents
45I-3/07	Insect adhesives (devices, e.g. adhesive rings 45k-2/05)
45I-3/08	Deterrents
45I-4	Seed dressing agents in general, except 45I-4/01 – 45I-4/03 (devices for dressing seed 45b-1/50; coating of seed 45b-1/01)
45I-4/01	Dry seed dressing agents
45I-4/02	Wet seed dressing agents
45I-4/03	Humid seed dressing agents
45I-4/04	Substances for stimulating germination (substances for stimulating growth of plants 16)
45I-5	Substances for exterminating weeds and plants (devices 45k)

## **45I (IPC: A01N) Preserved animals or plants or parts thereof; Chemical treatment e.g. disinfection, of soil or living plant material; Pesticides or herbicides**

### **Preservation of animals or plants**

<b>45I-1/00</b>	<b>Preserved corpses of human or other animals, or parts thereof</b> (embalming corpses or parts thereof 30i-9; preservation of foodstuffs 53c)
45I-1/02	. Preserved living parts
<b>45I-3/00</b>	<b>Preserved plants or parts thereof</b> (preservation of foodstuffs 53c)
45I-3/02	. Keeping cut flowers fresh chemically (apparatus 45f-5/06)
45I-3/04	. Grafting-wax

### **Chemical treatment of plants**

<b>45I-5/00</b>	<b>Chemical treatment of plants or parts thereof to influence or inhibit growth</b> (treatment of seeds, roots, or the like 45I-21/00; treatment of plants with carbonic acid 45f-7/02; fertilisers 16)
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### **Treatment of soil**

<b>45I-7/00</b>	<b>Chemical treatment of soil</b> (methods of fertilising 45b-21/00)
45I-7/02	. Adding substances to improve the physical structure of agricultural soil
45I-7/04	. Disinfection; Sterilisation (steam sterilisation 45f-11/00)

### **Pesticides; Herbicides**

<b>45I-9/00</b>	<b>Use of organic substances as pesticides or herbicides or as the active ingredient of pesticidal compositions; Pesticidal or herbicidal compositions containing organic pesticides</b> (preparation of the active substances 12k – 12q)
45I-9/02	. containing different active constituents in admixture
45I-9/04	. Mineral oils; Tar oils; Tar; Distillates, extracts, or conversion products thereof, other than simple chemical substances isolated from these materials
45I-9/06	. Hydrocyanic acid

45I-9/08	. Pulverised plants or plant material; Extracts thereof, e.g. pyrethrum or derris preparations
45I-9/10	. . Tobacco; Nicotine; Nicotine compounds
45I-9/12	. Organic sulphur compounds (45I-9/36, 45I-9/38 take precedence)
45I-9/14	. . with the sulphur attached to oxygen, e.g. sulphoxides, sulphones, sulphonic or sulphonic acids
45I-9/16	. . . Sulphonamides
45I-9/18	. . Organic thiocyanates or isothiocyanates
45I-9/20	. Organic nitrogen compounds (45I-9/02, 45I-9/06 – 45I-9/18, 45I-9/36, 45I-9/38 take precedence)
45I-9/22	. . with nitrogen as the hetero element in a ring
45I-9/24	. Organic oxygen compounds (45I-9/02, 45I-9/08 – 45I-9/22, 45I-9/36, 45I-9/38 take precedence)
45I-9/26	. . Phenols; Salts thereof
45I-9/28	. . with oxygen as the hetero element in a ring
45I-9/30	. Halohydrocarbons
45I-9/32	. . Hexachlorocyclohexane
45I-9/34	. . 2-Aryl-di- or tri-halogen-1.1.(1) ethane or ethene or derivatives thereof, e.g. D.D.T.
45I-9/36	. Organic phosphorus compounds
45I-9/38	. Organic mercury compounds (for disinfecting seeds 45I-21/04)
<b>45I-11/00</b>	<b>Use of inorganic substances as pesticides or herbicides or as the active ingredient of pesticidal or herbicidal compositions; Pesticidal or herbicidal compositions containing inorganic, including oxides of carbon, pesticides or herbicides</b> (preparation of the active substances 12i – 12n)
45I-11/02	. containing different active constituents in admixture
45I-11/04	. Copper; Copper compounds
45I-11/06	. Sulphur; Sulphur compounds
45I-11/08	. Arsenic compounds
<b>45I-13/00</b>	<b>Pesticidal or herbicidal compositions containing both organic and inorganic pesticides or herbicides</b>
<b>45I-15/00</b>	<b>Pesticides or herbicides with micro-organisms for the control of harmful organisms</b>
<b>45I-17/00</b>	<b>Physical form and method of application of pesticides or herbicides</b>
45I-17/02	. Dispersing the active substance in air (disinfecting air 30i-5/01)
45I-17/04	. . by heating, e.g. burning combustible mixtures (smoke-generating substances 78d)
45I-17/06	. with the active substance in the form of foam
45I-17/08	. with the active material incorporated in or on carriers, diluents, or solvents
45I-17/10	. . with the active material emulsified or dispersed in liquid
45I-17/12	. . carriers in sheet form
45I-17/14	. . Combinations of the active substance with substances to attract the pest
<b>45I-19/00</b>	<b>Destruction of weeds</b>
45I-19/02	. with organic substances
<b>45I-21/00</b>	<b>Treatment, e.g. disinfection, of seeds, roots, or the like for growing</b> (disinfection in general 30i)
45I-21/02	. Treatment of seed to influence germination or growth
45I-21/04	. Treatment with organic mercury compounds
<b>45I-23/00</b>	<b>Other chemical features of the destruction of noxious animals or noxious plants</b>

**45m (IPC: A23N) Machines or apparatus for treating harvested fruit, vegetables in bulk, not provided for elsewhere; Apparatus for preparing animal feeding-stuffs** (machines for cutting-up straw or fodder 45e-29/00, 45e-31/00)

**Treating harvested fruit or vegetables**

**45m-1/00 Machines or apparatus for extracting juice** (cooking vessels for extracting juice 34b-27/04)

45m-1/02 . combined with disintegrating or cutting

**45m-3/00 Machines for stoning fruit in bulk**

45m-3/02 . with feeder-drums

45m-3/04 . with endless feeder-belts

45m-3/06 . with feeder-tables

45m-3/08 . for both splitting and stoning

45m-3/10 . for stoning fruit with small pips, e.g. raisins

45m-3/12 . for coring fruit

45m-3/14 . for removing seed-containing sections from cut fruit

**45m-5/00 Machines for hulling, husking, or cracking nuts**

45m-5/02 . with reciprocating tools

45m-5/04 . with rotary tools

45m-5/06 . . with rotary tools acting by centrifugal effect

45m-5/08 . for removing fleshy or fibrous hulls of nuts

45m-5/10 . for skinning nut kernels

**45m-7/00 Machines for peeling vegetables or fruit in bulk** (peeling machines of the household type 34b-17/00)

45m-7/02 . for peeling potatoes or apples

45m-7/04 . for peeling asparagus

45m-7/06 . for stringing or cutting beans

45m-7/08 . for peeling fruit and removing seed-containing sections

45m-7/10 . Driving mechanisms

**45m-11/00 Removing pith from stems**

**45m-13/00 Machines for washing potatoes, mangolds, apples, or like fruit** (washing or drying grain 50a; drying arrangements 82a)

**45m-15/00 Machines for other treatment of fruits or vegetables in bulk for human purposes** (treatment of coffee 53d; treatment of cocoa 53f)

45m-15/02 . for stemming, piercing or stripping fruit; Removing sprouts of potatoes

45m-15/04 . for drying, roasting, or blanching fruits, e.g. nuts (drying machines in general 82a; devices for toasting coffee etc. 82a-30/50 – 82a-30/52)

45m-15/06 . Devices for topping fruit or vegetables

45m-15/08 . Devices for other treatment of fruit, e.g. marking, maturing, polishing

**45m-17/00 Apparatus specially adapted for preparing animal feeding-stuffs**

45m-17/02 . Fodder mashers (household implements for mashing potatoes or other foodstuffs 34b-37/00)