## CPC - COOPERATIVE PATENT CLASSIFICATION

### A HUMAN NECESSITIES

#### AGRICULTURE

**A01**

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

**A01C**

**PLANTING; SOWING; FERTILISING** (combined with general working of soil

A01B 49/04: parts, details or accessories of agricultural machines or implements, in general

A01B 51/00 - A01B 75/00: {apparatus for spreading sand or salt E01C; sowing and fertilising with aircraft B64D 1/16 - B64D 1/20)

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<table>
<thead>
<tr>
<th>1/00</th>
<th>Apparatus, or methods of use thereof, for testing or treating seed, roots, or the like, prior to sowing or planting (chemicals therefor A01N 25/00 - A01N 65/00; irradiation in general B01J 19/08)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/005</td>
<td>. {Potato seed cutters}</td>
</tr>
<tr>
<td>1/02</td>
<td>. Germinating apparatus: Determining germination capacity of seeds or the like (germinating in preparation of malt C12C 1/027)</td>
</tr>
<tr>
<td>1/025</td>
<td>. {Testing seeds for determining their viability or germination capacity}</td>
</tr>
<tr>
<td>1/04</td>
<td>. Arranging seeds on carriers, e.g. on tapes, on cords (Carrier compositions)</td>
</tr>
<tr>
<td>1/042</td>
<td>. {Tapes, bands or cords}</td>
</tr>
<tr>
<td>1/044</td>
<td>. {Sheets, multiple sheets or mats}</td>
</tr>
<tr>
<td>1/046</td>
<td>. {Carrier compositions}</td>
</tr>
<tr>
<td>2001/048</td>
<td>. {Machines}</td>
</tr>
<tr>
<td>1/06</td>
<td>. Coating or dressing seed (encapsulated embryos or artificial seeds A01H 4/006; seed coating compositions C09D)</td>
</tr>
<tr>
<td>1/08</td>
<td>. Immunising seed</td>
</tr>
<tr>
<td>3/00</td>
<td><strong>Treating manure; Manuring</strong> ([ploughs with additional arrangements for putting manure under the soil A01B 17/002]; dung forks A01D 9/00; treating of waste water, sewage or sludge C02F; organic fertilisers from waste or refuse C05F)</td>
</tr>
<tr>
<td>3/02</td>
<td>. Storage places for manure, e.g. cisterns for liquid manure; Installations for fermenting manure (sewageage structures E03F 5/00; silos, bunkers E04H 7/22)</td>
</tr>
<tr>
<td>3/021</td>
<td>. {for composted manure}</td>
</tr>
<tr>
<td>3/023</td>
<td>. {Digesters}</td>
</tr>
<tr>
<td>3/025</td>
<td>. {with heat recuperation means}</td>
</tr>
<tr>
<td>3/026</td>
<td>. {with mixing or agitating devices}</td>
</tr>
<tr>
<td>3/028</td>
<td>. {Covers, roofs or other structures for covering manure storage places (production of methane or biogas C02F 11/04; coverings for swimming or splash baths or pools E04H 4/10)}</td>
</tr>
<tr>
<td>3/04</td>
<td>. Manure loaders (loaders in general B65G)</td>
</tr>
<tr>
<td>3/06</td>
<td>. Manure distributors, e.g. dung distributors</td>
</tr>
<tr>
<td>3/063</td>
<td>. {Side-spreaders}</td>
</tr>
<tr>
<td>3/066</td>
<td>. . (Spreading by using worm or screw conveyors)</td>
</tr>
<tr>
<td>3/08</td>
<td>. . for manure already laying on the soil</td>
</tr>
<tr>
<td>5/00</td>
<td><strong>Making or covering furrows or holes for sowing, planting or manuring</strong></td>
</tr>
<tr>
<td>5/02</td>
<td>. Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees A01G 23/02)</td>
</tr>
<tr>
<td>5/04</td>
<td>. Machines for making or covering holes for sowing or planting</td>
</tr>
<tr>
<td>5/045</td>
<td>. . (with piercing buckets (devices for laying-out or removing protective coverings for plants A01G 13/02))</td>
</tr>
<tr>
<td>5/06</td>
<td>. Machines for making or covering drills or furrows for sowing or planting (seeding devices A01B 13/02; lifting devices for agricultural machines A01B 63/08)</td>
</tr>
<tr>
<td>5/062</td>
<td>. . {Devices for making drills or furrows}</td>
</tr>
<tr>
<td>5/064</td>
<td>. . . (with rotating tools)</td>
</tr>
<tr>
<td>5/066</td>
<td>. . . {Devices for covering drills or furrows}</td>
</tr>
<tr>
<td>5/068</td>
<td>. . . {Furrow packing devices, e.g. press wheels}</td>
</tr>
<tr>
<td>5/08</td>
<td>. Machines for both manuring and sowing or both manuring and planting</td>
</tr>
<tr>
<td>7/00</td>
<td><strong>Sowing</strong> ([with centrifugal wheels A01C 17/00) arrangements for driving working parts A01C 19/00)</td>
</tr>
<tr>
<td>7/002</td>
<td>. {Dibble seeders}</td>
</tr>
<tr>
<td>7/004</td>
<td>. {using liquid seeding techniques}</td>
</tr>
<tr>
<td>7/006</td>
<td>. {Minimum till seeding}</td>
</tr>
<tr>
<td>7/008</td>
<td>. {Sod or grassland seeding (A01C 7/08 takes precedence)}</td>
</tr>
<tr>
<td>7/02</td>
<td>. Hand sowing implements ([fertiliser distributors for hand use A01C 15/02; tools for cultivation A01G 20/30, A01G 20/40])</td>
</tr>
<tr>
<td>7/04</td>
<td>. Single-grain seeders with or without suction devices ([regulation A01C 7/10; for quantities of seed A01C 7/18])</td>
</tr>
<tr>
<td>7/042</td>
<td>. . (using pneumatic means)</td>
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<tr>
<td>7/044</td>
<td>. . . {Pneumatic seed wheels}</td>
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<tr>
<td>7/046</td>
<td>. . . . (with perforated seeding discs)</td>
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<tr>
<td>7/048</td>
<td>. . . . {Seed tape planters}</td>
</tr>
</tbody>
</table>
A01C

7/06 . Seeders combined with fertilising apparatus ((conducting and depositing seed A01C 7/20; apparatus for two kinds of fertiliser A01C 15/00); combinations with soil working tools A01B 49/04)

7/08 . Broadcast seeders; Seeders depositing seeds in rows (machines for making furrows A01C 5/06; combination of seed machines with other soil-working tools A01B 49/06; foldable apparatus A01B 73/00)

7/081 . . . (Seeders depositing seeds in rows using pneumatic means)

7/082 . . . (Ducts, distribution pipes or details thereof for pneumatic seeders (non-pneumatic seed pipes A01C 7/206))

7/084 . . . (Pneumatic distribution heads for seeders)

7/085 . . . (Broadcast seeders)

7/087 . . . (Tramlining)

7/088 . . . (Sectional seeding)

7/10 . . . (Devices for adjusting the seed-box (Regulation of machines for depositing quantities at intervals)

7/102 . . . (Regulating or controlling the seed rate)

7/105 . . . (Seed sensors)

7/107 . . . (Calibration of the seed rate)

7/12 . . . (Seeders with feeding wheels)

7/121 . . . (for sowing seeds of different sizes)

7/122 . . . (using more than one feeding wheel; using double-run feeding wheels)

7/123 . . . (Housings for feed rollers or wheels)

7/124 . . . (with top delivery of the seeds)

7/125 . . . (with bottom delivery of the seeds)

7/126 . . . (Stubbed rollers or wheels)

7/127 . . . (Cell rollers, wheels, discs or belts)

7/128 . . . (Cell discs)

7/14 . . . (Seeders with spoon or bucket wheels)

7/16 . . . (Seeders with other distributing devices, e.g. brushes, discs, screws, slides (with distributing slots A01C 15/06; with slides A01C 15/124; with chains A01C 15/18))

7/163 . . . (Gravity distributors)

7/166 . . . (Centrifugal distributors (pneumatic distributors A01C 15/04))

7/18 . (Machines for depositing quantities of seed at intervals (dibble seeders A01C 7/002; single-grain seeders A01C 7/04; regulation A01C 7/102; ridge marking A01B 69/02))

7/185 . . . (Foot valves)

7/20 . (Parts of seeders for conducting and depositing seed (combined with fertilising apparatus A01C 7/06))

7/201 . . . (Mounting of the seeding tools)

7/203 . . . (comprising depth regulation means)

7/205 . . . (comprising pressure regulation means)

7/206 . . . (Seed pipes)

7/208 . . . (Chassis; Coupling means to a tractor or the like; Lifting means; Side markers (hoppers for seeders or spreaders A01C 15/006))

9/00 Potato planters (planting by hand A01C 7/02); combinations with soil working tools A01B 49/04)

9/02 . with conveyor belts

9/04 . with bucket wheels ((with other distributing devices A01C 9/08))

9/06 . with piercing or grasping devices

9/08 . with other distributing devices, e.g. flaps, screws, horizontal turning plates ((with bucket wheels A01C 9/04))

11/00 Transplanting machines (hand sowing A01C 7/02); carriers for supporting persons A01B 75/00; transplanting devices for trees A01G 23/02)

11/003 . (for aquatic plants; for planting underwater, e.g. rice)

11/006 . (Other parts or details of planting machines)

11/02 . for seedlings

11/025 . . . (Transplanting machines using seedling trays; Devices for removing the seedlings from the trays)

11/04 . for deeper setting or shifting of plants

13/00 Machines or apparatus for consolidating soil around plants

14/00 Methods or apparatus for planting not provided for in other groups of this subclass

15/00 Fertiliser distributors (A01C 7/06 takes precedence; (combined with seeders A01C 7/06); arrangements for driving working parts A01C 19/00; harrows with special additional arrangements A01B 19/00); sand, gravel or salt spreaders for roads A01C 19/20)

15/001 . (with slowly turning wheels)

15/002 . (with oscillating distributing spouts)

15/003 . (Bulk fertiliser or grain handling in the field or on the farm)

15/005 . . . (Undercarriages, tanks, hoppers, stirrers specially adapted for seeders or fertiliser distributors)

15/006 . . . (Hoppers)

15/007 . . . (with agitators in the hopper)

15/008 . . . . (Aprons; Deflecting plates; Band-spreading attachments)

15/02 . . . (hand use (hand sowing A01C 7/02))

15/04 . . . using blowers

15/06 . . . (with distributing slots, i.e. for dosing, e.g. adjustable openings)

15/08 . . . with pushers or stirrers in the slots

15/10 . . . with reciprocating pushers (or stirrers in front of the slots (with endless chains A01C 15/18))

15/12 . . . with movable parts of the receptacle

15/122 . . . (with moving floor parts (with endless chains A01C 15/18))

15/124 . . . (with adjustable shutters or slits)

15/126 . . . . (with pushers or stirrers in the slits)

15/128 . . . (with pushers or stirrers in front of the slits (with endless chains A01C 15/18))

15/14 . (with means for lifting out the fertiliser (feeding wheels, cell wheels, discs A01C 7/12; bucket wheels A01C 7/14))

15/16 . with means for pushing out the fertiliser, e.g. by a roller

15/18 . with endless chains, i.e. side transporting elements, e.g. auger or screw conveyors, swash plates)
A01C

17/00 Fertilisers or seeders with centrifugal wheels
((hand-used implements A01C 7/02, A01C 15/02; fertiliser distributors A01C 15/00; mechanical
throwing machines for articles or solid bulk materials, in general B65G 31/00; sand, gravel or salt spreaders
E01C 19/20)

17/001 . [Centrifugal throwing devices with a vertical axis]
17/003 . [Centrifugal throwing devices with a horizontal
axis]
17/005 . [Driving mechanisms for the throwing devices]
17/006 . [Regulating or dosing devices]
17/008 . . [Devices controlling the quantity or the
distribution pattern]

19/00 Arrangements for driving working parts
of fertilisers or seeders
((A01C 17/005 takes precedence))

19/02 . by a motor
19/04 . by a ground-engaging wheel
19/045 . . [the drive coupling being controlled by lifting or
lowering of the seeding tools]

21/00 Methods of fertilizing, {sowing or planting}
(fertilisers C05: soil-conditioning or soil-stabilising
materials C09K 17/00)

21/002 . [Apparatus for sowing fertiliser; Fertiliser drill]
21/005 . [Following a specific plan, e.g. pattern (precision
agriculture in general A01B 79/005; steering or
guiding agricultural machines or implements
A01B 69/00)]
21/007 . [Determining fertilization requirements]

23/00 Distributing devices specially adapted for liquid
manure or other fertilizing liquid, including
ammonia, e.g. transport tanks, sprinkling wagons
(watering fields in general A01G 25/00; spraying or
applying liquids or other fluent materials in general
B05)

23/001 . [Sludge spreaders, e.g. liquid manure spreaders]
23/002 . . [provided with auxiliary arrangements, e.g.
pumps, agitators, cutters]
23/003 . . [Distributing devices, e.g. for rotating, throwing]
23/005 . . . [Nozzles, valves, splash plates]
23/006 . . [Distribution of liquid fertilisers by gravity flow
(distribution of liquid ammonia in or on the soil
A01C 23/024; under pressure A01C 23/04)]
23/007 . . [Metering or regulating systems]
23/008 . . [Tanks, chassis or related parts]
23/02 . Special arrangements for delivering the liquid
directly into the soil
23/021 . . . [Sludge injectors, i.e. liquid manure injectors]
23/022 . . . [Continuous injection tools (devices for
making drill or furrows A01C 5/066)]
23/023 . . . [for liquid or gas fertilisers]
23/024 . . . [for ammonia]
23/025 . . . . [Continuous injection tools]
23/026 . . . . [Localised non-continuous injection tools, e.g.
pal injectors, spike wheels]
23/027 . . . [Other methods for delivering fertiliser into the
soil (sowing granular fertiliser A01C 21/002;
subirrigation A01G 25/06)]
23/028 . . . [Contactless injection into the soil]
23/04 . Distributing under pressure; Distributing mud;
Adaptation of watering systems for fertilising-
liquids

23/042 . . . [Adding fertiliser to watering systems (adding
insecticides or herbicides A01M 7/00)]
23/045 . . . [Filling devices for liquid manure or slurry tanks
(arrangements for connecting hoses of the quick-
acting type F16L 37/00)]
23/047 . . . [Spraying of liquid fertilisers (gravity flow
A01C 23/006; watering gardens, fields, sports
grounds or the like A01G 25/00)]