

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](#)})

<p>1/00 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})</p> <p>1/005 . {Potato seed cutters}</p> <p>1/02 . Germinating apparatus; Determining germination capacity of seeds or the like (germinating in preparation of malt C12C 1/027)</p> <p>1/025 . . {Testing seeds for determining their viability or germination capacity}</p> <p>1/04 . Arranging seeds on carriers, e.g. on tapes, on cords {Carrier compositions}</p> <p>1/042 . . {Tapes, bands or cords}</p> <p>1/044 . . {Sheets, multiple sheets or mats}</p> <p>1/046 . . {Carrier compositions}</p> <p>2001/048 . . {Machines}</p> <p>1/06 . Coating or dressing seed {(encapsulated embryos or artificial seeds A01H 4/006; seed coating compositions C09D)}</p> <p>1/08 . Immunising seed</p> <p>3/00 Treating manure; Manuring ({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)</p> <p>3/02 . Storage places for manure, e.g. cisterns for liquid manure; Installations for fermenting manure (sewerage structures E03F 5/00; silos, bunkers E04H 7/22)</p> <p>3/021 . . {for composted manure}</p> <p>3/023 . . {Digesters}</p> <p>3/025 . . {with heat recuperation means}</p> <p>3/026 . . {with mixing or agitating devices}</p> <p>3/028 . . {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)}</p> <p>3/04 . Manure loaders (loaders in general B65G)</p> <p>3/06 . Manure distributors, e.g. dung distributors</p> <p>3/063 . . {Side-spreaders}</p> <p>3/066 . . {Spreading by using worm or screw conveyors}</p> <p>3/08 . . for manure already laying on the soil</p>	<p>5/00 Making or covering furrows or holes for sowing, planting or manuring</p> <p>5/02 . Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees A01G 23/02)</p> <p>5/04 . Machines for making or covering holes for sowing or planting</p> <p>5/045 . . {with piercing buckets (devices for laying-out or removing protective coverings for plants A01G 13/02)}</p> <p>5/06 . Machines for making or covering drills or furrows for sowing or planting ({seeders depositing seeds in rows A01C 7/08}; ploughs for making ridges A01B 13/02; {lifting devices for agricultural machines A01B 63/00})</p> <p>5/062 . . {Devices for making drills or furrows}</p> <p>5/064 . . . {with rotating tools}</p> <p>5/066 . . {Devices for covering drills or furrows}</p> <p>5/068 . . . {Furrow packing devices, e.g. press wheels}</p> <p>5/08 . Machines for both manuring and sowing or both manuring and planting</p> <p>7/00 Sowing ({with centrifugal wheels A01C 17/00} arrangements for driving working parts A01C 19/00)</p> <p>7/002 . {Dibble seeders}</p> <p>7/004 . {using liquid seeding techniques}</p> <p>7/006 . {Minimum till seeding}</p> <p>7/008 . {Sod or grassland seeding (A01C 7/08 takes precedence)}</p> <p>7/02 . Hand sowing implements {(fertiliser distributors for hand use A01C 15/02; tools for cultivation A01G 20/30, A01G 20/40)}</p> <p>7/04 . Single-grain seeders with or without suction devices {(regulation A01C 7/10; for quantities of seed A01C 7/18)}</p> <p>7/042 . . {using pneumatic means}</p> <p>7/044 . . . {Pneumatic seed wheels}</p> <p>7/046 {with perforated seeding discs}</p> <p>7/048 . . {Seed tape planters}</p> <p>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)</p>
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- 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 or 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** [\(A01C 7/06 takes precedence; {combined with seeders A01C 7/06}; arrangements for driving working parts A01C 19/00; {harrows with special additional arrangements A01B 19/00}; sand, gravel or salt spreaders for roads E01C 19/20\)](#)
- 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 . for 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}
- 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 fertilising 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 [\(gravity flow A01C 23/006; watering gardens, fields, sports grounds or the like A01G 25/00\)](#)}