

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](#)})

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| 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 }) | 5/00 | Making or covering furrows or holes for sowing, planting or manuring |
| 1/005 | . {Potato seed cutters} | 5/02 | . Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees A01G 23/02) |
| 1/02 | . Germinating apparatus; Determining germination capacity of seeds or the like (germinating in preparation of malt C12C 1/027) | 5/04 | . Machines for making or covering holes for sowing or planting |
| 1/025 | . . {Testing seeds for determining their viability or germination capacity} | 5/045 | . . {with piercing buckets (devices for laying-out or removing protective coverings for plants A01G 13/02)} |
| 1/04 | . Arranging seeds on carriers, e.g. on tapes, on cords {Carrier compositions} | 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 }) |
| 1/042 | . . {Tapes, bands or cords} | 5/062 | . . {Devices for making drills or furrows} |
| 1/044 | . . {Sheets, multiple sheets or mats} | 5/064 | . . . {with rotating tools} |
| 1/046 | . . {Carrier compositions} | 5/066 | . . {Devices for covering drills or furrows} |
| 2001/048 | . . {Machines} | 5/068 | . . . {Furrow packing devices, e.g. press wheels} |
| 1/06 | . Coating or dressing seed {(encapsulated embryos or artificial seeds A01H 4/006 ; seed coating compositions C09D)} | 5/08 | . Machines for both manuring and sowing or both manuring and planting |
| 1/08 | . Immunising seed | | |
| 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) | 7/00 | Sowing ({with centrifugal wheels A01C 17/00 } arrangements for driving working parts A01C 19/00) |
| 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) | 7/002 | . {Dibble seeders} |
| 3/021 | . . {for composted manure} | 7/004 | . {using liquid seeding techniques} |
| 3/023 | . . {Digesters} | 7/006 | . {Minimum till seeding} |
| 3/025 | . . {with heat recuperation means} | 7/008 | . {Sod or grassland seeding (A01C 7/08 takes precedence)} |
| 3/026 | . . {with mixing or agitating devices} | 7/02 | . Hand sowing implements {(fertiliser distributors for hand use A01C 15/02 ; tools for cultivation A01G 1/12)} |
| 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)} | 7/04 | . Single-grain seeders with or without suction devices {(regulation A01C 7/10 ; for quantities of seed A01C 7/18)} |
| 3/04 | . Manure loaders (loaders in general B65G) | 7/042 | . . {using pneumatic means} |
| 3/06 | . Manure distributors, e.g. dung distributors | 7/044 | . . . {Pneumatic seed wheels} |
| 3/063 | . . {Side-spreaders} | 7/046 | {with perforated seeding discs} |
| 3/066 | . . {Spreading by using worm or screw conveyors} | 7/048 | . . {Seed tape planters} |
| 3/08 | . . for manure already laying on the soil | 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) |

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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)} | 11/00 | Transplanting machines ({hand sowing A01C 7/02 }; carriers for supporting persons A01B 75/00 ; transplanting devices for trees A01G 23/02) |
| 7/081 | • . {Seeders depositing seeds in rows using pneumatic means} | 11/003 | • {for aquatic plants; for planting underwater, e.g. rice} |
| 7/082 | • . . {Ducts, distribution pipes or details thereof for pneumatic seeders (non-pneumatic seed pipes A01C 7/206)} | 11/006 | • {Other parts or details or planting machines} |
| 7/084 | • . . . {Pneumatic distribution heads for seeders} | 11/02 | • for seedlings |
| 7/085 | • . {Broadcast seeders} | 11/025 | • . {Transplanting machines using seedling trays; Devices for removing the seedlings from the trays} |
| 7/087 | • . {Tramlining} | 11/04 | • for deeper setting or shifting of plants |
| 7/088 | • . {Sectional seeding} | 13/00 | Machines or apparatus for consolidating soil around plants |
| 7/10 | • . Devices for adjusting the seed-box {Regulation of machines for depositing quantities at intervals} | 14/00 | Methods or apparatus for planting not provided for in other groups of this subclass |
| 7/102 | • . . {Regulating or controlling the seed rate} | 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) |
| 7/105 | • . . . {Seed sensors} | 15/001 | • {with slowly turning wheels} |
| 7/107 | • . . {Calibration of the seed rate} | 15/002 | • {with oscillating distributing spouts} |
| 7/12 | • . Seeders with feeding wheels | 15/003 | • {Bulk fertiliser or grain handling in the field or on the farm} |
| 7/121 | • . . {for sowing seeds of different sizes} | 15/005 | • {Undercarriages, tanks, hoppers, stirrers specially adapted for seeders or fertiliser distributors} |
| 7/122 | • . . . {using more than one feeding wheel; using double-run feeding wheels} | 15/006 | • . {Hoppers} |
| 7/123 | • . . . {Housings for feed rollers or wheels} | 15/007 | • . . {with agitators in the hopper} |
| 7/124 | • . . . {with top delivery of the seeds} | 15/008 | • . {Aprons; Deflecting plates; Band-spreading attachments} |
| 7/125 | • . . . {with bottom delivery of the seeds} | 15/02 | • for hand use {(hand sowing A01C 7/02)} |
| 7/126 | • . . {Stubbed rollers or wheels} | 15/04 | • using blowers |
| 7/127 | • . . {Cell rollers, wheels, discs or belts} | 15/06 | • with distributing slots {, i.e. for dosing, e.g. adjustable openings} |
| 7/128 | • . . . {Cell discs} | 15/08 | • . with pushers or stirrers in the slots |
| 7/14 | • . . Seeders with spoon or bucket wheels | 15/10 | • . . with reciprocating pushers {or stirrers in front of the slots (with endless chains A01C 15/18)} |
| 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)} | 15/12 | • with movable parts of the receptacle |
| 7/163 | • . . {Gravity distributors} | 15/122 | • . {with moving floor parts (with endless chains A01C 15/18)} |
| 7/166 | • . . {Centrifugal distributors (pneumatic distributors A01C 15/04)} | 15/124 | • . {with adjustable shutters or slits} |
| 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)} | 15/126 | • . . {with pushers or stirrers in the slits} |
| 7/185 | • . {Foot valves} | 15/128 | • . . {with pushers or stirrers in front of the slits (with endless chains A01C 15/18)} |
| 7/20 | • Parts of seeders for conducting and depositing seed {(combined with fertilising apparatus A01C 7/06)} | 15/14 | • with means for lifting out the fertiliser {(feeding wheels, cell wheels, discs A01C 7/12 , bucket wheels A01C 7/14)} |
| 7/201 | • . {Mounting of the seeding tools} | 15/16 | • with means for pushing out the fertiliser, e.g. by a roller |
| 7/203 | • . . {comprising depth regulation means} | 15/18 | • with endless chains {, i.e. side transporting elements, e.g. auger or screw conveyors, swash plates} |
| 7/205 | • . . {comprising pressure regulation means} | 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) |
| 7/206 | • . {Seed pipes} | 17/001 | • {Centrifugal throwing devices with a vertical axis} |
| 7/208 | • . {Chassis; Coupling means to a tractor or the like; Lifting means; Side markers (hoppers for seeders or spreaders A01C 15/006)} | 17/003 | • {Centrifugal throwing devices with a horizontal axis} |
| 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)} | | |

- 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)}