

CPC COOPERATIVE PATENT CLASSIFICATION

A HUMAN NECESSITIES

FOODSTUFFS; TOBACCO

A21 BAKING; EDIBLE DOUGHS

A21C MACHINES OR EQUIPMENT FOR MAKING OR PROCESSING DOUGHS; HANDLING BAKED ARTICLES MADE FROM DOUGH

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.}

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| 1/00 | Mixing or kneading machines for the preparation of dough | 1/148 | . . {Safety arrangements (A21C 1/1485 takes precedence)} |
| 1/003 | . {Plant; Systems, i.e. flow charts or diagrams} | 1/1485 | . . {Doors; Closures; Operating, e.g. safety, mechanisms therefor} |
| 1/006 | . {Methods} | 1/149 | . . {Receptacles, e.g. provided with means for carrying or guiding fluids, e.g. coolants} |
| 1/02 | . with vertically-mounted tools; Machines for whipping or beating | 1/1495 | . . {Arrangements for cooling or heating (receptacles with means for guiding fluids <i>per se</i> A21C 1/149); Arrangements for applying super- or sub-atmospheric pressure} |
| 1/04 | . with inclined rotating mixing arms or levers | | |
| 1/06 | . with horizontally-mounted mixing or kneading tools; Worm {or screw} mixers | | |
| 1/065 | . . {Worm or screw mixers, e.g. with consecutive mixing receptacles} | 3/00 | Machines or apparatus for shaping batches of dough before subdivision |
| 1/08 | . with rollers | 3/02 | . Dough-sheeters; Rolling-machines; Rolling-pins |
| 1/083 | . . {by calendaring, i.e. working between rollers (using rollers for shaping dough A21C 3/02)} | 3/021 | . . {Rolling-pins; Hand-operated spreading or rolling devices (A21C 11/004 takes precedence)} |
| 1/086 | . . {having a receptacle rotating about a vertical axis cooperating with rotary rollers} | 3/022 | . . {Laminating or undulating a continuous dough sheet, e.g. by folding transversely or longitudinally onto a moving surface (combined with filling A21C 9/045)} |
| 1/10 | . with additional aerating apparatus for the manufacture of aerated doughs | 3/024 | . . {using one or more rollers with an axis of rotation substantially parallel or oblique to the direction of dough transport (A21C 3/065 takes precedence)} |
| 1/105 | . . {the gas being introduced through the shaft of a rotary tool} | 3/025 | . . {with one or more rollers moving perpendicularly to its rotation axis, e.g. reciprocally (A21C 3/024 takes precedence; hand-operated rollers A21C 3/021)} |
| 1/12 | . for the preparation of dough directly from grain | 3/027 | . . . {with multiple rollers moving in a closed loop, e.g. in an orbital path; Planetary roller systems} |
| 1/14 | . Structural elements of mixing or kneading machines; {Parts; Accessories} | 3/028 | . . {using rollers having a shape other than straight round cylinders (A21C 3/04 takes precedence)} |
| 1/1405 | . . {Tools} | 3/04 | . Dough-extruding machines {; Hoppers with moving elements, e.g. rollers or belts as wall elements for drawing the dough} |
| 1/141 | . . . {having mixing or cutting elements essentially perpendicular to their axes} | 3/06 | . Machines for coiling sheets of dough, e.g. for producing rolls |
| 1/1415 | . . . {Shafts; Heads therefor} | 3/065 | . . {the coil axis of the produced rolls being in parallel or oblique position relative to the transport direction; with coiling elements, e.g. rollers, being placed in parallel or oblique position relative to the transport direction} |
| 1/142 | . . {Feeding mechanisms, e.g. skip lifting mechanisms} | 3/08 | . Machines for twisting strips of dough, e.g. for making pretzels |
| 1/1425 | . . . {for feeding in measured doses} | 3/10 | . combined with dough-dividing apparatus |
| 1/143 | . . . {using pneumatic means} | | |
| 1/1435 | . . . {for liquids (A21C 1/1425 takes precedence)} | 5/00 | Dough-dividing machines |
| 1/144 | . . {Discharge mechanisms} | | |
| 1/1445 | . . . {using tiltable receptacles; Tilting mechanisms therefor} | | |
| 1/145 | . . {Controlling; Testing; Measuring (A21C 1/1425 takes precedence)} | | |
| 1/1455 | . . . {Measuring data of the driving system, e.g. torque, speed, power} | | |
| 1/146 | . . . {Measuring properties of the dough, e.g. moisture, electrical conductivity, temperature (A21C 1/1455 takes precedence)} | | |
| 1/1465 | . . {Drives} | | |
| 1/147 | . . . {for planetary motion} | | |
| 1/1475 | . . . {Brakes therefor} | | |

- 5/003 . {with revolving bodies, e.g. with bodies having spaces separated by radially oriented elements or walls}
- 5/006 . {for dispensing liquid or semi-liquid dough, e.g. batter}
- 5/02 . with division boxes and ejection plungers
- 5/04 . . with division boxes in a revolving body with radially-working pistons
- 5/06 . . with division boxes in a revolving body with axially-working pistons
- 5/08 . with radial, i.e. star-like, cutter-blades slidable in the slots of, and relatively to, a pressing-plunger
- 7/00 Machines which homogenise the subdivided dough by working other than by kneading**
- 7/005 . {the dough pieces being worked in radially disposed cavities in a rotating drum}
- 7/01 . with endless bands {(A21C 7/005 takes precedence)}
- 7/02 . with moulding channels (A21C 7/01 takes precedence)
- 7/04 . with moulding cups (A21C 7/01 takes precedence)
- 7/06 . combined with dividing machines with radial, i.e. star-like, cutter-blades slidable in the slots of, and relatively to, a pressing-plunger
- 9/00 Other apparatus for handling dough or dough pieces**
- 9/02 . Apparatus for hanging or distributing strings of dough, such as noodles, spaghetti or macaroni, on bars
- 9/04 . Apparatus for spreading granular material on, or sweeping or coating the surfaces of, pieces or sheets of dough {(coating baked articles A21C 15/002)}
- 9/045 . . {Laminating dough sheets combined with applying a filling in between, e.g. lasagna-type products (ravioli-making machines A21C 9/066; making laminated baked wafer sheets A21C 15/02)}
- 9/06 . Apparatus for filling pieces of dough such as doughnuts {(A21C 11/163 takes precedence; apparatus for filling baked articles A21C 15/007)}
- 9/061 . . {Making continuous filled tubular products, e.g. with subsequent cutting}
- 9/063 . . {Applying a folding, wrapping, rolling action (A21C 9/045, A21C 9/061 take precedence)}
- 9/065 . . {by means of injection into a piece of dough (filling baked articles A21C 15/007)}
- 9/066 . . {using two separate sheets or pieces of dough with filling in between, e.g. crimped at their edges; Ravioli-making machines (A21C 11/163 takes precedence)}
- 9/068 . . . {Tools for crimping or trimming of edges or rims, e.g. hand-operated}
- 9/08 . Depositing, arranging and conveying apparatus for handling pieces, e.g. sheets of dough {(for handling liquid or semi-liquid dough, e.g. batter A21C 5/006)}
- 9/081 . . {Charging of baking tins or forms with dough}
- 9/083 . . {Manipulating tins, pans etc., e.g. charging or discharging conveyors, trolleys or ovens}
- 9/085 . . {Separating, spacing, orienting or aligning discrete dough pieces, e.g. after passing a cutting device}
- 9/086 . . {Stacking or unstacking discrete dough sheets (with filling in between sheets A21C 9/045)}
- 9/088 . . {Folding or bending discrete dough pieces or dough strips (twisting strips of dough A21C 3/08; with filling action A21C 9/063; forming toroid-shaped dough pieces A21C 11/002)}
- 11/00 Other machines for forming the dough into its final shape before cooking or baking**
- 11/002 . {the shape being toroid-like, e.g. bagels, doughnuts (extruding machines for toroid shaped products A21C 11/166)}
- 11/004 . {forming the dough into a substantially disc-like shape with or without an outer rim, e.g. for making pie crusts, cake shells or pizza bases}
- 11/006 . . {by pressing or press-moulding (A21C 11/008 takes precedence)}
- 11/008 . . {by press-rolling}
- 11/02 . Embossing machines
- 11/04 . . with cutting and embossing rollers or drums {(A21C 11/106 takes precedence)}
- 11/06 . . handling regularly pre-shaped sheets of dough
- 11/08 . . with engraved moulds, e.g. rotary machines with die rolls
- 11/10 . combined with cutting apparatus {(A21C 11/004 takes precedence)}
- 11/103 . . {having multiple cutting elements slidably or rotably mounted in a diaphragm-like arrangement}
- 11/106 . . {using hand-operated cutting tools (A21C 9/068 takes precedence)}
- 11/12 . Apparatus for slotting, slitting or perforating the surface of pieces of dough
- 11/14 . . for star-like stamping
- 11/16 . Extruding machines
- 11/163 . . {Applying co-extrusion, i.e. extruding two or more plastic substances simultaneously, e.g. for making filled dough products; Making products from two or more different substances supplied to the extruder}
- 11/166 . . {for making toroid-shaped products, e.g. doughnuts (A21C 11/163 takes precedence)}
- 11/18 . . with pistons
- 11/20 . . with worms
- 11/22 . Apparatus with rollers and cutting discs or blades for shaping noodles
- 11/24 . Apparatus for cutting out noodles from a sheet or ribbon of dough by an engaging pair of grooved rollers
- 13/00 Provers, i.e. apparatus permitting dough to rise**
- 13/02 . with endless conveyors {, e.g. for moving the dough pieces progressively through the prover}
- 14/00 Machines or equipment for making or processing dough, not provided for in other groups of this subclass**
- 15/00 Apparatus for handling baked articles**
- 15/002 . {Apparatus for spreading granular material on, or sweeping or coating the surface of baked articles (of pieces of dough A21C 9/04; for confectionary A23G 3/28)}
- 15/005 . . {of which at least the dispensing part is hand-held, e.g. comprising a flexible container, pouch or gun-like applicator}

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- 15/007 . {Apparatus for filling baked articles (filling pieces of dough [A21C 9/06](#); filled bakery products [A21D 13/30](#), [A21D 13/80](#))}
- 15/02 . Apparatus for shaping or moulding baked wafers; Making multi-layer wafer sheets
- 15/025 . . {Apparatus for shaping or moulding baked wafers, e.g. to obtain cones for ice cream}
- 15/04 . Cutting or slicing machines or devices specially adapted for baked articles other than bread