

# 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.}

- |             |  |             |  |
|-------------|--|-------------|--|
| <b>1/00</b> | <b>Mixing or kneading machines for the preparation of dough</b>  | 1/148       | . . {Safety arrangements ( <a href="#">A21C 1/1485</a> 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> <a href="#">A21C 1/149</a> ); 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}   | <b>3/00</b> | <b>Machines or apparatus for shaping batches of dough before subdivision</b>   |
| 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 <a href="#">A21C 3/02</a> )}                                | 3/021       | . . {Rolling-pins; Hand-operated spreading or rolling devices ( <a href="#">A21C 11/004</a> 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 <a href="#">A21C 9/045</a> )}  |
| 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 ( <a href="#">A21C 3/065</a> 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 ( <a href="#">A21C 3/024</a> takes precedence; hand-operated rollers <a href="#">A21C 3/021</a> )}  |
| 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 ( <a href="#">A21C 3/04</a> 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 ( <a href="#">A21C 1/1425</a> takes precedence)}  | <b>5/00</b> | <b>Dough-dividing machines</b>   |
| 1/144       | . . {Discharge mechanisms}   |             |  |
| 1/1445      | . . . {using tiltable receptacles; Tilting mechanisms therefor}  |             |  |
| 1/145       | . . {Controlling; Testing; Measuring ( <a href="#">A21C 1/1425</a> 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 ( <a href="#">A21C 1/1455</a> 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}

## A21C

- 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