

CPC COOPERATIVE PATENT CLASSIFICATION

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

- 1/00** **Mixing or kneading machines for the preparation of dough** (domestic mixing or kneading machines [A47J 43/00](#), [A47J 44/00](#); {mixing in general [B01F](#); mixing or kneading of substances in a plastic state in general [B29B 7/00](#)})
- 1/003 . {Plant; Systems, i.e. flow charts or diagrams}
 - 1/006 . {Methods}
 - 1/02 . with vertically-mounted tools; Machines for whipping or beating
 - 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}
 - 1/08 . with rollers
 - 1/083 . . {by calendaring, i.e. working between rollers (using rollers for shaping dough [A21C 3/02](#))}
 - 1/086 . . {having a receptacle rotating about a vertical axis cooperating with rotary rollers}
 - 1/10 . with additional aerating apparatus for the manufacture of aerated doughs
 - 1/105 . . {the gas being introduced through the shaft of a rotary tool}
 - 1/12 . for the preparation of dough directly from grain
 - 1/14 . Structural elements of mixing or kneading machines; {Parts; Accessories}
 - 1/1405 . . {Tools}
 - 1/141 . . . {having mixing or cutting elements essentially perpendicular to their axes}
 - 1/1415 . . . {Shafts; Heads therefor}
 - 1/142 . . {Feeding mechanisms, e.g. skip lifting mechanisms}
 - 1/1425 . . . {for feeding in measured doses}
 - 1/143 . . . {using pneumatic means}
 - 1/1435 . . . {for liquids ([A21C 1/1425](#) takes precedence)}
 - 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}
 - 1/148 . . {Safety arrangements ([A21C 1/1485](#) takes precedence)}
 - 1/1485 . . {Doors; Closures; Operating, e.g. safety, mechanisms therefor}
 - 1/149 . . {Receptacles, e.g. provided with means for carrying or guiding fluids, e.g. coolants}
 - 1/1495 . . {Arrangements for cooling or heating (receptacles with means for guiding fluids [per se](#) [A21C 1/149](#)); Arrangements for applying super- or sub-atmospheric pressure}
- 3/00** **Machines or apparatus for shaping batches of dough before sub-division**
- 3/02 . Dough-sheeters; Rolling-machines; Rolling-pins {(mixing or kneading dough by rollers [A21C 1/08](#); non-manual rolling and working of discrete dough pieces [A21C 7/00](#))}
 - 3/021 . . {Rolling-pins; Hand-operated spreading or rolling devices ([A21C 11/004](#) takes precedence)}
 - 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](#))}
 - 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)}
 - 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](#))}
 - 3/027 . . . {with multiple rollers moving in a closed loop, e.g. in an orbital path; Planetary roller systems}
 - 3/028 . . {using rollers having a shape other than straight round cylinders ([A21C 3/04](#) takes precedence)}
 - 3/04 . Dough-extruding machines; {Hoppers with moving elements, e.g. rollers or belts as wall elements for drawing the dough}
 - 3/06 . Machines for coiling sheets of dough, e.g. for producing rolls, {e.g. crescent-rolls (as part of a machine for further moulding or forming [A21C 7/00](#); with filling [A21C 9/06](#))}
 - 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}
 - 3/08 . Machines for twisting strips of dough, e.g. for making pretzels
 - 3/10 . combined with dough-dividing apparatus
- 5/00** **Dough-dividing machines**
- 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 {([A21C 7/06](#) takes precedence)}

7/00	Machines which homogenise the subdivided dough by working other than by kneading	11/006	<ul style="list-style-type: none"> • {by pressing or press-moulding (A21C 11/008 takes precedence)}
7/005	<ul style="list-style-type: none"> • {the dough pieces being worked in radially disposed cavities in a rotating drum} 	11/008	<ul style="list-style-type: none"> • {by press-rolling}
7/01	<ul style="list-style-type: none"> • with endless bands {(A21C 7/005 takes precedence)} 	11/02	<ul style="list-style-type: none"> • Embossing machines
7/02	<ul style="list-style-type: none"> • with moulding channels (A21C 7/01 takes precedence) 	11/04	<ul style="list-style-type: none"> • with cutting and embossing rollers or drums {(A21C 11/106 takes precedence)}
7/04	<ul style="list-style-type: none"> • with moulding cups (A21C 7/01 takes precedence) 	11/06	<ul style="list-style-type: none"> • handling regularly pre-shaped sheets of dough
7/06	<ul style="list-style-type: none"> • combined with dividing machines with radial, i.e. star-like, cutter-blades slidable in the slots of, and relatively to, a pressing-plunger 	11/08	<ul style="list-style-type: none"> • with engraved moulds, e.g. rotary machines with die rolls
9/00	Other apparatus for handling dough or dough pieces	11/10	<ul style="list-style-type: none"> • combined with cutting apparatus {(A21C 11/004 takes precedence)}
9/02	<ul style="list-style-type: none"> • Apparatus for hanging or distributing strings of dough, such as noodles, spaghetti or macaroni, on bars 	11/103	<ul style="list-style-type: none"> • {having multiple cutting elements slidably or rotably mounted in a diaphragm-like arrangement}
9/04	<ul style="list-style-type: none"> • Apparatus for spreading granular material on, or sweeping or coating the surfaces of, pieces or sheets of dough {(coating baked articles A21C 15/002)} 	11/106	<ul style="list-style-type: none"> • {using hand-operated cutting tools (A21C 9/068 takes precedence)}
9/045	<ul style="list-style-type: none"> • {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)} 	11/12	<ul style="list-style-type: none"> • Apparatus for slotting, slitting or perforating the surface of pieces of dough
9/06	<ul style="list-style-type: none"> • Apparatus for filling pieces of dough such as doughnuts {(A21C 11/163 takes precedence; apparatus for filling baked articles A21C 15/007)} 	11/14	<ul style="list-style-type: none"> • for star-like stamping
9/061	<ul style="list-style-type: none"> • {Making continuous filled tubular products, e.g. with subsequent cutting} 	11/16	<ul style="list-style-type: none"> • Extruding machines
9/063	<ul style="list-style-type: none"> • {Applying a folding, wrapping, rolling action (A21C 9/045, A21C 9/061 take precedence)} 	11/163	<ul style="list-style-type: none"> • {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}
9/065	<ul style="list-style-type: none"> • {by means of injection into a piece of dough (filling baked articles A21C 15/007)} 	11/166	<ul style="list-style-type: none"> • {for making toroid-shaped products, e.g. doughnuts (A21C 11/163 takes precedence)}
9/066	<ul style="list-style-type: none"> • {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)} 	11/18	<ul style="list-style-type: none"> • with pistons
9/068	<ul style="list-style-type: none"> • {Tools for crimping or trimming of edges or rims, e.g. hand-operated} 	11/20	<ul style="list-style-type: none"> • with worms
9/08	<ul style="list-style-type: none"> • 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)} 	11/22	<ul style="list-style-type: none"> • Apparatus with rollers and cutting discs or blades for shaping noodles
9/081	<ul style="list-style-type: none"> • {Charging of baking tins or forms with dough} 	11/24	<ul style="list-style-type: none"> • Apparatus for cutting out noodles from a sheet or ribbon of dough by an engaging pair of grooved rollers
9/083	<ul style="list-style-type: none"> • {Manipulating tins, pans etc., e.g. charging or discharging conveyors, trolleys or ovens} 	13/00	Provers, i.e. apparatus permitting dough to rise {(testing dough properties G01N 33/10)}
9/085	<ul style="list-style-type: none"> • {Separating, spacing, orienting or aligning discrete dough pieces, e.g. after passing a cutting device} 	13/02	<ul style="list-style-type: none"> • with endless conveyors {, e.g. for moving the dough pieces progressively through the prover}
9/086	<ul style="list-style-type: none"> • {Stacking or unstacking discrete dough sheets (with filling in between sheets A21C 9/045)} 	14/00	Machines or equipment for making or processing dough, not provided for in other groups of this subclass
9/088	<ul style="list-style-type: none"> • {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)} 	15/00	Apparatus for handling baked articles
11/00	Other machines for forming the dough into its final shape before cooking or baking	15/002	<ul style="list-style-type: none"> • {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)}
11/002	<ul style="list-style-type: none"> • {the shape being toroid-like, e.g. bagels, doughnuts (extruding machines for toroid shaped products A21C 11/166)} 	15/005	<ul style="list-style-type: none"> • {of which at least the dispensing part is hand-held, e.g. comprising a flexible container, pouch or gun-like applicator}
11/004	<ul style="list-style-type: none"> • {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} 	15/007	<ul style="list-style-type: none"> • {Apparatus for filling baked articles (filling pieces of dough A21C 9/06; filled bakery products A21D 13/30, A21D 13/80)}
		15/02	<ul style="list-style-type: none"> • Apparatus for shaping or moulding baked wafers; Making multi-layer wafer sheets
		15/025	<ul style="list-style-type: none"> • {Apparatus for shaping or moulding baked wafers, e.g. to obtain cones for ice cream}
		15/04	<ul style="list-style-type: none"> • Cutting or slicing machines or devices specially adapted for baked articles other than bread (for cutting or slicing bread B26B, B26D)