

# 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)}

<b>7/00</b>	<b>Machines which homogenise the subdivided dough by working other than by kneading</b>	11/006	<ul style="list-style-type: none"> <li>• {by pressing or press-moulding (<a href="#">A21C 11/008</a> takes precedence)}</li> </ul>
7/005	<ul style="list-style-type: none"> <li>• {the dough pieces being worked in radially disposed cavities in a rotating drum}</li> </ul>	11/008	<ul style="list-style-type: none"> <li>• {by press-rolling}</li> </ul>
7/01	<ul style="list-style-type: none"> <li>• with endless bands {(<a href="#">A21C 7/005</a> takes precedence)}</li> </ul>	11/02	<ul style="list-style-type: none"> <li>• Embossing machines</li> </ul>
7/02	<ul style="list-style-type: none"> <li>• with moulding channels (<a href="#">A21C 7/01</a> takes precedence)</li> </ul>	11/04	<ul style="list-style-type: none"> <li>• with cutting and embossing rollers or drums {(<a href="#">A21C 11/106</a> takes precedence)}</li> </ul>
7/04	<ul style="list-style-type: none"> <li>• with moulding cups (<a href="#">A21C 7/01</a> takes precedence)</li> </ul>	11/06	<ul style="list-style-type: none"> <li>• handling regularly pre-shaped sheets of dough</li> </ul>
7/06	<ul style="list-style-type: none"> <li>• combined with dividing machines with radial, i.e. star-like, cutter-blades slidable in the slots of, and relatively to, a pressing-plunger</li> </ul>	11/08	<ul style="list-style-type: none"> <li>• with engraved moulds, e.g. rotary machines with die rolls</li> </ul>
<b>9/00</b>	<b>Other apparatus for handling dough or dough pieces</b>	11/10	<ul style="list-style-type: none"> <li>• combined with cutting apparatus {(<a href="#">A21C 11/004</a> takes precedence)}</li> </ul>
9/02	<ul style="list-style-type: none"> <li>• Apparatus for hanging or distributing strings of dough, such as noodles, spaghetti or macaroni, on bars</li> </ul>	11/103	<ul style="list-style-type: none"> <li>• {having multiple cutting elements slidably or rotably mounted in a diaphragm-like arrangement}</li> </ul>
9/04	<ul style="list-style-type: none"> <li>• Apparatus for spreading granular material on, or sweeping or coating the surfaces of, pieces or sheets of dough {(coating baked articles <a href="#">A21C 15/002</a>)}</li> </ul>	11/106	<ul style="list-style-type: none"> <li>• {using hand-operated cutting tools (<a href="#">A21C 9/068</a> takes precedence)}</li> </ul>
9/045	<ul style="list-style-type: none"> <li>• {Laminating dough sheets combined with applying a filling in between, e.g. lasagna-type products (ravioli-making machines <a href="#">A21C 9/066</a>; making laminated baked wafer sheets <a href="#">A21C 15/02</a>)}</li> </ul>	11/12	<ul style="list-style-type: none"> <li>• Apparatus for slotting, slitting or perforating the surface of pieces of dough</li> </ul>
9/06	<ul style="list-style-type: none"> <li>• Apparatus for filling pieces of dough such as doughnuts {(<a href="#">A21C 11/163</a> takes precedence; apparatus for filling baked articles <a href="#">A21C 15/007</a>)}</li> </ul>	11/14	<ul style="list-style-type: none"> <li>• for star-like stamping</li> </ul>
9/061	<ul style="list-style-type: none"> <li>• {Making continuous filled tubular products, e.g. with subsequent cutting}</li> </ul>	11/16	<ul style="list-style-type: none"> <li>• Extruding machines</li> </ul>
9/063	<ul style="list-style-type: none"> <li>• {Applying a folding, wrapping, rolling action (<a href="#">A21C 9/045</a>, <a href="#">A21C 9/061</a> take precedence)}</li> </ul>	11/163	<ul style="list-style-type: none"> <li>• {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}</li> </ul>
9/065	<ul style="list-style-type: none"> <li>• {by means of injection into a piece of dough (filling baked articles <a href="#">A21C 15/007</a>)}</li> </ul>	11/166	<ul style="list-style-type: none"> <li>• {for making toroid-shaped products, e.g. doughnuts (<a href="#">A21C 11/163</a> takes precedence)}</li> </ul>
9/066	<ul style="list-style-type: none"> <li>• {using two separate sheets or pieces of dough with filling in between, e.g. crimped at their edges; Ravioli-making machines (<a href="#">A21C 11/163</a> takes precedence)}</li> </ul>	11/18	<ul style="list-style-type: none"> <li>• with pistons</li> </ul>
9/068	<ul style="list-style-type: none"> <li>• {Tools for crimping or trimming of edges or rims, e.g. hand-operated}</li> </ul>	11/20	<ul style="list-style-type: none"> <li>• with worms</li> </ul>
9/08	<ul style="list-style-type: none"> <li>• Depositing, arranging and conveying apparatus for handling pieces, e.g. sheets of dough {(for handling liquid or semi-liquid dough, e.g. batter <a href="#">A21C 5/006</a>)}</li> </ul>	11/22	<ul style="list-style-type: none"> <li>• Apparatus with rollers and cutting discs or blades for shaping noodles</li> </ul>
9/081	<ul style="list-style-type: none"> <li>• {Charging of baking tins or forms with dough}</li> </ul>	11/24	<ul style="list-style-type: none"> <li>• Apparatus for cutting out noodles from a sheet or ribbon of dough by an engaging pair of grooved rollers</li> </ul>
9/083	<ul style="list-style-type: none"> <li>• {Manipulating tins, pans etc., e.g. charging or discharging conveyors, trolleys or ovens}</li> </ul>	<b>13/00</b>	<b>Provers, i.e. apparatus permitting dough to rise {(testing dough properties <a href="#">G01N 33/10</a>)}</b>
9/085	<ul style="list-style-type: none"> <li>• {Separating, spacing, orienting or aligning discrete dough pieces, e.g. after passing a cutting device}</li> </ul>	13/02	<ul style="list-style-type: none"> <li>• with endless conveyors {, e.g. for moving the dough pieces progressively through the prover}</li> </ul>
9/086	<ul style="list-style-type: none"> <li>• {Stacking or unstacking discrete dough sheets (with filling in between sheets <a href="#">A21C 9/045</a>)}</li> </ul>	<b>14/00</b>	<b>Machines or equipment for making or processing dough, not provided for in other groups of this subclass</b>
9/088	<ul style="list-style-type: none"> <li>• {Folding or bending discrete dough pieces or dough strips (twisting strips of dough <a href="#">A21C 3/08</a>; with filling action <a href="#">A21C 9/063</a>; forming toroid-shaped dough pieces <a href="#">A21C 11/002</a>)}</li> </ul>	<b>15/00</b>	<b>Apparatus for handling baked articles</b>
<b>11/00</b>	<b>Other machines for forming the dough into its final shape before cooking or baking</b>	15/002	<ul style="list-style-type: none"> <li>• {Apparatus for spreading granular material on, or sweeping or coating the surface of baked articles (of pieces of dough <a href="#">A21C 9/04</a>; for confectionary <a href="#">A23G 3/28</a>)}</li> </ul>
11/002	<ul style="list-style-type: none"> <li>• {the shape being toroid-like, e.g. bagels, doughnuts (extruding machines for toroid shaped products <a href="#">A21C 11/166</a>)}</li> </ul>	15/005	<ul style="list-style-type: none"> <li>• {of which at least the dispensing part is hand-held, e.g. comprising a flexible container, pouch or gun-like applicator}</li> </ul>
11/004	<ul style="list-style-type: none"> <li>• {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}</li> </ul>	15/007	<ul style="list-style-type: none"> <li>• {Apparatus for filling baked articles (filling pieces of dough <a href="#">A21C 9/06</a>; filled bakery products <a href="#">A21D 13/0019</a>, <a href="#">A21D 13/085</a>)}</li> </ul>
		15/02	<ul style="list-style-type: none"> <li>• Apparatus for shaping or moulding baked wafers; Making multi-layer wafer sheets</li> </ul>
		15/025	<ul style="list-style-type: none"> <li>• {Apparatus for shaping or moulding baked wafers, e.g. to obtain cones for ice cream}</li> </ul>
		15/04	<ul style="list-style-type: none"> <li>• Cutting or slicing machines or devices specially adapted for baked articles other than bread (for cutting or slicing bread <a href="#">B26B</a>, <a href="#">B26D</a>)</li> </ul>