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.

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 aerating\}
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 calendering, i.e. working between rollers\}
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 subdivision
3/02  \{Dough-sheeters; Rolling-machines; Rolling-pins\}
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 1/021]\}
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 9/060]\}
9/06 . Machines for twisting strips of dough, e.g. for making pretzels
9/10 . combined with dough-dividing apparatus

5/00 Dough-dividing machines
5/001 . [with revolving bodies, e.g. with bodies having spaces separated by radially oriented elements or walls]
5/004 . [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
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
{(A21C 7/06 takes precedence)

9/00 Other apparatus for handling dough or dough pieces
9/02 . Apparatus for handling dough or dough pieces progressively through the prover
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)
11/112 . . Apparatus for slotting, slitting or perforating the surface of pieces of dough
11/114 . . for star-like stamping
11/116 . Extruding machines
11/113 . . [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]
11/1166 . . [for making toroid-shaped products, e.g. doughnuts (A21C 11/163 takes precedence)
11/118 . . 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 ((testing dough properties G01N 33/10)
13/02 . with endless conveyors [e.g. for moving the dough pieces progressively through the prover]
A21C

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]

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 (for cutting or slicing bread B26B, B26D)