

A21C

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

Definition statement

This subclass/group covers:

Machines or Equipment, including e.g. hand tools or trays, for preparing, shaping and processing edible dough, namely for mixing, kneading, dividing, working, forming, shaping, cutting, proving, handling the dough before the baking, cooking or prebaking process with optional subsequent freezing.

Machines or equipment, including hand tools, for handling baked or prebaked articles made from edible dough.

References relevant to classification in this subclass

This subclass/group does not cover:

Dough and dough or bakery products as such, e.g. chemical treatment, recipes, preservation	A21D
Pasta and noodles as such	A23L 1/16

Informative references

Attention is drawn to the following places, which may be of interest for search:

Baker's ovens; machines or equipment for baking	A21B
Confectionary	A23G
Machines for shaping or working of foodstuff not fully covered by other subclasses, e.g. A21C	A23P
Machines for mixing	B01F
Machines for packaging articles	B65B
Machines for arranging, feeding or orienting biscuits	B65B 23/12

Transport or storage devices in general	B65G
Measuring or metering of fluent solids other than dough by volume	G01F

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Dough	is understood to be an edible substance being baked before consumption. The dough can be in a semi-liquid state, e.g. batter, or the dough can be a pasty.
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A21C 1/00

Mixing or kneading machines for the preparation of dough (domestic mixing or kneading machines A47J43/00, A47J44/00; mixing in general B01F; mixing or kneading of substances in a plastic state in general B29B7/00)

Definition statement

This subclass/group covers:

Devices for the mixing and/or kneading of dough, this preparation only concerning the mechanical aspects of it, i.e. the mixing of the individual components to obtain a homogeneous dough and/or its subsequent mechanical kneading to achieve the desired consistency.

References relevant to classification in this group

This subclass/group does not cover:

In general, methods or devices which are directed to the chemical aspects of the dough preparation (e.g. chemical composition, use of specific additives, operating steps intended to modify the properties of the dough -consistency, leavening, development of the mass, preparation for the baking step, etc.-) not being directly	A21D
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related to the mixing and/or kneading machine	
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Household appliances	A47J 43/00
Mixing devices in domestic bread preparation machines	A21B 7/00
Mixing in general	B01F

Special rules of classification within this group

In this subclass, as a general rule, the type of dough mixer is to be specified, as well as the specific structural elements which are characteristic of this kind of device.

Additional details of the mixing or kneading device for which no specific classification information can be found in [A21C 1/00](#) are classified under the corresponding sub-groups of [B01F](#) (mixing in general).

A21C 1/006

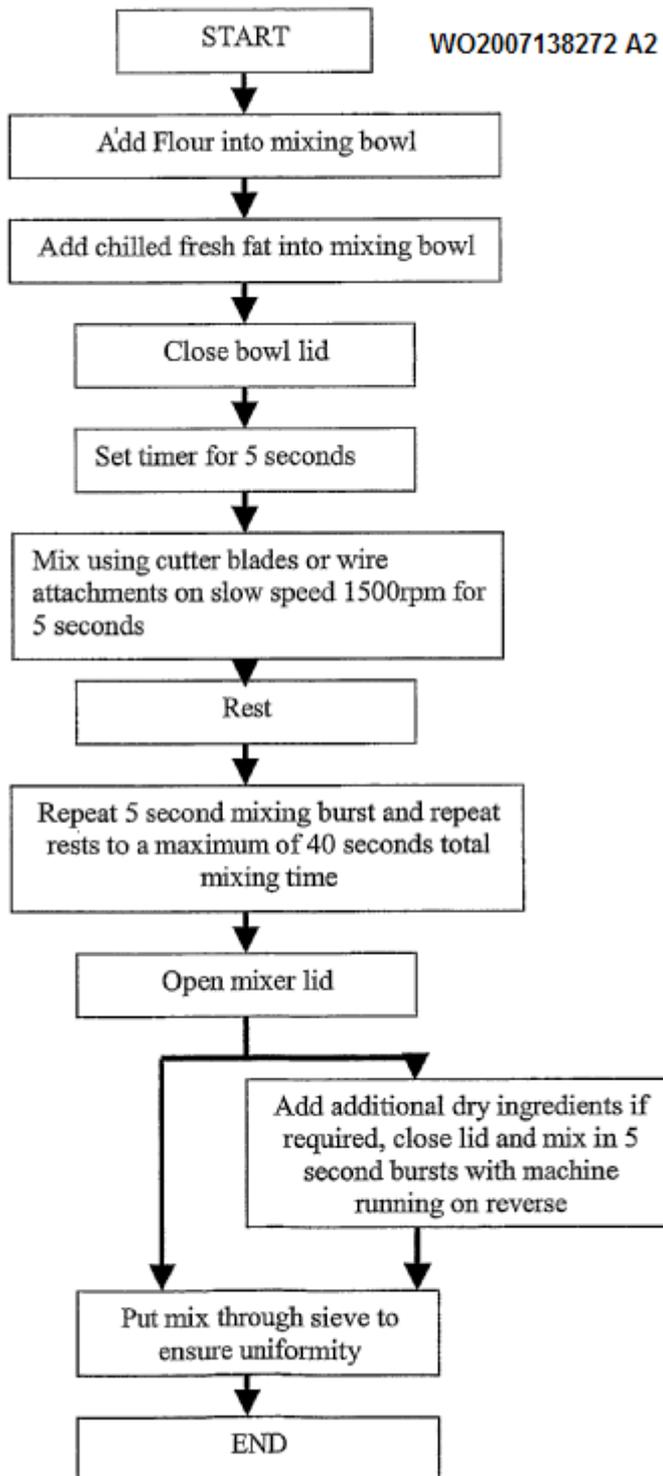
[N: Methods]

Definition statement

This subclass/group covers:

Methods.

Example:



A21C 1/02

with vertically-mounted tools; Machines for whipping or beating

Informative references

Attention is drawn to the following places, which may be of interest for search:

Mixing devices with relative displacement between stirrer and receptacle	B01F 7/1605
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A21C 1/083

[N: by calendering, i.e. working between rollers (using rollers for shaping dough A21C3/02)]

Definition statement

This subclass/group covers:

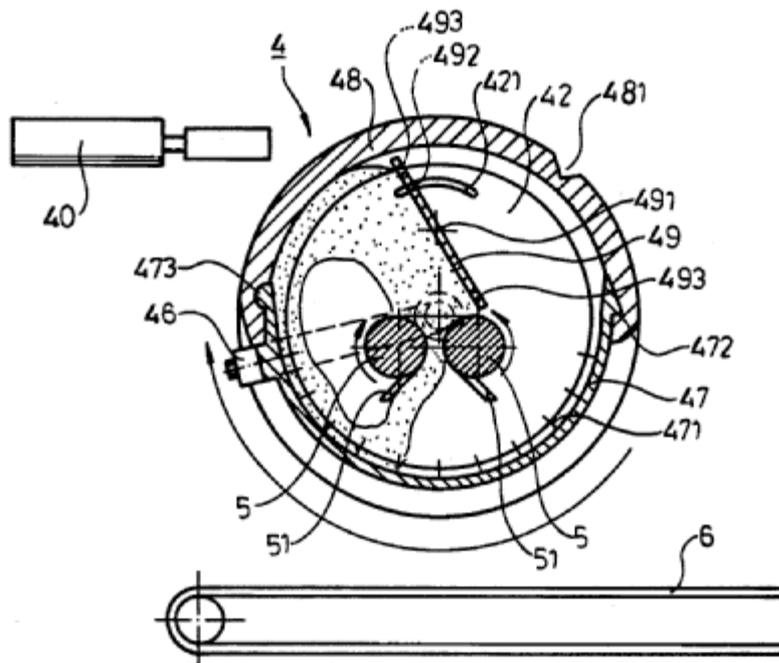
For example:

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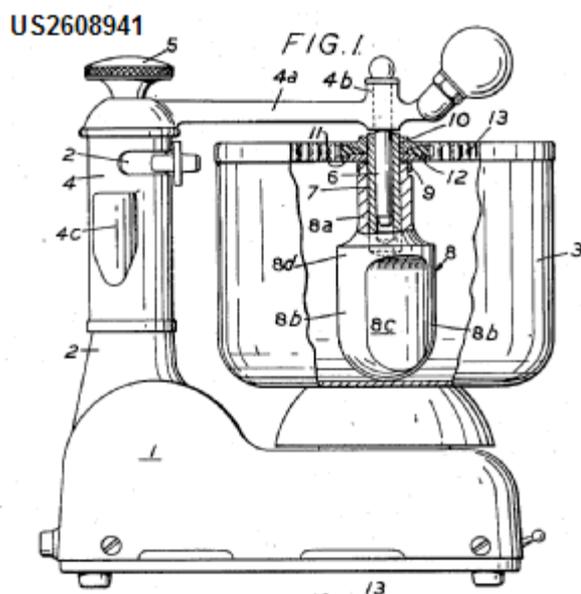
A21C 1/086

[N: having a receptacle rotating about a vertical axis cooperating with rotary rollers]

Definition statement

This subclass/group covers:

For example:



A21C 1/1465

[N: Drives]

References relevant to classification in this group

This subclass/group does not cover:

Drive units, transmissions, brakes or couplings per se, i.e. when said elements and/or their details are the essential part of the described or claimed invention.

Brakes	F16D
Couplings	F16D
Electric motors	H02K
Hydraulic motors	F15B
Transmissions	F16G , F16H
Wind motors	F03D

A21C 1/148

[N: Safety arrangements (A21C1/1485 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Safety devices in general	F16P
Doors; Closures; Operating, e.g. safety, mechanisms of mixing or kneading machines	A21C 1/1485

A21C 1/1495

[N: Arrangements for cooling or heating (receptacles with means for guiding fluids per se A21C1/149); Arrangements for applying super- or sub-atmospheric pressure]

Definition statement

This subclass/group covers:

Heating or cooling elements in combination with the mixing device, the specific details of the heat-exchange means not being of relevance.

References relevant to classification in this group

This subclass/group does not cover:

Heat exchangers in general	F28
Receptacles with means for guiding fluids per se	A21C 1/149

A21C 3/00

Machines or apparatus for shaping batches of dough before sub-division

Definition statement

This subclass/group covers:

Machines for shaping dough, supplied in batches or continuously, to a semi-finished products, followed by sub-division and/or another shaping step.

Machines for twisting discrete strips of dough to obtain the final shape, e.g. for

making pretzel.

Machines for twisting strips of dough followed by sub-division to obtain the final shape.

Machines for coiling sheets of dough to obtain the final shape or followed by sub-division.

References relevant to classification in this group

This subclass/group does not cover:

Dough extruding machines producing a string already having the final shape, with or without following cutting step	A21C 11/16
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A21C 5/00

Dough-dividing machines

Definition statement

This subclass/group covers:

Machines for dividing batches of dough or batter, i.e. semi-liquid dough, into equally sized portions.

References relevant to classification in this group

This subclass/group does not cover:

Dough dividing apparatus followed by a merging, e.g. sheeting step to obtain a semi-finished product	A21C 3/10
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A21C 5/006

for dispensing liquid or semi-liquid dough, e.g. batter

Informative references

Attention is drawn to the following places, which may be of interest for search:

Batter dispensing and baking apparatus, e.g. for pancakes	A21B 5/02
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A21C 5/02

with division boxes and ejection plungers

Informative references

Attention is drawn to the following places, which may be of interest for search:

Apparatus for measuring fluent solid materials with piston type measuring chambers	G01F 11/021
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A21C 5/08

with radial, i.e. star-like, cutter-blades slidable in the slots of, and relatively to, a pressing-plunger [N: (A21C7/06 takes precedence)]

Special rules of classification within this group

Dividers featuring cutter blades other than radial, e.g. having a square pattern, are also classified in this group.

A21C 7/00

Machines which homogenise the subdivided dough by working other than by kneading

Definition statement

This subclass/group covers:

Machines for working or rounding discrete dough portions.

References relevant to classification in this group

This subclass/group does not cover:

Kneading dough	A21C 1/00
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Synonyms and Keywords

In patent documents the following expressions/words "working, rounding (E)", "wirken (G)" and "travailler (F)" are often used as synonyms.

A21C 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

Informative references

Attention is drawn to the following places, which may be of interest for search:

Dough dividing machines which, as an additional feature, homogenise the dough	A21C 5/08
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Special rules of classification within this group

Machines combined with dividers featuring cutter blades other than radial, e.g. having a square pattern, are also classified in this group.

A21C 9/00

Other apparatus for handling dough or dough pieces

Definition statement

This subclass/group covers:

Other apparatus for handling (opposed to shaping or forming) dough or dough pieces in the broadest sense not covered by groups [A21C3](#) to [A21C7](#) and [A21C13](#) to [A21C14](#), such as:

Apparatus for conveying, positioning dough or dough pieces or dough carriers, e.g. tins or pans.

Apparatus for filling, e.g. by injection or folding, and apparatus for coating dough pieces, e.g. by brushing on a coating with a sweeping action, and laminating dough sheets.

Other apparatus like hand tools, dust hoods, cleaning arrangements and trays.

A21C 9/04

Apparatus for spreading granular material on, or sweeping or coating the surfaces of, pieces or sheets of dough [N: (coating baked articles A21C15/002)]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Coated foodstuff	A23L 1/0044
Breading apparatus	A23P 1/082

A21C 9/08

Depositing, arranging and conveying apparatus for handling pieces, e.g. sheets of dough [N: (for handling liquid or semi-liquid dough, e.g. batter A21C5/006)]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Charging or discharging ovens	A21B 3/07
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A21C 11/00

Other machines for forming the dough into its final shape before cooking or baking

Definition statement

This subclass/group covers:

Machines not covered in [A21C 3/00](#) to [A21C 9/00](#) performing the final shaping or slitting of the dough prior to baking or cooking, of e.g. pasta.

A21C 11/12

Apparatus for slotting, slitting or perforating the surface of pieces of dough

Informative references

Attention is drawn to the following places, which may be of interest for search:

Slitting apparatus or tool per se	B26D 3/12
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A21C 13/00

Provers, i.e. apparatus permitting dough to rise [N: (testing dough properties G01N33/10)]

Definition statement

This subclass/group covers:

Climate controlled spaces or chambers for dough.

Relationship between large subject matter areas

Prover combined with oven are classified also in [A21B](#).

Informative references

Attention is drawn to the following places, which may be of interest for search:

Prover combined with oven	A21B
Treating methods for dough prior to baking	A21D 8/02
Testing dough properties	G01N 33/10

Synonyms and Keywords

In patent documents the following expressions/words "proofer, prover, proofing, proving, to proof, to prove, rise, rising (E)", "Gärschrank, gären, treiben, aufgehen (G)" and "fermenter, cuver (F)" are often used as synonyms.

A21C 14/00

Machines or equipment for making or processing dough, not provided for in other groups of this subclass

Definition statement

This subclass/group covers:

Apparatus, devices and hand tools used for marking dough.

A21C 15/00

Apparatus for handling baked articles

Definition statement

This subclass/group covers:

Apparatus for handling baked articles in the broadest sense, such as:

Apparatus for conveying, manipulating baked articles.

Apparatus for further refinement of baked articles, e.g. filling, coating, spreading materials onto, shaping.

Apparatus for specifically cutting baked articles other than bread.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Discharging baked goods from tins	A21B 3/18
Cutting or slicing bread	B26B , B26D
Machines for packaging articles in general	B65B
Machines for arranging, feeding, orientating and packaging biscuits	B65B 23/12
Transport and Storage Devices in general	B65G

A21C 15/005

Apparatus for coating the surface of baked articles of which at least the dispensing part is hand-held, e.g. comprising a flexible container, pouch or gun-like applicator

Informative references

Attention is drawn to the following places, which may be of interest for search:

Piping Bags for confectionary	A23G 3/28
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A21C 15/02

Apparatus for shaping or moulding baked wafers; Making multi-layer wafer sheets

Informative references

Attention is drawn to the following places, which may be of interest for search:

Apparatus for baking wafers	A21B 5/02
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Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Wafer	any sheet like baked product being, at ambient temperature, either rigid or soft
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Synonyms and Keywords

In patent documents the following expressions/words "waffle, wafer (E)", "gaufre (F)" and "Waffel (G)" are often used as synonyms.

A21C 15/04

Cutting or slicing machines or devices specially adapted for baked articles other than bread (for cutting or slicing bread B26B, B26D)

Informative references

Attention is drawn to the following places, which may be of interest for search:

Halving buns	B26D 3/30
Cutting e.g. pies in segments	B26D 3/24