

A21C

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

Definition statement

This place 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

Limiting references

This place does not cover:

Dough and dough or bakery products as such, e.g. chemical treatment or recipes	A21D
Pasta and noodles as such	A23L 7/109

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 place, 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

Definition statement

This place 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.

Relationships with other classification places

In general, methods or devices which are directed to the chemical aspects of 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 related to the mixing and/or kneading machine are classified in [A21D](#).

References

Informative references

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

Mixing devices in domestic bread preparation machines	A21B 7/00
Treatment of flour or dough for baking, e.g. by addition of materials; Baking; Bakery products	A21D
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

Special rules of classification

In this subgroup, 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

{Methods}

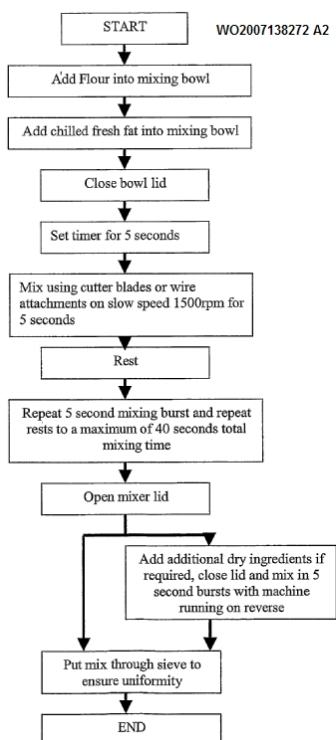
Definition statement

This place covers:

Purely mechanical methods for operating a dough mixing or kneading machine.

Definition statement

Example:

**A21C 1/02****with vertically-mounted tools; Machines for whipping or beating****References****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 27/805
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A21C 1/083

{by calendering, i.e. working between rollers (using rollers for shaping dough
[A21C 3/02](#))}

Definition statement

This place covers:

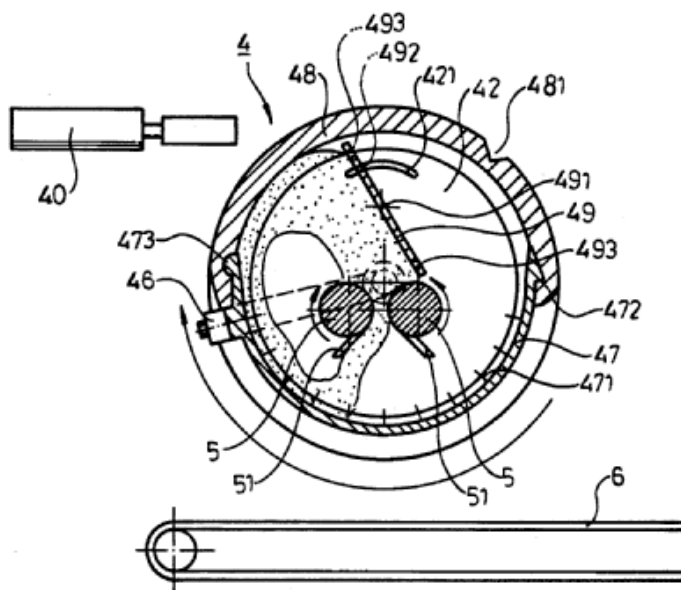
For example:

U.S. Patent

Feb. 15, 1994

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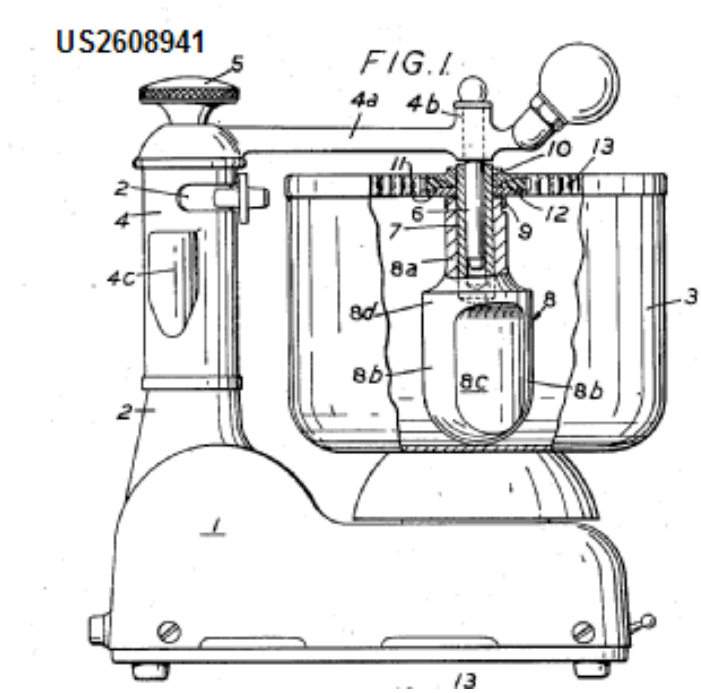
A21C 1/086

{having a receptacle rotating about a vertical axis cooperating with rotary rollers}

Definition statement

This place covers:

For example:



A21C 1/1465

{Drives}

References

Limiting references

This place 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.

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

A21C 1/148

{Safety arrangements ([A21C 1/1485](#) takes precedence)}

References

Limiting references

This place does not cover:

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

A21C 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}

Definition statement

This place covers:

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

References

Limiting references

This place does not cover:

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

A21C 3/00

Machines or apparatus for shaping batches of dough before subdivision

Definition statement

This place covers:

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

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

Machines for twisting strips of dough followed by subdividing to obtain the final shape.

Machines for coiling sheets of dough to obtain the final shape or followed by subdividing.

References

Informative references

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

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 3/02

Dough-sheeters; Rolling-machines; Rolling-pins

References

Informative references

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

Mixing or kneading dough by rollers	A21C 1/08
Non-manual rolling and working of discrete dough pieces	A21C 7/00

A21C 3/06

Machines for coiling sheets of dough, e.g. for producing rolls

Definition statement

This place covers:

This place also covers crescent-rolls.

References

Informative references

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

Machines which homogenise the subdivided dough by working other than by kneading	A21C 7/00
Apparatus for filling pieces of dough such as doughnuts	A21C 9/06

A21C 5/00

Dough-dividing machines

Definition statement

This place covers:

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

References

Informative references

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

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}****Definition statement***This place covers:*

Dough-dividing machines for dividing liquid or semi-liquid dough by intermittently dispensing.

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

Machines which homogenise the subdivided dough other than by kneading combined with dividing machines with radial cutter-blades slidable in the slots of a pressing-plunger	A21C 7/06
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Special rules of classification

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 place covers:

Machines for working or rounding discrete dough portions.

References

Informative references

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

Kneading dough	A21C 1/00
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Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- "working, rounding (E)", "wirken (G)" and "travailler (F)"

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

References

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

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 place covers:

Other apparatus for handling (opposed to shaping or forming) dough or dough pieces in the broadest sense not covered by groups [A21C 3/00](#) - [A21C 7/00](#) and [A21C 13/00](#) - [A21C 14/00](#), 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 {(coating baked articles [A21C 15/002](#))}

References**Informative references**

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

Coated foodstuff	A23P 20/00
Breading apparatus	A23P 20/12

A21C 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](#))}

References**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 place covers:

Machines not covered in [A21C 3/00](#) - [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

References**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

Definition statement

This place covers:

Climate controlled spaces or chambers for dough.

Relationships with other classification places

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

References

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 words/expressions are often used as synonyms:

- "proofer, prover, proofing, proving, to proof, to prove, rise, rising (E)", "Gärschrank, gären, treiben, aufgehen (G)" and "fermenter, cuver (F)"

A21C 14/00

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

Definition statement

This place covers:

Machines or equipment for making or processing dough, not provided for in other groups of this subclass, e.g. apparatus, devices and hand tools used for marking dough.

A21C 15/00

Apparatus for handling baked articles

Definition statement

This place covers:

Apparatus for handling and refining baked articles.

Apparatus for specifically cutting baked articles other than bread.

References

Informative references

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

Discharging baked goods from tins	A21B 3/18
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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

{of which at least the dispensing part is hand-held, e.g. comprising a flexible container, pouch or gun-like applicator}

Definition statement

This place covers:

Apparatus for coating the surface of baked articles comprising a stationary part, e.g. a tank and a hand-held dispensing part, e.g. a gun-like applicator.

Apparatus for coating the surface of baked articles being entirely hand-held.

References

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

References

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 place, 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 words/expressions are often used as synonyms:

- "waffle, wafer (E)", "gaufre (F)" and "Waffel (G)"

A21C 15/04

Cutting or slicing machines or devices specially adapted for baked articles other than bread

References

Informative references

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

Cutting or slicing machines or devices specially adapted for cutting or slicing bread	B26B , B26D
Cutting to obtain segments other than slices, e.g. cutting pies in segments other than slices	B26D 3/24
Halving buns	B26D 3/30