

## 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, recipes, preservation	<a href="#">A21D</a>
Pasta and noodles as such	<a href="#">A23L 7/109</a>

##### Informative references

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

Baker's ovens; machines or equipment for baking	<a href="#">A21B</a>
Confectionary	<a href="#">A23G</a>
Machines for shaping or working of foodstuff not fully covered by other subclasses, e.g. <a href="#">A21C</a>	<a href="#">A23P</a>
Machines for mixing	<a href="#">B01F</a>
Machines for packaging articles	<a href="#">B65B</a>
Machines for arranging, feeding or orienting biscuits	<a href="#">B65B 23/12</a>
Transport or storage devices in general	<a href="#">B65G</a>
Measuring or metering of fluent solids other than dough by volume	<a href="#">G01F</a>

#### 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	<a href="#">A21B 7/00</a>
Treatment, e.g. preservation, of flour or dough, e.g. by addition of materials; Baking; Bakery products; Preservation thereof	<a href="#">A21D</a>
Domestic mixing or kneading machines	<a href="#">A47J 43/00</a> , <a href="#">A47J 44/00</a>
Mixing in general	<a href="#">B01F</a>
Mixing or kneading of substances in a plastic state in general	<a href="#">B29B 7/00</a>

#### 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

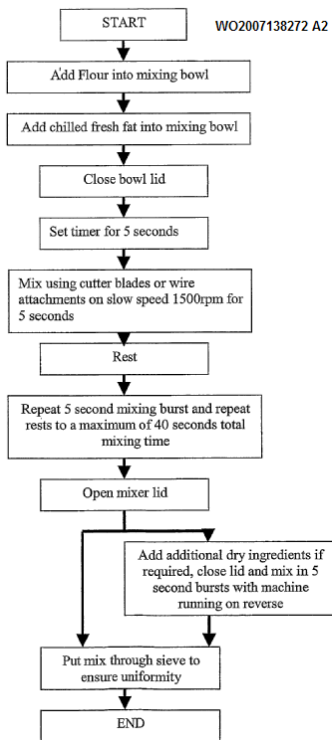
### {Methods}

#### Definition statement

*This place covers:*

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

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	<a href="#">B01F 27/805</a>
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## A21C 1/083

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

### Definition statement

*This place covers:*

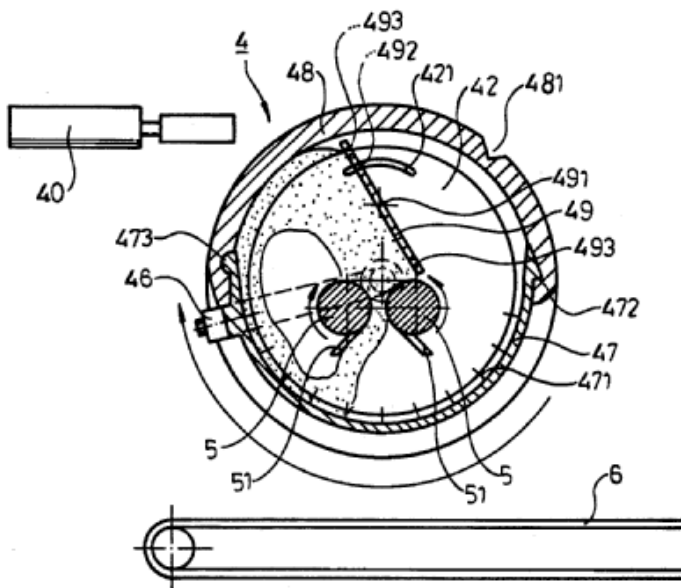
For example:

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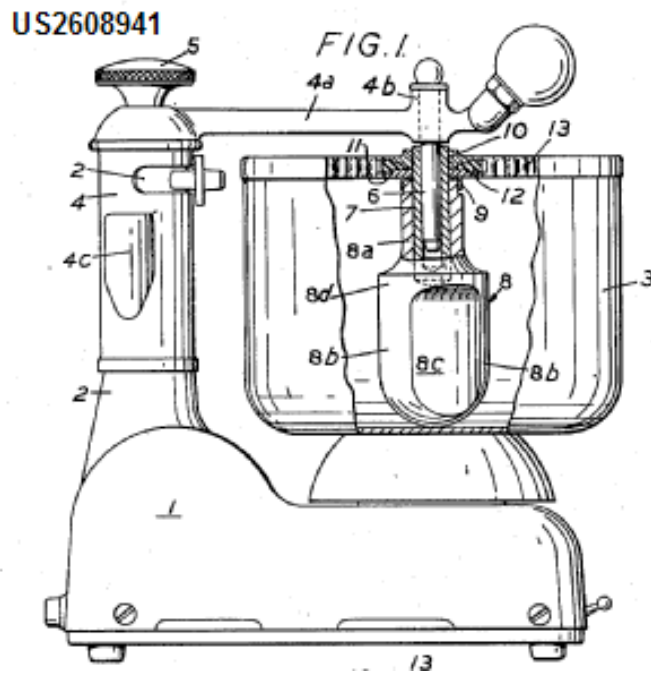
**A21C 1/086**

{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	<a href="#">F03D</a>
Hydraulic motors	<a href="#">F15B</a>
Brakes	<a href="#">F16D</a>
Couplings	<a href="#">F16D</a>
Transmissions	<a href="#">F16G</a> , <a href="#">F16H</a>
Electric motors	<a href="#">H02K</a>

## 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	<a href="#">A21C 1/1485</a>
Safety devices in general	<a href="#">F16P</a>

## 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	<a href="#">A21C 1/149</a>
Heat exchangers in general	<a href="#">F28</a>

## 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	<a href="#">A21C 11/16</a>
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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	<a href="#">A21C 1/08</a>
Non-manual rolling and working of discrete dough pieces	<a href="#">A21C 7/00</a>

## 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	<a href="#">A21C 7/00</a>
Apparatus for filling pieces of dough such as doughnuts	<a href="#">A21C 9/06</a>

## 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	<a href="#">A21C 3/10</a>
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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	<a href="#">A21B 5/02</a>
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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	<a href="#">G01F 11/021</a>
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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 diving machines with radial cutter-blades slidable in the slots of a pressing-plunger	<a href="#">A21C 7/06</a>
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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	<a href="#">A21C 1/00</a>
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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	<a href="#">A21C 5/08</a>
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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	<a href="#">A23P 20/00</a>
Breading apparatus	<a href="#">A23P 20/12</a>

## 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	<a href="#">A21B 3/07</a>
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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	<a href="#">B26D 3/12</a>
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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	<a href="#">A21B</a>
Treating methods for dough prior to baking	<a href="#">A21D 8/02</a>
Testing dough properties	<a href="#">G01N 33/10</a>

#### 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	<a href="#">A21B 3/18</a>
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Cutting or slicing bread	<a href="#">B26B</a> , <a href="#">B26D</a>
Machines for packaging articles in general	<a href="#">B65B</a>
Machines for arranging, feeding, orientating and packaging biscuits	<a href="#">B65B 23/12</a>
Transport and Storage Devices in general	<a href="#">B65G</a>

## 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	<a href="#">A23G 3/28</a>
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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	<a href="#">A21B 5/02</a>
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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	<a href="#">B26B</a> , <a href="#">B26D</a>
Cutting to obtain segments other than slices, e.g. cutting pies in segments other than slices	<a href="#">B26D 3/24</a>
Halving buns	<a href="#">B26D 3/30</a>