

C12C

BREWING OF BEER (cleaning of raw materials [A23N](#); pitching and depitching machines, cellar tools [C12L](#); propagating yeasts [C12N 1/14](#); non-beverage ethanolic fermentation [C12P 7/06](#))

Definition statement

This place covers:

Raw materials used in preparing beer (e.g. malt, hops), and treatment thereof.

Preparation of wort.

Fermentation processes for beer.

Processes for producing special kinds of beer.

Brewing devices.

Beer per se.

Relationships with other classification places

[C12H](#) deals only with pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages.

Post-fermentation treatment such as carbonation is subject matter of this subclass but is classified in [C12H](#) when combined with subject matter of that subclass.

Low alcohol beer is classified in [C12C 12/04](#).

Low alcohol of wine is classified in [C12G 1/00](#) and others low alcohol beverages are classified in [C12G 3/08](#).

References

Limiting references

This place does not cover:

| | |
|--|----------------------------|
| Preparation of malt for use as foodstuffs | A23L |
| Cleaning of raw materials, e.g. fruit and vegetables | A23N |
| Containers with means for effervescing potable liquids | B65D 85/73 |
| Pitching or depitching machines, or cellar tools | C12L |
| Propagating yeasts | C12N 1/14 |

Informative references

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

| | |
|--|---------------------------|
| Separation of solids from liquids in general | B01D |
| Ethanolic fermentation for non-beverage purposes | C12P 7/06 |

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|--------------------|--|
| Beer | The term beer includes alcoholic drinks produced by the fermentation of sugars derived from grains of barley, wheat, sorghum, maize or rice. |
| Brew kettles | Apparatus in which the wort is boiled. |
| Caramel/black malt | Malt which has been sufficiently heated to caused sugars to caramelize. |
| Fermentation | Process whereby yeast converts sugar to ethyl alcohol. |
| Germ | The germ is the shoot which has started to grow from a grain. |
| Immobilized yeast | The yeast is absorbed on a material instead of being dispersed in the liquid. |
| Low alcohol | This is beer which has a lower alcohol content than would be expected from complete fermentation of the wort. |
| Malt | Malt is the term used for partially germinated and subsequently dried grains in which part of the starch has been converted to sugar. |
| Mash | Mash is a mixture of malt and water. Mashing refers to the process of extracting the sugars from the grains, often at elevated temperature. |
| Pitching | This is the process of adding yeast to the wort. |
| Steeping | Soaking the grains in water primarily to stimulate germination. |
| Wort | Wort is the liquid part of the mash which is left after removal of the insolubles |

Synonyms and Keywords

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

- "Low alcohol", "Reduced alcohol" and "dealcoholized"

In patent documents, the following words/expressions are often used with the meaning indicated:

| | |
|---------------------------------------|------------------|
| "malt" | "malted barley". |
| " Secondary sources of starch/ sugar" | " adjuncts. |
| "wort" | "beerwort". |
| "Brew kettles" | "coppers". |
| " Water when used in brewing" | "liquor". |

C12C 1/00

Preparation of malt

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer.

References

Limiting references

This place does not cover:

| | |
|-------------------------------|---------------------------|
| Malt products for use in food | A23L 7/20 |
|-------------------------------|---------------------------|

Special rules of classification

Methods or apparatus for preparing malt for purposes other than brewing beer may/might be classified in this group if there is a similarity with typical beer brewing methods/apparatus and/or if no group that is more pertinent exists.

C12C 1/02

Pretreatment of grains, e.g. washing, steeping

Definition statement

This place covers:

Methods or apparatus for the pretreatment of brewing grains, such as cleaning, washing or steeping.

References

Limiting references

This place does not cover:

| | |
|----------------------------------|----------------------|
| Preparation of grain for milling | B02B |
|----------------------------------|----------------------|

C12C 1/027

Germinating

Definition statement

This place covers:

Germination of brewing grains.

C12C 1/0275

{on single or multi-stage floors}

Definition statement

This place covers:

Germination of brewing grains on single or multi-stage floors.

References

Limiting references

This place does not cover:

| | |
|-------------------------------|----------------------------|
| Germination in boxes or drums | C12C 1/033 |
|-------------------------------|----------------------------|

Special rules of classification

For the distinction of "floors" from "boxes" the dimensions are relevant: the term "floors" designates large surfaces (such as classical hurdles), whereas "boxes" implies relatively small surface areas.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|--------|------------------------------------|
| Hurdle | Malt germination (or drying) floor |
|--------|------------------------------------|

C12C 1/033

in boxes or drums

Definition statement

This place covers:

Germination of brewing grains in boxes or drums.

References

Limiting references

This place does not cover:

| | |
|---|-----------------------------|
| Germination of brewing grains on single or multi-stage floors | C12C 1/0275 |
|---|-----------------------------|

Informative references

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

| | |
|--|---------------------------|
| Malt drying on moving supports (may involve drums) | C12C 1/12 |
|--|---------------------------|

Special rules of classification

For the distinction of "floors" from "boxes" the dimensions are relevant: the term "floors" designates large surfaces (such as classical hurdles), whereas "boxes" implies relatively small surface areas.

C12C 1/047

Influencing the germination by chemical or physical means

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer, wherein the germination is influenced by chemical and/or physical means.

C12C 1/053

by irradiation or electric {or wave energy} treatment

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer, wherein the germination is influenced by irradiation, electric or wave energy treatment.

C12C 1/067

Drying

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying.

References

Informative references

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

| | |
|--------------------------------------|----------------------------|
| Continuous or semi-continuous drying | C12C 1/125 |
|--------------------------------------|----------------------------|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|----------------------|--------------------------|
| Kilning, kiln-drying | Drying of malt in a kiln |
|----------------------|--------------------------|

C12C 1/073

Processes or apparatus specially adapted to save or recover energy

Definition statement

This place covers:

Methods or apparatus specially adapted to save or recover energy during drying of brewing grains.

Special rules of classification

Since saving or recovering energy is a general goal of grain drying, this symbol should only be given if the respective means are specifically emphasised and/or claimed, i.e. if they form an important aspect of the invention.

C12C 1/10

Drying on fixed supports

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying on fixed supports.

C12C 1/12

Drying on moving supports

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying on moving supports.

Special rules of classification

This symbol is only to be given if the supports move during the drying process (i.e. rotating hurdles). For instance, floor segments that can be inclined to discharge grains do not fall within this group, because they are actuated only when drying is complete.

C12C 1/125**Continuous or semi-continuous processes for steeping, germinating or drying****Definition statement**

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains.

References**Limiting references**

This place does not cover:

| | |
|--|--|
| Batch mode steeping, germination and/or drying of brewing grains | C12C 1/02 , C12C 1/027 , C12C 1/067 |
|--|--|

Special rules of classification

This symbol should be given if (semi-) continuous steeping, germination and/or drying is specifically emphasised and/or claimed.

C12C 1/13**with vertical transport of the grains****Definition statement**

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains, wherein the grains are transported vertically.

C12C 1/135**with horizontal transport of the grains****Definition statement**

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains, wherein the grains are transported horizontally.

C12C 1/15**Grain or malt turning, charging or discharging apparatus****Definition statement**

This place covers:

Apparatus for turning, charging and/or discharging brewing grain or malt.

C12C 1/16

After-treatment of malt, e.g. malt cleaning, detachment of the germ

Definition statement

This place covers:

Methods or apparatus for the after-treatment of malt, e.g. malt cleaning or detachment of the germ.

C12C 1/18

Preparation of malt extract or of special kinds of malt, e.g. caramel, black malt (malt products for use as foodstuffs [A23L](#))

Definition statement

This place covers:

Preparation of malt extract or of special kinds of malt, e.g. caramel malt, black malt.

References

Limiting references

This place does not cover:

| | |
|-------------------------------------|---------------------------|
| Preparation of wort | C12C 7/00 |
| Malt products for use as foodstuffs | A23L 7/20 |

C12C 3/00

Treatment of hops

Definition statement

This place covers:

Apparatus and methods adapted for the treatment of hops used in brewing beer.

References

Limiting references

This place does not cover:

| | |
|--------------------------------------|----------------------------|
| Boiling of wort (beerwort) with hops | C12C 7/205 |
|--------------------------------------|----------------------------|

C12C 3/02

Drying

Definition statement

This place covers:

Apparatus and methods adapted for drying hops used in brewing beer.

References

Informative references

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

| | |
|----------------------|---------------------------|
| Processes for drying | F26B 3/00 |
| Apparatus for drying | F26B 9/00 |

C12C 3/04

Conserving; Storing; Packing

Definition statement

This place covers:

Apparatus or methods adapted for conserving, storing and/or packaging hops used in brewing beer.

References

Limiting references

This place does not cover:

| | |
|-----------------------|---------------------------|
| Preservation of foods | A23L 3/00 |
|-----------------------|---------------------------|

C12C 3/06

Powder or pellets from hops

Definition statement

This place covers:

Apparatus or methods adapted for the preparation of hop powder or hop pellets.

C12C 3/08

Solvent extracts from hops

Definition statement

This place covers:

Methods or apparatus for the preparation of solvent extracts from hops.

References

Limiting references

This place does not cover:

| | |
|--------------------------------------|----------------------------|
| Boiling of wort (beerwort) with hops | C12C 7/205 |
|--------------------------------------|----------------------------|

C12C 3/085**{Extraction of hops with beerwort}****Definition statement**

This place covers:

Methods or apparatus for the solvent extraction of hops with beerwort.

References**Limiting references**

This place does not cover:

| | |
|--------------------------------------|----------------------------|
| Boiling of wort (beerwort) with hops | C12C 7/205 |
|--------------------------------------|----------------------------|

C12C 3/10**using carbon dioxide****Definition statement**

This place covers:

Methods or apparatus for the solvent extraction of hops using carbon dioxide.

C12C 3/12**Isomerised products from hops****Definition statement**

This place covers:

Methods or apparatus for preparing isomerised products from hops used in beer brewing.

C12C 5/00**Other raw materials for the preparation of beer****Definition statement**

This place covers:

Raw materials or ingredients other than malt (or grains) and hops for the preparation of beer.

References**Limiting references**

This place does not cover:

| | |
|------|---------------------------|
| Malt | C12C 1/00 |
| Hops | C12C 3/00 |

C12C 5/002**{Brewing water}****Definition statement***This place covers:*

Brewing water used as ingredient for preparing beer.

C12C 5/004**{Enzymes}****Definition statement***This place covers:*

Enzymes used as raw material (or as ingredient) in the preparation of beer.

References**Limiting references***This place does not cover:*

| | |
|---|---------------------------|
| The use of malt extract or special malt products as enzyme source | C12C 1/18 |
|---|---------------------------|

C12C 5/006**{Beta-glucanase or functionally equivalent enzymes}****Definition statement***This place covers:*

Beta-glucanase or functionally equivalent enzymes used as raw material or as ingredient in the preparation of beer.

Glossary of terms*In this place, the following terms or expressions are used with the meaning indicated:*

| | |
|-------------------------|---|
| Functionally equivalent | Beta-glucanase is usually added to avoid "gushing", i.e. undesired excessive foaming of beer. Enzymes other than Beta-glucanase used to give the same effect are considered as functionally equivalent. |
|-------------------------|---|

C12C 5/008**{Hop surrogates}****Definition statement***This place covers:*

Use of hop surrogates as raw material or ingredient in the preparation of beer.

References

Limiting references

This place does not cover:

| | |
|--|---------------------------|
| Hops, i.e. the standard hopping ingredient | C12C 3/00 |
|--|---------------------------|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|----------------|---|
| Hop surrogates | Materials used for obtaining the same or similar effects usually provided by hop, in particular flavouring. |
|----------------|---|

C12C 5/02

Additives for beer

Definition statement

This place covers:

Additives for beer.

References

Limiting references

This place does not cover:

| | |
|----------------------------|---------------------------|
| Preserving agents for beer | C12H 1/14 |
|----------------------------|---------------------------|

Special rules of classification

This group is considered as relating to the addition of additives to finished beer only.

C12C 5/023

{enhancing the vitamin content}

Definition statement

This place covers:

Beer additives used for enhancing the vitamin content.

References

Limiting references

This place does not cover:

| | |
|--------------------------|----------------------------|
| Adding vitamins to foods | A23L 33/15 |
|--------------------------|----------------------------|

Special rules of classification

This group covers also any vitamin containing material in so far as the purpose of its addition is indicated to be vitamin enrichment of beer.

This group is considered as relating to the addition of (vitamin containing) additives to finished beer only.

C12C 5/026

{Beer flavouring preparations}

Definition statement

This place covers:

Beer additives used for flavouring purposes.

References

Limiting references

This place does not cover:

| | |
|--|----------------------------|
| Hops | C12C 3/00 |
| Hop surrogates | C12C 5/008 |
| Flavouring additives for non-alcoholic beverages | A23L 2/56 |

Special rules of classification

This group is considered as relating to the addition of flavouring additives to finished beer only.

C12C 5/04

Colouring additives

Definition statement

This place covers:

Beer additives used for colouring purposes.

References

Limiting references

This place does not cover:

| | |
|-------------------------------------|---------------------------|
| Black malt or other colouring malts | C12C 1/18 |
|-------------------------------------|---------------------------|

Special rules of classification

This group is considered as relating to the addition of colouring additives to finished beer only.

C12C 7/00

Preparation of wort (malt extract [C12C 1/18](#))

Definition statement

This place covers:

Methods or apparatus for preparing wort in a beer brewing process.

Methods or apparatus for preparing wort in processes other than beer brewing, e.g. production of industrial alcohol from cereals, in so far as significant similarities with the usual beer brewing methods or apparatus and/or no classes that are more relevant exist.

Relationships with other classification places

Wort preparation is also common in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

References

Limiting references

This place does not cover:

| | |
|--------------|---------------------------|
| Malt extract | C12C 1/18 |
|--------------|---------------------------|

Special rules of classification

Until further notice, wort preparation in processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the usual beer brewing methods or apparatus and/or no better classes for covering the subject-matter exist.

Synonyms and Keywords

In patent documents, the following words/expressions are often used with the meaning indicated:

| | |
|----------|---------------|
| " Wort " | " beerwort ". |
|----------|---------------|

C12C 7/01

Pretreatment of malt, e.g. malt grinding

Definition statement

This place covers:

Methods or apparatus for pre-treating malt, e.g. malt grinding used for preparing wort in a beer brewing process.

References

Informative references

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

| | |
|---|----------------------|
| Preparation of grain for milling in general | B02B |
| Milling grain in general | B02C |

C12C 7/04

Preparation or treatment of the mash

Definition statement

This place covers:

Methods or apparatus for preparing or treating mash in a beer brewing process.

Relationships with other classification places

Mash preparation is also common in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

Special rules of classification

Until further notice, mash preparation in processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the usual beer brewing methods or apparatus and/or no better classes for covering the subject-matter exist.

C12C 7/042

{Mixing malt with water}

Definition statement

This place covers:

Methods or apparatus for mixing malt with water in the preparation of mash for beer brewing.

References

Limiting references

This place does not cover:

| | |
|-------------------------|---------------------------|
| Steeping brewing grains | C12C 1/02 |
|-------------------------|---------------------------|

C12C 7/044

{Cooling the mash ([C12C 7/067](#) takes precedence)}

Definition statement

This place covers:

Methods for cooling the mash in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|--|----------------------------|
| Apparatus, with cooling means for cooling the mash in a beer brewing process, per se | C12C 7/067 |
|--|----------------------------|

C12C 7/047

part of the mash being unmalted cereal mash

Definition statement

This place covers:

Methods for preparing or treating mash in a beer brewing process, wherein at least part of the mash is derived from unmalted cereal material.

References

Limiting references

This place does not cover:

| | |
|----------------------------|----------------------------|
| Use of non-cereal material | C12C 7/053 |
|----------------------------|----------------------------|

C12C 7/053

part of the mash being non-cereal material

Definition statement

This place covers:

Methods for preparing or treating mash in a beer brewing process, wherein at least part of the mash is derived from non-cereal material.

References

Limiting references

This place does not cover:

| | |
|---------------------------------|----------------------------|
| Use of unmalted cereal material | C12C 7/047 |
|---------------------------------|----------------------------|

C12C 7/06

Mashing apparatus

Definition statement

This place covers:

Mashing apparatus adapted for preparing and/or treating the mash in a beer brewing process.

Until further notice, mashing apparatus adapted for processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the apparatus typically used in beer brewing and/or no better classes for covering the subject-matter exist.

Relationships with other classification places

Mashing apparatus are also commonly used in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

C12C 7/062

{with a horizontal stirrer shaft}

Definition statement

This place covers:

Mashing apparatus with a horizontal stirrer shaft, adapted for preparing and/or treating the mash in a beer brewing process.

C12C 7/065**{with a vertical stirrer shaft}****Definition statement***This place covers:*

Mashing apparatus with a vertical stirrer shaft, adapted for preparing and/or treating the mash in a beer brewing process.

C12C 7/067**{with cooling means}****Definition statement***This place covers:*

Mashing apparatus with cooling means, adapted for preparing and/or treating the mash in a beer brewing process.

References**Limiting references***This place does not cover:*

| | |
|--|----------------------------|
| Methods for cooling the mash in a beer brewing process | C12C 7/044 |
|--|----------------------------|

C12C 7/14**Clarifying wort (Läuterung)****Definition statement***This place covers:*

Methods or apparatus for converting mash into wort by clarification, which relate to a beer brewing process (typically Läuterung, i.e. "lautering").

C12C 7/16**by straining****Definition statement***This place covers:*

Methods or apparatus for converting mash into wort by straining, which relate to a beer brewing process.

Synonyms and Keywords*In patent documents, the following words/expressions are often used with the meaning indicated:*

| | |
|---------------|----------------|
| " Straining " | " filtering ". |
|---------------|----------------|

C12C 7/161**{in a tub with a perforated false bottom}****Definition statement***This place covers:*Note: This group no longer used, see corresponding group [C12C 7/17](#).**C12C 7/163****{with transport of the mash by or relative to a filtering surface}****Definition statement***This place covers:*

Methods or apparatus for converting mash into wort by straining, relating to a beer brewing process, with transport of the mash by or relative to a filtering surface.

C12C 7/165**in mash filters****Definition statement***This place covers:*

Methods or apparatus for converting mash into wort by straining in mash filters, relating to a beer brewing process.

References**Limiting references***This place does not cover:*

| | |
|--------------------------|---------------------------|
| Straining in lauter tuns | C12C 7/17 |
|--------------------------|---------------------------|

C12C 7/17**in lautertuns{, e.g. in a tub with perforated false bottom}****Definition statement***This place covers:*

Methods or apparatus for converting mash into wort by straining in a lauter tun, relating to a beer brewing process.

References**Limiting references***This place does not cover:*

| | |
|---------------------------|----------------------------|
| Straining in mash filters | C12C 7/165 |
|---------------------------|----------------------------|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|------------|--|
| Lauter tun | Tub or vessel having a false / perforated bottom for straining / filtering |
|------------|--|

C12C 7/175**by centrifuging****Definition statement**

This place covers:

Methods or apparatus for converting mash into wort by centrifuging, relating to a beer brewing process.

C12C 7/20**Boiling the beerwort (brew kettles [C12C 13/02](#))****Definition statement**

This place covers:

Methods or apparatus for boiling the wort in a beer brewing process.

References**Limiting references**

This place does not cover:

| | |
|---------------------------------------|----------------------------|
| Brewing kettles used for boiling wort | C12C 13/02 |
|---------------------------------------|----------------------------|

C12C 7/205**{Boiling with hops}****Definition statement**

This place covers:

Methods or apparatus for boiling the wort with hops in a beer brewing process.

References**Limiting references**

This place does not cover:

| | |
|---------------------------------------|----------------------------|
| Hop extraction with wort | C12C 3/085 |
| Brewing kettles used for boiling wort | C12C 13/02 |

C12C 7/22

Processes or apparatus specially adapted to save or recover energy

Definition statement

This place covers:

Methods or apparatus for boiling the wort with hops in a beer brewing process, which are adapted to save or recover energy.

References

Limiting references

This place does not cover:

| | |
|--|----------------------------|
| Brewing kettles used for boiling wort in general | C12C 13/02 |
|--|----------------------------|

Special rules of classification

This group should be used only if saving and/or recovering energy is specifically emphasised and/or claimed.

C12C 7/24

Clarifying beerwort between hop boiling and cooling

Definition statement

This place covers:

Apparatus and methods for clarifying wort between hop boiling and cooling, relating to a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|--|---------------------------|
| Clarification of wort during or after cooling; Cooling as such | C12C 7/26 |
|--|---------------------------|

Special rules of classification

If the specific stage of clarification (i.e. before, during or after boiling) is not indicated, [C12C 7/24](#) (rather than [C12C 7/26](#)) is allocated.

This rule is based on the consideration (or assumption) that the standard brewing procedure involves clarifying prior to cooling.

C12C 7/26

Cooling beerwort; Clarifying beerwort during or after the cooling

Definition statement

This place covers:

Apparatus or methods for cooling wort and/or for clarifying wort during or after the cooling, relating to a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|---------------------------|---------------------------|
| Clarifying before cooling | C12C 7/24 |
|---------------------------|---------------------------|

Special rules of classification

If the specific stage of clarification (i.e. before, during or after boiling) is not indicated, [C12C 7/24](#) (rather than [C12C 7/26](#)) is allocated.

This rule is based on the consideration (or assumption) that the standard brewing procedure involves clarifying prior to cooling.

C12C 7/28

After-treatment{, e.g. sterilisation ([C12C 11/00](#) takes precedence)}

Definition statement

This place covers:

Methods or apparatus for after-treatment of wort in a beer brewing process (e.g. sterilisation).

References

Limiting references

This place does not cover:

| | |
|----------------------|----------------------------|
| Fermentation of wort | C12C 11/00 |
| Acidifying the wort | C12C 11/06 |

Special rules of classification

Until further notice, "after-treatment" is considered as covering the stages between wort boiling and fermentation. In case of doubt, "after treatment of wort " should be given a broad scope and considered as covering various types of treatment. When a certain treatment qualifies specifically as after-treatment of wort, the symbol should be given.

C12C 7/282

{Concentration or beerwort}

Definition statement

This place covers:

Methods or apparatus for the concentration of wort in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|----------------|----------------------------|
| Drying of wort | C12C 7/285 |
|----------------|----------------------------|

C12C 7/285**{Drying beerwort}****Definition statement***This place covers:*

Methods or apparatus for drying wort in a beer brewing process.

References**Limiting references***This place does not cover:*

| | |
|-----------------------|----------------------------|
| Concentration of wort | C12C 7/282 |
|-----------------------|----------------------------|

C12C 7/287**{Treating beerwort with hopextract ([C12C 7/205](#) takes precedence)}****Definition statement***This place covers:*

Methods or apparatus for treating wort with hop extract, as after-treatment of wort in a beer brewing process.

References**Limiting references***This place does not cover:*

| | |
|----------------------------------|----------------------------|
| Extraction of hops with beerwort | C12C 3/085 |
| Boiling wort with hops | C12C 7/205 |

C12C 9/00**{Methods specially adapted for the making of beerwort}****Definition statement***This place covers:*

Note: This group is no longer used, see warning in header.

C12C 9/02**{Beerwort treatment; Boiling with hops; Hop extraction}****Definition statement***This place covers:*

Note: This group is no longer used, see warning in header.

C12C 9/025

{Preparation of hop extracts (extraction with beerwort [C12C 9/02](#));
Isomerisation of these extracts; Treatment of beerwort with these extracts;
Surrogates of the hop}

Definition statement

This place covers:

Note: This group is no longer used, see warning in header.

C12C 11/00

Fermentation processes for beer (preparation of wine [C12G 1/00](#))

Definition statement

This place covers:

Methods or apparatus for fermentation in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|---|---------------------------|
| Preparation of wine | C12G 1/00 |
| Preparation of alcoholic beverages other than beer and wine | C12G 3/00 |
| Non-beverage alcoholic fermentation | C12P 7/06 |

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

C12C 11/003

{Fermentation of beerwort}

Definition statement

This place covers:

Methods or apparatus adapted for the fermentation of wort in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|---|----------------------------|
| Continuous fermentation | C12C 11/07 |
| Preparation of wine | C12G 1/00 |
| Preparation of alcoholic beverages other than beer and wine | C12G 3/00 |
| Non-beverage alcoholic fermentation | C12P 7/06 |

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

C12C 11/006

{Fermentation tanks therefor}

Definition statement

This place covers:

Fermentation tanks adapted for the fermentation of wort in a beer brewing process.

References**Limiting references**

This place does not cover:

| | |
|--|-----------------------------|
| Bioreactors, i.e. fermentation tanks for continuous fermentation | C12C 11/075 |
|--|-----------------------------|

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

C12C 11/02

Pitching yeast

Definition statement

This place covers:

Methods for pitching yeast for the fermentation of wort in a beer brewing process.

References**Limiting references**

This place does not cover:

| | |
|-------------------|---------------------------|
| Propagating yeast | C12N 1/16 |
|-------------------|---------------------------|

Informative references

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

| | |
|----------------------------------|---------------------------|
| Pitching and depitching machines | C12L 3/00 |
|----------------------------------|---------------------------|

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|----------|--|
| Pitching | Seeding yeast to initiate/allow fermentation |
|----------|--|

C12C 11/06

Acidifying the wort

Definition statement

This place covers:

Methods or apparatus adapted for acidifying the wort to be fermented in a beer brewing process.

C12C 11/07

Continuous fermentation

Definition statement

This place covers:

Methods or apparatus adapted for continuous fermentation in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|---|-----------------------------|
| Fermentation of beerwort in general (in particular discontinuous) | C12C 11/003 |
|---|-----------------------------|

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

Special rules of classification

This group is pertinent if the aspect of continuous fermentation is specifically emphasised and/or claimed.

This group takes precedence over [C12C 11/003](#).

C12C 11/075

{Bioreactors for continuous fermentation}

Definition statement

This place covers:

Bioreactors adapted for continuous fermentation in a beer brewing process.

References

Limiting references

This place does not cover:

| | |
|--|-----------------------------|
| Fermentation tanks in general (in particular for discontinuous fermentation) | C12C 11/006 |
|--|-----------------------------|

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

Special rules of classification

This group is pertinent if the aspect of continuous fermentation is specifically emphasised and/or claimed.

C12C 11/09**Fermentation with immobilised yeast****Definition statement**

This place covers:

Methods or apparatus adapted for fermentation in a beer brewing process, wherein immobilised yeast is used.

References**Limiting references**

This place does not cover:

| | |
|-------------------------|----------------------------|
| Continuous fermentation | C12C 11/07 |
|-------------------------|----------------------------|

Informative references

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

| | |
|-----------------------------------|----------------------|
| Fermentation apparatus in general | C12M |
|-----------------------------------|----------------------|

C12C 11/11

Post fermentation treatments, e.g. carbonation, concentration ([C12H](#) takes precedence; containers with means specially adapted for effervescing potable liquids [B65D 85/73](#))

Definition statement

This place covers:

Methods or apparatus adapted for post fermentation treatment of fermented wort (i.e. beer), such as carbonation or concentration.

References**Limiting references**

This place does not cover:

| | |
|---|----------------------------|
| After-treatment of unfermented wort | C12C 7/28 |
| Containers with means specially adapted for effervescing potable liquids | B65D 85/73 |
| Pasteurisation, sterilisation, preservation, purification, clarification, ageing of finished alcoholic beverages, e.g. beer | C12H |

C12C 12/00

Processes specially adapted for making special kinds of beer

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer.

References

Limiting references

This place does not cover:

| | |
|--------------------------------------|----------------------------|
| Preparation of special malt products | C12C 1/18 |
| Use of hop surrogates | C12C 5/008 |
| Beer flavouring preparations | C12C 5/026 |

Special rules of classification

The designation of beer as "special" inevitably involves some degree of subjectivity. This group should only be given for beer which significantly differs from standard beer and/or is emphasised/claimed as having specific particular qualities.

C12C 12/002

{using special microorganisms}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using special microorganisms, i.e. any non-standard microorganism which does not fall within the subgroups [C12C 12/004](#), [C12C 12/006](#) and [C12C 12/008](#), e.g. moulds such as (non-GMO) Aspergillus strains, strains of bacteria such as Acetobacter that are non-GMO and which do not belong to lactic acid bacteria

References

Informative references

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

| | |
|---|---------------------------|
| Preparation of alcoholic beverages other than beer and wine | C12G 3/02 |
|---|---------------------------|

C12C 12/004

{Genetically modified microorganisms}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using genetically modified (e.g. recombinant) microorganisms, e.g. genetically modified microbes

References

Informative references

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

| | |
|---|---------------------------|
| Preparation of alcoholic beverages other than beer and wine | C12G 3/02 |
|---|---------------------------|

Special rules of classification

The specific method for genetic modification is not relevant, a broad interpretation should be given.

C12C 12/006

{Yeasts (processes for seeding [C12C 11/02](#))}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using special yeasts, i.e. not standard or pitching yeast, e.g. yeast having magnetic particles adsorbed onto the cell surface, yeast attenuated by UV radiation, yeast isolated from soil of a volcanic area, genetically modified yeast, yeast with increased enzyme activity such as to produce a high amount of volatile flavour compounds

References

Limiting references

This place does not cover:

| | |
|-----------------------------------|----------------------------|
| Fermentation using standard yeast | C12C 11/00 |
| Fermentation using pitching yeast | C12C 11/02 |

Informative references

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

| | |
|---|---------------------------|
| Preparation of alcoholic beverages other than beer and wine | C12G 3/02 |
|---|---------------------------|

Special rules of classification

This symbol should be given if the character of the yeast used for fermentation is emphasised or claimed as being special.

C12C 12/008

{Lactic acid bacteria}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using lactic acid bacteria.

C12C 12/02**Beer with low calorie content ([C12C 12/04](#) takes precedence)****Definition statement***This place covers:*

Methods or apparatus adapted for preparing beer with low calorie content.

References**Limiting references***This place does not cover:*

| | |
|--|----------------------------|
| Preparation of beer with low alcohol content | C12C 12/04 |
|--|----------------------------|

C12C 12/04**Beer with low alcohol content {(removal of alcohol after fermentation [C12G 3/08](#))}****Definition statement***This place covers:*

Methods or apparatus adapted for preparing beer with low alcohol content.

References**Limiting references***This place does not cover:*

| | |
|---|----------------------------|
| Non-alcoholic beverages | A23L 2/00 |
| Preparation of low alcoholic beverages other than wine and beer by fermentation | C12G 3/025 |
| Reducing the alcohol content of alcoholic beverages other than wine and beer prepared by fermentation | C12G 3/08 |

C12C 13/00**Brewing devices, not covered by a single group of [C12C 1/00](#) - [C12C 12/04](#)****Definition statement***This place covers:*Apparatus or devices for beer brewing, the classification of which is not completely covered by a single group of [C12C 1/00](#) - [C12C 12/04](#).

C12C 13/02**Brew kettles** {([C12C 11/075](#) takes precedence)}**Definition statement***This place covers:*

Brew kettles for use in beer brewing.

References**Limiting references***This place does not cover:*

| | |
|--|-----------------------------|
| Apparatus adapted for saving or recovering energy during the boiling of wort with hops | C12C 7/22 |
| Fermentation tanks for fermenting wort | C12C 11/006 |
| Bioreactors for continuous wort fermentation | C12C 11/075 |

C12C 13/025**{heated with steam}****Definition statement***This place covers:*

Brew kettles for use in beer brewing which are heated with steam.

C12C 13/06**heated with fire****Definition statement***This place covers:*

Brew kettles for use in beer brewing which are heated with fire.

Note: This technology is no longer in use, mainly very old documents are classified in this group.

C12C 13/08**with internal heating elements****Definition statement***This place covers:*

Brew kettles for use in beer brewing comprising internal heating elements.

C12C 13/10

Home brew equipment

Definition statement

This place covers:

Equipment for brewing beer on a domestic (or small) scale. Microbrewing equipment.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

| | |
|----------------------------|--|
| Home brewing, Microbrewing | Brewing beer on a small scale, e.g. at home or in restaurants or pubs. |
|----------------------------|--|