

CPC**COOPERATIVE PATENT CLASSIFICATION****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](#))

WARNING

Some of the groups [C12C 3/00](#) to [C12C 7/28](#) might be incomplete. See Warning after [C12C 9/00](#) .

C12C 1/00**Preparation of malt**[C12C 1/02](#)

. Pretreatment of grains, e.g. washing, steeping

[C12C 1/027](#)

. Germinating

[C12C 1/0275](#)

.. {on single or multi-stage floors}

[C12C 1/033](#)

.. in boxes or drums

[C12C 1/047](#)

.. Influencing the germination by chemical or physical means

[C12C 1/053](#)

... by irradiation or electric{or wave energy}treatment

[C12C 1/067](#)

. Drying

[C12C 1/073](#)

.. Processes or apparatus specially adapted to save or recover energy

[C12C 1/10](#)

.. Drying on fixed supports

[C12C 1/12](#)

.. Drying on moving supports

[C12C 1/125](#)

. Continuous or semi-continuous processes for steeping, germinating or drying

[C12C 1/13](#)

.. with vertical transport of the grains

[C12C 1/135](#)

.. with horizontal transport of the grains

[C12C 1/15](#)

. Grain or malt turning, charging or discharging apparatus

[C12C 1/16](#)

. After-treatment of malt, e.g. malt cleaning, 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](#))**C12C 3/00****Treatment of hops**[C12C 3/02](#)

. Drying

[C12C 3/04](#)

. Conserving; Storing; Packing

[C12C 3/06](#)

.. Powder or pellets from hops

[C12C 3/08](#)

.. Solvent extracts from hops

[C12C 3/085](#)

... {Extraction of hops with beerwort}

[C12C 3/10](#)

... using carbon dioxide

[C12C 3/12](#)

. Isomerised products from hops

C12C 5/00**Other raw materials for the preparation of beer**[C12C 5/002](#)

. {Brewing water}

[C12C 5/004](#)

. {Enzymes}

- C12C 5/006 . . {Beta-glucanase or functionally equivalent enzymes}
- C12C 5/008 . {Hop surrogates}
- C12C 5/02 . Additives for beer
- C12C 5/023 . . {enhancing the vitamin content}
- C12C 5/026 . . {Beer flavouring preparations}
- C12C 5/04 . . Colouring additives
- C12C 7/00** **Preparation of wort(malt extract [C12C 1/18](#))**
- C12C 7/01 . Pretreatment of malt, e.g. malt grinding
- C12C 7/04 . Preparation or treatment of the mash
- C12C 7/042 . . {Mixing malt with water}
- C12C 7/044 . . {Cooling the mash([C12C 7/067](#) takes precedence)}
- C12C 7/047 . . part of the mash being unmalted cereal mash
- C12C 7/053 . . part of the mash being non-cereal material
- C12C 7/06 . . Mashing apparatus
- C12C 7/062 . . . {with a horizontal stirrer shaft}
- C12C 7/065 . . . {with a vertical stirrer shaft}
- C12C 7/067 . . . {with cooling means}
- C12C 7/14 . Clarifying wort (Läuterung)
- C12C 7/16 . . by straining
- C12C 7/161 . . . {in a tub with a perforated false bottom}
- C12C 7/163 . . . {with transport of the mash by or relative to a filtering surface}
- C12C 7/165 . . . in mash filters
- C12C 7/17 . . . in lautertuns,{e.g. in a tub with perforated false bottom}
- C12C 7/175 . . by centrifuging
- C12C 7/20 . Boiling the beerwort([brew kettles C12C 13/02](#))
- C12C 7/205 . . {Boiling with hops}
- C12C 7/22 . . . Processes or apparatus specially adapted to save or recover energy
- C12C 7/24 . Clarifying beerwort between hop boiling and cooling
- C12C 7/26 . Cooling beerwort; Clarifying beerwort during or after the cooling
- C12C 7/28 . After-treatment,{e.g. sterilisation([C12C 11/00](#) takes precedence)}
- C12C 7/282 . . {Concentration or beerwort}
- C12C 7/285 . . {Drying beerwort}
- C12C 7/287 . . {Treating beerwort with hopextract([C12C 7/205](#) takes precedence)}

C12C 9/00 **Methods specially adapted for the making of beerwort**

WARNING

From 1st August 2003 onwards, the IPC5-based groups [C12C 9/00](#) to [C12C 9/025](#) are no longer used for classification of new documents. Patent documents classified

in these groups are being continuously reclassified to the corresponding groups
[C12C 3/00](#) to [C12C 7/00](#)

- [C12C 9/02](#) . Beerwort treatment; Boiling with hops; Hop extraction
- [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}

- [C12C 11/00](#)** **Fermentation processes for beer([preparation of wine C12G 1/00](#))**
- [C12C 11/003](#) . {Fermentation of beerwort}
- [C12C 11/006](#) . . {Fermentation tanks therefor}
- [C12C 11/02](#) . Pitching yeast
- [C12C 11/06](#) . Acidifying the wort
- [C12C 11/07](#) . Continuous fermentation
- [C12C 11/075](#) . . {Bioreactors for continuous fermentation}
- [C12C 11/09](#) . Fermentation with immobilised yeast
- [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](#))

- [C12C 12/00](#)** **Processes specially adapted for making special kinds of beer**
- [C12C 12/002](#) . {using special micro-organisms}
- [C12C 12/004](#) . . {Genetically modified micro-organisms}
- [C12C 12/006](#) . . {Yeasts([processes for seeding C12C 11/02](#))}
- [C12C 12/008](#) . . {Lactic acid bacteria}
- [C12C 12/02](#) . Beer with low calorie content([C12C 12/04 takes precedence](#))
- [C12C 12/04](#) . Beer with low alcohol content{([removal of alcohol after fermentation C12G 3/08](#))}

- [C12C 13/00](#)** **Brewing devices, not covered by a single group of [C12C 1/00](#) to [C12C 12/04](#)**
- [C12C 13/02](#) . Brew kettles{([C12C 11/075 takes precedence](#))}
- [C12C 13/025](#) . . {heated with steam}
- [C12C 13/06](#) . . heated with fire
- [C12C 13/08](#) . . with internal heating elements
- [C12C 13/10](#) . Home brew equipment

- [C12C 2200/00](#)** **Special features**
- [C12C 2200/01](#) . Use of specific genetic variants of barley or other sources of fermentable carbohydrates for beer brewing
- [C12C 2200/05](#) . Use of genetically modified microorganisms in the preparation of beer
- [C12C 2200/31](#) . Clarifying wort before or during or after cooling;
- [C12C 2200/35](#) . Dissolving, reconstituting or diluting concentrated or dried wort