

**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

C12C 9/00  
(continued)

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