

**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