

**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](#) .

**Guidance heading:****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

**Guidance heading:**

**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