

**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 <a href="#">C12C 11/02</a> ) }
C12C 12/008	.. { Lactic acid bacteria }
C12C 12/02	. Beer with low calorie content ( <a href="#">C12C 12/04</a> takes precedence )
C12C 12/04	. Beer with low alcohol content {( removal of alcohol after fermentation <a href="#">C12G 3/08</a> ) }
<b>C12C 13/00</b>	<b>Brewing devices, not covered by a single group of <a href="#">C12C 1/00</a> to <a href="#">C12C 12/04</a></b>
C12C 13/02	. Brew kettles {( <a href="#">C12C 11/075</a> 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
<b>C12C 2200/00</b>	<b>Special features</b>
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