

**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](#))

**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**

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	<ul style="list-style-type: none"> <li>Continuous fermentation</li> </ul>
C12C 11/075	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{Bioreactors for continuous fermentation}</li> </ul> </li> </ul>
C12C 11/09	<ul style="list-style-type: none"> <li>Fermentation with immobilised yeast</li> </ul>
C12C 11/11	<ul style="list-style-type: none"> <li>Post fermentation treatments, e.g. carbonation, concentration (<a href="#">C12H</a> takes precedence; containers with means specially adapted for effervescing potable liquids <a href="#">B65D 85/73</a>)</li> </ul>
<b>C12C 12/00</b>	<b>Processes specially adapted for making special kinds of beer</b>
C12C 12/002	<ul style="list-style-type: none"> <li>{using special micro-organisms}</li> </ul>
C12C 12/004	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{Genetically modified micro-organisms}</li> </ul> </li> </ul>
C12C 12/006	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{Yeasts (processes for seeding <a href="#">C12C 11/02</a>)}</li> </ul> </li> </ul>
C12C 12/008	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{Lactic acid bacteria}</li> </ul> </li> </ul>
C12C 12/02	<ul style="list-style-type: none"> <li>Beer with low calorie content (<a href="#">C12C 12/04</a> takes precedence)</li> </ul>
C12C 12/04	<ul style="list-style-type: none"> <li>Beer with low alcohol content {(removal of alcohol after fermentation <a href="#">C12G 3/08</a>)}</li> </ul>
<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	<ul style="list-style-type: none"> <li>Brew kettles {(<a href="#">C12C 11/075</a> takes precedence)}</li> </ul>
C12C 13/025	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{heated with steam}</li> </ul> </li> </ul>
C12C 13/06	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>heated with fire</li> </ul> </li> </ul>
C12C 13/08	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>with internal heating elements</li> </ul> </li> </ul>
C12C 13/10	<ul style="list-style-type: none"> <li>Home brew equipment</li> </ul>
<b>C12C 2200/00</b>	<b>Special features</b>
C12C 2200/01	<ul style="list-style-type: none"> <li>Use of specific genetic variants of barley or other sources of fermentable carbohydrates for beer brewing</li> </ul>
C12C 2200/05	<ul style="list-style-type: none"> <li>Use of genetically modified microorganisms in the preparation of beer</li> </ul>
C12C 2200/31	<ul style="list-style-type: none"> <li>Clarifying wort before or during or after cooling</li> </ul>
C12C 2200/35	<ul style="list-style-type: none"> <li>Dissolving, reconstituting or diluting concentrated or dried wort</li> </ul>