

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}

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| 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 |

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| C12C 11/07 | <ul style="list-style-type: none"> Continuous fermentation |
| C12C 11/075 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Bioreactors for continuous fermentation} |
| C12C 11/09 | <ul style="list-style-type: none"> Fermentation with immobilised yeast |
| C12C 11/11 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> {using special micro-organisms} |
| C12C 12/004 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Genetically modified micro-organisms} |
| C12C 12/006 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Yeasts (processes for seeding C12C 11/02)} |
| C12C 12/008 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Lactic acid bacteria} |
| C12C 12/02 | <ul style="list-style-type: none"> Beer with low calorie content (C12C 12/04 takes precedence) |
| C12C 12/04 | <ul style="list-style-type: none"> 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 - C12C 12/04 |
| C12C 13/02 | <ul style="list-style-type: none"> Brew kettles {(C12C 11/075 takes precedence)} |
| C12C 13/025 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> {heated with steam} |
| C12C 13/06 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> heated with fire |
| C12C 13/08 | <ul style="list-style-type: none"> <ul style="list-style-type: none"> with internal heating elements |
| C12C 13/10 | <ul style="list-style-type: none"> Home brew equipment |
| C12C 2200/00 | Special features |
| C12C 2200/01 | <ul style="list-style-type: none"> Use of specific genetic variants of barley or other sources of fermentable carbohydrates for beer brewing |
| C12C 2200/05 | <ul style="list-style-type: none"> Use of genetically modified microorganisms in the preparation of beer |
| C12C 2200/31 | <ul style="list-style-type: none"> Clarifying wort before or during or after cooling |
| C12C 2200/35 | <ul style="list-style-type: none"> Dissolving, reconstituting or diluting concentrated or dried wort |