## CPC - COOPERATIVE PATENT CLASSIFICATION

### CHEMISTRY; METALLURGY

**(NOTES omitted)**

### CHEMISTRY

#### C12

**BIOCHEMISTRY; BEER; SPIRITS; WINE; VINEGAR; MICROBIOLOGY; ENZYMOLOGY; MUTATION OR GENETIC ENGINEERING**

**(NOTES omitted)**

#### 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)

<table>
<thead>
<tr>
<th>1/00</th>
<th>Preparation of malt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/02</td>
<td>Pretreatment of grains, e.g. washing, steeping</td>
</tr>
<tr>
<td>1/07</td>
<td>Germinating</td>
</tr>
<tr>
<td>1/0275</td>
<td>on single or multi-stage floors</td>
</tr>
<tr>
<td>1/033</td>
<td>in boxes or drums</td>
</tr>
<tr>
<td>1/047</td>
<td>Influencing the germination by chemical or physical means</td>
</tr>
<tr>
<td>1/053</td>
<td>by irradiation or electric (\text{or wave energy}) treatment</td>
</tr>
<tr>
<td>1/067</td>
<td>Drying</td>
</tr>
<tr>
<td>1/073</td>
<td>Processes or apparatus specially adapted to save or recover energy</td>
</tr>
<tr>
<td>1/10</td>
<td>Drying on fixed supports</td>
</tr>
<tr>
<td>1/12</td>
<td>Drying on moving supports</td>
</tr>
<tr>
<td>1/125</td>
<td>Continuous or semi-continuous processes for steeping, germinating or drying</td>
</tr>
<tr>
<td>1/13</td>
<td>with vertical transport of the grains</td>
</tr>
<tr>
<td>1/135</td>
<td>with horizontal transport of the grains</td>
</tr>
<tr>
<td>1/15</td>
<td>Grain or malt turning, charging or discharging apparatus</td>
</tr>
<tr>
<td>1/16</td>
<td>After-treatment of malt, e.g. malt cleaning, detachment of the germ</td>
</tr>
<tr>
<td>1/18</td>
<td>Preparation of malt extract or of special kinds of malt, e.g. caramel, black malt (malt products for use as foodstuffs A23L)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3/00</th>
<th>Treatment of hops</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/02</td>
<td>Drying</td>
</tr>
<tr>
<td>3/04</td>
<td>Conserving; Storing; Packing</td>
</tr>
<tr>
<td>3/06</td>
<td>Powder or pellets from hops</td>
</tr>
<tr>
<td>3/08</td>
<td>Solvent extract from hops</td>
</tr>
<tr>
<td>3/085</td>
<td>Extraction of hops with beerwort</td>
</tr>
<tr>
<td>3/10</td>
<td>using carbon dioxide</td>
</tr>
<tr>
<td>3/12</td>
<td>Isomerised products from hops</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5/00</th>
<th>Other raw materials for the preparation of beer</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/002</td>
<td>[Brewing water]</td>
</tr>
<tr>
<td>5/004</td>
<td>[Enzymes]</td>
</tr>
<tr>
<td>5/006</td>
<td>[Beta-glucanase or functionally equivalent enzymes]</td>
</tr>
<tr>
<td>5/008</td>
<td>[Hop surrogates]</td>
</tr>
<tr>
<td>5/02</td>
<td>Additives for beer</td>
</tr>
<tr>
<td>5/023</td>
<td>[enhancing the vitamin content]</td>
</tr>
<tr>
<td>5/026</td>
<td>[Beer flavouring preparations]</td>
</tr>
<tr>
<td>5/04</td>
<td>Colouring additives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7/00</th>
<th>Preparation of wort (malt extract C12C 1/18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/01</td>
<td>Pretreatment of malt, e.g. malt grinding</td>
</tr>
<tr>
<td>7/04</td>
<td>Preparation or treatment of the mash</td>
</tr>
<tr>
<td>7/042</td>
<td>[Mixing malt with water]</td>
</tr>
<tr>
<td>7/044</td>
<td>[Cooling the mash (C12C 7/067 takes precedence)]</td>
</tr>
<tr>
<td>7/047</td>
<td>part of the mash being unmalted cereal mash</td>
</tr>
<tr>
<td>7/053</td>
<td>part of the mash being non-cereal material</td>
</tr>
<tr>
<td>7/06</td>
<td>Mashing apparatus</td>
</tr>
<tr>
<td>7/062</td>
<td>with a horizontal stirrer shaft</td>
</tr>
<tr>
<td>7/065</td>
<td>with a vertical stirrer shaft</td>
</tr>
<tr>
<td>7/067</td>
<td>with cooling means</td>
</tr>
<tr>
<td>7/14</td>
<td>Clarifying wort (Läuterung)</td>
</tr>
<tr>
<td>7/16</td>
<td>by straining</td>
</tr>
<tr>
<td>7/161</td>
<td>in a tub with a perforated false bottom</td>
</tr>
<tr>
<td>7/163</td>
<td>with transport of the mash by or relative to a filtering surface</td>
</tr>
<tr>
<td>7/165</td>
<td>in mash filters</td>
</tr>
<tr>
<td>7/17</td>
<td>in lautertuns, e.g. in a tub with perforated false bottom</td>
</tr>
<tr>
<td>7/175</td>
<td>by centrifuging</td>
</tr>
<tr>
<td>7/20</td>
<td>Boiling the beerwort (brew kettles C12C 13/02)</td>
</tr>
<tr>
<td>7/205</td>
<td>[Boiling with hops]</td>
</tr>
<tr>
<td>7/22</td>
<td>Processes or apparatus specially adapted to save or recover energy</td>
</tr>
<tr>
<td>7/24</td>
<td>Clarifying beerwort between hop boiling and cooling</td>
</tr>
<tr>
<td>7/26</td>
<td>Cooling beerwort; Clarifying beerwort during or after the cooling</td>
</tr>
<tr>
<td>7/28</td>
<td>After-treatment (\text{e.g. sterilisation} (\text{C12C 11/00 takes precedence}))</td>
</tr>
<tr>
<td>7/282</td>
<td>[Concentration or beerwort]</td>
</tr>
<tr>
<td>7/285</td>
<td>[Drying beerwort]</td>
</tr>
<tr>
<td>7/287</td>
<td>[Treating beerwort with hopextract (C12C 7/205 takes precedence)]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9/00</th>
<th>Methods specially adapted for the making of beerwort</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/02</td>
<td>[Beerwort treatment; Boiling with hops; Hop extraction]</td>
</tr>
<tr>
<td>CPC</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>9/02</td>
<td>Preparation of hop extracts (extraction with beerwort C12C 9/02); Isomerisation of these extracts; Treatment of beerwort with these extracts; Surrogates of the hop</td>
</tr>
<tr>
<td>11/00</td>
<td>Fermentation processes for beer (preparation of wine C12G 1/00)</td>
</tr>
<tr>
<td>11/003</td>
<td>Fermentation of beerwort</td>
</tr>
<tr>
<td>11/006</td>
<td>Fermentation tanks therefor</td>
</tr>
<tr>
<td>11/02</td>
<td>Pitching yeast</td>
</tr>
<tr>
<td>11/06</td>
<td>Acidifying the wort</td>
</tr>
<tr>
<td>11/07</td>
<td>Continuous fermentation</td>
</tr>
<tr>
<td>11/075</td>
<td>Bioreactors for continuous fermentation</td>
</tr>
<tr>
<td>11/09</td>
<td>Fermentation with immobilised yeast</td>
</tr>
<tr>
<td>11/11</td>
<td>Post fermentation treatments, e.g. carbonation, or concentration (methods for reducing the alcohol content after fermentation C12H 3/00; methods for increasing the alcohol content after fermentation C12H 6/00)</td>
</tr>
<tr>
<td>12/00</td>
<td>Processes specially adapted for making special kinds of beer</td>
</tr>
<tr>
<td>12/002</td>
<td>Using special microorganisms</td>
</tr>
<tr>
<td>12/004</td>
<td>Genetically modified microorganisms</td>
</tr>
<tr>
<td>12/006</td>
<td>Yeasts (processes for seeding C12C 11/02)</td>
</tr>
<tr>
<td>12/008</td>
<td>Lactic acid bacteria</td>
</tr>
<tr>
<td>12/02</td>
<td>Beer with low calorie content (C12C 12/04 takes precedence)</td>
</tr>
<tr>
<td>12/04</td>
<td>Beer with low alcohol content (methods for reducing the alcohol content after fermentation C12H 3/00)</td>
</tr>
<tr>
<td>12/00</td>
<td>WARNING</td>
</tr>
<tr>
<td>13/00</td>
<td>Brewing devices, not covered by a single group of C12C 1/00 - C12C 12/04</td>
</tr>
<tr>
<td>13/02</td>
<td>Brew kettles (C12C 11/075 takes precedence)</td>
</tr>
<tr>
<td>13/025</td>
<td>Heated with steam</td>
</tr>
<tr>
<td>13/06</td>
<td>Heated with fire</td>
</tr>
<tr>
<td>13/08</td>
<td>With internal heating elements</td>
</tr>
<tr>
<td>13/10</td>
<td>Home brew equipment</td>
</tr>
</tbody>
</table>

**2200/00** Special features

<table>
<thead>
<tr>
<th>CPC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200/01</td>
<td>Use of specific genetic variants of barley or other sources of fermentable carbohydrates for beer brewing</td>
</tr>
<tr>
<td>2200/05</td>
<td>Use of genetically modified microorganisms in the preparation of beer</td>
</tr>
<tr>
<td>2200/31</td>
<td>Clarifying wort before or during or after cooling</td>
</tr>
<tr>
<td>2200/35</td>
<td>Dissolving, reconstituting or diluting concentrated or dried wort</td>
</tr>
</tbody>
</table>