

**C13 SUGAR INDUSTRY** (polysaccharides, e.g. starch, derivatives thereof C08B; malt C12C) [4]**Note**

Processes using enzymes or micro-organisms in order to:  
 (i) liberate, separate or purify a pre-existing compound or composition, or to  
 (ii) treat textiles or clean solid surfaces of materials  
 are further classified in subclass C12S. [5]

**C13C CUTTING MILLS; SHREDDING KNIVES; PULP PRESSES**

<p><b>1/00</b> Reducing the size of material from which sugars are to be extracted (for extraction of starch C08B 30/02)</p> <p>1/02 . Cutting sugar cane</p> <p>1/04 . . Shredding sugar cane</p>	<p>1/06 . Slicing sugar beet</p> <p>1/08 . Knives; Adjustment or maintenance thereof</p> <p><b>3/00</b> Pressing water from material from which sugars have been extracted (from starch-extracted material C08B 30/10) [4]</p> <p>3/02 . between perforated moving belts</p>
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**C13D PRODUCTION OR PURIFICATION OF SUGAR JUICES**

<p><b>1/00</b> Production of sugar, i.e. sucrose, juices</p> <p>1/02 . Expressing juice from sugar cane or similar material, e.g. sorghum saccharatum</p> <p>1/04 . . combined with imbibition</p> <p>1/06 . . Sugar-cane crushers</p> <p>1/08 . Extraction of sugar from sugar beet with water</p> <p>1/10 . . continuous processes</p> <p>1/12 . . Details of extraction apparatus, e.g. arrangements of pipes or valves</p> <p>1/14 . using extracting agents other than water, e.g. alcohol or salt solutions</p> <p><b>3/00</b> Purification of sugar juices (mechanical separation of solids from liquids B01)</p>	<p><b>Note</b></p> <p>When classifying in this group, classification is also made in group B01D 15/08 insofar as subject matter of general interest relating to chromatography is concerned. [8]</p> <p>3/02 . using alkaline earth compounds</p> <p>3/04 . . followed by saturation</p> <p>3/06 . . . with carbon dioxide or sulfur dioxide</p> <p>3/08 . by oxidation or reduction</p> <p>3/10 . . using sulfur dioxide or sulfites</p> <p>3/12 . using adsorption agents, e.g. active carbon</p> <p>3/14 . using ion-exchange materials</p> <p>3/16 . by physical means, e.g. osmosis</p> <p>3/18 . by electrical means</p>
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**C13F PREPARATION OR PROCESSING OF RAW SUGAR, SUGAR, OR SYRUP**

<p><b>1/00</b> Thickening, evaporating, or boiling sugar juice (boiling apparatus B01B; evaporators B01D; centrifuges B04B)</p> <p>1/02 . Crystallisation; Crystallising apparatus</p> <p>1/04 . Separating crystals from mother liquors</p> <p>1/06 . . by centrifugal force</p> <p>1/08 . . Washing residual mother liquor from crystals</p> <p>1/10 . . . in centrifuges</p> <p>1/12 . . Recycling mother liquor or wash liquors</p> <p>1/14 . . Dissolving or refining raw sugar</p>	<p><b>3/00</b> Sugar products not otherwise provided for, e.g. powdered, lump, or liquid sugar; Working-up of sugar (C13F 5/00, C13H take precedence; sweetmeats A23G 3/00; foods containing carbohydrate syrups, sugars, sugar alcohols or starch hydrolysates A23L 1/09) [3]</p> <p>3/02 . formed by moulding sugar</p> <p><b>5/00</b> Drying sugar (storing sugar B65)</p> <p><b>99/00</b> Subject matter not provided for in other groups of this subclass [8]</p>
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C13G – C13K

C13G EVAPORATION APPARATUS; BOILING PANS

1/00 **Evaporators or boiling pans adapted to be specially applicable for sugar solutions**

- 1/02 . Heating equipment
  - 1/04 . Other details, e.g. for preventing foaming for catching juice
  - 1/06 . combined with measuring instruments for effecting control of the process
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C13H CUTTING MACHINES FOR SUGAR; COMBINED CUTTING, SORTING AND PACKING MACHINES FOR SUGAR

1/00 **Combined cutting, sorting and packing machines for sugar**

3/00 **Cutting machines for sugar**

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C13J EXTRACTION OF SUGAR FROM MOLASSES

1/00 **Production of sucrose from final molasses**

- 1/02 . by chemical means

- 1/04 . . by precipitation as alkaline earth metal saccharates

- 1/06 . . using ion exchange

- 1/08 . by physical means, e.g. osmosis
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C13K **GLUCOSE; INVERT SUGAR; LACTOSE; MALTOSE; SYNTHESIS OF SUGARS BY HYDROLYSIS OF DI- OR POLYSACCHARIDES** (carbohydrate syrups in foods or foodstuffs A23L 1/09; chemical synthesis other than by hydrolysis of di- or polysaccharides C07H; fermentation or enzyme-using processes C12P 19/00)

1/00 **Glucose** (separation from invert sugar C13K 3/00); **Glucose-containing syrups [2]**

- 1/02 . by saccharification of cellulosic materials (manufacture of fodder A23K 1/12)
- 1/04 . . Purifying
- 1/06 . by saccharification of starch or raw materials containing starch
- 1/08 . . Purifying
- 1/10 . Crystallisation

3/00 **Invert sugar; Separation of glucose or fructose from invert sugar**

5/00 **Lactose**

7/00 **Maltose**

11/00 **Fructose** (separation from invert sugar C13K 3/00) [2]

13/00 **Sugars not otherwise provided for in this class [2]**