

**CPC****COOPERATIVE PATENT CLASSIFICATION****A23B**

**PRESERVING, e.g. BY CANNING, MEAT, FISH, EGGS, FRUIT, VEGETABLES, EDIBLE SEEDS; CHEMICAL RIPENING OF FRUIT OR VEGETABLES; THE PRESERVED, RIPENED, OR CANNED PRODUCTS** (preserving foodstuffs in general [A23L 3/00](#); preserving in general [A61L](#) ; applying food preservatives in packages [B65D 81/28](#))

**Guidance heading:****A23B 4/00**

**General methods for preserving meat, sausages, fish or fish products**

**A23B 4/002**

- . {Preservation in association with shaping ([A23B 4/0053](#), [A23B 4/01](#), [A23B 4/062](#) and [A23B 4/066](#) take precedence) }

**A23B 4/005**

- . Preserving by heating

**A23B 4/0053**

- .. {with gas or liquids, with or without shaping, e.g. in form of powder, granules or flakes }

**NOTE**

The heating means for the gas or liquid are not classified

**A23B 4/0056**

- ... {with packages, or with shaping in the form of blocks or portions }

**A23B 4/01**

- .. by irradiation or electric treatment {with or without shaping, e.g. in form of powder, granules or flakes }

**A23B 4/012**

- ... {with packages, or with shaping in the form of blocks or portions }

**A23B 4/015**

- . Preserving by irradiation or electric treatment without heating effect

**A23B 4/02**

- . Preserving by means of inorganic salts ([apparatus therefor A23B 4/26](#), [A23B 4/32](#))

**A23B 4/021**

- .. {with apparatus adapted for gaseous preserving agents }

**A23B 4/023**

- .. by kitchen salt or mixtures thereof with inorganic or organic compounds

**A23B 4/0235**

- ... {with organic compounds or biochemical products }

**A23B 4/027**

- .. by inorganic salts other than kitchen salt, or mixtures thereof with organic compounds, e.g. biochemical compounds

**A23B 4/03**

- . Drying; Subsequent reconstitution { ([drying apparatus in general F26B](#) ) }

**A23B 4/031**

- .. {Apparatus for drying ([A23B 4/037](#) takes precedence) }

**A23B 4/033**

- .. with addition of chemicals ([A23B 4/037](#) takes precedence)

**A23B 4/037**

- .. Freeze-drying, {i.e. cryodesiccation, lyophilisation; Apparatus therefor }

**A23B 4/044**

- . Smoking; Smoking devices

**A23B 4/048**

- .. with addition of chemicals other than natural smoke

**A23B 4/052**

- .. Smoke generators; {Smoking apparatus ([A23B 4/056](#) takes precedence) }

**A23B 4/0523**

- ... {Smoke generators using wood-pyrolysis or wood-friction }

- A23B 4/0526 . . . {Smoke generators or smoking apparatus using liquid smoke in gaseous or liquid form }
- A23B 4/056 . . Smoking combined with irradiation or electric treatment, e.g. electrostatic smoking; {Apparatus therefor }
- A23B 4/06 . Freezing; Subsequent thawing; Cooling
- A23B 4/062 . . {the materials being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes (moving on the spot only [A23B 4/066](#)) }
- A23B 4/064 . . . {with packages or with shaping in the form of blocks or portions }
- A23B 4/066 . . {the materials not being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes }
- A23B 4/068 . . . {with packages or with shaping in the form of blocks or portions }
- A23B 4/07 . . Thawing subsequent to freezing
- A23B 4/08 . . with addition of chemicals {or treatment with chemicals } before or during cooling, {e.g. in the form of an ice coating or frozen block }
- A23B 4/09 . . . with direct contact between the food and the chemical, e.g. liquid N<sub>2</sub>, at cryogenic temperature
- A23B 4/10 . Coating with a protective layer; Compositions or apparatus therefor { ([A23B 4/08](#) takes precedence) }
- A23B 4/12 . Preserving with acids; Acid fermentation
- A23B 4/14 . Preserving with chemicals not covered by groups [A23B 4/02](#) or [A23B 4/12](#)
- A23B 4/16 . . in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 4/18 . . in the form of liquids or solids (apparatus therefor [A23B 4/26](#), [A23B 4/32](#))
- A23B 4/20 . . . Organic compounds; Micro-organisms; Enzymes (acid fermentation [A23B 4/12](#))
- A23B 4/22 . . . . Micro-organisms; Enzymes; {Antibiotics }
- A23B 4/24 . . . Inorganic compounds
- A23B 4/26 . Apparatus for preserving using liquids; {Methods therefor }
- A23B 4/28 . . by injection of liquids
- A23B 4/285 . . . {with inorganic salts }
- A23B 4/30 . . by spraying of liquids
- A23B 4/305 . . . {with inorganic salts }
- A23B 4/32 . Apparatus for preserving using solids
- A23B 4/325 . . {with inorganic salts }
- A23B 5/00** **Preservation of eggs or egg products (preserving dough or bakery products [A21D](#) )**
- A23B 5/005 . Preserving by heating
- A23B 5/0052 . . {in the shell }
- A23B 5/0055 . . {without the shell }
- A23B 5/0057 . . . {with packages }
- A23B 5/01 . . by irradiation or electric treatment

- A23B 5/015 . Preserving by irradiation or electric treatment without heating effect
- A23B 5/02 . Drying; Subsequent reconstitution
- A23B 5/022 .. {Drying with use of gas or vacuum }
- A23B 5/025 .. {Drying } with addition of chemicals ([A23B 5/03](#), [A23B 5/035](#) take precedence)
- A23B 5/0255 ... {Drying with use of liquids, e.g. by extraction }
- A23B 5/03 .. Freeze-drying, {i.e. cryodessication, lyophilisation; Apparatus therefor }
- A23B 5/035 .. Spray-drying
- A23B 5/04 . Freezing; Subsequent thawing; Cooling
- A23B 5/041 .. {Freezing or cooling without shell ([A23B 5/05](#) takes precedence) }
- A23B 5/043 ... {with packages }
- A23B 5/045 .. Thawing subsequent to freezing
- A23B 5/05 .. {Freezing or cooling } with addition of chemicals
- A23B 5/055 ... with direct contact between the food and the chemical, e.g. liquid nitrogen, at cryogenic temperature
- A23B 5/06 . Coating eggs with a protective layer; Compositions or apparatus therefor
- A23B 5/065 .. {Apparatus for coating }
- A23B 5/08 . Preserving with chemicals
- A23B 5/10 .. in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 5/12 .. in the form of liquids or solids
- A23B 5/14 ... Organic compounds; Micro-organisms; Enzymes
- A23B 5/16 .... Micro-organisms; Enzymes
- A23B 5/18 ... Inorganic compounds
- A23B 5/20 ... Apparatus for preserving using liquids
- A23B 5/22 ... Apparatus for preserving using solids
- A23B 7/00** **Preservation or chemical ripening of fruit or vegetables**
- A23B 7/005 . Preserving by heating
- A23B 7/0053 .. {by direct or indirect contact with heating gases or liquids }
- A23B 7/0056 ... {with packages }
- A23B 7/01 .. by irradiation or electric treatment
- A23B 7/012 ... {with packages }
- A23B 7/015 . Preserving by irradiation or electric treatment without heating effect
- A23B 7/02 . Dehydrating; Subsequent reconstitution ([dried cooked potatoes](#) [A23L 1/216](#))
- A23B 7/0205 .. {by contact of the material with fluids, e.g. drying gas or extracting liquids }
- A23B 7/021 .. {Foam drying }
- A23B 7/0215 .. {Post-treatment of dried fruits or vegetables }
- A23B 7/022 .. with addition of chemicals {before or during drying, e.g. semi-moist products }

[A23B 7/024](#) to [A23B 7/028](#) take precedence)

- [A23B 7/024](#) . . Freeze-drying, {i.e. cryodesiccation or lyophilisation }
- [A23B 7/026](#) . . Spray-drying
- [A23B 7/028](#) . . Thin layer-, drum- or roller-drying {or by contact with a hot surface }
- [A23B 7/03](#) . . Drying raw potatoes
  
- [A23B 7/04](#) . Freezing; Subsequent thawing; Cooling
- [A23B 7/0408](#) . . {the material being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes ([A23B 7/05](#) takes precedence; moving on the spot only [A23B 7/0425](#)) }
- [A23B 7/0416](#) . . . {with packages or with shaping in the form of blocks or portions }
- [A23B 7/0425](#) . . {the material not being transported through or in the apparatus, with or without shaping, e.g. in the form of powder, granules or flakes ([A23B 7/05](#) takes precedence) }
- [A23B 7/0433](#) . . . {with packages or with shaping in the form of blocks or portions }
- [A23B 7/0441](#) . . {Treatment other than blanching preparatory to freezing }
- [A23B 7/045](#) . . Thawing subsequent to freezing
- [A23B 7/05](#) . . with addition of chemicals {or treatment with chemicals other than cryogenics, before or during cooling, e.g. in the form of an ice coating or frozen block }
- [A23B 7/055](#) . . . with direct contact between the food and the chemical, e.g. liquid nitrogen, at cryogenic temperature
  
- [A23B 7/06](#) . Blanching ([machines therefor A23N 12/00](#))
  
- [A23B 7/08](#) . Preserving with sugars ([marmalade, jam, fruit jellies A23L 1/06](#))
- [A23B 7/085](#) . . {in a solution of sugar }
  
- [A23B 7/10](#) . Preserving with acids; Acid fermentation
- [A23B 7/105](#) . . {Leaf vegetables, e.g. sauerkraut }
- [A23B 7/12](#) . . Apparatus for compressing sauerkraut
  
- [A23B 7/14](#) . Preserving or ripening with chemicals not covered by groups [A23B 7/08](#) or [A23B 7/10](#)
- [A23B 7/144](#) . . in the form of gases, e.g. fumigation; Compositions or apparatus therefor { ([cooling without control of atmosphere composition A23B 7/04](#)) }
- [A23B 7/148](#) . . . in a controlled atmosphere, e.g. partial vacuum, comprising only CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O
- [A23B 7/152](#) . . . in a controlled atmosphere comprising other gases in addition to CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O; {Elimination of such other gases }
- [A23B 7/153](#) . . in the form of liquids or solids
- [A23B 7/154](#) . . . Organic compounds; Micro-organisms; Enzymes ([acid fermentation A23B 7/10](#))
- [A23B 7/155](#) . . . . Micro-organisms; Enzymes; {Antibiotics }
- [A23B 7/157](#) . . . Inorganic compounds
- [A23B 7/158](#) . . . Apparatus for preserving using liquids
- [A23B 7/159](#) . . . Apparatus for preserving using solids
  
- [A23B 7/16](#) . Coating with a protective layer; Compositions or apparatus therefor ([A23B 7/08](#) takes precedence)

**A23B 9/00****Preservation of edible seeds, e.g. cereals**

- A23B 9/005 . {Processes or apparatus using pressure variation or mechanical force, e.g. shock, acceleration, shear stress, contortion }
- A23B 9/02 . Preserving by heating
- A23B 9/025 . . {with use of gases }
- A23B 9/04 . . by irradiation or electric treatment
- A23B 9/06 . Preserving by irradiation or electric treatment without heating effect
- A23B 9/08 . Drying; Subsequent reconstitution
- A23B 9/10 . Freezing; Subsequent thawing; Cooling
- A23B 9/12 . . Thawing subsequent to freezing
- A23B 9/14 . Coating with a protective layer; Compositions or apparatus therefor
- A23B 9/16 . Preserving with chemicals
- A23B 9/18 . . in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 9/20 . . . in a controlled atmosphere, e.g. partial vacuum, comprising only CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O
- A23B 9/22 . . . in a controlled atmosphere comprising other gases in addition to CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O
- A23B 9/24 . . in the form of liquids or solids
- A23B 9/26 . . . Organic compounds; Micro-organisms; Enzymes
- A23B 9/28 . . . . Micro-organisms; Enzymes; {Antibiotics }
- A23B 9/30 . . . Inorganic compounds
- A23B 9/32 . . . Apparatus for preserving using liquids
- A23B 9/34 . . . Apparatus for preserving using solids