

CPC**COOPERATIVE PATENT CLASSIFICATION****A22C**

PROCESSING MEAT, POULTRY, OR FISH (preserving [A23B](#); obtaining protein compositions for foodstuffs [A23J 1/00](#); fish, meat or poultry preparations [A23L](#); disintegrating, e.g. chopping meat, [B02C 18/00](#); preparation of proteins [C07K 1/00](#))

Processing meat**A22C 5/00**

Apparatus for mixing meat, sausage-meat, or meat products (mixing in general [B01F](#))

A22C 7/00

Apparatus for pounding, forming, or pressing meat, sausage-meat, or meat products {(meat patty moulding devices for domestic use [A47J 43/20](#); ham boilers [A47J 27/20](#))}

A22C 7/0007

- {specially adapted for making multi-layered meat products}

A22C 7/0015

- {specially adapted for making meat-balls}

A22C 7/0023

- {Pressing means}

A22C 7/003

- . {Meat-moulds}

A22C 7/0038

- . . {Demoulding means}

A22C 7/0046

- . . . {Containers in which meat is pressed and moulded}

A22C 7/0053

- {Stackable containers}

A22C 7/0061

- {Containers for moulding and pressing ham}

A22C 7/0069

- . . . {Pressing and moulding by means of a drum}

A22C 7/0076

- . . . {Devices for making meat patties}

A22C 7/0084

- {comprising a reciprocating plate}

A22C 7/0092

- {with worms or other rotary mounted members ([A22C 7/0007](#) takes precedence)}

A22C 9/00

Apparatus for tenderising meat, e.g. ham {(tenderising chemically [A23L 1/31](#), [A23L 1/318](#))}

A22C 9/001

- {by injection}

A22C 9/002

- {by electric treatment}

A22C 9/004

- {by massaging}

A22C 9/005

- . {Tumblers and rotating drums for massaging meat in their interior}

A22C 9/007

- {by beating}

A22C 9/008

- {by piercing}

A22C 11/00

Sausage making {(chemical aspects [A23L 1/31](#)); **Apparatus for handling or conveying sausage products during manufacture**}

A22C 11/001

- {Machines for making skinless sausages, e.g. Frankfurters, Wieners}

A22C 11/003

- . {Removing casings from sausages during manufacture}

- A22C 11/005
 - . . {Apparatus for binding or tying sausages or meat, e.g. salami, rollades; Filling sausage products into sleeve netting}
- A22C 11/006
 - . {Separating linked sausages}
- A22C 11/008
 - . {Conveying sausages in horizontal position (conveying hanging sausages [A22C 15/001](#))}
- A22C 11/02
 - . Sausage filling or stuffing machines {(enclosing material in preformed tubular webs [B65B 9/10](#))}
- A22C 11/0209
 - . . {Stuffing horn assembly}
- A22C 11/0218
 - . . . {with multiple interchangeable stuffing horns, e.g. magazine arrangements}
- A22C 11/0227
 - . . {Supplying casings to the stuffing device}
- A22C 11/0236
 - . . . {from a storage device}
- A22C 11/0245
 - . . {Controlling devices}
- A22C 11/0254
 - . . . {Sizing means}
- A22C 11/0263
 - . . . {Braking means}
- A22C 11/0272
 - . . . {for casing depletion}
- A22C 11/0281
 - . . {for sausages having at least one flat end}
- A22C 11/029
 - . . {with coating or lubricating means}
- A22C 11/04
 - . . with mechanically-operated piston moving to-and-fro
- A22C 11/06
 - . . with piston operated by liquid or gaseous means
- A22C 11/08
 - . . with pressing-worm or other rotary-mounted pressing-members
- A22C 11/10
 - . Apparatus for twisting {or linking} sausages {(subdividing filled flexible tubes to form packages, involving displacement of contents [B65B 9/12](#), by applying pressure and heat successively [B65B 51/26](#))}
- A22C 2011/101
 - . . {for pinching and twisting}
- A22C 2011/102
 - . . . {and twisting in opposite directions}
- A22C 11/104
 - . . {by means of shear or blade elements}
- A22C 11/105
 - . . . {The sheer or blade elements being displaceable parallel to the sausage string in order to create a narrow point free of meat}
- A22C 11/107
 - . . {A string passing between two rotary members comprising dividing elements cooperating with each other}
- A22C 11/108
 - . . {with dividing elements located on the surface of a single rotary member}
- A22C 11/12
 - . Apparatus for tying sausage skins; {Clipping sausage skins (applying clips or binding material to package folds or closures, e.g. to twisted bag necks [B65B 51/04](#), [B65B 51/08](#))}
- A22C 11/122
 - . . {by forming knots}
- A22C 11/125
 - . . {by clipping; Removal of clips}
- A22C 11/127
 - . . {Forming a suspension loop}
- A22C 13/00**
 - Sausage casings {(made of animal intestines [A22C 17/14](#))}**
- A22C 13/0003
 - . {Apparatus for making sausage casings, e.g. simultaneously with stuffing artificial casings (enclosing material webs being formed into tubes in situ around filling nozzles [B65B 9/20](#))}

- A22C 13/0006 . . {Apparatus for making artificial collagen casings ([chemical aspects A22C 13/0016](#))}
- A22C 13/0009 . {End closures therefor}
- A22C 13/0013 . {Chemical composition of synthetic sausage casings}
- A22C 13/0016 . . {based on proteins, e.g. collagen}
- A22C 2013/002 . {made by extrusion}
- A22C 2013/0023 . . {coextruded together with the food product}
- A22C 13/0026 . {Chemical treatment of natural gut}
- A22C 2013/003 . {with peeling aids, e.g. reducing adhesion between casing and product}
- A22C 2013/0033 . {with at least one layer of a fat impermeable material}
- A22C 2013/0036 . {with features allowing an easy opening and/or removal of the casing}
- A22C 2013/004 . {with at least one layer of a gas, e.g. oxygen, water vapour, impermeable material}
- A22C 2013/0043 . {with at least one layer of a water impermeable material}
- A22C 2013/0046 . {suitable for impregnation with flavouring substances, e.g. caramel, liquid smoke, spices}
- A22C 2013/005 . {monolayer casings}
- A22C 2013/0053 . {multilayer casings}
- A22C 2013/0056 . {nets and similar open structures to hold sausages and meat in general ([making nets D04G](#); [filling sausage products into sleeve netting A22C 11/005](#))}
- A22C 2013/0059 . {thermoplastic casings, casings with at least one layer of thermoplastic material}
- A22C 2013/0063 . {containing polyamide, e.g. nylon, aramide}
- A22C 2013/0066 . {casings according to the presence or absence of seams}
- A22C 2013/0069 . . {seamed casings, casings with at least one longitudinal seam}
- A22C 2013/0073 . . {seamless casings made out of a continuous seamless tubular sheet}
- A22C 2013/0076 . {treated in order to be conferred a rough appearance}
- A22C 2013/0079 . {printable sausage casings or sausage casings showing any kind of indicia ([printing textiles D06P](#))}
- A22C 2013/0083 . {biaxially oriented}
- A22C 2013/0086 . {shrinkable casings}
- A22C 2013/0089 . {smokable casings, e.g. permeable to liquid smoke or phenol}
- A22C 2013/0093 . {textile casings, casings with at least one layer of textile material}
- A22C 2013/0096 . {cellulosic}
- A22C 13/02 . Shirring of sausage casings {([storing preformed tubular webs on filling nozzles B65B 9/15](#))}
- A22C 2013/021 . . {with pressurised air}
- A22C 13/023 . . {Holders or packs of shirred casings}
- A22C 2013/025 . . {Severing the shired food casing}
- A22C 2013/026 . . {Shirring netting onto a tube}
- A22C 2013/028 . . {Supplying and shirring casings}

A22C 15/00

Apparatus for hanging-up meat or sausages {(filling and conveying sausage products during manufacture [A22C 11/00](#); transport through slaughterhouses [A22B 7/001](#); poultry shackles [A22C 21/0007](#); conveying poultry [A22C 21/0053](#))}

- A22C 15/001 . {Specially adapted for hanging or conveying several sausages or strips of meat}
- A22C 15/002 . . {Loops, hooks, cords for suspending single sausages; apparatus for making or conveying loops for sausages}
- A22C 15/003 . {Hooks or the like specially adapted for meat or hams or part of carcasses (spreaders for cattle [A22B 5/06](#))}
- A22C 15/005 . . {Hangers with more hooks penetrating the piece of meat}
- A22C 15/006 . . {Apparatus for inserting a cord into a piece of meat}
- A22C 15/007 . {Racks for storing or smoking suspended meat or sausages (racks for pressing meat [A22C 7/0023](#))}
- A22C 15/008 . {Cages specially adapted for suspending hams, meat or sausages}

A22C 17/00

Other devices for processing meat or bones

- A22C 17/0006 . {Cutting or shaping meat}
- A22C 17/0013 . . {Boards or blocks for cutting or chopping meat}
- A22C 17/002 . . {Producing portions of meat with predetermined characteristics, e.g. weight or particular dimensions}
- A22C 17/0026 . . {Mincing and grinding meat (mincing machines [B02C 18/30](#))}
- A22C 17/0033 . . {Cutting slices out of a piece of meat (slicing machines [B26D 1/143](#))}
- A22C 17/004 . {Devices for deboning meat (deboning poultry [A22C 21/0069](#); deboning operations on carcasses [A22B 5/0035](#))}
- A22C 17/0046 . . {specially adapted for meat containing ribs}
- A22C 17/0053 . {by injection}
- A22C 17/006 . {Putting meat on skewers}
- A22C 17/0066 . . {for "döner kebab", "shawarma", "gyros" or the like}
- A22C 17/0073 . {using visual recognition, X-rays, ultrasounds, or other contactless means to determine quality or size of portioned meat}
- A22C 17/008 . . {for measuring quality, e.g. to determine further processing}
- A22C 17/0086 . . {Calculating cutting patterns based on visual recognition}
- A22C 17/0093 . {Handling, transporting or packaging pieces of meat}
- A22C 17/02 . Apparatus for holding meat or bones while cutting {(holding fish [A22C 25/06](#); holding meat for carving [A47J 43/18](#))}
- A22C 17/04 . Bone cleaning devices
- A22C 17/06 . Bone-shears; Bone-crushers
- A22C 17/08 . Cleaning, e.g. washing, meat or sausages {(treating offal [C11B](#))}
- A22C 17/10 . Marking meat or sausages {(marking animals [A01K 11/00](#); labelling [B65C](#))}
- A22C 17/12 . Apparatus for cutting-off rind {(skinning instruments [A22B 5/16](#))}
- A22C 17/14 . Working-up animal intestines; {Treatment thereof for the manufacture of natural sausage casings (making artificial casings [A22C 13/0003](#); chemical treatment of natural casings [A22C 13/0026](#))}; Apparatus for cutting intestines; Machines for pulling intestines to pieces

- A22C 17/16 . Cleaning of intestines; Machines for removing fat or slime from intestines
{(cleaning the stomach of slaughtered animals [A22B 5/18](#))}
- A22C 18/00** **Plants, factories, or the like for processing meat** (for processing poultry only [A22C 21/00](#); for processing fish only [A22C 25/00](#))
- A22C 21/00** **Processing poultry**
- A22C 21/0007 . {Poultry shackles}
- A22C 21/0015 . {Killing poultry entering the processing machine (slaughtering pliers, slaughtering shears [A22B 3/08](#))}
- A22C 21/0023 . {Dividing poultry}
- A22C 21/003 . . {Filleting poultry, i.e. extracting, cutting or shaping poultry fillets}
- A22C 21/0038 . {Trussing poultry}
- A22C 21/0046 . {Support devices}
- A22C 21/0053 . {Transferring or conveying devices for poultry}
- A22C 21/0061 . {Cleaning or disinfecting poultry}
- A22C 21/0069 . {Deboning poultry or parts of poultry}
- A22C 21/0076 . . {Deboning poultry legs and drumsticks}
- A22C 21/0084 . . {Deboning poultry wings}
- A22C 21/0092 . {Skinning poultry or parts of poultry}
- A22C 21/02 . Plucking mechanisms for poultry
- A22C 21/022 . . {with fingers}
- A22C 21/024 . . {Hand tools for plucking poultry}
- A22C 21/026 . . {with rollers}
- A22C 21/028 . . {with discs}
- A22C 21/04 . Scalding, singeing, waxing, or dewaxing poultry
- A22C 21/06 . Eviscerating devices for poultry
- A22C 21/063 . . {Hand tools for eviscerating poultry}
- A22C 21/066 . . {Extracting or removing the tendons from the legs of poultry}

Processing fish, including shellfish

- A22C 25/00** **Processing fish; {Curing of fish; Stunning of fish by electric current; Investigating fish by optical means (slaughtering fish [A22B 3/08](#))}**
- A22C 25/003 . {Processing cephalopods}
- A22C 25/006 . {Hand tools for processing fish}
- A22C 25/02 . Washing or descaling fish
- A22C 25/025 . . {Devices for washing or descaling fish by hand}
- A22C 25/04 . Sorting fish; Separating ice from fish packed in ice {(investigating fish [G01N 33/12](#))}
- A22C 25/06 . Work-tables; Fish-holding and auxiliary devices in connection with work-tables

- A22C 25/08
 - Holding, guiding, or conveying fish before, during or after its preparation ([A22C 25/06 takes precedence](#)); {Devices for sizing fish; Automatically adapting conveyors or processing machines to the measured size (transport in general [B65G](#))}
- A22C 25/10
 - Devices for threading fish on strings or the like
- A22C 25/12
 - Arranging fish, e.g. according to the position of head and tail {(orientating articles during conveying [B65G 47/24](#))}
- A22C 25/14
 - Beheading, eviscerating, or cleaning fish {(combined with removing fish-bone, skinning and filleting [A22C 25/14](#); hand tools [A22C 25/006](#))}
- A22C 25/142
 - . {Beheading fish}
- A22C 25/145
 - . {Eviscerating fish}
- A22C 25/147
 - . . {Eviscerating by means of vacuum or suction devices}
- A22C 25/16
 - Removing fish-bones; Filleting fish {(combined with beheading, eviscerating [A22C 25/14](#); hand tools [A22C 25/006](#))}
- A22C 25/163
 - . {Removing the fins}
- A22C 25/166
 - . {Removing loose pin bones, e.g. from fish fillets}
- A22C 25/17
 - Skinning fish
- A22C 25/18
 - Cutting fish into portions
- A22C 25/185
 - . {Hand tools for cutting fish}
- A22C 25/20
 - Shredding; Cutting into cubes; Flaking
- A22C 25/22
 - Fish-rolling apparatus
- A22C 29/00**
 - **Processing shellfish {or bivalves}, e.g. oysters, lobsters; {Devices therefor, e.g. claw locks, claw crushers, grading devices; Processing lines}**
- A22C 29/005
 - {Grading or classifying shellfish or bivalves}
- A22C 29/02
 - Processing shrimps, lobsters or the like; {Methods or machines for the shelling of shellfish}
- A22C 29/021
 - . {Cleaning operations on shellfish, e.g. evisceration, brushing}
- A22C 29/022
 - . . {Deveining shellfish}
- A22C 29/023
 - . {Conveying, feeding or aligning shellfish}
- A22C 29/024
 - . {Opening, shelling or peeling shellfish}
- A22C 29/025
 - . . {Mechanically opening and shelling crabs, lobsters or other hard-shelled crustaceans}
- A22C 29/026
 - . . {Mechanically peeling and shelling shrimps, prawns or other soft-shelled crustaceans}
- A22C 29/027
 - . . {Hand tools for shelling shellfish}
- A22C 29/028
 - . {Beheading shellfish}
- A22C 29/04
 - Processing bivalves, e.g. oysters (oyster knives with openers [A47G 21/06](#))
- A22C 29/043
 - . {Cleaning operations on bivalves, e.g. evisceration, brushing, separation of meat and shell material}
- A22C 29/046
 - . {Opening or shucking bivalves}