

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](#))

Guidance heading: 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 }

Guidance heading: 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 conveyers 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 }