CLASS 99, FOODS AND BEVERAGES: APPARATUS

SECTION I - CLASS DEFINITION

This class comprises apparatus for preparing, treating and preserving substances (foods) intended to be eaten and drunk by human beings, or animals for their nourishment and not provided for elsewhere.

SECTION II - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

7, Compound Tools, provides for combined hand-held devices.

15, Brushing, Scrubbing, and General Cleaning, for apparatus for removing materials by a draft or current of air, stem, or other gaseous fluid, and for apparatus for brushing, beating, scraping, wiping, shooting or use of a squeegee, with or without the use of liquids particularly subclasses 3.1+, for treating fruit, vegetables, meat or eggs.

19, Textiles: Fiber Preparation, for apparatus for isolating and manipulating fibers so as to place them in condition for the purpose for which they are to be utilized, particularly subclasses 2+.

30, Cutlery, appropriate subclasses for hand-held devices of that class (30).

34, Drying and Gas or Vapor Contact With Solids, will take other than cooking apparatus, subclasses 329+ for a process of contacting treated material with a solid or liquid agent.

47, Plant Husbandry, appropriate subclasses, apparatus for testing and treating seed grain in preparation for planting.

52, Static Structures (e.g., Buildings), appropriate subclasses for mere storage structure e.g., storage bins but having no additional means peculiar to food preservation.

53, Package Making, appropriate subclasses for apparatus for packaging materials including food.

56, Harvesters, for apparatus for cutting or scooping-up crops that grow above the ground, even though combined with other cutting or comminuting means.

62, Refrigeration, for refrigerating apparatus, per se, even though limited to foods or beverages.

83, Cutting, for general cutting or severing of that class (83) type. This class (99) requires separation of different portions of food or apparatus that recognizes the food, e.g., means to hold a vegetable so the stem-end is cut off.

100, Presses, for presses not elsewhere provided for. See this class (99) for devices for removing the juices from citrus fruit where a reaming action is employed, such action is employed, such action being deemed inherent in a pair of rolls where the rolls are driven at different speeds. Also subclasses 94+ of Class 100 for presses not elsewhere provided for combined with means for cutting, breaking, piercing or comminuting.

118, Coating Apparatus, subclasses 13+ for apparatus for coating edible material.

126, Stoves and Furnaces, for a food support device of all types combined with a stove or other general heating structure involving the combustion of fuel and not limited in their use to the application of heat to the food on the claimed food support, for a shelf, tray, or receptacle type support, not necessarily limited to use with foods, combined with heat or vapor enclosures, and either with or without heat, steam, or vapor generating means, and a vessel, containing, or capable of containing, a liquid and structurally modified to facilitate the heating of the contents of the vessel or combined with a combustion heat generator; subclass 14 for a broiling attachment for the stove, subclasses 19+ for a cooking oven, subclass 41 for a gas cooking stove having a broiler, subclass 51 for a liquid fueled cooking stove having a drip pan or receptacle, subclass 59 for a specially designed knock-down camp stove for tent heating, subclass 59.5 for a heat or smoke generating stove to protect an orchard from frost, subclass 200 for a transparent panel for a stove door or window, subclasses 273+ for a domestic oven, subclasses 285+ for a stove or furnace dampener or subclasses 344+ for a water heater.

134, Cleaning and Liquid Contact With Solids, for apparatus for cleaning fruit or vegetables with liquids.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, for apparatus for filling receivers with fluent material with treatment as provided in the class definition of that class (141), in Lines With Other Classes, “Treatment Classes.”

159, Concentrating Evaporators, for concentration of fluid-borne substances by evaporation.

193, Conveyors, Chutes, Skids, Guides, and Ways, for a guide and particularly subclasses 44+ for orienting means.

198, Conveyors: Power-Driven, for a conveyor structure, a conveyor provided with means adapting the conveyor to transport a material or an article between points having unlike fluid pressures, or a conveyor combined with an enclosure for all or a part of the conveyor even though the enclosure is designated by a particular name, but where no significant structure or cooperation of the enclosure is claimed; subclasses 343.1+ for a load supporting conveyor portion that is retarded or stopped with a load at station without being disconnected from a remainder of a continuously moving conveyor or subclasses 373+ a conveyor for changing attitude of an item relative to its conveyed direction.

204, Chemistry: Electrical and Wave Energy, subclasses 194+, for electrolytic apparatus to treat a food or beverage.

206, Special Receptacle or Package, for packages adapted to contain food.

219, Electric Heating, for a food support device of all types combined with an electric stove or other general electrical heating structure not limited in its use to the application of heat to the food on the claimed food support, a shelf, tray, or receptacle type support not necessarily limited to use with foods combined with a particular electrical heat generator that may include a heat or vapor enclosure; subclasses 385+ for a heating device combined with container, enclosure, or support for material to be heated, subclasses 600+ for inductive heating, subclasses 678+ microwave heating, or subclasses 764+ for capacitive dielectric heating.

220, Receptacles, for receptacles adapted to contain food.

222, Dispensing, for apparatus for dispensing.

229, Envelopes, Wrappers, and Paperboard Boxes, for receptacles adapted to contain food.

241, Solid Material Comminution or Disintegration, appropriate subclasses for the comminution of food substances and such combinations of other treatment therewith as are provided for in Class 241. See Lines With Other Classes and Within This Class, in the class definition of that class (241) for a complete statement of the line.

250, Radiant Energy, see Lines With Other Classes and Within This Class, in the Class Definition of class (250) for a statement of the line.

269, Work Holders, appropriate subclasses. Class 269 is the residual locus for patents to a device for clamping, supporting and/or holding an article in position to be operated on or treated.

383, Flexible Bags, for a bag adapted to contain food.

414, Material or Article Handling, for a conveyor combined with an enclosure or tank provided with means facilitating or fluid pressure sealing the entry and/or exit of the conveyor to or from the enclosure or tank, even though the latter is designated by a particular name or is stated to contain a treating fluid, but where no structure of the enclosure or tank is claimed other than that necessary to effect the handling of the material; subclasses 147+ for the combination of a chamber of a type utilized for a heating function and material charging or discharging means therefor, and subclass 287 for the combination of a static receptacle of a material conditioning type and means to move, or facilitate the movement of, material to, within, or from the receptacle.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, for general disinfecting, deodorizing, preserving, or sterilizing of materials and articles.

435, Chemistry: Molecular Biology and Microbiology, subclasses 289.1+ for apparatus for carrying out fermentations.

451, Abrading, for an abrading process or apparatus of general application. For example, included in Class 451 is a grain tumbling device which presents no abrasive or other material removing surface to the grain wherein abrading is effected by mutual engagement of the grains with each other. However, note that a grain container that is either stationary or moving is included in Class 99 when provided with a grain contacting member which moves the grain in the container for the disclosed purpose of removing the husk or adhering impurities, even if using an abradant.

452, Butchering, appropriate subclasses, for apparatus for killing and dressing animals for food, for linking and stuffing of sausages, for cleaning intestines, and for tendering meat.

554, Organic Compounds, subclasses 8+ for extraction of oils from vegetable material and from animal fats.

SECTION III - GLOSSARY

Terms in the definitions of this class followed by an asterisk(*) will be found to be defined in this section.

ACCESS

The term "access" is intended to include a cutting means which (a) makes an incision (usually at a point adjacent either the stem or tip of the food) for the purpose of allowing the same means and/or another means to separate the core-pit* from the interior of the food; or, (b) impales the food (and, the place of entry of the impaling means frequently is used for the same purpose as the incision in (a), immediately above); or, (c) halves the food (and, once the food is "halved", an easier "access" is obtained to separate the core-pit, seeds, inner membranes, etc.)

BLOSSOM-END

This expression relates to the surface area of food at the location of the natural attachment to the food of the flower or calyx of food such as a cherry or strawberry and may also include a small portion of adjacent skin; the expression is arbitrarily extended to include the tip or root of food such as a turnip or potato.

CORE-PIT

That portion of an article of food that is located in and around the geometrical center of the food; however, the outer periphery of the core-pit is NOT necessarily equidistant for the outer periphery of the food, (e.g., a generally ellipsoidal "pit" in a generally spherical peach). Further, in some varieties of food (e.g., a relatively small variety of apple) a drilling or punch-die type means which may remove a substantially right circular cylinder section, when aligned with the stem-blossom axis of the apple, will usually remove not only the seed pocket but also that portion of the apple containing matter connected to both the stem and blossom ends of the apple. Thus, the core-pit portion may include a central portion only, or a central portion plus a right-circular-cylinder section containing the central portion.

CORE-PIT

This expression usually precedes the word "means", and is intended to comprehend a "mechanical treatment" which contacts all or a portion of the core-pit and then severs, tears away, separates, and/or removes the core-pit from the remaining portion of the food.

DISJOIN (DISJOINING)

These expressions are used to indicate that one portion of a naturally occurring article of food is detached or disunited from an immediately adjacent portion of the food without necessarily being spatially separated to a significant extent. For example: rolling, with some slight pressure, a hard-boiled fowl egg will disunite at least part of the bond between the outer shell* and the interior of the egg; however, unless the shell is totally removed, the membrane between the shell and the interior egg portions keeps the shell attached. Thus, at least portions of the shell have been disjoined from the inner portions although the same, or other portions of the shell, have not been spatially separated from the inner portions.

EDIBLE

An object that is subject to consumption by an human or animal by chewing or masticating prior to swallowing.

FOOD

A man-made or naturally-occurring discrete article consumable by animals or humans for nourishment.

GRAIN

This term is interpreted to include those seeds to which the term is ordinarily applied, e.g., wheat, oats, cottonseed, corn, coffee beans, barley, etc., and to exclude larger vegetables such as beets, nuts, potatoes, etc.

HULL OR HULLING

These expressions are treated as being species of skin* disjoining*; however, an exception is recognized, as follows: Grain-hulling equates a covering of dirt or similar impurities, with the naturally occurring outer covering of grain*.

REMOVE

To spatially separate significantly one portion of food from another.

SEED

A discrete article, constituting a propagative part of a naturally-occurring edible food, usually found in or near the core-pit area. As to human consumption, it is frequently "waste"; but, as to the reproduction of the species, it is essential.

SHELL

Shell includes those outer coverings of articles of food which fracture upon impact, as distinguished from those outer coverings that yield upon impact. Prime example of foods having fractile and/or fracturable outer coverings are fowl eggs and nuts.

SKIN

That portion of the outer periphery of an article of food that is dissimilar with respect to the inner portion of the food in at least one (and usually several) of the following respects: color, consistency, density, firmness, flexibility, hardness, texture ("rough" vs. "slick" to the touch), and toughness (resistance or lack of resistance to "tearing").

STEM-END

This expression relates to the surface area of food at the location of the natural attachment to the food of a stalk, stem, branch, vine or cap that supports an article of food such as a cherry or strawberry and may also include a small portion of the adjacent skin; the expression is arbitrarily extended to include the area of attachment of the sprout, leaf, stalk or foliage of food such as a potato.

STEMMING

This expression is arbitrarily assigned as being generic to the separation of items such as a blossom, leaf, root, tip, or similar portion of a naturally occurring food, in addition to connoting the separation of a stem.

SUBCLASSES

275 BEVERAGE:
Apparatus under the definition which is adapted and designed for making beverages or beverage intermediates and not provided for below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
452+, for treatment of dairy food apparatus.

SEE OR SEARCH CLASS:
204, Chemistry: Electrical and Wave Energy, appropriate subclasses for apparatus for electrical treatments of alcoholic or other beverages or alcoholic or other liquids.
435, Chemistry: Molecular Biology and Microbiology, subclasses 289.1+ for apparatus that includes means for carrying out propagations of yeasts, or other living ferments, or diastatic mashings or other fermentations, or germinating seeds, or preparing malt, or preserving or treating, or containing yeasts or other living ferments, or treating products of fermentations, or preparing materials for use in propagating yeasts or other living ferments, or for use in fermentations.

276 Primary-alcoholic fermentations with subsequent and/or prior operations:
This subclass is indented under subclass 275. Apparatus which includes means that is adapted and designed for carrying out primary (first) ethyl alcoholic fermentations, combined with means for preparation of the material or treatment of the product to make a beverage or combined with both material preparation and product treatment to form a beverage or beverage intermediate.

SEE OR SEARCH CLASS:
435, Chemistry: Molecular Biology and Microbiology, subclasses 289.1+ for apparatus directed to fermentation and prior or subsequent steps.

277 Post-primary-alcoholic fermentation operations:
This subclass is indented under subclass 275. Apparatus which includes means for treating products of primary (first) ethyl alcoholic fermentations for the purpose of making beverages, or beverage intermediates, therefrom.

SEE OR SEARCH THIS CLASS, SUBCLASS:
276,

SEE OR SEARCH CLASS:
202, Distillation: Apparatus, for apparatus for subjecting alcoholic materials to distillations.
204, Chemistry: Electrical and Wave Energy, subclass 194 and appropriate indented subclasses for apparatus for electrolytic treatment of alcoholic beverages.

210, Liquid Purification or Separation, appropriate subclasses, for separation of solid matter from liquids, especially subclasses 348+ for filters, and subclasses 513+ for gravitational separators.

435, Chemistry: Molecular Biology and Microbiology, subclasses 289.1+.

277.1 Aging, refining and purifying:
This subclass is indented under subclass 277. Apparatus especially adapted for aging, refining, and purifying alcoholic beverages and potable alcohols.

(1) Note. For electrolytic apparatus for aging, refining, or purifying alcoholic beverages, see Class 204, Chemistry: Electrical and Wave Energy, subclass 194 and appropriate indented subclasses.

SEE OR SEARCH CLASS:

426, Food or Edible Material: Processes, Compositions, and Products, subclasses 11+ and 330.4 for methods of aging and purifying alcoholic beverages.

277.2 With agitating means:
This subclass is indented under subclass 277.1. Apparatus wherein means are provided for agitating the liquid being treated.

(1) Note. For agitating apparatus of general application, see Class 366, Agitating.

278 Hopping, wort-making or ante-primary alcoholic fermentation operations:
This subclass is indented under subclass 275. Apparatus which includes means for hopping, or preparing hop-extracts, or making or purifying worts, or otherwise preparing materials for primary (first) ethyl alcoholic fermentations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

276,

SEE OR SEARCH CLASS:

435, Chemistry: Molecular Biology and Microbiology, subclasses 289.1+, particularly 291.1+, for apparatus for carrying out diastatic mashings or other operations that involve, or are subsequent or prior to, fermentations of any kind.

279 Infusors:
This subclass is indented under subclass 275. Apparatus for subjecting a material containing an extractable or infusible beverage substance to the action of an extracting or infusing fluid which is usually at an elevated temperature.

SEE OR SEARCH CLASS:

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 255+ for apparatus for dissolving, leaching, or extracting a soluble constituent of a nonbeverage material.

426, Food or Edible Material: Processes, Compositions, and Products, for processes of infusing beverage materials.

280 Automatic control:
This subclass is indented under subclass 279. Infusion apparatus provided with means to initiate, maintain and/or terminate an operation thereof in accordance with the functioning of timing means and/or condition responsive means.

(1) Note. For purposes of this classification, the timing mechanism must be of the chronometric type, normally found, per se, in Class 368, Horology: Time Measuring Systems or Devices, and not mere cycling means, such as a cam device.

281 Of heat:
This subclass is indented under subclass 280. Infusion apparatus, wherein a heating operation is controlled by time and/or condition responsive means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

326, and 331, and their indented subclasses, for cooking apparatus having automatic heat control.

282 And infusive contact:
This subclass is indented under subclass 281. Infusion apparatus wherein the contact of the infusing fluid and the infusive material is initiated, controlled or terminated by a time or condition responsive device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
283, for similar devices having no control of the heat.

283 Of infusive contact:
This subclass is indented under subclass 280. Infusion apparatus wherein the contact of the infusing fluid and the infusive material is initiated, controlled, or terminated by a time or condition responsive device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
282, to complete the search for devices of this type.

284 Convertible:
This subclass is indented under subclass 279. Infusion apparatus which is adapted for a different use, either as another type of beverage infuser or as any other device by means of a modification of its adjustment, assembly, or position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
318+, for infusive material containing receptacles which are adjustable to various positions.

285 With signal, indicator or observation means:
This subclass is indented under subclass 279. Infusion apparatus, including means for gauging, signalling, indicating, testing, or facilitating the visual inspection, of, the beverage, the beverage material, or the existence or occurrence of some condition usually relating to the infusing operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
341, and 342+, for cooking apparatus provided with signals, indicators, or observation means.

SEE OR SEARCH CLASS:
73, Measuring and Testing, appropriate subclasses, for gauges, per se.
116, Signals and Indicators, appropriate subclasses.
126, Stoves and Furnaces, limited to heating food, subclass 388.1 for a fluid fuel burner other than a top-accessible liquid heating vessel and an indicator or signaler feature.
220, Receptacles, subclasses 377, 602+ and 662 for an inspection window.
340, Communications: Electrical, appropriate subclasses for electrical signaling systems, especially subclass 603 for a signal automatically responsive to the condition of a fluent material, and subclasses 309.16-309.9 for a timer controlled signal.
368, Horology: Time Measuring Systems or Devices, subclasses 43, 72+, 94, 98+, 109, and 244+ for an horological device including an alarm.

286 With prior handling or treating (e.g., roasting or grinding):
This subclass is indented under subclass 279. Infusion apparatus combined with means for subjecting the infusible material or infusing liquid to an operation or manipulation, other than heating and prior to infusive contact therebetween, which modifies either the physical or chemical state of the material or liquid.

(1) Note. The prior operations of roasting and/or grinding are here included.

SEE OR SEARCH THIS CLASS, SUBCLASS:
290, for treatment or handling subsequent to infusive contact.

SEE OR SEARCH CLASS:
34, Drying and Gas or Vapor Contact With Solids, will take other than cooking apparatus.
241, Solid Material Comminution or Disintegration, appropriate subclasses for coffee grinders, per se, and in other combinations.

287 With agitating or compacting:
This subclass is indented under subclass 279. Infusion apparatus, including means for stirring, commingling, or compressing, the infusible materials during the infusing operation usually to facilitate formation of the infusion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
348, and 349+, for cooking apparatus with stirring or compressing means.

SEE OR SEARCH CLASS:
100, Presses, subclasses 73+ for presses, not elsewhere provided for, having means to add material to the pressed material where the material added is liquid or steam.

288 With cooking or heating means:
This subclass is indented under subclass 279. Infusion apparatus including one or more food heating or cooking devices combined with beverage infusing apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:
339, for cooking apparatus combined with other cooking or heating means.

SEE OR SEARCH CLASS:
219, Electric Heating, subclasses 443.1+ for an electrical heating device having an exposed planar support surface (e.g., hot plate, etc.).

289 With infusive material feeding and/or discharging:
This subclass is indented under subclass 279. Infusion apparatus, including mechanism for delivering infusible material, i.e., material containing the extractable substances into, or withdrawing infusible material from the extracting zone.

(1) Note. The flushing out of adherent infusible material by a washing fluid is here included.

SEE OR SEARCH THIS CLASS, SUBCLASS:
323.9, for the feeding or discharging of material to a corn popper.

SEE OR SEARCH CLASS:
222, Dispensing, subclasses 95+ for devices for separating a predetermined charge of material from the bulk and delivering separated charge.

290 Combined:
This subclass is indented under subclass 279. Infusion apparatus, claimed in association with means for performing some operation other than infusing.

(1) Note. This subclass includes operations or handling performed on the beverage subsequent to the completion of the infusion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
298, for plural infusor beds or filters.
323.5, and 357, for cereal poppers or food cookers combined with some other operation.

291 Plural infusors:
This subclass is indented under subclass 279. Infusion apparatus which includes two or more devices, each operating to extract a distinct beverage.

SEE OR SEARCH THIS CLASS, SUBCLASS:
298, for devices which contain a plurality of charges of infusible material but extract only one beverage.

292 Pressure-vacuum or reflex type:
This subclass is indented under subclass 279. Infusion apparatus of the type in which infusing liquid is forced from a heating and storage vessel, by the pressure of the vapor evolved during a heating operation through a suitable channel into an extraction vessel and is then caused to revert to the heating and storage vessel, through substantially the same channel, by either gravity alone or in conjunction with the vacuum produced in the heating and storage vessel incident to the condensation of the vapors therein.

(1) Note. These devices are frequently fabricated of glass and are sometimes referred to as “glass coffee makers”.

SEE OR SEARCH THIS CLASS, SUBCLASS:
296, for infusors in which liquid is caused to pass from one vessel to another by an inversion of the apparatus.

SEE OR SEARCH CLASS:

210, Liquid Purification or Separation, subclass 481 for filters for reflex coffee makers.

215, Bottles and Jars, subclasses 396+ or handles for glass bowls.

285, Pipe Joints or Couplings, subclasses 19+ for a joint between spaced plates (e.g., between the walls of two vessels), and subclasses 223+ for a flexible joint between rigid members.

392, Electric Resistance Heating Devices, subclass 450 for electric heaters, for this type of infusion apparatus.

293 Steamer or condenser type:

This subclass is indented under subclass 279. Infusion apparatus of the type in which (1) the infusible material is subjected to the action of a vaporized liquid, usually steam, (2) the infusible material is contacted with condensate of the infusing fluid, or (3) the infusing device is provided with some special means to extract the heat of vaporization of, or to receive the condensate of, either the infusing fluid or a volatile constituent of the infusible material.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, limited to heating food, subclasses 369 through 369.3 for a steam chamber for food or subclasses 381.1 and 382.1 for an open-top liquid heating vessel that may include a lid having a condenser for steam from the vessel.

294 With additional liquid supply means:

This subclass is indented under subclass 293. Infusion apparatus in which separate means are provided to contact the infusible material with both a liquid and a vapor.

295 Cartridge type:

This subclass is indented under subclass 279. Infusion apparatus modified to accept infusible material associated in a vendable, disposable, or single use infusing package or receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

323, for infusible material containing receptacles adapted for reuse.

296 Invertible type:

This subclass is indented under subclass 279. Infusion apparatus having oppositely disposed vessels communicating through an infusion chamber, and means whereby (1) the apparatus may be selectively positioned with either vessel in the subjacent position, (2) one vessel may be detached from the other vessel and placed, top surface down, on an appropriate support, or (3) the apparatus may be tilted to cause the completed or partially completed beverage to pass or repass through the infusion chamber.

297 Plunger type:

This subclass is indented under subclass 279. Apparatus in which the infusible material is carried by a piston closely fitted within an elongated chamber containing infusing fluid so that movement of the piston requires passage of the infusing fluid through the infusible material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

319+, for infusors in which the infusible material is manipulated vertically by means other than a piston.

298 Plural bed or filter type:

This subclass is indented under subclass 279. Infusion apparatus, including (1) two or more surfaces, receptacles, or compartments, for the reception of the infusible material for a single beverage, or (2) one or more surfaces, receptacles, or compartments, for the reception of infusible material provided with additional means for separating solid material from the beverage.

SEE OR SEARCH CLASS:

210, Liquid Purification or Separation, subclasses 294+ for diverse distinct separators of general utility.

299 With infusive rate or interval control means:

This subclass is indented under subclass 279. Infusion apparatus in which means are provided to vary or adjustably determine the duration or character of contact between the infusible material and the infusing fluid, other

than by manipulation of the infusible material or the supply of infusing fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

282, and 283, for automatic control of the infusive contact.

292, 293, 296, 305, and 306, and any indented subclass, for control of the infusive contact by regulation of the time or rate of supply of infusing fluid.

297, and 318+, for control of the infusive contact by manipulation of the infusible material.

300 With liquid supply or directing means:

This subclass is indented under subclass 279. Infusion apparatus, including means to conduct or deflect infusing liquid toward the infusible material for contact therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:

292, for the supply of liquid by vapor displacement in pressure-vacuum type infusors.

294, for the subject matter of this subclass combined with other means for the supply of vapor.

301 Liquid trap:

This subclass is indented under subclass 300. Infusion apparatus wherein a body of liquid is arranged in the liquid supply so as to prevent escape through the supply of vapors present in the infusor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

293+, for liquid seals which condense vapors.

SEE OR SEARCH CLASS:

220, Receptacles, subclass 228 for closures provided with liquid seals.

302 Force feed infusor:

This subclass is indented under subclass 300. Infusion devices wherein pressure means are provided to induce flow of infusing liquid through the infusible material.

(1) Note. Vacuum means for inducing flow are here included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

292, and 297, for infusor types having force feed incorporated therein.

303 Underfeed:

This subclass is indented under subclass 302. Infusion apparatus wherein the direction of flow of infusing liquid through the infusible material is contrary to the action of gravity.

304 Gravity feed infusor:

This subclass is indented under subclass 300. Infusion apparatus wherein the flow of infusing fluid through the infusible material is due to the weight of the liquid which is in contact with the material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

316+, for gravity feed infusors where there is no means for the supply or direction of infusing liquid.

305 With supply regulator:

This subclass is indented under subclass 304. Infusion apparatus wherein means are provided to vary or adjust the rate of liquid supply or to determine the total quantity of liquid supplied.

SEE OR SEARCH THIS CLASS, SUBCLASS:

299, for regulators for varying the flow of liquid through the infusible material.

309, for valve means which selectively connect anyone of a plurality of liquid sources as the supply source.

306 Drip chamber type:

This subclass is indented under subclass 304. Infusion apparatus, wherein the liquid supply in its entirety consists of a vessel of sufficient size to contain substantially the entire charge of liquid and apertured to permit a restricted gravity discharge thereof upon the infusible material positioned therebelow.

307 With force feed supply:
This subclass is indented under subclass 304. Infusion apparatus, wherein the liquid supply includes means for elevating or otherwise propelling the liquid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
302+, for infusors wherein the flow through the infusible material is the result of the liquid propelling means and not gravity alone.
346, for means for elevating and applying basting liquid to food.

308 Recycling or repercolating:
This subclass is indented under subclass 307. Infusion apparatus wherein liquid after contact with the infusible material is returned to the liquid supply means for reuse in again contacting the infusible material.

309 Selective supply:
This subclass is indented under subclass 308. Infusion apparatus, wherein means are provided for supplying at will either unprocessed liquid or partially infused beverage.

SEE OR SEARCH THIS CLASS, SUBCLASS:
294, for infusors in which both steam and a liquid are contacted with the infusible material.

310 Fountain type:
This subclass is indented under subclass 308. Infusion apparatus wherein liquid is delivered upwardly through a conduit surrounded by a bed of infusible material and is allowed to gravitate upon the infusible material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
313+, for similar infusors where the beverage is not recycled.

311 With overflow:
This subclass is indented under subclass 310. Infusion apparatus wherein means are provided to discharge liquid in excess of a desired height above the infusible material.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 383.1 through 386.1 for an open-top liquid heating vessel that may include a lid having a collecting, directing, or shielding feature for overflow or spatter of the liquid.

312 With distributor:
This subclass is indented under subclass 310. Infusion apparatus including means to facilitate the spreading of liquid over the area of the infusible material, frequently by means of perforated spreader plates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
314, and 315, for distributors.

SEE OR SEARCH CLASS:
239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses, for specific means for discharging or distributing liquid in the form of a spray.

313 Fountain type:
This subclass is indented under subclass 307. Infusion apparatus wherein liquid is delivered upward through a conduit surrounded by a bed of infusible material and is allowed to gravitate upon the infusible material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
310+, for similar infusors which recycle the beverage.

314 With distributor:
This subclass is indented under subclass 313. Infusing apparatus including means to facilitate the spreading of liquid over the area of the infusible material, frequently by means of perforated spreader plates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
312, and 315, for distributors.

315 With distributor:
This subclass is indented under subclass 307. Infusion apparatus including means to facilitate the spreading of liquid over the area of the

infusible material, frequently by means of perforated spreader plates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
312, and 314, for distributors.

316 Plural compartment:
This subclass is indented under subclass 279. Infusion apparatus wherein there is provided a beverage vessel having associated therewith a space or support for infusible material.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 373.1 through 390.1 for an open-top liquid heating vessel that may include a lid.

317 Inner foraminous receptacle:
This subclass is indented under subclass 316. Infusion apparatus in which the support for the infusible material includes a perforated or otherwise pervious receptacle within but distinct from the beverage vessel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
403+, for food boilers and deep fat fryers.

318 Movable or adjustable:
This subclass is indented under subclass 317. Infusion apparatus wherein the inner pervious receptacle is arranged so that its position, relative to the outer beverage vessel or the liquid therein, can be varied.

(1) Note. Mere removability of the inner receptacle is construed as being neither movable nor adjustable within the definition of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
284, for infusors in which the parts may be assembled differently to vary the position of the foraminous receptacle.

319 Vertical:
This subclass is indented under subclass 318. Infusion apparatus in which the pervious receptacle can be moved or adjusted in a straight vertical path.

SEE OR SEARCH THIS CLASS, SUBCLASS:
297, for pervious receptacles constituting pistons or plungers.

320 Float:
This subclass is indented under subclass 319. Infusion apparatus in which the means for positioning the pervious receptacle includes a buoyant element.

321 Textile type:
This subclass is indented under subclass 317. Infusion apparatus in which the pervious receptacle includes a flexible, nonmetallic fabric in its construction.

SEE OR SEARCH CLASS:
383, Flexible Bags, various subclasses for cloth receptacles.

322 Suspended:
This subclass is indented under subclass 317. Infusion apparatus in which means are provided for supporting the pervious receptacle from the top or sides of the beverage vessel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
321, for suspended, pervious receptacles of flexible, nonmetallic fabrics.

323 Infusing receptacles:
This subclass is indented under subclass 279. Infusion apparatus consisting of a reusable pervious enclosure for the infusible material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
295, for infusion apparatus using disposable containers.
320, for infusing receptacles, per se, combined with a float.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass .5 for nonbeverage infusible material, containing receptacles or packages.
210, Liquid Purification or Separation, subclass 282 for particulate material separators with a movable cartridge; subclasses 314+ for spaced filters, and

subclasses 323.1+ for plural distinct filters of more general utility.

426, Food or Edible Material: Processes, Compositions, and Products, subclasses 77+, for the combination of an infusion receptacle and a food material, also tea bags, per se.

323.1 With gas treating means:
This subclass is indented under subclass 275. Device wherein the beverage or beverage intermediate is contacted by an aeriform fluent substance (other than ambient atmosphere).

SEE OR SEARCH THIS CLASS, SUBCLASS:

467+, for means subjecting food to an enclosed modified atmosphere.

515+, for means applying a food treating fluid to food.

SEE OR SEARCH CLASS:

261, Gas and Liquid Contact Apparatus, for apparatus for carbonating beverages.

426, Food or Edible Material: Processes, Compositions, and Products, subclasses 474+, for process involving a gas-liquid contact.

323.11 Separating discharge:
This subclass is indented under subclass 323.9. Device wherein means is provided to select a portion of the treated cereal having a predetermined size and discharge the same from the treating zone, independently of, or to the exclusion of, that portion of the material not selected.

SEE OR SEARCH THIS CLASS, SUBCLASS:

469, for means removing undesirable solid material from food.

528, for a screen separating products in combination with grain hulling.

569+, for means separating or sorting in combination with shell removal.

601+, for means segregating diverse materials in combination with grain hulling.

SEE OR SEARCH CLASS:

209, Classifying, Separating, and Assorting Solids, for general purpose separation of solids.

323.12 VINEGAR-MAKING:
This subclass is indented under the class definition. Device including apparatus specifically adapted for the preparation or treatment of acetic acid derived from fermentation.

SEE OR SEARCH CLASS:

435, Chemistry: Molecular Biology and Microbiology, for fermentation processes and apparatus; see the definition of Class 435, under II, B (1) Note, in the reference to Class 99, for the line between Classes 99 and 435.

562, Organic Compounds, subclasses 607+, and the notes thereunder, for acetic acid.

323.2 Carbonic acid and flavoring material:
This subclass is indented under subclass 323.1. Device wherein the gas treating means is carbon dioxide or other carbonating substance; and in addition a liquid or solid substance is applied which affects the taste of the carbonated beverage.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 602+ for a system having a multiple inlet and a single outlet.

222, Dispensing, subclasses 129+ for a dispenser having plural sources.

239, Fluid Sprinkling, Spraying, and Diffusing, subclass 549 for beverage mixing nozzles.

323.3 Hot beverage means:
This subclass is indented under subclass 275. Device including means which make a beverage by combining a mixture which includes a constituent heated above the ambient temperature, or raises the temperature of a beverage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

279+, for infusors wherein the beverage is heated.

323.4 CEREAL-PUFFING:
This subclass is indented under the class definition. Device; including apparatus adapted to subject cereal to sudden changes in pressure to disrupt the same and produce an expanded or inflated product.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, will take other than cooking apparatus.

134, Cleaning and Liquid Contact With Solids, and the notes thereto for apparatus for cleaning grain or applying liquid to grain that class (134) for the line.

162, Paper Making and Fiber Liberation, subclass 247 for apparatus including a fibrous material digester including means to subject the material to sudden changes in pressure to disrupt the fibers.

241, Solid Material Comminution or Disintegration, for apparatus for comminuting grain.

323.5 Corn-popper type:

This subclass is indented under subclass 323.4. Device designed to pop corn or other cereal by heat treatment at substantially atmospheric pressure.

(1) Note. The atmospheric pressure in the definition of this subclass refers to the ambient conditions in and around the device and the individual kernel of popcorn. This is to be distinguished from that heat which penetrates into the interior of a kernel, heats at least some of the internal fluid to the point of vaporization, and thus contributes to the bursting of a kernel.

SEE OR SEARCH CLASS:

220, Receptacles, appropriate subclasses for a receptacle, disclosed as a corn-popping receptacle, but having no structural feature claimed which is limited thereto.

312, Supports: Cabinet Structure, subclass 236 for a support or cabinet provided with a heating means.

366, Agitating, appropriate subclasses for agitating apparatus disclosed as a corn popping device, but having no claimed limitations restricting it thereto.

323.6 Coin control:

This subclass is indented under subclass 323.5. Device whose operation is effected by the use of a coin, check, or token.

SEE OR SEARCH THIS CLASS, SUBCLASS:

357, for a coin controlled cooking device.

SEE OR SEARCH CLASS:

194, Check-Actuated Control Mechanisms, appropriate subclasses for check-actuated control mechanisms in general.

222, Dispensing, appropriate subclasses, for apparatus for dispensing previously popped corn.

323.7 Automatic control or time means:

This subclass is indented under subclass 323.5. Device provided with means to initiate, maintain or terminate the operation in accordance with the functioning of timing means or condition responsive means.

(1) Note. For purpose of this classification, the timing mechanism must be of the chronometric type, normally found, per se, in Class 368, Horology: Time Measuring Systems or Devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:

280+, for an automatic control device related to beverage apparatus.

325+, for an automatic control device related to cooking apparatus.

323.8 With addition of flavoring material:

This subclass is indented under subclass 323.5. Device including means for contacting the cereal with a condiment, usually salt or butter, prior to, during, or subsequent to the popping.

SEE OR SEARCH THIS CLASS, SUBCLASS:

345+, for basting or solid applying means in combination with cooking.

494, for means applying solid or particulate material to food.

516+, for means applying a fluid to food.

SEE OR SEARCH CLASS:

118, Coating Apparatus, particularly subclasses 13+ for an edible-base coating.

222, Dispensing, for a flavor dispenser, per se.

323.9 With feeding, conveying or discharging:

This subclass is indented under subclass 323.5. Device, including mechanism for delivering the cereal into, withdrawing cereal from or transporting the cereal between distinct points either within or without the heat treating zone.

SEE OR SEARCH THIS CLASS, SUBCLASS:

352+, for means treating or handling food combined with cooking.

443, for a conveyor or movable support combined with a cooking means and see the search notes thereunder.

SEE OR SEARCH CLASS:

222, Dispensing, for dispensing or discharge means, per se.

324 COOKING:

This subclass is indented under the class definition. Apparatus adapted to receive and support food and subject it to a heat, or other energy treatment, sufficient to change a chemical or physical property of the food, the change affecting the edibility of the food.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, will take other than cooking apparatus, subclasses 329+ for a process of contacting treated material with a solid or liquid agent.

65, Glass Manufacturing, subclasses 349+ for glass annealing or tempering apparatus.

68, Textiles: Fluid Treating Apparatus, appropriate subclasses.

118, Coating Apparatus, subclasses 13+ for apparatus to coat an edible material.

122, Liquid Heaters and Vaporizers, appropriate subclasses, for heating confined bodies of liquid.

126, Stoves and Furnaces, subclasses 1 through 32 for a cooking stove, subclasses 19-22 for a cooking oven, subclasses 34 and 35 for a cooking stove having a steam or hot water generator, subclasses 273-275 for a domestic oven or subclasses 344-363.1 for a water heater, especially subclasses 369-369.3 for a steam chamber for food.

134, Cleaning and Liquid Contact With Solids, for pertinent subclass(es) as determined by schedule review.

159, Concentrating Evaporators, appropriate subclasses.

165, Heat Exchange, appropriate subclasses, for apparatus for transferring heat between two or more fluids.

198, Conveyors: Power-Driven, subclasses 343.1+ for a load supporting conveyor portion that is retarded or stopped with a load at station without being disconnected from a remainder of a continuously moving conveyor or subclasses 373+ a conveyor for changing attitude of an item relative to its conveyed direction.

202, Distillation: Apparatus, subclasses 105+ for distillation apparatus.

206, Special Receptacle or Package, subclass .5 for infusible material containing receptacles and packages or subclasses 139+ for a carrier, for potable beverage containers (e.g., cans, bottles, etc.), having means to space the containers in a desired arrangement, and additionally having hand or finger engaging means to pendulously support the containers.

211, Supports: Racks, subclasses 14, 71.01+ for food support racks.

215, Bottles and Jars, appropriate subclasses, for food receptacles.

219, Electric Heating, subclasses 385+ for a heating device combined with a container, enclosure or support for material to be heated, especially subclasses 391+ for an oven heating device.

220, Receptacles, subclasses 426+ for a metallic vessel having a heating jacket (i.e., double boilers), but including no heat transfer feature.

229, Envelopes, Wrappers, and Paperboard Boxes, subclasses 3.1, 3.5 and 406 for a paper food receptacle.

248, Supports, appropriate subclasses.

249, Static Molds, for a static mold for shaping material of any composition (e.g., glass, butter, etc.).

266, Metallurgical Apparatus, subclass 114 for treating of solid metal with a liquid or subclass 249 for treating solid metal with heat.

294, Handling: Hand and Hoist-Line Implements, subclass 5 for ear corn holders, subclasses 7+ for pancake turners, and subclass 26.5 for a hand manipulable discharging receptacle, frequently used to poach an egg, and subclass 137 for a hand-held article carrier, especially subclasses 144 and 172 for a tray or rack having hand-held portions for transporting the tray or rack.

312, Supports: Cabinet Structure, appropriate subclasses for food supports involving a cabinet.

392, Electric Resistance Heating Devices, subclasses 341, 394, and 441+ for an apparatus to electrically heat a liquid.

406, Conveyors: Fluid Current, appropriate subclasses for conveying solid material by a liquid current.

414, Material or Article Handling, subclasses 147+ for the combination of a chamber of a type utilized for a heating function and material charging or discharging means therefor, subclasses 217+ for apparatus to move material between zones having different pressures and inhibiting change in pressure gradient therebetween, or subclass 287 for the combination of a material conditioning static receptacle and means to move, or facilitate the movement of, material to, within, or from the receptacle.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 243+ for a cottonseed cooker, subclasses 261+ for apparatus to extract a nonbeverage substance from a solid material, or subclasses 292+ for apparatus for sterilizing an article by heat.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses for apparatus without working means for shaping or reshaping edible material into a self-sustaining product, especially subclasses 110+ for such apparatus to make a composite edible from a preform and fluent material or for a meat briquette making means.

432, Heating, appropriate subclasses for a residual heating process or structure.

454, Ventilation, appropriate subclasses, for apparatus for supplying, circulating, or removing gas or vapors present in an enclosure.

325 Automatic control:

This subclass is indented under subclass 324. Cooking apparatus provided with means to initiate, maintain and/or terminate an operation thereof in accordance with the functioning of timing means and/or condition-responsive means.

(1) Note. For purposes of this classification, the timing mechanism must be of the chronometric type, normally found, per se, in Class 368, Horology: Time Measuring Systems or Devices, and not mere cycling means, such as a cam device, nor a thermal time delay device, such as an independently heated thermostat.

SEE OR SEARCH THIS CLASS, SUBCLASS:

280+, for beverage infusors having automatic controls.

285, and 342+, for cooking apparatus having timing means to actuate signals or alarms.

SEE OR SEARCH CLASS:

73, Measuring and Testing, subclasses 29.02+, for hygrometers and hygrostats.

126, Stoves and Furnaces, limited to heating food, subclass 351.1 for a fluid fuel burner other than a top-accessible liquid heating vessel and a condition responsive feature, or subclass 374.1 for an open-top liquid heating vessel that may include a lid and a condition responsive feature.

219, Electric Heating, subclasses 446.1+ for an electrical heating device having an exposed planar support surface (e.g., hot plate, etc.) having a sensor means that may also include condition responsive means.
236, Automatic Temperature and Humidity Regulation, appropriate subclasses.
337, Electricity: Electrothermally or Thermally Actuated Switches, subclasses 298+ for a thermostatic switch.
374, Thermal Measuring and Testing, subclasses 100+ for a thermometer.

326 Of heat and material:
This subclass is indented under subclass 325. Cooking apparatus, in which both the operations of heating and of manipulating the material are controlled.

SEE OR SEARCH THIS CLASS, SUBCLASS:
282, for infusor type cooking apparatus having control of both heating and manipulating of material.

327 By time:
This subclass is indented under subclass 326. Cooking apparatus wherein both operations are controlled by timing mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
328, and 329, for cooking apparatus in which a time interval is determined by an independently heated thermostat.

328 And heat responsive means:
This subclass is indented under subclass 327. Cooking apparatus wherein the operations are jointly or severally under control of both a timing means and a means directly responsive to a thermal condition usually a thermostatic device.

329 By heat responsive means:
This subclass is indented under subclass 326. Cooking apparatus wherein both operations are controlled by means which is directly responsive to a thermal condition, usually a thermostatic device. Independently heated thermostats which determine a time interval for a cooking operation are here classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
328, for cooking apparatus wherein both operations are additionally controlled by timing mechanism.

330 Of cooking fluid:
This subclass is indented under subclass 325. Cooking apparatus wherein is controlled the operation of manipulating the fluid which surrounds the food support or receptacle and functions as a medium for the conduction of heat to the food material.

(1) Note. Arrangements where there is a control of heating fluid not having access to the cooking support or receptacle are not included here but are placed in those subclasses where there is control of the heat.

SEE OR SEARCH THIS CLASS, SUBCLASS:
282, and 283, for automatic control of infusing fluids.

331 Of heat or heater:
This subclass is indented under subclass 325. Cooking apparatus in which the operation of heating is controlled either in the generation of heat or in the application of heat to the food material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
281+, for infusion apparatus having control of heating.
326+, for the subject matter of this subclass disclosure in combination with the control of the food material.
330, for devices where the heat is controlled by supplying a heated cooking fluid such as steam.

SEE OR SEARCH CLASS:
236, Automatic Temperature and Humidity Regulation, appropriate subclasses.

332 By time:
This subclass is indented under subclass 331. Cooking apparatus wherein the heating is under control of timing mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
327+, to complete the search.

333 And heat responsive means:
This subclass is indented under subclass 332. Cooking apparatus wherein the heating is additionally controlled by means directly responsive to a thermal condition, usually a thermostatic device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
328, to complete the search.

334 Of material:
This subclass is indented under subclass 325. Cooking apparatus wherein is controlled the operation of manipulating the material treated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
282, and 283, for infusion apparatus having control means for the food material under treatment.
326+, for the same subject matter either disclosed or claimed in combination with the control of the heat or heater.

335 By time:
This subclass is indented under subclass 334. Cooking apparatus wherein the control is by a timing mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
327+, to complete the search.

SEE OR SEARCH CLASS:
368, Horology: Time Measuring Systems or Devices, subclasses 124+ for escapements, per se.

336 Egg boiler or deep fat fryer type:
This subclass is indented under subclass 335. Cooking apparatus wherein the food material is withdrawn from contact with a heated liquid upon the operation of the timing mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
330, for devices in which the heated liquid is withdrawn from contact with the food material upon operation of the timing mechanism.
403+, for boilers.
440, for egg cooking supports.

337 Intercontrol or safety control:
This subclass is indented under subclass 324. Cooking apparatus having (1) means to insure the concomitant operation of two or more manually operable controls or operators each of which control different operations; and/or (2) arrangements which insure the safety of either the cooking apparatus or the person operating it by maintaining the apparatus in a passive condition upon occurrence of a harmful or dangerous condition there within.

SEE OR SEARCH THIS CLASS, SUBCLASS:
325+, for cooking apparatus having controls operated by timing mechanism or by a condition-responsive means.

338 Of heat and material:
This subclass is indented under subclass 337. Cooking apparatus wherein the control or actuation means for manipulating the food material and the control means for initiating, terminating and/or modifying the heating operation are interlocked for dependent control.

SEE OR SEARCH THIS CLASS, SUBCLASS:
326, for devices where the interlocked control is automatically responsive to timing mechanism and/or condition-responsive means.

339 Diverse cooker types:
This subclass is indented under subclass 324. Cooking apparatus comprising a unitary assembly of (1) a plurality of cooking devices, or (2) a cooking device and a food heating device, each of which devices is adapted to perform a different type of cooking or heating operation.

(1) Note. Cooking apparatus comprising two or more devices, all of the same or similar types, are classified elsewhere in this class, according to the type.

SEE OR SEARCH THIS CLASS, SUBCLASS:

340, for cooking apparatus for performing a single cooking operation but which may be converted from one type of cooking operation to either another cooking operation or a food heating operation.

340 Convertible:

This subclass is indented under subclass 324. Cooking apparatus in which a single device, by means of a modification of its adjustment, assembly, or position, is adapted for different types of cooking or cooking and food heating operations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

339, for cooking apparatus having a plurality of cooking devices, each for a different type of cooking operation.

376, for apparatus convertible to either a waffle iron or a sandwich grill.

452.13, for an exposed horizontal planar support surface for material to be heated (e.g., hot plate, etc.) having a frame, casing, or housing for a heating unit (e.g., range top, stove top, countertop, etc.) that is convertible.

341 With observation means:

This subclass is indented under subclass 324. Cooking apparatus including means for facilitating visual inspection of either the food material or some portion of the cooking apparatus.

(1) Note. Illuminating means combined with cooking apparatus are here classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:

285, for inspection means for infusers.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, will take other than cooking apparatus, subclass 88 for a display, inspecting, or illuminating apparatus.

126, Stoves and Furnaces, subclass 200 for ovens with a transparent panel.

220, Receptacles, subclasses 662+ for receptacles having transparent walls.

312, Supports: Cabinet Structure, subclasses 114+ for show-case cabinets.

362, Illumination, appropriate subclasses for illuminators combined with structural devices.

342 With signal, indicator or tester:

This subclass is indented under subclass 324. Combinations cooking apparatus with means for gauging, signalling, or indicating the existence or occurrence of or testing for some condition usually relating to the cooking operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

285, for similar combinations wherein the cooking apparatus is of the beverage infuser type.

SEE OR SEARCH CLASS:

73, Measuring and Testing, appropriate subclasses, for gauges, per se.

116, Signals and Indicators, appropriate subclasses.

126, Stoves and Furnaces, limited to heating food, subclass 388.1 for a liquid heater having an open-top vessel that may include a lid and an indicator or signaler feature.

340, Communications: Electrical, appropriate subclasses for electrical signaling systems, especially subclasses 309.16 through 309.9 for a timer controlled signal, and subclasses 500-693.12 for electrical automatic condition responsive indicating systems.

374, Thermal Measuring and Testing, subclasses 100+ for a thermometer.

343 Gauge or gauge markings:

This subclass is indented under subclass 342. Combinations wherein the indicating means is (1) a gauge such as a thermometer, pressure gauge, liquid level gauge, et cetera, or (2) is a series of markings to indicate to the operator the degree or extent of a condition usually relating to the cooking operation.

344 Alarm:
This subclass is indented under subclass 342. Combinations wherein the indication is given by means audibly informing the operator of the existence or occurrence of the condition.

SEE OR SEARCH CLASS:
116, Signals and Indicators, particularly subclasses 67, 137, 147, 148, and any indented subclass.
340, Communications: Electrical, subclasses 500+ for electrical alarm systems which are automatically responsive to a condition.
368, Horology: Time Measuring Systems or Devices, subclasses 43, 72+, 94, 98+, 109, and 244+ for an horological device including an alarm.

345 With basting or solid applying means:
This subclass is indented under subclass 324. Combinations of cooking apparatus with means to (1) baste the material during cooking, or (2) apply solid matter such as bread crumbs, fat, et cetera, to said material during cooking.

SEE OR SEARCH THIS CLASS, SUBCLASS:
323.8, for devices for adding butter, salt, or other condiment to popcorn.
355+, for cooking devices combined with means for applying solid matter to the food after cooking.

346 Liquid elevating means:
This subclass is indented under subclass 345. Combinations having means, such as a pump, for elevating basting liquid from a sump usually below the material to a discharge point above said material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
307+, for beverage infusers having similar means for elevating liquids.

SEE OR SEARCH CLASS:
417, Pumps, appropriate subclasses.

347 Condensing or self basting:
This subclass is indented under subclass 345. Combinations having means for condensing vapors resulting from the cooking, plus means for directing condensate upon the material being cooked. Here included are the so-called "self-basting" cooking receptacles having means arranged over the material so that vapors may condense on said means and the liquid may drip down upon the material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
293+, for condenser type beverage infusers.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 381.1 and 382.1 for an open-top liquid heating vessel that may include a lid and a condenser for steam from the vessel.

348 With stirring:
This subclass is indented under subclass 324. Combinations of cooking apparatus with means for stirring the material during cooking.

SEE OR SEARCH THIS CLASS, SUBCLASS:
287, for beverage infusers combined with agitating means.
352+, for means for mixing, stirring, or agitating material prior or subsequent to the cooking operation.
364, and 400, and any indented subclass, for cooking apparatus having means for agitating other than by stirring or for turning the material during cooking.
443, and see the Notes thereto, for food conveyors which agitate the food thereon.

SEE OR SEARCH CLASS:
34, Drying and Gas or Vapor Contact With Solids, appropriate subclasses.
126, Stoves and Furnaces, limited to heating food, subclass 387.1 for an open-top liquid heating vessel that may include a lid having an agitator or circulator using the heated liquid within the vessel and may prevent boil over.
165, Heat Exchange, subclass 109.1 for a heat exchanger combined with an agitator.
366, Agitating, subclasses 241+ for agitators with movable stirrers.

349 With material pressing means (e.g., ham boilers):
This subclass is indented under subclass 324. Cooking apparatus combined with means for exerting mechanical pressure on the food material during heat treatment thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
369, for hold-down devices associated with filled receptacles.
372, 385, and any indented subclass, for devices in which the pressure element constitutes one of a pair of heating or heat transmission elements for substantially heating opposite sides of the food material.
426+, for food supports which confine or mold the food material without exerting mechanical pressure thereon.
433, for devices which clamp together the upper and lower crusts of pies while being baked.

SEE OR SEARCH CLASS:
100, Presses, subclasses 265+ for reciprocating platen presses, not elsewhere provided for, having a spring or weight actuating means.

350 Band or binder type:
This subclass is indented under subclass 349. Cooking apparatus in which the food support encircles the article and compresses the food therein, solely by said encirclement and not by end closures or the like.

SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclass 16 for bale or package ties.
53, Package Making, subclasses 138.1+ for packaging apparatus including means to place a binding about the package in a manner to aid in or contribute to the retention of the cover about the contents.

351 Spring biased:
This subclass is indented under subclass 349. Cooking apparatus in which the means for exerting mechanical pressure includes a spring or other yielding element for limiting or maintaining the pressure on the food material.

SEE OR SEARCH CLASS:
220, Receptacles, subclasses 578+ for an internal closure-like member which rests on the unused contents of a container.

352 With other treating or handling of material:
This subclass is indented under subclass 324. Combinations of cooking apparatus and means for performing a noncooking operation or process on or an additional manipulation of the material cooked, not elsewhere provided for. The operation, process or manipulation may take place prior, concurrent, or subsequent to the cooking.

(1) Note. For combinations of cooking apparatus with conveying, feeding, turning, or discharging means, see appropriate subclasses under the various types of cooking apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:
345, 348 and 349+, for other material treating or handling operations.

353 Changing form or shape:
This subclass is indented under subclass 352. Combinations of cooking apparatus and means for changing the form or shape of the material.

(1) Note. Included here are combinations such as cooking and slicing, et cetera.

(2) Note. Patents claiming means for merely depositing, feeding, or introducing food to a cooking apparatus are classified with the particular apparatus claimed, even though the disclosed means likewise shapes the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
349+, for cooking apparatus provided with means to press the material during cooking.
450.1, for apparatus for making a composite edible including preform assembly means with or without shaping or reshaping except for laminating within a mold cavity (see the reference to Class 425 below).

SEE OR SEARCH CLASS:
30, Cutlery, for hand manipulable cutters.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus without cooking means to shape or reshape edible material into a self-sustaining product, especially subclasses 110+ for such apparatus to make a composite edible from a preform and fluent material in a mold cavity.

354 Ring or hollow article (e.g., dough-nut):
This subclass is indented under subclass 353. Cooking apparatus in which the article formed is an annulus or other hollow article, frequently a doughnut.

355 Subsequent treating or handling:
This subclass is indented under subclass 352. Combinations wherein the additional treating or handling follows the cooking operation.

(1) Note. Cooking vessels combined with draining devices for separating the food material from the cooking liquid are here classified.

356 Receptacle filling or closing:
This subclass is indented under subclass 355. Combinations wherein the subsequent operation comprises placing the cooked material in receptacles or applying closures to the filled receptacles.

SEE OR SEARCH CLASS:
53, Package Making, subclass 127 for packaging apparatus including means to heat or cool the contents of the package.
141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclass 81 for receiver filling combined with heating or cooling.

357 Combined:
This subclass is indented under subclass 324. Cooking apparatus claimed in association with means for performing some operation other than cooking.

(1) Note. Operations which constitute a part of the cooking function, such as feeding, moving, or discharging the material into, within, or from the cooking zone, are not combined operations, but are classified with the various types of cooking apparatus.

(2) Note. Included herein are coin operated or coin freed cooking devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:
285, through 290, 323.5 and 323.8, for cereal puffing and beverage infusing apparatus combined with some other operation.
323.5, and 323.6, for coin controlled cereal poppers.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 541+ for cooking receptacles combined with camp or lunch kits.

358 Electrode type:
This subclass is indented under subclass 324. Cooking apparatus wherein the food material is heated by the passage of an electrical current therethrough.

SEE OR SEARCH CLASS:
219, Electric Heating, subclasses 200+ for an electrical heating device of general utility.

359 Filled receptacle type:
This subclass is indented under subclass 324. Cooking apparatus adapted to heat treat food material within receptacles which are designed to contain the food until it reaches the consumer. Included here are can processors, bottle pasteurizers and food jar canning apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:
324+, and 483, for sterilizing or pasteurizing apparatus for foods and beverages in bulk.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclass 346 for a liquid heating kettle furnace having canning means or subclasses 369-369.3 for a steam chamber for food.

134, Cleaning and Liquid Contact With Solids, for receptacle cleaning apparatus and processes.
211, Supports: Racks, subclasses 74+ for canning racks for a plurality of canning receptacles.
220, Receptacles, subclasses 500+ for carriers or canning racks for bottles and the like, having a base depending from a handle and means to hold a plurality of said bottles, etc., on said base in a desired arrangement, regardless of the material from which the carrier is made.
248, Supports, subclasses 146+ for supports for single receptacles.
422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclass 292 for apparatus for sterilizing articles by heat.

360 With conveyor:
This subclass is indented under subclass 359. Cooking apparatus wherein means is provided to transport the food containing receptacles from a feeding station to a discharge station while undergoing heat treatment. The feeding or discharging may be accomplished either manually or mechanically.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the Notes thereto, for other types of cooking apparatus utilizing conveyors.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, appropriate subclasses.

361 Successive treating zones or units:
This subclass is indented under subclass 360. Cooking apparatus in which the conveyor transports the food in turn through a plurality of heat treating devices or areas. The heat treatment may include either heating or cooling of the food material, but at least one must be heating.

SEE OR SEARCH THIS CLASS, SUBCLASS:
367+, for successive treating zones where there is no conveyor structure.

362 Single endless conveyor:
This subclass is indented under subclass 361. Cooking apparatus, in which the food receptacles are transported through the various treating zones or units by the same endless conveyor extending through all.

363 Variable length of path:
This subclass is indented under subclass 360. Cooking apparatus, wherein the course of the food receptacles through the treating zone can be selected to modify the length of travel therein and thereby the duration of the treatment.

364 Rollway type:
This subclass is indented under subclass 360. Cooking apparatus, in which the food receptacles contact a surface or trackway in such a manner that forward motion of the receptacles is accompanied by rolling of the receptacle along the surface or trackway and about the longitudinal axis of the receptacle.

SEE OR SEARCH CLASS:
193, Conveyors: Chutes, Skids, Guides, and Ways, subclasses 38+ for the structure of the ways.

365 Helical type:
This subclass is indented under subclass 364. Cooking apparatus in which the rollway is in the form of a helix.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclass 778 for power-driven rollers tandemly arranged on a helical path.

366 Valved receptacle inlet or outlet:
This subclass is indented under subclass 360. Cooking apparatus in which there is provided means to transfer a food receptacle into or from the treating chamber without release of fluid pressure existing within the chamber.

SEE OR SEARCH CLASS:
414, Material or Article Handling, subclasses 217+ for apparatus for moving material between zones having different pressures and inhibiting a change in pressure gradient therebetween.

367 Plural treating units or zones:
This subclass is indented under subclass 359. Cooking apparatus providing two or more devices or two or more areas of the same device for the heat treatment of food in receptacles, at least one such treatment being heating.

SEE OR SEARCH THIS CLASS, SUBCLASS:
361+, for similar treating means utilizing a conveyor for the receptacles.

368 Fluid interchange:
This subclass is indented under subclass 367. Cooking apparatus in which a treating fluid is transferred from one unit or zone to another unit or zone usually to modify the character of heat treatment therein.

369 With hold-down or presser:
This subclass is indented under subclass 359. Cooking apparatus in which there is provided means for exerting a restraining force against the receptacle or its closure, usually to prevent deformation or dislocation of the receptacle or its closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
349+, and see the Notes thereto, for devices exerting mechanical pressure directly on food being cooked.

370 Plural treating fluids:
This subclass is indented under subclass 359. Cooking apparatus including means for supplying two or more treating fluids, either simultaneously or in turn, for contact with the food receptacles, at least one of the fluids heat treating the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
368, for a plurality of treating chambers supplied with plural treating fluids by an interchange of fluid therebetween.

371 Movable retort or support:
This subclass is indented under subclass 359. Cooking apparatus in which either (1) the treating enclosure is so mounted that the same may partake of motion, or (2) the support for the food receptacles is adapted to be moved within the enclosure during treatment.

(1) Note. The movement usually is for agitating the contents of the receptacles or for facilitating loading or unloading of the device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the Notes thereto, for movable cooking supports.

372 Opposed heated mold or surface type (e.g., waffle iron):
This subclass is indented under subclass 324. Cooking apparatus including two imperforate movably connected heated plates or mold sections adapted to be positioned so as to confine and contact food material therebetween.

(1) Note. The surfaces of the plates may be planes or may carry designs or configurations.

(2) Note. Waffle irons and sandwich grills are here classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
422+, for single heated cooking surfaces.
428+, for cooking apparatus wherein one of two opposed surfaces receives the food material in contact heating relationship and the other surface (1) constitutes a mere cover, (2) is without a substantially continuous contact heating relationship with the food, or (3) is not movably connected to the first named surface.

SEE OR SEARCH CLASS:
100, Presses, subclasses 300+ for presses, not otherwise provided for, which have means to treat the material by heating, cooling or drying.
219, Electric Heating, subclasses 524+ for a heater-unit housing, casing, or support means (e.g., frame and single sheet, etc.) having hinged or separable compartments (e.g., waffle iron type, etc.).

373 With feeding, conveying and/or discharging:
This subclass is indented under subclass 372. Cooking apparatus, including in combination at least one of the following: (1) means for supplying or facilitating the supply of uncooked material, between the cooking surfaces, (2) means for bodily transporting both cooking surfaces from a feeding station to a discharging station, or (3) means for withdrawing or facilitating the withdrawal of the food material from both cooking surfaces.

SEE OR SEARCH CLASS:
100, Presses, subclass 178 for concurrent pressing and conveying presses of the moving compression chamber type, not elsewhere provided for, having a piston or platen, subclass 215 for reciprocating presses having means to place material on the means which supports the material during pressing, and subclass 218 for presses which have means to remove the material compacted from the support on which it rested during compression.

374 Plural units:
This subclass is indented under subclass 372. Cooking apparatus consisting of two or more pairs of cooking surfaces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
291, 339, 367, and any indented subclass and subclasses 416, 448, for other cookers having provision for a plurality of like or unlike cooking operations.
373, for a plurality of pairs of cooking plates arranged on a conveyor.

SEE OR SEARCH CLASS:
100, Presses, subclasses 193+ for plural presses not elsewhere provided for.

375 With drip or waste receptor, director or trimmer:
This subclass is indented under subclass 372. Cooking apparatus including means for catching, deflecting, accommodating, or severing excess material from the cooking surfaces.

(1) Note. The material discharged is usually a surplus of batter, cooked food, or cooking fat, not desired for the cooking operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
444+, and see the Notes thereto, for similar devices associated with other cooking apparatus.

SEE OR SEARCH CLASS:
100, Presses, subclass 98 for presses not otherwise provided for, having means to treat material in the press by cutting, breaking, piercing or comminuting, and subclasses 104+ for presses, not otherwise provided for, having drain means for expressed liquid.
126, Stoves and Furnaces, limited to heating food, subclasses 383.1 through 386.1 for an open-top liquid heating vessel that may include a lid having a collecting, directing, or shielding feature for overflow or spatter of the liquid.

376 Detachable or convertible surface:
This subclass is indented under subclass 372. Cooking apparatus provided with means for readily detaching the cooking surfaces from their support or for assembling the cooking surfaces by inversion or substitution so as to present any one of two or more different surfaces. Apparatus convertible to either a sandwich grill or a waffle iron are classified here.

SEE OR SEARCH THIS CLASS, SUBCLASS:
340, for cooking apparatus convertible to effect a different type of cooking.

SEE OR SEARCH CLASS:
100, Presses, subclasses 226+ and subclass 229 for presses, not elsewhere provided for, having a platen movable transversely of the compressing direction to a nonuse position.

377 Movably supported surfaces:
This subclass is indented under subclass 372. Cooking apparatus wherein the pair of heated surfaces is bodily moved as a unit, such as to invert, rotate, or adjust as to position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
373, when the motion is one of conveying from a material feeding station to a material discharging station.
443, and see the notes thereto, for movably supported cooking devices.

378 Electric feature:
This subclass is indented under subclass 372. Cooking apparatus, in which there is included some electrical structure, over and above an electrical heating element.

(1) Note. Included here are arrangements of connectors or conductors supplying electric current to various heating elements.

SEE OR SEARCH CLASS:
174, Electricity: Conductors and Insulators, appropriate subclasses.
219, Electric Heating, subclasses 524+ for a heater-unit housing, casing, or support means (e.g., frame and single sheet, etc.) having hinged or separable compartments (e.g., waffle iron type, etc.).
439, Electrical Connectors, appropriate subclasses for the structure of electrical connectors, per se.

379 Adjustable separation:
This subclass is indented under subclass 372. Cooking apparatus in which provision is made for accommodating food materials of different or nonuniform thicknesses between the heated surfaces.

SEE OR SEARCH CLASS:
16, Miscellaneous Hardware, subclass 235 for a hinge, per se, having leaves which may be moved and fixed relative to each other; and subclasses 357+ and 362+ for a hinge in which the leaves are free to translate relative to each other.
100, Presses, subclass 257 for presses of the reciprocating platen type, not elsewhere provided for, and having range of movement adjustment.

380 Movably connected mold sections:
This subclass is indented under subclass 372. Cooking apparatus in which the opposed heated surfaces are significantly claimed as portions of a matrix or mold, and are movably jointed to each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:
428, 430-433 and 439, for cooking molds including dynamic feature.

SEE OR SEARCH CLASS:
249, Static Molds, subclasses 160+ for movably connected mold sections.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses for apparatus without heating means for shaping edible fluent material, especially see subclasses 408+ for opposed registering female molds and see the search notes thereunder.

381 Composite article forming or receiving:
This subclass is indented under subclass 380. Cooking apparatus, in which the mold sections are modified to receive two or more distinct foods and mold the same into a unitary food article.

SEE OR SEARCH THIS CLASS, SUBCLASS:
383, for devices adapted to shape a hollow article so that another food material may be added subsequent to the cooking.
432+, for composite article forming molds.

382 Hollow article forming or receiving:
This subclass is indented under subclass 380. Cooking apparatus in which the mold sections define an article having an opening therein or therethrough.

SEE OR SEARCH THIS CLASS, SUBCLASS:
442, for cooking supports for pre-shaped hollow articles.

383 Edible container:
This subclass is indented under subclass 382. Cooking apparatus in which the food article is a receptacle, usually disclosed to receive additional food material subsequent to the cooking.

384 Elongate article forming or receiving:
This subclass is indented under subclass 380. Cooking apparatus in which the mold sections define a relatively long, slender article.

SEE OR SEARCH THIS CLASS, SUBCLASS:
441, for cooking supports shaped to receive an elongate article.

385 Slice toaster or broiler (e.g., grid types):
This subclass is indented under subclass 324. Cooking apparatus peculiarly adapted to support food material in the form of a slice while undergoing heat treatment. The support is non-continuous, such as a grid, to permit direct action of the heat or heated vapor on the material and usually has portions cooperating with both sides of the slice.

(1) Note. When the material treated is bread, the operation is known as toasting, and when meat, as broiling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
372+, for nonforaminous slice supports.
450, for single grids or surfaces, which although disclosed for receiving slices are not necessarily so limited, as by structural cooperation with both sides of the slice or delimiting the thickness thereof.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, subclass 14 and 41, for broiling devices associated with a general purpose stove or designed to be incorporated in such a stove as a part thereof.
219, Electric Heating, subclass 450.1 for an electrical heating device having an exposed planar support surface (e.g., hot plate, etc.) intended for food.

386 With conveyer:
This subclass is indented under subclass 385. Cooking apparatus in which means is provided to transport the food slice from a feeding station to a discharge station while undergoing heat treatment.

(1) Note. The feeding or discharging may be accomplished either manually or mechanically.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the notes thereto, for other types of cooking apparatus utilizing conveyors.

387 With magazine supply:
This subclass is indented under subclass 386. Cooking apparatus in which the food slices are stored in a stacked condition from which they are delivered to the conveyor, as required.

SEE OR SEARCH CLASS:
221, Article Dispensing, appropriate subclasses for article dispensing devices, per se.
312, Supports: Cabinet Structure, subclasses 35+ for removal facilitating magazine type cabinets.

388 With marking or uniform coloring:
This subclass is indented under subclass 385. Cooking apparatus including either (1) means to produce a particular design character, or lettering on the slice, such as by unequal heating of the surface of the slice, through a stencil, or (2) means to prevent the unequal heating of the surface of the slice with the consequent color variation. “Anti-shadow” devices where the slice support is prevented from marking the slice are here classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
401, for heat baffles, distributors, or enclosures, which also operate to equalize the heating of the surface of the slice.

SEE OR SEARCH CLASS:
101, Printing, subclasses 127+, and see the notes thereto, for stencils.

389 Opposed heater type:
This subclass is indented under subclass 385. Cooking apparatus in which both sides of the slice are simultaneously subjected to like heating from (1) a source of heat individual with each side of the slice, or (2) a single source of heat with suitable deflectors or reflectors for directing the heat to both sides of the slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
372+, for opposed heated surfaces contacting the food slice.

390 Movable or adjustable heater:
This subclass is indented under subclass 389. Cooking apparatus including means to move the heat source, reflector or deflector toward or away from the slice.

(1) Note. The movement may be for adjustment or may facilitate access to the slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
372+, for waffle irons in which heated surfaces are movable relative to the food.

391 Movable or adjustable carrier or grid:
This subclass is indented under subclass 389. Cooking apparatus, in which the slice support or carrier is arranged in the device for relative motion.

(1) Note. The motion may be one of adjustment or may facilitate access to or manipulation of the slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
393, for other movable or adjustable slice carriers or holders.

SEE OR SEARCH CLASS:
312, Supports: Cabinet Structure, appropriate subclasses for enclosures with movable components.

392 Removably guided:
This subclass is indented under subclass 391. Cooking apparatus in which the entire movable slice support or carrier is adapted to be withdrawn along definite guide means and separated bodily from the cooking device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
399, for other removable slice carriers or holders.

393 Movably or adjustably supported carrier or grid:
This subclass is indented under subclass 385. Cooking apparatus in which the slice support or carrier is so mounted in the device that the support or carrier may be moved either for adjustment or manipulation of the slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
391+, to complete the search.

SEE OR SEARCH CLASS:
312, Supports: Cabinet Structure, appropriate subclasses for enclosures with movable components.

394 Hand-held type:
This subclass is indented under subclass 393. Cooking apparatus in which the slice carrier or holder is movably or adjustably mounted on a handled device, which is, or is adapted to be, hand-held during the cooking operation.

SEE OR SEARCH CLASS:
294, Handling: Hand and Hoist-Line Implements, appropriate subclasses for hand-held devices for manipulating or transporting an article.

395 With turning feature:
This subclass is indented under subclass 393. Cooking apparatus in which means are provided to turn over the food slice relative to its support or carrier, usually to present a different surface to the heat source.

SEE OR SEARCH THIS CLASS, SUBCLASS:
397, and indented subclass, for devices where the support and the food slices are so mounted as to be inverted bodily or as a unit and there is no turning over of the slice relative to the support or carrier.

SEE OR SEARCH CLASS:
294, Handling: Hand and Hoist-Line Implements, subclass 7, and indented subclass, for pancake turner type hand implements.

396 Interchangeable position type:
This subclass is indented under subclass 393. Cooking apparatus in which a series of two or more slice carriers or holders are initially located in a series of two or more heat treating stations and each carrier or holder may be relocated, in an inverted condition relative to the heat source, in a station vacated by another carrier or holder of the series.

397 Rotary invertible:
This subclass is indented under subclass 393. Cooking apparatus in which the food slice support or carrier is so mounted as to permit bodily rotation through at least 180 degrees, relative to its mounting, about an axis in, or generally parallel to, the plane of the slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
396, to complete the search.

398 Displaceable pivot:
This subclass is indented under subclass 397. Cooking apparatus in which the rotational axis of the slice support or carrier is bodily movable or adjustable.

(1) Note. The movement frequently provides clearance for the rotation of the support or carrier, but, for example, may allow adjustment of the spacing of the slice support and heat source.

399 Removably guided:
This subclass is indented under subclass 393. Cooking apparatus in which the entire movable slice support or carrier is adapted to be withdrawn along definite guide means and separated bodily from the cooking device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
392, for removable slice holders used in an opposed heater type of toaster or broiler.

400 With drip or crumb receiving means:
This subclass is indented under subclass 385. Cooking apparatus including means to catch, direct, or segregate juice or solid particles released by the food slice while undergoing heat treatment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
444, and indented subclasses, and see the notes thereto, for drip segregators.

401 With heat distributor, baffle or enclosure:
This subclass is indented under subclass 385. Cooking apparatus including means to direct, deflect or confine heat or heated vapors towards or about a food slice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
389, and indented subclasses, for heat deflectors on opposite sides of the slice.
447, for similar arrangements associated with a single foraminous support.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, subclass 275, for distributing or deflecting means associated with an oven.

402 Hanged or separable grids:
This subclass is indented under subclass 385. Cooking apparatus including opposed cooperating grids which are adapted to be relatively displaced.

403 Boiler or deep fat fryer type:
This subclass is indented under subclass 324. Cooking apparatus in which food articles or materials are supported or manipulated for heat treating by contact with a body of heated liquid.

(1) Note. Operations performed by this apparatus are usually termed boiling or deep fat or french frying.

SEE OR SEARCH THIS CLASS, SUBCLASS:
279, and indented subclasses, for infusors.
330, and 336, for automatically controlled cookers involving a cooking liquid.

345, and indented subclasses, for contacting food with a noncooking, basting liquid.
355, for drain devices associated with a deep fat fryer.
359, for heat treating filled food receptacles with either a heated liquid or vapor.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 373.1 through 390.1 for an open-top liquid heating vessel that may include a lid.
220, Receptacles, appropriate subclasses for vessels which include no heating feature.

404 With conveyer:
This subclass is indented under subclass 403. Cooking apparatus , wherein means is provided to transport the food from a feeding station to a discharge station while undergoing heat treatment by contact with a heating liquid.

(1) Note. The feeding or discharging may be accomplished either manually or mechanically.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the notes thereto, for conveyors used in cooking.

405 For buoyant material:
This subclass is indented under subclass 404. Cooking apparatus in which the conveyor is modified to accommodate material having a tendency to float in the cooking liquid.

406 Fluid current:
This subclass is indented under subclass 405. Cooking apparatus in which the material while floating in the cooking liquid is carried at least in part from the feeding station toward the discharging station solely by flow of the cooking liquid.

SEE OR SEARCH CLASS:
406, Conveyors: Fluid Current, appropriate subclasses for hydraulic conveyors (no treatment involved).

407 With feeding and/or discharging:
This subclass is indented under subclass 403. Cooking apparatus including means for supplying removing, or facilitating the supply or removal of food material from the liquid treating support therefor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
404, for feeding or discharging devices associated with conveying apparatus.

408 With crumb or sediment segregating or handling:
This subclass is indented under subclass 403. Cooking apparatus including means for manipulating, accommodating, or separating debris, usually produced by the reaction of the cooking liquid and the food material, present in the cooking liquid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
444, and indented subclasses, and see the notes thereto, for drip segregators.

SEE OR SEARCH CLASS:
210, Liquid Purification or Separation, subclasses 153+, particularly subclasses 167+ and 171, for means for purification of liquids in general when combined with structure not classified in Class 210 but not so specifically defined as to be provided for elsewhere.

409 With turning, agitating or inverting:
This subclass is indented under subclass 403. Cooking apparatus, wherein means are provided to (1) relocate the food material relative to its treating support, (2) relocate the food material relative to the cooking liquid, or (3) relocate the treating support in an inverted position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
348, for apparatus for the mixing of food material by stirring usually to obtain a homogeneous mass.
404, and indented subclasses for turning or inverting devices associated with a conveyor.

443, and see the notes thereto, for movable food supports.

410 Elevated, steaming or draining position:
This subclass is indented under subclass 403. Cooking apparatus wherein the food treating support is adjustable or can be assembled in any one of a plurality of superposed positions at different levels and in which in one position, usually the lowest, the food material is contacted with the cooking liquid.

(1) Note. The various elevated positions may permit cooking at a different level in the cooking liquid, cooking by vapor evolved by the cooking liquid or draining of the food material to free it of cooking liquid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
319, for beverage steeper pots having vertically adjustable containers for infusible material.
355, for draining devices located to one side of the cooking liquid vessel or where the draining does not utilize the cooking support.
417, for plural food supports in which at least one is an elevated or food steaming support.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 369 through 369.3 for a steam chamber for food.
134, Cleaning and Liquid Contact With Solids, subclass 135 for liquid contact apparatus in which a work holder is held in draining position above the treating liquid.

411 Unilaterally supported:
This subclass is indented under subclass 410. Cooking apparatus wherein the food support, when in an elevated position, is sustained by the cooking liquid containing vessel, cantilever fashion, i.e., at one side only of the food support.

412 Bayonet type support:
This subclass is indented under subclass 410. Cooking apparatus in which the food support is retained in a selected elevated position by reason of a rotary misalignment of normally vertically movably cooperating portions of the food support and cooking liquid containing vessel.

413 Rim engaging support:
This subclass is indented under subclass 410. Cooking apparatus wherein the food support in its elevated position has portions thereof resting on the upper edge of the cooking liquid containing vessel.

414 Bail or flexibly suspended:
This subclass is indented under subclass 410. Cooking apparatus wherein the food support, in an elevated position, is sustained by a jointed or flexible connection.

(1) Note. The bail of the food support is usually one of the elements of the flexible connection.

415 Bottom resting support:
This subclass is indented under subclass 410. Cooking apparatus wherein the food support, when in an elevated position, derives its support from a part thereof, or a device connected therewith which rests on the bottom wall of the cooking liquid containing vessel.

416 Plural food support:
This subclass is indented under subclass 403. Cooking apparatus in which the food support is provided with a plurality of distinct food receiving portions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
448, and see the notes thereto, for other plural food supports.

417 Superposed or steaming:
This subclass is indented under subclass 416. Cooking apparatus wherein a food receiving portion of the food support is located in an elevated position relative to another food receiving portion, and which portions may be either unitary or separable, but at least one contacts food with the cooking liquid.

(1) Note. Certain of the receiving portions may be arranged to function as a food steaming support.

SEE OR SEARCH THIS CLASS, SUBCLASS:
410, for food supports adapted to be positioned at different elevations.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 369 through 369.3 for a steam chamber for food.

418 Bottom resting support:
This subclass is indented under subclass 403. Cooking apparatus, wherein the food support or a part connected therewith rests on the bottom wall of the cooking liquid containing vessel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
415, to complete the search.

419 Spit or impaling type:
This subclass is indented under subclass 324. Cooking apparatus including a food support of which portions thereof penetrate or pierce the food material and retain the food thereon.

(1) Note. The food support is usually pointed so as to form its own passage in the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
358, where the impaling means is one or more electrodes.
442, where the support is adapted to be inserted in a preformed opening in a food article.

SEE OR SEARCH CLASS:
30, Cutlery, subclass 322 and indented subclass, for table forks.
211, Supports: Racks, subclass 125, and see the note thereto for impaling racks.
294, Handling: Hand and Hoist-Line Implements, subclass 49 and indented subclasses, for hand forks, and subclass 61, for spears.

420 With conveyer:
This subclass is indented under subclass 419. Cooking apparatus wherein means is provided to transport the food from a feeding station to a discharge station while undergoing heat treatment.

(1) Note. The feeding or discharging may be accomplished either manually or mechanically.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the notes thereunder, for the types of cooking apparatus utilizing conveyors.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 692+, for conveyors having article impaling means thereon.

421 Movably or adjustably supported:
This subclass is indented under subclass 419. Cooking apparatus in which the food support is so mounted or arranged that the support can be given motion or adjustment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, and see the notes thereto, for movably mounted food supports.

422 Imperforate sheet or griddle type:
This subclass is indented under subclass 324. Cooking apparatus wherein the food receiving support is an imperforate, although not necessarily continuous, surface.

(1) Note. Griddles, hot plates, cookie sheets, and solid broiling plates are here classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
372, and indented subclasses for opposed imperforate heating surfaces.

SEE OR SEARCH CLASS:
126, Stoves and Furnaces, limited to heating food, subclasses 39 through 51 for a gas cooking stove that may include a hotplate.

219, Electric Heating, subclass 450.1 for an electrical heating device having an exposed planar support surface (e.g., hot plate, etc.) intended for food.

294, Handling: Hand and Hoist-Line Implements, subclass 7 and indented subclass, for implements for manipulating the food on the cooking surface.

423 With feeding, discharging and/or movably supporting:

This subclass is indented under subclass 422. Cooking apparatus, combined with (1) means supplying food material to, inverting food material on, or removing material from, the imperforate surface, or (2) means for supporting or mounting the imperforate surface so that the same can be adjusted, moved, transported, or hinged.

SEE OR SEARCH THIS CLASS, SUBCLASS:

443, and see the notes thereto, for other movably mounted food supports.

SEE OR SEARCH CLASS:

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 447+ for a shaping surface and means feeding fluent stock thereto.

424 Pivoted section:

This subclass is indented under subclass 423. Cooking apparatus in which the imperforate surface includes at least one section which is caused to swing relative to another section about an axis located generally in the plane of the surface.

(1) Note. The pivoting of the section is usually disclosed as useful for transferring food from one section to another in a turned or inverted condition.

425 Drip segregating, receiving or directing:

This subclass is indented under subclass 422. Cooking apparatus including means for separating the food and the material exuded therefrom or for accommodating or disposing of the exuded material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

444, and indented subclasses, and see the notes thereto, for drip segregators.

426 Confining, conforming or molding support:

This subclass is indented under subclass 324. Cooking apparatus wherein the food receiving support is shaped or otherwise modified to especially accommodate, shape, or enclose a food article having a characteristic shape.

SEE OR SEARCH CLASS:

219, Electric Heating, subclass 453.12, for an exposed planar support surface for material to be heated (e.g., hot plate, etc.) having a support for a heating unit enabling the exposed planar support surface to conform to material having other than a planar surface.

249, Static Molds, appropriate subclasses, for food molds, per se, not combined with means working or treating the food.

425, Plastic Article or Earthenware shaping or Treating: Apparatus, subclasses 461+ for a means providing a shaping orifice and subclasses 470+ for a shaping or casing surface, per se; see the search notes thereunder.

427 Movably mounted:

This subclass is indented under subclass 426. Cooking apparatus in which the food receiver is so mounted or supported that the same can be adjusted, moved, or transported.

SEE OR SEARCH THIS CLASS, SUBCLASS:

443, and see the Notes thereto, for other cooking supports which are movably mounted.

428 Shaping core mold:

This subclass is indented under subclass 426. Cooking apparatus comprising a mold having stationary means for producing a hollow food product.

(1) Note. Molds are here classified which, by either disclosures or structural modifications, contain food during a cooking operation.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, limited to heating food, subclasses 373.1 through 390.1 for an open-top liquid heating vessel that may include a lid.

220, Receptacles, appropriate subclasses.

430 Mold with dynamic scoring or severing means:

This subclass is indented under subclass 426. Cooking apparatus, comprising a mold having scoring or severing means which function by relative movement between said means and the object being scored or severed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

388, for marking devices associated with a toaster or broiler.

SEE OR SEARCH CLASS:

101, Printing, subclasses 127+ for stencils.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 289+ for a shaping or reshaping apparatus combined with severing, cutting or scoring means.

431 Dipping form:

This subclass is indented under subclass 426. Cooking apparatus wherein a form is coated with batter by dipping prior to the cooking.

SEE OR SEARCH CLASS:

118, Coating Apparatus, subclasses 26+ for apparatus for coating edible material by immersion.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 269 for shaping apparatus comprising a dipping form, per se.

427, Coating Processes, subclass 430.1 for immersion coating processes.

432 Mold for forming sheet material, e.g., pie crust:

This subclass is indented under subclass 426. Cooking apparatus comprising means for shaping preformed sheet material.

(1) Note. Receptacles for composite food articles where no feature characteristic of the composite article is claimed are in the appropriate receptacle classes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

381, for connected molds modified to receive and shape composite food materials.

433 Including pie rim clamp or guard:

This subclass is indented under subclass 432. Cooking apparatus in which a pie is the article supported and means are provided to (1) compress the joint between the upper and lower crusts, or (2) shield the joint from the direct action of the heat.

SEE OR SEARCH CLASS:

53, Package Making, appropriate subclasses for packaging apparatus including means to apply plural sectioned cover members.

126, Stoves and Furnaces, limited to heating food, subclasses 383.1 through 386.1 for an open-top liquid heating vessel that may include a lid having a collecting, directing, or shielding feature for overflow or spatter of the liquid.

220, Receptacles, subclasses 4.01+ for extensions positioned on a receptacle to prevent the overflow of the contents of the receptacle.

439 Press-couple mold:

This subclass is indented under subclass 426. Cooking apparatus having a female mold combined with a dynamic shaping element.

440 For ball or egg shaped article:

This subclass is indented under subclass 426. Cooking apparatus in which the food support is so modified as to receive an ovoid or spherical food article.

SEE OR SEARCH CLASS:

211, Supports: Racks, subclass 14 for supporting racks having no cooking features.

441 For elongate or sausage shaped article:
This subclass is indented under subclass 426. Cooking apparatus in which the food support is so modified as to receive an elongate cylindrical food article.

SEE OR SEARCH THIS CLASS, SUBCLASS:
358, for electrode type sausage cookers.
384, for hinged or connected baking molds forming elongate articles.

442 For ring shaped or hollow article:
This subclass is indented under subclass 426. Cooking apparatus in which the food support is so modified or constructed as to receive an annular cored, or other pre-shaped hollow article.

SEE OR SEARCH THIS CLASS, SUBCLASS:
382+, for hollow article forming hinged holds.
419+, for devices in which the support itself is adapted to pierce or penetrate the article.

443 With conveyor or movably supported:
This subclass is indented under subclass 324. Cooking apparatus in which a food receiver is so mounted or supported that the same can be adjusted, moved or transported.

(1) Note. The Search This Class, Subclass notes below reference either Conveyors or Movable Food Supports Other Than Conveyors.

SEE OR SEARCH THIS CLASS, SUBCLASS:
289, for conveyors used in the infusion of beverages. (conveyors)
296, 297, and 318+, for movable supports in a beverage infusor. (Movable Food Supports Other Than Conveyors)
323.9, for conveyors associated with corn poppers. (conveyors)
326, 334, and 338+, for movable food supports, automatically controlled. (Movable Food Supports Other Than Conveyors)
360+, for conveyors for filled receptacle type cookers. (conveyors)
371, for movable supports for food receptacles. (Movable Food Supports Other Than Conveyors)
373, for conveyors adapted to transport opposed, heated surface type cooking plates. (conveyors)
377, for movably supported opposed heating plates. (Movable Food Supports Other Than Conveyors)
386+, for conveyors used in broilers or bread toasters. (conveyors)
391, 393, and any indented subclass, for movable slice toaster or broiler grids. (Movable Food Supports Other Than Conveyors)
404+, for devices arranged to convey food articles through a heated contact liquid. (conveyors)
409, and 410, and any indented subclass, for movable supports for food in contact with a heating liquid. (Movable Food Supports Other Than Conveyors)
420, for conveyors having spits for supporting the food articles. (conveyors)
421, for movably supported spits. (Movable Food Supports Other Than Conveyors)
423+, for conveyors having imperforate sheets or griddles thereon. (conveyors)
423+, for movably supported sheets or griddles. (Movable Food Supports Other Than Conveyors)
427, for conveyors having conforming or molding supports thereon. (conveyors)
427, for movably mounted forming or molding supports. (Movable Food Supports Other Than Conveyors)

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, appropriate subclasses.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 453+ for a female mold and a dynamic mold support or mold carrier; see the search notes thereunder.

444 With drip segregating, receiving or directing:

This subclass is indented under subclass 324. Cooking apparatus including food supports having combined therewith means for separating the food and the material exuded therefrom or for accommodating or disposing of the exuded material.

(1) Note. In this subclass the food supports usually are open or foraminous so that they permit passage of heat.

SEE OR SEARCH THIS CLASS, SUBCLASS:

375, 400, 408, and 425, to complete the search for drip segregating devices used in cooking food.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, limited to heating food, subclass 51 for a liquid fueled cooking stove having a drip pan or receptacle, or subclasses 383.1-386.1 for an open-top liquid heating vessel that may include a lid having a collecting, directing, or shielding feature for overflow or spatter of the liquid.

445 Channelled gridiron:

This subclass is indented under subclass 444. Cooking apparatus including a series of spaced grooved bars or strips adapted to support food thereon and conduct the drip liquid therealong.

446 Subjacent receptacle or director:

This subclass is indented under subclass 444. Cooking apparatus in which the food support has a separate container or deflecting surface positioned directly thereunder to receive or collect drip liquid falling through openings in the food support.

SEE OR SEARCH THIS CLASS, SUBCLASS:

447, for supports combined with heat deflectors or distributors, frequently positioned beneath the support.

447 With heat distributor:

This subclass is indented under subclass 324. Cooking apparatus including food supports combined with means to direct heat or heated vapors in desired amounts to various portions of the support, usually to promote a more uniform cooking of the food thereon.

SEE OR SEARCH THIS CLASS, SUBCLASS:

389, 401, 433, and any indented subclass, for heat distributors associated with various types of cooking apparatus.

446, for drip receptacles or directors positioned beneath food supports and additionally functioning as heat distributors.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, limited to heating food, subclasses 376.1 through 391.1 for an open-top liquid heating vessel that may include a lid having a heating fluid confining, directing, or shielding feature where agitation or circulation is an incidental product of heating the fluid; or subclass 390.1 for an open-top liquid heating vessel that may include a lid having a heating wall structure.

448 Plural food support:

This subclass is indented under subclass 324. Cooking apparatus in which two or more similar food supports are associated together to form a unitary device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

291, 298, 367, 374, 416, and any indented subclass, for plural food supports associated with various types of food apparatus.

339, for plural food supports providing for diverse cooking thereon.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, limited to heating food, subclasses 20.1 and 20.2 for a cooking stove having plural ovens heated by steam or hot water, or subclasses 369.2 and 369.3 for a liquid

heater having plural steam chambers for food.

220, Receptacles, subclasses 500+ for compartmented receptacles having no heating or food supporting feature.

449 Collapsible, expansible or sectional support:
This subclass is indented under subclass 324. Cooking apparatus in which the food support is adapted to be folded, compacted, or extended or to have one portion thereof separable.

(1) Note. The devices in this subclass frequently are false bottoms, per se, which are adapted to be adjusted to fit various sizes of cooking vessels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

349+, for food supports combined with presser or follower means, accommodating foods of different thicknesses.

SEE OR SEARCH CLASS:

211, Supports: Racks, subclass 85 for collapsible bottle or jar racks.

249, Static Molds, subclasses 155+ for food molds which are adjustable as to size.

450 Foraminous support:
This subclass is indented under subclass 324. Cooking apparatus in which food is received directly on an open, perforate support which is adapted to pass heat or heated vapors through the perforations thereof.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, subclasses 19+ for a cooking oven or subclasses 273+ for a domestic oven.

210, Liquid Purification or Separation, subclasses 483+ for strainer structures, per se, especially subclass 499 for screens.

211, Supports: Racks, appropriate subclasses.

219, Electric Heating, subclass 450.1 for an electrical heating device having an exposed planar support surface (e.g., hot plate, etc.) intended for food.

220, Receptacles, subclasses 485+ for wire receptacles.

248, Supports, appropriate subclasses.

450.1 EDIBLE LAMINATED PRODUCT MAKING APPARATUS:
This subclass is indented under the class definition. Apparatus comprising means to assemble and/or unite edible preforms or to assemble an edible preform and other edible material into a laminated product, the assembling operation being performed outside of a mold cavity.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 700+ for assembling and disassembling apparatus without bonding.

118, Coating Apparatus, subclasses 13+ for an edible composite making machine comprising a nonmolding means for applying a fluent coating to a base, or without molding of a plastic base for the coating.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 349+ for apparatus for laminating preforms, especially subclasses 500+ including casting, plastic molding or extruding means spaced from the laminating means Class 156 excludes edible material.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses for molding apparatus for shaping or reshaping nonmetals (including bread dough, pastry on confectionery compositions); see especially subclasses 104+ for such a molding apparatus combined with a downstream coating means; subclass 110 for apparatus for laminating preforms in a mold cavity; subclass 130 for such apparatus comprising means feeding fluent stock from plural sources to a common shaping cavity to form a composite product; subclass 182 for a compound implement including a shaping means; subclasses 276+ for a means for excavating from a bulk source with simultaneous shaping; and subclasses 238+ for a dough divider including a trap chamber.

450.2 Means forming or reshaping plural sheets or webs:
This subclass is indented under subclass 450.1. Apparatus including means to form or reshape plural sheet or web-type preforms.

450.3 Pie machine:
This subclass is indented under subclass 450.2. Apparatus including means to assemble the preforms in stacked relation with a filling (e.g., fruit, etc.) encased therebetween to form a pie.

450.4 Means assembling preforms into a sandwich:
This subclass is indented under subclass 450.1. Apparatus comprising means to handle each of plural preforms individually and to assemble same into a stacked (e.g., laminated, etc.) relationship.

450.5 Manually assisted:
This subclass is indented under subclass 450.4. Apparatus comprising means requiring manual assistance of an operator in the preassembly of assembly operation.

450.6 Shell forming means and filling means:
This subclass is indented under subclass 450.1. Apparatus comprising means to form an edible casing or housing and means to fill the same with an edible.

SEE OR SEARCH CLASS:
53, Package Making, subclasses 558+ for means forming or partially forming a receptacle combined with downstream means to fill the same.

450.7 Means feeding diverse center material:
This subclass is indented under subclass 450.1. Apparatus including means to feed a diverse edible material into an edible casing or housing.

SEE OR SEARCH CLASS:
53, Package Making, subclasses 266.1+ for a means to fill and close a preformed receptacle.

450.8 Puncturing injector:
This subclass is indented under subclass 450.7. Apparatus comprising means for penetrating an edible preform and injecting an edible fluid into the interior thereof (e.g., donut filler, etc.).

SEE OR SEARCH CLASS:
141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 329+ for a puncturing connecting means between a supply means and a receiver.
604, Surgery, subclasses 272+ for needles, per se.

451 ELECTRIC, RADIANT OR VIBRATIONAL TREATING MEANS:
This subclass is indented under the class definition. Devices, including electrostatic means or energy that may be of the sonic type (including subsonic and ultrasonic), electromagnetic, or other wave type.

SEE OR SEARCH THIS CLASS, SUBCLASS:
275, for other beverage treating means.
358, for means passing an electric current through food to cook it.

SEE OR SEARCH CLASS:
204, Chemistry: Electrical and Wave Energy, subclasses 194+, for electrolytic apparatus for sterilizing and pasteurizing foods and beverages.
219, Electrical Heating, subclasses 600+ for inductive heating, subclasses 678+ for microwave heating, and subclasses 764+ for capacitive dielectric heating.
250, Radiant Energy, particularly subclasses 461.1+ for apparatus for subjecting materials to the effects of ultraviolet and similar radiant energy rays.
315, Electric Lamp and Discharge Devices: Systems, appropriate subclasses for miscellaneous systems for supplying electric space discharge devices of the gas or vapor ionization type.

327, Miscellaneous Active Electrical Nonlinear Devices, Circuits, and Systems, subclasses 530+ for miscellaneous circuits which apply a specific source or bias voltage to an active electrical device or circuit.

452 MECHANICAL, FLUID OR HEAT TREATMENT OF DAIRY FOOD:

This subclass is indented under the class definition. Device including means to raise or lower the temperature of milk products or closely allied animal products, such as lard, shortening, etc. to such a degree that a significant change is produced (e.g. sterilization or pasteurization, etc.), means to subject such food to a gaseous treatment, or means to provide for a food manipulating treatment that changes the character of the food (e.g. separating, coagulating, etc.).

(1) Note. The foodstuffs that are prepared and treated are predominantly those commonly known as "dairy" foods, including milk, butter, cheese and other products derived from the mammary fluid of domestic animals.

SEE OR SEARCH THIS CLASS, SUBCLASS:

324, for apparatus wherein the food is heated enough to cook it.

SEE OR SEARCH CLASS:

53, Package Making, appropriate subclasses for and apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting or unit handling the goods or materials.

62, Refrigeration, for refrigerating apparatus, including those for cooling butter and milk and for congealing ice cream.

100, Presses, appropriate subclasses for presses not elsewhere provided for, and particularly subclasses 104+ for presses for expressing the whey from cheese.

119, Animal Husbandry, subclasses 14.01+, for milking machines.

134, Cleaning and Liquid Contact With Solids, and see the notes thereto for apparatus for cleaning and for contacting solids with liquids for cleaning or other purposes.

137, Fluid Handling, subclasses 256+ for holding tanks for sterilized milk.

138, Pipes and Tubular Conduits, subclasses 40+, for flow restrictors disclosed for emulsifying milk.

159, Concentrating Evaporators, for pertinent subclass(es) as determined by schedule review.

165, Heat Exchange, for heating or cooling of that class (165) type which may include a dairy product.

210, Liquid Purification or Separation, subclasses 348+ for filters, especially subclasses 464+ for portable receptacle draining type filters, subclasses 470+ for handled filters, subclasses 473+ for filters resting on a supporting receiver, and subclasses 514+ for decanting milk and cream separators.

215, Bottles and Jars, for pertinent subclass(es) as determined by schedule review.

220, Receptacles, generally, for milk cans and pails of general construction and especially subclasses 17.1+, for leg or lap supported pails.

221, Article Dispensing, appropriate subclasses for article dispensing devices not otherwise provided for, and see especially subclasses 150 and 286 for article dispensers provided with heating or cooling means and for article dispensers having spaced casings, respectively.

222, Dispensing, subclasses 129.1+ and 130+ for dispensers having cabinet or jacketed housing features and involving general cooling, and subclasses 146.1-146.6 for dispensers having generally recited cooling means.

232, Deposit and Collection Receptacles, subclasses 41 through 43, for milk safes and receptacles.

248, Supports, subclass 94 for supports for strainers and subclasses 128+ and 146+ for milk pail stands.

252, Compositions, for compositions useful for treating milk.

260, Chemistry of Carbon Compounds, for carbon compounds useful for treating milk.

261, Gas and Liquid Contact Apparatus, generally for general liquid and gas contact devices, note particularly subclasses 31+.

312, Supports: Cabinet Structure, subclasses 31.01+ for evaporative cooler-type cabinets, subclass 101, for outdoor-type milk safes and receptacles, and subclass 213 for cabinets with ventilated or foraminous walls.

366, Agitating, generally, for churns of general applications and for devices for emulsifying milk by agitation.

494, Imperforate Bowl: Centrifugal Separators, appropriate subclasses, for a separator of that class utilized for breaking down whole milk into cream and skim milk.

453 With temperature or atmosphere modification:

This subclass is indented under subclass 452. Device, including means to change the degree of heat content of the food or means to create or maintain a gaseous environment different from ambient air.

SEE OR SEARCH THIS CLASS, SUBCLASS:

467+, for means subjecting food to an enclosed modified atmosphere which may include temperature modification.

SEE OR SEARCH CLASS:

53, Package Making, subclass 127 for heating or cooling the contents of a container.

454 By vacuum:

This subclass is indented under subclass 453. Device including means for withdrawing gaseous matter from a chamber that encloses the food to produce a sub-atmospheric pressure within the chamber.

SEE OR SEARCH THIS CLASS, SUBCLASS:

472, for other vacuum-producing means associated with apparatus of this class.

SEE OR SEARCH CLASS:

53, Package Making, subclasses 510+ for treating the contents of a container by means of a vacuum or an inert atmosphere.

455 By lowering temperature:

This subclass is indented under subclass 453. Device provided with means to remove heat from the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:

517, for a device provided with means to apply food treating fluid to food, including cooling means.

456 With isolation of a watery constituent:

This subclass is indented under subclass 452. Device, with means to spatially separate from the food one of its ingredients having a high water content.

(1) Note. The "means to isolate" (or, spatially separate) of this and the indented subclasses must include: (a) structure which has a receptacle aspect to it (spoon-shaped, pail, etc.); or, (b) structure, (per se, or related to cooperating parts) which causes the butter, cheese, etc., to adhere, or otherwise be retained by the structure. If no such subject matter is present, see subclasses 460+.

SEE OR SEARCH THIS CLASS, SUBCLASS:

495+, for nondairy food treating devices provided with means to isolate a fluid constituent.

SEE OR SEARCH CLASS:

100, Presses, particularly subclasses 104+ for a press for expressing whey from cheese.

457 Including roller-press and drain:

This subclass is indented under subclass 456. Device wherein the food is presented between (1) a compacting surface that encloses an axis about which the surface rotates and (2) a fluid-conducting means (e.g., trough, etc.) that permits the passage of fluid from the compacting area.

SEE OR SEARCH THIS CLASS, SUBCLASS:
464, for a device including a roller, but having no drain means.

458 By reticulated member:
This subclass is indented under subclass 456. Device wherein the separating means is a perforated member that permits passage of fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:
279+, for beverage infusing apparatus.
495+, for apparatus isolating a fluid, particularly subclasses 503, 508, and 513.

SEE OR SEARCH CLASS:
210, Liquid Purification or Separation, 348+ for filter means separating a liquid from a solid.

459 With prior mechanical treatment (e.g., churning):
This subclass is indented under subclass 458. Device provided with means to operate on the food before the food and the water-constituent ingredient are separated by the reticulated member.

SEE OR SEARCH CLASS:
100, Presses, subclass 90 for separation and an additional treatment of the material.

460 By actuated surface:
This subclass is indented under subclass 452. Device wherein the food treatment is accomplished by a moving element having a face that contacts the food, applies force thereto, and moves one portion of the food relative to another portion thereof.

461 Including plural, relatively movable surfaces:
This subclass is indented under subclass 460. Device wherein the relative movement of the food is accomplished by two or more elements that move relative to one another.

462 Plural revolving surfaces having parallel axes:
This subclass is indented under subclass 461. Device including two or more rotating surfaces, each rotating about an axis, at least two of the axes being equidistant from each other and lying in the same plane and not collinear.

SEE OR SEARCH THIS CLASS, SUBCLASS:
461, for a device that includes plural rotating surfaces rotating about collinear axes.
585, for pinching rollers that remove the skin from food.
640, for rollers that pull the stem from food.

463 Planetating surfaces:
This subclass is indented under subclass 462. Device wherein two or more of the rotating surfaces also revolve about a common axis.

(1) Note. The planetating surfaces may be either parallel or nonparallel to the parallel axes of subclass 462; and, these planetating surfaces may also be “idling rollers”.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 207+ for a planetary movement comminutor.

464 Including rolling surface:
This subclass is indented under subclass 460. Device wherein the moving the moving element has a face that rotates about an axis and the axis moves in a direction perpendicular to its extent, whereby the food is subjected to radial forces.

(1) Note. Included herein are rolling surfaces whose axes are constrained at one point to guide the axes in angular movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:
457, for combined roller and drain.

SEE OR SEARCH CLASS:

241, Solid Material Comminution or Disintegration, subclass 84.2 and related subclasses for rollers used in comminutors.

465 And reticulated member:

This subclass is indented under subclass 460. Device provided with a perforated member that permits passage of the food moved by the food-contacting face.

SEE OR SEARCH THIS CLASS, SUBCLASS:

458, for a foraminous member that separates a liquid dairy product.

503, for a foraminous member that separates a liquid in combination with a rotary food-entering member.

508, for a foraminous member that separates a liquid in combination with a stationary food-entering member.

513, for a foraminous member that separates a liquid in combination with a comminuting means.

SEE OR SEARCH CLASS:

209, Classifying, Separating, and Assorting Solids, subclasses 233+ for sifting of solids.

241, Solid Material Comminution or Disintegration, subclasses 68+ for separating of materials in combination with comminution and 83+ for a comminution surface that has openings to permit discharge.

466 Including revolving surface:

This subclass is indented under subclass 460. Device wherein the food-contacting face moves in a circular path.

SEE OR SEARCH THIS CLASS, SUBCLASS:

574+, for a rotating shell separator.

617+, for a rotating grain hulling surface.

630+, for a rotating abrading means for skin removal.

SEE OR SEARCH CLASS:

366, Agitating, for agitators, per se.

467 SUBJECTING FOOD TO AN ENCLOSED MODIFIED ATMOSPHERE:

This subclass is indented under the class definition. Device including a chamber surrounding the food, and means associated with the chamber for exposing the food to contact with gaseous matter under conditions other than merely ambient or heated atmospheric conditions.

(1) Note. This and indented subclasses are for a device providing an enclosed atmosphere, modified by more than heating (e.g., oven, etc.), having a gas or gaseous suspension feature (e.g., entrapping smoke around the food, adding flavor or moisture, increasing pressure, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

293, 294, for a steamer or condenser-type infusor for making a beverage.

352 through 356, for cooking combined with other than cooking, treating, or handling of material.

359 through 371, for heat treating cooking apparatus for a filled receptacle (e.g., can processor, bottle pasteurizer, food jar canning, etc.).

372 through 384, for a cooking apparatus having an opposed heated mold or surface type (e.g., waffle iron).

403 through 418, for a boiler or deep fat fryer type of cooking apparatus.

426 through 442, for cooking apparatus having a confining, conforming, or molding food receiving support.

SEE OR SEARCH CLASS:

43, Fishing, Trapping, and Vermin Destroying, subclasses 125+ for fumigating apparatus for destroying vermin.

53, Package Making, subclasses 79+ for gas filling and/or evacuating a receptacle and closing; subclasses 111+ for contents material treating; and, see the line with Class 53 in (5.5) Note under the class definition of the class (99).

126, Stoves and Furnaces, limited to heating food, subclasses 19 through 22 for a cooking stove having an oven, subclasses 273-275 for a domestic

oven, or subclasses 369-369.3 for a steam chamber for food.

219, Electric Heating, having an electrical heat generator and limited to heating food, subclasses 385 through 471 for a heating device combined with a container, enclosure, or support for material to be heated, especially subclasses 391-414 for an oven.

261, Gas and Liquid Contact Apparatus, for steam and liquid contact apparatus generally.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 295 through 299 for apparatus to treat a solid article or material with a fluid chemical including an above ambient pressure treating chamber; subclass 305 for an apparatus including gas generating means; or subclasses 307-309 for a heat treating vessel with heating means.

468 Automatic control or time means:
This subclass is indented under subclass 467. Device provided with means to initiate, maintain or terminate the operation thereof in accordance with the functioning of timing means or condition responsive means.

(1) Note. For purpose of this classification, the timing mechanism must be of the chronometric type, normally found, per se, in the class for Horology: Time Measuring Systems or Devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:

280+, for automatic control of an infusor.

323.7+, for automatic control of a corn popper.

325+, for automatic control of a cooking device.

469 With removal of solid foreign matter:
This subclass is indented under subclass 467. Device including means to separate matter from the desired food product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

323.11, for a device including means to separate the unpopped kernels from the popped kernels in a corn popper; and see the search notes thereunder.

SEE OR SEARCH CLASS:

209, Classifying, Separating, and Assorting Solids, subclasses 2, 3+, 10, 11, and 12.1+ for processes and apparatus of the type there provided for, with separating steps or means.

470 With sequential heating and cooling:
This subclass is indented under subclass 467. Device including means to reduce the temperature of the food and means to heat the food before or after the temperature has been reduced.

SEE OR SEARCH CLASS:

165, Heat Exchange, subclasses 58+ for heating and cooling.

471 In gravity-feed enclosure:
This subclass is indented under subclass 467. Device wherein a chamber is vertically elongated and wherein the food to be treated flows downwardly through the chamber.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, 165+ for gravity flow type drying apparatus; and see the search notes thereunder.

472 Vacuum-producing means:
This subclass is indented under subclass 467. Devices including means for withdrawing gaseous matter from a food container to produce a sub-atmospheric pressure within the container.

SEE OR SEARCH THIS CLASS, SUBCLASS:

454, for vacuum producing means associated with the treatment of dairy food.

SEE OR SEARCH CLASS:

53, Package Making, subclasses 79+ for apparatus for evacuating a receptacle and closing the same, and subclasses 510+ for apparatus for subjecting the contents of a package to vacuum.

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclass 65 for apparatus of general utility for merely evacuating a

receiver, and subclasses 59+ for apparatus for exhausting air from receivers in connection with filling same.

473 Including means to influence movement of gas within enclosure:
This subclass is indented under subclass 467. Device including an element which may change the direction or rate of movement of the gaseous matter inside the chamber.

474 By forcing gas to circulate:
This subclass is indented under subclass 473. Device including means to propel gaseous matter into, within, or from the chamber.

SEE OR SEARCH THIS CLASS, SUBCLASS:
518, for the application of a fluid to a grain hulling zone.

SEE OR SEARCH CLASS:
237, Heating Systems, subclasses 2+ for heating system control.
241, Solid Material Comminution or Disintegration, subclasses 47+ for a gas swept comminuting zone.
454, Ventilation, subclasses 70+, 238, 255, and 340 for air pumps controlling pressure in a living enclosure.

475 By plural means:
This subclass is indented under subclass 474. Device including two or more forced gas circulation means.

476 Rotary pump:
This subclass is indented under subclass 474. Device including a revolving impeller means to move the gas.

477 With means to move food:
This subclass is indented under subclass 473. Device including means to propel food into, within, or from the chamber.

SEE OR SEARCH THIS CLASS, SUBCLASS:
443, for a conveyor or movably supported food support; and see the extensive search notes thereunder.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, for general purpose conveyors and see the search notes under that class (198) definition for other conveying classes.

478 Non-rectilinear movement:
This subclass is indented under subclass 477. Device including means to move the food, or its support, in a generally arcuate, circular, elliptical, or orbital path within the enclosed modified atmosphere.

SEE OR SEARCH THIS CLASS, SUBCLASS:
397, for a rotary inverter in a toaster.
419+, for a spit or impaling type cooker.

479 Circular movement of food support:
This subclass is indented under subclass 478. Device wherein the structure which supports the food is rotatable about a fixed axis, within the chamber.

SEE OR SEARCH THIS CLASS, SUBCLASS:
421, for a moveable spit in a cooking device.

480 By movable damper:
This subclass is indented under subclass 473. Device including a movable member which, by relative movement with respect to a chamber aperture, will permit an increased or decreased rate of flow of gases to enter or leave, the chamber.

SEE OR SEARCH CLASS:
110, Furnaces, subclass 163, for a damper of that class (110) type.
126, Stoves and Furnaces, subclasses 285+ for dampers in a stove or furnace.
454, Ventilation, subclasses 49+ and 173+ for ventilating devices, many of which include dampers; and, see the search notes thereunder.

481 By static deflector (e.g., smoke):
This subclass is indented under subclass 473. Device including a stationary element in the enclosure, which alters the movement of gaseous matter in a given direction.

SEE OR SEARCH CLASS:
110, Furnaces, subclasses 310+ and 322+, for deflectors of that class (110) type.

482 With separate support for fume-producing material:
This subclass is indented under subclass 467. Device including receptacle-type structure for retaining material which, when diffused or dispersed (e.g., by heating), modifies the enclosed atmosphere.

SEE OR SEARCH CLASS:
43, Fishing, Trapping, and Vermin Destroying, subclasses 125+ for fumigators.
126, Stoves and Furnaces, subclass 59.5 for smoke generators.
422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclass 305 for fume generators.

483 NON-COOKING HEAT TREATMENT OF FOOD:
This subclass is indented under the class definition. Device having a heat source, however, the change in the temperature is so slight, or the application of the heat is of such short duration, that only a small portion of the mass of any given food article is affected.

(1) Note. The heat treatment of this subclass is primarily directed (a) toward the outer periphery of the food article, (b) to aid in a concurrent or subsequent mechanical operation, or (c) causes such a small change in temperature or over such a temperature range that it does not affect the edibility of the food, e.g. warm, singe, thaw, melt etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
324+, for a device that raises the temperature of the food enough to change the edibility.

484 COMBINED:
This subclass is indented under the class definition. Device having in addition to or combined therewith structure which has a function other than preparation or treatment of food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
275+, for beverage apparatus combined with other type apparatus.
323.4+, for cereal-puffing apparatus combined with other type apparatus.
324+, for cooking apparatus combined with perfecting features and particularly subclass 357 for an noncooking means combined therewith.
452+, for the treatment of dairy food combined with other type apparatus.
467+, for subjecting food to an enclosed modified atmosphere including perfecting features combined therewith.
485+, for apparatus for the nonheat treatment of food combined with perfecting features.

485 MEANS TO TREAT FOOD:
This subclass is indented under the class definition. Device including means to modify a property of food other than by elevating the temperature of the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
357, for food cooking apparatus which may include a nonheat treatment of food.

486 Automatic control or time means:
This subclass is indented under subclass 485. Device including means to initiate, maintain, or terminate a mechanical treatment in accordance with the functioning of timing means or condition-responsive means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
325, for automatic control of a cooking device, and see the search notes thereunder.

487 Regulating amount of liquid applied to food:
This subclass is indented under subclass 486. Device including means for controlling the quantity of food treating fluid to which the food is subjected.

SEE OR SEARCH CLASS:

141, Fluent Material Handling, With Receiver or Receiver Coacting means, subclasses 192+ for automatic control of that (141) class type.

488 Of grain flow:

This subclass is indented under subclass 486. Device wherein the travel of grain, through a skin, husk, or impurity removing means or a gas which aids therein is controlled by a condition responsive means.

(1) Note. Hulling members, valve bodies and like members, which are contacted and moved directly by the material, are excluded and will be found in subclasses 518+ and 600+.

SEE OR SEARCH CLASS:

34, Drying and Gas or Vapor Contact With Solids, subclasses 524+, and notes thereto for automatic control of apparatus for applying gas to solids.

192, Clutches and Power-Stop Control, subclasses 116.5+, for automatically controlled stop mechanisms of general application.

222, Dispensing, subclasses 52+, and the notes thereto for dispensers having automatic controls.

241, Solid Material Comminution or Disintegration, subclasses 33+, for automatically controlled comminutor organizations.

489 By food:

This subclass is indented under subclass 486. Device including means responsive to the presence, size, weight, or alinement of the food.

490 Core-pit detector:

This subclass is indented under subclass 486. Device including means for ascertaining whether or not a core-pit* has been removed from the food and means in response thereto which guides or moves the core-pit or food (usually, in one of at least two alternative paths).

491 To adjust or position tool:

This subclass is indented under subclass 489. Devices including means which sense the size or position of the food and moves a cutter in response thereto.

492 By safety means:

This subclass is indented under subclass 486. Device wherein a means is provided to relieve, release, or stop the machinery when abnormal operating conditions are encountered.

493 With condition-indicator:

This subclass is indented under subclass 485. Device including means for gaging, signalling, or testing some condition relating to the mechanical treatment of the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:

285, for beverage infusors having means to signal, indicate, or test, and see the search notes thereunder.

342, for cooking apparatus having means to signal, indicate, or test, and see the search notes thereunder.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 522.11+ for a signal, scale, or indicator in a cutting device of that class (83) type, and see the search notes thereunder.

241, Solid Material Comminution or Disintegration, subclass 101.3 for means to indicate the condition in a comminutor.

340, Communications: Electrical, subclasses 500+ for electrical automatic condition responsive indicating systems.

494 By stuffing or applying particulate material:

This subclass is indented under subclass 485. Device including means to fill a void in food or apply finely divided solid matter to food.

(1) Note. The material applied is usually in the form of an additional food or seasoning and may be a frozen food that becomes liquid or viscous at room temperature.

SEE OR SEARCH THIS CLASS, SUBCLASS:
323.8, for adding flavoring material to popcorn.
345, for solid applying means in cooking apparatus.
516+, for fluid applying means.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclasses 13+ for coating with an edible base.
426, Food or Edible Material: Processes, Compositions, and Products, for processes wherein the association of particles is effective mechanically.

495 By isolating a fluid constituent:
This subclass is indented under subclass 485. Device including means to spatially separate a specific and distinguishable liquor portion of the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
456+, for devices for treating dairy food provided with means to isolate a watery constituent.

SEE OR SEARCH CLASS:
100, Presses, subclasses 94+ for apparatus combining pressing and comminuting where not otherwise provided for and subclasses 104+ and 213 for apparatus removing juice from fruit.

496 By separating liquids having distinct characteristics:
This subclass is indented under subclass 495. Device including additional means for spatially separating one distinguishable liquid portion of food from another.

(1) Note. A device having a compartment or plural compartments for holding separated liquids therein, the liquids, having been separated by hand, are classified in the receptacle classes.

SEE OR SEARCH CLASS:
100, Presses, subclass 105, for separation of plural liquids.
210, Liquid Purification or Separation, appropriate subclasses, for a liquid separator of general utility; and see the class definition of Class 210 for a collection of notes to other classes which include liquid separation.
220, Receptacles, subclasses 23.2 through 23.86, 500 - 557 inclusive, for plural receptacles, one of which may be used to hold a liquid; and see (1) Note above.

497 Separating egg-white from yolk:
This subclass is indented under subclass 496. Device including means to separate the albumen and vitellus which are (or, previously were) contained in a naturally produced outer shell* encapsulation.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclasses 13+ for edible coating which may include eggs.
356, Optics: Measuring and Testing, subclasses 52+ for egg testing apparatus.

498 And removing shell:
This subclass is indented under subclass 497. Device, having additional means to separate the food shell* from the internal liquid portions of the egg.

SEE OR SEARCH THIS CLASS, SUBCLASS:
495, for a shell breaking apparatus, wherein there is liquid drainage means, or a receptacle to receive liquid from the shell, but no means to separate diverse internal liquids.
568+, for a shell removal means wherein there is a no liquid recovery means (e.g., from a previously heated egg).

SEE OR SEARCH CLASS:
30, Cutlery, subclass 120.1 for hand-held egg shell openers.

499 By receptacle separating one egg-yolk from one egg-white:
This subclass is indented under subclass 497. Device including a container which has a volume essentially that of the vitellus of a single egg, the album draining through apertures in

the container or overflowing the container to accomplish the separation.

(1) Note. The apparatus of this and indented subclasses may be movable (e.g., rotatable, or reciprocatable).

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 124+, 141, 147, 149, 150, and 324+ for a spoon, or spoon combination, which may function as a yolk-white separator.

500 Having means to pivotally move receptacle:
This subclass is indented under subclass 499. Device having additional means movable relative to the container for tipping the container in order to discharge at least a part of its contents.

SEE OR SEARCH THIS CLASS, SUBCLASS:

499, for a device including a handle means which permits an operator to manually invert, pivot or tilt the receptacle.

501 By a rotary food-entering member:
This subclass is indented under subclass 495. Device having a member with a contoured profile which rotates or is capable of being rotated about a center-line axis and engages the food along its axis to produce a void in the food corresponding in profile to the contour of the member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

506+, for a device with stationary food entering members and rotating, coacting food holders and foraminous separators.

502 With axial actuation:
This subclass is indented under subclass 501. Device including means to move the member in the direction of its axis and towards the food.

503 With a rotating foraminous separator:
This subclass is indented under subclass 501. Device having a perforated or screened member which revolves about an axis, and which permits the liquid to pass through while retaining the more solid portions of the food.

504 With coacting food-holder:
This subclass is indented under subclass 501. Device including means to immobilize the food article against the forces of the rotary food entering member while the food article is being acted on by it.

SEE OR SEARCH THIS CLASS, SUBCLASS:

507, for a nonrotary food entering member having means to move the food to the member.

505 Manually actuated:
This subclass is indented under subclass 501. Device wherein a human operator supplies the power which rotates the contoured member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

506+, for a device with stationary food entering members, hand rotated, coacting food holders and foraminous separators.

506 By static food-entering member:
This subclass is indented under subclass 495. Device having a stationary member with a contoured profile, engaged by the food to produce a void in the food corresponding in profile to the contour of the member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

501+, for a device including a rotating, contoured profile, food entering member.

507 And means to move food to member:
This subclass is indented under subclass 506. Device including means to force the food toward the food engaging means.

(1) Note. The means to force the food may be operated manually or by power means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

504, for means forcing food toward a rotating food-entering member.

508 And foraminous separator:
This subclass is indented under subclass 506. Device having in addition a perforated or slotted means which permits the liquid to pass through while retaining substantially all of any solid portions of the food which may be present.

(1) Note. To be placed in this subclass the openings must accomplish the separation.

(2) Note. A device that discloses a ridge, projection, or similar structure that separates the seeds, or other food portions, from the liquid is properly placed in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
501+, for a similar device having a foraminous separator.

509 With cutting:
This subclass is indented under subclass 495. Device having means to comminute cut, or pierce the food to aid in the separation of the liquid portion.

510 By comminuting:
This subclass is indented under subclass 509. Device wherein the subdividing means is a crushing, tearing or pulverizing means which subdivides the food into small particles or a pulp.

SEE OR SEARCH CLASS:
210, Liquid Purification or Separation, subclasses 173+ for apparatus of that class (210) type which comminutes and strains.
241, Solid Material Comminution or Disintegration, appropriate subclasses for comminuting apparatus of general utility; and, see sections 2, 3, 4B, and 10 of the class definition of Class 241 for the lines between Class 99 and Class 241.

511 And a centrifugal extractor:
This subclass is indented under subclass 510. Device having in addition a rapidly rotating means which effects separation of the liquid portion from the solid portions of the food by tending to force or impel the food away from the center of rotation, after receiving the food from the subdividing means, the liquid portion being separated from the solid portion of the food by allowing the liquid portion to pass (a) through a perforated portion of the device, or (b) over the edge of an imperforate container portion of the device; or, both (a) and (b).

SEE OR SEARCH THIS CLASS, SUBCLASS:
503, for a rotating foraminous separator which separates a liquid from a solid food portion.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, especially section 8 of the definition of that class, for (a) the statement that Class 241 is superior to the several separating classes, (b) the subclasses of that class (241) which involve comminuting and separating, and (c) the search notes to the several separating classes.

512 With handling means:
This subclass is indented under subclass 511. Device including relatively movable means which force a separated portion of food to or from the centrifugal separator.

513 With foraminous separator adjacent comminutor:
This subclass is indented under subclass 510. Device including a perforated member which force a separated portion of food to or from the centrifugal separator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
503, for a device including a rotating foraminous separator which separates an internal liquid portion.

514 Recovery of propagative seed:
This subclass is indented under subclass 485. Device including means to receive and retain that part of a naturally occurring plant that is used for reproducing the plant.

(1) Note. Once the seed* is recovered, it may be ready for immediate planting, or

it may require further processing; in either event, the seed is available for such use or processing as a result of the action of the means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
547+, for core-pit removal apparatus wherein there is no suggestion of using the pit for reproduction.

SEE OR SEARCH CLASS:
47, Plant Husbandry, subclass 14, for seed testers and subclass 57.6 for coated or impregnated seeds.
111, Planting, for means for planting seeds.

515 Internal severing by flexable tool or yieldable tool support:
This subclass is indented under subclass 485. Device including a resilient tool which flexes or a tool support which is based so that there may be movement of the tool during cutting while the tool is within the interior of the food.

(1) Note. A typical tool of this subclass will follow the contour of a pit as it separates it from the flesh.

SEE OR SEARCH CLASS:
83, Cutting, subclass 542 for deforming a resilient tool or tool support.

516 By applying fluid:
This subclass is indented under subclass 485. Device wherein gaseous or liquid matter contacts the food for modifying the food for immediate, or ultimate, consumption.

(1) Note. In a device where the gas and/or liquid is to handle (move, transport, etc.) the food bodily; or, to clean the food of inedible material; or, to both clean and handle, as above described, classification is in a handling or cleaning class, as appropriate. See paragraphs (c) and (d) under "Search Class" of Class 99, subclass 324.

SEE OR SEARCH THIS CLASS, SUBCLASS:
323.1, for apparatus for treating a beverage with a gas.
453+, for apparatus for atmospheric modification of a dairy food.
467+, for apparatus for subjecting food to an enclosed modified atmosphere.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclasses 3.1+ for fruit washers.
68, Textiles: Fluid Treating Apparatus, for bleaching apparatus for textile materials.
83, Cutting, subclass 169 for applying a fluid to a cutter or material, and see the search notes thereunder.

517 With cooling:
This subclass is indented under subclass 516. Device including means for refrigerating either the food or the fluid applied thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:
455, for dairy food treating means with cooling.
470, for sequential heating and cooling of food.

SEE OR SEARCH CLASS:
62, Refrigeration, appropriate subclasses.
165, Heat Exchange, appropriate subclasses.

518 With disjoining hull from grain:
This subclass is indented under subclass 516. Device including means for disjoining a hull* portion of grain* from the remainder of the grain, the disjoining occurring in one or more hulling zones.

SEE OR SEARCH THIS CLASS, SUBCLASS:
467+, for a device which treats grain in an enclosed modified atmosphere which may also include hulling and scouring of the grain.
488, for a grain hulling device having automatic control of grain flow.
600+, for a device wherein grain is hulled without fluid contact.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 6+ for a grain comminuting process in combination, and particularly subclasses 8 and 12 for fluid applying and subclasses 38+ for a comminuting device provided with means to add fluid to material.

519 By projecting grain against surface:
This subclass is indented under subclass 518. Device including means to propel the grain through space against an element which does not form part of the propelling instrumentality.

SEE OR SEARCH THIS CLASS, SUBCLASS:
571, for impact-type nut crackers.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 5, 39+, and 275 for corresponding comminuting processes and apparatus.

520 Plural hulling zones:
This subclass is indented under subclass 518. Device in which the grain is treated in a plurality of distinct and separate grain-hulling* areas.

SEE OR SEARCH THIS CLASS, SUBCLASS:
612+, for other plural hulling zone combination not involving fluid contact with the grain.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 11 for alternate separation and comminution steps.

521 Including coacting, relatively rotating imperforated surfaces:
This subclass is indented under subclass 520. Device wherein at least one of the plural hulling zones includes two or more hulling elements (one of which revolves about an axis) that cooperates to perform a hulling operation and these cooperating elements are not multiperforated.

(1) Note. The hulling elements of this subclass may contain a single opening to allow grain to flow in or out, but are otherwise imperforate (they are usually of the "grinding stone" variety).

SEE OR SEARCH THIS CLASS, SUBCLASS:
601+, for imperforate sections in nonfluid-contact areas.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 198.1+, for cooperating comminuting surfaces such as jaw crushers.

522 Having plural, rotary, multiperforated surfaces:
This subclass is indented under subclass 520. Device including two or more hulling elements that each have plural apertures therein and each element revolves about its own respective axis.

(1) Note. At least one multi-perforated surface participates in the hulling operation; however, one or more of the multi-perforated surfaces may serve only as a "screen", as in subclass 528. Also, the plural axes may be collinear, or angularly related, or a combination of both.

SEE OR SEARCH THIS CLASS, SUBCLASS:
601+, for "screens" in the nonfluid-contact grain huller.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 49+ for a gas borne material applied to a screen.

523 With means to vary spacing between hulling surfaces:
This subclass is indented under subclass 518. Device including plural hulling elements, and means to adjustably position one hulling element with respect to another hulling element.

(1) Note. The means to vary the spacing between the hulling members may be so interconnected that the adjustment may be made during operation, or, it may be

of the type where the device must be stopped in order to vary the spacing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
618+, for an adjustable hulling element in a nonfluid contact grain-huller.

524 And varying flow of grain:
This subclass is indented under subclass 518. Device including means to increase or decrease the rate at which the grain passes a given point in the device.

(1) Note. The means of this subclass are usually located near the entrance or exit of the hulling zone; and, responding to the weight of volume of grain restrict the flow of grain, or, allow the grain to move at an increased rate of flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
488, for automatic control of grain flow, and see the notes thereunder.
609+, for nonfluid contact grain-hullers with flow regulators.

525 Directing gas adjacent hulling zone:
This subclass is indented under subclass 518. Device including (A) dynamic means to forcibly propel gas to or from the device, (B) static means to direct the flow of gas to or from the device, or both (A) and (B).

526 Internally and externally of hulling zone:
This subclass is indented under subclass 525. Device including means to force or guide gas to the interior of a hulling zone, and, means to force or guide gas at another point in the device (usually adjacent the entrance or exit for the grain) exterior of the hulling zone.

527 By valved gas passages:
This subclass is indented under subclass 525. Device including a relatively movable member that stops or varies the flow of gas through a gas entrance or gas exit.

(1) Note. The damper or valve may be self-acting (e.g., due to gas-pressure buildup), spring or weight biased, or, mechanically actuated.

528 With screen to separate products:
This subclass is indented under subclass 525. Device including a multi-perforated member which (a) retains the grain and allows nongrain material to pass through or (b) allows the grain to pass through and retains nongrain material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
601+, for a screen in nonfluid area of grain hullers.

SEE OR SEARCH CLASS:
209, Classifying, Separating, and Assorting Solids, subclasses 21+ for gaseous suspension and sifting.
241, Solid Material Comminution or Disintegration, 49+ for a comminutor having gas borne material applied to a screen.

529 Interrelated drive means for huller and gas-move:
This subclass is indented under subclass 525. Device including a single driving mechanism, or drivetrain, for moving both (A) one or more hulling elements and (B) one or more gas-propelling elements.

530 Gas-mover integral with huller:
This subclass is indented under subclass 529. Device wherein at least one of the rotating internal elements which contacts the grain during the hulling operation has rigidly attached thereto, or formed as a part thereof, structure which acts to propel gas.

531 Gas-mover coaxially separated from huller:
This subclass is indented under subclass 529. Device including distinct gas-moving and hulling elements that are supported on a single revolving driveshaft or that are supported on two such shafts in such a manner that the centerline of one shaft constitutes an extension of the centerline of the other shaft (both having a common driving means).

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 50 and 56, for a comminutor and gas mover on the same shaft.

532 By injecting needle:
This subclass is indented under subclass 516. Device including a hollow, generally sharp-pointed device having at least one aperture allowing passage of the liquid from the hollow device to the interior of the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
494, for similar apparatus for injecting solids (e.g., salt or other solid seasoning materials).

SEE OR SEARCH CLASS:
27, Undertaking, subclasses 24.1+ for an injector used in embalming.
111, Planting, subclasses 89+ for a dibbling device.
604, Surgery, subclasses 187+ for hypodermic injectors.

533 With means to move needle or work:
This subclass is indented under subclass 532. Device including means to propel the needle toward and from the food, or to propel the food toward and from the needle.

534 Particular liquid:
This subclass is indented under subclass 516. Device wherein the applied fluid is a nongaseous, nonsolid substance.

535 Brine:
This subclass is indented under subclass 534. Device including means for immersing, or otherwise wetting the food with salt-containing water.

SEE OR SEARCH THIS CLASS, SUBCLASS:
536, for water soaking only.

SEE OR SEARCH CLASS:
239, Fluid Sprinkling, Spraying, and Diffusing, for sprinkling, spraying and diffusing apparatus; and see the line with Class 99 in the class definition of Class 239.
422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 256+ and 261+ for apparatus for making brine.

536 Water:
This subclass is indented under subclass 534. Device including means for immersing, or otherwise wetting, the food with water.

SEE OR SEARCH THIS CLASS, SUBCLASS:
535, for brine soaking only.

SEE OR SEARCH CLASS:
239, Fluid Sprinkling, Spraying, and Diffusing, for sprinkling, spraying and diffusing apparatus; and, see the line with Class 99 in the class definition of Class 239.

537 Subdividing into plural products:
This subclass is indented under subclass 485. Device comprising means to disjoin* one portion of food from another portion of food.

(1) Note. One or more of the plural products may be edible and, one or more of the products may be usable (though nonedible), or "waste" (e.g., to be further processed to make alcohol, fertilizer, etc.).

(2) Note. Any "starting" food which is entirely reduced to a comminuted state, is excluded and will be found elsewhere (e.g., Class 241, etc.). However, compare subclasses such as 494 and 516+, where the addition of a solid or a treating fluid may require placement in the nonheating treatment area. Similarly, see Class 99, subclass 286, which may involve grinding prior to infusion; and subclass 494, which may involve the recovery of a fluid constituent of food.

(3) Note. For cutting devices which may cut food into two or more parts (without further treatment appropriate for Class 99) see the Search Class notes below.

(4) Note. This subclass, and the subclasses indented hereunder receive subcombinations where there is no specific provision for such a subcombination in another class. For examples of classes with such provided-for subcombinations, see the search notes below.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 110+ for a roll, per se. (See (4) note above).

56, Harvesters, for subdividing of this class (99) type in combination with a harvester of that class (56) type.

83, Cutting, appropriate subclasses for cutting devices which may cut food into two or more parts (without further treatment appropriate for Class 99); subclass 651 for a tool or tool with support; and note the residual character of the cutting subject matter, as indicated in sections the class definition of Class 83 (see (4) note above)

241, Solid Material Comminution or Disintegration, subclasses 291+ for a comminuting element. (See (4) note above).

269, Work Holders, for a work holder, per se. (See (4) note above).

452, Butchering, subclasses 149+ for subdividing animal flesh in a butchering type operation.

538 Separating one internal portion from another:

This subclass is indented under subclass 537. Device including means to separate one recognizable interior portion of a food article from another interior portion of the same food article.

(1) Note. It is not necessary that there be complete separation of portions to fit the limitation "recognizable". For example, a removed pit, seed or stone having small particles of "flesh" clinging thereto after removal would not be barred from this subclass.

539 Removing external portion:

This subclass is indented under subclass 538. Device wherein means are provided to spatially remove an external portion from an internal portion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

567+, for means to remove an external portion.

540 Skin:

This subclass is indented under subclass 539. Device including means to remove the outer integument of food.

SEE OR SEARCH THIS CLASS, SUBCLASS:

584, for skin removal wherein there is no internal separating means.

541 By paring:

This subclass is indented under subclass 540. Device including an elongated sharpened cutting edge which removes the skin as it is moved relative to the food.

542 And removing cylindrical core:

This subclass is indented under subclass 541. Device including a curved food entering means which is rotated, or which is formed of a circumferential surface, which removes an elongated section from the food including the seed portion.

543 And slicing:

This subclass is indented under subclass 542. Device including additional means which further subdivide the food.

544 Removing cylindrical core:

This subclass is indented under subclass 539. Device including a curved food entering means which is rotated, or which is formed of a circumferential surface, which removes an elongated section from the food including the seed portion.

545 And slicing:

This subclass is indented under subclass 544. Device including additional means which further subdivide the food.

546 By cutting stem-end or blossom-end:

This subclass is indented under subclass 539. Device having a severing means for detaching a stem-end* or blossom-end* from the food.

547 Removing core-pit:

This subclass is indented under subclass 538. Device including means to disjoin* the core-pit*.

SEE OR SEARCH CLASS:
30, Cutlery, subclasses 113.1+ for hand held core-pit removers.

548 By separator moving with moving food (e.g., flying):
This subclass is indented under subclass 547. Device including means to move a cutter, knife, severer, tearer, twister, (or, similar core-pit removing device), simultaneously: (A) in the direction of food movement, and; (B) relative to the moving food; such combined movements effecting the separation* of the core-pit from the remaining "flesh" or edible portion.

SEE OR SEARCH CLASS:
83, Cutting, subclasses 284+, for a cutter of the class type wherein the cutter has one component of motion in the direction of the moving work.

549 And orienting core-pit axis relative to separator:
This subclass is indented under subclass 547. Device including means to cause relative movement between the food and separating means so that the center lines of the core-pit and the separating means coincide.

(1) Note. The configuration of the food (e.g., a stem "indent") is frequently used to align the core-pitting means for proper cutting or incising.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 373+ for a conveyor having means for changing the attitude of the conveyed load relative to the conveying direction.

550 By irregularity in outer surface of food:
This subclass is indented under subclass 549. Device including means which engage the food-stem indent or other natural nonspherical external portion of the food to align the core-pit axis.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 383+ for a conveyor having a significantly-shaped portion that cooperates with a significantly-shaped load to orient the latter.

551 By gripping and twisting:
This subclass is indented under subclass 547. Device including: (A) means to hold or restrain the core-pit, plus (B) means to hold or restrain the flesh or edible portion, plus (C) means to oscillate or rotate (A) with respect to (B).

552 Severing and pitting simultaneously:
This subclass is indented under subclass 547. Device including at least one cutter which separates the food into at least two parts as it, or another means, separates the pit from the food.

(1) Note. A device that partially severs the pit from the food, or severs the food to the pit, while feeding to an adjacent portion of the device that completes the severing or pitting, is considered "simultaneous" for this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
543, for removing a cylindrical core while slicing and removing skin.
545, for removing a cylindrical core while slicing.
551, for a device which simultaneously severs and pits by twisting.

553 By arcuate cutter separating pit:
This subclass is indented under subclass 552. Device including a curved severing edge, the line of curvature of the edge being rotatable about an axis of rotation; and, the contour of curvature being essentially that of the profile of the pit or core to be removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
562+, for an arcuate cutter which removes the pit from previously subdivided food.

554 By removing severed portion from immobilized pit:
This subclass is indented under subclass 552. Device including a gripping or seizing means which restrains the pit as a severed portion of the food is removed therefrom.

555 By forcing pit:
This subclass is indented under subclass 552. Device wherein the cutting means, or means rigidly attached thereto, removes the pit by pushing it away from the flesh.

556 Through orifice:
This subclass is indented under subclass 555. Device including a relatively moving pressure means which cooperates with the severing means; and, either the severing means or the pressure means has a passage through which the pit is pushed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
559+, for an incision-type punch which forces a pit through an orifice but which has no food subdivision.

557 By plural impaling means:
This subclass is indented under subclass 547. Device including a multiplicity of sharp tines or pins which pierce the food, engage the pit, and alone or in combination with adjacent structure of the device, remove the pit from the food.

(1) Note. The tines or pins upon piercing or penetrating the food may also pierce or penetrate the pit, seed, or stone.

558 By parallel, cooperating cylinders, one resilient, one impaling:
This subclass is indented under subclass 557. Device having at least two revolving drums, the axes of each being parallel, one drum having tines or pins and the other having a yieldable surface, the drums coacting to cause the tines or pins to pierce or penetrate the food or pit.

559 By incision-type-punch and die:
This subclass is indented under subclass 547. Device including a support for the food having an opening (e.g., cavity, pocket or unobstructed passage), the opening being of lesser diameter than the food, but larger than the pit, or smaller than the pit but yieldable about the opening, to permit the pit to pass therethrough upon being contacted by a sharp-pointed or edged impaling means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
556, for a punch and die type device which also subdivides the food.

560 And food handling means:
This subclass is indented under subclass 559. Device including means for conveying the food to or through the pit separating means.

561 Apertured, orbitally traveling, handling means:
This subclass is indented under subclass 560. Device wherein the conveying means is an endless belt, cylinder or disc having recesses or openings in the surface thereof for receiving food articles and delivering such articles to the impaling means.

562 By pitting severed food:
This subclass is indented under subclass 547. Device including a severing means which removes the pit, or portion thereof, from food which has been previously subdivided.

SEE OR SEARCH THIS CLASS, SUBCLASS:
552+, for a device which removes the pit from the food during severing.

563 Severing followed by pitting:
This subclass is indented under subclass 562. Device including at least one cutting means which subdivides the food, after which the pit is removed.

564 By arcuate cutter or gripping means:
This subclass is indented under subclass 547. Device including a curved severing edge or member which enters the food and either pulls or forces the pit from the food; the contour of curvature being essentially that of the profile of the pit or core to be removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
553, for an arcuate cutter that removes the pit from an article of food simultaneously with severing.
562, for an arcuate cutter that removes the pit from a halved food article.

565 By forcing flesh or pit through opening:
This subclass is indented under subclass 547. Device including means which causes the meat or pulp to pass through an orifice or slot that is too narrow to permit passage of the pit; or, means which causes the pit to pass through an orifice or slot that does not accommodate the meat or pulp.

SEE OR SEARCH THIS CLASS, SUBCLASS:
556, for a device that forces a pit through an opening while severing the flesh.
559+, for a punch that forces the pit through a die.

566 Ribbed rotating disc or cylinder:
This subclass is indented under subclass 565. Device wherein the flesh and pit are separated by means of threads, grooves, or elongated projections on a turning surface or drum.

567 Separating one external portion from the remaining food:
This subclass is indented under subclass 537. Device including means to spatially remove one recognizable external portion from the remaining food.

SEE OR SEARCH CLASS:
452, Butchering, subclasses 149+ for subdividing recognizable portions of animals in a butchering type operation.
460, Crop Threshing or Separating, for separating recognizable portions of food of that class (130) type.

568 Removing shell:
This subclass is indented under subclass 537. Device including a compressing, impacting, or severing means that disjoins* the relatively brittle outer covering of the food.

(1) Note. See the definition of "shell" and "disjoin" in the Glossary.

(2) Note. The device will remove a hard shell and/or a soft skin or an outer covering by breaking, cracking, or fracturing.

SEE OR SEARCH CLASS:
30, Cutlery, subclasses 120.1+ for hand-held shell openers.

569 With sorting:
This subclass is indented under subclass 568. Device including means to classify diverse portions of food according to their characteristics, and means to remove* one portion of the food (or foreign matter) from the remaining food portion.

570 By fluid:
This subclass is indented under subclass 569. Device wherein the means to sort the food, or foreign matter from the food, includes means to contact part of the food with a gas or liquid.

(1) Note. An exemplary device of this subclass is one in which the food is placed in a body of liquid, one food portion floats and another food portion sinks to the bottom; and, the floating and non-floating food portions are then separately removed from the liquid bath.

SEE OR SEARCH CLASS:
209, Classifying, Separating, and Assorting Solids, appropriate subclass.
210, Liquid Purification or Separation, appropriate subclass.
241, Solid Material Comminution or Disintegration, subclasses 38+ and 68+ for gas application and separating, respectively, in a comminutor.

571 By sudden-impact:
This subclass is indented under subclass 568. Device including means to utilize kinetic energy by: (A) rapidly propelling an element into contact with a relatively stationary article of food, either the element or the food having no substantial support; or, (B) rapidly propelling the food against a stationary or movable solid element; or, (C) both (A) and (B).

(1) Note. The propelling means may be gravity.

SEE OR SEARCH THIS CLASS, SUBCLASS:
519, for projecting grain against a surface.
629, for removing skin by tumbling.

SEE OR SEARCH CLASS:

241, Solid Material Comminution or Disintegration, subclass 5, for a process which comminutes by utilizing the kinetic energy of projected or suspended material.

572 By means to set, look and actuate separating means according to shell size:

This subclass is indented under subclass 568. Device wherein the shell disjoining* means is regulated (releasably positioned), in relation to the shell size, and operated in three distinct movements: (A) the shell disjoining means is moved into contact with the food; (B) upon contact, a regulatable portion of the disjoining means is locked; and, (C) the shell disjoining means is then moved further to effect separation of the shell from its contents.

(1) Note. Apparatus of this subclass subjects each shell to the same length separation stroke so as to separate, but not crush, the meat or shell contents.

SEE OR SEARCH THIS CLASS, SUBCLASS:

579, for a shell separating device including means whereby the spacing between the separating members may be varied.

SEE OR SEARCH CLASS:

30, Cutlery, subclass 120.4 for plural relatively movable pivots.

573 Including pawl and ratchet lock means:

This subclass is indented under subclass 572. Device wherein the adjustable shell separating means of movement (B) is locked by the interengagement of a tooth-type rack gear and a securing means (e.g., a pawl, a pin, or a second toothed gear means).

574 By rotating separating means:

This subclass is indented under subclass 568. Device including a shell disjoining* means which turns more than 360° about an axis.

(1) Note. The separating means of this subclass may be of the cutting, crushing, tumbling, or shearing type.

(2) Note. Separating means, otherwise proper for placement in this subclass, may accomplish shell separation from a single nut in less than 360° rotation (e.g., a circularly-configured multiple-toothed cutting means may complete a desired cut in less than one revolution; or, two rotating adjacent drums, having sharp-edged pockets therein, may grasp a nut therebetween and completely sever a single shell in but a few degrees of rotation); when plural nuts are fed to such a device, the eventual rotation is more than 360°, and thus, placement in this, or in the indented subclasses, is proper.

575 Relative movement between adjacent irregular surfaces:

This subclass is indented under subclass 574. Device including a first surface spaced from a second surface a distance less than the diameter of the food to be treated, one of the surfaces having projections or depressions; and, one surface is stationary, rotating at a different speed, or rotating in a different direction, than that of the other surface; in which device a food portion is separated as the food passes between the surfaces.

SEE OR SEARCH THIS CLASS, SUBCLASS:

625, for a skin removing device having similar structure wherein one element rotates at a different speed with respect to a second element.

628, for a skin removing device having relatively moving adjacent surfaces.

576 Disc or saw separating means:

This subclass is indented under subclass 574. Device wherein one disjoining member rotates and has a sharp or irregular edge which cuts a slot or incision in the food to separate, or aid in separating, the shell from its contents.

(1) Note. The food may be moved at any angle with respect to the axis of rotation of the disjoining member.

577 By biased breaking member:

This subclass is indented under subclass 568. Device including means tending to urge the shell breaking member to or from shell-con-

tacting position or resiliently supporting a breaking member.

(1) Note. The bias means may be a spring, rubber, or other resilient means.

SEE OR SEARCH CLASS:
30, Cutlery, subclasses 234+, for spring jointed shears.
100, Presses, subclasses 211, 259, 260+, 265+, 278, and 296, for a biased press means; and see the search notes thereunder.
269, Work Holders, subclasses 22, 157+, 254, 263, 275, 281, 310, and 317 for bias means in a work holder.

578 Biased away from shell-contacting position:
This subclass is indented under subclass 577. Device wherein the spring device moves, or tends to move, a shell-breaking member away from the shell.

579 With adjustment of a separating member:
This subclass is indented under subclass 568. Device including at least two members and means to position the members relative to one another independent of the actuating means.

SEE OR SEARCH CLASS:
81, Tools, subclasses 385+ for adjustable jaws.
269, Work Holders, subclasses 140+ and 165+ for adjustment of work holders, and see the search notes thereunder.

580 With discharge feature:
This subclass is indented under subclass 568. Device including means which accomplish, or assist in accomplishing removal of a subdivided portion of food away from the separating* means.

(1) Note. The discharge feature can be an ejector, guiding-trough, trapdoor, etc.

SEE OR SEARCH CLASS:
30, Cutlery, subclasses 128+, for material holder or disposal, ejectors or strippers.
83, Cutting, subclasses 78+, for product handling means in a cutting device; and, see the search notes thereunder.
269, Work Holders, subclasses 13+, for a product discharge facilitator.

581 By relatively movable shell contacting means:
This subclass is indented under subclass 568. Device including at least one pair of separating means, and means to propel at least one member of a pair into contact with the shell.

SEE OR SEARCH CLASS:
100, Presses, various subclasses, for opposed platens.

582 With means to restrain food prior to or during shell-breaking:
This subclass is indented under subclass 581. Device including means to constrain the food as the shell-contacting means is moved into contact with the shell.

583 With means to fasten apparatus to support:
This subclass is indented under subclass 581. Device including means for attaching, or fixing the position of, the entire device with respect to a disclosed stable structure.

SEE OR SEARCH CLASS:
269, Work Holders, subclasses 95+ for means to fasten a work holder to a support; and, see the search notes thereunder.

584 Removing skin:
This subclass is indented under subclass 567. Device including means to disjoin* the skin* from the remaining portion of food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
540+, for skin removal in combination with removal of an internal portion.
568+, for removing a brittle outer covering by compressing, impacting, or by severing means.

SEE OR SEARCH CLASS:
452, Butchering, subclasses 125+ for removing the skin from a carcass or carcass part in a butchering-type operation.

585 By pinching roller:
This subclass is indented under subclass 584. Device including generally cylindrically-shaped means which cooperate with another surface of the same or dissimilar shape to initially grip a protruding portion of the skin; and, subsequent to the gripping, relative movement between the cylindrically-shaped surface and the other surface pulls or withdraws the skin from the remaining portion of the food.

SEE OR SEARCH THIS CLASS, SUBCLASS:
625, for adjacent moving surfaces that remove skin by abrading.
640, for roller means that grip a stem to remove it from food.

586 By resilient conduit:
This subclass is indented under subclass 584. Device including a flexible material or a plurality of flexible members which cooperate to form a flexible tube pocket, or passage, the skin being removed from the food as the food is passed or forced through the conduit.

(1) Note. The flexible members may have an abrading surface or cutting means and may be solid members which are pivoted under spring tension.

587 By gripper means:
This subclass is indented under subclass 584. Device including a pulling or tearing means which contact the skin and separate it by causing internal stresses.

(1) Note. A cutting means for scoring to aid the tearing is in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
637+, for means that grip and pull the stem from food.

SEE OR SEARCH CLASS:
452, Butchering, subclasses 128+ for devices which grip and pull the skin from a carcass in a butchering type operation.

588 By paring tool:
This subclass is indented under subclass 584. Device including an elongated sharpened cutting edge which removes the skin as the cutting edge is moved relative to the food.

589 And means to move food past stationary or vibrating tool:
This subclass is indented under subclass 588. Device including a fixed blade or a blade that has a reciprocating motion longitudinally of the blade and a means to transport the food by the blade.

SEE OR SEARCH CLASS:
83, Cutting, subclass 746 for a blade holder that reciprocates.

590 Arcuately shaped tool:
This subclass is indented under subclass 588. Device including a curved severing edge, the contour of curvature being essentially that of the food surface to be removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
553, for an arcuate cutter that separates the core pit.

591 Plural tool means:
This subclass is indented under subclass 588. Device including an additional severing means, or more than one paring means for a single food item.

SEE OR SEARCH THIS CLASS, SUBCLASS:
593, for a single cutting means having plural cutting edges, each edge alternately cutting as the cutter rotates.

592 With sectioning means:
This subclass is indented under subclass 591. Device wherein the additional cutting means subdivides the food.

593 Tool rotates about its own axis:
This subclass is indented under subclass 588. Device wherein the paring means rotates more than 360° about an axis within its physical confines while severing the skin from the food.

594 With means to hold and rotate food:
This subclass is indented under subclass 588. Device including means which grasp or pierce and turn the food about an axis as it is pared.

SEE OR SEARCH CLASS:
82, Turning, for the cutting of turning work of that class (82) type.

595 And means to translate food past tool:
This subclass is indented under subclass 594. Device including means which feed the food past the paring means.

596 Cutter has arcuate path around food:
This subclass is indented under subclass 594. Device including a means associated with the paring means which causes the paring means to travel in a curved path about the periphery of the food.

597 Tool pivots transversely on reciprocating carrier:
This subclass is indented under subclass 596. Device wherein the paring means is supported on an arm which pivots, toward and away from the center line of the rotating food, on a means that moves the pivot point of the arm in a path parallel with the center line of the rotating food.

598 Tool pivots in plane perpendicular to food axis:
This subclass is indented under subclass 597. Device wherein the paring support arm pivots at a right angle with respect to the axis of rotation of the food.

599 Tool arm pilots on rotatable carrier:
This subclass is indented under subclass 596. Device including a rotatable arm or disc which supports, and gives an arcuate motion to, the pivot point of the paring means support arm.

600 Grain hulling:
This subclass is indented under subclass 584. Device including grain hulling*.

(1) Note. This subclass is a locus for reciprocating, solid (nonperforated) grain-hulling members.

(2) Note. Excluded from this subclass are mere tumbling devices (i.e., rotary drums or other moving receptacles which present no abrasive or other material removing surface to the grain) for effecting mutual abrasion only between the grains for hulling or cleaning, such devices being classified in the appropriate subclasses of Classes 51, 366, or other appropriate classes in accordance with the line between those classes. However, receptacles, whether moving or stationary, when provided with relatively movable grain contacting members which move the grain in the receptacle for the purpose of removing the husk or adhering impurities (see (3) Note.), are provided for in this class even though the action on the grain is limited to mere mutual abrasion. Combinations, which include both mere mutual abrasion by tumbling in a moving receptacle and the use of an abrading or other material removing surface, are provided for in this and the indented subclasses.

(3) Note. Most of the devices classified in this or the indented subclasses are for the purpose of removing husks, skins, or other naturally occurring integuments from grains. However, because of the similarity of their structure to hullers, cleaners (to remove adhering impurities) are included when the cleaner is of such a nature as to subject the grain to an appreciable rubbing, abrasion or impact action by a solid work treating surface or agent. Cleaners not involving appreciable abrasion or impact action will be found in the generic cleaning Class 134, Cleaning and Liquid Contact With Solids, or some other cleaning class according to the notes appended to the class definition of Class 134.

SEE OR SEARCH THIS CLASS, SUBCLASS:
488, for a grain-hulling device having automatic control.
518+, for a grain-hulling device which includes noncleaning, nonhandling, fluid contact with the grain or grain part.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 3.1+ for grain cleaners employing the instrumentalities provided for in that class, e.g., brushes and wipers. See subclass 620 of this class (99) for hullers employing brushes or wipers.

134, Cleaning and Liquid Contact With Solids, see (3) Note above.

241, Solid Material Comminution or Disintegration, for grain comminuting devices having structure similar to the devices classified herein and for combinations of grain hullers of the type classified here, with comminutors (see subclasses 7 and 101.01 of that class). Since most of the hullers classified here inherently divide the husk or adhering impurities into a number of pieces in the process of removal from the grain, only such devices as effect the division of the grain body (endosperm) into a plurality of parts should be considered comminutors or comminutor-huller combinations for Class 241.

366, Agitating, subclasses 219+ for movable mixing chambers, and subclasses 241+ for stationary mixing chambers with movable stirrers having general utility as described in (2) Note above.

451, Abrading, for an abrading process or apparatus of general application. For example, included in Class 451 is a grain tumbling device which presents no abrasive or other material removing surface to the grain wherein abrading is effected by mutual engagement of the grains with each other. However, note that a grain container that is either stationary or moving is included in Class 99 when provided with a grain contacting member which moves the grain in the container for the disclosed purpose of removing the husk or adhering impurities, even if using an abradant.

601 With means to segregate diverse materials:
This subclass is indented under subclass 600. Device provided with means to set apart from one another grain, nongrain or separated grain portions.

SEE OR SEARCH CLASS:

241, Solid Material Comminution or Disintegration, subclasses 68+ for a comminuting device provided with means to separate or classify material.

602 By hulling means:
This subclass is indented under subclass 601. Device wherein the segregating takes place in the hulling zone and is accomplished by a hulling surface (e.g., wire mesh).

603 Moving perforated surface:
This subclass is indented under subclass 602. Device wherein the segregating-hulling surface is a driven member with reticulations or apertures or foraminae.

604 With nonperforated hulling surface area:
This subclass is indented under subclass 603. Device provided with a hulling surface through which no segregating can take place in addition to the segregating hulling surface.

605 Cylindrical or conical perforated enclosure:
This subclass is indented under subclass 602. Device wherein the segregating-hulling means is a portion of a surface of revolution generated by a nonperpendicular line revolving about an axis at least 360°, said surface consisting of apertures or foraminae, the hulling action taking place on its inner surface.

606 With axially extending nonperforated hulling portion:
This subclass is indented under subclass 605. Device wherein the surface of revolution includes segments extending in the direction of the axis of revolution from one axial end of the hulling portion to the other which do not include apertures or foraminae but which hull the grain.

607 With additional hulling surface characteristics on enclosure:
This subclass is indented under subclass 605. Device wherein the enclosure has surface features (e.g., radially extending barbs, undulations, radially-extending nonperforated segments) in addition to perforations which participate in the grain-hulling.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 88.2+ for a comminuting device provided with a perforated surface and an auxiliary nonperforated surface.

608 Enclosing a rotating, yieldably hulling element:
This subclass is indented under subclass 605. Device wherein the cylindrical or conical perforated enclosure contains an inner hulling member which revolves about an axis substantially coincident with the axis of the cylinder or cone, with which the cylinder or cone cooperates to hull the grain, said inner hulling member having a relatively movable surface, or projection on its surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
618+, for a yieldable, rotary hulling surface, per se.

609 With mechanism to feed or discharge material:
This subclass is indented under subclass 600. Device including dynamic means to move or to control movement of grain to or from the hulling zone.

SEE OR SEARCH THIS CLASS, SUBCLASS:
612+, for means which conveys grain between hulling zones.

610 Integral with moving hulling member:
This subclass is indented under subclass 609. Device wherein the feeding or discharging means partakes of all the motion of at least one hulling member which is in motion during the hulling operation.

611 With discharge control:
This subclass is indented under subclass 609. Device including a device to vary the rate of discharge of the grain from the final hulling zone.

SEE OR SEARCH THIS CLASS, SUBCLASS:
488, for automatic control of gas and/or grain, and see (1) Note thereunder.

612 By plural hulling zones:
This subclass is indented under subclass 600. Device which includes two or more separated areas in which hulling takes place, the separation consisting of an area where no hulling takes place or a district change in the characteristics of two contiguous-hulling means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
520+, for grain-hullers having plural hulling zones and fluid means.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclasses 134+ and 152.01+ for a comminuting device provided with plural operating zones.

613 Serial zones:
This subclass is indented under subclass 612. Device including a communication between the zones and means to move or to permit movement of grain from one zone to another.

614 Axially spaces zones:
This subclass is indented under subclass 613. Device wherein two or more of the hulling zones include hulling means which revolve about axes which are colinear and in which the coaxial hulling zones are spaced from each other in the direction of their axes.

615 With interior partition:
This subclass is indented under subclass 614. Device including a nonhulling member, fixed or moving in the space between two hulling zones which, because of its presence, alters the flow of grain from one hulling zone to the next.

616 By endless-belt hulling surface:
This subclass is indented under subclass 600. Device wherein the hulling surface is a surface of a flexible strip forming a closed loop and moving in a path defined by said loop during hulling.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 200 for an endless belt-comminuting surface.

617 By rotating surface:
This subclass is indented under subclass 600. Device wherein the hulling surface moves, during the hulling operation, about an axis.

618 Adjustably or yieldably mounted hulling surface:
This subclass is indented under subclass 617. Device wherein the hulling surface as a whole or a portion of it is attached to its supporting structure (rotating or stationary) in such a way that the attached surface is movable relative to its support.

619 Including a screw-threaded mounting:
This subclass is indented under subclass 618. Device wherein the attachment of the adjustably or yieldably mounted member to its supporting structure includes a spiral cam and cam follower between which relative movement produces relative movement between the adjustable member and its supporting structure.

620 Deformable hulling surface:
This subclass is indented under subclass 617. Device wherein a hulling surface consists of a material that will yield locally under force transmitted by a grain.

(1) Note. This subclass is the locus for brushes as well as rubber and cloth surfaces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
586, for a resilient conduit, skin removing, means.
626+, for a skin removing device provided with a brush.

621 With additional rotating surface:
This subclass is indented under subclass 617. Device including at least one other surface rotating, about a noncolinear axis or a concentric colinear axis, to hull the grain.

622 Radial hulling surface:
This subclass is indented under subclass 617. Device wherein the rotary hulling surface faces the axial direction.

(1) Note. The hulling may be effected by projections extending from the radial surface.

623 By abrading or resilient separating means:
This subclass is indented under subclass 584. Device having a rough or yielding surface that (A) wears, grinds, or scrapes or (B) holds and twists the skin from the food.

624 Two elements move at different speeds:
This subclass is indented under subclass 623. Device having at least two traveling separating means which move relative to each other at different surface velocities.

625 Adjacent separating elements:
This subclass is indented under subclass 624. Device wherein the abrading or resilient separating means are closely spaced and simultaneously contact the food.

626 Including brush means:
This subclass is indented under subclass 623. Device wherein a multiplicity of elongated resilient elements protrude from a surface and form abrading means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
620, for a rotating grain-hulling device having a deformable surface.

627 With rotating container:
This subclass is indented under subclass 626. Device including a rotating cylinder or drum having the brushes secured thereon or adjacent thereto.

628 Relatively moving adjacent surfaces:
This subclass is indented under subclass 623. Device including at least two cooperating surfaces, one of which is movable, spaced to permit passage of the food as the surfaces simultaneously contact it.

629 Including tumbling means:
This subclass is indented under subclass 623. Device wherein the separating means moves or is adjacent to a moving means which causes the food to randomly contact the separating means.

SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 200 for a belt comminutor.
451, Abrading, subclasses 326+ for a tumbling means in which workpiece are caused to be abraded by tumbling over or upon one another.

630 Having a container which rotates, or has internal rotating abrading:
This subclass is indented under subclass 629. Device including a drum or vessel which rotates or has therein a rotating means, the abrading means being on the drum, vessel, or rotating means.

631 Vertical container with rotating bottom:
This subclass is indented under subclass 630. Device wherein the drum or vessel center line is essentially vertical and the bottom of the drum or vessel is formed by a rotating means that agitates or abrades.

632 With agitator or flow control means:
This subclass is indented under subclass 631. Device including additional means in the drum or vessel which influences the path of travel of the food.

(1) Note. A rotating flat disc that is inclined or tilted at an angle to the central axis of the container is proper for this subclass.

633 Having irregularly shaped bottom:
This subclass is indented under subclass 632. Device wherein the path of travel of the food is influenced by ribs, depressions, projections or curves on the surface of the rotating bottom.

(1) Note. The irregular shape must be in addition to any abrading means that may be present on the surface of the rotating bottom.

634 With food deflector:
This subclass is indented under subclass 630. Device including means to direct the food through the container or into contact with the abrading means.

635 Removing stem-end or blossom-end:
This subclass is indented under subclass 567. Device wherein a portion of the food, which is distinct from but naturally attached to the food, is detached; or, wherein the stem-end* or blossom-end* of the food is detached.

SEE OR SEARCH THIS CLASS, SUBCLASS:
539+, particularly subclass 546, for separating an external portion of food and an internal portion.

SEE OR SEARCH CLASS:
56, Harvesters, subclasses 121.4+ for removing
171, Unearthing Plants or Buried Objects, subclasses 26+ for removing the ends from food after removing it from the ground.
452, Butchering, subclasses 154 and 166+ for removing the extremities of animals in a butchering type operation.

636 Including blossom-end:
This subclass is indented under subclass 635. Device including means to spatially remove both the blossom-end* and the stem-end* from an article of food.

637 Stemming:
This subclass is indented under subclass 635. Device wherein means is provided for stemming* food.

638 And cluster breaking:
This subclass is indented under subclass 637. Device including means to subdivide bunches or masses of naturally-connected food products into single food products; and, means to remove the stem* from a single, naturally-produced, food product.

(1) Note. This subclass includes means which receive two or more cherries which have the remote ends of their respective stems attached, separate the stems from each other, and, separate each cherry from its attached stem.

639 By means adjacent apertured handling means:
This subclass is indented under subclass 637. Device including a food containing or conveying means having perforations or openings which are so dimensioned or positioned as to permit only a stem to protrude therethrough; and, means in close proximity to the containing or conveying means to disjoin* the stem from the food.

640 By rollers:
This subclass is indented under subclass 637. Device including two or more revolving cylinders which coact to grasp and pull off a stem while the food is in contact with the cylinders.

SEE OR SEARCH THIS CLASS, SUBCLASS:
585, for a skin-removing device including pinching rollers.
624+, for a device including two moving elements, in contact with the food, traveling at different speeds, to remove skin.

641 By relative motion of irregularly shaped element:
This subclass is indented under subclass 637. Device including a perforated or roughened surface which moves relative to the food and strikes the stem* of the food attached thereto to effect separation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
587, for a resilient conduit that separates the skin from food.
600+, for grain hullers that separate by friction or impact.
623+, for abrading or friction means that separate the skin from food.

642 By penetrating cutter:
This subclass is indented under subclass 635. Device including a severing means which enters the food in a nonplanar cut.

(1) Note. The typical cutter of this subclass removes an indented portion of food without the waste of a planar cut.

643 With conveyor and positioning means:
This subclass is indented under subclass 635. Device including means to transport food to or past a cutting means and means to gauge, stop, or adjust the depth of cut.

644 INCLUDING MEANS TO PERMIT INVERSION OF FOOD:
This subclass is indented under the class definition. Device including elements which move, or allow movement of, discrete food articles supported thereby through at least 90° of rotation.

SEE OR SEARCH CLASS:
119, Animal Husbandry, subclasses 323+, for egg turners in combination with an incubator.

645 SHIELD OR SPACING ELEMENT:
This subclass is indented under the class definition. Device including a rigid or pliable sheet or web-like structure which contacts an exposed portion of food.

(1) Note. The purpose of the shield is usually to prevent ingress or egress of moisture, and the spacing element is usually to allow circulation of fluid between adjacent food articles.

646 MISCELLANEOUS:
This subclass is indented under the class definition. Device not provided for above.

(1) Note. This subclass is the locus of silo-like containers with “breathing” means.

SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 192, 223.3, and 245+ for silo structures, per se.

454, Ventilation, subclasses 173+ for pressure maintenance or ventilation of a storage structure.

END