CLASS 493, MANUFACTURING CONTAINER OR TUBE FROM PAPER; OR OTHER MANUFACTURING FROM A SHEET OR WEB

SECTION I - CLASS DEFINITION

Process or apparatus for forming an article of commerce, which article is a receptacle intended to encompass and hold contents from fibrous cellulose previously matted together in thin, planar form, commonly called paper, or from material that is similarly handled or deformed, without substantial thinning flow thereof, or for forming a hollow cylinder from fibrous cellulose previously matted together in thin, planar form, or from material that is similarly handled or deformed, without substantial thinning flow thereof.

Process or apparatus for forming generally planar or curvilinear, relatively thin, laterally limited material that is either longitudinally limited or unlimited (such material hereafter is called a sheet or web workpiece) into an article of commerce or into stock material in either of the following operations:

A. Assembling or Disassembling - (1) the act of juxtaposing or fastening together a sheet or web workpiece and another workpiece; or, (2) the act of disengaging a sheet or web workpiece from another workpiece to which it had previously been fastened.

B. Bending - the act of stressing a workpiece beyond its elastic limit, without substantial thinning flow, so that when stress is released the workpiece will not return to its original shape.

C. Flexing - the act of moving one portion of a workpiece with respect to another portion of that workpiece in order to place the respective portions of the workpiece in a desired positional relationship.

D. Surface treatment - a surface modification of a workpiece not penetrating deeply into the surface of the workpiece, which modification is not provided for elsewhere. Additionally, this class is the residual home for a process or apparatus for making a cigarette filter.

(1) Note. The sheet or web to be formed into an article of commerce by the method or apparatus of this class may be of any material except when provided for elsewhere. Specifically, note the search notes to other classes listed below.

(2) Note. A member previously made from a sheet or web into a three-dimensional workpiece may be considered to be a sheet or web workpiece under the definition of this class if it is treated as a sheet or web. For example, folding of a flap of a previously made container is included herein.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

A. Class 156 includes:

1. Bonding of sheet or web material surfaces (e.g., causing a supply of previously assembled labels to be united with a waxed paper carrier).

2. Bonding of sheet or web material surfaces combined with bringing together two work surfaces in the formation of stock material, e.g., bringing together then bonding a first and a second web.

3. Bonding of sheet or web surfaces (with or without bringing the surfaces together) combined with bending in formation of an indeterminate length stock material, e.g., spirally twisting and bonding adjacent convolutions of a paper strip to form an indefinite length pipe or other article; or, forming laminated stock material comprising corrugating a generally planar sheet of material and bonding a second and a third sheet to the top and bottom thereof.

4. Bonding a sheet or web surface to another surface combined with bringing the surfaces together in the labelling of an article. A postage stamp is considered to be a label, as is a decorative layer secured to an article by adhesive bonding. Note that this is an exception to the general line regarding bringing together and bonding a sheet or web to another member in forming an article.

B. Class 493 includes:

1. Bringing together a sheet or web member and another member, e.g., placing a partition member inside a box.

2. Bending or flexing a sheet or web in forming an article of commerce (e.g., bending a flap in the formation of a box from a box blank; or, twisting and abutting adjacent convolutions of a paper strip and then cutting the product to length in the formation of a drinking straw).

3. Bringing together a sheet or web member and another

member and bonding the two members together in the formation of an article of commerce (e.g., placing a partition member inside a box and gluing the partition member to the box; assembling and uniting a handle to a paperlike article; or, bringing a tape to a box and bonding that tape to the box to secure the integrity of the box). An exception to this line is the application of a label, postage stamp, or decorative layer to an article by adhesive bonding which is to be found in Class 156, especially subclasses 556+. Such a device which also serves another function, such as sealing a container closed, which would otherwise be proper for this class (493), will also be found in Class 156.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

12, Boot and Shoe Making, for making a foot covering member from a sheet or web.

29, Metal Working, subclasses 428+ for a process of and subclasses 700+ for apparatus for assembling, generally; including assembling a sheet or web member with another member when (a) the members are handled in the manner of a nonsheet or web member (e.g., placing a window pane into a window frame or assembly therewith, etc.), (b) combined with metal deforming other than deforming a fastener to secure, or (c) combining an operation of that class (29) generally with an operation of this class (493). Subclasses 33+, 592+, and 650 for combined operations in manufacturing an article from a nonsheet or web material as well as for the combination of construction of an article from a sheet or web, i.e., in the manner of this class (493) with an operation going beyond such construction. See the note below to Class 227, Elongated-Member-Driving Apparatus, for classification of means to force a nail or staple into a workpiece even if the workpiece is a sheet or web if there is no other article making that is proper for this class (493).

53, Package Making, for a method of or apparatus for placing goods or materials in a container. The container may serve to identify, protect, or allow unit handling of the goods or materials; and may comprise a simple band wrapped about the goods or materials. The combination of making a container from sheet or web material with packaging will be found in Class 53. Apparatus for or the method of closing a filled package, even without any recognition of the contents, is to be found in Class 53. Generally, the combination of making a sheet or web assembly will be found in this class (493) if the packaged material is a component of the package; however, search Class 53, subclasses 394+ for making a match book and match assembly, an exception to the general rule.

57, Textiles: Spinning, Twisting, and Twining, for the process of or apparatus for making twisted or spirally wrapped cellulose tape.

69, Leather Manufactures, for making a product from leather.

72, Metal Deforming, the residual locus for plastic deformation (including bending) of metallic work (a) as simple metal stock or a blank, (b) in combination with nonmetal, as in the case of a paper and metal laminate, or (c) as unspecified or unidentified material which appears to be metal.

100, Presses, for a press not elsewhere provided for.

112, Sewing, for means to secure two sheets of cloth or clothlike material by a sequence of stitches. The stitches of Class 112 may be made repeatedly in the same area, as is done in tacking a label of paper material to a cloth member. Folding of nontextile combined with stitching, e.g., to secure the sheets of a book signature, is to be found in this class (493).

144, Woodworking, for shaping of wood, generally, including making a product from wood; also subclass 51 for manufacture of an ignitable match of paper.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two surfaces together, generally. Class 156 is the generic home for surface bonding. This class (493) is the generic home for making a product from a sheet or web comprising assembling, bending, flexing, or certain surface treatment. Between the classes, Class 156 is directed primarily to the formation of stock material (with many exceptions) this class (493) is directed primarily to the formation of a finished article (but includes subcombinations and other exceptions). Class 156 has not been screened; however, the following is believed to generally represent the placement of the art.

242, Winding, Tensioning, or Guiding, particularly subclasses 430+ for a method or apparatus for winding a composite article and subclasses 570+ for convolutely winding a web to form a storage package.

452, Butchering, subclasses 21+ for an apparatus for or method of shirring a sausage casing with or without filling of the casing.

162, Paper Making and Fiber Liberation, for paper making especially subclasses 123+ for uniting of wet paper sheets; subclass 197 for the method of decurling or flexing, bending, straightening, or decurling combined with paper making or as an ancillary operation to paper making.

223, Apparel Apparatus, for making of clothing from a sheet or web.

227, Elongated-Member-Driving Apparatus, for means to force a nail or staple into a workpiece (or into a stack of workpieces that are not individually treated) even if the workpiece is a sheet or web if there is not other operation of this class (493), e.g., no assembling, bending, flexing, or surface treatment. Assembling of a first workpiece which is a web or sheet and a second workpiece combined with driving a staple to secure the relationship of the first and second workpiece is to be found in this class (493). Similarly, engaging a first portion of a workpiece and engaging a second portion of a workpiece and driving an elongated fastener into the portions to secure them together will be found in this class (493).

229, Envelopes, Wrappers, and Paperboard Boxes, for a container made from paper.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the step of forming a sheet or web into an article of commerce, e.g., bag, box, etc., or into stock material if the step involves a thinning (or thickening) flow of the material. Commonly, shaping moist previously made paper or paperlike material or shaping sheet or web material in a heated die involves a thinning flow and will be found in Class 264. Shaping of this class (493) involves only incidental thinning flow. For example, drawing a planar sheet into a cup shape is proper for Class 264; folding radiating portions of a sheet to form a conical shape is proper for this class. If it is not clear from the disclosure that there is a thinning flow of the material, shaping of such material will be found in this class (493). A Class 264 operation combined with an operation of this class will be found in this class (493) unless both operations are done in the same die, which will be found in Class 264.

270, Sheet-Material Associating, for bringing sheets of paper having printed material thereon together so that the printed material of one of the sheets corresponds to the printed material of the other sheet, even when combined with an operation of this class (493).

412, Bookbinding: Process and Apparatus, for processes and apparatuses for assembling, bending, or flexing of sheet or web material peculiar to the manufacture of a book.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming sheet or web material into an article of commerce or into stock material, e.g., bag, box, etc., involving thinning (or thickening flow of the material). Commonly, means for shaping sheet or web material in a heated die involves a thinning flow and will be found in Class 425. Shaping of this class (493) involves only incidental thinning flow. For example, apparatus for drawing a planar sheet into a cup shape is proper for Class 425; apparatus for folding radiating portions of a sheet to form a generally conical shape is proper for this class (493). If it is not clear from the disclosure that there is thinning flow of the material, the device for shaping such material is to be found in this class (493). Apparatus for performing a Class 425 operation combined with apparatus to perform an operation of this class generally will be found in this class (493) unless both operations are done in the same mold which will be found in Class 425.

SUBCLASSES

1 CONTROL OF OPERATION BY USE OF TEMPLET, TAPE, CARD, OR OTHER REPLACEABLE INFORMATION SUPPLY:

This subclass is indented under the class definition. Method or apparatus including detecting the characteristics (e.g., physical, electrical, etc.) of a member carrying operation instructions for the apparatus, which member is removable from both the workpiece and the organized structure of the apparatus, and regulating, as a direct result of said detection, the operation of the apparatus.

(1) Note. This subclass includes utilizing a prepared information supply that is to be removably placed in the apparatus. This subclass does not include utilizing the

characteristics of a permanent part of the apparatus, such as a cam or gear, to influence the operation of other parts.

2 With sensing of numerical information and regulation without mechanical connection between sensing means and regulated means (i.e., numerical control):

This subclass is indented under subclass 1. Method or apparatus including detecting information on the removable member, which information is in binary (digital) form or code readable by a detecting means, wherein the detected information is utilized to regulate the apparatus by means other than a mechanical linkage.

3 CONTROL MEANS ENERGIZED IN RESPONSE TO ACTIVATOR STIMULATED BY CONDITION SENSOR:

This subclass is indented under the class definition. Method or apparatus including: (a) detecting any of the following characteristics; a state or property, a change in a state or property, or the occurrence of a predetermined event in any of the following: a workpiece, a product of the apparatus, the apparatus itself, or the environment of the apparatus affecting the operation thereof; and, (b) initiating, as a direct result of said detection, a signal other than that generated or transmitted by the detecting means; and, (c) regulating or modifying, as a direct result of said initiation, the operation of the apparatus, or to actuate a signal or alarm.

4 Cigarette filter making:

This subclass is indented under subclass 3. Method or apparatus including forming of an article of commerce adapted to be secured to or integrated with the end of a tubular or rodlike tobacco or tobaccolike product, which article is intended to restrict, entrap, or alter components of the flow of gases and combustion products from the tubular or rodlike tobacco or tobaccolike product when burning to thereby modify the composition or condition of gases and combustion products passing therethrough.

(1) Note. This class is the residual home for the making of a cigarette filter, even if the filter is not constructed of paper sheet or web material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39+, for making a cigarette filter, generally.

5 Responsive to temperature:

This subclass is indented under subclass 3. Method or apparatus including detecting a thermal condition.

6 Responsive to assembling or coating operation:

This subclass is indented under subclass 3. Method or apparatus including detecting a characteristic of the product of a station which station either serves to juxtapose or fasten together two workpieces or serves to bring a flowable material into covering engagement with a workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

44, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

334+, for assembling of distinct members combined with adhesive coating.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

7 Responsive to flowable material (e.g., glue, ink for printer, etc.):

This subclass is indented under subclass 6. Method or apparatus including detecting a characteristic of a substance that flows as a liquid.

8 Responsive to work material, the product or means engaging the work material or the product:

This subclass is indented under subclass 3. Method or apparatus including detecting a characteristic of a workpiece, the formed article, or of the structure that engages a workpiece of the formed article.

9 By use of pneumatic sensor:

This subclass is indented under subclass 8. Method or apparatus including the use of a detecting means responsive to air striking it or emanating from it or responsive to pressure or vacuum in a supply line, which supply line is for release of air to or vacuum from the atmosphere.

10 By use of photocell condition sensor:

This subclass is indented under subclass 8. Method or apparatus including use of detecting means responsive to luminous energy and adapted to emit electrical impulses to regulate the operation of the apparatus.

11 Responsive to mark or indicia on work:

This subclass is indented under subclass 10. Method or apparatus including detecting a surface characteristic of a workpiece, which surface characteristic has been previously formed on the workpiece to be sensed by this detector, or which surface characteristic is a recognizable intelligence (e.g., printed matter, machine readable code, etc.) feature for which the detector is adapted to respond.

12 Responsive to defective or missing work:

This subclass is indented under subclass 10. Method or apparatus including detecting a characteristic of a workpiece, which characteristic would indicate that the workpiece is faulty or including to detecting the absence of a workpiece or the absence of a portion of a workpiece.

13 Plural sensors:

This subclass is indented under subclass 10. Method or apparatus including a first detecting means and including a second detecting means.

(1) Note. This subclass is not intended to exclude more than two detectors.

SEE OR SEARCH THIS CLASS, SUBCLASS:

17+, for an operation of this class including use of plural sensors generally.

14 Plural interrelated sensors:

This subclass is indented under subclass 13. Method or apparatus wherein the first detecting means and the second detecting means are interconnected to cooperate in regulating an operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18+, for plural interrelated sensors, generally used in an operation of this class.

15 Photocell and diverse-type sensor:

This subclass is indented under subclass 14. Method or apparatus including a detecting means responsive to luminous energy and including another detecting means responsive to a condition other than luminous energy.

16 To eject defective work material or product:

This subclass is indented under subclass 8. Method or apparatus including detecting a characteristic of the workpiece or article, which characteristic indicates that the workpiece or article is faulty and including removing from the apparatus any such faulty material.

17 By use of plural sensors:

This subclass is indented under subclass 8. Method or apparatus including a first detecting means and including a second detecting means.

(1) Note. This subclass is not intended to exclude more than two detectors.

SEE OR SEARCH THIS CLASS, SUBCLASS:

13+, for an operation of this class including the use of a photocell and another sensor.

18 Plural interrelated sensors:

This subclass is indented under subclass 17. Method or apparatus wherein the first detecting means and the second detecting means are interconnected to cooperate in regulating an operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

14+, for plural sensors including a photocell, used in a operation of this class.

19 Sensing opposite edges of planar work:

This subclass is indented under subclass 18. Method or apparatus including detecting one of the margins of a sheet or web workpiece and detecting the margin directly across the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, for a first detector sensing a first wall of a container or a tubular blank and a second detector sensing an opposing wall.

20 Opposite side edges:

This subclass is indented under subclass 19. Method or apparatus wherein the sheet or web workpiece is translated through the apparatus and wherein the detected margins comprise the lateral extent of the sheet or web perpendicular to the direction of movement thereof.

21 To actuate timer:

This subclass is indented under subclass 8. Method or apparatus wherein the regulated structure includes a timepiece.

22 To actuate cutting, breaking, tearing, or abrading means:

This subclass is indented under subclass 8. Method or apparatus including regulation of means to pierce a workpiece, means to apply bending force to sever a workpiece, means to apply tensile force to sever a workpiece, or a crystalline tool applied to a workpiece to remove portions therefrom.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.

194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.

199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.

227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324, for an operation of this class combined with printing or photos:graphic reproduction and cutting, breaking, tearing, or abrading.

340, for an operation of this class combined with cutting, breaking, tearing or abrading, generally.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

23 To actuate folder:

This subclass is indented under subclass 8. Method or apparatus including regulating of apparatus comprising means to bendingly stress a workpiece beyond its elastic limit along a line to form a permanent crease along a predetermined line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

405+, for folding of a sheet or web generally, and see the search notes thereunder for other search locations.

24 Sensing indeterminate length work supply:

This subclass is indented under subclass 8. Method or apparatus including detecting a characteristic of a workpiece having no more than one recognized longitudinal end.

(1) Note. A spool or coil of work is considered to be “indeterminate length”.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, for an operation of this class utilizing a first and a second sensor, one of

which is a surface contacting sensor for indeterminate length work.

77+, for making a rigid container including bringing and indeterminate length member together with another member combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

97+, for making a rigid container including assembly with an indeterminate length workpiece.

354+, for bringing an indeterminate length workpiece together with another member combined with cutting, breaking, tearing, or abrading.

380+, for assembling of this class wherein one workpiece is of indeterminate length.

404, for folding an indeterminate length workpiece by a roller.

410+, for overfolding or unfolding an indeterminate length workpiece.

25 Responsive to size of work or product:
This subclass is indented under subclass 8. Method or apparatus including detecting a length, area, or volume of workpiece or produced article.

26 Responsive to weight of work or product:
This subclass is indented under subclass 8. Method or apparatus including detecting the gravitational attraction of a workpiece or produced article.

27 To stop machine:
This subclass is indented under subclass 8. Method or apparatus including regulating by termination operation of the apparatus.

28 Responsive to count:
This subclass is indented under subclass 8. Method or apparatus including detecting the number of workpieces or the number of produced articles.

29 To actuate material advancing means:
This subclass is indented under subclass 8. Method or apparatus including regulating the operation of structure serving to bring a workpiece to the machine, to carry a workpiece through the machine, or to carry a produced article away from the machine.

30 Responsive to machine element:
This subclass is indented under subclass 3. Method or apparatus including detecting a characteristic of a component of the apparatus.

31 Malfunctioning machine element:
This subclass is indented under subclass 30. Method or apparatus including detecting a characteristic of the component indicative of an undesired condition.

32 Responsive to stress of machine element:
This subclass is indented under subclass 31. Method or apparatus including detecting force acting on the component or the reaction of the component to force.

33 To stop machine:
This subclass is indented under subclass 32. Method or apparatus including regulating by terminating operation of the apparatus.

34 To adjust machine element to preselected position:
This subclass is indented under subclass 30. Method or apparatus including regulating movement of an operationally stationary component of the apparatus from a first fixed location or orientation to a second fixed location or orientation, or regulating to change the limits of movement of an operationally moving component.

35 Responsive to count of machine element:
This subclass is indented under subclass 30. Method or apparatus including detecting the number of times the component has moved.

36 Responsive to timer:
This subclass is indented under subclass 30. Method or apparatus wherein the component of the apparatus that is detected is a time piece.

(1) Note. Apparatus responsive to a mechanical or electrical clock is included herein.

(2) Note. Apparatus including a clocklike mechanism that is driven by movement of operational structure of the apparatus is not included herein.

37 WITH MEASURING OR TESTING:
This subclass is indented under the class definition. Method or apparatus combined with (a) determining a physical characteristic of a workpiece or formed article; or, (b) comparing a physical characteristic of the workpiece or formed article with a known standard.

(1) Note. A known standard may be referred to as a "control".

38 SAFETY:
This subclass is indented under the class definition. Method or apparatus including recognition of any condition that might endanger the operative and accordingly make provision to limit that danger.

SEE OR SEARCH THIS CLASS, SUBCLASS:
32, for means to protect a component of the apparatus.

39 CIGARETTE FILTER MAKING:
This subclass is indented under the class definition. Method or apparatus including an article constructed to be secured to or integrated with the end of a tubular or rodlike tobacco or tobaccolike product, which article is intended to restrict, entrap, or alter components, of the flow of gases and combustion products from the tubular or rodlike tobacco or tobaccolike product when burning to thereby modify the composition or condition of such gases and combustion products passing therethrough.

(1) Note. The article to restrict, entrap, or alter flow of gases and combustion products shall herein after be referred to as a "filter".

(2) Note. This class is the residual home for making a cigarette filter, even if the filter is not constructed of sheet or web material. Therefore, a patent directed to the making of such a cigarette filter will be found herein unless provided for elsewhere.

(3) Note. A cigarette is any rodlike article of tobacco or tobaccolike material intended to be manually manipulated directly to the mouth of the user.

SEE OR SEARCH THIS CLASS, SUBCLASS:
4, for making a cigarette filter including use of a control means energized in response to an activator stimulated by a condition sensor.
374+, for assembling a filter, generally.

SEE OR SEARCH CLASS:
29, Metal Working, for manufacture of a detachable cigarette filter, e.g., a water bottle-type tobacco smoke filter, a hookah, a cigarette holder having a filter, etc.
131, Tobacco, subclasses 280+ for means for making a cigarette filter combined with means for recognizing (or engaging) a tobacco product.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of forming material to be used as the filler material of a cigarette filter.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming material to be used as the filler material of a cigarette filter.

40 Filter having indicator or inspection means:
This subclass is indented under subclass 39. Method or apparatus wherein the filter formed is provided with means to show a condition of that filter, or of the gases or combustion products passing therethrough, or with means to allow the user to observe the interior of that filter.

41 With application of heat to secure wrapper:
This subclass is indented under subclass 39. Method or apparatus including supplying thermal energy to the filter to cause a sheet or web encasing member to be fastened to or about that filter.

(1) Note. Included herein is both "heat sealing" and heat drying of adhesive.

(2) Note. Included herein is securing filtering components to the paper encasing member.

(3) Note. The "wrapper" or "encasing member" of this subclass may serve to enclose the entire cigarette and hold both the tobacco and the filter or may serve to enclose only the components of the filter or the tobacco. Note that recognition (or engagement) of tobacco or tobaccolike material is excluded from this class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

129, for making a rigid container with application of adhesive and heat sealing.

133+, for making a rigid container including heat sealing.

189+, for making a pliable container including heat sealing.

274, for making a tube with coating and heating.

332, for making an article of this class, generally including application of adhesive and heating or drying.

341, for an operation of this class including heat sealing combined with cutting, breaking, tearing, or abrading.

393, for securing a sheet or web workpiece and another workpiece by application of heat.

42 With shaping or compacting of filter material:

This subclass is indented under subclass 39. Method or apparatus combined with trimming or deforming material being formed into a filter, or including pressing adjacent units, e.g., fibers, of material being formed into a filter closer together, to give the filter a configuration to better effect the flow of gases therethrough.

(1) Note. This subclass includes shaping of filter material with thinning flow of the material only if combined with assembling of filter components.

(2) Note. Cutting or severing may be "shaping" in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

395+, for bending to shape a filter paper, generally, if there is no thinning flow of the material.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of compacting to shape a mass of particulate or fibrous material other than when making a cigarette filter component.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 406+ for apparatus for compacting to shape a mass of particulate or fibrous material other than when making a cigarette filter component.

43 Including heating:

This subclass is indented under subclass 42. Method or apparatus including applying energy to raise the thermal activity of the material being made into a filter.

44 Including fluid contact for forming:

This subclass is indented under subclass 42. Method or apparatus including subjecting the material being formed to direct engagement therewith of a gas or liquid to assist in such forming operation.

45 Cutting continuous length rod into determinate lengths:

This subclass is indented under subclass 42. Method or apparatus wherein the configuration of the material being formed is that of a shaft having no more than one recognized end, including severing to longitudinally subdivide such shaft.

SEE OR SEARCH THIS CLASS, SUBCLASS:

287+, for making a product from a sheet or web combined with cutting.

SEE OR SEARCH CLASS:

83, Cutting, for cutting a rod to length, generally.

46 Prior to assembly with other cigarette filter material:

This subclass is indented under subclass 42. Method or apparatus including deforming or pressing together adjacent units of filter material and subsequently bringing that material into positional relationship with other filter material.

(1) Note. This subclass does not include recognition of tobacco.

SEE OR SEARCH CLASS:

131, Tobacco, subclasses 280+ for manufacture of a cigarette including recognition of (or engagement with) tobacco.

47 By assembling dissimilar filter materials (e.g., fiber and powdered charcoal, etc.):

This subclass is indented under subclass 39. Method or apparatus comprising juxtaposing or fastening together portions of different types of filter material.

(1) Note. A tobacco or filter wrapping paper is not considered to be a filter material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for a operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

334+, for assembling of distinct members combined with adhesive coating.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

48 With application of forced air, vacuum or vibration to assist handling:

This subclass is indented under subclass 47. Method or apparatus including applying higher or lower than atmospheric pressure air to the material being assembled, or including imparting short distance, rapid, to-and-fro movement to the material being assembled or to structure for transport of the material to aid in transport of the material.

49 Including plasticizer, adhesive, coating, or impregnant:

This subclass is indented under subclass 47. Method or apparatus wherein at least one of the different materials comprises (a) material to cause another material to be changed to the plastic state, (b) material to secure two solid components together by adhesive bonding, (c) flowable material to form a layer over another material, or (d) flowable material to be absorbed into another material.

(1) Note. Adsorption is included in this subclass.

50 Filter of fibrous material:

This subclass is indented under subclass 39. Method or apparatus comprising forming a filter from material having generally elongated, textilelike strands.

51 CONTAINER MAKING:

This subclass is indented under the class definition. Method or apparatus comprising the step of or means for performing a final operation in the construction of a receptacle intended to serve to encompass and hold material or an article.

(1) Note. The “final operation” required in the definition of this subclass may be considered to be that operation that changes something less than a container into a container. For example, closing the bottom of a tube forms a container if it is intended to hold goods, and that step alone will be found herein; whereas, placing a handle on a previously formed container or on a blank to be formed into

a container will not be found in this and the indented subclasses unless claimed in combination with a step which may be considered to be the required "final operation".

(2) Note. Making a container hold material better is considered to be the "final" operation required by the definition of this subclass; e.g., lining a container, applying a lid to a container, etc., makes the container hold material better and is considered to be proper for this and the indented subclasses.

(3) Note. A common folder for holding sheet material, with a front and back cover is not considered to be a container because it does not encompass the contained article; however, a similar folder with straps on the sides to attach the upper corners of the front and back covers is a container because it does encompass the contained article.

SEE OR SEARCH THIS CLASS, SUBCLASS:

186+, for making a pliable container and for making an envelope or closed folder, e.g., a record envelope, even if the wall thereof is rigid, provided the envelope or folder is formed at its margin with a single fold only, thereby making no allowance for the thickness of the contents.

52 Rigid container, (e.g., box, carton, cup, cap, etc.):

This subclass is indented under subclass 51. Method or apparatus including making a receptacle that is intended to generally retain its shape during use.

(1) Note. A small container made of heavy paper may be a rigid container while a large container made of the same heavy paper is pliable. It is the intent of the construction that determines placement of a patent in this subclass.

(2) Note. In order to avoid unnecessary splitting of similar art, it has been determined to consider any envelope or folder as a "pliable container" even if the wall portions are rigid, e.g., a photograph record envelope.

53 With printing or photos:graphic reproduction:

This subclass is indented under subclass 52. Method or apparatus combined with placing recognizable indicia on a workpiece or product.

(1) Note. Included herein is placing recognizable indicia on a workpiece or product by coating, impressing, or application of or exposure of photosensitive materials.

SEE OR SEARCH THIS CLASS, SUBCLASS:

137, for making a pliable container combined with printing.

270, for tube making combined with printing.

320+, for making a product from sheet or web material, generally, combined with printing.

SEE OR SEARCH CLASS:

101, Printing, for placing recognizable indicia on sheet or web material without any other working of the sheet or web.

54 On material prior to assembly with container:

This subclass is indented under subclass 53. Method or apparatus wherein the placing of recognizable information is done on a workpiece that is not part of a receptacle but is intended to be subsequently juxtaposed or secured to a receptacle or receptacle component.

55 On material to be erected to become container:

This subclass is indented under subclass 53. Method or apparatus wherein the placing of recognizable information is done on a workpiece web to be formed into a receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

188, for printing on material, then erecting that material into a pliable container.

56 With cutting, breaking, tearing, or abrading:

This subclass is indented under subclass 52. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or a tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting breaking, tearing, or abrading combined with an operation of this class including use of work or product responsive control means.

194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.

199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.

227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324+, for an operation of this class combined with printing or photos:graphic reproduction and cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

57 By randomly manipulated implement:

This subclass is indented under subclass 56. Method or apparatus including using a device to pierce, rip, or remove surface portions from a workpiece, which device is moved about at the will of the operative to perform the intended operation.

58 And embossing:

This subclass is indented under subclass 56. Method or apparatus combined with or including forming of a design in relief of a previously planar surface of a workpiece.

(1) Note. The patent of this subclass may include an operation of this class (49 comprising engraving by a piercing, separating, or crystalline tool or may include an operation of this class (493) combined with piercing, separating, or engaging by a crystalline tool even when combined with an operation involving a thinning flow of the workpiece.

59 And form-scoring:

This subclass is indented under subclass 56. Method or apparatus combined with (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line on the opposite surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes more compacted, such that there is no thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

160+, for making a rigid container including scoring.

240+, for making a pliable container including scoring.

396+, for form-scoring of sheet or web material.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is not significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for means to shape sheet or web work by a thinning flow of the work, as in embossing.

60 Rotary cutting, breaking, tearing, abrading, or form-scoring tool:
This subclass is indented under subclass 59. Method or apparatus including piercing, ripping, engaging with a crystalline tool, or forming a crease line in work by a member in engagement with the workpiece which member is adapted to move about an axis more than 360° to perform the respective operation.

61 Reciprocating cutting, breaking, abrading, or form-scoring tool:
This subclass is indented under subclass 59. Method or apparatus including piercing, ripping, engaging with a crystalline tool or forming a crease line in work by a member in engagement with the workpiece, which member is adapted to move to-and-fro to perform the respective operation.

62 Severing of web into blanks:
This subclass is indented under subclass 61. Method or apparatus including piercing, ripping, or engaging with a crystalline tool to subdivide an elongated planar workpiece into shorter lengths to later be shaped into a receptacle.

63 Perforating:
This subclass is indented under subclass 56. Method or apparatus including piercing a single work surface; thus forming a crater in the work or forming cleft through to the opposite work surface.

SEE OR SEARCH CLASS:
83, Cutting, subclasses 866+ for use of a tool to pierce a single work surface and form a crater, without paper working.

64 By rotary tool:
This subclass is indented under subclass 56. Method or apparatus including piercing, ripping, or engaging by a crystalline tool by a member in engagement with the workpiece which member is adapted to move about an axis more than 360° to perform the respective operation.

65 On travelling carrier:
This subclass is indented under subclass 64. Method or apparatus wherein the member in engagement with the workpiece is rotatably supported on a structure that is adapted to support and move therewith along a prescribed path with respect to the workpiece during operation.

66 Flexibly mounted rotary tool:
This subclass is indented under subclass 64. Method or apparatus wherein the member in engagement with the workpiece is supported for rotation about an axis such that the member may pliably move to change the position of the axis.

67 Including assembling of distinct members:
This subclass is indented under subclass 64. Method or apparatus including juxtaposing or fastening together a plurality of workpieces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.
47+, for assembling dissimilar filter materials in making a cigarette filter.
75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
84+, for making a rigid container including assembly of distinct members.
210+, for making a pliable container including assembly of distinct members.
297+, for making a tube including assembly of distinct members.
334+, for assembling of distinct members combined with adhesive coating.
343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.
374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 418+ for a conveyor for establishing and moving a group of items;

and subclass 644 for means for conveying a signature.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheets or webs, with no recognition of more than one sheet or web.

68 And folding:

This subclass is indented under subclass 67. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease.

(1) Note. Folding of cloth is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

69 Including folding:

This subclass is indented under subclass 64. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease.

(1) Note. Folding of cloth is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

70 Of flap:

This subclass is indented under subclass 69. Method or apparatus wherein formation of the crease is to bend over an extending edge of a workpiece.

71 With means to advance work or product:

This subclass is indented under subclass 69. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a formed article away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of supply hopper, use of a suction-type handling means and use of conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including form-scoring and continuously advancing the work with the form-scoring tool moving with the work during operation thereof.

180+, for making a rigid container including folding and advancing of the work or product.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

201+, for making a pliable container cutting, breaking, tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

72 Continuous advance:

This subclass is indented under subclass 71. Method or apparatus wherein the sheet or web is transferred without stopping toward, through, or away from the location at which it is stressed beyond its elastic limit.

73 By reciprocatory tool:

This subclass is indented under subclass 56. Method or apparatus wherein the member in engagement with the workpiece to perform the piercing, ripping, or engagement with a crystalline tool function is constructed to move to-and-fro when in operation.

74 Severing of web into blanks:

This subclass is indented under subclass 73. Method or apparatus wherein the member in engagement with the workpiece functions to subdivide an elongated planar member into shorter lengths to later be shaped into a receptacle.

75 Including assembling of distinct members:

This subclass is indented under subclass 73. Method or apparatus including juxtaposing or fastening together a plurality of workpieces.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.

47+, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

334+, for assembly of distinct members combined with adhesive coating.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:

198, Conveyors: Power-Driven, subclasses 418+ for a conveyor for establishing and moving a group of items; and subclass 644 for means for conveying a signature.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheet or webs, with no recognition of more than one sheet or web.

76 Comprising bringing two members together:

This subclass is indented under subclass 75. Method or apparatus including juxtaposing a first and a second workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

344, for bringing two members together combined with cutting, breaking, tearing, or abrading.

379, for bringing two members together under this definition, generally.

77 Indeterminate length member:

This subclass is indented under subclass 76. Method or apparatus wherein at the time of being brought into juxtaposed relationship at least one of the workpieces is of such lengths that no more than one end is recognized (engaged).

(1) Note. A spool or coil of work is considered to be “indeterminate length”.

SEE OR SEARCH THIS CLASS, SUBCLASS:

24, for an operation of this class including use of a sensor responsive to indeterminate length work.

97, for making a rigid container including assembly with an indeterminate length workpiece.

354+, for bringing an indeterminate length workpiece together with another combined with cutting, breaking, tearing, or abrading.

380+, for bringing length together with another member, generally, under the definition of this class.

410+, for refolding or unfolding an indeterminate length workpiece.

78 Member comprising adhesive backed tape:

This subclass is indented under subclass 77. Method or apparatus wherein at the time of being brought into juxtaposed relationship the workpiece having no more than one recognized end has a previously applied coating of material adapted to chemically unite therewith and bond that workpiece to another member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

116+, for making a rigid container including securing two distinct members together using adhesive backed tape.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

347, for application of an adhesive backed tape to another member combined with cutting, breaking, tearing, or abrading.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

382, for application of an adhesive backed tape to another member.

405+, for folding, generally, of a sheet or web.

79 Including folding:

This subclass is indented under subclass 73. Method or apparatus including bendingly stressing a workpiece beyond its elastic limit along a line to form a permanent crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, earing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.
151, for making a rigid container including coating with an adhesive and folding.
162+, for making a rigid container including folding.
231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.
243+, for making a pliable container including folding.
353, for folding combined with cutting, breaking, tearing, or abrading, by a composite tool.
356+, for folding combined with cutting, breaking, tearing, or abrading, generally.
405+, for folding, generally, of a sheet or web.

80 Of flap:
This subclass is indented under subclass 79. Method or apparatus wherein formation of the crease is to bend over an extending edge of a workpiece.

81 With means to advance work or product:
This subclass is indented under subclass 79. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a formed article away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.
125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.
142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.
147, for making a rigid container including securing work surfaces and advancing the work or product.
161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.
180+, for making a rigid container including folding and advancing of the work or product.
196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.
201+, for making a pliable container cutting, breaking, tearing, or abrading and advancing of work or product.
301, for making a tube and advancing the formed tube along its axis.
357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.
400+, for form-scoring with work or product advancing or positioning.
416+, for folding including work or product advancing.

82 With scrap material separation or removal:
This subclass is indented under subclass 56. Method or apparatus combined with segregating or carrying away an unused or waste portion of a workpiece or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:
83, for manufacture of a rigid container with scrap material separation or removal, but without cutting, breaking, tearing or abrading.
342, for manufacture of a product from a sheet or web combined with cutting, breaking, tearing, or abrading and with scrap material separation or removal.
373, for manufacture of an article from a sheet or web with scrap material separation or removal, generally.

83 With scrap material separation or removal:
This subclass is indented under subclass 52. Method or apparatus combined with segregating or carrying away an unused or waste portion of a workpiece or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:
82, for manufacture of a rigid container with scrap material separation or removal and with cutting, breaking, tearing, or abrading.
373, for manufacture of an article from a sheet or web with scrap material separation or removal, generally.

84 Assembling of distinct members:
This subclass is indented under subclass 52. Method or apparatus including juxtaposing or fastening together a plurality of workpieces.

(1) Note. The workpieces of this and the indented subclasses are totally separate and distinct. A first and a second surface of a single workpiece are not considered to be separate workpieces, no matter how far spaced from each other.

(2) Note. A fastener, e.g., a staple or a rivet, is considered to be a workpiece when assembled to a paper workpiece; however, see the search note to Class 227 below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.
47+, for assembling dissimilar filter materials in making a cigarette filter.
67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.
75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
210+, for making a pliable container including assembly of distinct members.
297+, for making a tube including assembly of distinct members.
334+, for assembling of distinct members combined with adhesive coating.
343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.
374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 428+ for methods of and subclasses 700+ for apparatus for assembling or disassembling. Class 29 is the generic home for assembling. See the search notes under subclasses 428 and 700 for other locations of specific types of assembling. Also see the line notes under the definition of this class.
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for uniting a first and a second web by adhesive bonding without assembling or bending in forming an article of commerce or with or without assembling or bending in forming united stock material. See the line notes under the definition of this class.
227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheets or webs, with no recognition of more than one sheet or web.

85 With extruding, drawing, or attenuating:
This subclass is indented under subclass 84. Method or apparatus combined with forcing material through an orifice or pulling, pushing, or stretching material to thicken or thin the material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
293, for tube making combined with extruding, drawing, or attenuating.
338, for an operation of this class, generally, combined with extruding, drawing, or attenuating.

SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of forming material by forc-

ing it through an orifice or wherein there is thinning or thickening flow of the material. See the line note under the definition of this class (493).

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming material by forcing it through an orifice or wherein there is thinning or thickening flow of the material. See the line note under the definition of this class (493).

86 Applying cutting or tearing edge to container:

This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces is sharp and is intended to serve to sever or tear contents that will be placed in the receptacle in its intended use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

377, for an assembling operation of this class wherein one of the workpieces is a tear strip.

87 Applying discharge assist means (e.g., valve, pour spout, etc.):

This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces is intended to ultimately function in the removal of contents from the receptacle by directing or permitting movement of the contents.

88 Including handle or suspension means:

This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces is intended to serve as a grip on the receptacle to be engaged by a person carrying the receptacle or is intended to serve as structure whereby the receptacle may be hung.

SEE OR SEARCH THIS CLASS, SUBCLASS:

226, for making a pliable container including assembling a handle therewith.

909, for an art collection including making of a rigid container having a handle or suspension means.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for a method of assembling, generally including assembling a container and a handle; and subclass 774 for apparatus to assemble a handle to a container.

89 Including structural reinforcement:

This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces is intended to make the receptacle physically stronger.

90 Including internal partition:

This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces is intended to serve to divide the space within the receptacle and provide a compartment for acceptance of material to be packaged in the receptacle.

(1) Note. An egg carton made of a container and separate partition is included in this subclass.

(2) Note. The partition of this subclass is a separate member from the wall of the container.

SEE OR SEARCH THIS CLASS, SUBCLASS:

136, for forming a one-piece-blank into a compartmentized container in which the container is held in erected condition by interfitting of container portions.

391, for assembling container partitions, or assembling a previously formed container with a partition, without forming the container.

912, for an art digest of related operations.

91 Intersecting partitions:

This subclass is indented under subclass 90. Method or apparatus wherein the space within the receptacle is divided by a workpiece extending in a first direction and by a second workpiece or another portion of the same workpiece extending in a direction to cross or abut the first workpiece.

92 Single shaped partition adapted to touch packaged material on three sides:

This subclass is indented under subclass 90. Method or apparatus wherein the space within the receptacle is divided by a workpiece that is

adapted to wrap at least 270° about material to be packaged in the receptacle.

93 Liner:
This subclass is indented under subclass 84. Method or apparatus wherein one of the workpieces comprises a member intended to extend about the inside of the receptacle to restrict engagement of the contents of the receptacle from the inner surface of the receptacle.

(1) Note. The inner member of this subclass may cover the entire or less surface of the receptacle; however, it is not self-sufficient to hold the contents without the receptacle.

(2) Note. Included herein is assembling a preformed container and a preformed liner, even without additional "container making".

(3) Note. Manipulation of a container having a liner, e.g., closing the flaps, is not considered to be assembling of the liner and the container for this and the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
309+, for opening the end of a liner for assembly with the end of a rigid container without placing the liner inside the container.

94 Partial liner (e.g., fly liner, bottom gasket, etc.):
This subclass is indented under subclass 93. Method or apparatus wherein engagement of the contents with the inside of the receptacle is restricted to limited areas.

95 Liner permanently secured to wall:
This subclass is indented under subclass 93. Method or apparatus wherein the workpiece restricting engagement of the contents with other surfaces of the receptacle is bonded to the surface of the receptacle in such a way as to preclude ready removal.

(1) Note. If the liner is to be applied to a blank before the blank is erected, bonding must take place over only a limited area of the liner. Bonding over the entire surface of the liner would form a laminated blank, rather than a lined blank.

96 Prior to erecting of container:
This subclass is indented under subclass 95. Method or apparatus wherein the workpiece for restricting engagement is intended to be bonded to the surface of the receptacle before formation of the receptacle.

97 With indeterminate length work supply:
This subclass is indented under subclass 96. Method or apparatus wherein being brought into juxtaposition or when being fastened together with another workpiece, one workpiece is of such length that no more than one end thereof is recognized.

(1) Note. A spool or coil of work is considered to be "indeterminate length".

SEE OR SEARCH THIS CLASS, SUBCLASS:
18, for an operation of this class utilizing a first and a second sensor, one of which is a surface contacting sensor for indeterminate length work.
24+, for an operation of this class including use of a sensor responsive to indeterminate length work.
77+, for making a rigid container including bringing an indeterminate length member together with another member combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
97, for making a rigid container including assembly with an indeterminate length workpiece.
193+, for making a pliable container including heat sealing of indeterminate length work.
335, for an operation of this class combined with coating an indeterminate length workpiece.
345+, for bringing an indeterminate length workpiece together with another member combined with cutting, breaking, tearing, or abrading.
380+, for assembling of this class wherein one workpiece is of indeterminate length.
404, for folding an indeterminate length workpiece by a roller.

410+, for overfolding or unfolding an indeterminate length workpiece.

98 Assembling by wrapping container about premade liner:
This subclass is indented under subclass 95. Method or apparatus including providing a member for restricting engagement of the contents of the formed receptacle with the receptacle, which member is in substantially its final shape, and then encompassing a sheetlike member thereabout and at the same time forming the sheetlike member into a receptacle.

99 Secured at container seam:
This subclass is indented under subclass 95. Method or apparatus including bringing together and bonding together edges of sheet work material along a line in the formation of a receptacle and including bonding the contents restricting member to the receptacle along the same line.

100 Premade liner and premade container:
This subclass is indented under subclass 93. Method or apparatus wherein the workpiece for restricting engagement is given its final form before assembly with the receptacle and wherein the receptacle is given its final shape before assembly with the workpiece for restricting engagement.

101 With venting or vacuumizing of container to allow assembly with liner:
This subclass is indented under subclass 100. Method or apparatus including providing a closable opening in the receptacle or restricting member to allow escape of air captured between the receptacle and restricting member or including means to remove the air from the area between the receptacle and the restricting member to ease the placement of the restricting member into the receptacle.

102 Including application of distinct closure:
This subclass is indented under subclass 84. Method or apparatus comprising placing a separate member over an opening in the receptacle to cover the opening.

(1) Note. Application of a cover over an opening may serve as the operation completing a tube into a container.

SEE OR SEARCH THIS CLASS, SUBCLASS:
139, for interfitting of an integral tab to close and secure an opening in a container.
156+, for closing an end of a rigid, nonrectangular container.

103 Closure having metallic portion:
This subclass is indented under subclass 102. Method or apparatus wherein a part of the covering member is made of metal.

SEE OR SEARCH CLASS:
29, Metal Working, for the combination of assembling with metal deforming, other than metal deforming to bring about securement of assembled components.

104 Nonrectangular cross section container:
This subclass is indented under subclass 102. Method or apparatus wherein the receptacle made is of a shape such that the horizontal margins are other than would be described by two pairs of parallel lines meeting at right angles.

(1) Note. A rectangular solid container is excluded from this subclass, even if it includes a domed or irregular top.

SEE OR SEARCH THIS CLASS, SUBCLASS:
149, for making a nonrectangular cross section rigid container with coating.
152+, for making a nonrectangular cross section rigid container, generally.

105 By use of turret mandrel carrier:
This subclass is indented under subclass 104. Method or apparatus including use of a male member on which the receptacle or covering member is placed or over which the receptacle or covering member is made, which male member is supported for pivotal movement about an axis to and from the position at which the covering member is placed over an opening in the receptacle.

106 And frustoconical form:
This subclass is indented under subclass 105. Method or apparatus wherein the male member includes a surface of a shape which may be

described as generated by a line extending from and pivoting about a point and following a circle that is normal to another line extending from the point to the center of the circle, which shape is cut off before reaching the point of generation.

107 Rotary form:
This subclass is indented under subclass 106. Method or apparatus including turning the male member about its central axis when in use.

108 Circular cross section container:
This subclass is indented under subclass 104. Method or apparatus wherein the shape retaining receptacle made is of a shape such that a cross section therethrough may be defined by a point revolving about a fixed center.

109 With bending to secure closure:
This subclass is indented under subclass 108. Method or apparatus including stressing a member beyond its elastic limit to cause more permanent engagement of the member over an opening with the receptacle.

110 Including laminating or coating of container blank:
This subclass is indented under subclass 84. Method or apparatus (a) including superposing multiple workpieces before formation thereof into the shape of a single receptacle, or (b) combined with placing a layer of flowable material on the surface of a workpiece, which layer is intended to become a part of that surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 128+, for making a rigid container including securing and the application of an adhesive.
- 148+, for making a rigid container with coating.
- 220+, for making a pliable container including assembling of distinct members and coating.
- 264+, for making a rigid container with application of adhesive or securing by adhesive.
- 272+, for making a tube with coating.
- 328+, for an operation of this class, generally, with coating.

111 Including wrapping of container:
This subclass is indented under subclass 84. Method or apparatus including making a receptacle and encasing the receptacle or a portion of the receptacle with a sheet of material generally conforming thereto.

(1) Note. Included herein is making a box within a box whether or not the boxes are secured together.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 93+, for placing a liner inside a container wherein the liner is not self-sufficient to hold the contents.

SEE OR SEARCH CLASS:
- 53, Package Making, subclasses 203+ for wrapping a container to form a package thereof.

112 Including use of rotary container support:
This subclass is indented under subclass 111. Method or apparatus wherein the means supporting the receptacle against the force of gravity is adapted to turn about an axis 360° or more.

113 Including use of reciprocatory container support:
This subclass is indented under subclass 111. Method or apparatus wherein the means supporting the receptacle against the force of gravity is adapted to move to-and-fro in a straight line or about an axis.

114 Securing:
This subclass is indented under subclass 84. Method or apparatus including fastening plural workpieces together.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 121+, for making a rigid container including securing a first and a second surface of a single workpiece together.
- 189+, for making a pliable container including heat sealing.
- 393+, for assembling of two workpieces by securing, generally.
- 394, for securing a first and a second surface of a single workpiece together.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for the process of and subclasses 700+ for apparatus for the general application of a fastener (e.g., a paper clip) to work, if there is no recognition of more than one sheet or web. See the search note for Class 29 under the definition of this class.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two workpieces together by adhesive bonding, generally; for adhesive bonding combined with assembling, bending, or flexing in the formation of a web of stock material; and for assembling and adhesively bonding an article with a postage stamp or a label. See the search note to Class 156 under the definition of this class.

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web if there is no other working (e.g., bending) of the sheet or web and no recognition of more than one sheet or web.

115 By application of district securing member:

This subclass is indented under subclass 114. Method or apparatus including making a first workpiece into a receptacle and intimately engaging therewith a second workpiece intended to function to fasten the workpieces together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

383+, for making a product from a sheet or web generally including use of a distinct securing member.

SEE OR SEARCH CLASS:

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working of the sheet or web (e.g., bending) and no recognition of more than one sheet or web.

116 Tape:

This subclass is indented under subclass 115. Method or apparatus wherein the workpiece intended to perform the fastening function is weblike in shape and is coated on at least one side with adhesive.

SEE OR SEARCH THIS CLASS, SUBCLASS:

78, for making a rigid container including application of an adhesive backed tape combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

347, for application of an adhesive backed tape to another member combined with cutting, breaking, tearing, or abrading.

382, for application of an adhesive backed tape to another member.

117 Applied to moving work:

This subclass is indented under subclass 116. Method or apparatus including applying the weblike fastening workpiece to the other workpiece at an assembly station, as the other workpiece moves within the station.

118 Material penetrating member:

This subclass is indented under subclass 115. Method or apparatus wherein the fastening workpiece includes a sharp edge and is intended to fasten by the act of that edge piercing into the other workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

351, for assembling by causing one member to pierce into another to which it is assembled, combined with cutting, breaking, tearing, or abrading.

384+, for using a work penetrating fastening member to secure other members together.

392, for assembling by causing one member to pierce into another to which it is assembled.

SEE OR SEARCH CLASS:

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working (e.g.,

bending) of the sheet or web and there is no recognition of more than one sheet or web.

119 Bifurcated member:
This subclass is indented under subclass 118. Method or apparatus wherein the fastening workpiece includes two sharp edges and is intended to fasten by the act of both edges piercing into the other workpiece at the same time.

120 Including use of work supply hopper:
This subclass is indented under subclass 84. Method or apparatus including the use of a compartment to hold a substantial number of workpieces as a ready supply for assembly with other workpieces.

SEE OR SEARCH THIS CLASS, SUBCLASS:

348, for assembling of an article from sheet or web material and another workpiece including use of a work supply hopper, combined with cutting, breaking, tearing, or abrading.

121 Securing:
This subclass is indented under subclass 52. Method or apparatus including fastening two portions of a workpiece together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

114+, for securing two workpieces together in the formation of a rigid container.

264+, for making a pliable container including securing by adhesive.

325, for printing or photos:graphic reproduction combined with cutting, breaking, tearing, or abrading and with securing.

393, for assembling of two workpieces by securing, generally.

394, for securing a first and a second surface of a single workpiece together.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for the process of and subclasses 700+ for apparatus for the general application of a fastener (e.g., a paper clip) to work if there is no recognition of more than one sheet or web. See the search note to Class 29 under the definition of this class.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two workpieces together by adhesive bonding, generally; for adhesive bonding combined with assembling, bending, or flexing in the formation of a web of stock material; and for assembling and adhesively bonding an article with a postage stamp or label. See the search note to Class 156 under the definition of this class.

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working of the sheet or web and no recognition of more than one sheet or web.

122 Including use of work blank supply hopper:
This subclass is indented under subclass 121. Method or apparatus including the use of a compartment to hold a substantial number of sheet or web workpieces as a ready supply for making a receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

181+, for making a container with folding and feeding a work blank from a hopper.

123 And use of vacuum to handle work:
This subclass is indented under subclass 122. Method or apparatus including applying reduced pressure to a portion of a workpiece so that atmospheric pressure acting on an opposing portion thereof assists in manipulation of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

84, for making a rigid container including assembling of distinct members by use of vacuum to manipulate a workpiece.

181, for making a rigid container with folding and feeding a work blank from a hopper by use of a suction-type blank handling means.

124 To place blank onto folder:
This subclass is indented under subclass 123. Method or apparatus including use of manipulating means using the application of reduced pressure to transport a sheet or web workpiece from a remote position to a position where it is ready for engagement by means to bendingly stress the workpiece beyond its elastic limit along a predetermined line.

125 With conveyor for advance to folder:
This subclass is indented under subclass 123. Method or apparatus combined with use of means particularly adapted to move one workpiece after another from a remote position to a folding station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.
81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.
142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.
147, for making a rigid container including securing work surfaces and advancing the work or product.
161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.
180+, for making a rigid container including folding and advancing of the work or product.
196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of the work or product.
201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of work or product.
302, for making a tube and advancing the formed tube along its axis.
357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.
400+, for scoring with work or product advancing or positioning.
416+, for folding including work or product advancing.

126 And means to transfer blank to folder:
This subclass is indented under subclass 122. Method or apparatus combined with the use of means to move a sheet or web workpiece from a remote position to a folding station.

127 Comprising folder:
This subclass is indented under subclass 126. Method or apparatus wherein the means to move the workpiece to the folding station is the same means which effects forming a crease or fold in the workpiece.

128 With application of adhesive:
This subclass is indented under subclass 121. Method or apparatus combined with coating a surface of a workpiece with material that is intended to chemically bond that surface to another surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.
148+, for making a rigid container with coating.
220+, for making a pliable container including assembling of distinct members and coating.
264+, for making a rigid container with application of adhesive or securing by adhesive.
272+, for making a tube with coating.
328+, for an operation of this class, generally, with coating.

129 And heat sealing:
This subclass is indented under subclass 128. Method or apparatus combined with applying thermal energy to raise the thermal level of a surface of a workpiece and thereby causing that surface to be fastened to another surface of a workpiece.

(1) Note. Included herein is both "heat sealing" and heat drying of adhesive.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41, for making a cigarette filter including application of heat to secure the wrapper thereto.

133+, for making a rigid container including heat sealing.

189+, for making a pliable container including heat sealing.

274, for making a tube with coating and heating.

332, for making an article of this class, generally including application of adhesive and heating or drying.

341, for an operation of this class including heat sealing combined with cutting, breaking, tearing, or abrading.

393, for securing a sheet or web workpiece and another workpiece by application of heat.

130 With work advance between application of adhesive and securing:

This subclass is indented under subclass 128. Method or apparatus including coating the workpiece with material to chemically bond one surface to another in a first station and fastening one surface of the workpiece to another in a second station, combined with the step of or means for moving the workpiece from the first to the second station.

131 Application of adhesive to moving work:

This subclass is indented under subclass 130. Method or apparatus including coating the workpiece with material to chemically bond when the workpiece is in motion.

132 By applicator having surface engaging and moving with work:

This subclass is indented under subclass 131. Method or apparatus including use of means in physical contact with the workpiece to transfer chemical bonding material thereto, which means has a component of movement with the workpiece during transfer of the bonding material.

133 Including heat sealing:

This subclass is indented under subclass 121. Method or apparatus including raising the thermal level of a surface of a workpiece and thereby causing that surface to be fastened to another surface of a workpiece.

(1) Note. Included herein is both "heat sealing" by fusion of the work surface and heat drying of adhesive.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41, for making a cigarette filter including application of heat to secure the wrapper thereto.

129+, for making a rigid container with application of adhesive and heat sealing.

189+, for making a pliable container including heat sealing.

274, for making a tube with coating and heating.

332, for making an article of this class, generally including application of adhesive and heating or drying.

341, for an operation of this class including heat sealing combined with cutting, breaking, tearing, or abrading.

393, for securing a sheet or web workpiece and another workpiece by application of heat.

134 By direct application of fluid:

This subclass is indented under subclass 133. Method or apparatus including raising the thermal level of a surface of a workpiece by a flow of gaseous or liquid material thereagainst.

SEE OR SEARCH THIS CLASS, SUBCLASS:

191, for making a pliable container including heat sealing and cooling by direct application of fluid.

192, for making a pliable container including heat sealing by direct application of fluid.

135 Of moving work:

This subclass is indented under subclass 133. Method or apparatus including raising the thermal level while the workpiece is in motion.

136 By interfitting of container portions:
This subclass is indented under subclass 121. Method or apparatus wherein fastening is accomplished by positioning a portion of a workpiece under another portion to restrict movement thereof.

137 Interlocking tab and slot:
This subclass is indented under subclass 136. Method or apparatus wherein the workpiece is provided with an elongated opening and is provided with a protuberance to interfit therewith including the operation of bringing about such interfitting of the receptacle portions.

138 Including integral internal partition:
This subclass is indented under subclass 137. Method or apparatus wherein the receptacle made includes a portion extending across to compartmentize the internal chamber.

139 Integral interlocking closure:
This subclass is indented under subclass 137. Method or apparatus wherein the portion of the receptacle being fastened is adapted to cover an external opening of the receptacle and wherein the interfitting of the portions is to secure that cover portion in the closed position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
102+, for closing a container by assembling a distinct closure therewith.
156+, for closing an end of a rigid, nonrectangular container.

140 Inwardly folded flange:
This subclass is indented under subclass 136. Method or apparatus wherein fastening is accomplished by turning a marginal extremity of a workpiece toward the interior of the receptacle to overlap and fasten another portion of the receptacle.

141 Including means to press work while adhesive sets or dries:
This subclass is indented under subclass 121. Method or apparatus including use of means to force a first portion of a workpiece against a second portion for a period of time to allow a liquid coating of a chemical bonding agent between the two surfaces to solidify.

SEE OR SEARCH THIS CLASS, SUBCLASS:
128+, for making a rigid container including securing combined with the application of adhesive.

142 Work advancing during pressing:
This subclass is indented under subclass 141. Method or apparatus wherein the workpiece is moved through the apparatus as the work portions are forced together.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.
81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.
125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.
147, for making a rigid container including securing work surfaces and advancing the work or product.
161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work duration operation thereof.
180+, for making a rigid container including folding and advancing of the work or product.
196+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of work or product.
201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of work or product.
302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting breaking, tearing, or abrading with means to advance the work or product.
400+, for securing with work or product advancing or positioning.
416+, for folding including work or product advancing.

143 Plunger- and die-type press:
This subclass is indented under subclass 142. Method or apparatus comprising use of a female member and a male member wherein the male member is adapted to move and carry the workpiece through the female member and cooperate therewith to force the work portions together.

144 Roller-type press:
This subclass is indented under subclass 142. Method or apparatus including use of a member adapted to turn more than 360° about an axis, the member having a peripheral surface of constant distance from the axis, which member is to rollingly engage the workpiece and force the work portions together.

145 Manually actuated press:
This subclass is indented under subclass 141. Method or apparatus wherein the means to force the work portions together is either driven by the energy of the operative or is caused to be driven in direct response to the action of the operative, whereby the means is under the constant control of the operative.

146 Manually driven:
This subclass is indented under subclass 145. Method or apparatus wherein the means to force the work portions together is driven by the energy of the operative.

147 With means to advance work or product:
This subclass is indented under subclass 121. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a previously made receptacle away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and therefor not the concept of this subclass.

(2) Note. "Treating" as used herein includes assembling, bending, surface treatment, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.
81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.
125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.
142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.
161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.
180+, for making a rigid container including folding and advancing of the work or product.
196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.
201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of work or product.
302, for making a tube and advancing the formed tube along its axis.
357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.
400+, for scoring with work or product advancing or positioning.
416+, for folding including work or product advancing.

148 With coating:

This subclass is indented under subclass 52. Method or apparatus combined with placing a layer of flowable material on the surface of a workpiece, which layer is intended to unite with that surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.

128+, for making a rigid container including securing and the application of an adhesive.

220+, for making a pliable container including assembling of distinct members and coating.

264+, for making a rigid container with application of adhesive or securing by adhesive.

272+, for making a tube with coating.

328+, for an operation of this class, generally, with coating.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for apparatus for placing a layer of flowable material on the surface of a sheet or web with no other working of the sheet or web.

427, Coating Processes, for the step of placing a layer of flowable material on the surface of a sheet or web with no other working of the sheet or web.

149 On nonrectangular cross section container:

This subclass is indented under subclass 148. Method or apparatus wherein the receptacle formed is of a shape such that the horizontal margins are other than would be described by two pairs of parallel lines meeting at right angles.

(1) Note. A rectangular solid container is excluded from this subclass, even if it includes a domed or irregular top.

SEE OR SEARCH THIS CLASS, SUBCLASS:

104+, for making a nonrectangular rigid container including assembling of a container body and a distinct closure.

152+, for making a nonrectangular rigid container, generally.

150 Adhesive:

This subclass is indented under subclass 148. Method or apparatus wherein the flowable material is intended to unite with the surface of the workpiece and to subsequently fasten that surface to another surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

115+, for assembling a rigid container, applying a distinct securing member and applying an adhesive.

276, for making a tube combined with coating with an adhesive.

331+, for making an article from a sheet or web combined with application of an adhesive coating.

151 And folding:

This subclass is indented under subclass 150. Method or apparatus including bendingly stressing a workpiece beyond its elastic limit along a line to form a permanent crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading generally.

405+, for folding, generally, of a sheet or web.

152 Nonrectangular cross section container:
This subclass is indented under subclass 52. Method or apparatus wherein the receptacle made is of a shape such that the horizontal margins are other than would be described by two pairs of parallel lines meeting at right angles.

(1) Note. A rectangular solid container is excluded from this subclass, even if it includes a domed or irregular top.

SEE OR SEARCH THIS CLASS, SUBCLASS:
104+, for making a nonrectangular cross section rigid container including assembling of a container body and a distinct closure.
149, for making a nonrectangular rigid container, with coating.

153 Noncircular cross section:
This subclass is indented under subclass 152. Method or apparatus wherein the rigid receptacle made is further of a shape such that a horizontal section therethrough is other than one described by a curved line equidistant from a center.

154 By use of conical former (e.g., pleating, etc.):
This subclass is indented under subclass 152. Method or apparatus including use of a member to give shape to a receptacle, which member includes a surface of a tapered shape which may be described as generated by a line extending from and pivoting about a point and following a circle that is normal to another line extending from the point to the center of the circle.

155 Rotary former:
This subclass is indented under subclass 154. Method or apparatus wherein the member adapted to give its generally circular tapered shape to the receptacle turns about its geometrical axis during such shaping.

156 End closing:
This subclass is indented under subclass 152. Method or apparatus wherein the receptacle made has a body portion having upper and lower ends, including covering one of the ends.

SEE OR SEARCH THIS CLASS, SUBCLASS:
102+, for closing a container by assembling a distinct cover therewith.
139, for interfitting of an integral tab to close and secure an opening in a container.
308, for closing the end of a tube that is not a container.

157 By folding over end of tube:
This subclass is indented under subclass 156. Method or apparatus wherein the receptacle made has a generally elongated tubular body and wherein closing is accomplished by collapsing one end thereof and then bending the body to form a crease line to thereby close the body.

158 Edge crimping or curling:
This subclass is indented under subclass 152. Method or apparatus including turning under to conceal the unfinished edge of a sheet or web workpiece from a generally sharp edge to form a generally or rounded edge.

(1) Note. Crimping or curling the end of a cylinder by a tool acting on one part of the periphery is included herein even though, in theory, there may be thinning flow, to avoid splitting of similar art.

SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of edge crimping or curling with stretching of material as in curling the end of a cylinder in a dip.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for edge crimping or curling with stretching of material as in curling the end of a cylinder in a die.

159 By relative rotation of work and tool about work axis:
This subclass is indented under subclass 158. Method or apparatus including (a) turning a workpiece about an axis passing generally through its center for engagement by a tool that is not turning about the axis, or (b) turning a tool about an axis passing generally through

the center of a workpiece for engagement with a workpiece that is not turning about that axis.

160 Including form-scoring:

This subclass is indented under subclass 52. Method or apparatus including (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes more compacted, such that there is no thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, for making a rigid container with cutting and scoring.

240+, for making a pliable container including scoring.

396+, for form-scoring of sheet or web material, generally.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is no significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for means to shape sheet or web work by a thinning flow of the work, as in embossing.

161 Continuous advance with form-scoring tool moving with work:

This subclass is indented under subclass 160. Method or apparatus wherein the workpiece moves without stopping during the line pressing operation through a line pressing station, including use of a line pressing tool, a portion of which moves in the direction of workpiece movement when in operational engagement therewith.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

180+, for making a rigid container including folding and advancing of the work or product.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of the work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

162 Folding:

This subclass is indented under subclass 52. Method or apparatus including bendingly stressing a workpiece beyond its elastic limit along a line to form a permanent crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

231+, for making pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

163 By mandrel or endless carrier:
This subclass is indented under subclass 162. Method or apparatus including use of a male forming member about which a sheet or web workpiece is wrapped by bending stress without thrust of the forming member, which forming member is mounted on a support member to be indexed or continuously moved about a closed loop.

164 Assembly of plural mandrels turning about fixed axis:
This subclass is indented under subclass 163. Method or apparatus including a plurality of male forming members on each of which at least a portion of a sheet or web workpiece is bendingly stressed without thrust from the respective forming member, which forming members are mounted on a single support member, which support member is rigid and is adapted to turn continuously or be indexed about a pivot line to reposition the forming members.

165 To form gable top on container:
This subclass is indented under subclass 164. Method or apparatus wherein the forming member is adapted to form a receptacle having upper portion comprising a single ridge created by a pair of diverging side walls.

(1) Note. Included herein is partial forming of a gable top without actual closing thereof, to allow for subsequent filling of the formed receptacle.

166 Folder driven by stationary cam:
This subclass is indented under subclass 164. Method or apparatus wherein, as the support turns about a fixed axis, nonmoving structure is engaged which serves to move a member, which member in turn engages the sheet or web workpiece and forms a crease therein.

167 By plunger:
This subclass is indented under subclass 162. Method or apparatus including use of a male forming member on which a sheet or web workpiece is wrapped by bending stress as a result of thrust of that member.

(1) Note. A bladelike member including an elongated folding edge may be considered to be a plunger or male forming member for this subclass.

168 Forming hollow wall or 270° folded edge:
This subclass is indented under subclass 167. Method or apparatus of making a receptacle having a side formed of an inner and outer layer to enclose an open space or having a marginal lip that is formed of a bent overedge that extends about at least three sides of enclosed space.

169 Plural interrelated plungers (e.g., making separate cover and container):
This subclass is indented under subclass 167. Method or apparatus including use of a first male forming member on which a sheet or web workpiece is wrapped by bending stress as a result of thrust of that member and including use of a second male forming member on which a sheet or web workpiece is wrapped by bending stress as a result of thrust of that member wherein the first forming member is adapted to form a first workpiece portion and

the second workpiece portion such that the product of the first member is made to interfit with the product of the second member.

170 Flowable plunger or reaction member:
This subclass is indented under subclass 167. Method or apparatus (a) wherein the male forming member is adapted to yieldably change shape during the bending operation; or, (b) including a backing member against which the male forming member is adapted to force the work for bending, which backing member is adapted to yieldably change shape during the bending operation.

171 Expandable or contractible plunger or reaction member:
This subclass is indented under subclass 167. Method or apparatus (a) wherein the male forming member is adapted to be modified to change the size or shape thereof; or, (b) including a backing element against which the male forming member is adapted to force the workpiece for bending, which backing element is adapted to be modified to change the size or shape thereof.

172 Orbitally moving plunger or reaction member:
This subclass is indented under subclass 167. Method or apparatus (a) wherein the male forming member is adapted to move as a body about a closed loop; or, (b) including a backing element against which the male forming member is adapted to force the work for bending, which backing element is adapted to move as a body about a closed loop.

173 Continuously orbiting:
This subclass is indented under subclass 172. Method or apparatus wherein the male forming member or the backing element is adapted to move without stopping during the bending operation about the closed loop.

174 And reciprocatory reaction member:
This subclass is indented under subclass 167. Method or apparatus including use of a backing element against which the male forming member is adapted to force the work for bending, which backing element is adapted to move to-and-fro in a straight line or about a pivot point.

175 By mandrel:
This subclass is indented under subclass 162. Method or apparatus including use of a male forming member about which a sheet or web workpiece is wrapped by bending stress without thrust of the forming member.

(1) Note. A mandrel is similar in structure to a plunger, but is not intended to form work by force applied to the mandrel, rather is intended to serve as a reaction member onto which work is formed.

176 And reciprocatory armlike tool:
This subclass is indented under subclass 175. Method or apparatus including use of a member adapted to engage the sheet or web workpiece and form the work about the male forming member, which member is generally elongated, is unsupported at one end and is adapted to move to-and-fro either in a straight line or about a pivot point during the bending operation.

177 Work moving transversely to fold line during folding:
This subclass is indented under subclass 162. Method or apparatus wherein the sheet or web workpiece is caused to travel in a direction normal to the line along which it is creased, as the crease is formed.

178 Work moving parallel to fold line during folding:
This subclass is indented under subclass 162. Method or apparatus wherein the sheet or web workpiece is caused to travel in the same direction as the line along which it is creased, as the crease line is formed.

179 On endless conveyor belt or chain:
This subclass is indented under subclass 178. Method or apparatus wherein travel of the workpiece is effected by being supported on a surface which is, or is part of, an integral or concatenated band that is trained about a plurality of separated, noncoaxial pulleys or sprockets.

180 With means to advance work or product:
This subclass is indented under subclass 162. Method or apparatus combined with use of means to transport a workpiece progressively

from a remote location toward or through a treating station or to transport a previously made receptacle away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

201+, for making a pliable container cutting, breaking, tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

181 Of flattened tubular blank:

This subclass is indented under subclass 180. Method or apparatus wherein a sheet or web workpiece has previously been formed into the shape of a tube having opposite walls pressed down to touch each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

269+, for formation of a tubular blank.

182 By endless conveyor belt or chain:

This subclass is indented under subclass 180. Method or apparatus wherein the movement of the workpiece toward or movement of the product away from the working station is effected by the workpiece being supported on a surface which is, or is part of, an integral or concatenated band that is trained about a plurality of separated, noncoaxial pulleys or sprockets.

183 End flap folding:

This subclass is indented under subclass 162. Method or apparatus wherein the formation of the crease is to bend over an extending edge of a workpiece to close the end of the formed receptacle.

184 Forming gable top:

This subclass is indented under subclass 183. Method or apparatus including making a receptacle having at the upper portion thereof a single ridge created by a pair of diverging walls.

(1) Note. Included herein is partial forming of a gable top without actual closing thereof, to allow for subsequent filling of the formed receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

452, for forming a gable top without formation of a container.

185 Including crushing or crumpling:

This subclass is indented under subclass 52. Method or apparatus including stressing a workpiece beyond its elastic limit and bending of the workpiece, but not along any predetermined line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

407, for folding combined with crushing or crumpling.

464, for crushing or crinkling of sheet or web material generally.

186 Pliable container, (e.g., bag, envelope, etc.):

This subclass is indented under subclass 51. Method or apparatus including making a receptacle that is flaccid and is not intended to retain its shape during use.

(1) Note. A small container made of heavy paper may be a rigid container while a large container made of the same heavy paper is pliable. It is the intent of the construction that determines placement of patents in this subclass.

(2) Note. In order to avoid unnecessary splitting of similar art, it has been determined to consider any envelope or folder as a "pliable container" even if the wall portions are rigid, e.g., a photograph record envelope.

187 With printing or photos:graphic reproduction:

This subclass is indented under subclass 186. Method or apparatus combined with placing recognizable indicia on a workpiece or on a previously made receptacle, e.g., by coating, impressing, or application of or exposure of photosensitive materials.

(1) Note. Placing a patterned decorative coating on a workpiece combined with container making is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

53+, for making a rigid container combined with printing.

270, for tube making combined with printing.

320+, for making a product from sheet or web material, generally, combined with printing.

SEE OR SEARCH CLASS:

101, Printing, for placing recognizable indicia on sheet or web material without any other working of the sheet or web.

188 On work material:

This subclass is indented under subclass 187. Method or apparatus including placing indicia on the workpiece prior to construction into a receptacle.

189 Including heat sealing:

This subclass is indented under subclass 186. Method or apparatus combined with or comprising raising the thermal level of a surface of a workpiece causing that surface to be secured to another workpiece surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41, for making a cigarette filter including application of heat to secure the wrapper thereto.

129+, for making a rigid container with application of adhesive and heat sealing.

133+, for making a rigid container including heat sealing.

274, for making a tube with coating and heating.

332, for making an article of this class, generally including application of adhesive and heating or drying.

341, for an operation of this including heat sealing combined with cutting, breaking, tearing, or abrading.

393, for securing a sheet or web workpiece and another workpiece by application of heat.

190 And cooling:

This subclass is indented under subclass 189. Method or apparatus combined with or comprising lowering the thermal level of a surface of the workpiece.

191 Heating or cooling by direct application of fluid:

This subclass is indented under subclass 190. Method or apparatus including raising or lowering the thermal level of a surface of the work-

piece by a flow of gaseous or liquid material thereagainst.

SEE OR SEARCH THIS CLASS, SUBCLASS:

134, for making a rigid container including securing by heat sealing, by direct application of fluid.

192, for making a pliable container including heat sealing by direct application of fluid.

192 By direct application of fluid:

This subclass is indented under subclass 189. Method or apparatus including raising the thermal level of a surface of the workpiece by a flow of gaseous or liquid material thereagainst.

SEE OR SEARCH THIS CLASS, SUBCLASS:

134, for making a rigid container including heat sealing by direct application of fluid.

191, for making a pliable container including heat sealing and cooling by direct application of fluid.

193 Including supplying indeterminate length work:

This subclass is indented under subclass 189. Method or apparatus including bringing a workpiece to the heat sealing action wherein the workpiece is a web of such length that the apparatus does not engage (recognize) both the leading end and the trailing end of the workpiece.

(1) Note. A spool or coil of work is considered to be “indeterminate length”.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, for an operation of this class utilizing a first and a second sensor, one of which is a surface contacting sensor for indeterminate length work.

24+, for an operation of this class including use of a sensor responsive to indeterminate length work.

97+, for making a rigid container including assembling a liner permanently secured to wall with other portions of the container from an indeterminate length work supply.

380+, for assembling of this class wherein one workpiece is of indeterminate length.

410+, for refolding or unfolding an indeterminate length workpiece.

434, for folding an indeterminate length workpiece by a roller.

194 And cutting, breaking, tearing, or abrading:

This subclass is indented under subclass 193. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting, breaking, tearing, or abrading combined with an operation of this class including use of work or product responsive control means.

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.

199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.

227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324, for an operation of this class combined with printing or photos:graphic reproduction and cutting, breaking, tearing, or abrading.

340+, for making a product of sheet or web material generally, combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

195 At separate station from heat sealing:
This subclass is indented under subclass 194. Method or apparatus including one work receiving location at which the workpiece surfaces are secured together by the application of thermal energy and another distinct, work receiving location at which the piercing, ripping or engagement by a crystalline tool occurs.

196 With means to advance work or product:
This subclass is indented under subclass 195. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a product away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

180+, for making a rigid container including folding and advancing of the work or product.

201+, for making a pliable container cutting, breaking, tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

197 Including work advance during heat sealing:
This subclass is indented under subclass 196. Method or apparatus including transferring the work progressively through the location at which the thermal level is raised, at the time of such raising of the thermal level of the workpiece surface.

198 With means to receive interconnected products:
This subclass is indented under subclass 193. Method or apparatus including means to which the indeterminate length product is transferred, without being separated into individual elements.

199 And cutting, breaking, tearing, or abrading:
This subclass is indented under subclass 189. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting, breaking, tearing, or abrading combined with an operation of this class including use of work or product responsive control means.

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.

194+, for making a pliable container including heat sealing combined with cut-

ting, breaking, tearing, or abrading of indeterminate length work.

227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324, for an operation of this class combined with printing or photos:graphic reproduction and cutting, breaking, tearing, or abrading for an operation of this class combined with cutting, breaking, tearing, or abrading, generally.

340+, for making a product of sheet or web material generally, combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

200 At separate station from heat sealing:

This subclass is indented under subclass 199. Method or apparatus including one workpiece receiving location at which the surfaces are secured together by the application of thermal energy and another distinct workpiece receiving location at which the piercing, ripping, or engagement by as crystalline tool occurs.

201 With means to advance work or product:

This subclass is indented under subclass 200. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a formed receptacle away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

180+, for making a rigid container including folding and advancing of the work or product.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

202 Including work advance during heat sealing:

This subclass is indented under subclass 201. Method or apparatus wherein the thermal level of the workpiece surface is raised to effect securement of that surface with another surface

of said workpiece as the workpiece is in motion.

203 Composite heat sealing and severing:
This subclass is indented under subclass 199. Method or apparatus wherein the means for securing the surfaces is the same means that performs the piercing, ripping, or engagement by a crystalline tool, i.e., during operation the component that performs the securing is fixed to partake of the same motion as the component that performs the other operation.

204 With vertical stacking of product:
This subclass is indented under subclass 203. Method or apparatus combined with placing the product one on top of the other in an aligned relationship.

205 Heat sealing by means moving with work:
This subclass is indented under subclass 189. Method or apparatus wherein the sheet or web workpiece is adapted to move during application of thermal energy thereto, and wherein the means for raising the thermal level includes a surface engaging the workpiece and moving therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:
199+, for making a pliable container with cutting, breaking, tearing, or abrading and with heat sealing by a heat sealing means moving with the work.
203, for making a pliable container with cutting, breaking, tearing, or abrading and with heat sealing by a composite means moving with the work.

206 By oppositely moving work gripping means:
This subclass is indented under subclass 189. Method or apparatus comprising workpiece engaging surfaces each adapted to move toward the workpiece and toward each other to squeeze the workpiece therebetween.

207 By yieldable, heated means:
This subclass is indented under subclass 189. Method or apparatus including a member from which energy is to flow to the workpiece surface which member is urged toward the workpiece by means intended to yield.

208 By rotary heat sealer:
This subclass is indented under subclass 189. Method or apparatus including use of means to raise the thermal level of the sheet or web workpiece, which means turns about an axis through more than 360° during operation.

209 By Reciprocatory heat sealer:
This subclass is indented under subclass 189. Method or apparatus including use of means to raise the thermal level of the sheet or web workpiece, which means moves to-and-fro along a straight line or about a fixed pivot point during operation.

210 Assembling of distinct members:
This subclass is indented under subclass 186. Method or apparatus including juxtaposing or fastening together a plurality of workpieces.

(1) Note. The workpieces of this and the indented subclasses are totally separate and distinct. A first and a second surface of a workpiece are not considered to be separate workpieces, no matter how far spaced from each other.

(2) Note. A fastener, e.g., a staple or a rivet, is considered to be a workpiece when assembled to a paper workpiece; however, see the search note to Class 227 below.

SEE OR SEARCH THIS CLASS, SUBCLASS:
6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.
47+, for assembling dissimilar filter material in making a cigarette filter.
67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.
75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
84+, for making a rigid container including assembly of distinct members.
297+, for making a tube including assembly of distinct members.

334+, for assembling of distinct members combined with coating by an adhesive.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for methods of and subclasses 700+ for apparatus for assembling or disassembling. Class 29 is the generic home for assembling. See the search notes under subclasses 428 and 700 for other location of specific types of assembling.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for uniting a first and a second web by adhesive bonding without assembling or bending in forming an article of commerce or with or without assembling or bending in forming united stock material. See the line notes under the definition of this class.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheets or webs, with no recognition of more than one sheet or web.

211 With extruding, drawing, or attenuating:
This subclass is indented under subclass 210. Method or apparatus combined with forcing a workpiece through an orifice or pulling or with pushing, or stretching a workpiece to thicken or thin that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85, for making a rigid container by assembling combined with extruding, drawing, or attenuating.

293, for tube making combined with extruding, drawing, or attenuating.

338, for an operation of this class combined with extruding, drawing, or attenuating, generally.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of forming material by forcing it through an orifice or wherein there is thinning or thickening flow of the material. See the line note under the definition of this class (493).

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming material by forcing it through an orifice or wherein there is thinning or thickening flow of work material. See the line note under the definition of this class (493).

212 Means to facilitate opening of container:
This subclass is indented under subclass 210. Method or apparatus wherein one of the workpieces being brought together is used to provide access to the interior of the formed receptacle.

213 Reclosable means (e.g., valve):
This subclass is indented under subclass 212. Method or apparatus wherein the receptacle formed is not only capable of providing access to its interior but is capable of then being restored to a condition restricting access.

214 Closure securing element:
This subclass is indented under subclass 210. Method or apparatus including a separate workpiece intended to cover an opening in the completed receptacle or wherein the sheet or web workpiece includes a portion intended to cover an opening in the completed receptacle including another workpiece to fasten the covering workpiece or workpiece portion in a closed position.

215 Plastically deformable:
This subclass is indented under subclass 214. Method or apparatus wherein the fastening workpiece is generally rigid (not flaccid) and is adapted to be stressed beyond its elastic limit to perform the fastening function.

216 Return envelope or message card and main envelope:
This subclass is indented under subclass 210. Method or apparatus for forming a member and a receptacle, for the insertion of sheet material,

wherein the member and a receptacle are attached to each other and wherein the member is intended to be inserted inside the receptacle to be subsequently taken out of and detached away from the receptacle for information transmitting use.

SEE OR SEARCH CLASS:
53, Package Making, for placing a second envelope in a first envelope, if they are not attached to each other.

217 Liner:
This subclass is indented under subclass 210. Method of apparatus wherein one of the workpieces comprises a member intended to extend about the inside of the receptacle to restrict engagement of the contents of the receptacle from the inner surface of the receptacle.

(1) Note. The inner member of this subclass may cover the entire or less surface of the container; however, it is not self-sufficient to hold the contents without the container.

(2) Note. Included herein is assembling a preformed container and a preformed liner.

218 Bottom to square-bottom-folded bag:
This subclass is indented under subclass 210. Method or apparatus wherein the receptacle formed is one presenting an open cavity of substantial thickness, having an opening at the top, and is comprised of four side walls connected normally to a rectangular bottom, which receptacle is folded with pleats in two opposite walls so that the bottom lays against one of the unpleated walls and is the same width as the width of the folded receptacle; i.e., the width of the unpleated walls, and wherein one of the workpieces comprises a substantial portion of the rectangular bottom.

219 Bottom to satchel-bottom-folded bag:
This subclass is indented under subclass 210. Method or apparatus wherein the receptacle formed is one presenting an open cavity of substantial thickness, having an opening at the top, and comprised of four side walls connected normally to a rectangular bottom, which receptacle is folded by forcing two opposite walls outwardly to form a crease along their vertical center such that the side margin of the folded receptacle extends along a folded wall, then turns inward 45° toward the bottom margin, which it intersects at 45°; and wherein one of the workpieces comprises a substantial portion of the rectangular bottom.

220 With coating:
This subclass is indented under subclass 210. Method or apparatus combined with placing layer of flowable material on a surface of a workpiece, which layer is intended to become a part of that surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.
128+, for making a rigid container including securing and the application of an adhesive.
148+, for making a rigid container combined with coating.
264+, for making a rigid container with application of adhesive or securing by adhesive.
272+, for making a tube combined with coating.
328+, for making an article from a sheet or web material, combined with coating, generally.

SEE OR SEARCH CLASS:
118, Coating Apparatus, for apparatus for placing a layer of flowable material on the surface of sheet or web work with no means for working of the sheet or web.
427, Coating Processes, for the step of placing a layer of flowable material on the surface of sheet or web work with no other working of the sheet or web.

221 Application of adhesive to secure handle or suspension means:
This subclass is indented under subclass 200. Method or apparatus including placing a flowable material on a surface of a sheet or web workpiece, which material is intended to unite with the surface to subsequently chemically unite a receptacle and means to serve as a grip

on the receptacle to be engaged by a person carrying the receptacle or is intended to serve as structure whereby the receptacle may be hung.

222 Means to permit visual inspection of contents (e.g., window, etc.):
This subclass is indented under subclass 210. Method or apparatus wherein one of the workpieces brought together or fastened together is intended to allow a user to look inside and observe the contents of the completed receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
905, for an art collection of patents relating to the construction of a rigid container having a window.
919, for an art collection of patents relating to the construction of a pliable container having a window.

223 With cutting, breaking, tearing, or abrading:
This subclass is indented under subclass 210. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or tensile stress or, engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for cutting, breaking, tearing, or abrading combined with an operation of the class including use of work or product control means.
56+, for making a rigid container with cutting, breaking, tearing, or abrading.
194+, for making a pliable container including heat sealing combined with cutting breaking, tearing, or abrading of indeterminate length work.
199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.
227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.
287+, for making a tube combined with cutting, breaking, tearing, or abrading.
324, for an operation of this class, combined with printing or photos:graphic reproduction and with cutting, breaking, tearing, or abrading.
340+, for an operation of this class, generally combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:
83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.
225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.
451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

224 Subdividing web of material:
This subclass is indented under subclass 223. Method or apparatus wherein a workpiece is supplied as an elongated member and wherein the piercing, ripping, or engaging with a crystalline tool serves to sever the elongated member to predetermined lengths.

225 Drawstring to close container:
This subclass is indented under subclass 210. Method or apparatus wherein one of the workpieces being brought together or secured together is generally strandlike and is intended to encircle the opening of the receptacle and constrict to close the opening.

226 Handle or suspension means:
This subclass is indented under subclass 210. Method or apparatus wherein one of the workpieces is intended to serve as a grip on the receptacle to be engaged by a person carrying the receptacle or is intended to serve as structure whereby the receptacle may be hung.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88, for assembling a handle or suspension means with a rigid container.
926, for an art collection of the making of a pliable container having a handle or suspension means.

227 With cutting, breaking, tearing, or abrading:

This subclass is indented under subclass 186. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting, breaking, tearing, or abrading combined with an operation of this class including work or product responsive control means.

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.

194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.

199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324, for an operation of this class combined with printing or photos:graphic reproduction and cutting, breaking, tearing, or abrading.

340+, for making a product of sheet or web material generally, combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

228 Including form-scoring:

This subclass is indented under subclass 227. Method or apparatus comprising (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line on the opposite surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes compacted, such that there is no thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, for making a rigid container with cutting and form-scoring.

160+, for making a rigid container including form-scoring.

228+, for making a pliable container combined with cutting, breaking, tearing, or abrading and form-scoring.

240+, for making a pliable container including form-scoring.

355, for form-scoring combined with cutting, breaking, tearing, or abrading.

396, for bending combined with form-scoring.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is no significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, or means to shape sheet or web work by a thinning flow of the work, as in embossing.

229 Notching of work edge:

This subclass is indented under subclass 228. Method or apparatus wherein the piercing, ripping, or engaging with a crystalline tool is to form a recession or slit in a margin of a sheet or web workpiece.

230 Partial severance to form interconnected products:

This subclass is indented under subclass 228. Method or apparatus including piercing, ripping, or engaging with a crystalline tool to form a weakened line along which a workpiece is to be subdivided later to provide individual articles.

231 Including folding:
This subclass is indented under subclass 227. Method or apparatus including bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including container coating with an adhesive and folding.

162+, for making a rigid container including folding.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

232 Notching of work edge:
This subclass is indented under subclass 231. Method or apparatus including piercing, ripping, or engaging with a crystalline tool to form a recession or slit in a margin of a sheet or web workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

237, for making a pliable container including notching the work edge, generally.

233 Partial severance to form interconnected products:
This subclass is indented under subclass 231. Method or apparatus including piercing, ripping, or engaging the workpiece with a crystalline tool to form a weakened line along which the work is to be later divided to provide individual articles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

238+, for making a pliable container with partial severance to form interconnected products without folding.

234 With application of tension to tear container from web:
This subclass is indented under subclass 233. Method or apparatus including ripping one portion of the workpiece from another along the weakened portion to form plural pieces by a tautening action.

SEE OR SEARCH THIS CLASS, SUBCLASS:

238, for making a pliable container with partial severance to form interconnected products and then application of tension to tear one product from a web, without folding.

235 Severing of container or container blank from web:
This subclass is indented under subclass 231. Method or apparatus including subdividing a finished receptacle or a sheet from a web.

SEE OR SEARCH THIS CLASS, SUBCLASS:

239, for making a pliable container and severing a container or container blank from a web.

236 By severing means moving with work:
This subclass is indented under subclass 235. Method or apparatus wherein the workpiece is in motion at the time of being subdivided and wherein means to subdivide the work has a component of movement therewith.

237 Notching on work edge:

This subclass is indented under subclass 227. Method or apparatus including piercing, ripping, or engaging with a crystalline tool to form a recession or slit in a margin of a sheet or web workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

232, for forming a pliable container including notching the work edge, including folding.

238 Partial severance to form interconnected products:

This subclass is indented under subclass 227. Method or apparatus including piercing, ripping, or engaging the workpiece with a crystalline tool to form a weakened line along which the workpiece is to be subdivided later to provide individual articles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

233+, for making a pliable container including folding, forming a web into a tube and partial severance to form interconnected products.

239 Severing of container or container blank from web:

This subclass is indented under subclass 227. Method or apparatus including subdividing a finished receptacle or a workpiece from a stock material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

235, for making a pliable container, forming a web into a tube and severing of a container or container blank from a web.

240 Including form-scoring:

This subclass is indented under subclass 186. Method or apparatus including (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line on the opposite surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes more compacted, such that there is no thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, for making a rigid container with cutting and form-scoring.

160+, for making a rigid container including form-scoring.

396+, for form-scoring of sheet or web material, generally.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is no significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping a sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for means to shape sheet or web work by a thinning flow of the work, as in embossing.

241 By rotary tool:

This subclass is indented under subclass 240. Method or apparatus wherein the pressing of a line is done by a member turning about an axis more than 360°.

242 By reciprocatory tool:

This subclass is indented under subclass 240. Method or Apparatus wherein the pressing of a line is done by a member moving to-and-fro along a straight line or about a fixed pivot.

243 Including folding:

This subclass is indented under subclass 186. Method or apparatus including bendingly stressing a workpiece beyond its elastic limit along a line to form a permanent crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, break-

ing, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

353, for folding combined with cutting, breaking, tearing, or abrading, by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

244 Of previously folded material (e.g., refolding, etc.):

This subclass is indented under subclass 243. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease, wherein the sheet or web had previously been provided with a permanent crease along the same line.

245 Flap:

This subclass is indented under subclass 244. Method or apparatus wherein the permanent crease formed is to provide a projecting closing member for the receptacle to be turned out of alignment with a wall of the receptacle when the crease is formed.

246 Plural folding stations folding noncontinuously advancing work:

This subclass is indented under subclass 243. Method or apparatus including intermittently moving a workpiece form a first location in which a permanent crease is formed in the workpiece and a second location, distinct from the first location, where a permanent crease is formed in the workpiece.

247 With work turret:

This subclass is indented under subclass 246. Method or apparatus including means to transport the sheet or web workpiece form the first creasing location to the second creasing location, which means is rigid and turns about an fixed axis.

248 By infeeding work to passive folder:

This subclass is indented under subclass 243. Method or apparatus including use of means to cause the sheet or web workpiece to move into engagement with and be creased by creasing means which creasing means is inactive during operation.

249 By buckling:

This subclass is indented under subclass 243. Method or apparatus comprising application of compressive stress to the workpiece parallel to the planar surfaces thereof causing the workpiece to yield in columnar failure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

419, for folding of a sheet or web, generally, by buckling.

250 By mandrel or plunger:

This subclass is indented under subclass 243. Method or apparatus including use of (a) a male forming member about which the sheet or web workpiece is wrapped without thrust of the forming member; or, (b) a male forming member on which the sheet or web workpiece is shaped as a result of thrust of that member.

(1) Note. A mandrel is similar in structure to a plunger, but it is not intended to form work by force applied to the mandrel, rather is intended to serve as a reaction member onto which work is formed.

251 Three point, continuous 180° folding:

This subclass is indented under subclass 250. Method or apparatus including (a) use of a male forming member about which a sheet or web workpiece is to be wrapped without thrust and a pair of surfaces engaging the workpiece laterally outwardly on the opposite side of the workpiece from the location of the male forming member to exert bending force on the workpiece by movement of at least one of the surfaces of the pair; or, (b) use of a male forming member on which a sheet or web workpiece is shaped as a result of thrust of that member and a pair of reaction surfaces engaging the workpiece laterally outwardly on the

opposite side from the location of the male forming member to exert bending force on the workpiece by movement of the forming member; wherein the workpiece is caused to wrap about the forming member on at least three sides in a single action.

252 Mandrel having rectangular surface:
This subclass is indented under subclass 250. Method or apparatus wherein a male forming member about which the sheet or web workpiece is wrapped without thrust includes a work shaping surface that is generally planar and is bounded by four sides meeting at right angles.

SEE OR SEARCH CLASS:
53, Package Making, subclasses 558+ for a machine to open a preformed but collapsed bag and subsequently fill the bag; subclasses 563+, for a machine to form a package about a hollow mandrel; subclasses 220+ for a machine which packages an article by moving the article and the wrapper through a cover wiping passage or pocket to form the initial folds of the wrap; and subclass 384.1 for apparatus for opening a preformed but collapsed bag.

253 Forming triangularly folded container surface:
This subclass is indented under subclass 250. Method or apparatus wherein the male forming member is of a configuration to be particularly adapted to give a shape to the sheet or web workpiece so that at least one portion of the product is planar and has three sides.

254 Central fold:
This subclass is indented under subclass 243. Method or apparatus including forming a crease line parallel to and equidistance from a opposite pair of the marginal portions of the sheet or web workpiece, or of a predominate portion of the workpiece.

(1) Note. Included herein is dividing a workpiece or a predominate portion of a workpiece into two equal areas on opposite sides of a fold line.

SEE OR SEARCH CLASS:
53, Package Making, subclasses 545+ for apparatus for forming a package by confining the contents within a progressively seamed cover formed from a continuous web or webs.

255 Tube opening and closing:
This subclass is indented under subclass 243. Method or apparatus comprising manipulating a flattened cylindrical workpiece at an end portion to pull one wall away form an opposite wall and further manipulating the cylindrical workpiece seal the end portion and thereby make a container.

256 Including application of fluid pressure or vacuum to work:
This subclass is indented under subclass 255. Method or apparatus wherein manipulation of the cylindrical workpiece is effected by application of surrounding flowable medium to a surface of the workpiece.

(1) Note. Removal or air pressure by use of a vacuum so that air pressure on opposing work surfaces moves the workpiece is considered to be proper for this subclass.

257 By roller having gripper engaging end edge of tube:
This subclass is indented under subclass 255. Method or apparatus wherein manipulation of the flattened, cylindrical workpiece is effected by engagement of a peripheral cylindrical surface of a member turning more than 360° about an axis and by a member mounted on the turning member serving to squeeze and thereby hold a leading or trailing portion of the workpiece against the peripheral surface of the turning member.

258 And having side fold gripper:
This subclass is indented under subclass 257. Method or apparatus wherein manipulation of the flattened, cylindrical workpiece is further effected by another member mounted on the turning member serving to squeeze and thereby hold a fold line at the side of the workpiece against the peripheral surface of the turning member.

259 **By means engaging end edge of tube:**
This subclass is indented under subclass 255. Method or apparatus wherein manipulation of the flattened, cylindrical workpiece is effected by engagement of a leading or trailing portion thereof.

260 **Closing of flap:**
This subclass is indented under subclass 243. Method or apparatus comprising manipulation of a projecting portion of the workpiece about a crease line to serve to restrict access to the interior of the formed receptacle.

261 **Multiple flaps:**
This subclass is indented under subclass 260. Method or apparatus comprising manipulation of a plurality of projecting portions of the workpiece about their respective crease lines to restrict access to the interior of the formed receptacle.

262 **Container moving transversely to fold:**
This subclass is indented under subclass 261. Method or apparatus wherein the workpiece is in motion and wherein the crease line of one of the extending portions is normal to the direction of movement as its extending portion is manipulated thereabout.

263 **And parallel to another fold:**
This subclass is indented under subclass 262. Method or apparatus wherein the crease line of a second extending portion is aligned with the direction of workpiece movement.

264 **With application of adhesive or securing by adhesive:**
This subclass is indented under subclass 186. Method or apparatus including coating of a surface of a workpiece with material intended to bond that surface to another surface of a workpiece or including bonding of a surface of a workpiece that has previously been coated with a bonding material to another surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.
128+, for making a rigid container including securing and the application of an adhesive.
148+, for making a pliable container including assembling of distinct members and coating.
220+, for making a pliable container including assembling of distinct members and coating.
272+, for making a tube with coating.
328+, for an operation of this class, generally, with coating.

265 **And drying:**
This subclass is indented under subclass 264. Method or apparatus wherein the bonding material, as applied to the workpiece includes material to make it flowable, comprising removing by evaporation the material that made the bonding material flowable.

266 **Application by work contacting applicator (e.g., roller, brush, etc.):**
This subclass is indented under subclass 264. Method or apparatus including use of means to place the coating on the work which means acts directly by engagement with the work.

267 **Method:**
This subclass is indented under subclass 186. Process .

268 **Means to assist manual manipulation:**
This subclass is indented under subclass 186. Apparatus including use of means to aid the operative to facilitate random movement of a workpiece.

269 **TUBE MAKING:**
This subclass is indented under the class definition. Method or apparatus for forming a sheet or web workpiece into the shape of a hollow cylinder, wherein the cylinder may be circular, oval, or polygonal in cross section and may have one cross sectional dimension at one axial location and a different cross sectional dimension at another axial location.

(1) Note. The tube made by the method or apparatus of this subclass may be pressed down flat to virtually eliminate any interior space, if the purpose of the tube is to ultimately provide an open interior.

(2) Note. The tube made by the method or apparatus of this subclass is considered to be closed when considered in cross section, i.e., a sheet of material is folded to close back on itself and is fastened along abutting edges. Therefor, if a tubelike member is to be taped but not yet been taped, it is not yet a completed tube and the method or apparatus for making such an incomplete tube is not proper for placement in this subclass. See, for example, subclass 395. On the other hand, if a tube in intended to be used without securing the abutting edges, the method of apparatus for forming that tube will be found in this and the indented subclasses if the edges merely abutting face each other, since such a product is considered to be a complete tube.

270 With printing or photos:graphic reproduction:

This subclass is indented under subclass 269. Method or apparatus combined with placing recognizable indicia on the workpiece or product, e.g., by coating, impressing, or application of or exposure of photosensitive materials.

SEE OR SEARCH THIS CLASS, SUBCLASS:

53+, for making a rigid container combined with printing.

187+, for making a pliable container combined with printing.

320+, for making a product from sheet or web material, generally, combined with printing.

SEE OR SEARCH CLASS:

101, Printing, for placing recognizable indicia on sheet or web material without any other working of the sheet or web.

271 With minute size change of formed tube:

This subclass is indented under subclass 269. Method or apparatus comprising changing, very slightly, a dimension of the formed hollow cylinder.

(1) Note. The operation of this subclass normally involves mere modification of a surface of the tube without significant thinning flow or removal or a portion of the work.

SEE OR SEARCH THIS CLASS, SUBCLASS:

287+, for making a tube and shaving that tube to size.

293, for making a tube combined with causing a thinning flow of the material, to change the dimensions of the cylindrical member.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of reducing the size of a tube including thinning (or thickening) flow of the material.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for reducing the size of a tube including thinning (or thickening) flow of the material.

272 With coating:

This subclass is indented under subclass 269. Method or apparatus combined with placing a layer of flowable material on the surface of the workpiece, which layer is intended to become part of that surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.

128+, for making a rigid container including securing and the application of an adhesive.

148+, for making a rigid container combined with coating.

220+, for making a pliable container including assembling of distinct members and coating.

264+, for making a rigid container with application of adhesive or securing by adhesive.

328+, for making a paper article combined with coating.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for apparatus for placing a layer of flowable material on the surface of paper work with no paper working means.

427, Coating Processes, for the step of placing a layer of flowable material on the surface of paper work with no paper working operation.

273 Applied externally of formed tube:

This subclass is indented under subclass 272. Method or apparatus wherein after formation of the hollow cylinder flowable material is applied to the outer surface thereof.

274 And heating or drying:

This subclass is indented under subclass 272. Method or apparatus combined with applying thermal energy to the workpiece or to the flowable material; or combined with allowing the vapor pressure of the flowable material to cause the material to solidify.

(1) Note. Heat applied in this subclass may be to soften thermoplastic coating material, to cure thermosetting coating material, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41, for making a cigarette filter including application of heat to secure the wrapper thereto.

129+, for making a rigid container with application of adhesive and heat sealing.

133+, for making a rigid container including heat sealing.

189+, for making a pliable container including heat sealing.

332, for making an article of this class, generally including application of adhesive and heating or drying.

341, for an operation of this class including heat application combined with cutting, breaking, tearing, or abrading.

275 By immersion:

This subclass is indented under subclass 272. Method or apparatus including use of a vessel for holding the flowable material and including passing the surface on which the layer is applied into the vessel to cause the layer to be applied thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

329, for an operation of this class, combined with coating by immersion, generally.

276 Adhesive:

This subclass is indented under subclass 272. Method or apparatus wherein the flowable material is intended to unite with a surface of the workpiece and to subsequently fasten that surface to another surface of a workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31+, for making an article from a sheet or web combined with application of an adhesive coating.

150+, for making a rigid container combined with application of an adhesive coating.

277 By work engaging applicator:

This subclass is indented under subclass 276. Method or apparatus wherein the flowable fastening material is applied to the workpiece by a member coming in contact with the workpiece.

278 Rotary applicator:

This subclass is indented under subclass 277. Method or apparatus wherein the member for application of the flowable fastening material turns about an axis more than 360°.

279 Having adhesive transferring roller:

This subclass is indented under subclass 278. Method or apparatus including an additional member turning about an axis, which additional member includes a circular peripheral surface adapted to rollingly engage the workpiece contacting applying member to supply the flowable fastening material thereto.

280 Nondriven roller:

This subclass is indented under subclass 279. Method or apparatus wherein the additional member is caused to turn about its axis only by engagement with the moving flowable fastening material applying member.

281 And having scraper:
This subclass is indented under subclass 279. Method or apparatus also including a passive blade adapted to engage the flowable fastening material applying member or the additional member to remove surplus flowable material therefrom.

282 Coacting with opposed work engaging roller:
This subclass is indented under subclass 278. Method or apparatus including a member rotatable about an axis more than 360° having a circular periphery adapted to engage the workpiece on the surface directly opposite from the surface engaged by the flowable fastening material applying member.

283 Nondriven roller:
This subclass is indented under subclass 282. Method or apparatus wherein the rotatable member engaging the surface of the workpiece opposite from that engaged by the flowable fastening material applying member is caused to rotate by engagement with the workpiece.

284 Brush:
This subclass is indented under subclass 278. Method or apparatus wherein the member for application of the flowable fastening material is provided with bristles which extend outwardly therefrom and engagement with the workpiece for application of the flowable fastening material thereto.

285 Plural applicators:
This subclass is indented under subclass 278. Method or apparatus wherein flowable fastening material is applied to a workpiece by a member in engagement therewith and turning about an axis more than 360° and wherein flowable fastening material is applied to a workpiece by another independent means.

286 And plural sources of adhesive:
This subclass is indented under subclass 285. Method or apparatus wherein a first flowable fastening material from a first supply is applied to a workpiece by a member in engagement therewith and turning about an axis more than 360° and wherein a second flowable fastening material from a second supply is applied to a workpiece by another independent means.

287 With cutting, breaking, tearing, or abrading:
This subclass is indented under subclass 269. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping one portion of a workpiece by bending or tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting, breaking, tearing, or abrading combined with an operation of this class including work or product responsive control means.
56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.
194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.
199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.
227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.
340+, for making a product of sheet or web material generally, combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.
225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.
451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

288 Severing of formed tube to length:
This subclass is indented under subclass 287. Method or apparatus including forming a hollow cylinder and subsequently subdividing the cylinder, thereby establishing the longitudinal extent of the formed cylinder.

289 By severing means moving with work:
This subclass is indented under subclass 288. Method or apparatus wherein the hollow cylinder is in advancing motion when being subdivided and wherein the means for subdividing includes a subdividing edge having a component of motion with the cylinder motion during such subdividing action.

290 During relative rotation between work and severing means about work axis:
This subclass is indented under subclass 288. Method or apparatus including (a) turning the hollow cylinder about its axis to engage its periphery with a subdividing edge, or (b) orbiting a subdividing edge about the axis of the hollow cylinder to engage the periphery of the hollow cylinder with the subdividing edge.

291 With surface treatment (e.g., polishing, burnishing, etc.):
This subclass is indented under subclass 269. Method or apparatus combined with modification of a surface of the sheet or web workpiece or the product.

SEE OR SEARCH THIS CLASS, SUBCLASS:
271, for surface treatment of a formed cylinder to make a precise change in a dimension of that cylinder.
467+, for surface treatment of a sheet or web, generally.

SEE OR SEARCH CLASS:
29, Metal Working, for burnishing of materials other than a sheet or web, generally.

292 Tube including metal component:
This subclass is indented under subclass 269. Method or apparatus for making a hollow cylinder including a portion that is known chemically as a metal.

(1) Note. Included herein is assembling a metal (including foil) with a nonmetal in the formation of a tube.

SEE OR SEARCH CLASS:
72, Metal Deforming, for forming an article, including forming a tube, of metal or of a metal/nonmetal laminate including bending or drawing of the metal.

293 With extruding, drawing, or attenuating:
This subclass is indented under subclass 269. Method or apparatus combined with forcing work material through an orifice or pulling, pushing, or stretching work material to thicken or thin the material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
338+, for an operation of this class, generally, combined with extruding, drawing, or attenuating.

SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of forming material by forcing it through an orifice or wherein there is thinning or thickening flow of work material. See the line note under the definition of this class (493).
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming material by forcing it through an orifice or wherein there is thinning or thickening flow of work material. See the line note under the definition of this class (493).

294 With lining of tube:
This subclass is indented under subclass 269. Method or apparatus including bringing together a first and a second workpiece wherein the first is to be a hollow cylinder and the second is to extend about the inside of the cylinder to restrict engagement of contents of the cylinder from the inner surface of the cylinder.

(1) Note. The inner member of this subclass may cover the entire or less surface of the cylinder; however, it is not self-sufficient to hold the contents without the cylinder.

(2) Note. Included herein is assembling a preformed cylinder and a preformed liner, even without additional “tube making”.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93+, for placing a liner inside a rigid container, including placing a cup-shaped liner inside a cylindrical container, since that is considered to be "container making" in that subclass.

295 Polygonal cross section tube:

This subclass is indented under subclass 269. Method or apparatus including forming a hollow cylinder having at least two planar longitudinally extending surfaces.

296 Frustoconical tube:

This subclass is indented under subclass 269. Method or apparatus including forming an open cylinder of greater dimension at one end than at the other.

297 Assembling of distinct members:

This subclass is indented under subclass 269. Method or apparatus including juxtaposing or fastening together a plurality of workpieces.

(1) Note. The workpieces of this and the indented subclasses are totally separate and distinct. A first and a second surface of a workpiece are not considered to be separate workpieces, no matter how far spaced from each other.

(2) Note. A fastener, e.g., a staple or a rivet, is considered to be a workpiece when assembled to a paper workpiece; however, see the search note to Class 227 below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.

47+, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

334+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for methods of and subclasses 700+ for apparatus for assembling or disassembling. Class 29 is the generic home for assembling. See the search notes under subclasses 428 and 700 for other locations of specific types of assembling.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for uniting a first and a second web by adhesive bonding without assembling or bending in forming an article of commerce or with or without assembling or bending in forming united stock material. See the line notes under the definition of this class.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheets or webs, with no recognition of more than one sheet or web.

298 With plural, orbiting work supply reels:

This subclass is indented under subclass 297. Method or apparatus including a first and a second workpiece, each comprising a wound web or spool, each of which spools is caused to travel about the cylinder axis and thereby to wrap the workpieces into the shape of a hollow cylinder.

299 Spiral winding:

This subclass is indented under subclass 269. Method or apparatus comprising coiling a generally planar, elongated sheet or web workpiece about an imaginary axis while continuously moving the supply of work axially with respect to the formed hollow cylinder so that adjacent convolutions are axially offset from each other.

SEE OR SEARCH CLASS:

242, Winding, Tensioning, or Guiding, particularly subclasses 430+ and 470+ for helical winding on an article core or spool.

300 Orbiting work supply reel:

This subclass is indented under subclass 299. Method or apparatus including a wound spool of a sheet or web workpiece which is caused to travel about the cylinder axis and thereby to wrap the workpiece into the shape of a hollow cylinder.

301 And advancing by wrapping belt:

This subclass is indented under subclass 299. Method or apparatus including use of an endless member adapted to partially encircle the formed hollow cylinder and move with the cylinder along its axis thereabout.

302 With advancing of tube axially:

This subclass is indented under subclass 269. Method or apparatus combined with transporting a formed hollow cylinder progressively away from the location at which it was formed by moving the cylinder in the direction parallel to its axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

303 Convolute winding:

This subclass is indented under subclass 269. Method or apparatus comprising coiling an elongated sheet or web workpiece upon itself so that each subsequent progressive convolution is of greater (or lesser) radial dimension from the cylinder axis than the previous one, so that the formed hollow cylinder is comprised of at least two radially overlapping convolutions.

SEE OR SEARCH CLASS:

242, Winding, Tensioning, or Guiding, particularly subclasses 570+ for convolute winding on spool or core.

304 By use of external guide member:

This subclass is indented under subclass 303. Method or apparatus including use of an element adapted to engage the surface of the sheet or web workpiece facing away from the cylinder axis to direct the workpiece to configuration about that axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

460+, for an external guide member adapted to divert a continuously moving workpiece to curl about an axis.

305 By use of plural mandrels:

This subclass is indented under subclass 303. Method or apparatus including use of a first member about which a sheet or web workpiece is wrapped to be shaped into a hollow cylinder and including a second member about which a sheet or web workpiece is wrapped to be shaped into a hollow cylinder.

306 On turret:

This subclass is indented under subclass 305. Method or apparatus wherein the first member about which a sheet or web workpiece is wrapped and the second member about which a sheet or web workpiece is wrapped are mounted on a common support to be indexed about an axis from a first position to a second position, one of which positions present one member for the wrapping function and one of

which positions present the other member for the wrapping function.

307 By manually driven or manipulated means:
This subclass is indented under subclass 303. Method or apparatus wherein the hollow cylinder is formed by apparatus that is forced to perform the coiling function by energy supplied directly by an operative, or by apparatus that is movable randomly by the operative during the time of forming of the hollow cylinder.

308 Including closing end of tube:
This subclass is indented under subclass 269. Method or apparatus including blocking the otherwise open end of at least one end of the cylinder.

SEE OR SEARCH THIS CLASS, SUBCLASS:

51+, for making a cylindrical member having a closed end, wherein the product is intended to serve as a container of goods.

102+, for closing a container by assembling a distinct closure therewith.

156+, for making a nonrectangular rigid container including end closing.

309 CONTAINER OR TUBE ERECTING OPENING, OR COLLAPSING:
This subclass is indented under the class definition. Method or apparatus including repositioning one wall of a previously made receptacle or hollow cylinder with respect to another (a) to make the interior enclosed space larger; (b) to provide access to the interior of the receptacle or hollow cylinder; or, to make the interior enclosed space smaller.

(1) Note. This and indented subclasses contain what are known as "flattened tubular containers" which have been made into the tubular form in a prior operation and have been stacked for storage and shipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

51+, for erecting a tube combined with closing an end of the tube to form a container; and for making a container combined with erecting the container.

310 Including overfolding or reverse bending:
This subclass is indented under subclass 309. Method or apparatus comprising (a) movement of one wall with respect to an adjacent wall farther than is need so that upon release of the moving force the wall will move by residual stress back to the desired position; or, (b) movement of one wall of a workpiece 180° with respect to an adjacent wall where the final position of the wall is to be 90° from either the first or the second position.

311 Collapsing:
This subclass is indented under subclass 309. Method or apparatus including repositioning the walls of a previously formed receptacle or hollow cylinder to make the interior enclosed space smaller.

312 Cellular container:
This subclass is indented under subclass 309. Method or apparatus wherein the member whose walls are repositioned is a compartmentized receptacle.

313 By direct application of vacuum or fluid pressure:
This subclass is indented under subclass 309. Method or apparatus wherein repositioning of one wall with respect to another is effected by (a) removing atmospheric pressure from one side of an area of the wall so that atmospheric pressure on the opposite side causes the wall to move; or, (b) by direct application of superatmospheric pressure to one side of an area of the wall to cause the wall to move.

314 Internal fluid pressure to erect container or tube:
This subclass is indented under subclass 313. Method or apparatus including repositioning the walls of a previously formed receptacle or hollow cylinder comprising application of superatmospheric pressure to the inwardly facing sides of the walls of the receptacle or hollow cylinder to make the interior enclosed space larger.

315 Orbital movement of work contacting vacuum applying means:
This subclass is indented under subclass 313. Method or apparatus including structure to engage the sheet or web workpiece and encir-

cle the area from which atmospheric pressure is removed, which structure is adapted to move in a closed loop path.

316 Oscillating movement of work contacting vacuum means:
This subclass is indented under subclass 313. Method or apparatus including structure to engage the sheet or web workpiece and encircle the area from which atmospheric pressure is removed, which structure is adapted to move to-and-fro about a fixed pivot.

317 Compound movement:
This subclass is indented under subclass 316. Method or apparatus wherein the structure to engage the sheet or web workpiece also moves in a second manner at the same time as the to-and-fro movement.

318 By orbital means:
This subclass is indented under subclass 309. Method or apparatus including structure to engage the sheet or web workpiece to bring about relative repositioning of the sides thereof, which structure is adapted to move in a closed loop path.

319 Endless belt or chain:
This subclass is indented under subclass 318. Method or apparatus wherein the structure adapted to move in a closed loop path includes a workpiece engaging surface which is, or is part of, an integral or concatenated band that is trained about a plurality of separated, noncoaxial pulleys or sprockets.

320 WITH PRINTING OR PHOTOGRAPHIC REPRODUCTION:
This subclass is indented under the class definition. Method or apparatus combined with placing recognizable indicia on a workpiece or product.

(1) Note. Included herein is placing recognizable indicia on a workpiece or product by coating, impressing, or application of or exposure of photosensitive materials.

SEE OR SEARCH THIS CLASS, SUBCLASS:
53+, for making a rigid container combined with printing.
187+, for making a pliable container combined with printing.
270, for tube making combined with printing.

SEE OR SEARCH CLASS:
101, Printing, for placing recognizable indicia on sheet or web material without any other working of the sheet or web.

321 By rotary printer:
This subclass is indented under subclass 320. Method or apparatus wherein recognizable indicia is placed on the sheet or web workpiece by a member turning more than 360° about a fixed axis and rollingly engaging the workpiece with a radially outwardly facing surface.

322 By bed and travelling cylinder printer:
This subclass is indented under subclass 320. Method or apparatus wherein the recognizable indicia is placed on the sheet or web workpiece by a device for supporting the workpiece and by a member adapted to turn about an axis to traverse the workpiece and the work support.

323 Selective type printer:
This subclass is indented under subclass 320. Method or apparatus wherein recognizable indicia is placed on the workpiece or product, including means to support a member adapted to press directly against the workpiece or product, which member is one of a plurality in the support from which the operative may choose for a particular desired indicia arrangement.

324 And cutting, breaking, tearing, or abrading:
This subclass is indented under subclass 320. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping a portion of a workpiece by bending or tensile stress; or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for cutting, breaking, tearing, or abrading combined with an operation of this class including work or product responsive control means.

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.
194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.
199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.
227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.
287+, for making a tube combined with cutting, breaking, tearing, or abrading.
340+, for an operation of this class combined with cutting, breaking, tearing, or abrading, generally.

SEE OR SEARCH CLASS:
83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.
225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.
451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

325 With securing:
This subclass is indented under subclass 324. Method or apparatus including causing a first surface of a sheet or web workpiece to intimately engage a second surface of that workpiece to thereby fasten the two surfaces together.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114+, for securing two workpieces together in the formation of a rigid container.
121+, for securing two surfaces of a workpiece together in the formation of a rigid container.
393, for assembling of two workpieces by securing, generally.
394, for securing a first surface and a second surface of a single workpiece together.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 428+ for the process of and subclasses 700+ for apparatus for the general application of a fastener (e.g., a paper clip) to work, even if the work is a sheet or web and no recognition of more than one sheet or web. See the search note to Class 29 under the definition of this class.
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two workpieces together by adhesive bonding, generally; for adhesive bonding combined with assembling, bending, or flexing in the formation of a web of stock material, and for assembling and adhesively bonding an article with a postage stamp or label. See the search note to Class 156 under the definition of this class.
227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working of the sheet or web and no recognition of more than one sheet or web.

326 WITH OR INCLUDING SURFACE PREPARATION FOR COATING:
This subclass is indented under the class definition. Method or apparatus comprising or combined with modification of a surface of a workpiece to make that surface more suitable for application of a layer of flowable material thereto, which layer will become part of that surface or to remove a layer previously applied material from a surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
328+, for an operation of this class combined with coating of a previously prepared surface.

327 Removal of previously applied coating:
This subclass is indented under subclass 326. Method or apparatus wherein the surface modification comprises delaminating or destroying a layer on the surface of the workpiece, which surface was previously applied as a flowable material to become a part of that surface.

328 WITH COATING:

This subclass is indented under the class definition. Method or apparatus combined with placing layer of flowable material on the surface of a workpiece, which layer is intended to become a part of that surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

110, for making a rigid container including assembling of distinct members and laminating or coating a container blank.

128+, for making a rigid container including securing and the application of an adhesive.

148+, for making a rigid container combined with coating.

220+, for making a pliable container combined with assembling and coating.

264+, for making a rigid container with application of adhesive or securing by adhesive.

272+, for making a tube combined with coating.

326, for surface preparation combined with coating of that surface.

SEE OR SEARCH CLASS:

118, Coating Apparatus, for apparatus for placing a layer of flowable material on the surface of workpiece with no other means for treating the workpiece.

427, Coating Processes, for the step of placing a layer of flowable material on the surface of a workpiece with no other treating of the workpiece.

329 By immersion:

This subclass is indented under subclass 328. Method or apparatus including use of a vessel for holding the flowable material and including passing the surface on which layer is applied into the vessel to cause the layer to be applied thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

275, for making a tube including coating a portion thereof by immersion.

330 Plural diverse materials:

This subclass is indented under subclass 328. Method or apparatus including placing a layer of a first flowable material on a surface of a workpiece and including placing a layer of a second flowable material on a surface of a workpiece wherein the first flowable material and the second flowable material are of different, distinct characteristics.

331 Adhesive:

This subclass is indented under subclass 328. Method or apparatus wherein the flowable material is intended to unite with the surface of the workpiece and to subsequently fasten that surface to another surface of a workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

150+, for making a rigid container combined with application of an adhesive coating.

276, for making a tube combined with coating of an adhesive.

332 With heating or drying:

This subclass is indented under subclass 331. Method or apparatus combined with (a) the application applying of thermal energy to the workpiece or to the flowable material; or combined with (b) allowing the vapor pressure of the flowable material to cause the material to solidify.

SEE OR SEARCH THIS CLASS, SUBCLASS:

41, for making a cigarette filter including application of heat to secure the wrapper thereto.

129+, for making a rigid container with application of adhesive and heat sealing.

133+, for making a rigid container including heat sealing.

189+, for making a pliable container including heat sealing.

274+, for making a tube with coating and heating.

341, for an operation of this class including heat sealing combined with cutting, breaking, tearing, or abrading.

333 Applied in a repeating pattern:

This subclass is indented under subclass 331. Method or apparatus including the application of the flowable material to the workpiece intermittently in a predetermined cycle so that the layer is applied only to limited areas of the workpiece; wherein the cycle is predetermined at least in part by characteristics of the means applying the flowable material.

(1) Note. The coating of this subclass is similar to that of a printing device in that restriction of the coating is made by the characteristics of the applicator rather than solely by the characteristics of the workpiece. For example, coating of the projecting flap of sequentially presented workpieces by a roller under which the flap passes is not proper for this subclass since there is no characteristic of the applicator to cause intermittent application of the coating; whereas, coating of sequentially presented envelope flaps by a rotary device with raised surface portions is proper for this subclass since the intermittent application is brought about at least in part by the characteristics of the applicator.

334 With assembling of distinct members:

This subclass is indented under subclass 331. Method or apparatus including juxtaposing of fastening together a plurality of workpieces.

(1) Note. The workpiece of this and the indented subclasses are totally separate and distinct. A first and a second surface of a workpiece are not considered to be separate workpieces, no matter how far spaced from each other.

(2) Note. A fastener, e.g., a staple or a rivet, is considered to be a workpiece when assembled to a paper workpiece; however, see the search note to Class 227 below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.

47+, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for methods of and subclasses 700+ for apparatus for assembling or disassembling. Class 29 is the generic home for assembling. See the search notes under subclasses 428 and 700 for other locations of specific types of assembling.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for uniting a first and a second web by adhesive bonding without assembling or bending in forming an article of commerce or with or without assembling or bending in forming united stock material. See the line notes under the definition of this class.

198, Conveyors: Power-Driven, subclasses 418+ for a conveyor for establishing and moving a group of items; and subclass 644 for means for conveying a signature.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack or sheets or webs, with no recognition of more than one sheet or web.

335 Indeterminate length work:
This subclass is indented under subclass 334. Method or apparatus wherein the workpiece is a web of such length that the apparatus does not engage (recognize) both the leading end and the trailing end of the workpiece.

(1) Note. A spool or coil of work is considered to be "indeterminate length".

SEE OR SEARCH THIS CLASS, SUBCLASS:
18, for an operation of this class utilizing a first and second sensor, one of which is a surface contacting sensor for indeterminate length work.
24+, for an operation of this class including the use of a sensor responsive to indeterminate length work.
97, for making a rigid container including assembling therewith a liner permanently secured to a wall of the container with use of an indeterminate length work supply.
193+, for making a pliable container including heat sealing of indeterminate length work.
380+, for assembling of this class wherein one workpiece is of indeterminate length.
404, for folding an indeterminate length workpiece by a roller.
410+, for overfolding or unfolding an indeterminate length workpiece.

336 By work contacting applicator:
This subclass is indented under subclass 331. Method or apparatus wherein the flowable material is applied to the surface of the sheet or web workpiece by means which transfers the flowable material thereto by direct engagement therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:
128, for making a rigid container including the application of adhesive.

337 Comprising roller:
This subclass is indented under subclass 336. Method or apparatus wherein the means in engagement with the workpiece for transfer of the flowable material thereto turns about a central axis and has a circular peripheral surface that rollingly engages the workpiece.

338 WITH EXTRUDING, DRAWING, OR ATTENUATING:
This subclass is indented under the class definition. Method or apparatus combined with forcing material through an orifice or with pulling, pushing, or stretching material to change the thickness of the material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, for making a rigid container by assembling combined with extruding, drawing, or attenuating.
211, for making a pliable container including assembling and extruding, drawing, or attenuating.
293, for tube making combined with extruding, drawing, or attenuating.

SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a method of forming material by forcing it through an orifice or wherein there is thinning or thickening flow of the material. See the line note under the definition of this class (493).
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming material by forcing it through an orifice or wherein there is thinning or thickening flow of work material. See the line note under the definition of this class (493).

339 Method:
This subclass is indented under subclass 338. Process .

340 WITH CUTTING, BREAKING, TEARING, OR ABRADING:
This subclass is indented under the class definition. Method or apparatus combined with piercing into a workpiece with a sharp tool; forcibly ripping a portion of a workpiece by bending or tensile stress or, engaging a workpiece by a crystalline tool to remove surface portions from that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for cutting, breaking, tearing, or abrading combined with an operation of this class including use of work or product control means.

56+, for making a rigid container combined with cutting, breaking, tearing, or abrading.

194+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading of indeterminate length work.

199+, for making a pliable container including heat sealing combined with cutting, breaking, tearing, or abrading.

223+, for making a pliable container including assembling and cutting, breaking, tearing, or abrading.

227+, for making a pliable container combined with cutting, breaking, tearing, or abrading.

287+, for making a tube combined with cutting, breaking, tearing, or abrading.

324, for an operation of this class combined with printing or photos:graphic reproduction and with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, for cutting by use of a sharp cutting tool, generally, including severing.

225, Severing by Tearing or Breaking, for subdividing by the application of bending or tautening forces.

451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

341 Including application of heat:

This subclass is indented under subclass 340. Method or apparatus including raising the thermal level of the workpiece, product, or environment.

342 With scrap material separation or removal:

This subclass is indented under subclass 340. Method or apparatus combined with carrying away any unused or waste portions of work material after formation of a product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

82, for manufacture of a rigid container with scrap material separation or removal and with cutting, breaking, tearing, or abrading.

83, for manufacture of a rigid container with scrap material separation or removal, but without cutting, breaking, tearing, or abrading.

373, for manufacture of an article from a sheet or web with scrap material separation or removal, generally.

343 Including assembling or disassembling of distinct members:

This subclass is indented under subclass 340. Method or apparatus (a) including juxtaposing or fastening together a sheet or web workpiece and another workpiece; or (b) including disengaging a sheet or web workpiece and another workpiece to which it had previously been fastened.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for an operation of this class including assembling or coating and the use of control means responsive to that assembling or coating.

47+, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

334+, for assembly of distinct members combined with adhesive coating.

374+, for assembling of distinct members, one of which is a sheet or web, generally.

344 Comprising bringing two members together:
This subclass is indented under subclass 343. Method or apparatus including juxtaposing a first and a second workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
76, for making a rigid container including bringing two members together combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
379, for bringing two members together under this class definition, generally.

345 Indeterminate length member:
This subclass is indented under subclass 344. Method or apparatus wherein at the time of being brought into juxtaposed relationship at least one of the workpieces is of such length that no more than one end is recognized (engaged).

(1) Note. A spool or coil of work is considered to be "indeterminate length".

SEE OR SEARCH THIS CLASS, SUBCLASS:
24, for an operation of this class including use of a sensor responsive to indeterminate length work.
77+, for making a rigid container including bringing an indeterminate length member together with another member combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
97, for making a rigid container including assembly with an indeterminate length workpiece.
380+, for bringing an indeterminate length member together with another member, generally, under the definition of this class.
410+, for refolding or unfolding an indeterminate length workpiece.

346 Plural indeterminate length members:
This subclass is indented under subclass 345. Method or apparatus wherein at the time of being brought into juxtaposed relationship at least two of the workpieces are of such that no more than one end thereof is recognized (engaged).

SEE OR SEARCH THIS CLASS, SUBCLASS:
381, for juxtaposing plural indeterminate length members, generally.

347 Member comprising adhesive backed tape:
This subclass is indented under subclass 345. Method or apparatus wherein at the time of being brought into juxtaposed relationship the workpiece having no more than one recognized end has a previously applied coating of material adapted to chemically unite therewith and bond that workpiece to another member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78, for making a rigid container including application of an adhesive backed tape combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
116+, for making a rigid container, including securing two distinct members together using adhesive backed tape.
382, for application of an adhesive backed tape to another member.

348 Including use of work supply hopper:
This subclass is indented under subclass 345. Method or apparatus including the use of a compartment to hold a substantial number of workpieces as a ready supply for assembly with other workpieces.

SEE OR SEARCH THIS CLASS, SUBCLASS:
120, for assembling of distinct members in the making of a rigid container including use of a work supply hopper.

349 And securing by interfitting:
This subclass is indented under subclass 344. Method or apparatus including juxtaposing a plurality of workpiece wherein at least one of the workpiece is pliable and is caused to conform to and generally encase another workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

386+, for wrapping one workpiece about another, generally.

350 And securing by interfitting:

This subclass is indented under subclass 344. Method or apparatus wherein fastening is accomplished by positioning a portion of a workpiece under another portion of a workpiece to restrict movement thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

390, for interfitting to secure distinct workpieces, generally.

351 Work penetrating member:

This subclass is indented under subclass 350. Method or apparatus wherein a workpiece includes a sharp edge and is intended to fasten by the act of that edge piercing into the other workpiece.

(1) Note. Penetration of this subclass is for the purpose of bringing about assembly and not for the purpose of forming an opening in the pierced workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

118+, for making a rigid container including use of a material penetrating fastening member.

384+, for using a work penetrating fastening member to secure other members together.

392, for assembling by causing one member to pierce into another to which it is assembled.

SEE OR SEARCH CLASS:

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is not other working (e.g., bending) of the sheet or web and there is no recognition of more than one sheet or web.

352 And with bending:

This subclass is indented under subclass 340. Method or apparatus including stressing a sheet or web workpiece beyond its elastic limit so that when that stress is released the sheet or web workpiece will not return to its original shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:

394+, for bending a sheet or web, generally.

353 By use of composite cutting, breaking, tearing, or abrading tool and folding tool:

This subclass is indented under subclass 352. Method or apparatus including means to stress the workpiece beyond its elastic limit along a predetermined line to form a permanent crease and including means to pierce, or engage with a crystalline tool, wherein the two means are an integral unit having no relative movement of the functioning surfaces when performing either operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

354 By use of composite cutting, breaking, tearing, or abrading tool and form-scoring or crushing tool:

This subclass is indented under subclass 352. Method or apparatus including means to stress the workpiece beyond its elastic limit serving to press a line into a surface of the workpiece or serving to form a permanent crease in the work along a previously undetermined line and including means to pierce, rip, or engage with a crystalline tool, wherein the two means are an integral unit having no relative movement of the functioning surfaces when performing either operation.

355 Form-scoring:

This subclass is indented under subclass 352. Method or apparatus comprising (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line on the opposite surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes more compacted, such that there is not thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, for making a rigid container with cutting and scoring.

160+, for making a rigid container including scoring.

228+, for making a pliable container combined with cutting, breaking, tearing, or abrading and scoring.

240+, for making a pliable container including scoring.

396+, for scoring a sheet or web, generally.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is no significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for means to shape sheet or web work by a thinning flow of the work, as in embossing.

356 Folding:

This subclass is indented under subclass 352. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease.

(1) Note. Folding of cloth is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

405+, for folding, generally, of a sheet or web.

357 With means to advance work or product:

This subclass is indented under subclass 356. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a formed article away form a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed

rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

180+, for making a rigid container including folding and advancing of the work or product.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

201+, for making a pliable container with cutting, breaking tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

416+, for folding including work or product advancing.

358 Continuous advance with endless belt folder surface moving with work:

This subclass is indented under subclass 357. Method or apparatus wherein the crease in the workpiece is formed by a surface that is, or is part of, an integral or concatenated band and is trained about a plurality of separated, noncoaxial pulleys or sprockets, and wherein the workpiece forming surface has a component of movement with the moving workpiece.

359 Continuous advance with rotary folder surface moving with work:

This subclass is indented under subclass 357. Method or apparatus wherein the crease in the workpiece is formed by a surface of a member turning more than 360° about an axis, which surface has a component of movement with the moving workpiece.

360 Folding by roller:

This subclass is indented under subclass 357. Method or apparatus wherein the crease forming surface of the member turning about an axis is circular and extends all the way about that axis at the same distance therefrom and wherein the surface engages the workpiece in the manner of a wheel with no relative movement between the workpiece and the surface of the member.

361 Plural cutting, breaking, tearing, or abrading stations:

This subclass is indented under subclass 340. Method or apparatus including a first location for piercing, ripping, or engaging with a crystalline tool and including a second location for piercing, ripping, or engaging with a crystalline tool.

362 With advancing work from first to second station:

This subclass is indented under subclass 361. Method or apparatus wherein a workpiece is treated at the first location and then progressively moved to the second location.

363 Making plural, separate cuts by distinct cutting edges:

This subclass is indented under subclass 340. Method or apparatus including piercing a workpiece at a selected location in a work surface and piercing a workpiece at a second

selected location in a work surface wherein both piercing actions are preformed at a single work station.

364 Engaging work on opposite sides:
This subclass is indented under subclass 363. Method or apparatus including means for piercing a sheet or web workpiece on one planar surface and including means for piercing the opposing planar surface of that sheet or web.

365 Rotary cutter:
This subclass is indented under subclass 364. Method or apparatus wherein at least one of the piercing actions is done by a sharp edge of a tool turning about an axis more than 360°.

366 By relatively adjustable cutting edges or cutting and scoring edges:
This subclass is indented under subclass 363. Method or apparatus wherein piercing is effected by a first sharp edge and by a second relatively repositionable sharp edge; or wherein piercing is effected by a first edge that is sharp and a surface groove is formed by a second relatively repositionable edge.

367 On rotary tool support:
This subclass is indented under subclass 366. Method or apparatus wherein the first and second sharp edges are mounted on a carrier member turning about an axis more than 360° during the piercing action.

368 Adjustable circumferentially:
This subclass is indented under subclass 367. Method or apparatus wherein a piercing edge and a surface grooving edge or another piercing edge are relatively repositionable about the carrier.

369 Of moving work:
This subclass is indented under subclass 340. Method or apparatus wherein the workpiece is in motion during piercing, ripping, or engaging with a crystalline tool.

370 By rotary tool:
This subclass is indented under subclass 340. Method or apparatus wherein piercing, ripping, or engaging by a crystalline tool is effected by a member in engagement with the workpiece and rotating more than 360° about an axis.

371 With flexibly mounted cutter:
This subclass is indented under subclass 370. Method or apparatus including use of a piercing edge mounted on a member turning more than 360° about an axis, which edge is part of a member adapted to yield within its elastic limit to allow limited movement of the piercing edge with respect to the remainder of the rotary member.

372 By reciprocatory tool:
This subclass is indented under subclass 340. Method or apparatus wherein piercing, ripping, or engaging by a crystalline tool is effected by a member in engagement with the workpiece and moving to-and-from along a straight line or about a fixed pivot.

373 WITH SCRAP MATERIAL SEPARATION OR REMOVAL:
This subclass is indented under the class definition. Method or apparatus combined with segregating or carrying away an unused or waste portion of a workpiece or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

82, for scrap removal combined with cutting, severing, or abrading in the manufacture of a rigid container.

83, for scrap removal in the manufacture of a rigid container, generally.

342, for manufacture of a product from a sheet or web combined with cutting, breaking, tearing, or abrading and with scrap removal.

374 ASSEMBLING OR DISASSEMBLING OF DISTINCT MEMBERS:
This subclass is indented under the class definition. Method or apparatus (a) including juxtaposing or fastening together a sheet or web workpiece and another workpiece; or, (b) including disengaging a sheet or web workpiece from another workpiece to which it had previously been fastened.

(1) Note. The workpieces of this subclass are totally separate and distinct. A first and a second surface of a workpiece are not considered to be separate workpieces, no matter how far spaced from each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6, for an operation of this class assembling or coating and the use of control means responsive to that assembling or coating.

47+, for assembling dissimilar filter materials in making a cigarette filter.

67+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a rotary tool.

75+, for assembling a rigid container combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

84+, for making a rigid container including assembly of distinct members.

210+, for making a pliable container including assembly of distinct members.

297+, for making a tube including assembly of distinct members.

334+, for assembling of distinct members combined with adhesive coating.

343+, for assembling of distinct members combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for methods of and subclasses 700+ for apparatus for assembling or disassembling. Class 29 is the generic home for assembling. See the search notes under subclasses 428 and 700 for other locations of specific types of assembling.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for uniting a first and a second web by adhesive bonding without assembling or bending in forming united stock material. See the line notes under the definition of this class.

198, Conveyors: Power-Driven, subclasses 418+ for a conveyor for establishing and moving a group of items; and subclass 644 for means for conveying a signature.

227, Elongated-Member-Driving Apparatus, for a device specific to driving a fastener into a sheet or web; or into a stack of sheets or webs, with no recognition of more than one sheet or web.

375 Of tag or label to tether or to article:

This subclass is indented under subclass 374. Method or apparatus wherein one of the workpieces is intended to serve to designate a characteristic of the product and wherein the other workpiece is either a member to extend from the first workpiece to attach that workpiece to a third workpiece or is the workpiece to which the first workpiece is attached.

SEE OR SEARCH CLASS:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for attaching a label to an article or to stock material by adhesive bonding. Also see the line note under the definition of this class (493) pointing out that applying a label by adhesive bonding is proper for Class 156, even though an article of commerce is produced.

376 By passing tether through tag or label and article in single stroke:

This subclass is indented under subclass 375. Method or apparatus wherein the first, second, and third workpieces are positioned relative to one another by causing the second or extending workpiece to move through an opening, which it may form, in the first workpiece and through an opening, which it may form in the third workpiece during a single movement.

(1) Note. The piercing of this workpiece is intended to enable an assembling, rather than piercing to form an opening in a workpiece. Such a piercing operation is indistinguishable from one in which textile fibers are separated to enable passage of a tether and therefor has been placed in this subclass rather than the subclass of cutting.

SEE OR SEARCH THIS CLASS, SUBCLASS:

340+, for assembling combined with intentional piercing.

377 Including tear strip:

This subclass is indented under subclass 374. Method or apparatus wherein one of the workpieces is intended to serve to form a part of an impassable wall and is further intended to be

ruptured to provide access through the wall or is further intended to serve to rupture the wall of another workpiece to which it is attached.

378 Including cutting or tearing edge:
This subclass is indented under subclass 374. Method or apparatus wherein one of the workpieces is sharp and is intended to serve to sever or tear a sheet or web after formation of a desired article.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86, for making a rigid container including assembling therewith a tear strip.

379 Comprising bringing two members together:
This subclass is indented under subclass 374. Method or apparatus including juxtaposing a first and a second workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
76, for making a rigid container including bringing two members together combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
344, for bringing two members together combined with cutting, breaking, tearing, or abrading.

380 Indeterminate length member:
This subclass is indented under subclass 379. Method or apparatus wherein at the time of being brought into juxtaposed relationship at least one of the workpieces is of such length that no more than one end is recognized (engaged).

(1) Note. A spool or coil of work is considered to be "indeterminate length".

SEE OR SEARCH THIS CLASS, SUBCLASS:
24, for an operation of this class including use of a sensor responsive to indeterminate length work.
77+, for making a rigid container including bringing an indeterminate length member together with another member combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
97, for making a rigid container including assembly with an indeterminate length workpiece.
345+, for bringing an indeterminate length workpiece together with another member combined with cutting, breaking, tearing, or abrading.
410+, for refolding or unfolding an indeterminate length workpiece.

381 Plural indeterminate length members:
This subclass is indented under subclass 380. Method or apparatus wherein at the time of being brought into juxtaposed relationship at least two of the workpieces are of such that no more than one end thereof is recognized (engaged).

SEE OR SEARCH THIS CLASS, SUBCLASS:
346, for cutting combined with juxtaposing plural indeterminate length members.

382 Member comprising adhesive backed tape:
This subclass is indented under subclass 380. Method or apparatus wherein at the time of being brought into juxtaposed relationship the workpiece having no more than one recognized end has a previously applied coating of material adapted to chemically unite therewith and bond that workpiece to another member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78, for making a rigid container including application of an adhesive backed tape combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.
116+, for making a rigid container, including securing two distinct members together using adhesive backed tape.
347, for application of an adhesive backed tape to another member combined with cutting, breaking, tearing, or abrading.
382, for application of an adhesive backed tape to another member.

383 Including distinct securing member:
This subclass is indented under subclass 379. Method or apparatus wherein one of the workpieces is intended to fasten.

SEE OR SEARCH THIS CLASS, SUBCLASS:

115+, for making a rigid container including use of a distinct securing member.

384 Material penetrating member:

This subclass is indented under subclass 383. Method or apparatus wherein the fastener includes a sharp edge and is intended to fasten by the act of that edge piercing into the other workpiece.

(1) Note. Penetration of this subclass is for the purpose of bringing about assembly and not for the purpose of forming an opening in the pierced workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

118+, for making a rigid container including use of a material penetrating fastening member.

351, for assembling by causing one member to pierce into another to which it is assembled, combined with cutting, breaking, tearing, or abrading.

384+, for using a work penetrating fastening member to secure other members together.

392, for assembling by causing one member to pierce into another to which it is assembled.

SEE OR SEARCH CLASS:

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working (e.g., bending) of the sheet or web and there is no recognition of more than one sheet or web.

385 Bifurcated securing member:

This subclass is indented under subclass 384. Method or apparatus wherein the fastener includes two sharp edges and is intended to fasten by the act of both edges piercing into the other workpiece at the same time.

386 Wrapping one member about another member:

This subclass is indented under subclass 379. Method or apparatus including juxtaposing a plurality of workpiece wherein at least one of the workpiece is pliable and is caused to conform to and generally encase another workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

349, for cutting combined with wrapping one workpiece about another.

386+, for wrapping one workpiece about another, generally.

387 Including convex or recessed surface (e.g., eyeglass case):

This subclass is indented under subclass 386. Method or apparatus wherein the workpiece being conformed to is generally rigid and three-dimensionally bulged or caved in so that the pliable member must be caused to conform to that shape.

388 By use of rotary work support:

This subclass is indented under subclass 386. Method or apparatus including use of a structure to support the workpiece being conformed to which structure is adapted to turn about an axis more than 360°.

389 By use of reciprocatory work support:

This subclass is indented under subclass 386. Method or apparatus including use of a structure to support the workpiece being conformed to, which structure is adapted to move to-and-fro about an axis or in a straight line.

390 And securing by interfitting:

This subclass is indented under subclass 379. Method or apparatus wherein fastening is accomplished by positioning a portion of a workpiece under another portion of a workpiece to restrict movement thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

350+, for cutting combined with interfitting to secure distinct members.

391 Assembling container partitions:
This subclass is indented under subclass 390. Method or apparatus wherein at least one of the workpieces is intended to serve to divide the interior of a receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
90+, for making a rigid container combined with placing partitions therein.
912, for an art digest of related operations.

392 Work penetrating member:
This subclass is indented under subclass 390. Method or apparatus wherein a workpiece includes a sharp edge and is intended to fasten by the act of that edge piercing into the other workpiece.

(1) Note. Penetration of this subclass is for the purpose of bringing about an assembly and not for the purpose for forming an opening in the pierced workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
118+, for making a rigid container including use of a material penetrating fastening member.
351, for assembling by causing one member to pierce into another to which it is assembled, combined with cutting, breaking, tearing, or abrading.
384+, for using a work penetrating fastening member to secure other members together.

SEE OR SEARCH CLASS:
227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working (e.g., bending) of the sheet or web and there is no recognition of more than one sheet or web.

393 Securing:
This subclass is indented under subclass 374. Method or apparatus including fastening a first workpiece to a second workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114+, for securing two workpieces together in the formation of a rigid container.
121+, for securing two surfaces of the same workpiece together in the formation of a rigid container.
394, for securing two surfaces of the same sheet or web workpiece together in the formation of a product, generally.

SEE OR SEARCH CLASS:
29, Metal Working, subclasses 428+ for the process of and subclasses 700+ for apparatus for the general application of a fastener (e.g., a paper clip) to work, even if the work is a sheet or web, if there is no other working (e.g., bending) of the sheet or web. See the search note to Class 29 under the definition of this class.
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two workpieces together by adhesive bonding, generally; for adhesive bonding combined with assembling, bending, or flexing in the formation of a web of stock material; and for assembling and adhesively bonding an article with a postage stamp or a label. See the line note to Class 156 under the definition of this class.
227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web if there is no other working (e.g., bending) of the sheet or web and no recognition of more than one sheet or web.

394 SECURING:
This subclass is indented under the class definition. Method or apparatus including fastening a portion of a workpiece to another portion of that workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114+, for securing two workpieces together in the formation of a rigid container.

121+, for making a rigid container including securing a first and a second surface of a single workpiece together.

393, for assembling of two workpieces by securing, generally.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for the process of and subclasses 700+ for apparatus for the general application of a fastener (e.g., a paper clip) to work, even if the work is a sheet or web, if there is no other working of the sheet or web and no recognition of more than one sheet or web. See the search note Class 29 under the definition of this class.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for securing two workpieces together by adhesive bonding generally; for adhesive bonding combined with assembling, bending, or flexing in the formation of a web or stock material; and for assembling and adhesively bonding an article with a postage stamp or a label. See the search note to Class 156 under the definition of this class.

227, Elongated-Member-Driving Apparatus, for application of a nail or staple to work even if the work is a sheet or web, if there is no other working of the sheet or web and no recognition of more than one sheet or web.

395 BENDING:

This subclass is indented under the class definition. Method or apparatus including stressing a workpiece beyond its elastic limit, without substantial thinning flow, so that when that stress is released the workpiece will not return to its original shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:

352, for bending of a sheet or web combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for a step of bending a sheet or web with thinning or thickening in a flow.

396 Form-scoring:

This subclass is indented under subclass 395. Method or apparatus comprising (a) pressing a line in one surface of a workpiece and thereby raising a corresponding line on the opposite surface; or, (b) pressing a line in one surface of a workpiece with no significant change in the opposite surface configuration, wherein the material of the workpiece under that line becomes more compacted, such that there is no thinning flow of the workpiece.

SEE OR SEARCH THIS CLASS, SUBCLASS:

59+, for making a rigid container with cutting and form-scoring.

160+, for making a rigid container including form-scoring.

228+, for making a pliable container combined with cutting, breaking, tearing, or abrading and form-scoring.

240+, for making a pliable container including form-scoring.

355, for form-scoring combined with cutting, breaking, tearing, or abrading.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 879+ for scoring by a sharp cutting edge, wherein there is no significant deformation of the work.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of shaping sheet or web work by a thinning flow of the work, as in embossing.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for means to shape sheet or web work by a thinning flow of the work, as in embossing.

397 With folding:

This subclass is indented under subclass 396. Method or apparatus combined with stressing the sheet or web beyond its elastic limit along a line to form a crease.

SEE OR SEARCH THIS CLASS, SUBCLASS:

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353+, for folding combined with cutting, breaking, tearing, or abrading by use of a composite tool.

356, for folding combined with cutting, breaking, tearing, or abrading, generally.

405+, for folding, generally, of a sheet or web.

398 Plural work stations:

This subclass is indented under subclass 397. Method or apparatus including a first location at which the sheet or web is stressed beyond its elastic limit and a second location to which or from which the sheet or web is transferred for other modification.

399 Folding along score line:

This subclass is indented under subclass 398. Method or apparatus wherein a line is first pressed into the sheet or web and subsequently a crease is formed along that line.

400 With means to advance or position work or product:

This subclass is indented under subclass 396. Method or apparatus combined with use of means to transport a web workpiece progressively from a remote location toward or through a treating station or to transport an article in which a line has been pressed away from a treating station or including means to reorient the workpiece or the produced article.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

180+, for making a rigid container including folding and advancing of the work or product.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product.

201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

416+, for folding including work or product advancing.

401 Continuous advance:

This subclass is indented under subclass 400. Method or apparatus wherein the sheet or web is transferred without stopping toward, through or away from the location at which it is stressed beyond its elastic limit.

402 By rotary tool having surfaces moving with work:

This subclass is indented under subclass 401. Method or apparatus wherein the sheet or web transfer is effected by engagement of a surface of a rigid member turning about a fixed axis, which surface is intended to engage and cause the sheet or web to move therewith through the part of the movement of the surface.

403 Roller:

This subclass is indented under subclass 402. Method or apparatus wherein the surface comprises the periphery of a rigid circular member turning about a fixed axis passing through its center, which surface is adapted to rollingly engage and transfer the sheet or web.

404 Form-scoring along intersecting lines:

This subclass is indented under subclass 396. Method or apparatus comprising pressing a first line into the work surface and pressing a second line into the work surface such that the first and second lines meet or cross.

405 Folding:

This subclass is indented under subclass 395. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a permanent crease.

(1) Note. Folding of cloth is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for making a rigid container including folding and assembling combined with cutting, breaking, tearing, or abrading by a rotary tool.

69+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool.

79+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

151, for making a rigid container including coating with an adhesive and folding.

162+, for making a rigid container including folding.

231+, for making a pliable container including folding combined with cutting, breaking, tearing, or abrading.

243+, for making a pliable container including folding.

353, for folding combined with cutting, breaking, tearing, or abrading by a composite tool.

356+, for folding combined with cutting, breaking, tearing, or abrading, generally.

406 And tautening or smoothing:

This subclass is indented under subclass 405. Method or apparatus including application of tensile force on the sheet or web workpiece or including treatment to cause the sheet or web to be more truly planar.

SEE OR SEARCH CLASS:

26, Textiles: Cloth Finishing, subclasses 71+ for smoothing a running length of textile material without folding.

38, Textiles: Ironing or Smoothing, subclasses 102+, especially subclasses 102.1+ for tautening to smooth a single sheet.

407 With crushing or crumpling:

This subclass is indented under subclass 405. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit to form a permanent crease and further stressing a sheet or web workpiece beyond its elastic limit but not along any predetermined line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

185, for crushing or crumpling of sheet or web material in the formation of a rigid container.

464, for crushing or crumpling in forming a product from a sheet or web, generally.

408 Overfolding:

This subclass is indented under subclass 405. Method or apparatus comprising stressing the workpiece along the desired crease line further than desired so that upon release of the stress the workpiece will return by internal stress (or memory) to the desired position.

409 Refolding or unfolding:
This subclass is indented under subclass 405. Method or apparatus comprising stressing the workpiece along a crease line formed by a previous operation (a) to again crease the workpiece, or (b) to reposition the portions of the workpiece extending away from the crease line to lie in a common plane.

410 Of indeterminate length work:
This subclass is indented under subclass 409. Method or apparatus wherein at the time the crease line is formed the workpiece is a web of such length that no more than one end thereof is recognized (engaged).

(1) Note. A spool or coil of work is considered to be "indeterminate length".

SEE OR SEARCH THIS CLASS, SUBCLASS:

24+, for an operation of this class including use of a sensor responsive to indeterminate length work.

77+, for making a rigid container including bringing an indeterminate length member together with another member combined with cutting, breaking, tearing, or abrading by a reciprocatory tool.

97+, for making a rigid container including assembly with an indeterminate length workpiece.

345+, for bringing an indeterminate length workpiece together with another member combined with cutting, breaking, tearing, or abrading.

380+, for assembling of this class wherein one workpiece is of indeterminate length.

410+, for refolding or unfolding an indeterminate length workpiece.

411 Including use of swinging work guiding means (e.g., zigzag folding, etc.):
This subclass is indented under subclass 410. Method or apparatus including use of means to direct the web workpiece by physical engagement therewith, which means alternates to-and-from to direct a portion of the workpiece in a first direction and then to direct a succeeding portion of the workpiece in a second direction, such that succeeding portions of the workpiece are alternately laid one upon the other in a regular order by application of stress along previously made crease lines extending generally normal to the direction of workpiece movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

413+, for folding other than along previously made crease lines using a swinging work guiding means.

412 With elevating work support:
This subclass is indented under subclass 410. Method or apparatus including use of means to support the workpiece, which means is adapted to be raised as the workpiece is withdrawn therefrom.

413 Folding of indeterminate length work by swinging work guiding means (e.g., zigzag, folding, etc.):
This subclass is indented under subclass 405. Method or apparatus wherein at the time a crease line is formed the workpiece is a web of such length that no more than one end thereof is recognized (engaged) including use of means to direct the workpiece by physical engagement therewith, which means alternates to-and-fro to direct a portion of the workpiece in a first direction and then to direct a succeeding portion of the workpiece in a second direction, such that succeeding portions of the workpiece are alternately laid one upon the other in a regular order including the application of stress to form subsequent crease lines extending generally normal to the direction of workpiece movement.

(1) Note. Stress may be applied to the workpiece of this subclass by the weight of work laid thereupon.

SEE OR SEARCH THIS CLASS, SUBCLASS:

411, for folding along previously made crease lines by a swinging work guide means.

414 Swinging passage:
This subclass is indented under subclass 413. Method or apparatus wherein the directing means engages both planar surfaces of the web

workpiece at all times to positively guide the first and succeeding portions of the workpiece.

415 Defined by feed roll pair:
This subclass is indented under subclass 414. Method or apparatus wherein the element in engagement with each planar surface turns about an axis more than 360° and rollingly engages the workpiece with a radially outwardly facing peripheral surface positioned in a circle about the axis.

416 With means to advance work or product:
This subclass is indented under subclass 405. Method or apparatus combined with use of means to transport a workpiece progressively from a remote location toward or through a treating station or to transport a formed article away from a treating station.

(1) Note. Movement of a workpiece toward a working tool to effect a treating operation is considered to be work infeed rather than work advancing and is therefor not the concept of this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71+, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a rotary tool and with means to advance work.

81, for making a rigid container including folding combined with cutting, breaking, tearing, or abrading by a reciprocating tool and with means to advance work.

125, for making a rigid container including securing work surfaces, use of a supply hopper, use of a suction-type handling means and use of a conveyor to advance work to a folder.

142+, for making a rigid container including securing work surfaces with simultaneous pressing and advancing of the work while adhesive dries or sets.

147, for making a rigid container including securing work surfaces and advancing the work or product.

161, for making a rigid container including scoring and continuously advancing the work with the scoring tool moving with the work during operation thereof.

196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of the work or product.

201+, for making a pliable container with cutting, breaking, tearing, or abrading and advancing of the work or product.

302, for making a tube and advancing the formed tube along its axis.

357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work or product.

400+, for scoring with work or product advancing or positioning.

417 And provision to precisely align for folding:
This subclass is indented under subclass 416. Method or apparatus wherein the work transferring means is adjustable with respect to the crease line forming means so that the crease line will be formed in the workpiece in the exact desired location of the workpiece.

418 Folding by direct application of vacuum or fluid:
This subclass is indented under subclass 416. Method or apparatus including (a) application of reduced pressure to certain portions of a sheet or web workpiece so that atmospheric pressure acting on an opposing portion thereof effects the stress to form a crease line in the workpiece; or, (b) application of increased pressure from a flowable medium to effect the stress to form a crease line in the workpiece.

419 Folding by buckling:
This subclass is indented under subclass 416. Method or apparatus comprising application of compressive stress to the workpiece parallel to planar surfaces thereof to cause the workpiece to yield in columnar failure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

249, for making a pliable container including folding by buckling.

420 Buckle chute folding:
This subclass is indented under subclass 419. Method or apparatus including a passageway along which the sheet or web workpiece is to slide, which passageway has a blocked end to be abutted by the moving sheet or web to create

compressive force along the direction of movement of the workpiece so that the workpiece ends to bend transversely to the direction of movement, which passageway includes an opening in its bottom upstream from the blocked end, so that the workpiece bends back on itself as it falls down through the opening.

421 Plural folding operations making multiple folds:
This subclass is indented under subclass 420. Method or apparatus including bendingly stressing a sheet or web workpiece beyond its elastic limit at a first crease line and bendingly stressing a sheet or web workpiece beyond its elastic limit at a second time or location to form a second crease line.

422 Continuous advance with folder moving with work:
This subclass is indented under subclass 416. Method or apparatus including means to cause the workpiece to continue movement without stopping during the time the crease line is formed wherein the means to apply stress and form a crease line includes a work engaging surface that is also in motion so that during such application of stress the work engaging surface includes a component of movement with the movement of the workpiece.

423 Folding by endless belt:
This subclass is indented under subclass 422. Method or apparatus wherein the work engaging crease forming surface is, or is part of, an integral or concatenated band and is trained about a plurality of separated, noncoaxial pulleys or sprockets.

424 Rotary folder:
This subclass is indented under subclass 422. Method or apparatus wherein the work engaging surface forming a crease line in the workpiece turns more than 360° about an axis.

425 Having radial folding blade:
This subclass is indented under subclass 424. Method or apparatus wherein the work engaging surface is part of an extension and faces away from the axis about which it turns.

426 Radially moving folding blade:
This subclass is indented under subclass 425. Method or apparatus wherein the extension not only turns about an axis but moves toward or away from that axis to effect the crease forming operation.

427 Fold off-roll-type folder:
This subclass is indented under subclass 426. Method or apparatus wherein the member turning about an axis includes a circular peripheral surface on which a sheet or web workpiece is laid in conforming contact combined with an extension member adapted to rotate therewith and move outwardly from the axis to form a crease line in the workpiece and push at least the engaged portion of the workpiece away from the peripheral surface.

428 And cooperating, registering cylinder:
This subclass is indented under subclass 427. Method or apparatus combined with another member turning about a second axis, which member includes a circular peripheral surface and including a workpiece receiving pocket, which other member is adapted to interfit with the first member so that as they turn about their respective axes the outwardly moving extension interfits with the pocket to effect formation of a crease line in a workpiece therebetween.

429 Plural folding blades:
This subclass is indented under subclass 428. Method or apparatus including more than one outwardly moving crease forming extension.

430 For zigzag folding:
This subclass is indented under subclass 429. Method or apparatus particularly adapted to forming regularly spaced, alternately turned crease lines transverse to a generally elongated sheet or web workpiece.

(1) Note. The second outwardly moving extension may be a part of the second rotating member and would accordingly cooperate with a pocket in the first rotating member.

431 Planetary blade:
This subclass is indented under subclass 427. Method or apparatus wherein the outwardly moving crease forming extension is supported to turn about a second axis which is on the member turning about the first axis.

432 And cooperating, registering cylinder:
This subclass is indented under subclass 425. Method or apparatus combined with another member turning about a second axis which member includes a work receiving pocket adapted to interfit with the extension of the first member so that as the members turn about their respective axes the outwardly moving extension interfits with the pocket to effect formation of a crease line in a workpiece therebetween.

433 For zigzag folding:
This subclass is indented under subclass 432. Method or apparatus particularly adapted to forming regularly spaced, alternately turned crease lines transverse to a generally elongated sheet or web workpiece.

434 Folding by roller:
This subclass is indented under subclass 424. Method or apparatus wherein the crease forming surface of the member turning about an axis is circular and extends all the way about that axis at the same distance therefrom and wherein the surface engages the workpiece in a manner of a wheel with no relative movement between the workpiece and the surface of the member.

435 Roller couple:
This subclass is indented under subclass 434. Method or apparatus including a second member turning about a second axis extending all the way about that axis at the same distance therefrom and wherein the surface engages the workpiece in the manner of a wheel with no relative movement therebetween; wherein the first and second members turning about their respective axes grippingly engage a single workpiece therebetween to cooperate and form a crease line.

436 Continuous advance past folder:
This subclass is indented under subclass 416. Method or apparatus including means to cause the sheet or web workpiece to continue movement without stopping during the time the crease line if formed.

437 Reciprocatory folder:
This subclass is indented under subclass 436. Method or apparatus wherein the means to effect the forming of the crease line moves to-and-fro in a straight line or about a fixed pivot during operation.

438 Folding by passive reaction member:
This subclass is indented under subclass 436. Method or apparatus including utilizing the energy of a moving sheet or web workpiece by use of means to effect the formation of a crease line, which means is stationary during formation of the crease line.

439 Folding indeterminate length work:
This subclass is indented under subclass 438. Method or apparatus wherein at the time the crease line is formed the workpiece is a web of such length that no more than one end thereof is recognized (engaged).

(1) Note. A spool or coil of work is considered to be “indeterminate length”.

440 Plural folding actions:
This subclass is indented under subclass 439. Method or apparatus including forming a second crease line by a separate, distinct operation.

441 Folding by endless belt:
This subclass is indented under subclass 416. Method or apparatus wherein the work engaging, crease forming surface is, or is part of an integral or concatenated band that is trained about a plurality of separated, noncoaxial pulleys or sprockets.

442 Folding by roller:
This subclass is indented under subclass 416. Method or apparatus wherein the crease forming member turns about an axis and includes a circular surface extending equidistant about that axis and wherein the surface engages the workpiece in the manner of a wheel with no

relative movement between the workpiece and the surface of the member.

443 Roller passive reaction member:
This subclass is indented under subclass 442. Method or apparatus wherein the member turns about an axis that does not advance over the surface of the workpiece during operation and is not driven to rotate by means other than the work surface movement during operation.

444 With reciprocatory folding knife:
This subclass is indented under subclass 443. Method or apparatus combined with a blade member adapted to move to-and-fro in a straight line or about a fixed axis to cooperate with the member turning about an axis to form a crease line in a workpiece.

445 Reaction member comprising roller pair yieldably biased together:
This subclass is indented under subclass 444. Method or apparatus including the first member that turns about an axis and including a second member that turns about a second axis, which second member includes a circular surface extending equidistant about the second axis and is positioned such that the workpiece passes between the turning members in response to force exerted by the member that moves to-and-fro, which axes are yieldably urged toward each other.

446 Folding by passive reaction member:
This subclass is indented under subclass 416. Method or apparatus utilizing the energy of a moving sheet or web workpiece by use of means to effect the formation of a crease line, which means is stationary during formation of the crease line.

447 Including multiple reaction members each presenting one or more shaping edges:
This subclass is indented under subclass 446. Method or apparatus including first means having a workpiece engaging surface to effect formation of a crease line, which first means is stationary during formation of a crease line; and including a second means having a workpiece engaging surface to effect formation of a crease line, which second means is stationary during formation of a crease line.

448 And provision to allow one reaction member to move relative to another (e.g., zigzag folding, etc.):
This subclass is indented under subclass 447. Method or apparatus including provision to permit one of the work engaging surface of the stationary crease forming means to move with respect to another work engaging surface of a stationary crease forming means during the forming operation.

(1) Note. The movement of the stationary member is done in response to force exerted by the workpiece in being folded, not to effect the folding operation and is accordingly not considered to be conflicting terms.

449 And cooperating plunger:
This subclass is indented under subclass 446. Method or apparatus combined with means to force the workpiece against the stationary member to form a crease line therein, which means is adapted to have the workpiece wrapped thereabout so that the workpiece is given shape conforming to the shape of the forcing means.

450 By direct application of vacuum or fluid pressure:
This subclass is indented under subclass 405. Method or apparatus including (a) application of reduced pressure to certain portions of a sheet or web workpiece so that atmospheric pressure acting on an opposing portion thereof effects the stress to form a crease line in the workpiece; or, (b) application of increased pressure from a flowable medium to effect the stress to form a crease line in the workpiece.

451 By plural relatively movable folding edges approaching work from same side (e.g., zigzag folding, etc.):
This subclass is indented under subclass 405. Method or apparatus wherein the stress is applied to form a crease line by a first member moving toward work surface from a given direction and stress is applied to form a crease line by a second member moving toward the same work surface from generally the same direction.

452 Forming gable top:
This subclass is indented under subclass 405. Method or apparatus including formation of the upper portion of a receptacle having a single ridge created by a pair of diverging walls.

SEE OR SEARCH THIS CLASS, SUBCLASS:
184, for forming a rigid container including forming a gable top.

453 Including folding end flap:
This subclass is indented under subclass 405. Method or apparatus including forming a crease line at the base of a protuberance extending from the margin of the sheet or web workpiece at the greatest rectilinear dimension thereof.

454 By rotary member:
This subclass is indented under subclass 405. Method or apparatus including application of stress to form a crease line by a member turning about an axis more than 360°.

455 By passive reaction member:
This subclass is indented under subclass 405. Method or apparatus utilizing the energy of a moving sheet or web workpiece by use of means to effect the formation of a crease line, which means is stationary during formation of the crease line.

456 Including multiple shaping edges on reaction member:
This subclass is indented under subclass 455. Method or apparatus including means having a first workpiece engaging surface to effect formation of a crease line and having a second workpiece engaging surface to effect formation of a crease line.

457 And cooperating reciprocatory folder:
This subclass is indented under subclass 455. Method or apparatus combined with means to cooperate with the stationary means to apply stress to form a crease line in the workpiece, which means moves to-and-fro in a straight line or about a fixed pivot.

458 Sequential, diverse folds:
This subclass is indented under subclass 405. Method or apparatus comprising bendingly stressing a sheet or web workpiece beyond its elastic limit along a line to form a first permanent crease and subsequently bendingly stressing the sheet or web workpiece beyond its elastic limit along a line to form a second permanent crease, wherein the first and second creases are formed by nonidentical means.

459 Pulling over an edge (e.g., curling, etc.):
This subclass is indented under subclass 395. Method or apparatus comprising the application of tensile forces to the workpiece and drawing that workpiece over a projecting member to put greater forces on the surface of the workpiece facing away from the projecting member than on the surface of the workpiece facing toward the projecting member to stress the workpiece beyond its elastic limit thereof.

460 Deflecting:
This subclass is indented under subclass 395. Method or apparatus including movement of a sheet or web workpiece along a direction parallel to the planar surfaces thereof and engaging the sheet or web workpiece to divert sequentially presented work portions from the original direction to stress the sheet or web workpiece beyond its elastic limit thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
178, for folding by deflecting in the formation of a rigid container.

461 Of longitudinally moving work:
This subclass is indented under subclass 460. Method or apparatus wherein the workpiece is a sheet or web including a pair of planar surfaces of greater extent in one direction that in the other comprising moving the workpiece in the direction parallel to the greatest dimension to stress the sheet or web workpiece beyond the elastic limit thereof.

462 To form convolute coil (e.g., paper “log”, etc.):
This subclass is indented under subclass 461. Method or apparatus wherein subsequent portions of the workpiece are diverted about an

axis to form convolutions that are wrapped one radially upon the other.

463 Corrugating:
This subclass is indented under subclass 395. Method or apparatus comprising stressing a sheet or web workpiece beyond its elastic limit to cause it to assume the shape of an undulating series of arcuate waves.

464 Crushing or crumpling:
This subclass is indented under subclass 395. Method or apparatus including stressing a sheet or web workpiece beyond its elastic limit and causing bending to occur but not along any predetermined line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
185, for crushing or crumpling of sheet or web material in the formation of a rigid container.
395+, for corrugating without forming sharp fold lines.
407, for folding combined with crushing or crinkling.

465 FLEXING:
This subclass is indented under the class definition. Method or apparatus including moving one portion of a workpiece with respect to another portion of that workpiece in order to place the respective portions of the workpiece in a desired positional relationship.

466 To present part of workpiece for securing to another part:
This subclass is indented under subclass 465. Method or apparatus wherein one portion of the workpiece is brought into positional relationship with another portion of the workpiece so that the two work portions may be attached one to the other.

467 SURFACE TREATMENT:
This subclass is indented under the class definition. Method or apparatus including a surface modification of a workpiece not penetrating deeply into the surface of the workpiece which modification is not provided for elsewhere.

SEE OR SEARCH THIS CLASS, SUBCLASS:
291+, for tube making combined with surface treatment.

SEE OR SEARCH CLASS:
15, Brushing, Scrubbing and General Cleaning, subclasses 209.1+ for removing foreign material by steel wool.
118, Coating Apparatus, for means to coat the surface of a sheet or web.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 341 for a method of applying water or other solvent to sheet or web work to polish the surface thereof.
401, Coating Implements With Material Supply, for a randomly manipulated means for coating a sheet or web.
427, Coating Processes, for the method of coating a sheet or web.
451, Abrading, for engaging a workpiece by a crystalline tool to remove surface portions from the workpiece.

468 TOOL OR TOOL SUPPORT:
This subclass is indented under the class definition. Subcombinational apparatus including means for engaging a workpiece to assemble, bend, flex, or treat; or including means for partaking of all the motion of such workpiece engaging means.

SEE OR SEARCH CLASS:
269, Work Holders, subclasses 86+ for a work supporting member having relatively movable jaws; subclasses 289+ for a work underlying support, generally; and, subclasses 290+ for a work underlying support combined with a tool-couple element.

469 Adapted to be magnetically manipulated:
This subclass is indented under subclass 468. Apparatus wherein the means for engaging the workpiece is particularly adapted to be moved when in engagement with the workpiece or when out of engagement with the workpiece by the direct urging of magnetic force.

470 Adapted to be heated or cooled:
This subclass is indented under subclass 468. Apparatus wherein the means for engaging the workpiece is particularly adapted to be supplied with or to yield thermal energy.

471 Rotary:
This subclass is indented under subclass 468. Apparatus wherein the means for engaging the workpiece is to be turned about an axis more than 360° during operation.

472 With ejector or stripper:
This subclass is indented under subclass 468. Apparatus combined with means to force foreign material out of a recess in or off the surface of the work engaging means.

473 Plural tools or tool supports:
This subclass is indented under subclass 468. Apparatus including first and second means for engaging the workpiece to assemble, bend, flex, or treat; or including first and second means for partaking of all the motion of such workpiece engaging means, wherein the first and second means are relatively movable during operation.

474 Expandable or collapsible:
This subclass is indented under subclass 468. Method or apparatus wherein the means for engaging the workpiece or the means partaking of all motion of such workpiece engaging means is, in each operation, enlarged or reduced in size to present its surfaces for workpiece engagement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

475, for tool structure including multiple components, one being repositionable relative to the other.

475 Adjustable:
This subclass is indented under subclass 468. Apparatus wherein the means for engaging the workpiece or the means partaking of all motion of such workpiece engaging means is made of multiple members at least one of which is respositionable relative to another.

476 Folder:
This subclass is indented under subclass 475. Method or apparatus wherein the means for engaging the workpiece or the means partaking of all motion of such workpiece engaging means serves to form a crease line in the workpiece by causing the workpiece to conform to the shape of that work engaging means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

405+, for apparatus including a folding tool combined with a reaction surface to cooperate with the folding tool in forming a crease line in a workpiece, and for the method of forming sheet or web work, generally.

477 MACHINE FRAME:
This subclass is indented under the class definition. Method or apparatus including structure relative to which a tool of this class moves during operation, which structure is for supporting the weight of the tool or work or for counteracting the thrust of the tool, and maintaining orientational relationship of components of the apparatus.

(1) Note. The foundation structure upon which a machine is mounted (e.g., the floor of a building) is not considered a part of the machine, per se.

478 Adjustable:
This subclass is indented under subclass 477. Method or apparatus wherein the structure is made of multiple members, at least one of which is positionable relative to another.

479 Plural, simultaneous adjustments:
This subclass is indented under subclass 478. Method or apparatus wherein relative positioning of one member relative to another causes additional relative position of other members, corresponding to the first positioning.

480 MISCELLANEOUS:
This subclass is indented under the class definition. Method or apparatus not provided for above.

CROSS-REFERENCE ART COLLECTIONS

The following subclasses are collections of published disclosures pertaining to various specified aspects of the cutting art which aspects do not form appropriate bases for subclasses in the foregoing classification (i.e., subclasses superior hereto in the schedule), wherein original copies of patents are placed on the basis of proximate function of the apparatus. These subclasses assist a search based on remote function of the apparatus and may be further assistance to the searcher, either as a starting point in searching this class or as an indication of further related fields of search inside or outside the class. Thus, there is here provided a second access for retrieval of a limited number of types of disclosures. Search subclasses: 180+, for making a rigid container including folding and advancing of the work or product; 196+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product; 201+, for making a pliable container with heat sealing and cutting, breaking, tearing, or abrading and advancing of work or product; 357+, for folding combined with cutting, breaking, tearing, or abrading with means to advance the work product; 400+, for scoring with work or product advancing or positioning; 416+, for folding including work or product advancing.

(1) Note. Disclosures are placed in these subclasses for their value as references and as leads to appropriate main or secondary fields of search, without regard to their original classification or their claimed subject matter.

(2) Note. The disclosures found in the following subclasses are examples, only, of the indicated subject matter, and in no instance do they represent the entire extent of the prior art.

901 RIGID CONTAINER:

Operation involving the construction of a receptacle that is intended to generally retain its shape during operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

52+, for a method or apparatus for performing a step which takes material that is less than a rigid container and makes it into a rigid container.

902 Dished:

This subclass is indented under subclass 901. Operation involving the construction of a receptacle by forming a planar portion into a three-dimensional shape to hold goods.

(1) Note. Included herein is a shaping or folding operation in which surplus material is folded back on itself with or without direct control.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for the method of forming a dished shape product of sheet or web including drawing of the material.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for apparatus for forming a dished shaped product of sheet or web material including drawing of the material.

903 Insulated thermally:

This subclass is indented under subclass 901. Operation involving the construction of a receptacle having a wall specifically intended to resist the flow or heat therethrough.

904 Cushioned:

This subclass is indented under subclass 901. Operation involving the construction of a receptacle intended to yield when encountering a force either inside or outside the receptacle and limit shock transmitted through the walls of the receptacle.

905 Having window:

This subclass is indented under subclass 901. Operation involving the construction of a receptacle having an opening in its wall for observation of the contents thereof without opening the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

222, for making a pliable container having an inspection window.

919, for an art collection of patents relating to the construction of a pliable container having a window.

906 Having multilayer wall:
This subclass is indented under subclass 901. Operation involving the construction of a receptacle constructed so that a cross section through the wall would yield multiple, distinct (i.e., not completely bonded together) sheets of material.

(1) Note. Folding of flaps over the wall would yield multiple layers of material, but such construction is not intended to be placed in this subclass.

907 Lined:
This subclass is indented under subclass 906. Operation involving the construction of a receptacle combined with an inner member to restrict the engagement of the contents of the holder with the inner surface of the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
92, for method or apparatus including making a rigid container and assembling therewith a liner.

908 Covered:
This subclass is indented under subclass 906. Operation involving the construction of a receptacle combined with a member generally about the outside of the receptacle.

909 Having handle or suspension means:
This subclass is indented under subclass 901. Operation involving the construction of a receptacle having provision to allow the receptacle to be gripped by a person or to allow the receptacle to be held against gravity otherwise.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87, for making a rigid container having a handle or suspension means.

910 Cigarette container:
This subclass is indented under subclass 901. Operation involving the construction of a receptacle in which cigarettes are to be marketed.

911 Flip-top:
This subclass is indented under subclass 910. Operation wherein the receptacle includes a reclosable rigid cover.

912 Having internal partition:
This subclass is indented under subclass 901. Operation involving construction of a receptacle having interior dividing walls.

913 Egg container:
This subclass is indented under subclass 912. Operation involving construction of a receptacle in which eggs are to be stored.

914 Eyeglass container:
This subclass is indented under subclass 901. Operation involving construction of a receptacle in which eyeglasses are to be stored.

915 Match container:
This subclass is indented under subclass 901. Operation involving construction of a receptacle in which ignitable matches are to be stored or marketed.

916 PLIABLE CONTAINER:
Operation involving the construction of a receptacle that is flaccid and is not intended to retain its shape during use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
186+, for making a pliable container form something that is less than a container.

917 Envelope:
This subclass is indented under subclass 916. Operation involving the construction of a receptacle that in use consists of a front planar and a rear planar wall connected together about the periphery of each.

(1) Note. The connection of the front and rear wall may be a fluted section to allow expansion of the container but is intended to be as small as practical.

918 Expandable:
This subclass is indented under subclass 917. Operation involving construction of a receptacle with easement means to provide greater interior volume to the receptacle.

919 Having window:
This subclass is indented under subclass 917. Operation involving construction of a receptacle having provision to allow visual inspection of the contents without opening the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
222, for making a pliable container including assembling a window member therewith.
905, for an art collection of patents relating to the construction of a rigid container having a window.

920 Having plural compartments:
This subclass is indented under subclass 917. Operation involving construction of a receptacle having the interior divided structurally into a plurality of spaces.

921 Having integrally formed insert:
This subclass is indented under subclass 917. Operation involving construction of a receptacle and a member inside the receptacle that is a part of the receptacle at the time of formation but is subsequently removed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
216, for similar operation including forming an envelope having an integral return envelope therein.

922 Having liner:
This subclass is indented under subclass 917. Operation involving construction of a receptacle combined with an inner member to restrict the engagement of the contents of the receptacle with the inner surface of the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93+, for a method or apparatus including the making of a rigid container and assembling therewith a liner.

923 With opening means (e.g., tear, strip, valve, etc.):
This subclass is indented under subclass 917. Operation involving construction of a receptacle having provision to allow access to the interior of the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
212+, for making a pliable container including assembling therewith an opening means.

924 Requiring external support during filling:
This subclass is indented under subclass 916. Operation involving the construction of a receptacle that is intended to be mounted in support structure during insertion of contents thereinto.

(1) Note. Included herein is an operation in the construction of a vacuum cleaner bag, a garbage disposal bag, etc.

925 Having mesh or window opening:
This subclass is indented under subclass 916. Operation involving the construction of a receptacle having provision to allow visual inspection of the contents without opening the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
222, for making a pliable container including assembling a window member therewith.

926 Having handle or suspension means:
This subclass is indented under subclass 916. Operation involving construction of a receptacle having provision to allow the receptacle to be gripped by a person or to allow the holder to be held against gravity otherwise.

SEE OR SEARCH THIS CLASS, SUBCLASS:
226, for making a pliable container combined with assembling a handle or suspension means therewith.

927 Reclosable:
This subclass is indented under subclass 916. Operation involving the construction of a receptacle having provision to allow the receptacle to be opened and closed repeatedly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

213, for making a pliable container including assembling a reclosable opening means therewith.

928 With draw string:

This subclass is indented under subclass 927. Operation wherein the provision to allow the receptacle to be closed includes a pliable member extending about the opening of the receptacle which is adapted to be shortened to pull the opening closed.

929 With valve:

This subclass is indented under subclass 927. Operation wherein the provision to allow the receptacle to be closed includes a member extending into the receptacle in the closed condition and extending out of the receptacle when in the opened condition to serve as a pouring spout.

930 Having tear strip:

This subclass is indented under subclass 916. Operation wherein the receptacle includes a portion that is adapted to be pulled by a user to rip a wall of the receptacle and thereby provide access to the contents of the receptacle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

212, for making a pliable container including assembling a tear strip therewith.

931 Having plural compartments:

This subclass is indented under subclass 916. Operation involving construction of a receptacle having the interior divided structurally into a plurality of spaces.

932 Having plural openings:

This subclass is indented under subclass 916. Operation involving construction of a receptacle including more than one access to the contents.

933 Having multilayered wall:

This subclass is indented under subclass 916. Operation involving construction of a receptacle constructed so that a cross section through wall would yield multiple, distinct (i.e., not completely bonded together) sheets of material.

(1) Note. Folding of flaps over the wall would yield multiple layers of material, but such construction is not intended to be placed in this subclass.

934 Parallelepiped or tetrahedron shape:

This subclass is indented under subclass 916. Operation involving the construction of an receptacle having the shape of (a) a prism with six sides, all of which are parallelograms, or (b) a three-dimensional figure made of only four planar surfaces.

(1) Note. A commonly used eraser is parallelepiped, a triangular pyramid is a tetrahedron.

935 Covering bag (e.g. garment protector, etc.):

This subclass is indented under subclass 916. Operation involving the construction of a receptacle that is intended to be placed over a specific type of article, rather than to support that article.

936 Square bottom:

This subclass is indented under subclass 916. Operation involving the construction of a receptacle that when erected has a rectangular bottom and when folded has gussets along the sides so that the outer limit of the side wall is aligned with the outer limit of the bottom.

SEE OR SEARCH THIS CLASS, SUBCLASS:

218, for making a square bottom bag including assembling the bottom therewith.

937 TEXTILE:

Operation involving the use of material of woven fibers.

938 Apparel:

This subclass is indented under subclass 937. Operation involving working with a garment to be worn by a person or animal.

939 APPAREL SUPPORT:

Operation involving the construction of a member to be used in holding a garment to be worn by a person or animal against the force of

gravity when the garment is not on a person or animal.

940 BELLOWS:
Operation involving the construction of a three-dimensional member including an interior chamber and side walls that are zigzag folded to allow the volume of the interior chamber to change.

941 FILTER:
Operation involving the construction of a member intended to restrict the flow of a gaseous or fluid medium therethrough to separate material therefrom.

942 CLEANING IMPLEMENT (E.G., BRUSH, DUST MOP, ETC.):
Operation involving the construction of a member intended to be used to remove foreign material.

943 CANDY STICK:
Operation involving the construction of a member adapted to be united with a confection and adapted to serve as a handle gripped by a person consuming that confection.

944 APERTURE CARD OR DISPLAY DEVICE WITH WINDOW:
Operation involving the construction of a member of nontransparent material which member has an opening for passage of light therethrough.

945 COIN HOLDER:
Operation involving the construction of a member for support or storage of a circular disc which disc is to be used as coinage.

946 PHONOGRAPH RECORD JACKET:
Operation involving the construction of a member for support or storage of a circular disc used for the recording of information.

947 FILE FOLDER:
Operation involving the construction of a member having a first planar side and a second planar side connected together along a fold line which member is intended to receive sheet material for storage between the two sides.

948 IGNITING FUSE:
Operation involving the construction of an elongated member of combustible material which is adapted to be ignited at one end and burn at a predictable rate to carry the flame to the other end thereof.

949 ELECTRICAL INSULATION:
Operation involving the construction of a member or of material that is intended to be relatively poor conductor of electrical current.

950 LAMP SHADE:
Operation involving the construction of a member to be used to cover an illuminating member to establish the amount and the direction of radiation therefrom.

951 SEEDLING CONTAINER:
Operation involving the construction of a receptacle in which seeds are to be planted for horticultural purposes.

952 PHOTO CORNER MOUNT:
Operation involving the construction of a member to be mounted on a planar sheet, which member includes a pocket to receive a corner of a photograph and thereby hold the photograph in position on the planer sheet.

953 STENCIL OR OUTLINE GUIDE:
Operation involving the construction of a member that is to establish by its peripheral configuration the movement of an otherwise randomly manipulated implement.

954 SPOOL:
Operation involving the construction of a generally cylindrical member intended for the storage of web or strand material wrapped thereabout.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, particularly subclass 322, 407+, 600+, and 118+ for a spool for a reel or other winding use.

955 DECORATION ARTICLE:
Operation involving the construction of a member having the purpose of influencing the appearance of other structure when used therewith, merely by the presence of the member.

956 Having appearance of living plant (e.g., Christmas tree, etc.):
This subclass is indented under subclass 955. Operation involving the construction of a member that is intended to look like a tree, a shrub, a flower, or a portion of such a member.

957 Festoon:
This subclass is indented under subclass 955. Operation involving the construction of an elongated member adapted to be supported at spaced points along its length and allowed to drape therebetween.

958 Garland:
This subclass is indented under subclass 955. Operation involving the construction of an elongated member adapted to be supported at one point.

959 TOY OR AMUSEMENT ARTICLE:
Operation involving the construction of a member intended to be used for entertainment.

960 TOILET ARTICLE:
Operation involving the construction of a member in personal hygiene.

961 TAG, MARKER, OR LABEL:
Operation involving the construction of a member to be used to indicate.

SEE OR SEARCH CLASS:
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, digest 1-51 for an art digest of label applying.

962 CLOSURE (E.G., TIE STRING, VALVE, ETC.):
Operation involving the construction of a member that is to be used to close a container.

963 OPENER (E.G., TEAR STRIP, ETC.):
Operation involving the construction of a member that is to become a part of a container and is to sever the wall of the container to provide access to the contents.

964 PALLET:
Operation involving the construction of a movable member on which an article is to be placed for handling or storage.

965 Flat or "boat" (for candy, crackers, etc.):
This subclass is indented under subclass 964. Operation wherein the movable member is adapted to be wrapped about the article.

966 HONEYCOMB STRUCTURE:
Operation involving the construction of material having parallel tubular passages therein.

967 DUNNAGE, WADDING, STUFFING, OR FILLING EXCELSIOR:
Operation involving sheet or web material that has been forced into an undefined, generally irregular mass to fill an area.

968 STRUCTURAL SHAPE:
Operation involving the construction of a member or stock material of a shape stronger than sheet or web shape.

END