

CLASS 428, STOCK MATERIAL OR MISCELLANEOUS ARTICLES

SECTION I - CLASS DEFINITION

This class accommodates certain products of manufacture which are not provided for in classes devoted primarily to manufacturing methods and apparatus. The bulk of the documents are directed to stock material composites, that is, materials having two or more distinct components which are more ordered than a mere random mixture of ingredients.

Certain finished articles, generally of an ornamental or readily disposable nature, are placed herein when this class specifically provides for them. Unfinished articles, e.g., blanks requiring further significant shaping to be suitable for ultimate use, and stock materials from which an indefinite number of usable portions may be cut, are placed herein unless specifically provided for elsewhere. The determination whether a product is a finished article or a stock material is made on the basis of the amount of structure included in the body of the claims.

A patent for this class is placed herein generally without regard to the process by which it is made, for example, without regard to whether the plural layer product was formed by extrusion, coating, or assembly of preformed layers.

Therefore, unless otherwise clearly stated, the term "coating" or "layer" will include a preform as well as a layer formed by covering a base with a fluent material which then solidifies. A comprehensive search for processes of making the products of this class will be found in the manufacturing classes listed below.

An asterisk has been applied to certain terms throughout this bulletin to indicate that these terms have specific definitions in the Glossary, which should be consulted.

The asterisk has been applied to identify the term in the first appearing definition which must be considered for the desired subclass title.

It should be noted that there are two sections for the glossary. The first one applies generally to the structural areas of the schedule; the second applies to materials (e.g., compound, composition, etc.). It should further be noted, however, that the structural areas of the class also include some subclasses directed to materials.

Both sections of the glossary should be consulted.

This is the residual class for:

- A. Stock material in the form of a structurally defined web*, sheet*, rod*, strand*, fiber*, filament*, cell*, flake*, particle* not provided elsewhere.
- B. Stock material in the form of a web*, sheet*, mass* or layer* which consists of or contains a structurally defined constituent* or element* not provided elsewhere.
- C. A nonstructural laminate defined merely in terms of the composition of one or more layers* not provided elsewhere.
- D. An article* of manufacture not provided for elsewhere.
- E. An intermediate-article* which is not provided for elsewhere and from which a final article is to be made.
- F. A process for applying an impregnating material to a naturally solid product such as a wood beam, a sheet of leather or a stone, or for applying a coating to a base, and which process includes no significant method step. Such a patent is placed in the schedule on the disclosed product produced, whether structural or nonstructural. See section VI, C, 6, below, reference to Class 427, Coating Processes, for guide lines which are to be followed in determining whether or not a process step is significant, for classification in Class 427, or not significant for placement in Class 428.

FRAMEWORK OF THE CLASS

This class comprises several major subclass groups which can be identified by reading down the first-line indent subclasses, and a special category for metallic* materials which parallels the arrangement provided for nonmetallic* materials, insofar as this arrangement is applicable. These major groups and parallel metallic* groups are:

- A. Subclasses 1 through 39 and 576 provide for special articles* generally defined in all three dimensions, for which there is no provision elsewhere, and subclasses 542 and 577+ provide for intermediate-articles*.
- B. Subclasses 40 through 84, 571 through 575 and 586 through 591 provide for a special web* or sheet*.
- C. Subclasses 85+ for special surface characteristics of the pile or nap type.

D. Subclasses 98+, 357+, 544-570, 592-604, 606-614, and 687 provide for stock material either in the form of a web* or sheet*, or an element* (e.g., rod*, fiber*, filament*, particle*, flake*, etc.), respectively, which of and by itself is structurally defined as claimed.

Some examples of a structurally defined web* or sheet* are: (1) particular shape, particular size, or other physical configuration. (2) including an external mechanical fastener so as to be attached to another object. (3) components* or elements* arranged relative to each other or to a surface. (4) components* having same characteristic but in different degree. (5) a discontinuous coating, impregnation or bond. (6) variation in thickness or in planarity. (7) attachment of components* by stitching and bond or coating. (8) apertures. (9) surface finish. (10) any recitation of a measurable extent, no matter how wide, (e.g., "up to .075 mil", "between 10 and 25 microns", etc.).

Some examples of structurally defined elements* are:

(1) particular size or shape or other physical configuration (see above). (2) nonlinearity of a fiber or filament (e.g., crimped or coiled, etc.). (3) specific depth of impregnation of a fiber or filament.

- (1) Note. As a special case, even though not structure, a coated or bonded fiber, filament, rod, strand is placed in subclasses 357+.

E. Subclasses 221+ provides for a web* or sheet* in which one component* or element* (e.g., fiber, filament, strand, particle, etc.) is structurally defined as claimed.

Some examples of defined structure are: (1) size or particular configuration or shape, either absolute or relative (e.g., weight* per unit area). (2) interengagement of strands* or filaments* which means mechanically arranging one strand* or filament* alternately over and under other strands*, perpendicularly or angularly related thereto. If all strands* in one direction are on only one side of the strands in the other direction, this is not interengagement. Looping, intertwining, interweaving, intertangling are also included in the term interengaged.

(3) a composite* web* or sheet*, at least one component* being porous or cellular. (4) a composite*, web* or sheet* having the outermost layer of adhesive characteristics so as to be adhered to another surface.

F. Subclasses 411+ and 615+ provide for a composite* web* or sheet* which is characterized solely by the composition of the layers*.

G. Subclasses 539.5 and 540+ provide for stock-material* having a continuous phase of one material interengaged with a continuous phase of a different material, usually made by permeation or saturation. See the definitions and notes of these subclasses.

In addition there are provided in subclasses 900-941 cross-reference art collections of product patents based on use or particular characteristics indicated in the titles and definitions thereof. These collections of disclosures are not exhaustive but are intended as aids to a search based on ultimate function or use, as a supplement to a search in this class, or as an indication of further related fields of search inside or outside this class.

SCOPE OF CLASS

The scope of this class is defined by the residual state thereof as set forth in above.

It must be clearly understood that all patents to stock material products have not been removed from all those classes which provide for such products on the basis of their ultimate function, See below for an exemplary listing of such classes.

As to composites (subclasses 411+ and 615+), the disclosures of this collection of art (i.e., adhered bodies defined in terms of their respective compositions or compounds) are subdivided generally on the basis of pairs of contiguous bodies (conveniently referred to as "layer"*). Thus, for instance, a laminate composed of layers* A, B, C, in that order, is visualized as comprising the pairs A-B and B-C, the laminated, A, B, C, D as comprising pairs A-B, B-C, and C-D-- and so on. This arrangement is conceived of as facilitating the search for any multi-layered product, particularly for patent examination purposes. Whereas a search for substance A joined to substance C by an intervening layer* of B, in a system based on paired layers*, may produce a disclosure of A-B in one document and of B-C in another, or may retrieve a disclosure of A-B-C in one document, it is thought that all such disclosures should be available to the examiner for his consideration, whether in a single document or a

combination of documents. The utility of such as approach is apparent in the search for products including five, six, seven, or more layer* pairs or interfaces.

Additionally, it is believed that this concept of laminates as consisting of pairs of layers* may be incorporated readily into a machine retrieval system. Having in mind the ubiquity of layer* interfaces in modern technology--appearing in both laminated and molded plastics, protective and decorative finishes, wood and paper products, metal stock--the technique of subdividing into layer* pairs all disclosures in the voluminous literature of interfacial bonding, is seen to offer an effectual starting point for the development of a schedule of descriptors or a dictionary of terms for mechanical search.

It is an essential part of the considerations on which this paired-layer* schedule is based, that no weight is given to the alleged nature of any particular layer* as adherent or base. The disclosure of two particular layers* in mutual contact will be available for the searcher's consideration regardless of whether either, both, or neither is taught as being adhesive, bonding material, glue, impregnant, etc.

CRITERIA FOR PATENT PLACEMENT WITHIN THIS CLASS

The general procedure for placement of a patent in a class is set forth on in the Manual of Classification (note the exception set forth in the last paragraph of this section). Briefly, the basic principles which determine placement of the original copy of a patent in this class are:

A. Only claimed subject matter is relied upon, when comparing coordinate "first-line indent" subclasses (e.g., subclasses 98 and 221), for placement of a patent.

B. In subclass 1 through 223, 292.1 - 301.4, and 304.4 - 410,

1. the original copy of said patent will be placed in the first-occurring "first-line indent" subclass (of this class) which provides for the claimed subject matter: However, where said "first-line indent" subclass has a further indented subclass which specifically provides for either the claimed or disclosed more specific subject matter, the "original" copy will be placed in said further indented subclass;

2. as between coordinate subclasses (e.g., subclasses 156 and 174) which are indented under a "first-line indent" subclass, the original copy of a patent will be placed in the first-occurring of the coordinate subclasses which provides for (a) the claimed subject matter, or (b) the disclosed subject matter (in the absence of a claim drawn to the more specific subject matter as provided for in such coordinate subclasses);

3. further, the original copy of a patent will be placed in an indented subclass where the unclaimed but disclosed more specific subject matter is provided for in said indented subclass.

C. In the subclasses relating to specified physical dimension (e.g., 215+, 220, 332+, etc.), a range thereof qualifies even though the work "absolute" may be used.

Further, in a subclass which specifies the upper limit of a dimension, for example, subclass 334, in which the upper limit is specified as 5 mils (or equivalent), a range which transcends this limit is excluded therefrom and is placed in the appropriate higher subclass. Thus, for example, a composite* sheet* in which the coated layer* is recited as being in the range of 3 mils to 7 mils, is excluded from subclass 334 and is placed in subclass 332, unless reason exists for placement in subclass 339.

D. In subclasses 544+, the original is placed strictly on the basis of the claims. Where an indented subclass is provided, the original is placed in the indented subclass only when all of the claims have the limitations of that indented subclass.

E. The procedure for placement of a patent directed to a nonstructural laminate or composite will be that procedure now employed in the classification of classes of chemistry and is set forth under the definitions of subclasses 411 and 615 of this class (428). Procedures applicable to patent placement in the experimental "Markush"-type subclasses 643, 656, 661, 664, 669, 671, and 678 are given in the definition of subclass 643.

Once placement of the original copy of a patent has been determined, a cross-reference copy of the patent is mandatory in every subclass in this class or any other which provides for other claimed subject matter, except in instances where the sub-

class which would normally receive such cross-reference copy contains a search class note to the subclass in which the original copy has been placed, in which case only exemplary cross-references are provided. Cross-reference copies may be placed in any subclass where the disclosed subject matter is considered to render the document as useful reference.

When the original of the patent is placed in the article* or structural subclasses, a cross-reference copy will be placed in subclass 411, or subclasses 615+, where the disclosed subject matter is considered to render the document as useful reference. Similarly, when the original copy of a patent is placed in subclasses 323+, a cross-reference thereof will be placed in a superior subclass where the disclosure warrants. **CLASSES HAVING A DEFINED RELATIONSHIP WITH THIS CLASS**

Completed articles* of manufacture, except for those expressly provided for in the schedule, are excluded from this class. However, in many cases the claims of a patent are directed only to "nominal" articles, that is, articles claimed only in terms of the composition or stock-material* from which they are made. It is the present policy of the Patent and Trademark Office to classify article patents, wherein the claims mention the article by name only and define it only in terms of the composition or material of which it is composed, in the appropriate composition or material class. The collection of these patents and reclassification thereof into the composition or material classes is under way, and as a corollary thereto, patents claiming a composition or material for an art use heretofore classified in the art classes are also being transferred to the appropriate composition or material class. For articles* provided for in other classes, attention is directed to the "Index to Classification", and to **LINES WITH OTHER CLASSES**, below.

AN ART INDEX OF COMMON TERMS AND EQUIVALENT TERMINOLOGY USED IN THE SCHEDULE.

The first appearing term, i.e., to the left of the colon, is the name used in the document and the term to the right of the colon is the corresponding name employed in the subclass titles of the schedule. The list pro-

vides an index to the schedule for laminates which are identified by trade names, trade marks and other terminology not employed in the schedule. The symbols # and 0 indicate that the term, on the right in the glossary, is an abbreviated form of that found in the subclass titles.

= aldehyde or keytone condensation product

0 = addition polymer from unsaturated monomers.

A

"A" Stage: = aldehyde[#] (phenolic); ABS, acrylonitrile-butadiene-styrene: = unsaturated^o (polyene) Acrylate, acrylic: = unsaturated^o Airplane fabric = cloth*: Alkyd: = polyester Animal fiber or hair: = polyamide; Animal glue: = polyamide; Artificial silk: = cellulosic (regenerated or modified); Asbestos: = silicon containing; see definition; Asphaltic: = bituminous

B

"B" Stage: = aldehyde[#] (phenolic); Balata: = natural rubber; Balsam: = natural gum; "Beetle", "Beetleware": = aldehyde[#]; Birdlime: = natural gum

C

Canadian Balsam: = natural gum; Caoutchouc: - natural rubber; Casein: polyamide; Carbon Particles: = inorganic; "C" Stage: = aldehyde[#] (phenolic); "Cellopane": cellulosic (modified); "Celluloid": = cellulosic (modified); Cement: = silicon containing; Ceramic: = silicon containing; Chloroprene: = unsaturated^o (polyene); Clay: = silicon containing; Cotten seed pitch: = bituminous or tarry residue.; Coumarone, coumarone-indene: = unsaturated^o (heterocyclic); Creosote: = bituminous

D

Dextran: = carbohydrate; Dextrin: = carbohydrate; Dope (airplane): = cellulosic, (modified)

E

Enamel (not otherwise specified) - pigment varnish: = natural oil or gum; Enamel, porcelain: = silicon containing; Enamel, synthetic: = see under the appropriate synthetic resin; "Ethoxylene": = epoxy ether

F

“Factice”: = natural oil (modified); Fiber (animal): = polyamide; Fiber (vegetable): = cellulosic; Fish glue: = polyamide; “Kelf”: = fluorinated addition polymer; Fish paper: = polyamide; Fleece: = nap surface; Flour paste: = polyamide unless specified as starch, which see; “Formica”: = aldehyde; Friction tape: = bituminous or tarry residue; FR-S: = unsaturated^o (polyene); Furfural: = aldehyde; Fur: = polyamide;

G

Gelatin: = polyamide; “Geon”: = unsaturated^o (halide); Glass: = silicon containing; see definition; Glass, water (i.e., water-glass): = silicon containing; Giladen (protein): = polyamide; Glue: = polyamide; Glue, Fish or Animal: = polyamide; Glue, Synthetic: = usually aldehyde; Goldbeaters skin: = animal membrane; Graphite: = inorganic; GR-S: = unsaturated^o (polyene); Gum plastic, ABS: = unsaturated^o (polyene); Gutta percha: = natural rubber; Gypsum: = calcium sulfate

Hair: = polyamide; Haloprene: = unsaturated^o (polyene) “Hetron”: Hexamethylenetetramine as a source of formaldehyde: = aldehyde[#]

Ivory: = polyamide

“Kodel”: = polyester; “Koroseal”: = unsaturated^o; “Kynar”: = fluorinated addition polymer

Latex: = natural rubber; Latex paint: = unsaturated^o (either ester or polyene); “Leatheroid” (paper-rubber-sandarac): natural rubber; Lecithin: = waxy; #aldehyde or ketone condensation product 0 addition polymer from unsaturated monomers.; “Lexan”: = polycarbonate; Linoleum: = cork with natural oil, gum or rosin; Lycodium: = natural oil or gum

M

Maleic acid or anhydride (used as a reactant): = unsaturated (anhydride is heterocyclic); Maleic acid ester (from polyhydric alcohol): = polyester (crosslinked); Maleic acid ester (from monohydric alcohol): = unsaturated^o (ester)#; Melamine: = aldehyde; Mica: = silicon containing; Modacrylic: = unsaturated (halide); “Mylar”: = polyester; Neoprene: = unsaturated^o (polyene)

N

“Neothane”: = poly(amido-ester); Nitro cellulose: = cellulosic (ester or modified); Nylon: = polyamide; Oil cloth: = see structural area (cross joined strands)

“Orlon”: = a cyrylic (unsaturated^o)

P

Paper: = a water laid web or interfelted natural celluloses fibers; Phenolic(s): = aldehyde; Pitch: = bituminous; “Plexiglas”: = unsaturated^o (ester); “Pliofilm”: = natural rubber; “Plioflex”: = unsaturated^o (polyene); Polyamine: = aldehyde[#] (unless otherwise specified); Polyethylene: = unsaturated^o; Polypropylene: = unsaturated^o; Polyurethane: = see urethane; Porcelain: = silicon containing; Porcelain enamel: = see enamel, porcelain; Portland cement: = silicon containing; Protein: = polyamide; PVA (Polyvinyl acetate):^o =unsaturated (ester); “Pyrex”: = glass; Pyroxilin: = cellulosic (modified) Quartz: = silicon containing

R

Rayon: = cellulosic (regenerated) (in strand or fiber form); Refractory: = see definition above; Rubber, pore: = natural rubber; Rubber, synthetic: = unsaturated^o polyene; Rubber, synthetic, sulfide: = polythioether

S

SBR: = unsaturated^o (polyene); Sand: = silicon containing; Sandarac: = natural gum; “Saran”: = unsaturated^o (halide); Silk: = polyamide; Soya bean oil: = polyamide; Starch: = carbohydrate; Stone: = silicon containing; Stone Wood: = cellulosic (wood); Suede: = Pile or nap surface; Synthetic glue: = usually aldehyde[#]; Synthetic rubber: = unsaturated^o polyene; Synthetic rubber: sulfide: = polythioether Talc: = silicon containing; “Teflon”: = fluorinated addition polymer; “Terylene”: = polyester; Urethane: = poly(amido ester)

V

Varnish: = natural oil or gum, lac; Varnish, phenolic: aldehyde[#]; Varnish, synthetic: = aldehyde or cellulosic (as disclosed); Vegetable ivory: = cellulosic; Vinyl: = unsaturated^o; Vinyon: = unsaturated^o (halide); Viscose: = cellulosic (modified); Vitreous: glassy, silicon containing; Vulcanized fiber: = cellulosic (modified)

W

Water glass: = silicon containing; Water soluble thermosetting resin: = aldehyde[#]; Wheat paste: = polyamide, unless specified as starch (which see); Wood: = cellulosic; Wool: = polyamide
 Z
 Zein: = polyamide; Zylonite (celluloid): = cellulosic; "Zytel" (nylon): = polyamide

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

The organization of this section is as follows:

A. INTERMEDIATE ARTICLES* - 1. Packages, 2. Blanks, etc.

B. COMPOUNDS AND COMPOSITIONS

C. ARTICLES* AND STOCK-MATERIALS* - 1. Life-science related; 2. Textiles and related materials (a. Fibers, strands, rods, etc.; b. Interengaged fibers or strands; c. Belts, etc.; d. Associated fabrics; e. Textiles and their manufacture in general) 3. Static objects and materials (a. Receptacles, chambers, etc., b. Other hollow subject matter, c. Structures related to radiant or wave energy, d. Other structures and static objects); 4. Electric and magnetic elements, 5. Mechanical elements (a. Joints, b. Cutting, separating and related elements, c. Friction elements, d. Other machine elements); 6. Coating and coated products, 7. Assembling and/or shaping, 8. Other manufacturing and treating, 9. Miscellaneous devices

D. CLATHARATES AND INTERCALATES

In section II, the symbol # is used at the end of the definition to designate a class or part of a class which provides for certain stock-material*. Here follows the number and full title of classes which have been discovered as having a defined relationship with this class, as explained below in Subsection INTERMEDIATE-ARTICLES*, and in the subclass definitions:

A. INTERMEDIATE-ARTICLES*

1. Packages, Class 206, provides, in general, for mercantile units in which a plurality of articles* are held together by an extraneous element which is discarded before the article is used. A plurality of articles which are not yet detached from each other, being held together by material intrinsic to the material of which

the articles are made, generally is classified in this class (428); however, Class 59, subclass 77 provides for a series of staple blanks which are partially shaped and integrally connected. Class 229, subclass 75 provides for a plurality of envelope blanks integrally connected in strip form. A package designed to be used or disposed of in toto is generally classified herein; see subclasses 2 and 576. See also the references to Class 252 in part B, below.

Stock material in roll or coil form, or wound in the form of a coil, will be classified in Class 428; however, any further limitations as to the roll, or coil or package, as for example, an overlapping roll edge, an edge or convolution taped or secured to an under layer*, or a detail as to the mandrel, etc., is considered to be significant structure for the roll and placement in Class 206, subclasses 389+ is indicated.

A separate and distinct interliner or sheet* wound into the convolutions and which is not ordinarily part of the stock material is considered to be significant roll structure for Class 206. A liner sheet adhered to a portion of a composite* sheet* or web* and rolled together therewith and removable is considered to be part of the stock material and proper for Class 428.

Generally, a product or stock material falling within the definition of this class (428) and further modified by the bare recital that such product or material (a) is in the form of a roll, reel, drum, coil, stack, pile, bale, etc., or (b) is within a container or in the form of a package is classified in this class (428).

For purposes of classification in Class 428, the coil, packaged or wound form is disregarded and placement is on the basis of the web*, sheet*, or other form of product or stock material.

See Class 206, subclasses 45.31+ for a pouch adapted to receive an identification card (unless of the paper envelope type, see Class 229, Paper Receptacles).

In regard to wall structure of Class 206-type receptacles, see part C,3,a, below.

A wound strand package is in Class 242, subclasses 159+, which also has a search note setting out its line with Class 206.

An intermediate-article* so shaped as to be suitable for handling is in this class (428); however, a claim to a pile or stack of such articles, when it does not form a work-

piece* which is subsequently worked as a unit, is in Class 214, subclass 10.5.

2. Blanks, etc.

A claim, even though stated to be a “blank” which describes or is readable on the structure of a completed article* is classified with the article*, for such a claim is either generic to both the blank and the article, and, therefore, considered to be best classified with the completed article, or is to a subcombination which is best classifiable within an appropriate subcombination class, or, if none, in the article class.

Class 2, subclass 143 provides for blanks which are to be used in making collars for garments.

Class 10, subclasses 11+ provide for bolt blanks, and subclass 62 provides for spike blanks.

Class 24, subclasses 20+ provide for a package tie which is a metal band which is to be bent, cut, or formed up to make a connection.

Class 36, subclasses 47+ provide for blanks used in the production of shoe uppers.

Class 59, subclasses 8, 12 and 35 provide for chain blanks, subclass 62 provides for horseshoe blanks, and subclass 77 provides for staple blanks which are partially shaped and integrally connected.

Class 63, subclasses 15+ provide for a finger-ring blank which already is a ring.

Class 76, subclasses 101.1+ provide for a metal tool or implement blank.

Class 101, subclasses 404.1+ provide for blanks for printing plates and printing members.

Class 138 provides for tube and ring blanks which are tubes which can hold fluid.

Class 150, subclasses 127+ provides for blanks used in making pocketbooks.

Class 220, subclasses 62+ provides for a can or other metallic receptacle blank.

Class 229, Envelopes, Wrappers, and Paperboard Boxes, subclasses 100+ for a blank for forming a paperboard box.

Class 248, subclass 248 provides for a blank from which a sheet-material supporting bracket can be made.

B. Compounds and Compositions

A patent claiming a single layer*, film, filament*, or fiber*, or a mass*, with a limitation to the material(s) of which it is comprised, but with no recitation of significant structure, will be placed in the appropriate compound or composition class. The following are considered to be significant structure:

1. An external configuration which is not planar or cylindrical, e.g., aperture, fold, varying thickness, etc.
2. The recitation of a numerical dimension or designation of metal as a foil or leaf
3. A product composed of at least three layers*.
4. A coated strand, wire, fiber, filament, rod or strand.
5. An interconnected void structure.
6. Porosity in a nonparticulate metal.

The following are not considered to be significant structure:

1. Random distribution of elements* such as fillers or reinforcements (e.g., fibers*) within a product or randomly disposed pores or cells (i.e., no particular pattern or arrangement) in a porous, cellular or foamed product, wherein the overall structure is neither limited nor influenced by these elements*, even though the elements* or pores themselves may have structural limitations.
2. Internal characteristics, such as crystalline form, molecular orientations, etc., when such characteristics have no relation to the shape of the product.
3. The presence of the composition as a coating on an unnamed substrate.

A product described by a functional or chemical name only (e.g., table, wood, etc.) is not considered to have significant structure; however, limitations such as plywood (indicating layers*), tables with legs, etc., are considered to define structural limitations.

Also, a patent for a product where the presence of structure (e.g., cellular) or the degree thereof is a mere manifestation of the material or composition will likewise be

placed in the appropriate material or composition class. Further, a product defined in terms of its properties (e.g., tensile strength, elongation) is not considered a “structurally defined” product, as provided for in this class.

In regard to a patent which has a claim to a product which is classifiable in this class (428), subclasses 411+, but which recites no significant structural limitations, and a claim to a coating material compound or composition which is included in at least a part of the claimed product, and claim to a significant process of coating, the patent is classified according to the coating material.

The rules for determining Class placement of the Original Reference (OR) for claimed chemical compositions are set forth in the Class Definition of Class 252 in the section LINES WITH OTHER CLASSES AND WITHIN THIS CLASS, subsection COMPOSITION CLASS SUPERIORITY, which includes a hierarchical ORDER OF SUPERIORITY FOR COMPOSITION CLASSES.

The enumeration of classes below, in general, follows the priority list of Class 252 and covers some additional classes. Thus, this enumeration is not authoritative insofar as priority of classes is concerned. The definitions of these classes should be studied to determine the proper placement of patents therein.

Class 504, subclasses 116+ provide for plant growth regulating compositions and subclasses 101+ provide for a fertilizer containing an insecticide, fungicide, or deodorant.

Class 424 provides for drug, bio-affecting and body-treating compositions. Subclasses 1.21, 1.25, 1.29+, and 400+ provide for some articles* and stock-materials* which contain a composition of that class. A stock-material* suitable for this class (428), containing a Class 424 composition to preserve the stock material itself from biological attack, is in this class (428). Residual methods for preserving, disinfecting or sterilizing stock-materials are in Class 422.

Class 426 provides for food, beverages and other edible compositions, and certain edible articles* and stock-materials*.

Class 71, provides for fertilizers.

Class 208, subclasses 14+ provide for compositions made up exclusively of mineral oil components.

Class 585, subclasses 1+ provides for compositions

made up exclusively of hydrocarbons or a hydrocarbon with a preservative, etc.

Class 149 provides for explosive and thermic compositions and charges, subclasses 2+ providing for one in which at least one ingredient has a particular shape or structure, and subclasses 14+ for one having at least two separate and distinct superimposed or contiguous layers or forms of different components or of components having different properties. The layers must be in direct contact and not be separated by a space or by a nonexplosive or nonthermic body.

Class 508, subclasses 100+ provide for shaped lubricants and massive rigid solid bodies, including bearings, which carry a fluent lubricant, and subclasses 110+ provide for lubricant compositions generally.

Class 44 provides for fuel compositions and some combustible fuel articles* and stock-materials*.

Class 148, subclasses 240+ and 22+ provide for certain compositions for treating solid metal, and subclass 400.1 for certain stock-materials* and compositions produced by a process of that class (148). See the references to this class in parts 4 and 6, below.

Class 75, subclasses 228+ provide for consolidated metal powder compositions, in subclasses 251+ for loose metal powder compositions, and in subclasses 95, 256 and 257 for certain additives for molten metal.

This class (428), subclass 576 provides for a shaped article* to be melted in a metallurgical furnace.

Class 252, in subclasses other than those listed above or below, provides for special utility compositions. In most cases, Class 252 provides for compositions having a random mixture of components, while stock-materials* are classified in this or another stock-material class. However, it is noted that some subclasses in Class 252 provide for more than mere compositions; for example, subclass 176 provides for packages and heterogeneous arrangements of water-softening and related-function compositions.

Class 510 provides for cleaning compositions and auxiliary or perfecting compositions therefor, while certain subclasses therein, such as subclasses 404, 438+, etc., provide for packages or heterogeneous arrangements, while subclasses 445+, etc., provide for solid, shaped macroscopic articles or structures.

Class 106 provides for a composition which is in fluent

or solid noncoherent form which is adapted for coating or impregnating and for change to a less fluent form, or solid coherent form, by setting (e.g., concrete, plastic, etc.), by chemical reaction, by removal of solvent, by solidification from a molten state, etc. In a patent directed to a filler or pigment for a coating composition, the recitation of size or structure of the constituent* particles or fibers is not sufficient to exclude said patent from Class 106. See especially subclasses 36, 117, 235, 241, 251, 253+, 266, 272, 275, 276, 280, 281+, 288+, 636, 784, and 816.

Class 51 provides for abrading composition or some stock material; see especially subclasses 294, 295, and 297 for other abrasive stock material, or for a method of making abrasive material such as “sandpaper.”

Class 451 provides for abrading materials in usable form, as a “tool” under that class definition. For example, subclasses 526+ provide for “sandpaper.”

Class 260, subclasses 2+ and 520 Classes provide for a synthetic resin or Natural Rubbers (spinnable, film-forming, etc.), and Class 260, subclasses 709+ provide for a vulcanizable natural gum (e.g., rubber).

Under certain circumstances, the relation between Class 260, 520 Classes and Class 428 shifts between combination and subcombination. For example, the subcombination of a resin composition is in Class 260 and 520 Classes; a layered product structurally defined and containing the resin composition as a layer is now a combination which is classified in Class 428. However, the combination of the layered product and a resin, when the layered product is used as filler for the resin is again classified in Class 260 and 520 Classes as a resin composition.

Class 252, subclasses 299.01+, 625+, 363.5, 367.1, 372+, 378, 182.11+, and 183.11+ provide for compositions on a nonfunctional basis.

Class 423 provides for inorganic compounds, and in subclasses 265+ provides for compositions having an inorganic compound and an agent which improves the general utility of the compound.

Class 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for stock material and products which are radiation sensitive and limited to use in imagery and a finished imaged article chemically defined. A claim to a finished picture or photograph is classified in Class 428.

Class 520 provides for synthetic resins, natural rubbers, compositions and modifications thereof.

C. Articles* and Stock-materials*

1. Life-sciences related materials.

Classes 3, 47, 433, and 449 take articles*, but not stock-materials*. A cut, natural plant, treated to prolong the characteristics of life, is in class 47, and that class (47) provides for the combination of a receptacle and a cut plant either treated or with means to prolong the characteristics of life.

Class 128 is the locus for a patent directed to a stock-material* product when (1) solely disclosed to be worn by, or attached to, the body (e.g., sanitary napkin, diaper, etc.) and to be a receptor for a body discharge (2) solely disclosed as a shield or protective device to be worn on, or attached to, a body member or part (e.g., bandage, dressing, etc.) and having a therapeutic use or (3) a patent to a stock-material* product whose disclosure includes a Class 128 utility as set out above or in the class definition thereof, and a general utility for Class 428, but in which one claim is specific to the Class 128 disclosed use.

2. Textiles and related materials

Certain textile manufacturing classes provide for their own products, and Classes 2, 5 and 245 provide for products only, while some other textile products are provided for in this class.

a. Fibers, strands, rods, etc.

Class 19, subclasses 144+ provide for a process of, or means for, assembling fibers* together into a lap, sliver or web*, with some other material. Stock-material* products of a Class 19 process are classified in this class (428).

Class 52, subclasses 720.1+ provide for a miscellaneous article* which is an elongated, rigid structure. See also the reference to Class 52 in part 3d, below.

Class 57, subclasses 200+ provide for a stock-material* strand* consisting of, or comprising, a claimed twisted or twined constituent*; or for a stock-material* product (e.g., web*, sheet*, etc.) distinguished only by such twisted or twined strands* (as claimed) employed in the manufacture thereof, or a stock-material* product comprising coated or impregnated strands* in which the

coating or impregnation took place prior to assembly of said strands* to form the product, no matter how the twist was made, whether by a Class 57 process or apparatus or otherwise.

The “twist” or its equivalent term is applicable either to plural fibers* or filaments* which are twisted about each other, or to a monofilament which is turned or twisted about its longitudinal axis. A crimped fiber is classifiable in Class 428, the crimp being out of the plane of the fiber.

This class (428) does not exclude a yarn, strand*, or other constituent* unless the claim recites at least a “twist” or its equivalent; or a property due to, or resulting from, twisting a fiber* or filament*. There are certain terms which have been accepted as denoting a twisting fiber* or filament*, and, if used in a claim, classification in Class 57 is indicated, provided all other requirements therefor are met. Some of these terms are:

i. plying, doubling, twining, twisting (all such terms are considered to be synonymous) and indicate turning about the longitudinal axes of the fiber* filament or yarn or bundles of yarns;

ii. filament looped upon itself;

iii. turns of twist per inch;

iv. false twist;

v. twist to treat, followed by untwisting;

vi. spun staple fiber yarn e.g., wool, cotton, etc.;

vii. “Z” or “S” twists or piles;

viii. roving.

In the event of a disclosure which includes (1) “twisted” strands, fibers, filaments for Class 57, and (2) nontwisted elements proper for Class 428, the following guidelines are to be followed in accordance with the claims:

1. A claim generic to both modifications will be classified in Class 428 as an original with a cross-reference, if needed, to Class 57.

2. A claim specific to either the twisted or nontwisted fibers will be classified in Class 428 or Class 57, respectively, with a proper cross-reference to the other class as needed.

3. A claim to the twisted Class 57 modification and a claim to the nontwisted product will be classified as an original in Class 428 with the proper cross-referencing.

Class 84, subclasses 199 and 297+ provide for strings for musical instruments.

Class 256, subclasses 6+ provide for barbed-strand fence stock-material*, and in subclass 46 for analogous nonbarbed stock-material*.

Class 464, Rotary Shafts, Gudgeons, Housings, and Flexible Couplings for Rotary Shafts, subclasses 51+ provides for flexible shafting; and subclasses 179+ provides for rigid shafting.

b. Interengaged fibers or strands

Class 59, subclasses 78+ provide for a chain formed of linked elements.

Class 66, subclasses 69+ provide for a knitted article or stock-material*, and especially subclasses 190+ for stock-material* including knitted material with nonknitted material held in its loops.

Class 87, subclasses 1 through 13, provide for (1) stock-material* which consists of, or includes, a braid, net, or lace component, or (2) a product resulting from an operation(s) within the scope of that class (87), which product is either coated or combined with a material which is the product of an operation beyond the scope of Class 87 (e.g., lamination, etc.).

Class 131, subclasses 321+ provide for stock-material* specified as being a filter and of indeterminate shape (e.g., mass), or approximating the shape (e.g., coil, tube, cylinder, rod*, etc.), of the article or appliance with which it is intended to be used, requiring no further treatment than tearing or cutting to proper size* stock-material* of any other shape, recited so that some shape modification is required, is classified in Class 428.

Class 139, subclasses 383+ provide for a single or plural layer* woven stock-material* product made only by a Class 139 process and no other operation. A patent directed to a woven product possessing deformed, coated or impregnated strands will be placed in Class 139 where the sole disclosure is that a coating, impregnation or deformation of the constituent strands took place prior to the weaving.

Two layers woven together are classified in Class 139.

Two woven layers adhered together are classified in Class 428, one layer of woven material next to a layer of nonwoven material is classified in Class 428.

Class 162 provides for a nonstructural (1) single-layer* waterlaid fibrous product, (2) plural-layer* product including a layer* of fibers* applied to a second layer* by a process provided for in that class (162), or (3) paper homogeneously impregnated throughout, even after the web* is formed, and note particularly subclasses 141-181.1+, which include any nonstructural fiber* (or fiber-containing) product (e.g., particular blend of fibers*), whether waterlaid or not. Also, see notes in Class 162, referring to Class 428, e.g., Class 162, subclasses 141 and 150 for examples of structural fibers. This class (428), subclass 596, provides for metallic wire cloth formed by welding plural all-metal wires at their points of intersection; in subclass 605 for a mass of metal fibers, including plural layers of wire cloths joined by mechanical compression and sinter bonded into a fibrous mass, and in subclass 608 for a mass which includes metal wires, strands or strand portions mechanically intertangled, interwoven or interlooped, coated with a metal or a layer of metal or nonmetal fibers located between two metal layers.

Class 245 provides for a wire fabric* which is the product of a bending or analogous wire-working operation.

Class 256, subclass 5 provides for barbed-fence fabric*, and in subclass 45 for analogous nonbarbed material.

Classes 289, subclass 1.2 provides for an interlacement (knot) of portions of one or more elongated flexible elements (e.g., strand, rope) forming a tie or fastening and including any bend or hitch.

c. Belts, etc.

Class 198, appropriate subclasses provide for an endless conveyor belt or a stock material* disclosed solely for use as a conveyor belt.

Class 474, appropriate subclasses provide for an endless power transmission belt or a stock material* disclosed solely for use as a power-transmission belt.

Class 162, subclasses 348+ provide for a flexible endless band-type paper-making mold of the Fourdrinier variety.

Class 400, subclasses 237+ provides for an inked typewriter ribbon.

d. Associated fabrics

Class 2 provides for a stock-material* product of that class, and especially subclasses 244 and 274, respectively, for an apparel trimming or binding, and 260 for coated stays or stiffeners.

Class 5, subclass 500 provides for a stock-material* product solely disclosed for use as an underpad or cover pad for a mattress, and which protects the mattress by receiving discharges of the body, for example, infants or hospital patients. Those cover pads are usually made of absorbent material.

Class 112, subclasses 400+ provides for sewn stock-material*, except for sewn stock-material* which includes a discrete mechanical fastener(s), a coating, or an adhesive bond, for which see subclasses 102+ of this class (428).

e. Textiles and manufacture thereof in general

Class 8 provides for a process of (1) dyeing or bleaching stock-material*; (2) treating hides, skins, feathers, or animal tissue with chemicals or fluids; (3) improving the felting properties of fibers*; (4) treating textile* fabrics* or fibers with fluids, with or without chemical modification of the treated material; or (5) a product resulting from any of the processes above, where not specifically provided for elsewhere. Structured stock is classified in Class 428, Stock Material or Miscellaneous Articles, or other appropriate class.

Class 26 provides for mechanical, nonliquid treatment of textile* fabrics* (e.g., napping), subsequent to fabrication, which is not provided for elsewhere. Stock-material* products of a Class 26 process are provided for in this class (428).

Class 28, subclasses 72+ provide for a mechanical textile* process not elsewhere provided for, a combination of such a process with another textile* operation or with a nontextile* operation provided for in some other textile* class with a nontextile* operation where such combination is not specifically provided for in the other textile* class. Stock-material* products of a Class 28 process are provided for in this class (428).

Class 140 provides for processes of wire-working, e.g., uniting, shaping or deforming, but generally not for the products thereof. For the line between Class 140 and the other textile classes, see the main class definition of Class 140.

3. Static objects and materials.

a. Receptacles, chambers, etc. Articles* in the form of receptacles or chambers are provided for in a number of classes and portions of classes, the most important of which are listed below. Those which also provide for sheet* or web* material, claimed in terms of significant wall structure, are indicated by the symbol “#”. Significant wall structure includes seam structure (not merely the composition of the seam and adjacent portions), spaced wall components, etc. Also significant for placement in the classes marked “#” is specified wall structure in relation to the container (e.g., inside or outside). Thus, a coated or laminated wall in which the composition of a layer is recited as being on the inside (or outside) of a container is considered to be significant wall structure and placement in classes marked “#” is indicated.

See reference to Class 138 in this section for examples of wall structure which would also be considered to be significant for placement in such classes, and for example which would not be so considered.

Class 123 provides for certain chambers in an internal combustion engine.

Class 126, subclasses 19+ provide for ovens.

Class 164, subclasses 349+ provide for sand molds, and subclass 374 for a flask section to be used in a metal-casting operation.

Class 206 provides for a special receptacle.

Class 215 provides for bottles and jars.

Class 217 provides for wooden receptacles.

Class 220 provides for receptacles in general, and for metallic receptacles in particular. See subclasses 23.9, 62.21, 574.3, 495.01+, and 908.1+ for a receptacle having a liner.

Class 229 provides for paper receptacles. See especially subclass 71 for a paper-like display envelope for receiving an identification card, and other appropriate subclasses for receptacle structure as provided for therein; a coated wall structure, where the coating is specifically defined to be either on the inside or outside of the bag or receptacle will be considered receptacle structure and will indicate placement in Class 229. This coating may be for the purpose of acting as a vapor barrier, water-

proofing layer, or antislid means, etc., and is especially related to the contents of the bag or receptacle.

Class 249 provides for articles* which are static molds.

Class 266, subclass 39 provides for articles* which are receptacles for treating molten metal.

Class 432, subclass 247 provides for an article* which is a heating or heat-retaining chamber.

b. Other hollow subject matter.

Class 89 provides generically for an article* which is a gun, shield or gun mount.

Class 138 provides for an article* which is a tube and for tubular stock-material* in which the claims include a limitation regarding wall structure. A claim which recites a particular composition as being the inside or outside wall of a tube is considered to be significant wall structure and placement in Class 138 is indicated. However, a claim which recites a tube or conduit having two or more layers* and then recites the compositions of the layers*, but does not specify which layer is inside or outside, is not considered to include significant wall structure and will be placed in Class 428. Examples of significantly recited coated wall structure for classification are:

1. A tube having a wall comprising a layer of metal and on the outer (or inner) surface thereof a layer of polypropylene.

2. A tube having a laminated wall of three layers, in order from the inside to the outside, comprising polyethylene, epoxy, and polypropylene.

Examples of coated or laminated wall structure which are not significantly claimed and which indicate classification in Class 428.

1. A tube having a wall structure comprising a layer of metal and a layer of polypropylene.

2. A tube having a laminated wall of three layers comprising, in order, polyethylene, epoxy, and polypropylene.

Class 239, subclasses 548+ provide for a unitary plural-outlet means, and subclass 589 for a rigid fluid-confining distributor for ejection of fluents and slurries by slinging, sloshing, centrifugally throwing, etc., such material in the form of fog, mist droplets, etc.

384, Bearings, subclasses 276+ provide for an article* which is a bearing sleeve, or liner. See also the reference to Class 508, above.

Class 406, subclass 191 provides for conduits for fluid-current conveying.

c. Structures related to radiant or wave energy

Class 181, subclasses 33+ provide for an article* or a stock-material* with particular claimed structure (either internal or external) for the purpose of deadening, attenuating, or amplifying sound.

Class 250, subclass 515.1 provides for an article* which is a radiation shield.

Class 274, subclasses 41+ provide for a stock-material* having significant structure disclosed for receiving records of sound or having such records formed therein or thereon.

Class 333 provides for an article* of use in an electrical wave transmission line or network.

Class 343 provides, especially in subclasses 741+, an article*, e.g., an antenna, used in radio-wave communications.

Class 359, subclasses 36+ provides for a liquid crystal device, per se, which controls light direction or intensity by (1) deforming or relatively displacing portions of, or changing the shape or size of an optically reflecting or transmitting medium, surface or interface, or (2) changing the composition, internal structure, or the physical or chemical properties of such a medium, surface or interface, and in subclasses 838+ for a mirror having claimed optically significant structure, e.g., concave, convex, polarizing, selectively absorbing, optically critical thickness, etc. A plural layer product, one layer of which merely acts as a support or base for a coating which affects the transmission of light therethrough, which one layer is uniformly opaque or transparent or translucent, is excluded from Class 359, and will be found in the appropriate subclasses of Class 428, see especially subclass 426.

Class 369 provides for a record of information which is to be reconstructed dynamically by other than magnetic means. See, in particular, subclasses 272+. A disc with/without grooves which does not include recorded information is classified in Class 428, subclasses 64.1; and see especially subclass 908 for a collection of stock

materials having an impression retention layer. Class 430 provides for a finished photograph which is chemically defined. See the note to Class 428 in the main class definition of Class 430.

Class 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, appropriate subclasses for certain receptacles and chambers in which a chemical reaction takes place.

d. Other structures and static object. A patent to a rigid laminate or stock-material* merely defined as a building component, e.g., floor, wall, stile, etc., will be placed in Class 428.

Class 40, subclasses 39+ provide for a fluid-operated, rotatable-changeable exhibitor which may resemble a special occasion ornament for Class 428, and subclasses 7+ and 156 for a frame, as defined therein, with or without an identification card therein, and not having any specific printed indicia thereon; see also the reference to Class 283, below.

Class 49, subclasses 440+ provide for a channel guide of stock-material* with specific structure to facilitate securing it to a support, and subclasses 475+ for a closure seal or striker gasket of stock-material* provided with means for attachment to a support.

Class 52, provides for a product in the form of a web* or sheet* generally employed as a portion of a building structure and including (1) a stiffener or edging extending along a face thereof, or (2) means facilitating securement of the web or sheet to a support, e.g., a flange at the edge of a panel for receiving a nail, or fastener apertures at the edge of a panel. Class 52 also provides for: a composite panel formed of separate sheets which are secured together by a mechanical fastener; a composite panel having spaced facing sheets with inturned, opposed flanges that form an edge of the panel; and a panel which interfits with a support such as a frame or shaft. See, particularly, subclasses 98+ for a fractureable building component, subclass 105 for a component with indicia, subclass 177 for a component having a specified wear or friction surface, subclasses 311.1+ for an ornamental or decorative component, subclasses 393+ for a yieldable component, subclasses 474+ for a panel held by a preassembled or prepositioned frame or shaft, subclasses 596+ for a stone-like module, subclass 631 for a bent component, subclasses 633+ for an openwork component, subclasses 656 for a frame, per se, subclasses 716.1+ for an in situ attached-type channel or trim member, and subclasses 782.1+ for a composite laminate with a disparate edging or an imperforate face.

Class 109 provides for safes and components thereof, bank protection and related devices, and in subclass 495 provides for a shield or protector for preventing a projectile, or knife or sword, or bomb fragment from contacting a person or thing. This could be a portable device or one which attaches (i.e., has attaching means such as belts, straps, etc.) to a bomb for containing the fragments.

Class 160 provides for a panel structure for use in a flexible or portable closure or partition, especially in subclasses 385+ for fabric having a modified edge (e.g., loops) for attachment to an elongated support.

Class 180, subclass 68.6 provides for an article* which is a motor vehicle radiator protector.

Class 228, subclass 56 provides for a metal article* useful as filler material in a metal fusion bonding operation.

Class 238 provides for an article* which is a railroad rail.

Class 248, subclass 248 provides for an article* which is a shelf support made from a single blank. The blank itself is classified in this class (428).

Class 283, subclasses 74+ provides for an identification card having printed matter thereon.

Class 404 provides for a road or pavement which has structure peculiar for pedestrian or vehicular traffic. A laminated or layered* product with no structure which peculiarly adapts it for use for vehicles or pedestrians, such as a crown, grading, contour, etc., is classifiable in Class 428.

Class 405, subclasses 276+ provide for metallic sheet piling.

Class 425, subclass 470 provides for a shaping or casting surface for nonmetal material.

Class 588, Hazardous or Toxic Waste Destruction or Containment, subclasses 249-260 for permanent containment of hazardous or toxic waste, particularly subclasses 252+ for solidification, vitrification, or cementation.

4. Electric and magnetic elements. The classes listed below, with the exception of those marked with the symbol "#", do not provide for electric or magnetic stock-materials*. The marked classes or portions of classes

provide for stock-material* only when such material has a claimed internal or external structure which makes the material of utility only in a single class. In general, an electrode is either an article* for the classes listed, a stock-material* for this class (428), or a composition for a composition class, notably Class 75, or Class 252, subclasses 500+.

Class 136, subclasses 236+ provide for thermocouple junction stock-material*.

Class 148, subclasses 33+ provide for P-N junction stock-material* made by a process of that class.

Class 174 provides for stock-material* in the form of an electrical conductor with a covering of dielectric material wherein the conductor includes structure disclosed to be specially designed to conduct electricity, or the dielectric includes structure disclosed to be specifically designed to space the conductor from ground or from a device of otherwise different potential.

Class 191, subclass 22 provides for conductive articles* specifically designed to transmit electricity to vehicles.

Class 200, subclasses 262+ provide for electric switch contact elements which go beyond stock-materials*, e.g., by having two spaced conductors, etc.

Class 204, subclasses 194+ for articles which are elements of an electrolytic apparatus.

Class 219, subclasses 145+ and 552+ provide for articles* which are electric heating elements.

Class 257, Active Solid-State Devices (e.g., Transistors, Solid-State Diodes), provides for electronic devices or components that are made up primarily of semiconductor materials which operate by the movement of charge carriers - electrons or holes - which undergo energy level changes within the material and can modify an electrical input to achieve rectification, amplification or switching action. A mere named combination of doped semiconductor materials where the sole use of the device is disclosed as an active solid state device results in classification in Class 257. Recitation of electrical contacts or leads is not necessary to classification in Class 257.

Class 310, subclasses 248+ provide for articles* which are electric generator or motor brushes.

Class 313, appropriate subclasses, especially subclass 326, provide for electrode structure for electric lamps

and other discharge devices which are defined by their structure for in such devices. A mere recitation of a wire, rod, strip, cylinder, etc., is not considered to be structure for Class 313, nor is a recitation only of the electrode composition or of a base and/or coating. Non-metallic* rods, strands, fibers, etc., which are structurally defined, but do not include structure for use as electrodes for lamps, are found in Class 428, subclasses 357+; note especially subclasses 375+ for coated rods, strands, fibers, etc. A plurality of electrodes, unless specifically related structurally to each other or to other structure, for use in a lamp or discharge device will be found in Class 428, appropriate subclasses.

Class 317 provides for articles* of use in electrical applications not provided for elsewhere.

Class 318 provides for articles* used in electric-motive power systems.

Class 335, subclasses 296+ provide for a magnet or magnetic material (including structure, e.g., lamination of work at least two magnetic layers disclosed for use as a source of magnetic flux for performing external work).

Class 336, subclasses 233+ provide for a core or magnetic body comprising superimposed bundles or layers of magnetic material in the form of sheets, rods, or wires, and for single sheets, punchings, rods, or wire which have such configuration that they have no utility except in building up of a core or coil for use in an inductor device within the class definition (e.g., transformer, etc.).

Class 337, subclass 379 provides for an article* which is a bimetallic element of a thermally actuated switch. This class (428), subclasses 616+ provide for bimetal thermostat stock-materials*.

Class 338 provides for electrical resistor stock-material* which is claimed in terms of its resistance characteristics.

Class 340 provides for articles* used in electrical communications.

Class 360 provides, especially in subclass 131 for a product, which may be layered or otherwise structured, which is particularly or uniquely designed or arranged to store or record information by a change or variation in the magnetic state of the device. The line between Classes 360 and 428 is as follows:

Class 379 provides for article* used in telephony.

1. A product recited as magnetic tape or storage will not suffice to place a patent in Class 360 in the absence of recitation of structure of the overall product or internal structure of the material, or function, unique to magnetic memory or recording.

2. Layered products of general utility or otherwise not provided for utility are classified in Class 428. A patent disclosing both a Class 360 and a Class 428 function, and in which the claims are generic to both disclosures on which has a claim specific to the Class 428 disclosure will be placed in Class 428 as an original.

(1) Note. The following examples are set out to serve as guidelines in determining placement of patents:

(a)improved adhesion of magnetic layer to base, greater tensile strength of the layer (s) abrasion lubricated surface, improved flexibility, etc., are not considered to be structure or properties peculiar to information recording or structure;

(b)structure which is directed to improved signal-to-noise ratio, signal stability, non-destructive readout (N.D.R.O.), nonprint through of signal, signal identity, hysteresis loop, orientation or packing density of magnetic signal is significant for Class 360, and patents claiming such structure or function will be so classified.

Class 429, subclasses 129-147 and 247-255 for a battery separator or retainer, subclasses 209-246 for a battery electrode, subclasses 233-245 for a battery grid, subclasses 484-489 provide for solid electrode fuel cells having specified electrode materials, and subclasses 523-534 provide for electrode structure or compositions for use in fuel cells.

Class 439 provides for articles* which are electrical connectors. See the introduction to part 5 a, below.

5. Mechanical elements

a. Joints. Those classes or portions of classes which provide for joints and connections, viz, Class 160, subclass 42, Classes 277, 285, 403, and 439 take a connection or seal between two or more members at substantially a single locus where the structure or shape (e.g., ring, flange, angular relationship, etc.) of at least one of

the members is specifically recited. For a mere joint or connection between two members defined merely by the compositions of the members, see this class, appropriate subclasses, particularly subclasses 630+ and 426+ where glass is one of the members.

Class 15 provides, in appropriate subclasses, especially subclasses 208+ for stock-material* product disclosed solely for use as a wiper, dauber or polisher for brushing, scrubbing and general cleaning.

Class 29, subclasses 76.1+ provide for an article* which is a file or rasp, and subclasses 95+ provide for an article* which is a cutter.

Class 30 and Class 83 provide for articles* which are cutting implements appropriate to each class.

Class 51 is referred to in part B, above.

Class 55 and 210 provide for filters, especially subclasses 522+ of the former and 500+ of the latter for such filter product manufactured of or including a specific material (e.g., fiber*, coating, etc.), or possessing specific structure (e.g., weave, knit, etc.). Class 55 takes its own stock-material* when it specifies that a gas separation takes place or is about to take place. In Class 210 there must be claimed structure, internal or external, restricting the stock-material* to filter use. A filter generic to Classes 55 and 210 is placed in Class 210.

Class 131 is discussed in part C, 2, b, above.

Class 241, subclass 95 provides for a stationary comminuting surface having openings.

c. Friction elements

Class 188, subclasses 250+, and Class 192, subclasses 107+ provide for a product with a frictional property, where said property is enhanced by claimed structure (external, such as disc surface configuration, or internal, such as discrete zones of friction material, particular arrangements of strands, fibers or layers), where the sole use disclosure is as a brake for Class 188, or as a clutch or brake for Class 192. Where the use of the product goes beyond these classes, or there is no claim to brake or clutch/brake features, placement in Class 428 is indicated. See also the reference to Class 52 in part C, 3, d, above.

d. Other machine elements

Class 101 provides for a product which is disclosed as a printing plate and has significant structure for printing (see subclass 395), or a nonuniform (e.g., hydrophilic-hydrophobic) coating only for printing purposes (see subclasses 453+), or a hectographic surface (see subclass 473).

Class 152, subclasses 151+ provides for a resilient tire, subclasses 548+ for such tire formed of a particular material(s), and subclass 367 for a tire patch.

Class 346, subclasses 134+ provide for a single or plural layer web or sheet which is disclosed as a record receiver solely for use with apparatus provided for in (1) and (2) of the definition of that class.

(1) Note. A web or sheet disclosed as a record receiver of general utility, or for multiple uses, at least one of which is other than for a recorder apparatus provided for in Class 346, is classified in the appropriate subclass in Class 428, with a cross-reference to Class 346, if appropriate.

(2) Note. A web or sheet which has chart graduations thereon will be assigned to Class 346, subclass 135.1, regardless of its disclosure.

Class 411 provides for expanded, threaded, headed, or driven fasteners.

Class 416, subclasses 223+ provides for an article* which is an impeller or turbine blade.

Class 492, Roll or Roller, provide for rolls and rollers which claim enough of the surface and support structure to rotatably mount the roller. Hollow cylindrical rollers follow the line specified with regard to Class 138 in part C, 3, b, above.

6. Coating and coated products.

Class 148, Metal Treatment, subclasses 206-238 provide for processes of carburizing, nitriding, or both (e.g., carbonitriding, etc.) of solid metal, and subclasses 316-319 for the resulting stock.

Class 204, Chemistry: Electrical and Wave Energy, provides for the manufacture of stock-material* products by chemical processes involving electrical or wave energy, and except for products classifiable in this class (428), subclasses 544+, for a stock-material* product disclosed solely as made

by a process which, per se, would be classified in Class 204. A multiple disclosure that the product can be manufactured by either a Class 204 process or another process (e.g., spray coating, electroless-depositing, etc.) indicates original classification in another class (e.g., 428, etc.), with a cross-reference, as needed, to Class 204.

Class 420 provides for alloys and compositions having a continuous phase of metal.

Class 427 provides for the method of applying a coating or impregnation to a substrate. In relation above, the following guidelines are to be followed in determining whether a process step is significant for determining the classification of a patent containing only process claims in either Class 427 or Class 428:

(a) Any pretreatment or post treatment of a base or applied coating is significant, e.g., curing, drying or smoothing of the coating, or cleaning, drying or heating of the base, etc. General statements such as applying, impregnating, coating, covering, etc., or allowing to cure, allowing to dry, etc., are not considered to be significant method steps.

(b) Any specific recitation of the manner in which the coating material is applied, e.g., brushing, dipping, padding, spraying, immersing, is significant.

(c) Any limitations regarding the thickness of a coating or nonuniformity of a coating resulting from a process is considered to be significant.

(d) Specific recitations as to the condition of the coating material being applied are significant, except for the following: (1) Any condition also included in an independent composition or material claim, such as p4 concentration, etc.; (2) A general reference to the state of the coating material as molten, in solution, in an organic or inorganic solvent, etc., unless accompanied by specific limiting conditions such as time or temperature (even though recited as ordinary temperature or room temperature, etc.). However, specifically recited solvents such as benzene, carbon tetrachloride, sulfuric acid, etc., are considered to be significant.

Any patent having only process claims in which at least one significant limitation is recited, examples of which are given above,

is placed in Class 427. All process claims having no significant limitation recited will be placed in Class 428.

Special Note in relation to Class 427:

As a general rule, specific subclasses in Class 427 are not pointed out as pertinent fields of search. Class 427 should be considered, in all instances, for the disclosure of a product made by the process in the appropriately titled subclass.

7. Assembling and/or shaping. In general, the products of the following classes which provide for assembling and/or shaping methods are not classified in these classes, but in this class (428), or other appropriate product class: Classes 29, 65, 72, 76, 79, 82, 125, 156, 164, 219, 228, 264, and 413.

8. Other manufacturing or treating.

Class 261, subclasses 94+ and 100+ provide for apparatus under the class definition, including a porous mass* or porous sheet*, respectively, for providing intimate contact between a gas and a liquid.

9. Miscellaneous devices.

Class 16, subclasses 221+ provide for hinges of indefinite length.

Class 33, subclasses 12+ provide for stock-material* fabrics* with pattern lines (guide or gauge lines) thereon, and subclass 567 for a plural layer product disclosed solely for use as a gauge block.

Class 36 provides for an article* which is specifically shaped or contoured to be part of a boot, shoe, or legging, e.g., heel, inner-sole, vamp, etc.

Class 102 provides for an article* which is an explosive or ammunition device.

Class 116, subclass 22 provides for an article* which is an animal frightening device.

Class 165, subclass 185 provides for an article* which is a heat transmitter.

Class 267 provides for an article* which is a spring device.

Class 269 provides for an article* which is a work holder.

Class 280, subclasses 11.18 and 28 provide for an article* which is a runner or runner base for a land vehicle.

Class 288, subclasses 51-55 provide for articles* which are soldering irons.

Class 374, subclasses 529+ provide for articles* modified over and above the material or composition thereof, to produce motion as the result of changes in the thermal con-

dition of the devices or structures, and subclasses 205+ provide for articles* combined with additional structure to form an arrangement which provides an indication produced from motion resulting from changes in the thermal condition of the articles*.

Class 376 provides for an article* which is a nuclear element and for stock-material* of such element having a unique adaptation for such use. For example, a jacketed material having passages for the escape of fission products is a unique adaptation, but a merely sheathed material is not.

Class 446, Amusement Devices: Toys, subclasses 217+ for spinning type toys which are similar in construction to special occasion ornaments for Class 428, subclasses 7+.

Classes 473, Amusement Devices: Games, subclasses 316+ for an article* which is a golf club shaft.

ART TERM INDEX TO THE CLASS

The following Search This Class, Subclass references are provided for convenience in locating the principal subclasses containing patents related to certain terms generally employed in the art.

D. CLATHRATES AND INTERCALATES

Clathrates and intercalates (inclusion compounds), per se, are classified hierarchically and subject to the limitations set forth in the compound (element) classes based both on the encapsulant and encapsulate. For example, a clathrate of urea and hydrogen peroxide is classified in Class 564, subclass 32, urea and an organic compound in Class 564, subclass 1.5, dextran and iodine in Class 536, subclass 112, etc. Where a patent does not state that a material is either a clathrate or an intercalate, the assumption is made that the material is either a coated or encapsulated product classified in Class 428, subclasses 402+.

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

For art terms relating to nonstructural laminates - see section II, Glossary of Terms, Part B.

SEE OR SEARCH THIS CLASS, SUBCLASS:

15, for artificial grass, sod, or turf

121+, for binding
 542, and 577+ for a blank
 23, for a bouquet
 85+, for carpet (pile)
 77+, 195+, and 919 for camouflage
 175+, 193+, and 196+ for cloth
 163, 167+, 182+, and 603+ for corrugated
 40+, 77+, 411+, and 914+ for decalcomania
 596+, for expanded metal
 588+, for a fagot
 85+, for fleece
 163, 167+, and 599+ for fluted
 158+, 304+, and 613+ for foam
 585, 587, and 599 for ingot
 38+, 67, and 614+ for inlay
 38, 44+, 53, 54+, 57+, and 67 for mosaic
 62, and 91+ for nap
 85, and 588+ for pile
 123, for piping
 75+, and 181 for pleated
 143+, for roofing
 438+, for safety glass
 192+, for scalloped
 38, for stained glass
 605, for steel wool
 28, and 115 for tassel
 34, for Thermopane
 175+, and 196 for woven

SECTION IV - GLOSSARY

A. Structural

Glossary terms below are characterized as either A. Structural or B. Nonstructural or Composition. The terms are identified as such.

Terms or phrases used in titles and definitions either repeatedly or in a special and limited sense are set forth below with the meaning each is to have in this class. For economy of space, an asterisk (*) following a word indicates that reference should be had to this glossary for the specific meaning thereof while an asterisk following an hyphenated phrase, (e.g., strand-portion*, etc.) indicates that the entire hyphenated term, as such, has been defined in this glossary.

Note. Where appropriate throughout the definition, the alternatively singular or plural forms of a noun have been indicated by the addition of (s) immediately following the noun, (e.g., layer(s) to mean a layer or layers, etc.).

ADDITION POLYMER FROM UNSATURATED MONOMERS

Any multiunit chain which is the product of the reaction of unsaturated bonds in the units. The product may be the result of interaction of molecules of the same compound (as polyethylene) or of different compounds (as acrylonitrile-styrene). Vinyl acetate and methyl methacrylate are included within the scope of the term because the monomeric units are linked through the reacted unsaturated bonds and the ester groups are pendant - i.e., the units are not linked through the ester groups. (Nonstructural or Composition)

ALDEHYDE OR KETONE CONDENSATION PRODUCT

A resin resulting from the reaction of an aldehyde or a ketone and a polyfunctional active hydrogen containing compound, which, with the elimination of water, produces a chain of alkylidene units alternating with the residue of the hydrogen supplying compound. Phenol formaldehyde, urea formaldehyde and polyamino (e.g., melamine) aldehyde or furfural resins are within the scope of the term. (Nonstructural or Composition)

ANIMAL MEMBRANE

Material derived from an animal and found there originally in film or layer form, e.g., bladder, skin or scale. Glue or gelatin in a film form is not included here because neither exists in the animal as a layer or foil. (Nonstructural or Composition)

ANTIFERROMAGNETISM

Antiferromagnetism occurs when the exchange interaction between neighboring atoms cancel each other, so the net magnetic moment is zero. Examples of antiferromagnetic materials are (Pt, Ir, Cr, and Pd) Mn alloys, and select transition metal oxides.

ASBESTOS

A native magnesium calcium silicate. Asbestos is not considered to be included in the term "metal compound" for purposes of this class, but is included in silicon containing, unless specifically stated otherwise in a title or definition. (Nonstructural or Composition)

ARTICLE

A discrete determinate three dimensional thing substan-

tially in its ultimate use form, as distinguished from stock material (e.g., sheet, etc.) from which such articles may be manufactured. These articles are limited to subclasses 2 through 34.1, part of subclass 542 and subclass 576. (Structural)

BASE

That substance or material which has been covered or saturated or permeated, either partially or completely by another material. This term is synonymous with Substrate. (Structural)

BITUMINOUS OR TARRY RESIDUE

A composition or compound having the characteristics of a tar or pitch no matter what the origin. This term includes all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations. Carbohydrate 1) polyhydroxy mono-aldehydes and polyhydroxy mono-ketones, generally having the formula $C_n(H_2O)_m$ and substances which are hydrolyzed to these. The term includes cellulose, starch dextran, dextrin, sugar, and lignin. (Nonstructural or Composition)

- (1) Note. Wheat paste, which contains gluten, is considered polyamide.

BLANK

See definition of intermediate-article*. (Structural)

BLOCK

A relatively large piece of material whose thickness is many times that of a web* or sheet* compared with its width. (Structural)

CARBON

Inorganic material. (Nonstructural or Composition)

CELLULOSIC

A carbohydrate material derived from the structural matter of plant life, usually from the stems. The term includes lignocellulose (e.g., wood and bark) relatively pure cellulose (e.g., cotton and linen) and chemically modified forms of cellulose as cellophane, pyroxylin, viscose and rayon. While pyroxylin may be plasticized with minor amounts of camphor and/or castor oil, for

purposes of classification, pyroxylin is considered cellulosic. (Nonstructural or Composition)

CERAMIC

Clay containing, therefore silicon containing. (Nonstructural or Composition)

CORK

The outer bark of cork oak. The cork may be in the form of slabs or may be used as a filler in finely divided form. (Nonstructural or Composition)

CAVITY

A hole or a hollow place in a body. (Structural)

CELL

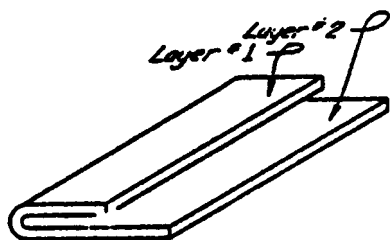
A closed cavity (which may be empty or full) in a component*. (Structural)

CLOTH

A fabric* which for purposes of this class is considered to be made of mechanically intertwined, interlooped, interwoven, or intertangled strands*, strand-portions* or strand like strips*. See Class 442, class definition. (Structural)

COMPONENT

A distinct unitary element of a composite stock material* which is longitudinally coextensive therewith and which, if separated from the remainder of such stock material*, would be recognized as a web*, sheet*, rod*, strand*, tube or block by itself. A component may consist of plural layers* as in the folded component shown in Figure 1. See also (2) Note under A, above. (Structural)



COMPOSITE

A stock-material* comprising a plurality of components*. (Structural)

COMPOSITION

A product having a plurality of constituents* or elements, none of which are in a defined spatial or ordered relationship to each other or to the surface or shape of the body in which they are contained, that is, a random mixture of elements. (Structural)

CONSTITUENT

A discrete element* (e.g., strand*, fiber*, particle*, etc.) of a component* or product.

CORE

intermediate portion of a composite* product. In a composite web* or sheet*, a core lies between two other components*; in a rod* or strand* or filament*, a core is the inner portion covered with another layer. If a core is claimed, per se, it is to be assumed for purposes of this class that the other layer(s)* or component(s)* are included. (Structural)

ELEMENT

See definition of constituent*. (Structural)

ESTER

A compound which is identical to that obtained by the replacing of a hydroxy hydrogen of an alcohol or a phenol with an acid radical. (Nonstructural or Composition)

ESTER LINKAGE

The chemical grouping obtained by replacing the hydroxy hydrogen of an alcohol or a phenol with an acid radical. (Nonstructural or Composition)

FABRIC

A web*, sheet* or film disclosed as used in the manufacture of household furnishings (e.g., draperies, upholstery, etc) shoes, etc., roofing, clothing, tires, etc. and is claimed as a textile*, cloth* or fabric. See Class 442, class definition. (Structural)

FERRIMAGNETISM

Ferrimagnetic materials exhibit exchange interaction

between neighboring atoms leading to adjacent moments; however, the magnetic moments are unequal and opposite in direction. The magnetic properties of ferrimagnetic materials are strongly temperature dependent and are characterized by their Curie temperature. Examples of ferrimagnetic materials are rare earth-transition metal amorphous alloys, such as GdFeCo, TbFeCo, and select granular transition-metal alloys.

FERROMAGNETISM

Ferromagnetic materials exhibit exchange interaction between neighboring atoms leading to adjacent moments. Ferromagnetism is temperature dependent and field strength dependent. Typical ferromagnetic materials include transition metals such as Fe, Ni, and Co and their alloys.

FIBER

A relatively short, slender, flexible element of macroscopic size and finite length and having a width and thickness of the same order of magnitude. A fiber is generally of staple length to facilitate its being spun, twisted or otherwise secured together into a composite strand but may be of shorter length requiring bonding, felting or matting to form a strand or layer. It may be of animal (e.g., wool, rabbit hair), vegetable (e.g., cotton, jute, hemp), or mineral (e.g., asbestos, glass, metal) origin and may be either natural, modified or synthetic. See also Filament. (Structural)

FILAMENT

A fine threadlike body or structure whose width and thickness are of the same order of magnitude. See also fiber. (Structural)

FLAKE

A small thin mass having a width or length greater than its thickness. The term flake is considered to denote structure and is classified accordingly. (Structural)

GLASS

An amorphous, hard, brittle, often transparent material comprising a fused mixture of the silicates of the alkali and alkaline earth, or heavy metals. Glass is not considered to be included in the term "metal compound" for purposes of this class, unless specifically included in a title or definition. (Nonstructural or Composition)

GRAPHITE

Inorganic material as is carbon. (Nonstructural or Composition)

GUM

See natural oil, gum, rosin or lac below. (Nonstructural or Composition)

INTERMEDIATE-ARTICLE

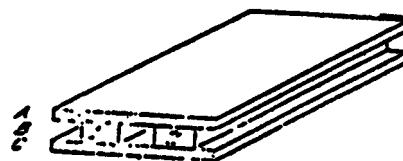
A fully shaped article, all three dimensions of which are definite, even though one or more of these dimensions may be negligible. The article is not suitable for functional use in the claimed condition, but must be subjected to one or more further significant shaping steps to do more than merely occupy space. The following operations have been regarded as not involving a further significant shaping: (a) Assembling or uniting the article with other parts. (b) Distorting the article during an assembly operation to cause the article to conform to discrepancies in the size or shape of a coacting part. (c) Bonding or distorting those portions of the article which are to function as means for fastening the article to a coacting part, as, for example, the bending of ears or tabs. (Structural)

LAC

See natural oil, gum, rosin or lac below. (Nonstructural or Composition)

LAYER

A single thickness of material(s) in the form of web* or sheet*, or a plurality of any of these in side-by-side coplanar relation; or particulate material arranged in continuity to constitute a distinct stratum. A layer may include a plurality of components* as in Figure 2. See also (2) Note under A, above. (Structural)



MAGNETIC

A material exhibiting the inherent property of magnetism, which is dependent on the electronic configuration

of the atom, crystalline and molecular structure, and coupling between electrons arising from the orbital and spin magnetic moments of the nucleus and electrons. A material is considered magnetic for the purposes of this class if it exhibits a nonzero magnetic moment, such as in paramagnetism, ferromagnetism, and ferrimagnetism.

MASS

A body of material of indefinite or indeterminate shape. (Structural)

METAL

A material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron. Elemental silicon is considered to be a metal, but a silicon compound is not considered to be a metal compound on the basis of silicon content. The term "metal compound" in a subclass title does not include glass or asbestos, unless specifically included by title or definition. The metal may be a pure metal or an alloy as defined in Class 75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclass 122, (1) Note. An intermetallic compound of two or more metals, e.g., a metal silicide, aluminide, etc., is considered to be an alloy. (Nonstructural or Composition)

METALLIC

Composed entirely of metal* or having adjacent metal components. Since autogenous bonding of two metallic parts is thought to involve inherently either a diffusion or alloying between constituents of the two parts, this diffusion or alloy layer, even though of appreciable thickness, does not prevent the undiffused or unalloyed regions from being considered. (Structural)

NATURAL OIL OR GUM, ROSIN OR LAC

Any oil, gum or resin that occurs in nature, as cottonseed, linseed and castor oils, rosin, mineral oil and the exudation of insects known as lac. These three classes of oil; drying, semidrying and nondrying oil are included within the scope of the term. (Nonstructural or Composition)

NATURAL RUBBER

Containing the natural gum, known as caoutchouc, gutta percha, or balata obtained from the latex or sap of "rub-

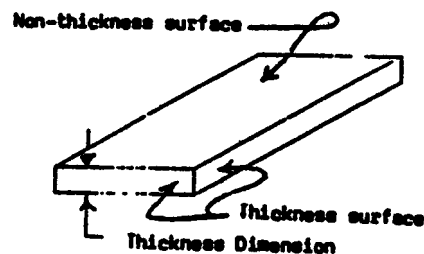
ber" trees. The word "rubber" standing alone is considered to denote natural rubber. (Nonstructural or Composition)

NOBLE METALS

Those metals not readily oxidized, i.e., silver, gold, platinum, palladium, mercury, iridium, rhodium, ruthenium, osmium. (Nonstructural or Composition)

NONTHICKNESS SURFACE

The surface of a web, sheet, layer or component on which both its length and width may be measured. See Figure 3. (Structural)



OIL

See natural oil, gum, rosin or lac, above. (Nonstructural or Composition)

PAPER

Unless otherwise specified, is a sheet or web of water-laid felted cellulosic fibers. May also be made of asbestos, mineral or synthetic fibers or blends of fibers, but must be so disclosed solely, or must be so claimed for placement in a subclass other than cellulosic or paper. (Nonstructural or Composition)

PARAMAGNETISM

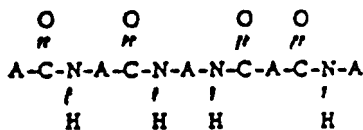
Paramagnetic materials have magnetic moments not completely canceled because of electronic configuration and exhibit a resultant moment. Paramagnetic susceptibility is strongly temperature dependent. Examples of paramagnetic materials are CoCr alloys at specific Cr concentrations and materials exhibiting specific size ranges of either the magnetic grains or particle dimensions.

PARTICLE

A very small quantity of matter, so small as to be considered without magnitude although possessing inertia and the force of attraction. (Structural)

POLYAMIDE

A polymeric compound containing amide groups through which the monomers are linearly linked, except urea-aldehyde (for which see aldehyde or ketone condensation product). The term includes 1, the reaction products of polyamines and polybasic acids or 2, the polymer of amino acids (e.g., nylon, peptides and proteins). The manner in which the amide groups linearly link the monomers or moieties, of which the chain is built is graphically indicated by the below: (Nonstructural or Composition)

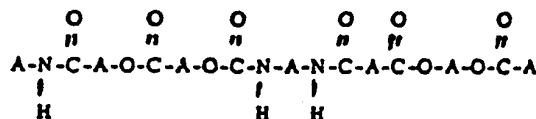


- (1) Note. Wheat paste, which contains gluten, is considered to be a polyamide.
- (2) Note. Polyamide also includes polyimide.
- (3) Note. Urea-aldehyde condensation product is not included within the definition of polyamide since the product is significantly different from other polyamide resins and are similar to phenol-aldehyde resins. Hence, urea-aldehyde products are placed in the subclass providing for aldehyde-ketone condensation products.

POLY(AMIDO-ESTER)

A compound which is a polymer of linearly recurring amide and ester linkages. The monomers do not have to have an equivalent number of amide and ester groups and they do not have to occur in a regular pattern. The products of (1) a) polybasic acids b) polyhydric alcohols and c) polyamines or, (2) a mixture of hydroxy acids and amino acids or (3) polybasic acids and hydroxy amines are within the scope of the term. (Polyurethane is exemplary): The manner in which the ester and amide groups linearly link the monomers or moieties, of which the chain is built, is graphically indicated by the below structure. The ester groups need not be car-

boxylic esters but may be, e.g., sulfate ester groups. (Nonstructural or Composition)



POLYESTER

A polymeric compound containing ester groups through which the monomers are linearly linked to each other. The manner in which the ester groups linearly link the monomers or moieties, of which the chain is built, is graphically indicated by the below structure. The ester groups need not be carboxylic esters but may also be, e.g., sulfate ester groups. (Nonstructural or Composition)



POLYIMICAL

Included within the term polyamide. (Nonstructural or Composition)

PORE

A tiny opening, usually microscopic, through which certain fluids may pass. Generally, the pore opening is of such irregular direction that light will not pass through it. (Structural)

POWDER

A mass of particles, that is, portions of matter so small that they are not ordinarily handled as individual units. According to Metals Handbook, 8th Edition, 1961, volume 1, page 28, powders currently used in powder metallurgy had a particle size within the range of 0.1 to 1000 microns in their largest dimension, as determined by screens or other suitable instruments. Powder particles generally are distinguished from filamentary particles in that their shape and length-to-diameter ratio are such that in the dry state the particles will not hold together as a massive article without the application of pressure or heat. (Structural)

QUARTZ

A fused silicon dioxide (silica). (Nonstructural or Composition)

REFRACTORY

Various materials, but usually clays or other cementitious or silicon containing. Consider to be silicon unless clearly disclosed otherwise, as for example alumina. The refractory metals are those in Groups IVB, VB and VIB of the Periodic System. (Nonstructural or Composition)

ROSIN

See natural oil, gum, rosin or lac. (Nonstructural or Composition)

ROD

A relatively rigid and slender element having a width and thickness of the same order of magnitude, a length which may be either indeterminate or finite, and a cross-section which may be of any shape. (Structural)

SHEET

A portion of web* material of finite length, whose width is greater than its thickness, and which may be of any perimetric shape (e.g., triangle, circle, etc.). (Structural)

STOCK-MATERIAL

A sheet*, web*, rod*, strand*, tube or block, mass or layer. (Structural)

STRAND

A relatively slender and flexible element* having a width and thickness of the same order of magnitude and a length which is either (a) indeterminate or (b) coextensive with the length or width of a sheet* or layer* with which it may be associated. A strand may be a monofilament or it may include either a plurality of filaments* or fibers* disposed in parallelism (e.g., tow) or constituent fibers* and/or filaments* knitted, plaited, braided, twisted, interlaced, interlocked or otherwise secured together to form a unit such as roving, thread, yarn, cord, rope or cable. (Structural)

STRAND-PORION

A strand* of finite length; or an unsevered but determinate length of a strand. (Structural)

STRIP

A web* or sheet* or relatively narrow ribbon-like material. A strip which is interwoven or intertangled with other strips or with strands, in the same manner as a strand, will be termed a "strand-like strip". (Structural)

SUBSTRATE

See Base*. (Structural)

TEXTILE

A fabric* which, for purposes of the class is considered to be cloth*. See Class 442, class definition. (Structural)

WAX OR WAXY

A compound described as a wax (e.g., beeswax) or having the physical characteristics of a wax or is a recognized wax (as carnauba). (Nonstructural or Composition)

WEB

A portion of material having length and width each greater than its thickness and with at least its longitudinal dimension indeterminate. A web may comprise (a) a single thickness of material or (b) a plurality of portions of a single piece of material folded on each other longitudinally or transversely, or (c) a plurality of individual web components* joined together in longitudinally coextensive face or edge contact to form a composite web. (Structural)

(1) Note. Unless clearly disclosed or claimed otherwise (e.g., as a rod*, mass*, filament*, etc.) a product will be placed in the appropriate web* or sheet* subclass.

(2) Note. Included under the definition of component* or layer are the following: (a) The skin formed on a porous layer* by curing (e.g., a foam, etc.). (b) The "layer*" formed by impregnating a substrate to a defined depth which must be recited either relatively to the entire thickness or as an absolute dimension. (c) Either of a pair of layers* of the same material cohered or

adhered together by their own forces, if disclosed as plural separate layers*.

- (3) Note. For purposes of this class, paper* is limited to a waterlaid web* of interfelted cellulose* (natural) fibers*. A waterlaid web* of resin, polymer or modified cellulose* (e.g., cellulose acetate) fibers is excluded from the paper* subclasses and will be classified on other features (e.g., composition, etc.).
- (4) Note. Where a subclass title includes a "coating" or "coat" or "coated layer*", a bonded or adhered component or layer* is intended to be included within the scope thereof. Thus, a product formed by laminating or adhering two separate and distinct layers* is considered to be the equivalent of a product made by applying a coating of a material onto a base* or substrate*.

WOOD

The material of trunks and branches of trees or bushes, excluding bark. This term includes lumber and finely divided wood chips, fibers or flour. "Fiber board" from wood fibers or pulp will be considered wood or paper depending on the disclosure of the document in which this expression occurs. Fiber board formed by compression of wood fibers with or without a binder (and utilized as wood) is considered wood. Fiber board which is water laid (and, used as cardboard or paste board) is considered paper. (Nonstructural or Composition).

WORKPIECE

A stock-material* not suitable for functional use in the claimed condition, but requiring one or more further significant shaping steps to do more than occupy space. Usually it is the cross-sectional configuration which is to be further shaped. See the definition of intermediate-article* for a list of operations not considered to be significant shaping.

SUBCLASSES

1.1 Liquid crystal optical display having layer of specified composition:

This subclass is indented under the class definition. Product which specify composition of at least one layer in a liquid crystal optical display.

1.2 Alignment layer of specified composition:

This subclass is indented under subclass 1.1. Subject matter wherein a chemical composition has been stipulated for a layer that acts to selectively orient liquid crystal molecules.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, subclass 448 for display devices using liquid crystals.
- 250, Radiant Energy, subclass 331 for nonchemical infrared imaging including liquid crystal detector.
- 252, Compositions, subclass 299.01 for liquid crystal compositions containing a meso-morphologic state of matter.
- 345, Computer Graphics Processing and Selective Visual Display Systems, subclasses 38, 50 - 54, and 87 - 104, for selective electrical control of liquid crystal display devices.
- 349, Liquid Crystal Cells, Elements and Systems, subclasses 1 - 18, and 182 - 186, respectively for structures of liquid crystal devices.
- 360, Dynamic Magnetic Information Storage or Retrieval, for liquid crystal used to store or retrieve dynamic information stored magnetically.
- 365, Static Information Storage and Retrieval, subclass 108 for liquid crystal used to store or retrieve static information.
- 368, Horology: Time Measuring Systems or Devices, subclasses 30, 84, and 242 for timepieces using liquid crystal compositions.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry involving a process, product, or composition using a liquid crystal.
- 436, Chemistry: Analytical and Immunological Testing, for analytical and analytical control processes employing liquid crystals.
- 552, Organic Compounds, particularly subclasses 502 through 652 for organic compounds having liquid crystal properties.

- 1.21 Alignment layer is Inorganic:**
This subclass is indented under subclass 1.2. Subject matter wherein the alignment layer is of an inorganic chemical composition (e.g., glass, metal oxide, etc.).
- 1.23 Silicon compound (i.e., organosilicon):**
This subclass is indented under subclass 1.5. Subject matter wherein the layer is identified as including a compound of Silicon (Si).

SEE OR SEARCH THIS CLASS, SUB-CLASS:
1.32, for viewing layer composed of silicon compound.
1.51, for inorganic compounds of silicon bonding or intermediate layer for liquid crystal optical displays.
391, 405, 428, 429, and 446 - 454, for other products in which silane, silicone or siloxane is a coating or a material permeating or saturating a base.
- 1.25 Polyamide:**
This subclass is indented under subclass 1.2. Subject matter wherein the alignment layer is an organic polymer, or derivative, with structural units linked by amide grouping.
- 1.26 Polyimide:**
This subclass is indented under subclass 1.2. Subject matter wherein the alignment layer is an organic polymer, or derivative, with structural units linked by imide grouping.
- 1.27 Polyimidfluoride:**
This subclass is indented under subclass 1.26. Subject matter wherein the polyimide compound in the alignment layer contains fluorine.
- 1.28 Polyimidmetalo:**
This subclass is indented under subclass 1.26. Subject matter the polyimide compound in the alignment layer contains metal.
- 1.3 With viewing layer of specified composition:**
This subclass is indented under subclass 1.1. Subject matter further including a chemical identified layer for looking through.
- 1.31 Polarizer or dye containing viewing layer:**
This subclass is indented under subclass 1.3. Subject matter wherein the viewing layer includes a chemically identified material polarizer, a material causing light ray or other radiation to vibrate in a pre-defined pattern, or a dye, a material imparting color or to.
- 1.32 Silicon compound (e.g., glass, organosilicon, etc.):**
This subclass is indented under subclass 1.3. Subject matter wherein the viewing layer includes a compound of Silicon (Si).
- 1.33 Ester (e.g., polycarbonate, polyacrylate, etc.):**
This subclass is indented under subclass 1.3. Subject matter wherein the outer viewing layer includes an ester, i.e., reaction product of an alcohol and an organic acid.
- 1.4 With charge transferring layer of specified composition:**
This subclass is indented under subclass 1.1. Subject matter further including a chemical identified layer for carrying electrical charge.
- 1.5 With bonding or intermediate layer of specified composition (e.g., sealant, spacer, etc.):**
This subclass is indented under subclass 1.1. Subject matter wherein a chemically identified material forms a layer or film functioning to join layers together or add an intermediate layer to the display.
- 1.51 Inorganic layer:**
This subclass is indented under subclass 1.5. Subject matter wherein the film or layer is inorganic.
- 1.52 Silicon compound (i.e., organosilicon):**
This subclass is indented under subclass 1.5. Subject matter wherein the layer is identified as including a compound of Silicon (Si).

SEE OR SEARCH THIS CLASS, SUB-CLASS:
1.51, for inorganic compounds of silicon bonding or intermediate layer for liquid crystal optical displays.
1.32, for viewing layer composed of silicon compound.

- 391, 405, 428, 429, and 446 - 454, for other products in which silane, silicone or siloxane is a coating or a material permeating or saturating a base.
- 1.53 Epoxy:**
This subclass is indented under subclass 1. Subject matter wherein the layer contains an epoxy (e.g., epoxy resin, etc.).
- 1.54 Ester:**
This subclass is indented under subclass 1.5. Subject matter wherein the film or layer is identified as including an ester, i.e., reaction product of an alcohol and an organic acid.
- 1.55 Unsaturated aliphatic polymer (e.g., vinyl, etc.):**
This subclass is indented under subclass 1.5. Subject matter wherein the film or layer is identified as including an open chain organic compound, e.g., containing at least one double or triple bond.
- 1.6 With substrate layer of specified composition:**
This subclass is indented under subclass 1.1. Subject matter wherein an underlying support or base of the display is chemically identified.
- 1.61 Releasable layer to expose adhesive:**
This subclass is indented under subclass 1.6. Subject matter wherein substrate has a layer or component that is removable to reveal an adhesive.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
40.1, through 42.3, for a product in which a release layer is removed to expose another layer or component having an adhesive thereon.
352, which contains an additional layer or component that does not permanently adhere to a surface with which it may come into contact.
- 1.62 Inorganic substrate layer (e.g., ceramic, metallic, glass, etc.):**
This subclass is indented under subclass 1.6. Subject matter wherein the alignment layer is chemically identified as being inorganic, e.g., glass, metal oxide.
- 2**
This subclass is indented under the class definition. Product comprising the material usually discarded from a residence (e.g., table scraps, empty food packages, etc.) or from a business establishment (e.g., rags, paper, etc.) and which has been densified into a mass and handled as a unitary element.
- SEE OR SEARCH CLASS:
44, Fuel and Related Compositions, subclass 541 for a fuel product which is bundled, wrapped or covered and subclasses 589+ for a fuel briquette containing vegetation or refuse.
53, Package Making, appropriate subclasses, for the method of making a package, which may identify the contents as trash or refuse.
206, Special Receptacle or Package, appropriate subclasses, especially subclass 83.5 for bales or bundles of material other than trash or refuse.
588, Hazardous or Toxic Waste Destruction or Containment, subclasses 249 through 260 for permanent containment of hazardous or toxic waste.
- 3**
This subclass is indented under the class definition. Article* which is symbolic in a system of theism.
- SEE OR SEARCH CLASS:
2, Apparel, appropriate subclasses; for an article of religious attire; especially clothing.
40, Card, Picture, or Sign Exhibiting, subclass 124.5, for an exhibiting device to be used on a memorial tablet.
52, Static Structures (e.g., Buildings), subclasses 103+ for an earth supported type monument, and 316 for an ornamental surface of a building type structure formed by relief or intaglio deformation of a surface.
63, Jewelry, appropriate subclasses, for a religious artifact which is also a distinct article of jewelry.
206, Special Receptacle or Package, subclass 19, for a receptacle specifically arranged for sacerdotal use.

- 312, Supports: Cabinet Structure, subclass 33, for cabinet structure designed solely for use in worship.
- 434, Education and Demonstration, subclasses 245+ for an educational device or method which may involve religious symbolism.
- 4** This subclass is indented under the class definition. Article* which comprises (1) ribbon or strand material doubled on itself about a transverse line of bend and knotted, or otherwise fastened to maintain the resultant looped structure; or (2) feather or filamentary material formed loosely into a tuft or ball; or (3) material gathered, pleated or looped about a central point or axis suggestive of the petals of a flower seen in plan view but lacking sufficient floral fidelity or similarity to constitute a simulated or artificial flower; or (4) plural strands, or portion of a single strand, knotted together.
- (1) Note. A patent to a bow, pom-pom rosette or knot combined with another article (i.e., as an embellishment thereon) is to be placed with patents to such other article.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 17+, for an artificial plant or portion thereof; particularly, subclasses 24+ for an artificial flower.
- SEE OR SEARCH CLASS:
- 2, Apparel, subclasses 243+ and 300, for an apparel trimming or a garment supporter, respectively, comprising or including an ornamental bow.
- 28, Textiles: Manufacturing, subclass 147 for apparatus for binding thread or yarn in a bundle to form a tassel and/or tuft.
- 112, Sewing, subclasses 400+ for a stitched apparel trimming material not elsewhere provided for.
- 132, Toilet, subclass 47 for a bow-supporting hair fastener.
- 223, Apparel Apparatus, subclass 46 for a machine or process for making a bow or tassel trimming.
- 289, Knots and Knot Tying, appropriate subclasses, for a method or apparatus for tying a bow knot and subclass 1.2 for a knotted strand.
- 5** This subclass is indented under subclass 4. Article wherein the ribbon or strand material is doubled on itself.
- 6** This subclass is indented under the class definition. Article* comprising an embellished, treated or simulated feather or a group of feathers not elsewhere provided for.
- (1) Note. This subclass includes patents directed to (a) a reconstructed feather, i.e., a composite of feather element portions arranged to produce a desired configuration, (b) a simulated feather comprising artificial fibers or natural feather flues each extending laterally from a quill part; or (c) a cut of fur pelting in simulation of a feather or a group of feathers in the shape of a panache.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 22, for a feather utilized in the construction of a product imitative of natural vegetation.
- SEE OR SEARCH CLASS:
- 34, Drying and Gas or Vapor Contact With Solids, subclasses 280+ for treatment of a feather, broadly; and see the search notes thereunder.
- 112, Sewing, subclass 404, for a feather sewn to a web or sheet.
- 223, Apparel Apparatus, subclass 47 for a device or machine for working (preparing, curling, attaching, etc.) feathers for plumes, ornaments, apparel trim, etc., not elsewhere provided for.
- 7** This subclass is indented under the class definition. Article* which has as its intended function only the temporary embellishment or adornment of a place or thing in connection with a particular event (e.g., Halloween, birthday party, Christmas, etc.).
- (1) Note. A patent directed to a disclosure of an obvious abstraction of a simulated or modified natural article (e.g., planar

- paper cutout, etc.) may be found in this or an indented subclass.
- (2) Note. The occasion may be festive or somber.
- (3) Note. Wreaths are considered to be special occasion ornaments for indented subclass 10.
- (4) Note. This subclass is the locus for artificial Christmas trees unless provided for in an indented subclass.
- (5) Note. A patent directed to an occasion ornament in the form of a web* or sheet* (e.g., festoon, streamer, etc.) will be placed in the appropriate stocks material subclasses of this class (428).
- SEE OR SEARCH CLASS:**
- 40, Card, Picture, or Sign Exhibiting, appropriate subclasses, for related structure generally used in an advertising display; and see subclasses 446+ thereof, for a display ornament including a mobile element.
- 229, Envelopes, Wrappers, and Paperboard Boxes, subclasses 116.1+ for a paperboard box including a decoration or novelty feature.
- 446, Amusement Devices: Toys, appropriate subclasses for similarly constructed devices which are differentiated from ornaments by the intended interaction between the user and toy.
- 8** This subclass is indented under subclass 7. Ornament fabricated of plural parts which are completely separable as units without destruction thereof, for purposes of assembly and disassembly.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 20, for a knockdown type tree structure.
- SEE OR SEARCH CLASS:**
- 211, Supports: Racks, subclasses 189+ for a knockdown or collapsible support rack.
- 446, Amusement Devices: Toys, subclasses 85+ for a knockdown toy which is played with by assembling and disassembling its component parts.
- 9** This subclass is indented under subclass 7. Ornament which is either articulated, or foldable, or inflatable and deflatable, or telescopic, for purposes of structural compactness (as for storage) and wherein said parts when so disposed retain a structural unity.
- (1) Note. Adjustability that achieves another display form only (e.g., a figurine, the arm of which may be exhibited in either an extended or crooked position) is not considered to include the characteristics of collapsibility.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 12, for some other miscellaneous collapsible article; and see the search notes thereunder.
- 10** This subclass is indented under subclass 7. Ornament comprising an annulus either simulating, or ornamented by ribbon or floral-like leaf material intertwined along the annular path.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 27, for frame work intended for a floral piece.
- SEE OR SEARCH CLASS:**
- 47, Plant Husbandry, subclass 41.01, for related structure including a moisture retaining core adapted to sustain the life-like characteristics of natural flora.
- 57, Textiles: Spinning, Twisting, and Twining, subclasses 200+, for a twisted or twined textile strand; especially subclass 203, for chenille type; see class definition, section VI, reference to Class 57.
- 139, Textiles: Weaving, subclasses 393+, for a woven chenille strand wherein the weft strands serve to form chenille.

11 Ornament under subclass 7 which:

(a) approximates a sphere or spheroid; or (b) is an inverted deep cup, typically having a recurving brim and simulating a bell; or (c) comprises radially disposed points (e.g., geometric starpolygon) or lines (e.g., asterisk) which constitute the conventionally accepted pattern suggestive of the luminous heavenly body- "star".

(1) Note. This subclass includes, for instance, the vari-shaped Christmas tree "ball".

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 899.1, for a process of forming a hollow metal sphere.
- 116, Signals and Indicators, subclasses 148+, for a bell, per se.
- 446, Amusement Devices: Toys, subclass 76 for an ornamental container convertible to use as a toy.
- 473, Games Using Tangible Projectile, subclasses 52+ for a ball adapted to be used in the game of billiards or pool, subclasses 125+ for a ball adapted to be used in the game of bowling, and subclasses 569+ for a game ball, per se.

12 This subclass is indented under the class definition. Article* comprising parts which are either articulated, or foldable, or inflatable and deflatable, or telescopic, for purposes of structural compactness (as for storage) and wherein said parts when so disposed retain a structural unity.

(1) Note. Adjustability that achieves another display form only is not considered to include the characteristic of collapsibility.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 9, for a collapsible special occasion ornament.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, subclass 214, for a balloon with a sign thereon.

138, Pipes and Tubular Conduits, subclasses 118+, for a flexible tubular structure including a collapsible feature.

222, Dispensing, subclasses 92+, for a collapsible wall type container; and see the search notes thereunder.

446, Amusement Devices: Toys, subclasses 220+ for an inflatable toy, subclass 388 for an animate figure formed from folded sheet material, and subclasses 487+ for other toys which are or collapsible.

13 Article* under the class definition in the form of an exhibit piece which is:

(a) enclosed within a surrounding peripheral enclosure (separate or integral); or (b) encased, either loosely or embedded, in a self-sustaining, light transmissive enclosure; or (c) a three dimensional scenic representation including an article of commerce and/or a product of nature or a replica thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 81+, for a product in the form of a sheet* including a modification or embellishment of the periphery thereof.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, appropriate subclasses, for an advertising display; and subclasses 700+, for a picture mount where the picture is not an essential structural element of the combination.
- 47, Plant Husbandry, subclass 41.01, for a living flower in a transparent casing.
- 472, Amusement Devices, particularly subclasses 57+ for a diorama related to an illusionary stage setting.

14 This subclass is indented under subclass 13. Product comprising an exhibit piece which is enclosed peripherally by a distinct element.

15 Article* under the class definition wherein the primary structure is:

(a) a replica of an article of commerce or a product of nature; or (b) a product of nature which is modified but retains the general structure and appearance of such a product.

- (1) Note. For placement herein, and indented subclasses, the disclosure of an article in the form of a reproduction does not require exactness of duplication; but a disclosure of a pictorial representation of a natural product, or a mere imitation of a material finish (e.g., grain, etc.), is excluded from this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 7+, for a simulated or modified natural product for a specific or special occasion, e.g., wreath, etc.
 13, for a three dimensional object or a product of nature in a display casing.
 85+, for a natural product having a pile type surface.
 141+, for a web* or sheet* with a textured surface resembling a natural product (e.g., grained leather, etc.).
 195+, for a web* or sheet* with a discontinuous or differential coating, impregnation or bond which may constitute a representation or imitation of a material finish.
 409+, for a web* or sheet* with a surface feature not provided for in a subclass superior thereto.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, subclass 126, for an advertising display dummy.
 52, Static Structures (e.g., Buildings), subclass 311.1 for an ornamental product for that class involving defined coloring, thickness variation or dissimilar elements forming a pattern.
 119, Animal Husbandry, subclasses 253+ for a three dimensional object or a product of nature used as aquarium ornamentation.
 252, Compositions, subclass 1 for a composition for making artificial snow.
 434, Education and Demonstration, appropriate subclasses, for a simulation used as an educational device.

- 16** This subclass is indented under subclass 15. Article in animal form.

SEE OR SEARCH CLASS:

- 446, Amusement Devices: Toys, subclasses 268+ for a figure toy.

- 17** This subclass is indented under subclass 15. Article comprising either simulated, or treated nonliving, natural plant form.

- (1) Note. Artificial turf, sod or grass will be found in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 13, for a plant in a transparent display housing.
 85+, for a pile or nap type surface which is not an artificial or treated natural product.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclass 5 and 6 for a plant with means to attach to an article of clothing.
 47, Plant Husbandry, appropriate subclasses for a cut plant treated to prolong the characteristics of life, and especially subclasses 41.01+ for the combination of a receptacle and a cut plant either treated, or with means, to prolong the characteristics of life.
 206, Special Receptacle or Package, subclass 423 for the combination of a receptacle or container and either a freshly cut plant or an artificial plant.
 239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses, especially subclasses 34+ for an aromatized artificial flower.
 427, Coating Processes, subclasses 458+ for treating plants or flowers for preservation or ornamentation by a coating step.
 504, Plant Protecting and Regulating Compositions, subclasses 114+ for compositions for treating a cut plant to maintain its freshness or to prolong the characteristics of life.

- 18** This subclass is indented under subclass 17. Article wherein the product simulated or treated is at least part of the woody portion of a woody perennial plant, which plant is generally

distinguished by a substantially sized single or main trunk with attached branches and foliage.

- (1) Note. A patent restricted to a bush or shrub type plant is not considered to be directed to a tree structure.
- (2) Note. A patent to a simulated tree trunk or branch is included in this subclass, but not one to a tree leaf alone (for which see subclass 17).
- (3) Note. An artificial or natural tree used for a special occasion (e.g., Christmas, etc.) is considered to be a special occasion ornament and will be found in the appropriate subclass above.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 7, for an artificial or natural tree disclosed as being for a special occasion, (e.g., Christmas, etc.).

- 19** This subclass is indented under subclass 18. Tree, either (a) in combination with a decorative article thereon or with an attachment whose function is to support another article (e.g., card or confectionery holder, etc.); or (b) embodying integral tree structure (such as a curved branch) specifically designed to function as an article supporting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 7+, for a special occasion ornament.

SEE OR SEARCH CLASS:

- 362, Illumination, subclasses 122+ for a tree with a decorative electric light thereon.

- 20** This subclass is indented under subclass 18. Tree fabricated of a plurality of parts which are structurally completely separable for purposes of assembly or disassembly.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 8, for a knockdown type special occasion ornament; and see the search notes thereunder.

- 21** This subclass is indented under subclass 17. Article including; (a) any simulation of a fruit, or (b) an extended ribbon-like structure having a leafy configuration along a longitudinal edge thereof and intended to embellish a food display.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, subclass 126, for a simulation in the form of an imitation article (e.g., ice cream) intended for display purposes.
426, Food or Edible Material, Processes, Compositions, and Products, appropriate subclasses for an edible material intended for human or animal consumption.

- 22** This subclass is indented under subclass 17. Article constructed, at least in part, of a material which is a product of nature (animal, vegetable or mineral) and which at least broadly retains a form characteristic of such product.

- 23** This subclass is indented under subclass 17. Plant form either (a) in combination with means (e.g., base or suspension structure) to support same other than an integral framework around which the plant form is constructed; or (b) a plurality of such forms e.g., bunched, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 18+, for an artificial tree combined with a base-support.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 5 and 6, for a floral piece with clasp attachment.
47, Plant Husbandry, subclasses 41.01 and 55, for a cut flower holder and for a stem (usually of wire) for attachment to the short stem or calyx of a flower; and subclass 72, for a flower pot cover.
206, Special Receptacle or Package, subclass 423 for the combination of a receptacle and a floral decoration, whether growing, freshly cut or imitation.

- 211, Supports: Racks, appropriate subclasses, for an open framework type of a support rack.
- 248, Supports, subclass 27.8, for a floral support structure, per se; and subclasses 44+ for a staff type stand or base support.
- 24** This subclass is indented under subclass 17. Article comprising either the bloom or blossom, or a leaf of such bloom or blossom, of a plant of the type that originates from seed.
- (1) Note. The bloom or blossom is that part of the seed plant which supports the reproductive spore in an envelope (corolla) that includes a calyx and petals.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for a simulated flower constructed of a naturally occurring material.
- 25** **Flower under subclass 24 fabricated of:**
(a) lacework or knotted mesh fabric*, or an open wire mesh whose continuity and integrity derive from the wire's permanent set; or (b) free running strand lengths.
- (1) Note. Specifically excluded from this subclass, and included in subclass 26, is a patent to an artificial flower including filamentary material which is merely woven, knotted, or braided.
- 26** This subclass is indented under subclass 24. Flower fabricated from: (a) textile* fabric*, including ribbon; or (b) any of the paper* materials (e.g., crepe, Kraft, etc.); or (c) from any of the moldable, high molecular weight compounds whether manufactured by synthesis or chemical modification of naturally occurring high polymers (e.g., cellulose* acetate, polyvinyl* chloride, phenolformaldehyde resins, rubbers and urethane* foams, etc.).
- (1) Note. For a definition of paper, see the definition of Class 162.
- 27** This subclass is indented under subclass 17. Means restricted to the requisite structural skeleton integral with and around which a composite* floral-piece, or element* thereof, is or may be constructed.
- SEE OR SEARCH CLASS:
47, Plant Husbandry, subclass 41.01, for related structure including a moisture retaining core; and subclass 55, for a flower support designed to appear as the stalk thereof.
- 211, Supports: Racks, appropriate subclasses, for a frame-like support, in general.
- 248, Supports, subclass 27.8, for a support, per se, for a completed wreath, spray of flowers, etc. The framework onto which the natural or artificial vegetation is fixed, is proper subject matter for Class 428, subclass 27; however, such a framework combined with a hook for use in supporting the finished wreath, etc., or legs, which maintain the finished wreath off the ground is proper subject matter for Class 248, subclass 27.8.
- 28** This subclass is indented under the class definition. Article* which is, or includes, an element* of decoration utilized in structural design to denote a termination of the structure to which it is applied, and which decoration is disposed on an end or at an edge of such structure.
- (1) Note. The final or pendent ornament may have a utilitarian function.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
7+, for a special occasion ornament.
19, for an ornament in combination with a tree.
115, for a fringed web* or sheet*.
- SEE OR SEARCH CLASS:
16, Miscellaneous Hardware, subclasses 110.1 through 430 for a handle including a tasselled knob.
52, Static Structures (e.g., Buildings), subclass 57 for a roof attached finial.
135, Tent, Canopy, Umbrella, or Cane, subclasses 65+ for an ornamented cane or stick end.

29 Article* under the class definition comprising:

(1) a picture or design at least part of which is in an invisible or dimly visible state and is so constructed as to become, by intended use, perceptible, or more clearly so, upon appropriate treatment; or (2) material intended to present apparent visible changes in an incorporated design or image when: (a) subjected alternatively to reflected or transmitted light; or (b) viewed on a single face thereof, along different sight lines; or (c) viewed alternatively on each face, and the included image or design is either completely light pervious or substantially identical on each such face.

SEE OR SEARCH THIS CLASS, SUBCLASS:

199, for a product comprising a discontinuous coating which may be latent and developable to indicate attempts at erasure or alteration.

SEE OR SEARCH CLASS:

40, Card, Picture, or Sign Exhibiting, subclasses 106.51+ for a display including an illusion of motion; subclass 137, for a sign with a changeable reading; and other appropriate subclasses, for a latent image in a display device.

355, Photocopying, subclasses 78+ for contact printing.

430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery compositions, a latent radiation image, and a process of developing an exposed image.

434, Education and Demonstration, subclasses 327+ for a latent image the development of which involves the educative process.

472, Amusement Devices, particularly subclasses 57+ for an amusement device producing either a physical or optical illusion.

30 This subclass is indented under subclass 29. Product including substantially parallel grooves or color bands, of minute width to effect a play of color.

SEE OR SEARCH CLASS:

359, Optical: Systems and Elements, subclasses 558+ and 615 for optical elements or systems for diffracting or dispersing light.

362, Illumination, subclasses 326+ and 341+ for related structure specifically for use with artificial light.

31 This subclass is indented under the class definition. An article* which is to be placed on a vehicle to provide a decoration or embellishment therefor.

(1) Note. So-called "trim" panels, usually used in upholstering and/or decorating the inside of vehicles, are not included under this definition of article. Such "trim" panels will be found below on other features, see for example, subclasses 156+ (embossed sheet material) or 355+ (sheet with cover or casing).

(2) Note. Included herein, for example, are automobile hood ornaments, streamers or other similar devices to be attached to a vehicle body for embellishment thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

7+, for a special occasion ornament.

SEE OR SEARCH CLASS:

301, Land Vehicles: Wheels and Axles, subclass 37.101 for a wheel protector member (e.g., wheel cover, etc.).

32 This subclass is indented under the class definition. An article* comprising as a portion only thereof, (1) a strand*, strand-portion* or strip* wound or coiled around the article or (2) a plurality of strands* or strand-like materials mechanically interlooped, interlaced, or intertwined on the article*, each of (1) and (2) above serving to ornament or embellish the article*.

(1) Note. Examples of articles found in this subclass are; sword hilts or scabbards which are ornamented with the woven, braided or wound strands*.

- (2) Note. Excluded from this definition is a filament, rod or other indeterminate length and non three dimensional element having a wound or wrapped coating.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 37, for a spirally flat wound strand or strip (e.g., braided rug, etc.).
- 222, for a web* or sheet* having components* which are twisted or folded about one another, or a component* which is arranged in a series of mutually parallel convolution along the longitudinal axis of the web* or sheet*.
- 377, for a rod*, strand* or filament*, or a coating therearound, helically wound or twisted about an axis extending longitudinally thereof, the axis, in the case of the coating, being that of the core*, filament*, rod* or strand*.

32.1 INK JET STOCK FOR PRINTING (I.E. STOCK BEFORE PRINTING):

This subclass is indented under the class definition. Subject matter for use as a receiver for ink jet printing and that includes a top ink receptive layer, a support for the top ink receptive layer, and sometimes includes a specialized layer on the back of the support for protecting the support or providing specialized characteristics (e.g., antistatic, etc.).

- (1) Note. An ink receptive layer is defined as an involved layer or region of a layer that will absorb, fix, or permeate all or any component of the originally applied ink composition. Thus, a layer that fixes the pigment component of the applied ink or a layer that absorbs only the solvent component of the applied ink will be considered ink receptive for the subclasses hereinunder.

SEE OR SEARCH CLASS:

- 162, Paper Making and Fiber Liberation, subclass 100 for fibrous products of Class 162 processes not elsewhere provided. Class 162 processes relate to depositing fibers from a liquid suspension thereof to form an interfelted

fibrous product (paper), and combinations of such fiber depositing steps with other treatments of the deposited fibrous product prior to the final drying thereof not elsewhere provided. Class 428 provides for coated fiber containing sheets that are coated after the wet water laid sheet has been dried at least to room equilibrium moisture level. Lacking an indication to the contrary, it will be assumed that a coated fiber containing sheet is proper for Class 428, if it is a non-structural laminate or has sufficient structure according to the Class 428 definition.

- 346, Recorders, for making a record of the movements of machines or instruments whose movements are desired to be recorded and at least temporarily preserved, making a record of any phenomenon capable of being detected either quantitatively or qualitatively and recorded for at least temporary preservation, the record making means and its immediate actuating means as a subcombination of either, and watchmen's and workmen's time-recorders and time stamps. See Class 346, subclass 134 record receivers and/or driving means therefore for the material on which the record of the machine movement in response to mechanical stimulus (e.g., vibration, rotation of machine, etc.) is made. Thus, if the machine operates as a result of computer direction as in an ink jet printer or thermal printer, the receiver is proper for Class 428.

- 347, Incremental Printing of Symbolic Information, for processes and apparatus for conveying information by selectively creating on a medium a visibly distinguishable symbol or mark composed of a plurality of portions. Particularly note Class 147 subclass 105 for subject matter including means specific to the medium and its processing wherein the receiving medium has a special characteristic such as fluid receiving layer.

- 32.11 Having property to receive other media in addition to ink jet composition:**
This subclass is indented under subclass 32.1. Subject matter which is adapted to act as a receiver for other material in addition to ink from an ink jet printing.
- 32.12 Retransferable:**
This subclass is indented under subclass 32.1. Subject matter wherein ink jet receiving layer is intended to act as a receiving layer for the ink which will be transferred to another substrate in a subsequent step.
- 32.13 Image viewable from either side (e.g., OHP, projectable image, etc.):**
This subclass is indented under subclass 32.1. Subject matter wherein the ink image to be formed will be viewable from either side of a transparent support and capable of being projected by light onto a screen.
- 32.14 Single recording layer:**
This subclass is indented under subclass 32.13. Subject matter wherein there is a single ink receptive layer on the transparent support.
- 32.15 Particles in recording layer:**
This subclass is indented under subclass 32.14. Subject matter wherein the single ink receptive layer contains particles (e.g., pigment, etc.).
- 32.16 Cloth or textile support**
This subclass is indented under subclass 32.1. Subject matter wherein a support is specified as being made of a cloth or textile.
- 32.17 Microporous synthetic resin support (e.g., microcracked, microembossed, etc.):**
This subclass is indented under subclass 32.1. Subject matter wherein the support is a synthetic resin specified as having small open or interconnected randomly distributed microvoids.
- 32.18 Physical property (e.g., dimensions, optical, smoothness, etc.) of support specified:**
This subclass is indented under subclass 32.1. Subject matter wherein a physical property (e.g., dimensions, optical, smoothness, etc.) of a support is given.
- 32.19 Optical property of support specified (e.g., opacity, brightness, etc.):**
This subclass is indented under subclass 32.18. Subject matter wherein an optical characteristic (e.g., opacity, brightness, etc.) of the support is the specified physical property.
- 32.2 Smoothness or freeness specified:**
This subclass is indented under subclass 32.18. Subject matter wherein a physical property of a paper support made from wood pulp is expressed as (a) the degree of uniform evenness and flatness of a paper surface or (b) as a rate at which water drains from a stock suspension through a wire mesh screen or a perforated plate.
- 32.21 Paper support composition specified:**
This subclass is indented under subclass 32.1. Subject matter where the support contains a naturally occurring fibrous cellulosic material composition.
- 32.22 Specified property (e.g., antistatic, anticurl, adhesive, antifriction, etc.) of backing layer:**
This subclass is indented under subclass 32.1. Subject matter wherein there is a layer having specialized characteristics (e.g., antistatic, anticurl, adhesive, antifriction, etc. located on the opposite side of the support from the ink receptive layer (i.e. not next to the ink receptive layer).
- 32.23 Terpolymer ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter wherein the ink receptive layer contains a polymer derived from three distinct monomer units.
- 32.24 Plural ink receptive non-support layers:**
This subclass is indented under subclass 32.1. Subject matter wherein there are more than one ink receptive layers.
- 32.25 Particle (e.g., pigment) containing layer:**
This subclass is indented under subclass 32.24. Subject matter wherein at least one of the receptive layer contains particles (e.g., pigment, etc.).

- 32.26 Hardened, cured, or cross-linked ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter wherein the ink receptive layer has reacted with a reactant that increases or interconnects polymer chains, or the ink receptive layer is referred to as hardened.
- 32.27 Gelatin ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter wherein the ink receptive layer contains a proteinaceous (i.e., polypeptide) gel derived usually derived from a naturally occurring animal product (e.g., collagen, etc.) by boiling in water.
- (1) Note. Lacking an indication to the contrary, the use of gelatin, per se, will be assumed to meet the definition of this subclass. However, it is possible to have a material identified as a gelatin that is not proteinaceous (e.g., starch, pectin, polyamide resin, etc.) and does not meet this subclass definition.
- 32.28 Modified polyvinyl alcohol ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter wherein the ink receptive layer contains a derivatized polyvinylalcohol polymer.
- 32.29 Quaternary ammonium compound ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter wherein the ink receptive layer contains a hydrocarbon compound that contains four hydrocarbon groups covalently bonded to nitrogen.
- 32.3 Dye-fixing agent present in ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter in which the ink receptive layer contains a mordant which will combine with an applied dye-containing ink composition to form an insoluble color precipitate on the substrate, (e.g., dye plus metal chelating agent, etc.).
- 32.31 Physical property of ink receptive layer specified:**
This subclass is indented under subclass 32.1. Subject matter in which a physical property of the ink receptive layer is specified.
- (1) Note. For purpose of this subclass, the physical property of a particle, per se, is not considered a physical property of the ink receptive layer.
- 32.32 Pore size or pore volume:**
This subclass is indented under subclass 32.31. Subject matter in which the physical property of the ink receptive layer is a void size (e.g., 60 to 150 A., etc.) or is void volume (e.g., cc, etc.).
- 32.33 Gloss specified:**
This subclass is indented under subclass 32.31. Subject matter in which the physical property is expressed as the ability of the ink receptive layer to reflect light specularly from the surface thereof.
- 32.34 Particles (e.g., pigment, etc.) present in ink receptive layer:**
This subclass is indented under subclass 32.1. Subject matter in which the ink receptive layer contains particles therein.
- 32.35 Particle size distribution:**
This subclass is indented under subclass 32.34. Subject matter in which the particles present in the ink receptive layer are expressed as a range of particle sizes included in the ink receptive layer.
- 32.36 Surface of particle is modified (e.g., coated, charged, etc.):**
This subclass is indented under subclass 32.34. Subject matter in which a surface on the particle present in the ink receptive layer is distinguishably characterized (e.g., coated, charged, etc.).
- 32.37 Property of particle specified (e.g., oil absorptivity, surface area, pore size, etc.):**
This subclass is indented under subclass 32.34. Subject matter in which a physical property of the particles (e.g., oil absorptivity, surface area, pore size, etc.) present in the ink receptive layer is given

32.38 Multiple polymers in ink receptive layer:
This subclass is indented under subclass 32.1. Subject matter in which the ink receptive layer comprises plural distinct polymers.

32.39 RECEIVER FOR THERMAL TRANSFER INK:

This subclass is indented under the class definition. Subject matter that relates to a substrate onto which a non-chemically reactive color layer will be selectively conveyed from a thermal transfer donor through application of heat and direct contact to set a pattern thereon.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.52, for the combination of a receiver and a thermal transfer donor.

32.6, for a thermal transfer donor (e.g., ribbon, sheets, etc.) per se.

32.5 Particles in receiving media:

This subclass is indented under subclass 32.39. Subject matter wherein the receiver includes particles.

32.51 Retransferable (i.e., receiving layer utilizable as ink transferable donor):

This subclass is indented under subclass 32.39. Subject matter wherein an imaged receiver will act as an image donor to a secondary receiver.

32.52 Thermal transfer donor attached:

This subclass is indented under subclass 32.39. Subject matter that additionally includes a product for thermally forming a record that includes (a) a non-chemically reactive color transfer layer of which a portion is selectively conveyed through application of heat and direct contact to set a pattern on a receiver, (b) a non-transferable support (i.e., carrier) for the transfer layer, and (c) also may include on the support specialized non-transferable layer(s) having characteristics that promote easy handling of the support or removal of the selectively transferred portion.

32.6 THERMAL TRANSFER DONOR (E.G., RIBBON, SHEETS, ETC.):

This subclass is indented under the class definition. Subject matter that relates to a product for thermally forming a record that includes (a) a non-chemically reactive color transfer layer

of which a portion is selectively conveyed through application of heat and direct contact to set a pattern on a receiver, (b) a non-transferable support (i.e., carrier) for the transfer layer, and (c) also may include on the support specialized non-transferable layer(s) having characteristics that promote easy handling of the support or removal of the selectively transferred portion.

SEE OR SEARCH CLASS:

503, Record Receiver Having Plural Interactive Leaves or a Colorless Color Former, Method of Use, or Developer Therefor, for material which is used to form a visible record by a reactive or interactive, usually chemical or physico-chemical, phenomenon or a method of using such a material to form a record. The formation phenomenon is one of the following: (a) The chemical decomposition of a colorless substance to form a substance having color; (b) the chemical combination of two or more colorless chemical moieties to produce a substance having color; (c) The further chemical change of (a) or (b) above, to form a color different from an original color; and (d) The chemical or physico-chemical complementarity between the bottom surface of one sheet of a record receiver and the top surface of an adjacent sheet with which the first sheet is associated.

32.61 Multiple printing (i.e., reusable):

This subclass is indented under subclass 32.6. Subject matter wherein the thermal transfer donor is intended to be used multiple times.

32.62 Porous layer containing transferable material (e.g., ink, etc.):

This subclass is indented under subclass 32.61. Subject matter wherein the transfer layer is a porous layer containing a thermally transferable color therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

321.3, for a composite having a component wherein a constituent is claimed as a liquid ink that is contained within the pores of a carrier material (i.e., gener-

ally extrudable from the pores by application of pressure).

32.63 Support properties specified (e.g., shrinkability, thermal conductivity, etc.):

This subclass is indented under subclass 32.6. Subject matter wherein physical properties (e.g., shrinkability, thermal conductivity, etc.) of the support are set forth.

- (1) Note. Having multiple layers on the support will not be considered enough to qualify for this subclass unless physical properties of the support are specified.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.64, for a support having a specialized heat source contacting layer.

32.9, a support having a specialized non-transferable layer thereon.

32.64 Specialized heat source contacting layer (i.e., back layer) on support:

This subclass is indented under subclass 32.6. Subject matter wherein a non transferable backing layer on the support is specifically adapted for contacting of a heat source .

32.65 Having electrical resistance specified:

This subclass is indented under subclass 32.64. Subject matter wherein the layer adapted for contacting a heat source is resistant to the flow of electrically.

32.66 Having heat resistance and lubricity specified:

This subclass is indented under subclass 32.64. Subject matter wherein the layer adapted for contacting a heat source has a numerically specified heat resistance and a capacity to reduce friction.

32.67 Having lubricity specified:

This subclass is indented under subclass 32.64. Subject matter wherein the layer adapted for contacting a heat source has a capacity to reduce friction.

32.68 Having heat resistance specified:

This subclass is indented under subclass 32.64. Subject matter wherein the layer adapted for contacting a heat source has a numerically specified heat resistance.

32.69 Particles in transfer layer:

This subclass is indented under subclass 32.6. Subject matter wherein the thermal transfer layer contains particles.

32.7 Meltable particles:

This subclass is indented under subclass 32.69. Subject matter wherein the particles are capable of being melted during the transfer.

32.71 Glass or ceramic particles:

This subclass is indented under subclass 32.69. Subject matter wherein the particles are glass or ceramic.

32.72 Resin particles:

This subclass is indented under subclass 32.69. Subject matter wherein the particles are made from a natural or synthetic polymer.

32.73 Microcapsule particle:

This subclass is indented under subclass 32.72. Subject matter wherein the particles have a coated or encapsulated core.

32.74 Metal particles:

This subclass is indented under subclass 32.69. Subject matter wherein the particles are metal or metal alloy.

32.75 Multiple colors transferable (e.g., stacked, etc.):

This subclass is indented under subclass 32.6. Subject matter wherein the transfer layer contains more than one color that will transfer.

32.76 Lateral diverse colors:

This subclass is indented under subclass 32.75. Subject matter wherein the multiple colors of the transferable layer are in a side by side array.

32.77 Multiple layers transfer:

This subclass is indented under subclass 32.6. Subject matter wherein there are more than one layer that comprise the thermally transferable material.

32.78 Separate adhesive layer transfers:

This subclass is indented under subclass 32.77. Subject matter wherein a layer identified as adhesive is one of the thermally transferable layers.

- 32.79 Adhesive outermost layer:**
This subclass is indented under subclass 32.78. Subject matter wherein the adhesive layer will be a layer that first contacts the receiver.
- 32.8 Specialized non-transferable layer on support:**
This subclass is indented under subclass 32.6. Subject matter wherein the support has a non-transferable layer thereon that has identified specialized characteristics.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
32.63, for supports having specified physical properties.
32.64, for having a specialized heat source contacting layer.
- 32.81 Release enhancing layer:**
This subclass is indented under subclass 32.9. Subclass wherein the specialized non-transferable layer has a characteristic that enables easy removal of the transferable material.
- 32.82 Wax in release layer:**
This subclass is indented under subclass 32.81. Subject matter wherein the release enhancing non-transferable layer contains a low melting mixture of organic materials or a compound of high molecular weight which is solid at room temperature similar to fats and oils except containing no glycerides and referred to as wax.
- 32.83 Wax in transfer layer:**
Subject matter under 32.6 wherein the transfer layer contains a low melting mixture of organic materials or a compound of high molecular weight which is solid at room temperature similar to fats and oils except containing no glycerides and referred to as wax.
- 32.84 Wax and resin in transfer layer:**
Subject matter under 32.83 wherein, in addition to wax, the transfer layer contains a natural or synthetic polymer.
- 32.85 Copolymer in transfer layer:**
Subject matter under 32.6 wherein the transfer layer contains a polymer derived from more than one monomer unit.
- 32.86 Multiple resins in transferable material:**
This subclass is indented under subclass 32.6. Subject matter wherein the transfer layer contains plural distinct polymers that are not covalently bonded to each other.
- 32.87 Physical property (e.g., melting point, softening point, glass transition point, etc.) of transferable material specified:**
This subclass is indented under subclass 32.6. Subject matter wherein the transfer layer has a specified physical property of set forth in the claim.
- 33** This subclass is indented under the class definition. Article* comprising a plurality of portions arranged with complementary areas to enable attachment of the portions to make different shapes, and to permit detachment of the portions at will.
- (1) Note. The portions herein are similar to jigsaw puzzle pieces and can be assembled and disassembled at will. If any tool must be used, or a portion permanently deformed so as to be further unusable, the article is excluded from this subclass and will be found below, or elsewhere, on other features.
- 34** This subclass is indented under the class definition. Product which comprises at least two light transmissive components secured in spaced relation and cooperating to create an airtight void.
- (1) Note. At least one of the components must be transparent in order that objects may be seen therethrough.
- (2) Note. The term "gas" includes a vacuum as well as gas under pressure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
38, for a plural layer* sheet* of light transmissive material having an opaque border or frame, which layers* are not spaced from one another.
426+, for a nonstructural laminate including a layer* of glass and especially 438+ for automobile safety glass in which an intermediate layer*, usually of cel-

lulosic material, bonds two sheets* of glass, thus leaving no space therebetween.

SEE OR SEARCH CLASS:

- 52, Static Structure (e.g., Buildings), subclasses 171.3+ for a residual transparent panel with treating means, subclass 204.52 for a double pane panel with an open vent or plugged vent and subclasses 783.1+ for a sandwich or hollow panel and see section VI, C 3d of the class definition of this Class 428.
- 215, Bottles and Jars, subclasses 12.1+ for a hermetically sealed bottle or jar.
- 220, Receptacles, subclasses 592.05 and 62.18 for a receptacle having spaced inner and outer walls.

34.1 HOLLOW OR CONTAINER TYPE ARTICLE (E.G., TUBE, VASE, ETC.):

This subclass is indented under the class definition. Article* having an opening therethrough or having a cavity which may or may not be filled with another material.

- (1) Note. This subclass is the locus for patents which claim a tube or a container merely by name with no details recited of structure associated therewith such as wall structure, openings, etc. For articles of this type which are more specifically claimed, see VI, C., 3 a., in the main classification definitions where significant wall structure is discussed as it relates to patent placement in other "container or tube" type classes. Also see search notes below.
- (2) Note. Since the classification lines between Class 428 and Classes 138, 206, 215, 220, 229, and 383 are not always clearly defined, it is suggested that a search for a coated tubular object or container include pertinent subclasses in all of the above classes.
- (3) Note. Subclass 38.1 includes but is not limited to vessels, trays and annular articles not elsewhere provided for.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 21, for a three dimensional artificial fruit article which may be in the form of a hollow or container type product.

SEE OR SEARCH CLASS:

- 47, Plant Husbandry, subclasses 41.01+ for a receptacle, per se, which has structure or means for growing a live plant (e.g., drain hole, watering wicks, etc.) or for the combination of a receptacle and a freshly cut plant, treated, or with means, to prolong the characteristics of life.
- 138, Pipes and Tubular Conduits, appropriate subclasses, for a tube or conduit which is defined in terms of its wall structure (e.g., spiral seam, coating on inner or outer wall, etc.) and not merely by its composition. See also section VI, B, of the definition of this Class 428, reference to Class 138.
- 150, Purses, Wallets, and Protective Covers, appropriate subclasses, for an article of this type in which details of the receptacle are recited such as wall structure, mouth frame, compartments, etc.
- 206, Special Receptacle or Package, subclass 423 for a container for holding either freshly cut or artificial vegetation, either as the container, per se, or as the combination with the artificial plant.
- 215, Bottles and Jars, appropriate subclasses, for a glass article of this type which is claimed specifically as a bottle or jar by reciting details thereof such as the wall structure, neck, specific orientation of a coating on the inside or outside of a wall, filling opening, etc.
- 220, Receptacles, appropriate subclasses, for a container of the type which is claimed specifically as a receptacle by reciting details thereof such as wall structure, side, bottom, filling opening, or specific orientation of a coating on the inside or outside of a wall; see especially Class 220, subclasses 62.11+.

- 383, Flexible Bags, appropriate subclasses for flaccid or flexible bags which are more than nominally claimed.
- 34.2 Paper containing (e.g., paperboard, cardboard, fiberboard, etc.):**
This subclass is indented under subclass 34.1. Article* containing paper* according to the class definition.
- (1) Note. Included are paper fibers, paperboard, cardboard, fiberboard, etc.
- 34.3 Bag or tubular film (e.g., pouch, flexible food casing, envelope, etc.):**
This subclass is indented under subclass 34.2. Article* in the form of a flexible tubular film or bag-like product which contains paper.
- (1) Note. Tubular film includes products claimed or specified as such or tubes claimed or specified as made from such a film.
- 34.4 Glass, ceramic, or sintered, fused, fired, or calcined metal oxide or metal carbide containing (e.g., porcelain, brick, cement, etc.):**
This subclass is indented under subclass 34.1. Article* which contains glass*, ceramic*, or a metal oxide or metal carbide material which is sintered, fused, fired, or calcined.
- 34.5 Contains fabric, fiber, particle, or filament made of glass, ceramic, or sintered, fused, fired, or calcined metal oxide, or metal carbide or other inorganic compound (e.g., fiber glass, mineral fiber, sand, etc.):**
This subclass is indented under subclass 34.4. Article* which contains fabric*, fibers, particles, or filaments which are composed of glass, ceramic, metal oxide or metal carbide, or some other inorganic compound.
- (1) Note. Included are fiber glass, mineral fibers, sand, graphite, carbon, glass chips, etc.
- 34.6 Multilayer (continuous layer):**
This subclass is indented under subclass 34.4. Article* which has two or more distinct layers.
- (1) Note. This subclass does not include as "multilayer", discontinuous layers (i.e., designs on a vase or nonwraparound label on a container), slightly overlapping single sheet or film, or a coating on the seam, edge, or rim only of a tubular article or container. A glass container with a sleeve around a segment of or around the whole container can be found in this subclass. An impregnated single-layered article is considered multilayered only if the depth of impregnation is defined (see the class definition, Glossary, "Web" Note (2)). See subclass 34.4 for placement of articles not meeting the definition requirements of this subclass as stated herewith.
- (2) Note. If unable to determine whether the article is single or multilayered from the claims or the specification, place the original classification in the first appropriate subclass which will take either single or multilayers and generally cross to the specific subclass for single layer or multilayer, whichever is available.
- 34.7 Polymer or resin containing (i.e., natural or synthetic):**
This subclass is indented under subclass 34.6. Article* which contains any natural or synthetic polymer or resin.
- (1) Note. A polymer or resin in this subclass requires a repeat unit of an organic moiety.
- (2) Note. In addition to the well-known polymers or resins, also included are cellulose, cellulose derivatives and proteins.
- 34.8 Flexible food casing (e.g., sausage type, etc.):**
This subclass is indented under subclass 34.1. Article* which is a flexible casing for food products such as sausage.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
35.2, for a tubular film with no reference to use as a food casing.
- SEE OR SEARCH CLASS:
138, Pipes and Tubular Conduits, subclass 118.1 for nonedible food casings with more than nominal wall structure.

- 206, Special Receptacle or Package, subclass 802 for a Cross-Reference Art Collection of shirred casings.
- 426, Food or Edible Material: Processes, Compositions, and Products, subclasses 105, 135, and 138+ for edible food casings or casings containing a food product.
- 34.9 Shrinkable or shrunk (e.g., due to heat, solvent, volatile agent, restraint removal, etc.):**
This subclass is indented under subclass 34.1. Article* which has the characteristic of being shrinkable or already shrunk by exposure to a special treatment.
- (1) Note. Treatments may include a temperature increase, the addition or removal of a solvent or other agent, or removal of a restraint holding the article or a part of the article in an expanded or unnatural state.
- 35.1 Single layer (continuous layer):**
This subclass is indented under subclass 34.9. Article* which is a single layer.
- (1) Note. See subclass 34.6, Note (1) for an explanation of what makes a layer and Note (2) for situations where the number of layers is unclear from the claims or the specification.
- 35.2 Nonself-supporting tubular film or bag (e.g., pouch, envelope, packet, etc.):**
This subclass is indented under subclass 34.1. Article* which is a tubular film or bag-like container (e.g., pouch, sack, packet, envelope, butterfly pouch, pouch, pocket-like container, etc.).
- (1) Note. See subclass 34.3, Note (1) for tubular film explanation.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
35.7+, for self-supporting or rigid tubular object. If unclear from the claims or specification whether the tubular object is nonself-supporting, place the original in subclasses 35.7+ and generally cross to subclasses 35.2+.
- 35.3 Elemental metal containing:**
This subclass is indented under subclass 35.2. Article* which contains elemental metal*.
- 35.4 Contains vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit:**
This subclass is indented under subclass 35.2. Article* which contains a claimed vapor or gas barrier property and/or contains a polymer of vinyl chloride and/or vinylidene chloride, or a polymer containing a vinyl alcohol unit.
- (1) Note. If unclear as to whether vapor and gas barrier properties are present from the claims, but the specification recites the presence, place the original in the appropriate subclass according to the claims and generally cross to this subclass.
- 35.5 Single layer (continuous layer):**
This subclass is indented under subclass 35.2. Article* in ... with a single layer.
- (1) Note. A single layer, bag-like article is one with two layers or sheets sealed around the edges to form the bag-like structure.
- (2) Note. See subclass 34.6, Note (2) if unclear from the claims or the specification whether the article is single or multilayer.
- 35.6 Cellular material derived from plant or animal source (e.g., wood, cotton, wool, leather, etc.):**
This subclass is indented under subclass 34.1. Article* which contains a cellular material derived from a plant or animal source, but excludes fossilized matter.
- (1) Note. Cellular material includes naturally occurring material which still retains a certain amount of the original tissue structure of the plant or animal. Such material includes wood, wool, cotton, bark, cork, leather, hair, etc.
- (2) Note. In the absence of information to the contrary, a cellulose, cellulose deriv-

ative, or protein is presumed devoid of cell structure unless indicated otherwise.

35.7 Polymer or resin containing (i.e., natural or synthetic):

This subclass is indented under subclass 34.1. Article* which contains a polymer or resin of natural or synthetic origin.

- (1) Note. See subclass 34.7, Note (1) for definition of polymer or resin and Note (2) for examples of polymers.

35.8 Elemental metal containing (e.g., substrate, foil, film, coating, etc.):

This subclass is indented under subclass 35.7. Article* which contains elemental metal in the form of a substrate, film, coating, particles, etc.

35.9 Three or more layers (continuous layer):

This subclass is indented under subclass 35.8. Article* which contains 3 or more layers.

- (1) Note. See subclass 34.6, Note (1) for what a layer is and what it is not. See Note (2) for what to do when the number of layers is unclear from the claims or the specification.

36.1 Textile, fabric, cloth, or pile containing (e.g., web, net, woven, knitted, mesh, nonwoven, matted, etc.):

This subclass is indented under subclass 35.7. Article* of ... which contains a textile*, fabric*, cloth*, pile fabric, felt, net, web, mesh, or the like.

- (1) Note. The textile, etc., can be woven or nonwoven, knitted, matted, etc.

36.2 Textile, fabric, cloth, or pile is sandwiched between two distinct layers of material unlike the textile, fabric, cloth, or pile layer:

This subclass is indented under subclass 36.1. Article* of ... which has a textile, fabric, cloth or pile layer sandwiched between two distinct layers of a material unlike the textile, fabric, cloth, or pile.

- (1) Note. An embedded textile, fabric, cloth, or pile is not considered to be a sandwiched layer. It is considered a single layer and therefore is subclass 36.1 subject matter. Also considered subclass

36.1 subject matter is a multilayered article where the layers on either side of the textile, fabric, cloth, or pile layer are identical to the textile, fabric, cloth, or pile layers.

36.3 Fiber or fibers wound around each other or into a self-sustaining shape (e.g., yarn, braid, fibers shaped around a core, etc.):

This subclass is indented under subclass 35.7. Article* of ... which contains a fiber or multiple fibers which are wound around each other as in a braid or yarn or are wound or wrapped around a core or in such a way to form a self-sustaining structure or shape.

36.4 Randomly noninterengaged or randomly contacting fibers, filaments, particles, or flakes:

This subclass is indented under subclass 35.7. Article* of ... which contains fibers, filaments, particles, or flakes which are in random contact or random disarray with each other.

- (1) Note. The fibers, filaments, particles, or flakes do not themselves give the claimed article a structure. They can, however, be oriented in a given direction. These fibers, etc., are usually included for reinforcement or as fillers.

36.5 Foam or porous material containing:

This subclass is indented under subclass 35.7. Article* which contains a foam or porous material.

- (1) Note. A porous material is cellular in that it has small open or interconnected voids.

36.6 Contains vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit:

This subclass is indented under subclass 35.7. Article* which contains a vapor or gas barrier property, contains a polymer derived from vinyl chloride and/or vinylidene chloride, and/or contains a polymer with a vinyl alcohol unit.

- (1) Note. See subclass 35.4, Note (1) for cases where it is unclear from the claims whether vapor and gas barrier properties are present.

36.7 Vapor or gas barrier, polymer derived from vinyl chloride or vinylidene chloride, or polymer containing a vinyl alcohol unit is sandwiched between layers (continuous layer):

This subclass is indented under subclass 36.6. Article* where the vapor or gas barrier, the polymer derived from vinyl chloride or vinylidene chloride, or the polymer containing a vinyl alcohol unit is found in a layer sandwiched between two other separate and distinct layers.

36.8 Natural or synthetic rubber or rubber-like compound containing:

This subclass is indented under subclass 35.7. Article which contains a natural or synthetic rubber or rubber-like compound.

36.9 Open-ended, self-supporting conduit, cylinder, or tube-type article:

This subclass is indented under subclass 35.7. Article* which is tubular or cylindrical, has openings at both ends, and which can hold its own structure without the aid of a filler or support.

- (1) Note. The difference between the products in this subclass and a hollow strand*, fiber* or filament in subclasses 364+ is as follows: the present subclass 36.9 is the locus for a conduit type article through which a fluid passes and is generally of substantially larger size (e.g., 3-dimensional) than the strand*, fiber* or filaments found in subclasses 364+. If it is difficult to determine from the disclosure whether the article is of the type which should be classified in this subclass or in the latter, all doubts should be resolved in favor of the strand*, filament*, or fiber* and placement made in those subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 364+, for a structurally defined or coated filament*, fiber* or strand* which could be hollow or open at both ends, and see (1) Note above for the line between the two subclasses.

36.91 Multilayer (continuous layer):

This subclass is indented under subclass 36.9. Article* which contains two or more layers.

- (1) Note. See subclass 34.6, Notes (1) and (2) for what a layer is and is not and for what to do when the number of layers is unclear from the claims or the specification.

36.92 Single layer (continuous layer):

This subclass is indented under subclass 35.7. Article which is a single continuous layer.

- (1) Note. See subclass 34.6, Notes (1) and (2) for what a layer is and is not and for what to do when the number of layers is unclear from the claims or the specification.

37 This subclass is indented under the class definition. Product wherein a strand* or strip* is arranged, and held in fixed coiled relation and lying in a common plane to constitute a unitary sheet*.

- (1) Note. A patent wherein the convolutions of a spirally flat-wound strand* or strip* are held in position by stitching will be found in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 222, for a web* or sheet* containing a helical component*.
298.1, for parallel strands* or strand-portions* joined to each other by adhesive.

SEE OR SEARCH CLASS:

- 112, Sewing, subclass 412, for parallel strands*, or strand-portions*, jointed to each other by sewing, a receptacle, per se, which has structure or means for growing a live plant (e.g., drain hole, watering wicks, etc.) or for the combination of a receptacle and a freshly cut plant, treated, or with means, to prolong the characteristics of life.
138, Pipes and Tubular Conduits, appropriate subclasses, for a spirally wound

product of the type provided for in that class.

38 This subclass is indented under the class definition. Article* comprising at least two parts, the former permitting passage of light therethrough and the latter, preventing passage of light, forming a closed continuous frame or border on at least a portion of the former part.

- (1) Note. This subclass is the locus for an artificial or natural stained glass window and for a safety glass auto windshield having a frame therearound.
- (2) Note. "Continuous" in the above definition is intended to include a frame or border made of separate and individual parts but abutting with each other to eliminate any space between the parts.
- (3) Note. Included in this definition is a light transmissive single or plural layer* sheet* having an opaque area forming a frame or border around a small portion of the sheet*.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 34, for an article in which overlying light transmissive masses are spaced from one another and sealed at their edges, which seal may be opaque to light.
- 67, for similar structure in which the former portion does not permit light to pass therethrough.
- 426+, for sheets* of glass laminated to each other by an intermediate layer* of light transmissive material but having no frame or other opaque portion.

SEE OR SEARCH CLASS:

- 73, Measuring and Testing, subclasses 323+ for a similar device, the sole disclosure of which is for use as a sight or inspection window or gauge glass.
- 351, Optics: Eye Examining, Vision Testing and Correcting, subclasses 41+ for similar subject matter in the form of a spectacle lens within an opaque frame.
- 442, Fabric (Woven, Knitted, or Non-woven Textile or Cloth, etc.), for a product in which the opaque frame or

border comprises a netted or open-mesh component and there is no light transmissive or translucent mass.

39 This subclass is indented under the class definition. Product which is assembled from a plurality of discrete parts which, taken together, give the appearance of, or representation of, a real object and is at least partially the result of the outline and contrast of the parts.

40.1 Layer or component removable to expose adhesive:

This subclass is indented under the class definition. Product comprising a composite*, web*, or sheet* having layers* or components* which are removable one from the other and one of which has an outermost coating comprising adhesive, exposed when the layers* or components* are separated, so as to enable the adhesive coating to be adhered to another surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 352, for a composite web or sheet having a layer of adhesive as an outermost coating and a release or antistick coating associated therewith, usually on the side of the base opposite to the adhesive layer.

40.2 Capsule or particulate matter containing: (e.g., sphere, flake, microballoon, etc.):

This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains capsules and/or particulate matter that are solid, hollow, or filled with another material.

40.3 Bituminous:

Subject matter under subclass, 40.1 wherein the layer or component contains bitumen, asphalt, or a tarlike component.

40.4 Ceramic, glass, glasslike, vitreous:

This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a ceramic, glassy, or vitrified component.

- 40.5 Wax containing:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a natural or synthetic wax.
- 40.6 Halogen containing compound:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a halogenated compound.
- 40.7 Fluorine:**
This subclass is indented under subclass 40.6. Subject matter wherein the halogen is fluorine.
- 40.8 Coloring agent containing:**
This subclass is indented under subclass 40.6. Subject matter wherein the layer or component contains a material having tinctorial properties.
- 40.9 Metal containing:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains free metal or combined metal and includes alloys and metal compounds.
- 41.1 Aluminum:**
This subclass is indented under subclass 40.9. Subject matter wherein the metal is aluminum.
- 41.2 Coloring agent containing:**
This subclass is indented under subclass 40.9. Subject matter wherein the layer or component contains a material having tinctorial properties
- 41.3 Polymer derived from ethylenically unsaturated monomer:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a polymer derived only from ethylenically unsaturated monomer(s), i.e., wherein the monomer contains a c=c which undergoes addition polymerization to form long c-c chains.
- 41.4 Silicon:**
This subclass is indented under subclass 41.3. Subject matter wherein the layer or component contains silicon as free element, combined element, or in a compound.
- 41.5 Polymer derived from material having at least one acrylic or alkacrylic group or the nitrile or amidederivative thereof: (e.g., acrylamide, acrylate ester, etc.):**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a polymer derived from at least one of the following reactants: $R\ XR\ \text{or}\ CH_2=C-C-N-R$, $CH_2=C-C=N,R\ \text{or}\ CH_2=C-C-OR$ and wherein X is chalcogen (i.e., oxygen, sulfur, selenium, or tellurium) and R is hydrogen or alkyl.
- 41.6 Coloring agent:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a material having tinctorial properties.
- 41.7 Protective layer:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component is covered by a resistant layer, e.g. resistant to heat, cold, oxidation, pollution, etc.
- 41.8 Release layer:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains a bond inhibiting material or parting material used to prevent adhesion between lamina in areas that might otherwise bond in the absence of the material.
- 41.9 Dissimilar adhesives:**
This subclass is indented under subclass 40.1. Subject matter wherein the layer or component contains at least two adhesives differing in composition, or differing in tackiness
- 42.1 Ornamental, decorative, pattern, or indicia:**
This subclass is indented under subclass 40.1. Subject matter in which the layer or component contains a material that has an appearance or other psychological effect which conveys information or is designed to be esthetically pleasing.
- 42.2 Sectional layer removable:**
This subclass is indented under subclass 40.1. Product in which the layer which is removable comprises a plurality of components which are noncoextensive with either the length or the width of the other layer.
- (1) Note. This subclass contains for example a web or sheet on which there is posi-

tioned a plurality of serially arranged adhesively coated labels which are removed and then adhered to a surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

343+, for a composite web or sheet in which there is an adhesive coating exposed and on the outside hereof.

42.3 Adhesive is on removable layer:

This subclass is indented under subclass 42.2. Product in which the adhesive or sticky substance is on the part which has been removed.

43 This subclass is indented under the class definition. Product comprising a sheet*, web* or layer* having a portion thereof made less strong so as to permit easy separation at this portion through the thickness portion either longitudinally or transverse or at an angle to the plane of the product.

(1) Note. Examples of weakening are - perforating, scoring, or dissolving a portion of the web, sheet or layer.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

131, for similar structures including perforations or apertures, however, not for the purpose of facilitating separation of two portions at the perforations.

156+, for similar structure including a score line, or variation in thickness, but not for the purpose of providing a tear line or weakened portion.

44 This subclass is indented under the class definition. Product containing a single layer* of at least three separate, discrete and identifiable parts both laterally and longitudinally associated (i.e., in a nonthickness direction) so that it is impossible to draw a single straight line through the geometric center of all the parts of the single layer*.

(1) Note. Excluded under this definition is a web or sheet having a perimeter structure which appears to meet the definition. The identifiable parts in this subclass do not have any additional structure at the perimeter thereof. A

floor of tile squares is exemplary of the subject matter in this locus.

45 This subclass is indented under subclass 44. Product which has a border or other modification or embellishment of its entire perimeter, not of the individual sections.

46 This subclass is indented under subclass 44. Product comprising a part or layer which permits light to pass therethrough.

(1) Note. Any layer or section may be transparent or translucent for purposes of this subclass, e.g., the sectional layer may be made of completely transparent sections or an opaque sectional layer may be adjacent to a continuous layer which is transparent.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

38, for a product which has a transparent or translucent part fitted in or over a through opening in another part or in a border therefor.

47 This subclass is indented under subclass 44. Product in which the sectional layer is adjacent to a unitary web* or sheet* which extends outwardly in both lateral and longitudinal directions up to or beyond the boundary of the sectional layer.

48 This subclass is indented under subclass 47. Product wherein the sectional layer has no voids or spaces in both longitudinal and lateral directions.

(1) Note. The continuity of the layer may be due to edge abutment of the parts thereof, or, if there be spaces between the parts a material completely filling such spaces.

49 This subclass is indented under subclass 48. Product wherein the distinct parts are made of (1) free or alloyed metal, (2) glass* or (3) ceramic* material and the product is commonly known as tile.

50 This subclass is indented under subclass 48. Product in which the distinct parts comprise cellulose* in either its natural or modified state.

51 This subclass is indented under subclass 47. Product wherein at least one of the parts of the sectional layer has a periphery other than four sides and four right angles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

64.1+, for a circular sheet.

80, for a sheet which is nonrectangular.

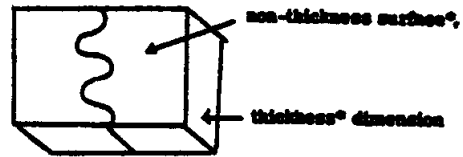
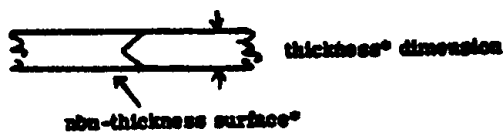
52 This subclass is indented under subclass 44. Product in which the layer is made of parts at least two of which are united by a distinct mechanical connection extending over the edges thereof and so arranged as to permit movement between the parts.

(1) Note. The motion may be due to (1) freedom in the mechanical connection between the fastener and the part or (2) free or lost motion in the fastener itself.

53 This subclass is indented under the class definition. Product comprising at least three sheets* or webs*, all lying in a single plane and each connected to another by an edge portion which comprises at least two different planes and having means joining the sheets* or webs* together.

(1) Note. The means for joining or securing may be either mechanical or chemical (i.e., adhesive, etc.).

(2) Note. The different planes may be either in thickness, i.e., the top image or or along a nonthickness surface*, i.e., the lower image below.



54 This subclass is indented under the class definition. Product formed of at least three parts joined at an end, forming a layer* in which the parts extends longitudinally, the longitudinal extent of each part being less than the overall length of the product.

(1) Note. In the absence of a clear indication that the sections of the sectional layer are longitudinally coextensive with the longest dimension of the product, the sectional layer will be presumed to be longitudinally sectional for this and indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

44+, for a product comprising a plurality of parts joined together both laterally and longitudinally.

53, for a product which may be sectioned longitudinally, but in which the separate parts interfit on complementary faces and have additional joining or securing means.

189+, for a product in which at least one side-edge of a layer or component of a composite product is laterally offset from the corresponding side edge of a second layer or component.

55 This subclass is indented under subclass 54. Product wherein the layer of joined parts is contiguous to a unitary web or sheet which extends outwardly in both directions (1) up to or (2) beyond the boundary of the layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47+, for a composite sheet or web comprising a layer sectional in two dimensions adjacent to another sheet or web of equal or greater size.

- 56** This subclass is indented under subclass 55. Product in which the layer has no voids or spaces between the joined parts in both directions of its plane.
- (1) Note. The continuity of the layer may be due to edge abutment of the parts thereof, or if there be voids or spaces between the parts, a material filling such spaces.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 48, for a composite* sheet or web comprising a continuous layer sectional in two dimensions adjacent to another sheet or web of equal or greater size.
 77+, for a composite product comprising two sheets, one of which is longitudinally noncoextensive with the other.
- 57** This subclass is indented under the class definition. Product wherein two sheets* or webs* are joined in either edge abutting or edge overlapping relationship.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 38, for a translucent portion or part joined at the edge or edges thereof in an aperture or frame.
 53, for a product comprising at least three areas.
 189+, for a product comprising a plurality of components* arranged edge to edge but not joined or spliced.
- 58** This subclass is indented under subclass 57. Product wherein the sheets or webs are joined together so as to lie in a single plane.
- 59** This subclass is indented under subclass 58. Product comprising a plurality of sheets or webs connected to each other and each sheet or web comprising a plurality of hills and valleys extending parallel to each other.
- (1) Note. The connection may be through the intermediary of a planar sheet associated with the hills and valleys, or the hills of one sheet may be directly connected to those of the other.
- (2) Note. An example of the products found herein is corrugated cardboard.
- 60** This subclass is indented under subclass 58. Product wherein the sheets or webs are joined along two or more planes or joined along one plane not perpendicular to the surface of the sheet or web.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 53, for a product including at least three parts joined along two or more planes.
- 61** This subclass is indented under subclass 58. Product wherein the joint is reinforced by additional material which lies outside the plane of the connected sheets or webs.
- 62** This subclass is indented under subclass 61. Product wherein pile surfaced sheets or webs (e.g., rugs or carpets etc.) are connected.
- 63** This subclass is indented under the class definition. Product which comprises an article*, sheet* or web* which has an aperture or indentation and material covering the aperture or fitting the indentation so as to attempt to restore the article, sheet or web to its original condition.
- SEE OR SEARCH CLASS:
 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 36.1+ for repairing or restoring articles for reuse and subclass 30 for furnace lining formation or repair.
 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 11+ for apparatus to repair or restore a product by molding.
- 64.1 CIRCULAR SHEET OR CIRCULAR BLANK:**
 This subclass is indented under the class definition. Product whose outer boundary is that of a single curved line every point of which is substantially the same distance from a point at the center thereof.

64.2 Recording medium or carrier:

This subclass is indented under subclass 64.1. Subject matter wherein the circular sheet or circular blank is a tangible object upon which an information signal is to be stored, the object having a characteristic which is, or may be, modified at positional increments in accordance with the time variation of information which is to be stored thereon.

- (1) Note. The recording medium or carrier for purposes of these subclasses need not be the specific layer that is intended to contain the information signal. All layers of the medium or carrier are considered to be the recording medium or carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

900, for a collection of magnetizable stock material.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, subclass 135 for a disc having information recorded thereon in magnetic form.

369, Dynamic Information Storage or Retrieval, subclasses 272+ for a disc having information recorded thereon in the form of grooves.

64.4 Optical recording medium or carrier:

This subclass is indented under subclass 64.2. Subject matter wherein the recording medium or carrier is designed to undergo a chemical or physical change; e.g., irradiating the medium with a laser beam to alter the optical characteristics of the medium or carrier in the irradiated area, etc.

64.5 Tellurium containing:

This subclass is indented under subclass 64.4. Subject matter wherein the recording medium or carrier contains tellurium as a free element, combined element, or in a compound.

64.6 Protective layer:

This subclass is indented under subclass 64.5. Subject matter wherein the tellurium containing recording medium or carrier is covered by a

resistant layer; e.g., resistant to heat, cold, oxidation, pollution, etc.

64.7 Polycarbonate containing:

This subclass is indented under subclass 64.4. Subject matter wherein the recording medium or carrier contains linear polyesters containing plural carbonic acid ester groups.

64.8 Coloring agent containing:

This subclass is indented under subclass 64.4. Subject matter wherein the recording medium or carrier contains a material having tinctorial properties.

64.9 Thickness specified:

This subclass is indented under subclass 64.8. Subject matter wherein the thickness of at least one layer or the overall product of the recording medium or carrier is specified.

65.1 Polymer derived from material having at least one acrylic or alkacrylic group or the nitrile or amide derivative thereof: (e.g., acrylamide, acrylate ester, etc.)

This subclass is indented under subclass 64.4. Subject matter wherein the recording medium or carrier contains a polymer derived from at least one of the following reatants: R X R R X | | | S S XCH₂=C-C-N-R, CH₂=C-CbN, or CH₂=C-C-OR and wherein X is chalcogen (i.e., oxygen, sulfur, selenium, or tellurium) and R is hydrogen or alkyl.

65.2 Adhesive containing:

This subclass is indented under subclass 64.4. Subject matter wherein the recording medium or carrier contains a glue-like substance.

65.8 Lubricant containing:

This subclass is indented under subclass 64.2. Subject matter wherein the recording medium or carrier contains a substance that reduces friction.

65.9 Fibrous material containing:

This subclass is indented under subclass 64.2. Subject matter wherein the recording medium or carrier is composed of relatively short, slender, flexible elements of finite length.

66.1 Gear:

This subclass is indented under subclass 64.1. Subject matter wherein the circular sheet or blank is to be used as a toothed wheel, e.g., sprocket, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66.7, for gears wherein the size and/or shape of the teeth may be recited.

66.2 Frictional:

This subclass is indented under subclass 64.1. Subject matter wherein the circular D-5 sheet or blank is to be utilized as a means for stopping or reducing motion; e.g., brake or clutch, etc.

SEE OR SEARCH CLASS:

188, Brakes, appropriate subclasses, for a product having frictional properties where said property is enhanced by claimed external structure (e.g., disc shape, surface configuration or internal structure such as discrete zones of friction material or particular arrangements of strands*, fibers* or layers* and where the sole disclosure is that the product is used as a brake.

192, Clutches and Power-Stop Control, appropriate subclasses for a product as above described and in which the product is solely disclosed as used for a clutch, or as a brake or clutch alternatively.

66.3 End closure:

This subclass is indented under subclass 64.1. Subject matter wherein the circular sheet or blank is to be used to plug or close an opening at the end of a container or conduit.

66.4 Seal, gasket, or packing:

This subclass is indented under subclass 64.1. Subject matter wherein the circular sheet or blank is to be utilized between or around members or joints to prevent leakage there between or therefrom.

66.5 Ornamental, decorative, pattern, or indicia:

This subclass is indented under subclass 64.1. Subject matter wherein the circular sheet has an appearance or other psychological effect

which conveys information or is designed to be esthetically pleasing.

66.6 Aperture containing:

This subclass is indented under subclass 64.1. Product which has a through opening.

SEE OR SEARCH CLASS:

411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclasses 531+ for washers to be used with a fastener of Class 411.

66.7 Edge structure:

This subclass is indented under subclass 64.1. Product in which the structure of the outer perimeter or boundary is recited.

67 This subclass is indented under the class definition. Article* comprising a base* or substrate* and set within the surface thereof, or into an opening or depression therein, at least one element* which is larger than the size usually attributed to that of a particle* or granule*, the element* being visible and resulting in a composite* product or a mosaic*.

(1) Note. Excluded from this subclass is a roofing felt containing a layer of granules or particles which may be embedded in the felt. Such a product will be found below on other features; see search notes, below.

(2) Note. Excluded from this subclass is a product in which the embedded element is completely enveloped; see search notes, below.

(3) Note. Excluded from this subclass is a product in which the element is "visible" only because it causes a variation in thickness, not because it is actually seen in the substrate.

(4) Note. Included in this subclass are articles such as jewelry, mosaics, faucet handles having decorative inlays, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

38, for a structure in which the embedded element permits light to pass there-

- through and is set into an opening or casing therefor provided in a base or substrate.
- 68+, for a product in which one element is completely covered by another.
- 87, for a product having a pile or nap surface and which has particles which may be embedded therein.
- 141+, for a product having a surface or layer which is nonuniform or irregular and which comprises particles.
- 323, for a composite web or sheet in which one layer contains structurally defined particles or granules which may be embedded therein.
- 338, for a single layer web or sheet having a structurally defined particle or granule which may be embedded therein.
- SEE OR SEARCH CLASS:
- 442, Fabric (Woven, Knitted, or Nonwoven Textile or Cloth, etc.), appropriate subclasses for a woven or knitted fabric and particulate matter associated therewith and which may be embedded in the fabric.
- 68** This subclass is indented under the class definition. Product comprising a base sheet* with a distinct layer* of material enclosing all the edges and at least one nonthickness surface*.
- (1) Note. The enclosing layer of material may either be unitary or may comprise a plurality of separate and distinct portions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 126+, for a sheet* having a fold at opposed marginal edges and forming an annular cover of the product.
- 69** This subclass is indented under subclass 68. Product which contains a nonliquid fluid which is (1) other than the usual atmosphere or (2) at less than normal atmospheric pressure.
- (1) Note. Foamed or expanded materials produced by introduction or in situ production of gas other than air will be placed in this subclass only when there is a specific disclosure or claim that the gas remains in the final product and has a desired useful function therein.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 310+, for a composite* web* or sheet in which at least one layer comprises foamed or expanded materials.
- 70** This subclass is indented under subclass 68. Product wherein an enclosed sheet comprises inorganic material which has been set to a solid product by hydration.
- (1) Note. Examples of settable inorganic materials are portland cement, gypsum, plaster of paris, etc.
- SEE OR SEARCH CLASS:
- 106, Composition: Coating or Plastic, subclasses 638+ for compositions containing ingredients which set up or solidify by hydration.
- 71** This subclass is indented under subclass 68. Product wherein the enclosed sheet comprised a heterogeneous mixture of a gas phase dispersed therethrough.
- (1) Note. See (1) Note and search note in subclass 69 above, regarding the placement of certain foamed or expanded products.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 158+, 310+ and 423+, for other products containing foamed or expanded material, especially urethane.
- 72** This subclass is indented under subclass 68. Product comprising elements or portions of the layer or enclosure which act together to form closed compartments.
- (1) Note. The cells may be formed by a single enclosed layer which has apertures therethrough and which apertures coact with the casing or cover.
- (2) Note. The cells or compartments may be vacant or occupied with a material.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
178, 188 and 304+, for other products in which at least one layer comprises cellular material, or in which components* and/or layers cooperate to form cells.
- 73** This subclass is indented under subclass 72. Product wherein the compartments are perpendicular to a nonthickness surface of the product.
- (1) Note. The compartments need not be hexagonal or six sided as in the usual honeycomb; they may be of any shape but must have a continuous closed peripheral wall.
- 74** This subclass is indented under subclass 68. Product in which the sheet comprises noninterengaged strands* in the form of a self sustaining bat or mat (e.g., felt, etc.) or in the form of loose or free flowing or fluent material.
- 75** This subclass is indented under subclass 74. Product wherein the enclosing layer comprises free metal or an alloy.
- 76** This subclass is indented under subclass 68. Product wherein all surfaces and edges of the sheet are enclosed.
- 77** This subclass is indented under the class definition. Product wherein one or more sheet* is attached to a nonthickness surface* of a base sheet* or web* in face to face relationship, the base sheet or web being of greater length than the attached sheet.
- (1) Note. Excluded from under this definition is a print, design or indicia or other similar discontinuous or differential coating. The present subclass (77) is intended to take only complete sheets with the adjacent base.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
55+, for a plurality of parts arranged longitudinally and next to a unitary sheet of greater extent.
- 67, for a product in which a sheet lies in a recess of another sheet.
- 131+, for a product in which a sheet lies entirely in a through aperture in a single layered product.
- 195+, for a sheet which has a discontinuous or differential coating, impregnation or bond, in effect yielding a composite layered coextensive with the lower.
- 78** This subclass is indented under subclass 77. Product wherein the base sheet or web is larger than the attached sheet in both length and width.
- 79** This subclass is indented under subclass 78. Product wherein the attached smaller sheet has an embellishment or adornment on the outline thereof.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
64.1+, and 80, for composite products of this type in which the smaller sheet may be of the circular or nonregular form and is so claimed.
- 80** This subclass is indented under the class definition. Product which is a sheet having an outer perimeter other than rectangular (i.e., four sides with right angles between each two adjacent sides).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
51, for a two-dimensional sectional layer in which the sections are nonrectangular.
64.1+, for a circular sheet.
- 81** This subclass is indented under the class definition. Product which is a sheet* wherein the structure of at least three edges or at least two nonadjacent corners is recited.
- (1) Note. A sheet or web recited as "rectangular" is excluded from under this definition unless some specific perimeter or corner structure is also recited.
- 82** This subclass is indented under subclass 81. Product wherein the sheet has a pile or nap on at least one nonthickness surface*.

- 83** This subclass is indented under subclass 81. Product in which the corner or perimeter structure defines a channel or U-Shape.
- 84** This subclass is indented under subclass 81. Product comprising a sheet of paper*.
- (1) Note. The paper may be either single or plural layer*.
- 85** This subclass is indented under the class definition. Product comprising a web*, sheet*, layer* or element* from the surface of which and attached thereto or integral therewith, extends looped or free ended filamentary* material, resulting in a bristly, fuzzy or resilient surface.
- (1) Note. Animal skin in which the fur remains intact is considered to be pile or nap surface and will be placed in this group of subclasses.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 15+, for an imitation or treated natural product (other than animal skin in which the fur remains intact) which has a pile or nap type surface, especially subclass 17 for artificial grass or turf.
- 623, for two sections of a pile rug or carpet connected edge to edge by means of a binding tape or strip not co-planar with the sections.
- SEE OR SEARCH CLASS:
- 15, Brushing, Scrubbing, and General Cleaning, subclasses 208+ for a cleaning implement or applicator having a pile working face.
- 66, Textiles: Knitting, subclasses 191 and 194 for a knitted fabric including a fleece or pile type surface.
- 112, Sewing, subclasses 410+ for a pile fabric in which the pile elements are attached to a base by a stitching operation.
- 139, Textiles: Weaving, subclasses 391+ for a woven pile fabric, per se.
- 86** This subclass is indented under subclass 85. Product in which the free ended or looped filamentary material is completely embedded in a layer or component* or is disposed between layers or components*.
- 87** This subclass is indented under subclass 85. Product in which the web, sheet or layer also has particles* associated therewith.
- 88** This subclass is indented under subclass 85. Product wherein (1) there is variation in the height, angles or type of the pile in different areas of the web or sheet, (2) spaced or interrupted arrangement of pile areas define a figured or sculptured design effect; or (3) the pile or nap structure at an edge of the web or sheet differs from the structure which exists over the remainder of the web or sheet.
- (1) Note. A patent to a product wherein the base web* is embossed so as to product a nonplanar pile surface will be placed in this subclass.
- (2) Note. Variation in type of pile may be based on use of different materials or the same material varying in a physical property (e.g., coarseness of fiber, etc.). Mere difference in color will not be considered a difference in type of pile.
- (3) Note. A mere random variation in height or angle of pile which does not product a figured or sculptured design effect will not support placement of a patent in this subclass and will be classified below on other features.
- 89** This subclass is indented under subclass 88. Product in which (1) the height of the filamentary material from the surface of the web or sheet or layer is different in spaced areas or (2) the filamentary material differs in physical property (e.g., coarseness, proximity of filaments to each other, etc.) in different areas of the web, sheet or layer.
- 90** This subclass is indented under subclass 85. Product wherein the free-ended material comprises individual fibers*, either integral with a fibrous or fiber-containing base and extending

- outwardly therefrom, or randomly distributed and adhesively retained on a base.
- (1) Note. A patent for a fabric* having pile which has been treated additionally so as to separate individual fibers of the pile strands from each other will be placed here.
- 91** This subclass is indented under subclass 85. Product in which the fibers* are integral with a fibrous or fiber containing base and extend outwardly therefrom.
- (1) Note. Nap is generally raised mechanically by an element moving on a fibrous material to separate individual fibers* therefrom and cause the fibers to extend outwardly.
- 92** This subclass is indented under subclass 85. Product in which the form or arrangement of the free ends or loops of the filamentary material is defined.
- 93** This subclass is indented under subclass 92. Product in which the filamentary material comprises either reversely bent discrete strand-portions* or continuous strands* secured to the web or sheet at bights which engage the strands* or strand portions*.
- 94** This subclass is indented under subclass 93. Product in which the filamentary material comprises an indeterminate length or a continuous strand and is joined by an adhesive or cement to the web, sheet or layer or to another part associated with the web, sheet or layer.
- 95** This subclass is indented under subclass 85. Product in which is defined the arrangement or constituents of (1) the web, sheet or layer to which the filamentary material is attached or (2) an additional part attached to or associated with the web, sheet, or layer.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
310+, for a foam material which may be used as the backing for a carpet or other pile or nap surface.
- 96** This subclass is indented under subclass 85. Product which is covered or saturated, at least in part, with extraneous material or is joined to another part by an adhesive substance.
- 97** This subclass is indented under subclass 85. Product in which the claim defines (1) the elements* or constituents* which form the filamentary material or (2) the ingredients which compose the adhesive associated with the web, sheet or layer.
- (1) Note. Only a single ingredient or constituents* need be recited to qualify for this subclass, but must be specifically recited. Thus: a synthetic fiber* is not sufficient for placement in this subclass, but polyamide* or polyester* is sufficient; cement* or glue* does not qualify, but casein adhesive does.
- 98** This subclass is indented under the class definition. Product comprising a single or plural layer* web* or sheet* in which (1) the overall web* or sheet* has a particular size, shape or other physical configuration; (2) components* or constituents* thereof are arranged in an orderly fashion relative to a surface of the product; (3) the product comprises at least two layers* or components*, each claimed as possessing a particular characteristic which is different from the other (e.g., hardness, density, etc.); (4) the product includes a particular characteristic claimed in relation to a surface thereof; (5) there is a nonuniform thickness, planarity, surface, coating, impregnation or bond; (6) there are apertures; (7) any other characteristic is present by which the overall web* or sheet* may be identified as having a particular structure or configuration.
- (1) Note. A patent directed to a plural layer stock material product identified solely in terms of the composition of at least one layer thereof will be placed in subclasses 411+ of this class (428).
- (2) Note. See the Class Definition, Criteria for Patent Placement in the Class, first paragraph, for subject matter excluded from this class (428).

- (3) Note. Although a naturally occurring fibrous material such as wood is considered to have “grain” direction (see subclasses 105 and 114) such material is not considered as a fiber-containing material in this or any indented subclass.
- (4) Note. Included under this definition of “significant size” is any recitation of a measurable extent or range thereof, no matter how wide (e.g., “up to .075 mils, etc.”).
- (5) Note. Included under this definition of physical size is a recitation of a weight unit (e.g., grams, pounds etc.) spread over a unit of area (e.g., square feet, square meters, etc.). See also the class definition, Framework of the Class for other examples of structure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 221+, for a web* or sheet* containing a structurally defined element* or component*.
- 357+, for a structurally defined rod*, strand*, fiber*, particle* or other element* or constituent* thereof, or a mass thereof, and especially subclasses 364+ for a product having a width substantially equal to the thickness thereof (e.g., rod*, strand*, fiber*, filament*, etc.) and claimed in terms of its particular shape or size or the shape, size or arrangements of its constituents.
- 411+, for a nonstructural plural layer*, web* or sheet* wherein a second component* thereof is defined in terms of its molecular orientation or crystalline structure.
- SEE OR SEARCH CLASS:
- 36, Boots, Shoes, and Leggings, subclasses 30 and 44 for a laminated shoe part.
- 112, Sewing, subclasses 400+ for a sewn web or sheet; and see section VI A1(a)(4) of this definition.
- 198, Conveyors: Power-Driven, appropriate subclasses for an endless belt or stock material including specific structure for carrying material in a horizontal plane.
- 248, Supports, for a vibration damping ring support. Also, see section VI of this definition for additional classes related to this subclass.
- 400, Typewriting Machines, subclasses 237+ for an inking ribbons especially adapted for typewriting machines.
- 424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 443+ for a web or sheet including a composition of that class.
- 99** This subclass is indented under subclass 98. Product in which the web or sheet has means secured thereto or integral with a surface or edge thereof for attachment and detachment at will to a surface or support or to cooperating fastening means.
- (1) Note. A buttonhole, nail hole or similar aperture is not considered an external fastening means within the definition of this subclass.
- (2) Note. This subclass is the residual locus for a web or sheet including an external fastener.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 223, for a composite product in which plural layers are connected by a separate and distinct mechanical connecting member extending over the edges of and/or into a plurality of layers or components.
- SEE OR SEARCH CLASS:
- 24, Buckles, Buttons, Clasps, etc., subclasses 572+ for separable-fasteners.
- 52, Static Structures (e.g., Buildings), appropriate subclass, for a building structure component with external fastening means.
- 112, Sewing, subclasses 406+ for a separable fastener secured to a base web or sheet by stitching; subclass 431 for a sewn buttonhole including a floating strand around its edge; and subclass 437, for a sewn buttonhole.

100 This subclass is indented under subclass 99. Product in which the fastener comprises a part which (1) is curved or otherwise bent back towards itself and has a free end on which another part may be caught or held or (2) has a point curving or projecting backwards therefrom and onto which another part may be caught or held.

- (1) Note. The hook or barb may be part of a fiber or filament or strand in a component so made as to catch or hold onto another component.

101 This subclass is indented under subclass 98. Product wherein layers or components are arranged in overlying relation and are permanently connected in such manner as to permit relative translational movement between them (i.e., in one plane only, vertical, horizontal or oblique).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 223, for a composite web or sheet in which the components are joined to each other by a fastener extending over the edges of and/or into a plurality of layers or components.

102 This subclass is indented under subclass 98. Product wherein the web or sheet is embellished by, or has portions joined, reinforced or held in position by, a strand* so disposed within the product that it must have been introduced therein by an eyed needle, and also has at least some portion thereof (1) held in position by a separate and distinct mechanical connecting member(s) (2) covered or saturated with extraneous material, or (3) joined to another portion by adhesion or cohesion.

- (1) Note. A patent for a product which includes individual stitch fastening elements, such as short pieces of wire, will be placed in this subclass.
- (2) Note. Needling is not considered to be a mechanical connection or a discrete fastener; therefore a patent to a product wherein portions are joined by sewing and needling (i.e., interlocking of fibers) will not be placed in this or the indented

subclasses, but will be found below on other features, see Class 442, subclasses 402+, for example.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 54+, for a product which consists of 3 or more components not longitudinally coextensive, and which may have been made by stitching and another fastener, coating or bond.

SEE OR SEARCH CLASS:

- 112, Sewing, subclasses 402+ for a sewn web or sheet, per se, and see section II of the definitions of that class (112) for the scope of that class and its relationship to other classes.

103 This subclass is indented under subclass 102. Product wherein the coating, impregnation or bond occurs in spaced zones, or over an area which is substantially less than the total area of the composite web, or is of a different character in different areas of the web.

- (1) Note. A patent for a product wherein a narrow tape is adhered over a line of stitching will be placed in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 195+, for a patent to a similar product which does not include stitching.

104 This subclass is indented under subclass 103. Product wherein the coating, impregnation or bond is limited to the areas where the stitches penetrate the web and, optionally, the area immediately adjacent thereto.

105 This subclass is indented under subclass 98. Product including a plurality of layers or components wherein at least two of said layers or components include substantially parallel, narrow, elongated elements* (such as strands*, strips* or fibers*), with those of one layer or component being arranged at an angle to those of another.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 114, for a product in which the elongated elements in respective layers or com-

- ponents are substantially parallel to each other.
- 188, for a product in which the longitudinal axis of a tubular element(s) of one layer or component is at an angle to the like axis of a tubular element(s) in a second layer or component.
- 106** This subclass is indented under subclass 105. Product which comprises layers or components of wood, wherein the elongated elements are fibers forming the natural grain of the wood, with the grain of one layer arranged at an angle to the grain of another layer.
- (1) Note. This is the locus for sheets of plywood.
- 107** This subclass is indented under subclass 105. Product in which the elemental structures are strands* or strand-portions*.
- (1) Note. A patent for a product comprising distinct layers of strands crossed and bonded at their junctions will be placed in this subclass, but where the angularly related strands are interengaged (e.g., interwoven, etc.) the patent will be placed in the subclass defining interengaged strands, etc. such as for example, subclasses 175+ and 196+, and Class 442, subclasses 181+, depending on the claimed features.
- 108** This subclass is indented under subclass 107. Product in which the Longitudinal axis of the strands or strand portion follows a curvilinear or multidirectional path.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
362, and 369+, for a rod, strand fiber or filament whose longitudinal axis follows a multidirectional or curvilinear path.
- 109** This subclass is indented under subclass 107. Product in which there is at least one layer of material in addition to the layers or components which contain the strands or strand portions in angular relation.
- 110** This subclass is indented under subclass 109. Product in which there are at least two such additional layers, at least one of which is positioned on each side of the two layers of components which contain the strands or strand-portions in angular relation.
- 111** This subclass is indented under subclass 110. Product which includes a layer or component of mechanically intertwined, intertangled, interwoven or interlooped strand or strand-portion.
- 112** This subclass is indented under subclass 107. Product wherein the strands or strand-portions are at an acute angle with respect to the longitudinal axis of the web.
- 113** This subclass is indented under subclass 105. Product in which the elemental structures are fibers.
- 114** This subclass is indented under subclass 98. Product including a plurality of layers or components having distinctly oriented elemental constituents (such as strands*, strips* or fibers*) all arranged in the same general direction.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
105+, for a product wherein the elemental constituents in some respective layers may be parallel to each other whereas those in other respective layer are in angular relation to each other.
298.1+, for a web or sheet product in which strands, strand-portions or strips are not mechanically interengaged, but are parallel to one another.
- 115** This subclass is indented under subclass 98. Product having a plurality of strand-portions* or strand* loops extending freely in individual or grouped arrangement from an edge of the web, sheet or component.
- (1) Note. Excluded are fringed manufactures which are the result merely of a simple textile fabrication, such as weaving or braiding. For placement in this subclass, a patent must be directed to a product whose manufacture transcends

the function of the textile producing apparatus (such as a loom or a knitting machine).

SEE OR SEARCH CLASS:

- 112, Sewing, subclass 409 for a web having a fringe secured thereto by sewing.
- 139, Textiles: Weaving, subclass 385 for a woven fabric wherein loose unwoven ends of the constituent strands form a fringe.

116 This subclass is indented under subclass 98. Product comprising a layer or component including either discrete elements (e.g., tubular constituents) or components which form or cooperate to form, cavities the longitudinal axes of which are at an angle to the plane of the web or sheet.

- (1) Note. An integral layer (e.g., molded or apertured layer) including curvilinear or polygonal through openings therein is not considered to fall within the definition of this subclass. See particularly subclasses 131+ below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 131+, for a web or sheet embodying an apertured component (e.g. layer with through openings, expanded metal, etc.) and particularly indented subclasses 132+ where such component comprises struck-out portions.
- 156+, for a web or sheet embodying a component of varying thickness (e.g., layer with open cavities) and especially subclass 161 for such component cooperating with a second component to form inter-laminar spaces.
- 174+, for a web or sheet embodying a non-planar component and especially subclasses 178 and 180 where such component cooperates with a second component to form closed cells.
- 188, for a web or sheet including a longitudinally or transversely extending tubular cavity or cell.
- 593, for corresponding metallic* honeycomb stock-material*.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 783.1+ for a sandwich or hollow panel having a discrete inter-laminar fastener, and subclass 60 for a honeycomb-like layer not having mechanical connecting means between components.

117 This subclass is indented under subclass 116. Product in which the cavities contain a material other than the atmosphere.

- (1) Note. The cells need not be completely filled with the material. For example a coiled piece of foil within the cell is sufficient to qualify for this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 69, for a product comprising a sheet and cover therefor, the space therebetween being filled with a gas other than air.

118 This subclass is indented under subclass 116. Product in which the cavities are bounded by a continuous six sided wall.

119 This subclass is indented under subclass 98. Product having one or more components or sheets disposed with nonthickness surfaces* thereof at right angles to a nonthickness surface* of the composite product and nonintegral therewith.

- (1) Note. A patent for a product comprising a plurality of relatively narrow sheets or components assembled with their respective nonthickness surfaces in face-to-face contact and their edges forming the nonthickness surfaces of the composite web or sheet will be included in this subclass.

- (2) Note. A patent directed to a product wherein the components lie in parallel planes which are at an acute angle to the nonthickness surfaces of the composite product will be placed in subclass 112.

- (3) Note. A patent directed to a product comprising a component having a portion integral with and disposed perpen-

dicular to a second portion (e.g., L-shaped, channel shaped, etc.) will be placed in subclasses 121+ on the basis of a particular edge feature.

SEE OR SEARCH THIS CLASS, SUBCLASS:

116+, for a product including sheets or components disposed perpendicular to the plane thereof where said sheets or components form or cooperate to form a honeycomb layer.

120 This subclass is indented under subclass 119. Product in which the component or sheet is not at the edge of the base web or sheet but is disposed inwardly toward the center.

121 This subclass is indented under subclass 98. Product wherein a portion of the web or sheet, or of a component thereof, is turned out of the plane of the web or sheet along a longitudinal axis thereof and at a longitudinally extending marginal portion of the web or sheet.

(1) Note. A corrugated web or sheet comprising a corrugation pattern which involves a fold at an edge thereof will be placed in subclass 179*.

SEE OR SEARCH THIS CLASS, SUBCLASS:

157, for a web or component having an integral nonfolded edge thicker than the body of the web or component.

174+, for a nonplanar layer or component in general.

176, for a similar product comprising a folded strand-type fabric, cloth or textile.

179+, for a longitudinally corrugated web or sheet wherein the corrugation pattern involves a fold at an edge thereof; and see (1) Note above.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, subclasses 383+ for a web or sheet with a folded edge to accommodate fastening to an elongated element (e.g., frame, etc.) and especially subclass 387 for a hem in such a web or sheet.

122 This subclass is indented under subclass 121. Product wherein the folded component is a relatively narrow trough-shaped strip with the walls thereof embracing a longitudinal edge of at least one other component of the web or sheet.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85+, for a product comprising a pile type surface in a U-shaped or channel shaped article.

358, for a strand type product having a channel shape.

SEE OR SEARCH CLASS:

112, Sewing, subclass 419 for a sewn channel-shaped binding.

123 This subclass is indented under subclass 121. Product wherein a strand* or strand-portion* lies between layers of the edge-folded web or sheet.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 716.1+ for molding trim combined with attaching means.

112, Sewing, subclass 147 for a similar sewn product.

124 This subclass is indented under subclass 121. Product wherein the web or sheet is composite* and a longitudinally extending portion of a surface component is turned back upon itself or around an edge or a second component of the web.

SEE OR SEARCH CLASS:

112, Sewing, subclasses 147+ for a sewn web or sheet including a reverse fold at an edge.

125 This subclass is indented under subclass 124. Product in which the folded portion of the surface component has a free end enclosed within the body of the web out of contact with the exterior surface of any face layer.

126 This subclass is indented under subclass 124. Product wherein the surface component has either an acute or reverse fold along each of the opposed edges of the product.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
68+, for a sheet including a distinct layer of material enclosing all the edges and at least one nonthickness surface* of the sheet.
- 127** This subclass is indented under subclass 126. Product in which the reversely folded component is part of an enveloping means which forms the complete (or substantially complete) exterior of the web or sheet.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
68+, for a sheet having another distinct layer of material enclosing all the edges and at least one nonthickness surface of the sheet.
364+, for a strand comprising a core with an annular cover.
- 128** This subclass is indented under subclass 127. Product wherein the reversely folded component, per se, constitutes the entire enveloping means.
- 129** This subclass is indented under subclass 128. Product wherein free ends of the enveloping component lie in adjacent edge-to-edge contact or overlie one another.
- 130** This subclass is indented under subclass 121. Product wherein the turned out portion has particular structure (e.g., perforations, shape, serrations, etc.) or is dimensionally related to an exterior of the composite web or sheet component.
- 131** This subclass is indented under subclass 98. Product wherein the web or sheet or a component thereof, has one or more discrete through openings with the peripheral wall or walls of each opening defined by either a line or closed loop passing through the thickness of the component while following a unidirectional or multidirectional rectilinear path.
- (1) Note. Reticulation (a form of apertures), may be mechanically or chemically produced (e.g., spinning a polymer in a net-like or web-like form, etc.).
- (2) Note. The periphery of said loop may vary in size while passing through the component or the loop may pass through the component edgewise to form a slit.
- (3) Note. A product including a component with openings the walls of which are defined by loops following a nonrectilinear (e.g., tortuous or haphazard, etc.) path through the thickness dimension of the component will be placed in subclasses 304+.
- (4) Note. A patent wherein the apertures are solely for the purpose of passing a stitching thread through the web will be found in Class 112, Sewing, subclasses 402+ and especially subclass 591.
- (5) Note. Woven, knitted or netted products are excluded under this definition of aperture, unless it is the intent that apertures be specifically provided, other than the usual and normal openings between the strands due to the nature of the weave, knit or mesh. Generally a woven, knitted or netted product encompasses strands which lie above and below other strands in the same layer. Apertures must be deliberately made to meet the definition of this subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
17, for artificial turf having apertures in the base or substrate to permit draining.
43, for a web or sheet or layer which is perforated or apertured to permit separation of portions thereof at these weakened sections.
119, for a grill-like product comprising perpendicularly disposed components and intersecting strips*.
155, for a stock material with minute crevices extending thereinto, but not therethrough.
188, for stock material including a longitudinal or a transverse tubular cavity or cell*.
304+, for a product including a porous component.

- 596, for corresponding metallic* stock-material*.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclasses 633+ for an “openwork” product for that class, and especially subclass 660 for a “lattice” type product (grating, foraminous reinforcement, grille) primarily of use as a rigid component of a building structure and structurally similar structures of more general application. See the search notes in subclass 660 for other classes providing for fabric or lattice openwork structures.
- 55, Gas Separation, subclass 525 for an apertured product with specific structure to facilitate gas separation.
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 385+ for stock material having an apertured edge disclosed for attachment to an elongated support.
- 181, Acoustics, appropriate subclasses for a web or sheet with either internal or external structure wherein said structure is disclosed to be provided for the purpose of deadening or amplifying sound, and especially subclasses 284+ where said structure is provided for the purpose of muffling or filtering sound.
- 277, Seal for a Joint or Juncture, for a packing element comprising a web or sheet having (a) a definite peripheral shape, (b) a modified service opening, or (c) a configuration or feature particularly adapting the element as a packing, subclasses 935+ for a seal made of a particular material.
- 132** This subclass is indented under subclass 131. Product wherein the web or sheet, or a component thereof, has one or more portions which project or protrude from a nonthickness surface of the component and form at least a part of the periphery of a through opening therein.
- 133** This subclass is indented under subclass 132. Product in which the component with struck-out portions is within a layer or the struck-out portions of said component extend into, interlock with, enmesh or clench an adjacent layer.
- 134** This subclass is indented under subclass 131. Product in which the wall defining a through opening is of a shape other than a continuous curved line at a constant distance from a central point.
- 135** This subclass is indented under subclass 134. Product in which the aperture is shaped as (1) a four sided closed figure in which two opposite angles are acute and the other two are obtuse or (2) a six sided closed figure.
- 136** This subclass is indented under subclass 134. Product in which the aperture is elongated in relation to its width.
- 137** This subclass is indented under subclass 131. Product wherein the web or wheel comprises a plurality of components of which at least one is apertured.
- 138** This subclass is indented under subclass 137. Product containing at least one apertured component and one imperforate component.
- 139** This subclass is indented under subclass 138. Product wherein a protruding portion of one component enters into and engages the periphery of an aperture in another component.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 77+, for a panel of sheet attached to a surface of a base sheet or web and having a portion extending into an aperture in the base.
- 222, for a product embodying a component threaded through spaced apertures in another component.
- 140** This subclass is indented under subclass 139. Product wherein the apertured component is disclosed between two components with portions of each of said two components entering the aperture or wherein the apertured component is completely embedded within the thickness dimension of a layer.
- 141** This subclass is indented under subclass 98. Product in which an area of the web or sheet has a structure which extends substantially across the area but which is made up of pits, depressions, furrows or other such irregulari-

ties of no regular design or pattern, so as to give the surface a design or pattern, so as to give the surface a desired feel or texture and which area may be (1) exposed or (2) covered with a layer designed to permit light to pass therethrough and render the area visible or (3) covered with a material which is opaque but designed to protect the area from injury.

- (1) Note. The difference between this subclass and 156+ is that in the latter, the layer is desired to vary in thickness, while in the present subclass there is no substantial variation in thickness except merely that necessitated by virtue of the surface irregularities.
- (2) Note. Excluded from this and the indented subclasses are products which are knitted, braided, woven, etc. The surface characteristics of such products are considered to be uniform and regular or patterned, not irregular, as required by subclasses 141+.
- (3) Note. Excluded from this and the indented subclasses are products in which the textured surface is provided solely for bonding two layers to one another through the textured surface. This will be classified below on other features such as the compositions of the layers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85+, for a surface which is made up of looped filamentary material or free ended material extending from and integral with the surface of a web or sheet, resulting in a bristly, fuzzy or resilient surface.

156+, for a web or sheet in which a layer or component varies in thickness across its width or length.

- 142** This subclass is indented under subclass 141. Product comprising an additional layer over the textured or irregular surface which (1) permits the passage of light so as to make the surface visible, or (2) guards against marring or spoiling of the surface.

- 143** This subclass is indented under subclass 141. Product in which the irregularities comprise small pieces or granules of matter.

- (1) Note. Included in this subclass are products which are used as roofing or siding on homes. To complete the search for such products the appropriate subclasses in Class 52, Static Structures (e.g., Buildings), should be considered.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), appropriate subclasses especially subclasses 518+ for shingles particularly provided for therein.

- 144** This subclass is indented under subclass 143. Product in which each of the pieces or granules is previously covered at least partially with a material before placing on the web or sheet.

- 145** This subclass is indented under subclass 144. Product in which the material contains the elements silicon in either the elemental or combined state.

- 146** This subclass is indented under subclass 143. Product in which the pieces or granules comprises a carbohydrate.

- (1) Note. Flour, starch and cellulose are examples of carbohydrates which may be found in this subclass.

- 147** This subclass is indented under subclass 143. Product in which the pieces or granules comprise either a natural or synthetic resin or polymer.

- (1) Note. Examples of the resins or polymers found herein are: natural rubber, polyamide (either natural or synthetic), polyethylene.

- 148** This subclass is indented under subclass 143. Product in which the pieces or granules comprises either a metal in its elemental state or a compound of a metal.

- 149** This subclass is indented under subclass 143. Product in which the pieces or granules comprises the element silicon in either its uncombined or compound state.
- 150** This subclass is indented under subclass 149. Product in which the silicon containing bits or granules are in the form of sand, clay or comminuted ordinary rock or that known as slate.
- 151** This subclass is indented under subclass 141. Product in which the surface irregularities resemble or are made to be similar to the arrangement of fibers*, particles* or layers forming the natural lines in lumber or natural animal skin.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 473, for a laminated product comprising a layer of natural animal skin or membrane.
 904, an art collection for an artificial leather product.
- 152** This subclass is indented under subclass 141. Product which contains furrows, ridges, non-rectilinear wrinkles, creases or crinkles.
- 153** This subclass is indented under subclass 152. Product wherein the web, sheet or component, is made of paper.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 155, for stock material which is cracked, crazed or slit and which may be made of paper.
- 154** This subclass is indented under subclass 153. Product wherein there are a plurality of such paper components which are ridged, crinkled, creased or creped.
- 155** This subclass is indented under subclass 141. Product in which the web, sheet or component contains crevices of relatively small lateral dimension extending thereinto but not there-through.
- (1) Note. A slit extending completely through a layer or component is considered an aperture and a disclosure of such product will be found in subclasses 131+ above.
- SEE OR SEARCH CLASS:
 427, Coating Processes, subclass 90 for a wrinkled or crackled coating.
- 156** This subclass is indented under subclass 98. Product wherein the distance between the non-thickness surfaces of a web or sheet or a component thereof, deviates from point to point along the transverse or longitudinal axis of the product.
- (1) Note. As implied in the subclass definition, variation in total thickness (or bulge) caused by overlapping components, is excluded from the concept of this subclass. See search notes below to subclasses 88, 174+ and 189.
- (2) Note. A patent directed to a component with minute surface irregularities in the form of very small pits or projections will be placed in subclasses 141+.
- (3) Note. The presence of either a plain or countersunk through hole in a layer is not considered to provide a variation in thickness of an otherwise uniform thickness layer. See subclasses 131+.
- (4) Note. Under the definition of this subclass, the sheet or web may be either single or plural layer.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 43, for a web or sheet which has a tear line or other weakened portion caused by a variation in thickness, to permit separation of the sheet or web through its thickness.
 77+, especially 78+ for a composite web or sheet, one layer of which is smaller than the other and also one layer of which may vary in thickness.
 88+, for a "sculptured" pile surface of varying height.
 121+, for a web whose thickness varies by virtue of a fold at its edge.
 139+, for a variation in thickness in the form of a projection which enters an aperture in a mating component.

- 174+, for a product comprising a folded component in which pleats are formed by the folds.
- 189, for a composite web or sheet whose total thickness varies due to the overlapping of laterally noncoextensive components.
- 397+, for a rod or strand which varies in thickness.
- SEE OR SEARCH CLASS:
- 15, Brushing, Scrubbing, and General Cleaning, subclasses 238+ for a floor mat including blade-like elements for cleaning purposes.
- 52, Static Structures (e.g., Buildings), subclasses 716.1+ for a rigid channel or trim member with a feature for attaching to an in situ erected type structure.
- 434, Education and Demonstration, subclasses 112+ for a reading device for the blind as an embossed product (i.e., Braille).
- 157** This subclass is indented under subclass 156. Product wherein the difference occurs only at or in the area adjacent, an edge of the web, sheet or component; or in which the thickness variation at or adjacent the edge differs substantially from that which exists over the remainder of the web, sheet or component.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 177, for similar marginal nonuniformity in nonplanar uniform-thickness material.
- 192, for a product with marginal characteristic of more general nature.
- 158** This subclass is indented under subclass 156. Product including a component which contains (1) open or interconnected voids throughout which have been made by means of a gas or other agent (blowing agent or heat, etc.) enlarging the voids or the material of the component so as to occupy more space or (2) closed cavities (empty or filled).
- 159** This subclass is indented under subclass 158. Product which comprises a compound of relatively large molecules and high molecular weight, whose molecules consist of recurring smaller chain structural units.
- (1) Note. Examples of polymers under this definition are: natural or synthetic rubber, polyester, polyamide, etc.
- 160** This subclass is indented under subclass 159. Product in which the polymer comprises poly (amido ester) or polyisocyanate, commonly known as polyurethane.
- 161** This subclass is indented under subclass 156. Product wherein the component of nonuniform thickness has a nonplanar surface and a second component is in continuous interfacial contact with said surface.
- 162** This subclass is indented under subclass 161. Product in which the opposite surface of the nonuniform thickness component is also nonplanar and a third component is in continuous interfacial contact with such opposite surface.
- 163** This subclass is indented under subclass 161. Product in which the nonplanar face of the nonuniform thickness component is in the form of ridges and/or furrows of substantial length and width extending along or across the component and in mutual parallelism.
- 164** This subclass is indented under subclass 161. Product in which one of the components comprises a free metal or a compound thereof.
- (1) Note. Excluded from this subclass are glass*, asbestos, porcelain*, ceramic*, etc., which, though containing a metal are not ordinarily included therewith.
- 165** This subclass is indented under subclass 161. Product in which one of the components contains a natural rubber or a cellulosic* material in its natural or modified state.
- 166** This subclass is indented under subclass 156. Product, wherein a nonplanar surface of a variable thickness layer comes into contact with an adjacent layer (or a component thereof) in such a manner as to define therebetween individual or interconnected three-dimensional zones, either separate or interconnected.
- (1) Note. The spaces may be empty or occupied, in whole or in part, by a filler material.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 158, for a product in which the interlaminar spaces take the form of cells* in a foamed material.
- 178, for a web or sheet embodying a component of a nonplanar uniform-thickness material which forms or cooperates with an adjacent component to form cells*.
- 182+, and especially subclass 186 for web or sheet embodying a nonplanar uniform-thickness component of sinuous wave form secured to an adjacent planar component so as to provide spaces therebetween.
- 188, for a longitudinal or transverse cavity* or cell* within a layer.
- SEE OR SEARCH CLASS:
- 5, Beds, subclasses 449+ and particularly subclasses 455+ for a compartmented air mattress.
- 167** This subclass is indented under subclass 156. Product in which the variation in thickness occurs in the form of parallel ridges and/or furrows of substantial length and width extending along or across the product.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 30, for a striated surface which exhibits an iridescent effect.
- 163, for a similar product having a component of nonplanar surface with a nonplanar and a second component is in continuous interfacial contact with said surface and in which there are also ridges or furrows extending along or across the component.
- 168** This subclass is indented under subclass 167. Product containing small bits or pieces of solid matter.
- 169** This subclass is indented under subclass 167. Product in which the ridges and/or furrows lie at an acute angle to the longitudinal axis of the web or sheet.
- 170** This subclass is indented under subclass 156. Product wherein the mass per unit volume of the web, sheet, or component also varies.
- (1) Note. This density usually varies with the thickness of such product as in a layer with compressed zones.
- 171** This subclass is indented under subclass 170. Product comprising a component which consists of or includes fibers.
- 172** This subclass is indented under subclass 156. Product comprising at least two layers.
- 173** This subclass is indented under subclass 172. Product in which an outer surface of the composite* sheet or web has dents or depressions and there is an extraneous material in at least one such dent or depression, lying beneath the topmost rise of the walls defining such dent or depression.
- 174** This subclass is indented under subclass 98. Product wherein the web or sheet, or a component thereof, has nonthickness surfaces* which are (1) defined other than by two parallel planes and (2) equidistantly spaced at all points.
- (1) Note. Excluded from this definition of nonplanar is a roll or coil of material; the product itself must be nonplanar, not the manner of packaging or storing.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 121+, for a product wherein the nonplanarity is in the form of a fold at a longitudinal edge of the web.
- 161+, for a nonplanar uniform thickness component following the nonplanar surface of a layer or component of varying thickness.
- SEE OR SEARCH CLASS:
- 139, Textiles: Weaving, subclass 386 for a nonplanar, woven, web or sheet product of a process provided for in that class.

- 162, Paper Making and Fiber Liberation, subclasses 109+ for a nonuniform, irregular or configured product of a paper making process.
- 175** This subclass is indented under subclass 174. Product comprising a layer, or component consisting of strands*, strand*portions* or relatively narrow ribbon like elements, mechanically interwoven, intertangled, intertwined or interlooped.
- (1) Note. This defines a textile or other woven or knitted material which is then treated to form embossments or other nonplanarities, but retaining the uniform thickness.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
152+, for a product which does not consist of a weave or knit fabric, but which has numerous irregular, nonrectilinear ridges or creases.
- 176** This subclass is indented under subclass 175. Product wherein the nonplanarity comprises integral substantially flat portions of the layer or component disposed in face abutting relation or in substantially equi-distantly spaced relation.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
181, for a nonstrand web, sheet or layer embodying a component with pleats or otherwise parallel adjacent folds.
- SEE OR SEARCH CLASS:
112, Sewing, subclass 427 for a pleated and sewn web.
- 177** This subclass is indented under subclass 174. Product in which the nonplanarity occurs only at or in the area adjacent, an edge portion of the total product; or in which the nonplanarity at or adjacent the edge of the product differs substantially from that which exists over the remainder thereof.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
121+, for a product wherein the marginal nonplanarity is in the form of a fold.
- 178** This subclass is indented under subclass 174. Product wherein the nonplanar component (1) is so shaped as to form closed compartments, either vacant or occupied, the walls of which are an integral part of said nonplanar component or (2) cooperates with an adjacent component to produce closed compartments, which are either vacant or occupied by a material not integral with either component.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
72+, for a sheet including a cover or casing in which there are elements which cooperate to form cells*.
166, for spaces between layers, one of which varies in thickness.
188, for a product which includes a longitudinal or transverse cavity* or cell*, in general.
304+, for a cellular layer, in general.
- 179** This subclass is indented under subclass 174. Product wherein there is a plurality of discrete deviations of the nonthickness surfaces* of the web, sheet or component from the parallel plane condition in a repetitive pattern and said deviations are arranged in one or more rows or are elongated and extend generally in the same direction.
- 180** This subclass is indented under subclass 179. Product wherein the Nonplanarity is in the form of a regular geometrical pattern of polygonal protuberances and/or depressions, each having a centrally located flat land portion.
- 181** This subclass is indented under subclass 179. Product wherein the deviations include planar portions which are either substantially in face contact or spaced from one another in mutual parallelism.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
102+, for a pleated product including stitching and coating, impregnation, or adhesion.
175+, for a pleated strand-type fabric.
- SEE OR SEARCH CLASS:
112, Sewing, subclass 427 for a sewn web or sheet which is pleated or tucked.

- 182** This subclass is indented under subclass 179. Product wherein the nonplanarities are elongated and are arranged to extend generally in the same direction.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 163, and 167, for a product embodying a component of varying thickness and including ribs and/or grooves.
 178, for a product wherein a ribbed, uniform-thickness, component forms or cooperates to form closed cells*.
- 183** This subclass is indented under subclass 182. Product wherein the peaks of the corrugations are indented at spaced zones therealong or wherein there are two series of corrugations in one layer with those of one series crossing or extending between and at an angle to those of the second series.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 178, for a product wherein the deformations of the peaks of the corrugations engage an adjacent layer and thereby form closed cells*.
 180, for a product wherein crossing ribs or grooves form a waffle pattern.
 185, for a product wherein ribs or grooves in respective components of a composite web cross in plan projection.
- 184** This subclass is indented under subclass 182. Product which includes two or more corrugated components.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 178, for plural corrugated components cooperating to form cells*.
- 185** This subclass is indented under subclass 184. Product wherein the corrugations of one component cross the corrugations of a subjacent or superjacent component at an angle.
- 186** This subclass is indented under subclass 184. Product having in addition another component each of whose nonthickness surfaces* lies in a single plane (i.e., planar).
- (1) Note. The planar component may be bonded to either or both corrugated components.
- 187** This subclass is indented under subclass 174. Product wherein the nonplanarity is in the form of a figured pattern or a presentation of information.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 79, for a composite sheet* in which one layer is smaller than the other and has a decorative outline.
- SEE OR SEARCH CLASS:
 434, Education and Demonstration, subclasses 112+ for reading devices for the blind in the form of embossed sheets (Braille writing).
- 188** This subclass is indented under subclass 98. Product wherein the web or sheet has one or more elongated hollow spaces of substantially uniform cross-section located between and lying with their axes substantially parallel to, the nonthickness surfaces* of the web or sheet and being either open or closed at their ends.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 72+, for a sheet including a cover or casing and in which there are elements* which cooperate to form cells*.
 116+, for a honeycomb-like web or sheet wherein the cavities or cells are arranged with their axes at an angle to the nonthickness surface of the structure.
 166, for a product including a component of varying thickness with interlaminar spaces.
 178, for cells* formed by one or more nonplanar components.
 181, for tubular cavities* formed by two components, at least one of which has parallel folds.
 184+, for a similar structure wherein the cavities* or cells* are formed by a wave-form component cooperating with another component.
 304+, for a composite web or sheet including a cellular component in which the

- cell* do not lie longitudinally or transversely of the web or sheet.
- 338, for a single layer product including structurally defined cells* which do not lie longitudinally or transversely of the nonthickness surface*.
- 357+, for a mass including structurally defined cells* of any shape.
- SEE OR SEARCH CLASS:**
- 138, Pipes and Tubular Conduits, appropriate subclass for a tubular product of specific structure as provided for therein and see the definition of this Class 428, section VI B, reference to Class 138.
- 189** This subclass is indented under subclass 98. Product wherein at least one side edge of a layer* or component* of a composite web is laterally offset (in either spaced or overlapping relation) relative to a corresponding edge of a second layer* or component* of the product.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 44+, for a two dimensionally sectional layer in which two components are laterally noncoextensive.
- 54+, for a composite layer comprising at least three parts in which each part has a longitudinal extent less than the longest dimension of the layer.
- 57+, for webs and/or sheets joined in edge to edge relation to form a sectional web or sheet.
- 188, for a product including components, separated by elongated spacers to form a longitudinal or transverse cavity* therebetween.
- SEE OR SEARCH CLASS:**
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 123+ for plural hanging or drape type devices hung from a single support in side by side overlapping relation, subclasses 130+ for interconnected flexible strips, slats and/or panels and also for a plurality of rigid strips, slats and/or panels which are connected for relative motion and form a single unit, and subclasses 330+ for a sectional fabric which hangs suspended (e.g., drape, etc.).
- 190** This subclass is indented under subclass 189. Product in which one of the components is a cloth*, fabric* or textile*.
- 191** This subclass is indented under subclass 189. Product in which one of the components is a cellulosic* material in any of its natural or chemically modified forms (e.g., wood, paper, rayon*, viscose*, etc.).
- 192** This subclass is indented under subclass 98. Product having structure at an edge thereof or in the area adjacent an edge thereof which differs from that of the remainder of the web.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 44+, for a two dimensional sectional layer having perimeter or edge structure.
- 66.7, for a circular sheet having defined edge structure.
- 81+, for a sheet having complete perimeter structure or corner structure.
- 88, for a pile or nap type surface component having particular edge structure.
- 115, for a web or sheet having a fringed edge.
- 121+, for a web or sheet having a folded edge.
- 157, for a web or sheet having a differential nonuniformity in thickness at a margin.
- 177, for a web or sheet of nonplanar uniform thickness having a differential nonplanarity at a margin.
- SEE OR SEARCH CLASS:**
- 427, Coating Processes, subclasses 284+ for a process of coating a product along an edge or border.
- 193** This subclass is indented under subclass 192. Product comprising a layer of material having strand*, strand-portions* or relatively narrow ribbon like elements mechanically intertangled, interwoven, intertwined or interlooped.
- (1) Note. A product of this type of mechanical interengagement of such elements is commonly known as a weave, knit or mesh.

- 194** This subclass is indented under subclass 192. Product in which the structure at the edge comprises a saturation of fluid therein or an adhesion to another component, which saturation or adhesion is not continuous along the edge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 189+, for a web or sheet having at the edge thereof a continuous and longitudinally coextensive coating.

195.1 Discontinuous or differential coating, impregnation or bond (e.g., artwork, printing, retouched photograph, etc.):

This subclass is indented under subclass 98. Subject matter for product wherein at least one component or layer has spaced areas, substantially less than the total area of the involved surface of the layer or component, which are either, (1) faced or saturated with fluent or plastic material or (2) joined to other portions of the layer or components or to another layer or component by adhesion or cohesion; or wherein the facing, saturation or junctures set forth in clauses (1) and (2) above is of a different character (e.g., strong bond next to weak bond) in different areas of the Web or sheet.

- (1) Note. A design or printed matter or indicia of any sort will be considered as a discontinuous coating for this subclass unless clearly disclosed as uniform.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 103+, for a composite sheet or web which includes a differential or discontinuous coating or impregnation or bond and a zone or stitching.
- 178, for a nonplanar layer or component bonded to a planar component at discrete zones.
- 187, for a nonplanar uniform thickness material which has a design or other indicia thereon.
- 189, for a web or sheet including laterally non-coextensive components wherein said components may constitute a discontinuous or differential coating or impregnation.
- 411+, for a laminate including one component having a continuous and coexten-

sive surface coating, impregnation or bond.

SEE OR SEARCH CLASS:

- 33, Geometrical Instruments, subclass 12 for a fabric with pattern lines thereon.
- 40, Card, Picture, or Sign Exhibiting, subclass 427 for artwork, or a photograph having an enhanced visual effect.
- 101, Printing, appropriate subclasses, especially subclass 368 for a product having a nonuniform coating thereon when disclosed solely for use as a printing member. See also definition of this Class 428 the reference to Class 101 under 'LINES WITH OTHER CLASSES Part A. INTERMEDIATE-ARTICLES Section 2. Blanks, etc'.
- 427, Coating Processes, subclass 1 for a process of providing a print, impression or pattern of animal skin, (e.g., human fingerprints, etc.) on a base and subclass 256 for the process of producing a nonuniform coating on a substrate.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclass 9 for a chemically defined photograph.
- 434, Education and Demonstration, subclass 81 for inventions in teaching or demonstrating visual arts and crafts.

196 Including layer of mechanically interengaged strands, strand-portions or strand-like strips:

This subclass is indented under subclass 195.1. Subject matter for product in which at least one layer comprises strands*, strand-portion* or relatively narrow ribbon like elements which are mechanically intertwined, intertangled, interwoven or interlooped.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 175+, for a similar product in which the web or sheet or layer or component thereof has nonthickness surfaces which are defined other than by two parallel planes and are equidistant at all points.

- 192, for a similar product which has particular structure at an edges or adjacent thereto which is different from that of the remainder of the web.
- SEE OR SEARCH CLASS:
- 152, Resilient Tires and Wheels, especially subclasses 548+ for a tire carcass including a layer of noninterengaged strands.
- 442, Fabric (Woven, Knitted, or Nonwoven Textile or Cloth, etc.), subclasses 181+ generally for a product having mechanically interengaged strand and other features.
- 474, Endless Belt Power Transmission Systems or Components, particularly subclasses 237+ for a friction drive belt, or for stock material disclosed solely for use as a drive belt, which may include noninterengaged strands, such as for reinforcing elements, in the body of the belt.
- 197** This subclass is indented under subclass 196. Product in which the strand type component comprises interlocked loops of strand material and the strand at spaced areas is adhered or cohered to itself or to another strand forming the loop.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 196, for a web or sheet or component of interengaged strands (other than knitted) in which the strands may be adhered to others in the same layer, or to another adjacent component.
- 198, for a web or sheet or layer adhered to another component or web or sheet at spaced areas.
- 198** **Spot bonds connect components:**
This subclass is indented under subclass 195.1. Subject matter for product in which components are joined to each other in discrete spaced areas of relatively small extent.
- 199** **Including developable image or soluble portion in coating or impregnation (e.g., safety paper, etc.):**
This subclass is indented under subclass 195.1. Subject matter for product in which the discontinuous or differential coating or impregnation comprises (1) normally nonvisible indicia or (2) portions which are dissolvable and, in both (1) and (2) above, when treated in other than normal use, would become visible.
- (1) Note. This is the locus for so-called safety or bank paper, which, when an erasure or eradication is attempted, clearly indicates such attempt.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 29, for an article having a latent image which is visible or barely visible and must be treated to become more visible on intended use.
- 915, and 916, for cross reference art collections of documents which are treated to indicate alterations or erasures or other fraud attempts.
- 200** **With heat sealable or heat releasable adhesive layer:**
This subclass is indented under subclass 195.1. Subject matter for product including a layer which is activated by an increased temperature to adhere to another surface or to be removed from cohesion with an adjacent component.
- 201** **Intermediate layer is discontinuous or differential:**
This subclass is indented under subclass 195.1. Subject matter for product in which the component or layer having the spaced areas of saturation or facing lies between and adjacent to other layers or components.
- 202** This subclass is indented under subclass 201. Product in which one of the adjacent layers lies on the outermost surface of the web or sheet and is removable from the web or sheet or is so made as to prevent adhesion to a surface in contact therewith.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 200, for a product which must be heated in order to destroy the adhesion or cohesion of a layer to an adjacent layer or component.

- 203** This subclass is indented under subclass 201. Product in which one of the adjacent layers lies on the outermost surface of the web or sheet and permits light to pass therethrough.
- (1) Note. The translucent layer is usually for the purpose of protecting or viewing the layer there-beneath.
- 204** This subclass is indented under subclass 203. Product in which the middle layer has small particles of solid material in its facing or saturation.
- (1) Note. Many of the patents in this subclass have a design or image made with particles* of colored material and are covered with a transparent layer to permit viewing of such design.
- (2) Note. The material may be white, black or any color.
- 205** This subclass is indented under subclass 203. Product in which the translucent layer include natural oil*, a wax* or waxy material*, a resin*, gum* or the polyamides* known as glue or gelatine.
- 206** **Including particulate material:**
This subclass is indented under subclass 195.1. Product which includes small particles* of solid matter.
- 207** This subclass is indented under subclass 206. Product in which the small particles* comprise coloring material.
- (1) Note. The coloring material may be white, black or any color.
- (2) Note. The particles* themselves may be the coloring matter (i.e., pigment) or the particles may have a dye coating thereon.
- 208** This subclass is indented under subclass 206. Product in which the small grains or bits of matter include a free metal* or a natural, mined compound.
- 209** **Including metal layer:**
This subclass is indented under subclass 195.1. Subject matter for product which includes a layer of free metal*.
- 210** **Including ceramic, glass, porcelain or quartz layer:**
This subclass is indented under subclass 195.1. Subject matter for product in which one of the layers contains fused clay* (ceramic*), a fine, white, translucent hard earthenware (porcelain*), or the fused mixture of the silicates of the alkali and alkaline earth or heavy metals (glass*).
- (1) Note. Included under this definition of glass is glassy or crystalline silica or quartz*.
- 211.1** **Including paper layer:**
This subclass is indented under subclass 195.1. Subject matter for product in which one of the layers contains fibers* of paper*.
- 212** This subclass is indented under subclass 98. Product wherein two components of a web, sheet or layer possess the same physical property but in different amount or intensity and are so claimed.
- (1) Note. For purposes of this subclass porosity or cellularity is not considered to be a physical characteristic; a product having plural components which differ in this characteristic will be found in subclasses 304+ see search note below.
- (2) Note. For purposes of this subclass, a component in which the physical characteristics of an element (e.g., fiber*, filament*, particle*, etc.) is defined and it is this characteristic which varies in another component, will not be included in this subclass, but will be found below, see subclasses 292.1+ and 323+.
- (3) Note. For purposes of this subclass and its indents, if a composite sheet is claimed as having the same physical characteristic (e.g., thickness, etc.) this is considered to be a special case of "differing" degree and the patent will be classified in this group of subclasses.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 292.1+, for a composite web or sheet in which at least one component has structurally defined fibers which may be compared to the characteristics of the fibers in another component.
 304+, for a web sheet layer of or containing components differing in degree of porosity.
 323+, for a web, sheet layer of or containing components which differ in variations of structurally defined particles.
 332+, for a composite web or sheet in which the thickness of only one component is specified.
- 213** This subclass is indented under subclass 212. Product in which the physical property relates to thickness of the components.
- 214** This subclass is indented under subclass 213. Product in which the components are layers which act as bonds between two other layers.
- 215** This subclass is indented under subclass 213. Product in which absolute dimensions of two components are specified.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 213, for a product in which the relative thickness, or the ratio of the thickness, between two components is specified.
- 216** This subclass is indented under subclass 215. Product in which the thickness of each layer or components as specified does not exceed 5 mils or the equivalent.
- 217** This subclass is indented under subclass 212. Product in which the physical property relates to resistance to deformation or fracture by pressure.
- (1) Note. Included in this subclass are recitations relating to units of measurement of hardness (e.g., Brinnell hardness, etc.).
- 218** This subclass is indented under subclass 212. Product in which the physical property relates to a weight per unit volume of the component or the degree of compactness thereof.
- 219** This subclass is indented under subclass 98. Product in which a physical characteristic of the overall web or sheet is recited in terms of its weight per unit area of the product.
- (1) Note. Since weight per unit area and a physical dimension are related, cross-referencing between this subclass and the succeeding one has been minimized. Both subclasses should be considered in the search.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 220, for a product in which the absolute dimension of the overall product is specified.
- 220** This subclass is indented under subclass 98. Product wherein the size of the overall web or sheet is claimed as an absolute dimension.
- (1) Note. The difference between this subclass and 332+ is that in the latter the size of only a component* or layer* is claimed*, whereas in this subclass the size of the overall web or sheet is recited.
- (2) Note. The preceding subclass 219 contains many patents in which the physical dimension of an overall web or sheet is disclosed and/or claimed. To complete the search for such a feature, the preceding subclass must be considered since the cross-referencing between the two subclasses has been minimized.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 212+, for a composite* web or sheet wherein the size of one component* relative to another is claimed.
 219, for a sheet or web in which the physical dimension is indicated in a weight per unit area but in which an absolute dimension may be disclosed and/or claimed.

- 332+, for a composite* web or sheet in which the absolute size of an element* or component* is claimed.
- 357+, for a rod*, strand*, fiber*, filament*, particle* or other element* claimed as having a specific dimension.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), appropriate subclasses, for a modular building panel with a physical configuration for interengagement with an abutting panel.

221 This subclass is indented under the class definition. Product comprising a single or plural layer* web*, or sheet* which contains a component* or an element* (e.g., fiber*, strand*, filament*, particle*, etc.), the size or some structural feature of which is claimed, (e.g., orientation or relation to another element or component, bond at intersecting points, weave or knit, cellularity or porosity, etc.).

- (1) Note. For purposes of this group of subclasses, a disclosed fabric, textile or cloth will be considered to be included under "structurally defined element or component".

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 98+, for a web or sheet (single or plural layer) in which the web (1) has a particular overall shape, significant size or other particular configuration such as an edge feature or (2) the components are arranged in an orderly fashion relative to a surface of the product or (3) the product comprises plural layers with each layer thereof claimed as possessing a particular characteristic such as density or hardness or thickness or (4) the product includes a particular characteristic claimed in its relation to a surface or edge thereof, all to an end that the overall web or sheet may be identified as having a particular structure.
- 360, for a mass (not a sheet or web) of staple length fibers bonded at their intersections only.

222 This subclass is indented under subclass 221. Product wherein (1) components are twisted or folded about one another or (2) a web or sheet, or a component thereof, is arranged in a series of mutually parallel convolutions extending along the longitudinal axis of the web or sheet.

- (1) Note. The product formed by (1) above, must be the result of twisting or folding (e.g., braiding) of components; where the product is formed by braiding strands, classification is proper in Class 87, Textiles: Braiding, Netting, and Lace Making; see search note below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 131+, for a product formed by threading one component through spaced longitudinal openings or apertures in another component.

SEE OR SEARCH CLASS:

- 57, Textiles: Spinning, Twisting, and Twining, subclasses 259 and 260 for a strand structure made up wholly or in part of twisted tape as claimed.
- 87, Textiles: Braiding, Netting, and Lace Making, subclasses 3+ for a fabric of intertwisted strands and subclasses 8+ for a fabric of braided strands as claimed.
- 138, Pipes and Tubular Conduits, subclasses 129+ and 154 for a solid-wall tubular structure which includes helically arranged convolutions of web or strand material as claimed.

223 This subclass is indented under subclass 221. Product in which a plurality of layers or components are connected by a separate and distinct mechanical connecting member extending over the edges of and/or into a plurality of layers or components.

- (1) Note. Stitching is not considered to be a mechanical fastener.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 99+, for a product in which there is a mechanical fastener for attaching the

product to an external surface or another product.

101, for a similar product having plural components which are relatively movable.

198, for a similar product in which a plurality of components are spot bonded to one another.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 782.1+ for a sandwich or hollow panel including a discrete interlaminar fastener.

292.1 Noninterengaged fiber-containing paper-free web or sheet which is not of specified porosity:

This subclass is indented under subclass 221. Product wherein a fiber-containing web or sheet comprises of one or more structurally defined fibers embedded in or on the surface of a matrix wherein the fibers are not interengaged with one another or formed into a fabric having structural integrity prior to association with the matrix material, the fiber-containing web or sheet being neither paper nor of specified porosity.

(1) Note. Matrix materials containing fiber as a filler material do not belong in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

311.11, 311.31, 311.51, 311.71, and 311.91, for articles of specified porosity wherein the article comprises solely a continuous matrix of fibers (e.g., porous paper, etc.).

317.9, for articles of specified porosity wherein the article contains fibers.

SEE OR SEARCH CLASS:

162, Paper Making and Fiber Liberation, subclasses 100 through 231, for paper products, per se.

292.4 Fiber-containing wood product (e.g., hardboard, lumber, or wood board, etc.):

This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises at least one layer in the form of a wood

product such as hardboard, lumber, or wood board.

292.7 Including paper layer:

This subclass is indented under subclass 292.4. Subject matter wherein the web or sheet is in association with a paper layer.

293.1 Fiber embedded in a metal matrix:

This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises a metal matrix having fibers embedded therein.

293.4 Fiber embedded in a ceramic, glass, or carbon matrix:

This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises a ceramic, glass, or carbon matrix having fibers embedded therein.

293.7 Fibers are aligned substantially parallel:

This subclass is indented under subclass 293.4. Subject matter wherein the fibers are oriented in a particular direction, the fibers being parallel to one another.

294.1 Fiber is precoated:

This subclass is indented under subclass 293.7. Subject matter wherein the fibers are coated with a material prior to incorporation in the matrix material.

294.4 Free metal or alloy fiber:

This subclass is indented under subclass 293.4. Subject matter wherein the fiber is metal in elemental or alloy form.

294.7 Fiber embedded in a layer derived from a water-settable material (e.g., cement, gypsum, etc.):

This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises a water-settable material (e.g., cement, gypsum, etc.) which forms a distinct layer having fibers embedded therein.

295.1 Fibers embedded in or on the surface of a natural or synthetic rubber matrix:

This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises a rubber matrix, the rubber being natural or synthetic rubber and having fibers embedded therein or on the surface of the matrix.

- 295.4 Fibers are aligned substantially parallel:**
This subclass is indented under subclass 295.1. Subject matter wherein the fibers are oriented in a particular direction, the fibers being parallel to one another.
- 295.7 Fiber is nonlinear (e.g., crimped, sinusoidal, etc.):**
This subclass is indented under subclass 295.4. Subject matter wherein the fibers, per se, are specifically stated to be crimped, sinusoidal, coiled, etc., or the orientation of the fibers in the matrix material is nonlinear.
- 296.1 Fiber is precoated:**
This subclass is indented under subclass 295.4. Subject matter wherein the fibers are precoated with a material prior to being embedded in the matrix or affixed to the matrix surface.
- 296.4 Fiber is precoated:**
This subclass is indented under subclass 295.1. Subject matter wherein the fibers are coated with a material prior to incorporation in the matrix material or being affixed to the matrix surface.
- 296.7 Composite or conjugate fiber (e.g., fiber contains more than one chemically different material in monofilament or multifilament form, etc.):**
This subclass is indented under subclass 295.1. Subject matter wherein the embedded or surface fibers contain at least two chemically different materials in monofilament or multifilament form.
- 297.1 Two or more layers:**
This subclass is indented under subclass 295.1. Subject matter wherein the fiber-containing rubber matrix is associated with one or more additional layers.
- 297.4 Fiber embedded in or on the surface of a polymeric matrix:**
This subclass is indented under subclass 292.1. Subject matter wherein the web or sheet comprises a polymeric matrix having fibers embedded in or on the surface thereof.
- 297.7 Fiber is on the surface of a polymeric matrix having no embedded portion:**
This subclass is indented under subclass 297.4. Subject matter wherein the fibers are affixed to a surface of the polymeric matrix.
- 298.1 Fibers are aligned substantially parallel:**
This subclass is indented under subclass 297.4. Subject matter wherein the fibers are oriented in a particular direction, the fibers being parallel to one another.
- 298.4 Fiber is nonlinear (e.g., crimped, sinusoidal, etc.):**
This subclass is indented under subclass 298.1. Subject matter wherein the fibers, per se, are specifically stated to be crimped, sinusoidal, coiled, etc., or the orientation of the fibers in the polymeric matrix is nonlinear.
- 298.7 Fiber is precoated:**
This subclass is indented under subclass 298.1. Subject matter wherein the fibers are coated with a material prior to incorporation in the polymeric matrix.
- 299.1 Carbon or carbonaceous fiber:**
This subclass is indented under subclass 298.1. Subject matter wherein the embedded fibers are carbon (graphite) or carbonaceous fibers.
- 299.4 Glass fiber:**
This subclass is indented under subclass 298.1. Subject matter wherein the embedded fibers are glass fibers.
- 299.7 Polymeric fiber:**
This subclass is indented under subclass 298.1. Subject matter wherein the embedded fibers are polymeric fibers.
- 300.1 Fiber is precoated:**
This subclass is indented under subclass 297.4. Subject matter wherein the fibers are coated with a material prior to being incorporated in the polymeric matrix or being affixed to a surface of the polymeric matrix.
- 300.4 Two or more chemically different fibers:**
This subclass is indented under subclass 297.4. Subject matter wherein the fibers include at least two chemically different fibers.

300.7 Two or more layers:

This subclass is indented under subclass 297.4. Subject matter wherein the fiber-containing polymeric matrix is associated with one or more additional layers.

301.1 Including a free metal or alloy constituent:

This subclass is indented under subclass 300.7. Subject matter wherein the layers comprise a metal in elemental or alloy form (i.e., other than in the form of a chelate, salt, or compound resulting from the chemical reaction of a metal).

301.4 At least one thermosetting synthetic polymeric material layer:

This subclass is indented under subclass 300.7. Subject matter wherein the layers comprise a thermosetting synthetic polymeric layer.

304.4 Composite having voids in a component (e.g., porous, cellular, etc.):

This subclass is indented under subclass 221. Subject matter which consists of at least two components, at least one of which has internal spaces either containing at least a gas and/or devoid of identifiable contents.

- (1) Note. This subclass and its indented subclasses have been established to provide a search field for those inventions in stock material in which the void-containing nature of a component is the essence of the invention; thus, to be classified in this group of subclasses, the void-containing nature of the component must either (a) be expressed explicitly in a claim, (b) be necessary for a claimed utility of the product or (c) be disclosed in the specification and be incorporatable into the claims to resolve an ambiguity in the claims.
- (2) Note. The designation of a component as porous, cellular or permeable will be construed as void-containing.
- (3) Note. A porous layer or component having an impervious skin thereon will be considered to have two components for purposes of this subclass, the skin being one of the components or layers.

(4) Note. An impregnated material is assumed not to contain voids and must be disclosed or claimed as still containing porosity in order to warrant placement in this or indented subclasses. Thus, paper is not considered to be a void-containing component unless it is specified as being porous or permeable.

(5) Note. The inclusion in a component of hollow or porous fibers or particles will be assumed to make the component a void-containing component only when it is clearly disclosed that the fibers or particles maintain their hollowness or porosity after being compounded into the component.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 131+, for a web, sheet or layer with rectangular through openings (apertures) which may render the product inherently porous.
- 188, for a web or sheet including an elongated tubular cell located between and lying with its axis substantially parallel to the nonthickness surfaces of the web or sheet.
- 320.2+, for a composite having a component which includes filled "voids".
- 323+, for a composite sheet or web including a particulate layer.
- 357+, for a mass or single layer of or containing, elements which may by inherently porous or cellular or wherein the disposition of the elements renders the product porous or cellular but wherein such porosity is not claimed.
- 550, 566 and 613, for similar subject matter which is all metal or comprises adjacent metals.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclasses 95+ for a drying device (e.g., blotter) which includes a porous and therefore liquid-adsorbent sheet.
- 106, Compositions: Coating or Plastic, appropriate subclasses for a porous or void-containing composition of that type, even in the form of a single layer

sheet or web which lacks any other definite structural features. See particularly subclasses 40+, 122, 601+, and 672+.

- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 77+ for a method of forming pores in a lamina during or subsequent to lamination.
- 181, Acoustics, subclasses 284+ for a web or sheet with either internal or external structure, which structure is disclosed as provided for the purpose of muffling sound.
- 210, Liquid Purification or Separation, subclasses 500.1+ for material peculiarly adapted for use as a liquid separation filter and see Relation to Material or Composition Classes of the definition of this class (428).
- 252, Compositions, subclass 62 for heat or sound insulating compositions.
- 501, Compositions: Ceramic, subclasses 39 and 80+ for pore-forming compositions.
- 521, Synthetic Resins or Natural Rubbers, subclasses 50+ for methods of making a cellular resin product and such products, even in the form of a single layer web or sheet, which lack definite structural features.
- 604, Surgery, subclasses 358+ for diapers and absorbent pad materials.

305.5 With chemically effective material or specified gas other than air, N, or carbon dioxide in void-containing component:

This subclass is indented under subclass 304.4. Subject matter wherein the voids of a component contains a gas specified to be other than air, nitrogen or carbon dioxide; or where the void-containing component contains also a material which is susceptible to a ready chemical reaction in use of the product, e.g., to decomposition at an elevated temperature, etc.

- (1) Note. The chemically effective material often is incorporated in the product for fire or flameproofing purposes.
- (2) Note. Removal of water of hydration from a hydrated compound is considered to be a chemical reaction.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 321.1, for a composite product having a decomposable liquid impregnated in a previously void-containing component.

SEE OR SEARCH CLASS:

- 252, Compositions, subclasses 2+ and 601 for fire-extinguishing and fire-proofing compositions, per se, respectively.

306.6 Void-containing component partially impregnated with adjacent component:

This subclass is indented under subclass 304.4. Subject matter wherein a void-containing component is partially impregnated with the material which constitutes an adjacent component of the composite.

- (1) Note. The impregnating material may itself be void-containing, e.g., a foam, etc.
- (2) Note. Ordinarily the void-containing component is in a solid, self-sustaining form during the impregnation, while the impregnant is in a fluent form.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 309.9, for a product made by commingling some material of two adjacent foam layers, usually in fluent or uncured form, to make an intermediate layer.

307.3 Void-containing component is inorganic:

This subclass is indented under subclass 306.6. Subject matter in which the matrix of the void-containing component is inorganic, e.g., carbide, metal, graphite, refractory, ceramic, glass, etc.

307.7 Inorganic impregnant:

This subclass is indented under subclass 307.3. Subject matter in which the impregnant also is inorganic, e.g., glass, hydraulic cement, etc.

308.4 Void-containing component is synthetic resin or natural rubbers:

This subclass is indented under subclass 306.6. Subject matter in which the void-containing component is identified as a synthetic resin

composition and claimed as such, e.g., polyvinyl chloride, polyurethane, acrylonitrile-butadiene-styrene, etc.

- (1) Note. A synthetic resin is the material described in the definition of Class 520, subclass 1.

308.8 Void-containing component is wood or paper:

This subclass is indented under subclass 306.6. Subject matter wherein the void-containing component is cellulosic and is claimed as wood or paper.

309.9 With internal element bridging layers, non-planar interface between layers, or intermediate layer of commingled adjacent foam layers:

This subclass is indented under subclass 304.4. Subject matter wherein an interface between layers of a composite is claimed in such fashion that a wavy, keyed or otherwise nonflat function of the layers is required to meet the terms of the claims or an intermediate layer is created by commingling some material of two adjacent foam layers, usually in fluent form or wherein an element of the composite such as a fiber, etc., passes from one layer to another of the composite.

SEE OR SEARCH THIS CLASS, SUBCLASS:

609, and 612, for similar subject matter which is all metal or has adjacent metals.

310.5 With gradual property change within a component:

This subclass is indented under subclass 304.4. Subject matter wherein a component has a property, e.g., density, composition, pore size, hardness, concentration of ingredients, etc., which varies gradually from one surface to another surface of the same component.

- (1) Note. The change of property usually is so gradual that no area within the component can be identified as an interface between components.

SEE OR SEARCH THIS CLASS, SUBCLASS:

547, and 610, for similar subject matter which is all metal or has adjacent metals.

311.11 Void-containing component has a continuous matrix of fibers only (e.g., porous paper, etc.):

This subclass is indented under subclass 304.4. Subject matter wherein a component of the composite is one which depends solely upon fibers for its continuity.

311.31 And a force disintegratable component (e.g., stencil sheet, etc.):

This subclass is indented under subclass 311.11. Subject matter wherein a component of the composite may be locally disintegrated by the application of a sudden force thereto; for example, by a typewriter key.

- (1) Note. Where the product is designated as having a stencil sheet, wherein an ink is to pass through the product in its final use, it is assumed that the nondisintegrated component is porous. See the definition of subclass 304.4, (1) Note, (b).

SEE OR SEARCH THIS CLASS, SUBCLASS:

321.1+, for a composite which includes liquid. 488.1, for so-called "carbon paper", comprising not necessarily porous paper and a waxy component having pigment, dye, or color forming reagent.

311.51 Fibers of defined composition:

This subclass is indented under subclass 311.11. Subject matter wherein the chemical makeup of the fibers is specified, as, for example, natural leather, polypropylene, etc.

311.71 Cellulosic:

This subclass is indented under subclass 311.51. Subject matter wherein the fiber is made of cellulose or a cellulose derivative (e.g., paper, etc.).

311.91 Plural cellulosic components:

This subclass is indented under subclass 311.71. Subject matter wherein the composite comprises two or more layers of fibrous cellulose material.

312.2 Inorganic matrix in void-containing component:

This subclass is indented under subclass 304.4. Subject matter in which the void-containing component has a continuous phase of material, e.g., porous ceramic, etc., which is free from carbon atoms or contains carbon atoms only as elemental carbon, as a carbide, carbonate, cyanide or cyanate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

317.9, for a composite wherein the void-containing component contains an organic matrix with inorganic fibers or particles distributed discontinuously therein.

312.4 Of hydraulic-setting material:

This subclass is indented under subclass 312.2. Subject matter wherein the inorganic material is cementitious and is set or hardened by hydration or hydrolysis, e.g., concrete, plaster, etc.

312.6 Of silicon-containing material (e.g., glass, etc.):

This subclass is indented under subclass 312.2. Subject matter wherein the inorganic matrix comprises elemental silicon or a compound formed of silicon, e.g., quartz, glass, silicon carbide, etc.

312.8 Of metal-containing material:

This subclass is indented under subclass 312.2. Subject matter wherein the inorganic material is specified as being elemental metal, an alloy or a metal compound, e.g., a ceramic, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

312.6, for a similar composite having quartz or glass as the continuous phase.

313.3 Preformed hollow element-containing:

This subclass is indented under subclass 304.4. Subject matter wherein voids of the component result from the incorporation therein of a filler,

aggregate, etc., which itself is hollow, rather than merely from voids, the walls of which constitute the material of the continuous matrix.

SEE OR SEARCH THIS CLASS, SUBCLASS:

320.6+, for a composite having in a component preformed capsules containing a color forming material.

313.5 Resin or rubber element:

This subclass is indented under subclass 313.3. Subject matter wherein the preformed hollow element is composed of resin or rubber, e.g., a hollow resin capsule containing air, etc.

(1) Note. A synthetic resin is the material described in the definition of Class 260, subclass 2.01.

313.7 Mineral element:

This subclass is indented under subclass 313.3. Subject matter wherein the preformed hollow element is a mineral which is naturally void-containing or which has been treated to create voids, e.g., by heating, etc., such minerals including expanded vermiculite, perlite, mica, clay, etc.

SEE OR SEARCH CLASS:

252, Compositions, subclass 378 for exfoliated or intumesced compositions in general.

313.9 Metal- or silicon-containing element:

This subclass is indented under subclass 313.3. Subject matter wherein the element contains metal or silicon in free or combined form, e.g., refractory, ceramic, glass, etc.

314.2 Void shape specified (e.g., crushed, flat, round, etc.):

This subclass is indented under subclass 304.4. Subject matter wherein the geometric configuration of the voids, whether regular or irregular, is specified in the claims.

(1) Note. Use of the term "crushed", designated a foam which has been treated, usually by pressure, to reduce the size of the foam cells and give the cell walls a broken and/or irregular configuration, is

sufficient to place a patent in this subclass.

314.4 Voids specified as closed:

This subclass is indented under subclass 304.4. Subject matter wherein the voids in the void-containing component are specified as being closed, rather than forming a series of interconnected voids, e.g., closed-cell foam, etc.

314.8 Specified thickness of void-containing component (absolute or relative), numerical cell dimension or density:

This subclass is indented under subclass 314.4. Subject matter in which either the thickness of the void-containing component is claimed in terms of numbers or in relation to the thickness of another component, e.g., thicker, thinner, etc.), a numerical cell size (microns, etc.) or density (pounds per cubic foot, etc.) is claimed.

315.5 Voids specified as micro:

This subclass is indented under subclass 304.4. Subject matter wherein the voids of the void-containing component are claimed as being invisible to the naked eye.

(1) Note. Where the voids are described using the word or prefix "micro", the voids are assumed to be invisible to the naked eye.

315.7 Specified thickness of void-containing component (absolute or relative) or numerical cell dimension:

This subclass is indented under subclass 315.5. Subject matter in which the thickness of a void-containing component is claimed in terms of numbers or in relation to the thickness of another component, e.g., thicker, thinner, etc. or a numerical cell size is claimed, usually expressed in terms of microns, angstroms, etc.

315.9 Composite has more than two layers:

This subclass is indented under subclass 315.5. Subject matter in which the composite comprises at least three layers.

316.6 Plural void-containing components:

This subclass is indented under subclass 304.4. Subject matter having more than one component containing voids.

317.1 With component specified as adhesive or bonding agent:

This subclass is indented under subclass 304.4. Subject matter having a component which is claimed as having an adhesive function serving to bond other components together, etc.

(1) Note. The void-containing component may serve as the bonding component.

SEE OR SEARCH THIS CLASS, SUBCLASS:

40+, for a composite in which an outer layer is removable in order to expose an adhesive, e.g., certain protected pressure-sensitive adhesive tapes, etc.

317.3 As outermost component:

This subclass is indented under subclass 317.1. Subject matter wherein the adhesive or bonding component is an outermost layer of the composite, that is, the composite is designed to be adhered to a material or object outside of the composite.

317.5 Adhesive or bonding component contains voids:

This subclass is indented under subclass 317.1. Subject matter wherein the bonding or adhesive component itself contains voids, e.g., a poromeric, cellular, foam, etc., component itself is used to bond nonvoid component together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

316.6, for a composite in which a void-containing component is used to bond another void-containing component.

317.7 Composition of adhesive or bonding component specified:

This subclass is indented under subclass 317.1. Subject matter wherein the void-containing component is identified in the claims by its chemical makeup, e.g., a resin, asphalt, etc.

317.9 Void-containing component contains also a solid fiber or solid particle:

This subclass is indented under subclass 304.4. Subject matter in which a solid particle or solid fiber is dispersed in the void-containing component.

SEE OR SEARCH THIS CLASS, SUBCLASS:

305.5, for such subject matter where the fiber or particle is of a chemically effective material.

311.11+, for such subject matter where fibers are present in such amount and arrangement as to constitute a continuous matrix.

318.4 With nonvoid component of specified composition:

This subclass is indented under subclass 304.4. Subject matter wherein the composite has a layer without voids which is claimed in terms of its composition.

- (1) Note. A mere statement of that the nonvoid component is “a substrate”, “a layer”, “a film”, etc., is not sufficient for placement in this subclass, but identification of the component as “metal”, “organic”, etc., is sufficient.

318.6 Of about the same composition as, and adjacent to, the void-containing component:

This subclass is indented under subclass 318.4. Subject matter wherein a void-containing component has, next to it, a component without voids which varies not more than about 10% in the proportion of its solid constituents from the composition of the void-containing component.

- (1) Note. Insofar as synthetic resins, per se, are concerned, the 10% permissible variation is to be applied to the monomer residue content of the finished polymer; differences in molecular weight, crystallinity, etc., are not considered to be differences in composition.

318.8 Integrally formed skin:

This subclass is indented under subclass 318.6. Subject matter in which the nonvoid component is identical in composition to the composition of the void-containing component and is formed simultaneously with the void-containing component.

SEE OR SEARCH CLASS:

521, Synthetic Resins or Natural Rubbers, subclass 51 for a process of preparing a cellular resin product having an integral skin.

319.1 Inorganic:

This subclass is indented under subclass 318.4. Subject matter in which the nonvoid component is free from carbon atoms or contains carbon atoms only as elemental carbon, as a carbide, carbonate, cyanide or cyanate.

319.3 Synthetic resin or natural rubbers:

This subclass is indented under subclass 318.4. Subject matter in which the nonvoid component is a synthetic resin.

- (1) Note. A synthetic resin or natural rubbers is the material described in the definition of Class 260, subclass 2.01.

319.7 Linear or thermoplastic:

This subclass is indented under subclass 319.3. Subject matter wherein the nonvoid component is a synthetic resin without cross-linkages, that is, one which softens reversably under the influence of heat.

319.9 Hydrocarbon polymer:

This subclass is indented under subclass 319.7. Subject matter wherein the resin contains carbon and hydrogen only.

320.2 Composite having a component wherein a constituent is liquid or is contained within performed walls (e.g., impregnated-filled, previously void-containing component, etc.):

This subclass is indented under subclass 221. Subject matter consisting of at least two components, at least one of which contains liquid or has a constituent trapped inside walls made before combination with the other constituent.

SEE OR SEARCH THIS CLASS, SUBCLASS:

408, for an impregnated, self-sustaining, carbon mass.

439.5, for a consolidated metal powder product impregnated with a nonmetal.

540+, for an impregnated natural product.

321.1 Constituent is in liquid form:

This subclass is indented under subclass 320.2. Subject matter wherein a component contains a material which is a liquid at ambient temperature or is a liquid at the conditions under which the product is used.

- (1) Note. A liquid for purposes of this subclass is a material of definite volume which takes the shape of its container at ambient temperature or temperature of use of the claimed product. It includes colloidal dispersions in which liquid is the continuous or dispersant phase.

321.3 Ink in pores:

This subclass is indented under subclass 321.1. Subject matter wherein the liquid is claimed as ink and is trapped within pores of a carrier material.

- (1) Note. Generally, the ink is extrudable from the pores under the influence of pressure.

SEE OR SEARCH CLASS:

106, Compositions: Coating or Plastic, subclasses 20+ for ink compositions, per se.

321.5 Encapsulated liquid:

This subclass is indented under subclass 321.1. Subject matter wherein the liquid has been encapsulated in a solid material before incorporation into the component in question.

- (1) Note. A statement that the liquid is in the form of "microcapsules" is sufficient for placement of the patent in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

313.3, for composite stock materials containing "empty" microcapsules.

322.2 Indefinite plurality of similar impregnated thin sheets (e.g., "decorative laminate" type, etc.):

This subclass is indented under subclass 320.2. Subject matter comprising an unspecified number, greater than two, of sheets bonded together, each sheet being of similar material to

the others and having at least one negligible dimension, each sheet having once been porous but having lost its porosity by being impregnated with a fluid material before or after assembly of the stack.

- (1) Note. The impregnant usually is a non-fully, polymerized resin and the bonding usually includes completion of polymerization, i.e., curing, of the resin.
- (2) Note. The products usually are "decorative laminates", such as those used for counter-tops, dishes, etc., sold under trade names such as Formica, Melmac, etc.

322.7 Differentially filled foam, filled plural layers, or filled layer with coat of filling material:

This subclass is indented under subclass 320.2. Subject matter wherein the structure of a foamed material bridges two or more distinct components, wherein a solidified impregnant permeates two or more adjacent previously porous components of an assembled composite or wherein such an impregnant permeates a previously porous component and also coats an outside surface of the component.

323

This subclass is indented under subclass 221. Product which comprises at least two components, one of which consists of or includes grains or extremely small pieces or fragments of material claimed in terms of (1) their particular size or shape (natural or fabricated) or (2) an orderly arrangement relative to one another or (3) their particular interengagement within the component, or (4) their engagement with the material of an adjacent component.

- (1) Note. A web, sheet or layer claimed as having a haphazard arrangement of its particulate constituents is not considered as possessing an orderly arrangement of its particulate constituent within the definition of this subclass.
- (2) Note. A composite web or sheet in which its particulate constituents are claimed as being in an orderly arrangement relative to a surface of the web or sheet is considered to be a structurally

defined web or sheet and will be found in subclasses 98+.

- (3) Note. Coated particles* are considered to be structurally defined and therefore, a composite web in which one layer or component contains coated particles will be placed in this or an indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 304+, for a web or sheet comprising a component embodying porous or cellular particles so claimed.
 357+, for a mass of or containing oriented or structurally defined particles.
 411+, for a nonstructural laminate incorporating particulate material neither oriented nor structurally defined.

SEE OR SEARCH CLASS:

- 149, Explosive and Thermic Compositions or Charges, subclasses 110+ for a product of that class (149) embodying particulate material of a certain size(s).

324 This subclass is indented under subclass 323. Product in which the particles* comprises any of the group of mineral silicates commonly called "mica".

- (1) Note. The term "mica" will be construed as connoting flakes of flat configuration and therefore structurally defined unless the disclosure clearly contradicts such an interpretation; see (1) Note in subclass 454.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 363, for a mass or single layer of or containing mica flakes.

SEE OR SEARCH CLASS:

- 106, Compositions: Coating or Plastic, subclasses 415+ for a composition of that class (106) including mica.
 252, Compositions, subclass 378 for a composition containing exfoliated or intumesced material.

325 This subclass is indented under subclass 323. Product wherein the particles are of material made from clay*, usually by the agency of fire.

- (1) Note. Included under this definition of ceramic* are those materials termed as glass*, pottery, enamel, cement, refractories*, porcelain* or quartz.

326 This subclass is indented under subclass 323. Product wherein the particles comprise carbohydrate material derived from the structural matter of plant life, usually from the stems thereof.

- (1) Note. This carbohydrate is commonly termed cellulose* and may be further treated to yield esterified, modified or regenerated substances such as rayon* or viscose*.

327 This subclass is indented under subclass 323. Product in which the particles comprise an organic substance which is synthetically produced by union (polymerization or condensation) of a large number of molecules of one or more relatively simple compounds.

- (1) Note. Particles of naturally occurring polymeric material or reaction products thereof, e.g., carbohydrate, polypeptides and cellulosic products, are excluded from this definition of polymer and will be found in other subclasses on other features, e.g., subclass 326 for carbohydrates, etc.

328 This subclass is indented under subclass 323. Product in which the particles comprise (1) a free metal* having a specific gravity or density greater than 4, or (2) the free metal* aluminum or (3) a compound having the metal* of either (1) or (2) above in its molecule.

329 This subclass is indented under subclass 328. Product wherein the metal is iron or aluminum and is present as the oxide.

330 This subclass is indented under subclass 323. Product in which the particles comprise a metal* selected from the group consisting of Li, Na, K, Rb, Cs, Mg, Ca, Sr and Ba (i.e., the alkali or alkaline earth metals) in either the free

- form or combined with other elements and forming either an inorganic or organic compound.
- 331** This subclass is indented under subclass 323. Product in which the particles comprise the element silicon (Si) in either its free or combined form.
- 332** This subclass is indented under subclass 221. Product in which the size of an element, constituent, or component of a web or sheet is claimed.
- (1) Note. The difference between 212+ and this subclass and indents (332+) is that in the former the thickness of two components* are recited, while in the latter the thickness of only the base or layer is specified. Where the dimensions of two components* are specified so that one can be compared to another, classification in 212+ is indicated.
- (2) Note. In this and the indented subclasses a size in units of length must be specified in the claim. A recitation of weight per unit area is excluded from this group of subclasses and will be found in subclasses 340+ below.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 212+, for a composite web or sheet in which the thickness of two components is claimed either in terms of their relative thickness or in absolute dimensions.
 220, for a product in which the absolute dimension of a web* or sheet* is claimed.
 340+, for a recitation of a weight per unit area which can be calculated to yield a physical dimension, if another parameter, such as density, is known.
- 333** This subclass is indented under subclass 332. Product in which the claimed size is defined in terms of molecules of the material or of wave length of light.
- (1) Note. Included within this definition are recitations setting forth (1) a certain number (one or more) molecules thick or
- (2) a portion of a wave length of any color of light.
- 334** This subclass is indented under subclass 332. Product in which the absolute physical dimension specified is the thickness of a coating layer* and which does not exceed 5 mils or the equivalent thereof.
- (1) Note. Examples of equivalents are: 1 mil=.001 inch=.0254 mm (millimeter)=25.4 u or mu(micron)=254,000 A (Angstroms).
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 332, for a product in which a coating layer is recited in a range which starts at less than 5 mils but transcends this figure (e.g., 4-17 mils, etc.).
- 335** This subclass is indented under subclass 334. Product in which the thickness does not exceed 3 mils or its equivalent.
- 336** This subclass is indented under subclass 335. Product in which the thickness does not exceed 1 mil or its equivalent.
- 337** This subclass is indented under subclass 332. Product in which the absolute size of the base* or substrate* of a composite web or sheet is claimed.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 220, for a web or sheet in which the size of the entire sheet or web is claimed.
- 338** This subclass is indented under subclass 332. Product consisting of a single layer of material in which the dimension of an element (e.g., particle*, etc.) is claimed.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 220, for a product in which the absolute size of the web or sheet is defined.
- 339** This subclass is indented under subclass 332. Product in which there is a component comprising a man made resin or polymer.

340 This subclass is indented under subclass 221. Product in which is recited the weight of a material related to its area.

- (1) Note. The "material" may be a web, sheets component, base*, coating, layer or element.
- (2) Note. Some examples of terms used are: pounds per square meter, grams per square centimeter, pounds per square foot, grams per quire of certain size paper, etc.
- (3) Note. This is excluded from subclasses 332+ even though the thickness can be calculated if the density of the material be known.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

332+, for an element or component recited in terms of its actual physical dimension in units of length (e.g., mils, inches, microns, etc.).

341 This subclass is indented under subclass 340. Product in which it is the weight of a coating over a given area which is specified.

342 This subclass is indented under subclass 341. Product in which the specified coating is on the surface of a cellulosic* material.

343 This subclass is indented under subclass 221. Product comprising a composite* web or sheet in which an outermost layer is capable of sticking to a surface to which it may be applied or of being activated to have such capability.

- (1) Note. The adhesive layer need not be applied to an extraneous surface; it could be applied to and caused to adhere to itself or to another portion of the composite* web or sheet, as in heat sealable packaging films.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

40+, for a product which comprises at least two layers or components, one of which must be removed to expose an adhesive coating.

SEE OR SEARCH CLASS:

442, Fabric (Woven, Knitted, or Non-woven Textile or Cloth, etc.), subclasses 59+ for a product comprising mechanically interengaged strands or strand portions, etc., having an adhesive coating or impregnation associated therewith.

344 This subclass is indented under subclass 343. Product in which the adhesive layer is adjacent a metal* layer.

345 This subclass is indented under subclass 343. Product in which at least one of the components of the composite sheet has been subjected to a source (1) of ultraviolet radiation, especially wavelengths of 250-300m u, or (2) energy transmitted by various mediums.

- (1) Note. Examples of irradiation or wave energy devices are: light or electron emitters, sonic devices, electric glow discharges, etc. and the term wave energy includes radiations, electromagnetic waves, neutron, proton, deuteron and other corpuscular radiations.

346 This subclass is indented under subclass 343. Product in which the adhesive is caused to become capable of adhering to a surface by virtue of having been contacted with a material which causes at least a portion of the adhesive to be dissolved or otherwise activated, or by having its temperature increased, usually by contact with a heated surface.

347 This subclass is indented under subclass 346. Product in which the adhesive is caused to adhere by increase in temperature.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

200, for a product which comprises a non-uniform (i.e., differential or discontinuous) coating and in addition an adhesive layer which is caused to either adhere or delaminate by means of increase in temperature.

348 This subclass is indented under subclass 347. Product in which the adhesive contains a compound which is described as a wax (e.g., bees-

- wax or paraffin, etc.) or having the physical characteristics of a wax or is a recognized wax* (e.g., carnauba, etc.).
- 349** This subclass is indented under subclass 347. Product in which the adhesive contains a man-made resin or polymer.
- 350** This subclass is indented under subclass 346. Product in which water is the material which contacts the adhesive to cause it to adhere to another surface.
- 351** This subclass is indented under subclass 343. Product in which a component has been made hydrophobic or less hydrophilic (i.e., water-proof or moistureproof or resistant).
- 352** This subclass is indented under subclass 343. Product which contains an additional layer or component of such characteristics that it does not permanently adhere to a surface (which may be another layer of the product) with which it may come into contact.
- (1) Note. A release or anti-stick coating such is that under this definition is usually provided on the side of the base* opposite that which supports the adhesive, in order to prevent adherence when stacked or rolled.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
40+, for a product in which a release layer is removed to expose another layer or component having an adhesive coating thereon.
- 353** This subclass is indented under subclass 343. Product comprising a three layered product in which there is a layer between the adhesive and the substrate, which layer is used to increase the cohesiveness between the adhesive layer and the substrate.
- (1) Note. The intermediate layer may be called by various names, e.g., primer or bonding layer, or anchor coat, etc.
- 354** This subclass is indented under subclass 343. Product in which three or more layers are claimed either in the form of plural coatings on
- a substrate or a laminate of two or more layers having an adhesive layer therebetween.
- 355** This subclass is indented under subclass 343. Product in which the adhesive composition is recited.
- (1) Note. For classification in this or the indented subclass, at least one of the ingredients of the adhesive must be recited specifically, for example as “gum arabic”, “linseed oil”, etc., not nominally, as for example, “oil”, “gum”, etc.
- 356** This subclass is indented under subclass 355. Product in which an ingredient of the adhesive composition comprises (1) rubber* from a natural source or (2) a metal* in either its free or combined state.
- (1) Note. The term “reclaimed” rubber is considered to be natural for purposes of this subclass unless it is clear from the disclosure that a synthetic rubber is intended, in which case classification in subclass 355 is indicated.
- (2) Note. If it is not clear whether natural or synthetic rubber is intended from either the disclosure or claims, then classification is in subclass 355 on the basis of synthetic rubber, with a cross reference, if necessary, to subclass 356.
- 357** This subclass is indented under the class definition. Product containing, or consisting of, at least one strand*, strand-portion*, macroscopic fiber*, grain, small bit of matter, cell*, particle* or any other substance, claimed in terms of (1) a particular size or shape (natural or fabricated), (2) a plurality of such elements* claimed in terms of an arrangement relative to one another, (3) a particular interengagement of a plurality of such elements* or (4) a coating associated therewith.
- (1) Note. The molecular orientation or crystalline structure of a product is considered a mere manifestation of the nature of the material thereof; accordingly, the recitation of either is not considered structure within the meaning of that word as used in this subclass.

- (2) Note. A patent directed to a single layers or mass* of a particular composition which is further defined as “cellular”, “particulate” or “porous” (by name only), will be placed in the appropriate composition class in the absence of defined structure (see above clauses in the definition of this subclass).
- (3) Note. A patent to a structurally defined particle will be placed in this, or the appropriate indented subclass as a subcombination of the subject matter provided for herein, unless specifically provided for elsewhere.
- (4) Note. Excluded from this or indented subclasses is a rod, strand, fiber or filament which is merely impregnated with or has associated therewith a material, without any specified indication as to the depth of the impregnation, or without any other recited structure; such a combination is classified on the basis of the composition, e.g., for Classes 106, 260, 520, etc.
- (5) Note. The term “sizing” or “sized” will be construed to be a coating for this group of subclasses unless it is clear that only an impregnation is intended; see (4) Note above.
- (6) Note. A mass of fibers merely bonded together with no recitation of structure, is excluded from this Class 428 and will be found in the appropriate composition class; see search notes below.
- (7) Note. The term “flake” is construed as structure, indicating a flat piece of matter.
- (8) Note. Included under this definition of “significant size” is any recitation of a measurable extent, no matter how wide (e.g., up to 0.5 mils, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 221, for a web* or sheet* of fibers or filaments* which are claimed as being bonded at their intersections.

- 292.1+, for a composite* web or sheet in which one component* contains fibers.
- 323+, for a composite* web or sheet in which one component contains particles which are structurally defined.

SEE OR SEARCH CLASS:

- 106, Compositions: Coating or Plastic, appropriate subclasses, for a composition provided for in that class (106) which may include structurally defined particles or fibers; and see II Note under the class definition of that class (106) with regard to the elements, per se, for use in such composition; and see (4) Note above.
- 149, Explosive and Thermic Compositions or Charges, subclasses 21 and 110+ for an explosive or thermic composition or charge including structurally characterized particles.
- 252, Compositions, subclass 378 for a composition containing exfoliated or intumesced material.
- 427, Coating Processes, appropriate subclasses, for coating a rod, strand fiber or particle, or for coating with flakes, granules or particulate matter.
- 442, Fabric (Woven, Knitted, or Nonwoven Textile or Cloth, etc.), for a textile*, cloth* or fabric* in which the strands, fibers, or other constituents* thereof are structurally defined, as set forth therein.
- 492, Roll or Roller, for a roll, per se, not elsewhere provided for, especially subclass 48 for a roll cover, per se, and see the notes thereunder.
- 520, Synthetic Resins or Natural Rubbers, for a synthetic resin or natural rubber composition containing an ingredient which may be coated, impregnated, or has a defined size or shape.
- 521, Synthetic Resins or Natural Rubbers, subclasses 50+ for a synthetic resin composition (or single layer) in cellular form.
- 588, Hazardous or Toxic Waste Destruction or Containment, subclasses 249 through 260 for permanent containment of hazardous or toxic waste.

- 358** This subclass is indented under subclass 357. Product comprising a substantially U-shaped groove or slot.
- (1) Note. Many of the patents herein disclose weatherstripping of strand* form having a U-shaped groove in which a pane of glass usually fits.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
85+, especially subclasses 89 and 95 for a channel shaped product including pile structure and acting as window pane channel.
- 359** This subclass is indented under subclass 357. Product comprising a fiber which is approximately 1 1/2 to 2 inches in length, (i.e., the usual staple length).
- (1) Note. A claim which recites a "staple" fiber or "staple" length fiber will be classified in this subclass; a claim which calls for "short" or other similar term, which, by sole disclosure, is staple length will be classified in this subclass.
- 360** This subclass is indented under subclass 359. Product comprising a plurality of staple length fibers which are intertangled and which are bonded only at their cross-over or contact points.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
197, for a textile* or cloth* product comprising knitted strands*, filaments* or strips* and which are bonded to each other only at selected points.
221, for a web* or sheet* comprising fibers* or filaments which are bonded at their intersections only.
292.1+, for a composite web* or sheet* in which one component comprises fibers* which are structurally defined in some manner and which may be bonded at their intersections only.
- 361** This subclass is indented under subclass 359. Product in which the staple length fiber is permeated, saturated, or covered with an extraneous material.
- 362** This subclass is indented under subclass 359. Product in which the longitudinal direction of the staple length fiber follows a curvilinear or multi-directional path.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
369+, for a fiber of greater than staple length which is nonlinear.
- 363** This subclass is indented under subclass 357. Product comprising a grain or small bit of material (i.e., particle*) which is a flat platelet of any of the group of mineral silicates commonly called "mica"*
- SEE OR SEARCH THIS CLASS, SUBCLASS:
454, for a nonstructural laminate including mica* in nonflake form (i.e., as ground or pulverized).
- SEE OR SEARCH CLASS:
106, Compositions: Coating or Plastic, subclasses 415+ for a product provided for in that class (106) embodying shells, scales, micaceous material or similar lamellate material.
- 364** This subclass is indented under subclass 357. Product comprising a rod, strand, fiber or filament*.
- (1) Note. A solid rod, fiber or strand product of uniform circular cross-section and extending in a straight line without deviation will not be considered for placement in this or an indented subclass. However, such a product, when coated will be considered as sufficient for subclass 375 even in the absence of structure. An impregnated fiber, strand, strand-portion, etc., unless qualified by structure (e.g., size, shape, etc.) will be considered as composition for the appropriate class (e.g., 106, 520, etc.; see (4) Note in subclass 357 and (2) Note below.
- (2) Note. A patent to a rod, strand or fiber distinguished solely by its composition will be placed in the appropriate composition class. See particularly Class 106, Compositions: Coating or Plastic; see

also; Class 520, Synthetic Resins or Natural Rubbers, for a synthetic resin or natural rubbers filament. For the purpose of patent placement in this subclass, the recitation of molecular orientation or crystalline structure in a fiber is not regarded as a structural limitation and patents claiming such fibers with no additional structure will be placed in the appropriate composition class. Also, a patent for a fiber where the presence of structure or the degree thereof is a mere manifestation of the composition will be placed in the appropriate composition class. A fiber defined in terms of its properties or other descriptors (e.g., tensile strength, per cent elongation) is not considered a structurally defined fiber.

- (3) Note. A patent directed to a rod, wire or filament of indeterminate length will be placed in Class 204, Chemistry: Electrical and Wave Energy, where a process under the definition of Class 204 appears to be a necessary limitation to the product. A product of a 157.15+ process will be classified as in the (2) Note above.
- (4) Note. A patent for a strand consisting of woven constituents is provided for in subclasses 383+ of Class 139, Textiles: Weaving and a patent claiming a strand consisting of knitted constituents is provided for in subclasses 169+ of Class 66, Textiles: Knitting; however, a patent for a composite strand including either of such strands in combination with another unlike constituent (e.g., knit core with woven sheath) will be placed in this subclass 364 where not provided for elsewhere.
- (5) Note. A patent for a composite rod or strand reciting or claiming at least one twisted or twined constituent will be placed in Class 57, Textiles: Spinning, Twisting, or Twining, but where said constituent is a preformed coiled spring element, the patent will be placed in subclasses 369+ below. See section VI Relation to Certain Other Classes, in the main class definition, reference to Class 57 for guide lines relating to placement of "yarns", "cords", etc.

(6) Note. Excluded from this and indented subclasses are patents to one or more transparent elongated structures (e.g., rods, fibers or pipes) used to transmit light rays from one point to another within the confines of their outer surface, and involving internal reflections or modal transmission.

(7) Note. See (1) Note in the definition of subclass 36 for the distinction between a hollow strand, fiber or filament and a conduit type article.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 34.1+, for an article* (e.g., 3 dimensional or of substantial size) which is a cylinder or a conduit open at both ends and disclosed to conduct fluids and, disregarding the size, may be similar to a hollow fiber, filament or strand.
- 544+, for corresponding metallic* stock-material*.

SEE OR SEARCH CLASS:

- 2, Apparel, subclasses 256+ for strand or elongated rod-like element used as a stiffening or stay means for garments.
- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, appropriate subclasses, for a monofilament of fiber which is the product of an operation provided for in that class.
- 14, Bridges, subclass 22 for cable peculiar to the suspension of a bridge.
- 15, Brushing, Scrubbing, and General Cleaning, subclasses 208+ for an implement which includes rods, strands or fibers having particular shape, size or arrangement.
- 19, Textiles: Fibers Preparation, appropriate subclasses for drawing, carding or other fiber preparations involving no twisting.
- 26, Textiles: Cloth Finishing, appropriate subclasses for treatment of the constituents of a textile subsequent to fabrication of the product to obtain a better marketable condition.

- 28, Textiles: Manufacturing, appropriate subclasses for methods and apparatus for the mechanical interengagement of fibers.
- 52, Static Structures (e.g., Buildings), subclasses 831 through 857 for an elongated rigid member specialized to use as or in in situ erected structures.
- 57, Textiles: Spinning, Twisting, and Twining, subclasses 200+ for a product reciting twisted or twined rod(s), strand(s) or fiber(s) and see (5) Note above.
- 66, Textiles: Knitting, subclasses 169+ for a knitted product not elsewhere provided for.
- 84, Music, subclasses 199 and 297+ for a musical instrument string.
- 87, Textiles: Braiding, Netting, and Lace Making, subclasses 1 through 13 for a product embodying braided, knotted or intertwisted strands.
- 104, Railways, subclass 240 for railway traction cable.
- 106, Compositions: Coating or Plastic, appropriate subclasses for a structurally defined fiber strand as provided for in that class (106) and see II under the class definition note of that class (106).
- 112, Sewing, subclass 400 for a sewn strand (e.g., strand with stitches along its length).
- 131, Tobacco, subclass 331 for stock material specified as being a filter and of indeterminate shape (e.g., mass) or approximating the shape (e.g., coil, tube, cylinder, rod) of the article or appliance with which it is intended to be used, requiring no further treatment than tearing or cutting to proper size; stock material of any other shape, recited so that some shape modification is required is classified in Class 428.
- 139, Textiles: Weaving, subclasses 383+ for a web or sheet claimed in terms of the particular arrangement or material(s) of the warp and/or weft; subclass 395, for a woven chenille strand; subclasses 457+ for method and apparatus for weaving a tubular or circular fabric; and subclasses 420+ for a woven textile possessing a certain texture resulting from the nature or form of the strands or fibers employed in the manufacture thereof.
- 204, Chemistry: Electrical and Wave Energy, especially subclasses 450+ for electrophoretic or electro-osmotic processes. Also, see the (3) Note above.
- 205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, subclasses 76+, 138+, and 152+ for a rod, wire, or filament formed by electrolytic coating processes.
- 249, Static Molds, subclass 213 for tie rods.
- 260, Chemistry of Carbon Compounds, appropriate subclasses, for a rod, strand or fiber, by name only, of a particular composition provided for in that class (260) and see (1) and (2) Notes of this subclass.
- 277, Seal for a Joint or Juncture, subclasses 536+ for a dynamic seal of fibrous composite construction contained or compressed by a gland member in a packing box, subclass 937 for a seal made of a composite material including glass particles or filament, or subclass 938 for a seal made of a composite material including cartoon or graphite particle or filament.
- 313, Electric Lamp and Discharge Devices, subclass 357 for an electrode in the form of a rod.
- 385, Optical Waveguides, appropriate subclasses for light transmitting rod, fiber, or pipe, of the type provided for in that class.
- 401, Coating Implements With Material Supply, appropriate subclasses for a rod or strand which is adapted to coat or leave a mark on a surface by virtue of its shape (e.g., point or taper, etc.), whether or not the rod or strand itself is coated. For example, a pencil having a paper wrapping therearound is in Class 401, whereas a similar rod or strand with a paper wrapping, but with no coating implement feature would be proper for subclass 377 below.

- 431, Combustion, subclass 325 for a strand structure employed as a burner wick.
- 474, Endless Belt Power Transmission Systems or Components, particularly subclasses 237+ for a friction drive belt which may be formed of or include strand structure.
- 606, Surgery, subclasses 228+ for filamentary material used as a suture or ligature. See section VIA5 of this definition.
- 365** This subclass is indented under subclass 364. Product which comprises textile*, cloth* or fabric*.
- (1) Note. The textile*, cloth or fabric may be in the form of a tubular cover for a core or may itself be covered with another material or may be the only element claimed, in which case it must be structurally defined.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 222, for a sheet* or web* of textile*, cloth* or fabric* which is, or has a component* which is, helically wound either around itself or another component*.
- SEE OR SEARCH CLASS:
- 442, Fabric (Woven, Knitted, or Non-woven Textile or Cloth, etc.), for textile*, cloth*, or fabric* in the form of a sheet* or web*.
- 366** This subclass is indented under subclass 364. Product in which the rod, strand, filament or fiber comprises the element boron in either the free or combined state.
- (1) Note. Excluded from this subclass is a rod, strand, filament or fiber which is composed of steel or other alloy or an intermetallic compound having boron as a constituent thereof; such products of sheet or other alloy will be found in subsequent subclasses on other features (see especially subclasses 379+). This subclass 366 is intended to be the locus for the high modulus boron filament or fiber.
- SEE OR SEARCH CLASS:
- 423, Chemistry of Inorganic Compounds, subclasses 276+ for a process of making free boron or a compound thereof or the product, per se, which does not claim structure enough to be placed in this Class 428.
- 367** This subclass is indented under subclass 364. Product in which carbon, as either the element or as a compound thereof, comprises the rod, strand or fiber or filament or is present as a covering on a rod, strand, fiber or filament of another material.
- (1) Note. Excluded from this subclass is a product in which the carbon or its compound is a minor constituent of steel or other alloy; fibers, filaments, etc., of steel or other alloy will be found in other subclasses below on other features (see subclasses 379+). This subclass 367 is intended to be the locus for the high modulus carbon fiber or filament.
- SEE OR SEARCH CLASS:
- 423, Chemistry of Inorganic Compounds, subclasses 414+ for a process for making free carbon or a compound thereof or the product, per se, (e.g., rod, fiber, etc.) where no significant structure is recited.
- 368** This subclass is indented under subclass 367. Product in which the free carbon or the compound thereof forms a covering for a rod, strand, filament or fiber.
- 369** This subclass is indented under subclass 364. Product wherein the longitudinal axis of the rod, strand or fiber, considered as a unit, follows a curvilinear or multi-directional path.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 32, for a 3 dimensional object part of which has a winding or coil or braid of a strand, usually for decorative purposes, as for example, on the hilt or scabbard of a sword.
- 37, for a product comprising a spirally flatwound strand or strip, e.g., in the form of a braided rug.

- 108, for a product in which strands or strand-portions in a plurality of layers* are angularly related to one another and in which the longitudinal axis of the strands or strand-portions follows a multi-directional or curvilinear path.
- 222, for a composite* web* or sheet* in which one of the components* is helical.
- 292.1+, for a composite* web* or sheet* in which one of the components* comprises structurally defined fibers which may be nonlinear in extent (e.g., crimped or coiled).
- 362, for a fiber of staple length which is nonlinear in extent.
- especially indented subclass 344 for a coiled filament.
- 370** This subclass is indented under subclass 369. Product in which the filament of fiber is made up of at least two different compositions of matter, (e.g., polyester-cotton, cellulose-polyamide) (polyamides of different compositions, etc.).
- 371** This subclass is indented under subclass 369. Product in which the curvilinear or multi-directional path comprises a helix- i.e., made by a point rotating around an axis while advancing along the axis.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 370, for a product comprising a composite or bifilar or collateral filament in the form of a spiral or helix or coil.
- 372** This subclass is indented under subclass 364. Product having in addition particulate matter (e.g., chips, powder, granules, small grains, etc.) which is defined in some structural manner (e.g., shape, size, arrangement, etc.).
- (1) Note. See definition of subclass 357 for meaning and intent of "structurally defined".
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 87, for a pile or nap type product including particulate matter which may be structurally defined.
- 143+, for a sheet* or web* which has a continuous but nonuniform surface finish caused by particulate matter which may be structurally defined.
- 195+, for a web* or sheet* which has a discontinuous or differential coating, impregnation or bond and which may contain particulate matter, and especially subclasses 206+ for a product as above and also having as part thereof particulate matter which may be structurally defined.
- 292.1+, and 323+, for a composite* web* in which one component* includes structurally defined fibers which may be small enough to qualify for parti-
- SEE OR SEARCH CLASS:
- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, appropriate subclasses, for a fiber or monofilament with nonlinear shape wherein said shape is disclosed as resulting from one or more of the bleaching, dyeing, fluid treatment or chemical modification operations provided for in that class (8); subclass 114.5 for a product with differential creping, and subclass 117 for a wool-like or crinkled article.
- 140, Wireworking, appropriate subclasses, for a methods or apparatus for the working of wire products, especially subclass 105 which is directed to the forming of crimps or kinks in wire or wire fabrics.
- 174, Electricity: Conductors and Insulators, subclass 69 for a conduit, cable or conductor which is nonlinear to render the product extensible; and subclasses 108+ for a conductive strand or other elongated conductive element applied spirally about one or more insulated conductors.
- 289, Knots and Knot Tying, subclass 1.2 for a strand(s) with a portion(s) thereof intertwined and forming or cooperating to form a knot.
- 313, Electric Lamp and Discharge Devices, subclass 341 for a filament with a nonlinear axis designed to be heated by the flow of electric current, and

- cles and structurally defined particles, respectively.
- 306+, for a composite* web* or sheet* in which a component* includes particles which may or may not contain adhesive.
- 403+, for coated particulate matter.
- SEE OR SEARCH CLASS:**
- 106, Compositions: Coating or Plastic, appropriate subclasses, especially subclasses 400+ for composition of particles, grains, etc., as provided for therein.
- 132, Toilet, subclass 93 for a strand impregnated with an abrasive material (e.g., dental floss).
- 139, Textiles: Weaving, subclass 425 for a woven fabric including metal particles in the texture.
- 174, Electricity: Conductors and Insulators, appropriate subclasses for a conduit, cable or conductor insulated with powdered or granular material.
- 451, Abrading, subclasses 526+ for a strand including an abrasive material.
- 373** This subclass is indented under subclass 364. Product comprising a plurality of fibers or filaments which have been simultaneously formed by being forced through separate openings in a die or spinneret, and in which (1) the individual fibers or filaments are side-by-side with a connecting web therebetween or (2) one fiber or filament is substantially enclosed in the other (sheath-core type).
- (1) Note. The fibers are usually of different composition so that on cooling or heating the crimp or nonlinearity may be controlled due to the differing rates of expansion or contraction.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 370, for a composite, bifilar, conjugate or collateral fiber or filament whose longitudinal axis follows a curvilinear or multidirectional path (e.g., helical, crimped, etc.).
- 374** This subclass is indented under subclass 373. Product in which the axis of the fibers or filaments do not coincide, i.e., one is laterally spaced from the other.
- 375** This subclass is indented under subclass 364. Product in which the rod, strand, fiber or filament is (1) partially or completely covered with a material or (2) is structurally defined as set forth in the definition of subclass 357 and, in addition, may also be partially or completely saturated or permeated with a material or adhered to another material or strand, fiber or filament or rod or contain a central portion.
- (1) Note. A patent directed to a product including a wrapped constituent* will be placed in this subclass; however, a patent directed to such product will be placed in subclasses 139+ of Class 57, Textiles: Spinning, Twisting, and Twining, where it is claimed that said constituent is wrapped progressively along the length thereof (i.e., coiled).
- (2) Note. A patent for a strand formed by a knitting or weaving operation and coated, impregnated or covered after completion of said operation will be placed in this subclass.
- (3) Note. A patent directed to a strand including a twisted or twined constituent and further including an encircling sheath formed by an extrusion process will be placed in this subclass (375).
- (4) Note. The term “sized” or “sizing” will be construed as a coating and will be placed in this group of subclasses, unless it is clear than only an impregnation is intended.
- (5) Note. Attention is directed to section V of the class definition: Guidelines for Placement of Patents Having no Significant Structure. A patent having a claim to a coating material and also a claim to a product of a rod, strand or fiber coated with this material and in which the product claim includes details of the coating material, is classified in the appropriate composition or compound class in the

absence of recited structure (e.g., dimension, shape, etc.). Cross-referencing into this Class 428 of such patents from the appropriate compound or composition class (e.g., Class 106, Class 260, etc.) has been kept to a minimum. For a complete search, the other pertinent class should be considered.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 98+, and 221+, especially the subclasses so entitled for a coated or impregnated web* or sheet* comprising rods, strands or fibers or for coated rods, strands or fibers forming elements* of a web or sheet.
- 615+, for corresponding metallic* stock-material*.

SEE OR SEARCH CLASS:

- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, for a fiber product of a process provided for in that class and especially subclasses 114+ and 115.51+ for a product of the chemical modification of a textile or organic fiber; subclass 115.6 for such product which further includes a coating, size or lubricant, and subclasses 495+ for a fiber dyed and impregnated.
- 57, Textiles: Spinning, Twisting, and Twining, 258+ especially subclasses 258+ for a coated or impregnated rod or strand comprising a twisted or twined constituent (as claimed) and including such product regardless of whether the constituents thereof are coated or impregnated before, during or after assembly thereof to form the product.
- 87, Textiles: Braiding, Netting, and Lace Making, subclass 1 for a strand product of that class, whether the constituents thereof are coated or impregnated before, during or after the braided strand with a core. Also See section VI A 1 a (3) of this definition.
- 132, Toilet, subclass 93 (dental floss), for strand structure impregnated with an abrasive material(s).

- 174, Electricity: Conductors and Insulators, for a product which conducts electricity and is coated or covered with a dielectric, where the product includes (1) some structure of the conductor specifically designed to conduct electricity or (2) some structure of the dielectric especially designed to space conductor either from ground or from a device of different electric potential.
- 204, Chemistry: Electrical and Wave Energy, subclasses 450+ for electrophoretic or electro-osmotic processes. Also, see section VI, B, of the class definition of Class 428.
- 277, Seal for a Joint or Juncture, subclass 537 for a dynamic seal of composite construction, having a distinct sheath or covering, contained or compressed by a gland member in a packing box, or subclasses 652+ for a static contact seal for other than internal combustion engine, or pipe, conduit or cable having a distinct sheath or covering.
- 313, Electric Lamp and Discharge Devices, subclass 345 for a coated filament or electrode; and subclasses 352+ for a cored, coated or laminated composite electrode.

376 This subclass is indented under subclass 375. Product having a central or inner portion which contains one or more voids.

- (1) Note. The void or voids may be either coextensive or noncoextensive with the longitudinal extent of the central portion.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 34.1+, for a tube type or cylindrical article* open at both ends, similar in form, but of substantially greater size than the hollow products of this subclass 376.

377 This subclass is indented under subclass 375. Product having (1) a central or inner portion which is wound about itself or (2) a layer* or material wound or wrapped about a central or inner portion, both (1) and (2) being in the form of a spiral or helix.

