

1 **METHODS**

Class 216 is an integral part of this Class (Class 156), as shown by the position of this box, and follows the schedule hierarchy of this Class, retaining all pertinent definitions and Class lines of this class.

- 39 .Plaster board making
- 40 ..With bending or folding of facing sheet
- 41 ..With water-proofing with added material
- 42 ..With embedding of reinforcing material during or subsequent to core formation
- 43 ..Pore forming in situ
- 44 ..With preliminary treatment of facing sheet
- 45 ..With subsequent treatment of plaster board
- 46 ...Perforating
- 47 .Making electrical conductors of indefinite length
- 48 ..With filling of void or cavity with fluent material
- 49 ..Splicing
- 50 ..With mechanical working of conductor
- 51 ..Covering of conductor
- 52 ...With preformed material
- 53 Wrapping of sheet material (e.g., tape) about conductor and/or conductor assembly
- 54 By longitudinally bending sheet
- 55 Plural spaced conductors
- 56 Plural covering operations
- 57 .Maintaining the natural appearance of plants or animal parts
- 58 .Contour or profile photography to reproduce three-dimensional objects
- 59 .Relief or intaglio representations of three-dimensional objects (e.g., relief modeling of photographs)
- 60 .Surface bonding and/or assembly therefor

- 61 ..Simulated products of nature
- 62 ..With manual drawing or engraving
- 62.2 ..With formation of lamina by bulk deposition of discrete particles to form self-supporting article
- 62.4 ...Liberation or formation of fibers
- 62.6 ...By joining portions of batt to itself
- 62.8 ...To similarly formed batt
- 63 ..Manually arranging different colored or shaped discrete elements to form design
- 64 ..With measuring, testing, or inspecting
- 65 ..Of multiple spaced elements between and transverse of parallel webs (e.g., Venetian blind ladders)
- 66 ..Adhesive application of fasteners to articles (e.g., slide fastener to garment)
- 67 ..Utilizing phosphorescent or fluorescent material
- 68 ..With fur removal from animal pelt
- 69 ..Application of end closures to containers
- 70 ..Encasing movable or loosely confined element between adhering lamina (e.g., drawstrings)
- 71 ..Of lamina to building or installed structure
- 72 ..Setting or embedding tufts or discrete pile elements onto backing (e.g., rugs, brushes, etc.)
- 73.1 ..With sonic or ultrasonic treatment
- 73.2 ...Rod, strand, or filament
- 73.3 ...With sonic or ultrasonic cutting
- 73.4 ...Sheet or web splicing
- 73.5 ..Friction treatment (e.g., welding)
- 73.6 ..Vibratory treatment
- 74 ..With application of centrifugal force
- 75 ..With balancing of product
- 76 ..With parchmentizing or transparentizing

77	..With pore forming in situ to form cellular lamina	91	..With separate permanent mechanical joining means (riveted, sewed, stapled, etc.)
78	...Foaming	92	...With penetrating of fastener
79	....Subsequent to assembly of laminae	93	....Sewing
80	..With refrigeration or freezing	94	..Reclaiming, renewing or repairing articles for reuse
81	..With melting or gasification of permanently associated solid material in situ in airtight cavity	95	...Toroidal shapes (e.g., tire or tube)
82	..With flame contact of lamina	96	....Adhesively secured tire retreads
83	..With swelling of material of lamina	97	....Puncture repairing
84	..With shrinking of material of lamina	98	..With removal of defective area to be repaired
85	...Subsequent to assembly of laminae	99	..Optically transparent glass sandwich making (e.g., window or filter)
86	....Of lamina covering cylindrical or spherical body	100	..Variegated colored lamina or interlayer
87	..Providing escapeways for gases trapped or generated between layers	101	..With cutting or breaking or partial removal of interlayer and/or lamina
88	..Fray-prevention by bonding	102	..With deformation or shaping of interlayer and/or lamina
89.11	..With vitrification or firing ceramic material	103	..With application of plural sequential pressures
89.12	...Forming electrical article or component thereof	104	..With air evacuation between laminae
89.13	....Elemental carbon containing (e.g., graphite, etc.)	105	..Directly applied fluid pressure
89.14	....Inorganic titanate compound containing	106	..With preformed intermediate adhesive layer
89.15	....Nitride compound containing	107	...Sandwich edge sealing
89.16	....Elemental metal or alloy containing	108	..Mounting transparent lamina over window opening (e.g., slide-mounting)
89.17	.....Silver containing	109	..Multipane glazing unit making (e.g., air-spaced panes)
89.18	.....Copper containing	110.1	..Making flexible or resilient toroidal shape; e.g., tire, inner tube, etc.
89.19	.....Tungsten containing	111	...Moving work progressively to separate assembly stations
89.21	.....Molybdenum containing	112	...Solid tire type (i.e., nonpneumatic)
89.22	..Honeycomb-like	113	...Having cushioning void or cavity
89.23	..With wax or wax-like processing aid	114	...Incorporation of solid nonrubber material at exposed tread surface of tire (e.g., anti-skid)
89.24	...Coloring agent containing	115	...Applying flowable puncture sealing material
89.25	...Elemental carbon containing (e.g., graphite, etc.)		
89.26	....Carbon fibers or filaments		
89.27	...Nitride compound containing		
89.28	...Elemental metal or alloy containing		
90	..Utilizing layer to prevent migration or bleeding between laminae		

116	...Applying differently colored material at sidewall (e.g., white wall)	140	...With plastic shaping or molding
117	...Building tires directly from strands or cords	141	....Wrapping of belt prior to shaping
118	...Tubular (airtight) torus (e.g., auto tube-making)	142	...With cutting to "V" or trapezoid section
119	....Multichamber safety tube	143	..Helical wire or plural ring reinforced flexible tube making
120	....Valve-applying	144	..Assembling preformed helical coil or rings with separate tube
121	....Applying reinforcing material to external tube surface	145	..With encapsulating of permanently fluent material in hollow or porous lamina or filling of space between adhered laminae
122	....Joining tube ends to form torus	146	...Prior to bonding of laminae (e.g., golf balls)
123	...Of plural layers	147	....With inflation of airtight cavity
124	....At least one layer including metal cords	148	..With weaving, knitting, braiding, twisting or needling
125	....With injection molding of outer lamina	149	...About tubular lamina
126	....Axially assembling preformed flexible endless bands	150	..With electro-deposition
127	....With tread-preforming	151	...On adherent surface of lamina prior to assembly
128.1	....Applying tread material to fully-formed carcass	152	..With temporary disassembling and subsequent bonding of same laminae
128.6	....With specified treatment of tread material before application to carcass	153	..With abrading or grinding of lamina
129	.....Shaping	154	...Subsequent to assembly
130	.....By winding or including application of inextensible lamina under tread bond	155	..With destruction of solid transitory material; e.g., dissolving, melting, etc.
130.3	....With specified procedure for interlocking of lamina or removal of air from therebetween; e.g., "stitching", etc.	156	..With fluid pressure to prevent collapse of hollow structure during assembly and/or joining
130.5	....With specified procedure for cooling or heating; e.g., for vulcanization, etc.	157	..Joining indefinite length laminae end-to-end
130.7	....With specified procedure for bead, carcass or sidewall formation	158	...Of wire, rod, tube or filament
131	....Bead-applying	159	...With cutting of joining ends
132	....Folding fabric about bead	160	..Bonding in stressed condition of at least one prestressed element
133	....Applying fabric to form (e.g., carcass building)	161	...Of stressed filaments
134	....Fabric splice end treatment	162	...During winding of lamina
135	...Bead portion of carcass treatment	163	...Bonding of sheets or webs only
136	..Tire bead ring making	164	....Running length web
137	..Flexible endless drive belt making	165	...Stressing spherical or tubular body
138	...Forming grooves on inner surface	166	..Bonding of flexible filamentary material while in indefinite length or running length
139	..."V" or trapezoid section belt		

167	...With formation of filaments	198	...By inward collapsing of portion of hollow body
168	..With removal of filamentary material subsequent to lamination thereof	199	...Running or continuous length work
169	...With winding of filamentary material	200	...Longitudinal bending
170	....About spherical lamina	201	....Prior to or during assembly with additional lamina
171	....With winding of separate sheet or web	202	....Overedge bending or overedge folding
172	...Winding about and uniting to core	203	....And edge-joining of one piece blank to form tube
173	...Winding about subsequently removed core or mandrel	204	...Folding
174	....With cutting of filamentary material to form web or sheet	205	...Transverse corrugating
175	....Of filamentary material only	206	....Subsequent to assembly of laminae
176	...To web of indefinite length	207	....With deformation or cutting of corrugated lamina
177	...With axis of filamentary material nonparallel to axis of web	208	....Treating material of corrugated lamina or dry adhesive thereon to render tacky
178	....Plural filaments	209	...Surface deformation only (e.g., embossing)
179	....Between plural webs	210	...To form undulated to corrugated sheet and securing to base with parts of shaped areas out of contact
180	..Of filamentary material only to form article	211	...With slitting or removal of material at reshaping area prior to reshaping
181	....Article is sheet or web	212	..By bending, drawing or stretch forming sheet to assume shape of configured lamina while in contact therewith
182	..Of at least two bonded subassemblies	213	...Encasing or enveloping the configured lamina
183	..With creping, wrinkling, crinkling	214	...With preshaping of lamina
184	..With winding of web or sheet	215	...Flexible sheet to cylinder lamina
185	...Uniting to separate core	216	..Overedge bending of lamina about edges of sheetlike base
186	....Spherical core	217	...Bending of one piece blank and joining edges to form article
187	....Tubular core	218	....Hollow cylinder article
188	....Sequential winding of separate webs	219	...Surface deformation only of sandwich or lamina (e.g., embossed panels)
189	..About irregular or configured mandrel surface	220	....Subsequent to lamination
190	...Sequential winding of separate webs	221	...Subsequent to assembly
191	..With additional assembly (other than winding)	222	....Of parallel stacked sheets only
192	....Prior to winding	223	....Bending of one lamina only
193	...With cutting of wound body (excludes nominal cutoff)	224	....To form dished or receptacle-like product
194	...With reshaping of wound body	226	....Folding only
195	...Longitudinally progressive helical winding		
196	..With permanent bending or reshaping or surface deformation of self sustaining lamina		
197	...By separating laminae between spaced secured areas (e.g., honeycomb expanding)		

- 227 ...By folding
- 228 ..Of preshaped laminae between closed similarly shaped press platens or clamps
- 229 ..With stretching
- 230 ..Direct contact transfer of adhered lamina from carrier to base
- 231 ...With formation of lamina of continuous length by molding or casting on endless carrier
- 232 ...Carrier is configured mold
- 233 ...Metal foil lamina
- 234 ...Of portion only of lamina from carrier
- 235 ...Plural transferring operations and/or with additional laminating
- 236 ...Solvent other than water to release lamina
- 237 ...Coating of transferred lamina
- 238 ...Running or continuous flexible web carrier
- 239 ...Plural superimposed laminae transferred
- 240Transfer of printing or design
- 241 ...To base coated with adhesive
- 242 ..With lamina formation by molding or casting
- 243 ...Forming plural continuous web laminae
- 244.11 ...By extrusion
- 244.12Encapsulating or enclosing a lamina
- 244.13Hollow article or lamina
- 244.14Differential fluid pressure used
- 244.15Specific nonuniform lamina or article; e.g., netting or rib and groove, etc.
- 244.16With printing
- 244.17Electrical, magnetic, or wave energy used
- 244.18With cutting, severing, or perforating
- 244.19After bonding; e.g., as finishing step, etc.
- 244.21Differential fluid pressure used
- 244.22Bonding spaced preforms
- 244.23Pretreatment
- 244.24Post-treatment
- 244.25Article or at least one lamina of nonuniform thickness or discontinuous
- 244.26 ...Bonding in specified environment (other than temperature)
- 244.27 ...Pressure assisted bonding
- 245 ...In configured mold
- 246 ...On temporary planar support (e.g., film casting)
- 247 ..With stripping of adhered lamina
- 248 ...With cutting of one lamina only while adhered
- 249 ...And assembly with different lamina
- 250 ..With cutting, punching, tearing or severing
- 251 ...And simultaneously bonding (e.g., cut-seaming)
- 252 ...Perforating lamina
- 253 ...Subsequent to assembly of laminae
- 254 ...Splitting sheet lamina in plane intermediate of faces
- 255 ...Spiral peeling
- 256 ...Prior to assembly
- 257Partial cutting (e.g., grooving or incising)
- 258Cutting to shape joining edge surfaces only
- 259Continuous longitudinal slitting
- 260Bonding face to face of laminae cut from single sheet
- 261 ...Punching and bonding pressure application by punch
- 262Closure cap liner applying type
- 263 ...Separate cutting of separate sheets or webs
- 264 ...Of plural laminae from single stock and assembling to each other or to additional lamina
- 265Applying plural cut laminae to single face of additional lamina
- 266Joining of cut laminae end-to-end
- 267 ...Flash, trim or excess removal
- 268 ...Partial cutting bonded sandwich (e.g., grooving or incising)
- 269 ...Of continuous or running length bonded web

270	....One web only	285	..Direct application of vacuum or fluid pressure during bonding
271	....Continuous longitudinal slitting	286	...To remove gas from between assembled laminae
272.2	..With direct application of electrical, magnetic, or radiant energy to work	287	...To the lining of hollow body
272.4	...Involving magnetically susceptible lamina or incorporating into the work a particulate susceptor material having magnetic properties	288	..Simultaneous pressure application to at least two separate sandwiches
272.6	...Exposure of work to corona or glow discharge	289	..Utilizing parting or release material to prevent adhesion
272.8	...Exposure of work to laser	290	..Bonding of facing continuously contacting laminae at spaced points only
273.1	...Developing electrostatic charge	291	...By nonuniform adhesive application
273.3	...Before final assembly; e.g., to cure lamina, etc.	292	..Of laminae having opposed facing areas out of contact
273.5	....Before and after final assembly	293	..Inserting of lamina in hole, aperture or recess of other lamina and adherence to side walls thereof
273.7	...Applying pressure before electrical, magnetic, or radiant energy	294	...Core within tube
273.9	...Work constitutes conductor of electrical circuit	295	..Adhesive applying to restricted area and spreading thereof by assembly pressure
274.2	....Conductor is a coil	296	..Strands, rods, tubes or sticklike bodies to each other only
274.4	...Exposure of work to electrode	297	..Of discrete laminae to single face of additional lamina
274.6	....Continuously moving work in relation to electrode	298	...Embedding of laminae within face of additional laminae
274.8	....With application of adhesive	299	...All laminae planar and face to face
275.1	...Only part of containing lamina surfaces bonded; e.g., seaming, etc.	300	...With covering of discrete laminae with additional lamina
275.3	....With application of adhesive	301	....Opposed laminae are running length webs
275.5	...To polymerize or cure material in work	302	....Lamina is running length web
275.7	..With application of adhesive	303	....Feeding of discrete laminae from separate sources
276	..With mass application of nonadhesive fibers or particles between laminae	303.1	..Inserting lamina into preformed plastic body
277	..With printing	304.1	..Butt edge joining of laminae
278	..With coating of nonadherent face of lamina	304.2	...Joining of nonplanar elements; e.g., configured hollow objects, etc.
279	...Coating with fibers or particles	304.3	...With joiner member or reinforcement
280	...Subsequent to bonding	304.4	...Carpet or fabric joined
281	..Combined; e.g., with cleaning, etc.	304.5	...With preliminary edge treatment or joining of edges of irregular shape; e.g., tongue and groove, beveled, etc.
282	..Simultaneous heating and cooling		
283	..Adhesive applied as dry particles		
284	...Treating particle with liquid to render tacky		

304.6	...By heat	314	..Sequentially applying different liquids or liquefiable materials to adhering face of lamina
304.7	...Of carpet or fabric		
305	..By applying after assembly an adhesive, solvent or chemical activating agent	315	...At least two liquids rubber and/or resin-containing
306.3	..By pressure or drying only, without tack; e.g., for easy delamination, etc.	316	...First applied liquid acid-containing
306.6	..Using single, preformed, diverse bonding lamina between other laminae	317	...Protein-containing liquid
306.9	...Including curing of nonfully polymerized material	318	...Carbohydrate-containing liquid
307.1	..By curing of nonfully polymerized self-sustaining lamina	319	...One liquid containing inorganic material only
307.3	...With coating or impregnating a face to be adhered	320	..Heating of dry adhesive on lamina prior to assembly contact
307.4	....Indefinite plurality of similar impregnated thin sheets; e.g., "decorative laminate" type, etc.	321	..Heating adhesive by contacting with heated lamina
307.5	....Coating solidified; e.g., by drying, etc., before assembly	322	..Heating lamina prior to assembly or adhesive applying
307.7	...Including uncurable lamina; e.g., metal, paper, etc.	323	..Interposing subsequently removed flexible element between lamina and a pressure applying surface
308.2	..By tackifying substance of self-sustaining lamina to be bonded; e.g., autogenous bonding, etc.	324	..Running or continuous webs of indefinite length
308.4	..Only part of contacting laminae surfaces bonded; e.g., seam, seal, etc.	324.4	..By tackifying a single lamina of intermediate laminate
308.6	...With treating agent application to a surface	325	..Particular adhesive
308.8	....Plural agents applied sequentially or to different laminae or using water as sole agent	326	...Organic containing
309.3	....Diverse laminae	327	....Synthetic resin containing
309.6	...Involving defined plastic flow or melting of entire lamina	328	....With carbohydrate and/or protein or derivatives thereof
309.9	...With heating of lamina prior to assembly	329	.....Silicon resin
310	..Of laminae having a different coating on at least two mating surfaces	330	.....Epoxy resin
311	..Sequential heating and cooling during pressure applying	330.9	.....Nitrogenous resin
312	..Sequential different pressure applying	331.1	.....With polymerization completion, i.e., curing, after assembly
313	..Interposing intermediate laminate between non-coated laminae	331.2	.....N only in unlinked side-chain or side-ring
		331.3	.....Derived from aldehyde or ketone
		331.4	.....Iso- or thio-cyanate moiety reacted in curing
		331.5	.....N in a ring
		331.6	.....N only in unlinked side-chain or side-ring; e.g., polyvinyl, pyridine, etc.
		331.7	.....Derived from iso- or thio-cyanate; e.g., polyurethane, etc.
		331.8	.....Derived from acyclic compound containing N

331.9	.....And aldehyde, ketone, or carbocyclic moiety-containing compound	716	...With poking during delaminating (e.g., jabbing, etc.)
332	.....Polycarboxylic acid ester resin	717	...Piercing layer during delaminating (e.g., cutting, etc.)
333	.....Halogenated hydrocarbon resin	718	..With shearing during delaminating
334	.....Hydrocarbon resin	719	..Delaminating from release surface
335	.....Phenolic-aldehyde resin	345.1	DIFFERENTIAL FLUID ETCHING APPARATUS
336	...Protein and/or carbohydrate containing and/or derivatives thereof	345.11	..For liquid etchant
337	...Bituminous containing	345.12	..With mechanical polishing (i.e., CMP-chemical mechanical polishing)
338	...Natural rubber containing	345.13	...With measuring, sensing, detection or process control means
701	..Delaminating, per se; i.e., separating at bonding face	345.14	...With wafer retaining ring
702	..Delaminating process responsive to feed or shape at delamination	345.15	..With measuring, sensing, detection or process control means
703	..Using solvent during delaminating (e.g., water dissolving adhesive at bonding face during delamination, etc.)	345.16	...With endpoint detection means
704	...Using specified organic delamination solvent	345.17	...Liquid etchant spray means
705	..Using vibration during delaminating	345.18	..With means to supply, remove, or recycle liquid etchant outside of etching tank or chamber (e.g., supply tanks or pipe network)
706	..Using direct fluid current against work during delaminating	345.19	..With mechanical mask or shield or shutter for shielding workpiece
707	..Using vacuum directly against work during delaminating	345.2	..Running length workpiece (e.g., etching indeterminate length strip)
708	...Using air blast directly against work during delaminating	345.21	..Liquid etchant spray type
709	..Changing dimension during delaminating (e.g., crushing, expanding, warping, etc.)	345.22	..With plural etching zones for a single discrete workpiece in apparatus
710	...Using shrinking or swelling agent during delaminating	345.23	..With specified workpiece support
711	..Temperature change for delamination (e.g., heating during delaminating, etc.)	345.24	..With measuring, sensing, detection or process control means
712	...Electromagnetic radiation applied to work for delamination (e.g., microwave, UV, IR, etc.)	345.25	..For endpoint detection
713	...Sintering for delamination	345.26	..For detection or control of pressure or flow of etchant gas
714	..Gripping and pulling work apart during delaminating	345.27	..For temperature detection or control
715	..Using roller for delamination (e.g., roller pairs operating at differing speeds or directions, etc.)	345.28	..For detection or control of electrical parameter (e.g., current, voltage, resistance, power, etc.)

- 345.29 .With etchant gas supply or exhaust structure located outside of etching chamber (e.g., supply tank, pipe network, exhaust pump, particle filter)
- 345.3 .With mechanical mask, shield or shutter for shielding workpiece
- 345.31 .With means for passing discrete workpiece through plural chambers (e.g., loadlock)
- 345.32 ..With robot arm connected by doors to plural other chambers (i.e., cluster tool)
- 345.33 .With gas inlet structure (e.g., inlet nozzle, gas distributor)
- 345.34 ..Showerhead-type
- 345.35 .With plasma generation means remote from processing chamber
- 345.36 ..By microwave
- 345.37 .With heating or cooling means for apparatus part other than workpiece support
- 345.38 .With multiple gas energizing means associated with one workpiece etching
- 345.39 .With means to generate and to direct a reactive ion etchant beam at a workpiece
- 345.4 .With means to direct electron beam or ion beam to a gas to energize the gas
- 345.41 .With microwave gas energizing means
- 345.42 ..With magnetic field generating means for control of the etchant gas
- 345.43 .Having glow discharge electrode gas energizing means
- 345.44 ..Electrically coupled to a power supply or matching circuit
- 345.45 ..Including more than two electrodes (e.g., triode reactors)
- 345.46 ..With magnetic field generating means for control of the etchant gas
- 345.47 ..Parallel plate electrodes
- 345.48 .With radio frequency (rf) antenna or inductive coil gas energizing means
- 345.49 ..With magnetic field generating means for control of the etchant gas
- 345.5 .With means for photochemical energization of a gas using ultraviolet, visible, or x-ray radiation
- 345.51 .With workpiece support
- 345.52 ..With means to heat the workpiece support
- 345.53 ..With means to cool the workpiece support
- 345.54 ..With means to move the workpiece inside the etching chamber
- 345.55 ...With means to cause rotary movement of the workpiece
- 346 **PLASTER BOARD MAKING APPARATUS**
- 347 .With surface deformation means
- 348 .With edge treatment means
- 349 **SURFACE BONDING MEANS AND/OR ASSEMBLY MEANS THEREFOR**
- 350 .Automatic and/or material-triggered control
- 351 ..Plural interrelated sensing means
- 352 ..To stop operation of complete machine
- 353 ..Of cutter
- 354 ...And separate means feeding cut pieces in sequence and applying to serially conveyed articles
- 355 ...Responsive to feed of article to which cut piece is applied
- 356 ..Of application of fluent material to work
- 357 ...By presence or absence of work to which applied
- 358 ..Of application of bonding pressure
- 359 ..Of temperature and/or motion of heat exchange means
- 360 ..Means responsive to weight or dimension
- 361 ..Of feed or motion of indefinite length work or transfer carrying tape
- 362 ..Of feed of articles to assembly station
- 363 ...Responsive to presence, absence, or condition of article to which applied
- 364Sheet feeding
- 365 .With safety interlocks
- 366 .With timing means
- 367 .With electrical controls

368	..For starting or stopping machine operation	390	.With coating means for work (other than laminating adhesive)
378	..With testing, measuring, and/or indicating means	391	.Work-secured and/or work-guided
379	..With inspecting and/or illuminating means	392	..Pipe wrapping type
379.6	..With means applying wave energy or electrical energy directly to work	393	.With braiding or weaving means
379.7	..To an electrically conductive lamina or component incorporated into the work	394.1	.Tire body building type
379.8	..With means to assemble laminae or position them relative to each other	395	..Means delaminating protective liner from lamina
379.9	...With plural diverse heating means	396	..Multiple discrete building forms and/or means advancing a building form through multiple work stations
380.1	...With tube-forming means	397	..Means building tires from strands or narrow tapes
380.2	...With electrode or coil member contacting work	398	..Means operating on the bead portion of the tire
380.3	....Electrodes on opposing sides of smallest dimension of work	399	...Means trimming fabric adjacent bead
380.4	.....With means moving one electrode toward the other electrode	400	...Means folding carcass fabric about a bead
380.5	.....With means to change the configuration of a lamina, e.g., folding, deforming, etc.	401	....Inflatable bag type
380.6	..With electrode having a mechanical function; e.g., pressing, etc.	402	....Disc or roller type
380.7	..Cutting, tearing, or breaking function	403	...Means placing bead ring on tire carcass
380.8	..Shaping or deforming function; e.g., patterned electrode, etc.	404	..Solid tire building type
380.9	..With radiant heater not touching work	405.1	..With fabric or tread stock feeding means
381	.Chamber enclosing work during bonding and/or assembly	406	...Means selecting stock from multiple source
382	..Evacuated or fluid pressure chamber	406.2	...For transporting discrete ring-shaped lamina
383	..Means encasing separate nonadhered part between adhered laminae	406.4	..With cutting, heating, laminating, or shaping means upstream of assembling means
384	..With printing	406.6	....Stretching means
385	..Simultaneous with bonding	407	..Centerless core or off-center support of annular tire structure
386	...Printing member also bonds	408	..Relative traversing motion between rotating tire supporting structure and pressing or bending means
387	..Printing	409	...Compound traversing motion
388	..After bonding	410	....With changing direction of force of pressing or bending means with respect to the axis of rotation of the supporting structure (e.g., curved drum)
389	..Including cleaning, conditioning or renewing means for apparatus	411	....Pressing means manually advanced toward the axis or rotation of the supporting structure

412	...Resilient or deformable surface pressing or bending element	437	...With means forming web by calendering
413	...Plural sequential pressing or bending elements	438	...With means folding web longitudinally
414	..Building drums, per se	439	...Transversely of web
415	...Axially or widthwise adjustable or collapsible	440	...Reciprocating feed means for strand
416	...Resilient and/or inflatable core	441	..Means gathering strands or filaments only into indefinite length
417	...Collapsible	441.5	.Envelope sealing type
418	....Rack and pinion type actuator	442	..With stamp applying means
419	....Resilient spring actuated	442.1	..With bending or folding means
420	....Toggle linkage lever type actuator	442.2	..With feeding means
421	..Stitching elements, per se	442.3	...Reciprocating feed
421.2	..Tire chamber and means regulating interior casing pressure	442.4	..Work traversing type
421.4	..With means for folding lamina while on drum	443	.With bending, folding, winding, or wrapping means
421.6	..Tire support with pressing or heating means	444	..Pneumatic blast to bend work
421.8	..Ring-shaped lamina stretching means	445	..About preformed sphere
422	..Tire bead ring winding type	446	..Rotating mandrel or article
423	..Means assembling part within hole or aperture (telescoping)	447	...Means registering sheet with selected peripheral portion of rotating article
424	..Electric lamp or space discharge device envelope basing type	448	...Translating axis of rotation
425	..Longitudinally progressive helical winding means	449	....Rolling mandrel or article
426	..With means cutting wound body to form sheet or web	450	....Winding flexible web
427	...Strands secured to web	451	....Article rolls across sheet stack
428	..Forming and/or covering indefinite length article	452	.....By gravity
429	...Rotating core or mandrel	453	.....Belt feed
430	...By winding plural strands or webs	454	.....By gravity
431	....About circular section core or mandrel	455	.....Belt feed
432	....Plural discrete axially spaced winding means	456	....Axis translates in circular path
433	..Indefinite or running length flexible strand, rod, tube, or filament uniting	457	...Centerless core or mandrel
434	..Means applying transverse spacers to spaced parallel strands	458	...Means serially feeding mandrel or article to applying station
435	..Pile fabric making type	459	..For an indefinite or running length flexible web
436	..To indefinite or running length web	460	...Tire bead or endless belt covering type
		461	...Longitudinal bending
		462	...Corrugating
		463	...Plural sequential bending means
		464	...And means feeding discrete articles to web
		465	...Single web only
		466	....Tube-making type
		467	...And means uniting noncoextensive plural webs
		468	...Means bending to configuration of part to which secured

469	...Transverse withdrawal of shaping or shape-retaining elements	500	.With casting, plastic molding, or extruding means
470	...And means applying separate web to shaped web	501	..With means generating at least one self-sustaining web (e.g., film casting)
471	....While still on shape-retaining means	502	.Means joining flexible indefinite length or endless bodies end-to-end (e.g., film, tape, belt splicers)
472	.....Fluted roll-shape retainer	503	..Tube splicing type (e.g., inner tube)
473	.....Separate means holding web in flutes	504	..Moving web (flying splice or with web accumulating means)
474	...Pleating means	505	..Means applying adhesive tape to joint only
475	..To configuration of part to which secured	506	...With severing means for tape before application
476	...Plural discrete bending means, each acting on separate article	507	..Longitudinally moving web support moving web ends into association
477.1	...Plural, distinct, sequential bending or folding means	508	...With scraper or adhesive applying means
478	....Intersecting bend axis	509	..With scraper or adhesive applying means
479	....Means bending sheet over edges of planar part	510	.With cutting, punching, piercing, severing, or tearing
480	.....With separate member pressing bent sheet corner at axis intersection	511	..Plural severing means each acting on a different work piece
481	....Arcuate bending	512	..Severing followed by associating with part from same source
482	....Having intersecting axes of force	513	..Means making hole or aperture in part to be laminated
483	...Flexible sheet across through passage for work	514	...And securing separate part over hole or aperture
484	....Sheet applied to passage	515	..Cutting element simultaneously bonds (e.g., cut seaming)
485	....With additional separate smoothing means	516	..Means feeding plural workpieces to be joined
486	..Member travels along configured part	517	...Severing before bonding or assembling of parts
487	...Flexible bristle wiping surface	518	....Severing means or member secured thereto also bonds
488	....Bodily deformable pad type	519	....Delivering cut part to indefinite or running length web
489	....Opposed movable biased members	520	....Cutter also delivers cut piece
490	....Positively actuated to intermittently defeat bias	521	....Delivering cut part in sequence to serially conveyed articles
491	.....Cam defeats bias	522	...Cutting indefinite length web after assembly with discrete article
492	...By swinging folding member approaching part		
493	...Deformable pad		
494	.With stretching or tensioning means		
495	..By driven web feeding means		
496	...To transversely stretch or tension the web		
497	.With gas, vapor, or flame contact means for work		
498	.With work cooling means		
499	.With separate (nonpress) heating means for work		

523	..Work traversing type	552	....Means bringing articles into association with web
524	...With liquid applying means	553	....Discontinuous, spaced area, and/or patterned pressing
525	....Slitting and severing	554	....Webs of different width, longitudinally aligned
526	....Cutting after bonding	555	....Progressive continuous bonding press (e.g., roll couples)
527	...Fixed cutter	556	...Means bringing discrete articles into assembled relationship
528	..Stamp from multiple row sheet type	557	....Plural lines and/or separate means assembling separate sandwiches
529	..With means projecting fluid against work	558	....All articles from single source only
530	..Cutter actuated by or secured to bonding element	559	....At least three articles
531	...With liquid applicator	560	....At least two applied side by side to common base
532	....Common actuator for bonding and liquid applying means	561	.....Plural ranks
533	.....Liquid applied to web before cutting	562	.....Sheet form common base
534	.....Roller applicator	563	.....Stacked serially
535	..With means shaping, scarifying, or cleaning joining surface only	564	...Magazine stack directly contacting separate work
536	.Combined and/or convertible	565	....Magazine movable to work
537	..With bond interfering means (slip sheet, etc.)	566	...Means simultaneously conveying plural articles from a single source and serially presenting them to an assembly station
538	..With work feeding or handling means	567	....Turret or rotary drum-type conveyer
539	..For plural parts or plural areas of single part	568	.....For flexible sheets
540	...Lamina transferred to base from adhered flexible web or sheet type carrier	569	...Means separating articles from bulk source
541	....Discrete spaced laminae on adhered carrier	570	....Stacked sheet source
542	....Means serially presenting discrete base articles or separate portions of a single article	571	.....Rotary or pivoted picker
543	...Indefinite or running length work	572	.....Translating picker
544	....Means joining indefinite length work edge to edge	573	..Magazine stack directly contacting work
545	....Means applying adhesively secured tape to seam	574	..Work traversing type and/or means applying work to wall or static structure
546	....Means applying fluid adhesive to work edge	575	...With liquid applying means
547	....Means applying fluent adhesive or adhesive activator material between layers	576	...Grip or clamp for web end
548	.....At spaced areas	577	...Implement carried web supply
549	.....Plural indefinite length or running length workpieces	578	..With liquid adhesive or adhesive activator applying means
550	.....Fluid applied to nip between indefinite length webs	579	.With handle or handgrip
551	.....Fluid applied to plural workpieces	580	.Presses or press platen structures, per se
		580.1	..With sonic or ultrasonic means

580.2	...Specified structure of sonic or ultrasonic work contacting surface	906	OFF-DRUM MANUFACTURE OF TIRE FABRIC OR PLY
581	..Relieved or configured pressing face	907	.Including assembly of bias-cut fabric
582	...Rotary	908	LAMINATING SHEET TO ENTIRE EDGE OF BLOCK AND BOTH ADJACENT OPPOSITE SURFACES; E.G., BOOKBINDING, ETC.
583.1	..Heated		
583.2	...Impulse heating		
583.3	...With significantly flexible platen	909	APPARATUS FOR APPLYING NEW TREAD TO USED TIRE CASING; E.G., RETREADING, RECAPPING, ETC.
583.4	...Nonuniform heating		
583.5	...With endless belt	910	BONDING TIRE CORD AND ELASTOMER: IMPROVED ADHESIVE SYSTEM
583.6	...C-frame type		
583.7	...Electric heating	912	DIFFERENTIAL ETCHING APPARATUS HAVING A VERTICAL TUBE REACTOR
583.8	...Hinged platen		
583.9	...Electric heating	913	DIFFERENTIAL ETCHING APPARATUS HAVING A HORIZONTAL TUBE REACTOR
583.91	...Plural adjustable pressure points	914	DIFFERENTIAL ETCHING APPARATUS INCLUDING PARTICULAR MATERIALS OF CONSTRUCTION
750	DELAMINATING MEANS		
751	.Delaminating means responsive to feed or shape at delamination	915	DIFFERENTIAL ETCHING APPARATUS INCLUDING FOCUS RING SURROUNDING A WAFER FOR PLASMA APPARATUS
752	.Heating or cooling delaminating means (e.g., melting means, freezing means, etc.)		
753	..Electromagnetic radiation delaminating means (e.g., microwave, UV, IR, etc.)	916	DIFFERENTIAL ETCHING APPARATUS INCLUDING CHAMBER CLEANING MEANS OR SHIELD FOR PREVENTING DEPOSITS
754	.Vibrating delaminating means		
755	.Differential fluid pressure delaminating means	917	DIFFERENTIAL ETCHING APPARATUS HAVING A BARREL REACTOR
756	..Spraying delaminating means (e.g., atomizer, etc.)	918	DELAMINATING PROCESSES ADAPTED FOR SPECIFIED PRODUCT (E.G., DELAMINATING MEDICAL SPECIMEN SLIDE, ETC.)
757	...Air blasting delaminating means)		
758	..Vacuum delaminating means (e.g., vacuum chamber, etc.)	919	.Delaminating in preparation for post processing recycling step
759	.Delaminating roller means	920	..Textile delaminating in preparation for recycling (e.g. carpet, etc.)
760	..Roller pair delaminating means		
761	.Severing delaminating means (e.g., chisel, etc.)	921	..Delaminating container component in preparation for recycling (e.g., glass bottle, plastic bottle, etc.)
762	..Cutting delaminating means		
763	...Shearing delaminating means		
764	.Delaminating bending means	922	..Specified electronic component delaminating in preparation for recycling
765	..Poking delaminating means		
766	..Corner edge bending delaminating means	923	...Delaminating wire or optical fiber laminate (e.g., coaxial cable, optical cable, etc.)
767	.Means for delaminating from release surface		
598	MISCELLANEOUS	924	...Delaminating display screen (e.g., cathode-ray, LCD screen, etc.)
		925	...Delaminating display screen using sintering for delamination
	<u>CROSS-REFERENCE ART COLLECTIONS</u>		

- 926 ..Delaminating recording media (e.g., DVD, CD, HD, flash memory, etc.) FOR 101 **DELAMINATING APPARATUS (156/584)**
- 927 ..Delaminating vehicle component (e.g., brake pad, etc.)
- 928 ...Delaminating tire (e.g., tread from carcass, etc.)
- 929 .Delaminating component from building (e.g., wall paper, shingle, etc.)
- 930 .Semiconductive product delaminating (e.g., delaminating semiconductive wafer from underlayer, etc.)
- 931 ..Peeling away backing
- 932 ...With poking during delaminating (e.g., jabbing release sheet backing to remove wafer, etc.)
- 934 **APPARATUS HAVING DELAMINATING MEANS ADAPTED FOR DELAMINATING A SPECIFIED ARTICLE**
- 935 .Delaminating means in preparation for post consumer recycling
- 936 ..Means for delaminating container component in preparation for recycling (e.g., glass bottle, plastic bottle, etc.)
- 937 ..Means for delaminating specified electronic component in preparation for recycling
- 938 ...Means for delaminating record media for recycling (e.g., CD, DVD, HD, flash memory, etc.)
- 939 ..Means for delaminating vehicle component (e.g., tread from carcass, brake pad, etc.)
- 940 ..Means adapted for delaminating component from building (e.g., wall paper, shingle, etc.)
- 941 .Means for delaminating semiconductive product
- 942 ..With reorientation means
- 943 ..With poking delaminating means (e.g., jabbing means, etc.)
- DIGESTS**
- DIG 1 **LABELLING FLAT, ESSENTIALLY RIGID SURFACES (1/100)**
- DIG 2 .Affixing labels to one flat surface of articles; e.g., of packages, of flat bands (1/02)
- DIG 3 .Affixing labels; e.g., wrap-around labels, to two or more flat surfaces of a polyhedral article (1/04)
- DIG 4 ..Of a box; e.g., cigarette box (1/06)
- DIG 5 **LABELLING OTHER THAN FLAT SURFACES (3/00)**
- DIG 6 .Affixing labels to elongated objects; e.g., wires, cables, bars, tubes, (3/02)
- DIG 7 ..Applying bands or labels to cigars or cigarettes (3/04)
- DIG 8 .Affixing labels to short rigid containers (3/06)
- DIG 9 ..To container bodies (3/08)
- DIG 10 ...The container being positioned for labelling with its centerline horizontal (3/10)
- DIG 11By rolling the labels onto cylindrical containers; e.g., bottles (3/12)
- DIG 12 ...The container being positioned for labelling with its centerline vertical (3/14)
- DIG 13By rolling the labels onto cylindrical containers; e.g., bottles (3/16)
- DIG 14 ..To container necks (3/18)
- DIG 15 ..To bottle closures (3/20)
- DIG 16 ...Affixing metal foil coverings (3/22)
- DIG 17 ...Affixing labels indicating original state of bottle snap or screw closure (3/24)
- DIG 18 .Affixing labels to nonrigid containers; e.g., bottles made of polyethylene, boxes to be inflated by internal air pressure prior to labelling (3/26)

FOREIGN ART COLLECTIONSFOR 000 **CLASS-RELATED FOREIGN DOCUMENTS METHODS (156/1)**

FOR 100 .Delaminating, per se (156/344)

- DIG 19 **LABELLING FABRICS OR COMPARABLE MATERIALS OR ARTICLES WITH DEFORMABLE SURFACE, E.G., PAPER, FABRIC ROLLS, STOCKINGS, SHOES (5/00)**
- DIG 20 .Using adhesives (5/02)
- DIG 21 ..Thermo-activatable adhesives (5/04)
- DIG 22 .Using staples (5/06)
- DIG 23 **AFFIXING TAGS (7/00)**
- DIG 24 **DETAILS OF LABELLING MACHINES OR APPARATUS (9/00)**
- DIG 25 .Devices for moving articles, e.g., containers, past labelling station (9/02)
- DIG 26 ..Having means for rotating the articles (9/04)
- DIG 27 .Devices for presenting articles in predetermined attitude or position at labelling station (9/06)
- DIG 28 .Label feeding (9/08)
- DIG 29 ..Label magazines (9/10)
- DIG 30 ..Removing separate labels from stacks (9/12)
- DIG 31 ...By vacuum (9/14)
- DIG 32 ...By wetting devices (9/16)
- DIG 33 ..Label feeding from strips; e.g., from rolls (9/18)
- DIG 34 .Gluing the labels or articles (9/20)
- DIG 35 ..By wetting (9/22)
- DIG 36 ..By heat (9/24)
- DIG 37 .Devices for applying labels (9/26)
- DIG 38 ..Air-blast devices (9/28)
- DIG 39 ..Rollers (9/30)
- DIG 40 ...Cooperating rollers between which articles and labels are fed (9/32)
- DIG 41 ..Flexible bands (9/34)
- DIG 42 ..Wipers; pressers (9/36)
- DIG 43 .Label cooling or drying (9/38)
- DIG 44 .Controls; safety devices (9/40)
- DIG 45 ..Label feed control (9/42)
- DIG 46 ...By special means responsive to marks on labels or articles (9/44)
- DIG 47 .Applying date marks, code marks, or the like to the label during labelling (9/46)
- DIG 48 **MANUALLY CONTROLLED OR MANUALLY OPERABLE LABEL DISPENSERS; E.G., MODIFIED FOR THE APPLICATION OF LABELS TO ARTICLES (11/00)**
- DIG 49 .Having printing equipment (11/02)
- DIG 50 .Having means for moistening the labels (11/04)
- DIG 51 .Having means for heating thermoactivatable labels (11/06)