

376	PROCESSES OF MANUFACTURING FIBERS, FILAMENTS, OR PREFORMS	405	..Utilizing multiple crucibles or multiple feed streams of molten glass
377	..With measuring, controlling, sensing, programming, timing, indicating, or testing	406	..Joining or bonding optical fibers, waveguides, or preforms (e.g., coupling, etc.)
378	..Optical property	407	...End to end (i.e., butt end joining)
379	..Fluid pressure	408	...Side to side
380	..Molten material level	409	...Having plural adjacent fibers or rods sheathed (i.e., bundle) in tube or enclosure
381	..Winder or puller movement	410	...By fusing preformed fibers without attenuating stock material
382	..Diameter or coating thickness	411	...With stretching or drawing
384	..Temperature	412	...Rod placed inside of tube
385	..Process of manufacturing optical fibers, waveguides, or preforms thereof	413	..With step of vapor deposition
386	..Planar waveguides	414	...Forming optical fiber or fiber preform by soot buildup (i.e., vapor axial deposition, VAD)
387	..Forming lens integral with optical fiber	415	...Forming glass layers with graded or radially varying refractive index
388	..Nonoxygen halide glass (e.g., metal halide, etc.)	416	...Consolidation in situ (e.g., sintering, etc.)
389	..Nonoxygen chalcogenide glass containing	417	..Inside of tube or hollow form by soot buildup
390	..Scandium (Sc), yttrium (Y), or rare earth doped core or preform (i.e., atomic numbers 21, 39, 57-72)	418	...Elongated material feed means within tube (e.g., reactant feed means place inside of tube, etc.)
391	..Plasma utilized	419	...With step of collapsing tube
392	..Laser utilized	420	...Maintaining isotropic conditions inside of tube
393	..Hollow optical fibers or waveguides	421	...Outside of tube or rod by soot buildup
394	..Ion implantation	422	...With dehydration (e.g., OH removal, etc.)
395	..Sol-gel or liquid phase route utilized	423	...Inorganic carbon, metal oxide, or inorganic nitrogen containing material deposited (e.g., elemental carbon, carbides, nitrides, etc.)
396	...Sonic or ultrasonic energy utilized (e.g., homogenizing, dispersing, etc.)	424	..Inert, nonoxidizing, or reducing environment
397	..Fluorine doping	425	..Electromagnetic, magnetic, wave, or particulate energy utilized
398	...Germanium or boron containing	426	..Drying, dehydration, OH removal or prevention
399	..Incorporating dopant into porous body	427	..Consolidating preform (e.g., sintering, etc.)
400	..Ion exchange utilized		
401	..Extruding		
402	..Producing bent, crimped, twisted, textured, or curled optical fibers or waveguides		
403	..Producing noncircular optical fibers or waveguides (e.g., particular cross section, etc.)		
404	..With step of casting or forming nonfiber workpiece (e.g., molding liquid preform, shaping molten glass against a forming surface, etc.)		

428	...Collapsing tube	454	.Formation of fiber or preform utilizing fluid blast (e.g., from molten glass, etc.)
429	..With etching or leaching		
430	..With significant coating step		
431	...Free metal or metal alloy containing coating	455	..During slinging or rotary-centrifugal fiber distribution
432	...Synthetic or natural resin containing coating	456	...Depositing molten glass on periphery of rotating fiberizing means (e.g., disc, rotor, wheel, etc.)
433	..With cutting or severing		
434	..With quench cooling (e.g., forced air or cryogenic immersion, etc.)	457	...Specified composition of slinger or rotary-centrifugal fiber distributor
435	..With fiber stretching, drawing, or pulling (e.g., from rod, etc.)	458	...Fluid blast guide, baffle, or deflector
436	.Plasma utilized	459	...Centrifuge with fiberizing holes
437	.Producing noncircular fibers (e.g., particular cross section, flat, elliptical, etc.)	460	....Adjacent combustion chamber, burner, or blower utilized
438	.Producing crimped, twisted, or curled fibers (e.g., textured, etc.)	461	....Having at least two concentric burners or blowers
439	.Producing hollow fibers or tubular preforms	462	..Solid fibers comminuted by fluid blast
440	.Sol-gel route or ion exchange utilized	463	..Specified nozzle opening or configuration (e.g., opening size, cross section, etc.)
441	.Electromagnetic, magnetic, wave, or particulate energy utilized	464	..Fluid discharge skirt or shield utilized
442	.Composite fiber matrix (e.g., carbon or metal fiber with glass matrix or vice versa, etc.)	465	..Attenuation by fluid blast contacting glass
443	.With coating (e.g., lubricant, sizing, etc.)	466	...Plural fluid blasts or jets contacting single glass stream
444	..Glass (i.e., nonoptical fiber, metal oxide)	467	....Fluid blast penetrated transversely by jet (e.g., toration, etc.)
445	..Free metal or alloy containing	468	..Flame or combustible fluid blast utilized
446	...Vapor deposition of free metal or free metal containing material	469	.By slinging or rotary-centrifugal fiber distribution (i.e., without fluid blast)
447	..Synthetic resin, natural resin, or asphalt coating	470	..Centrifuge with fiberizing holes
448	...Organic silicon containing (e.g., coupling agent, etc.)	471	.With bushing flood prevention, removal, or breakout prevention
449	...Asphalt	472	.With chemical etching or leaching
450	...Thermosetting or thermoplastic resin	473	.With removal of coating (e.g., desizing, oxidizing coating, etc.)
451	...Nitrogen or phenol containing		
452	..With severing	474	.With purifying or homogenizing molten glass (e.g., removing bubbles, etc.)
453	..With advancing, gathering, or winding continuous fiber or filament	475	.With fiber drawing or pulling (e.g., attenuating, etc.)

476	..By modifying fluid pressure (e.g., vacuum, reduced or superatmospheric pressure, etc.)	501	.With fiber splicing or coupling means (e.g., fusion splicing, end to end, side to side, etc.)
477	..Drawing fiber from rod	502	.With multiple crucible or multichamber system
478	..Fluid assisted attenuation or directing of fiber or filament	503	.With cleaning means
479	..Reeling or winding	504	.With crimping or curling means
480	..Cutting or severing	505	.With means to distribute fibers across collecting surface (e.g., blower, mechanical distribution means, reciprocating, oscillating, etc.)
481	..Cooling of molten glass at forming area (e.g., cooling fins, etc.)	506	.With assorting means
482	.With charging or pretreatment of batch material (e.g., gas heating, crushing, etc.)	507	.With means for heating newly formed filament, fiber, or preform
483	FIBER MAKING APPARATUS	508	..Having means to shape or modify
484	.With measuring, controlling, sensing, timing, inspecting, indicating, or testing means	509	..Electric or electromagnetic heating utilized (e.g., induction heat, etc.)
485	..By optical means or of optical property	510	.With means for cooling newly formed fiber, filament, or preform (e.g., nascent fiber, etc.)
486	..Winder or puller movement (e.g., drawing sensor, etc.)	511	..With cooling surfaces or fins
487	..Having fiber breakout detection, compensation, or prevention means	512	...Fluid cooling agent circulated
488	..Temperature	513	..Gas column (e.g., generally upward gas stream, etc.)
489	..Fluid pressure	514	..Liquid stream or spray
490	..Molten glass level (e.g., sensor, check valve, etc.)	515	.Specified composition of slinger or rotary-centrifugal fiber forming means
491	..Diameter or coating thickness	516	.Rotary-centrifugal fiber forming means (e.g., slinger, rotary disc, no fiberizing holes, etc.)
492	.With designated composition of dies, bushings, or nozzles	517	..Having fluid blast means for contacting glass
493	..Platinum group metal containing (i.e., ruthenium (Ru), rhodium (Rh), osmium (Os), iridium (Ir), palladium (Pd), platinum (Pt))	518	...With fluid blast guide, baffle, or deflector
494	.With means to form hollow fiber or preform	519	..Having means to pass cooling fluid through apparatus
495	.With specified bushing, tip, or feeder structure	520	..Depositing glass on periphery of rotating fiber forming means (e.g., disc, rotor, wheel, etc.)
496	..Tipless	521	.Centrifuge with fiberizing holes (e.g., rotor, etc.)
497	..Noncircular tip opening (e.g., elliptical, polygonal, etc.)	522	..Having adjacent combustion chamber, burner, or blower utilized
498	..With cooling means for bushing (e.g., orifice plate cooling, etc.)	523	...With at least two concentric blowers or burners
499	..With heating means for bushing		
500	.With means to align preform with drawing apparatus or form multifilament fibers (e.g., gathering shoe, etc.)		

524	.With fluid blast means	25.1	..Providing a gaseous layer
525	..Having specified nozzle opening size or nozzle cross section	25.2	...Sheet
526	..Having fluid discharge skirt or deflector	25.3	...Formed from molten glass
527	...Toration means utilized	25.4	...Reshaping
528	..Combustion or flame attenuation	26	..Coating of apparatus
529	..Having coating or treating means	27	..Repairing or cleaning of apparatus; or batch dust prevention or control
530	..Having gas feeding or withdrawal means	28	..With glass reclaiming, repairing or crack run interruption
531	..Having soot forming flame hydrolysis burner (e.g., flame oxidation, etc.)	29.1	..With program, time, or cyclic control
532	..With means for recovery, recirculation, or elimination of excess gas feed or coating material	29.11	..Electric computer or data processing system utilized
533	..With drawing means	29.12	..With measuring, sensing, inspecting, indicating, or testing
534	..Movable furnace or bushing (e.g., rotatable, reciprocating, etc.)	29.13	..Combustion chamber atmosphere
535	..Pulling wheels or rolls	29.14	..Diameter, width, or thickness of formed article
536	...With severing	29.15	..Fluid pressure
537	..From rod stock	29.16	..Batch or feed material
538	..With fluid assisting means	29.17	..Level or flow of molten material
539	..With winding means	29.18	..Magnetic, electromagnetic, or wave energy utilized (e.g., light, infrared, ultrasonic, etc.)
540	..With furnace charging means	29.19	..Temperature
17.1	PROCESSES	29.21	...Of molten glass
17.2	..Sol-gel or liquid phase route utilized	30.1	..With chemically reactive treatment of glass preform
17.3	..With shaping of particulate material and subsequent fusing of particles	30.11	..To enhance the ability to darken or change color in response to radiation exposure (e.g., photochromic)
17.4	..Including flame or gas contact	30.12	..To hydrate the glass
17.5	..Employing nonoxide additive	30.13	..With metal ion penetrating into glass (i.e., ion exchange)
17.6	..With treatment subsequent to fusing	30.14	...To temper or strengthen the glass
19	..Slag, utilization	31	..By etching or leaching
20	..Foaming of slag	32.1	..Operating under inert or reducing conditions
21.1	..Self-supporting particle making (e.g., bead, ball, granule, etc.)	32.2	..With bonding or sealing
21.2	..By molten glass comminuting	32.3	..With crystallization or photochromism or phase separation
21.3	..Spheroidizing or rounding of solid glass particles	32.4	..With coating
21.4	..Hollow or porous particle	32.5	..With forming glass from molten state, with treatment of molten glass, or with drawing of glass in softened state
21.5	..With mechanical shaping or subdividing		
22	..With pore forming in situ		
23	..With destruction or delamination of transitory attached or associated separate material		
24	..Utilizing parting or lubricating layer		

33.1	..Devitrifying glass or vitrifying crystalline glass (e.g., starting with or forming crystalline glass, etc.)	48	....And bonding to part in same mold cavity
		49	....Bonding to metal formed part
33.2	..Electromagnetic radiation or resulting heat utilized (e.g., gamma rays, X-rays, atomic particles UV, visible, IR, actinic, laser, microwave or radio wave, etc.)	50	...Forming and bonding glass sheet to metal part
		51	....Contacting metal with molten glass prior to forming sheet
		52	....Forming of plural glass sheets
33.3	..Halogen containing phase (e.g., crystalline or noncrystalline, etc.)	53	...Forming plural sheets or sheet-like streams from same source
33.4	..With coating	54	..With reshaping glass preform prior to assembly or subsequent to bonding
33.5	..With fusion bonding glass to a formed part (e.g., devitrified seals, glass to metal, etc.)	55	...Prior to assembly
33.6	...Glass applied in powdered form (i.e., frit)	56	..With severing, perforating, or breaking of glass
33.7	..Alumino-silicate containing phase	57	..Relative rotation of work and heating means
33.8	...Containing at least 3 percent lithium or lithium oxide (e.g., spodumene, eucryptite, petalite, etc.)	58	..Of parts having opposed facing areas out of contact (e.g., building blocks)
33.9	..Forming product or preform from molten glass	59.1	..Of glass to metal part
34	..With sealing off of gas evacuating opening	59.2	...Maintaining cavity in glass
35	..With vibrating, oscillating or agitating a preform	59.21	....Glass applied in powdered (i.e., frit) form
36	..Fusion bonding of glass to a formed part	59.22	....Named fusible bonding material employed
37	..Lens making	59.23	....With firing in vacuum, in inert atmosphere, or in pumped in gas
38	...With bonding of at least three formed parts	59.24	....Metal part outside of glass part
39	...With molding or reshaping of glass to assume shape of configured lens part during bonding	59.25	....Metal part inserted through hole or into groove in glass part
40	..Dielectric or joule effect heating of work	59.26	....Metal part forced through or into softened glass part (e.g., pinch sealing, etc.)
41	..With annealing or tempering of glass	59.27	....Metal part coaxial with and inside of glass part
42	..Bonding of subassembly with subsequent assembly and bonding (formed parts only)	59.28	....Relative movement or manipulation of parts during or immediately preceding fusion
43	..By or with coating at joint interface of a formed part prior to bonding	59.3	...More than two parts in overlaying series (noncavity)
44	..With embossing or corrugating	59.31	....Metal part inserted through hole or into groove in glass part
45	..With glass part forming from shapeless molten glass	59.32	....Metal part forced through or into softened glass part (e.g., pinch sealing, etc.)
46	...With blowing to shape glass		
47	...In mold cavity		

59.33	....Relative movement or manipulation of parts during or immediately preceding fusion	74	....With sequential blowing in charged cavity
59.34	....Metal part outside of glass part	75	....Through orifice in bottom wall of dispenser
59.35	....Metal part coaxial with and inside of glass part	76	....With additional diverse shaping step
59.4	..Metal part outside of glass part	77	...With additional forming step
59.5	...Glass applied in powdered (i.e., frit) form	78	....Diverse
59.6	..Metal part coaxial with and inside of glass part	79	.....Press and blow
59.7	..Metal part forced through or into softened glass part (e.g., pinch sealing, etc.)	80	.....In separate lines
60.1	..With coating	81	...By differential gas pressure
60.2	..Plural diverse layers	82	..Reshaping of hot parison in mold cavity to form hollow article
60.3	..Organic coating	83	..With positive cooling of product or molten glass at forming area
60.4	..Free metal coating	84	...By direct gaseous contact
60.5	..Oxide coating	85	...Of glass product
60.51	...From inorganic metal salt	86	..Drawing and simultaneously forming hollow stock from molten glass
60.52	...From organic metal compound	87	...With additional shaping, or severing, or perforating
60.53	...From inorganic oxides or hydroxides	88	...Vertically drawing upwardly while applying fluid internally of stock
60.6	..Free carbon containing coating	89	..Forming hollow stock by surface filming
60.7	..Inorganic metal salt containing coating	90	..Sheet
60.8	..Silicon containing coating	91	...With application of lateral tension to edge portion of moving sheet
61	..With wearing away of surface material (e.g., abrading or grinding)	92	...With smoothing subsequent to sheet formation
62	..Combined	93	...With reshaping or surface deformation
63	..Sequentially forming, reheating, and working	94	....Subsequent to formation
64	..Reshaping	95	...With annealing or tempering
65	..Forming and fire polishing or product	96	....Conveying at different rate than speed of formation
66	..Forming product or preform from molten glass	97	...With severing or perforating
67	..Converting sheet to hollow product or hollow product to sheet	98	...Simultaneously forming plural separate sheets
68	..Initial forming of hollow product or preform in mold cavity	99.1	...By or with pouring molten glass onto forming surface
69	...With annealing or tempering	99.2	....Utilizing molten metal forming surface
70	...With severing of formed product	99.3	....Maintaining molten metal temperature
71	...Spreading of molten glass by rotation	99.4	....Treating or removing impurities in molten metal or glass
72	...With charging of mold cavity	99.5	....Maintaining or adjusting sheet width or thickness
73	....By suction from upper surface of "pool"		

99.6	.....By nonmechanical means	133	.Severing of molten glass stream
100	....Onto moving roll or platen	134.1	.Fining or homogenizing molten glass
101	....Through bite of rolls		
102	..Reshaping or surface deformation of glass preform	134.2	..Subatmospheric pressure or vacuum utilized
103	..Utilizing heat shield or heat-sink	134.3	..Melt accelerator or color modifier utilized (e.g., fining agent, etc.)
104	..With annealing, tempering, or fire-polishing	134.4	..Oxygen enriched or nitrogen reduced gas utilized (i.e., modified air)
105	..With severing or perforating		
106	..Reshaping of planar sheet	134.5	..By injecting gas below surface of molten glass
107	..By sagging by gravity on mold surface	134.6	..Exhaust or top gas treated or recycled
108	..Reshaping of tubular preform, retaining cavity	134.7	..Rotating furnace or chamber utilized (e.g., crucible, etc.)
109	...During rotation		
110	...Utilizing vacuum or gas pressure	134.8	..By melting toxic or waste material
111	.Glass preform treating	134.9	..By eliminating gaseous inclusions (e.g., bubbles, etc.)
112	..With severing or perforating		
113	...By or with flame	135.1	..Glass conditioning channel section utilized
114	..Tempering	135.2	..By agitating
115	...Differential or localized	135.3	...Mechanical stirrers utilized
116	...Quenching in liquid bath	135.4	....Spiral
117	..Annealing	135.6	..Electric furnace utilized (e.g., induction or radiant heat from electric source, etc.)
118	...During conveying		
119	....Annealing by direct contact with gaseous heat exchange medium	135.7	...With submerged electrodes
120	..By flame	135.8	...Melting in separate zone of glass furnace
121	.Blending of separate molten glass streams	135.9	..By charging batch material
122	.Charging of molten glass into mold cavity	136.1	...Preheating batch material
123	..By gravity and severing subsequent to charging mold cavity	136.2	...Directing batch feed to float on molten glass surface
124	..By suction	136.3	...Burner directed towards batch or melt
125	.Gathering from upper surface of glass pool	136.4	..By cooling molten glass
126	.Discharging molten glass downwardly through orifice	137	.Cooling of molten glass
127	..With gob shaping or treating subsequent to discharge through orifice	138	ELECTRONIC ENVELOPE HEADER, TERMINAL, OR STEM MAKING MEANS
128	..With temperature modification at orifice	139	.With means inserting wire into glass
129	..Regulating or arresting of flow into or out of orifice	140	.By press mold
130	...With or by differential gas pressure	141	MELT DISINTEGRATOR AND SOLIDIFIER INCLUDING FLUID-MELT CONTACT MEANS
131	....With segregation prior to discharge	142	PARTICULATE BEAD OR BALL MAKING APPARATUS (E.G., PIN HEADING)
132	..With segregation prior to discharge	143	.By rolling means

144	MEANS SHAPING PREFORM FROM GRANULAR MATERIAL WITH FUSION MEANS	176 177 178	.Running length .Associated with article mold WITH AGITATOR FOR MOLTEN OR SOFT GLASS
145	PLURAL SOURCES FEEDING DIVERSE GLASS MELTS TO COMMON FORMING MEANS	179 180	.Delivery area associated ..Orifice associated
146	WITH MEANS TO FEED DIVERSE MATERIAL TO GLASS WORKING MEANS	181 182.1	COMBINED WITH FLUID SUPPORT FOR ARTICLE OR PREFORM
147	.Wire laminating means	182.2	.Gaseous support
148	..Sheet rolling means	182.3	.Means for treating or maintaining molten metal
149	...Sandwiching wire between opposed glass feeds	182.4	.Including preform width maintaining or stretching mean
150	...Roll coating with platen		
151	...Embedding means on roll	182.5	.Structure or composition of lining material or arrangement with shell
152	FUSION BONDING MEANS		
153	.Concentric body making (e.g., vacuum bottle making, etc.)	183	EXTRUSION DIE FORMER WITH UPSTREAM DISCHARGE ASSISTANT
154	.Glass to metal		
155	.Electronic device making	184	MEANS CHARGING CONTINUOUS FILM OR STRIP TO SEPARATE AND DISTINCT FORMER
156	.With article molding means		
157	MEANS PROVIDING SPECIAL ATMOSPHERE	185	.Into sheet rolling means
158	WITH SIGNAL, INDICATOR, INSPECTION MEANS, REGISTER, OR RECORDER	186	..With auxiliary heating or cooling means upstream of rolling means
159	WITH APPARATUS SAFETY MEANS	187	MEANS DRAWING TUBE OR ROD STOCK FROM BATH
160	CONTROL RESPONSIVE TO CONDITION SENSING MEANS	188	.Drawing vertically upward
161	.Glass working fluid or treating fluid control	189	..With product take-down means
162	.Temperature or heater control	190	..Means correlating air supply and bait movement
163	.Speed control	191	..With internal core or centering means
164	.Molten glass dispenser or gatherer control	192	..Air injection means extending through bath
165	WITH REJECT CATCHER, DEFLECTOR, OR HOLDER	193	MEANS DRAWING SHEET FROM BATH
166	PERFORATOR FOR ARTICLE OR PREFORM	194	.With annealing or tempering means
167	CONVERTIBLE TO DIFFERENT OPERATION	195	.Means dividing and recombining melt in draw chamber
168	WITH POSITIVE CLEANING MEANS FOR APPARATUS	196	.Vertically upwardly with means bending sheet to horizontal
169	WITH MEANS PROVIDING PARTING MATERIAL	197	..With moving endless drawing or flattening table
170	WITH APPARATUS LUBRICATING MEANS		
171	WITH REPAIR, ASSEMBLY, OR DISASSEMBLY MEANS FOR APPARATUS	198 199	..With coating roll contacting surface of supply bath .With width maintaining and/or lateral stretching means
172	.To replace worn or damaged parts	200	..Stretching means
173	.To provide alternately used parts	201	..Adjustable width maintaining means
174	WITH MECHANICAL CUTTER, SCORER, OR SCRIBER FOR ARTICLE OR PREFORM	202 203	.With pivoted lip tile .With auxiliary heating means for draw pot or drawing chamber
175	.With annealing means		

204	.With cooling means in drawing chamber	240	..Plural traveling mold carriers
205	.With radiant heat reflector in draw pot or drawing chamber	241	...With movable intermediate work transfer means
206	.With skimmer	242	..Reciprocating mold bottom
207	GOB CHARGING MEANS WITH SHAPE IMPARTING RECEPTACLE MEANS	243	PLURAL DISTINCT GLASSWORKING APPARATUS
208	.With glass treating means	244	.Spaced preform reheating means with reshaping means
209	.By fluid pressure discharge assistant means	245	.Sheet rolling means
210	.By suction gatherer mounted above supply	246	.Plural presses
211	..With means correlating movable pool-closure	247	..Plungers sequentially coacting with same mold
212	..Gatherer moving transversely from orbit of traveling mold (i.e., ram type)	248	..With relative rotation between plunger and mold during withdrawal
213	..Mold is gatherer	249	...Plungers oppositely disposed
214	...Parison mold	250	..Plungers oppositely disposed
215	....With plunger movable relative to mold	251	..Plungers orbiting above orbiting molds
216	.....With separate, distinct blow mold	252	.Fire-polishing means
217	.....Diverse molds traveling concentric orbits	253	ROLLING MEANS TO FORM SHEET OR STRIP
218	.....Finish mold pivotally mounted below parison's orbit	254	.With treating means
219	....With blow means	255	.With corrugating or surface imprinting means
220	....Sequentially used, distinct molds	256	.Roll coacting with planar platen
221	.By delivery from tank feeder	257	..Reciprocating platen
222	..To parallel mold tables	258	SHEET CASTING AND RECEIVING MEANS
223	..With press means	259	.With pot handling means
224	...With diverse molding	260	WITH MEANS ABOVE MOLD TO TAKE-OUT OR TRANSFER PRODUCT
225	..With gob guide means	261	BLOWING MEANS WITH BLOW MOLD
226	.With press means	262	.With treating means
227	DIVERSE DISTINCT GLASSWORKING APPARATUS	263	.Combined with vacuum means
228	.Marvering means with blow means	264	.Traveling mold
229	.Press means with blow means	265	..With means heating and/or cooling apparatus
230	..With reheating means therebetween	266	.Mold rotary about own axis
231	..Blank mold encaseable in finish mold	267	.With means heating and/or cooling apparatus
232	..With mold inverting means	268	PREFORM RESHAPING MEANS WITH TREATING MEANS
233	...With pneumatic charge compacting means	269	GLASSWORKING OR PREFORM BY OR WITH REHEATING MEANS (E.G., FLAME SEVERING)
234	....Settle-blow means	270	.Envelope tipping off type
235	...Neck mold inverting	271	.Heating means movable relative to work during shaping operation
236	....With parison mold inverting	272	.Work, workholder, or tool correlated burner control
237	..Diverse molds traveling concentric orbits	273	.Planar sheet preform
238	...With diverse motion of mold	274	.With spaced preheating means
239	...With movable work transfer means between orbits	275	.Mechanical means to reshape preform

276	..Tubular type preform	312	..Mold orbiting about horizontal axis
277	...By resizing mandrel		
278	..Means supporting and orbiting preform	313	..Vertically segmented orbiting mold
279	...Preform supported horizontally	314	.Plural motors coaxial with plunger
280	...Preform supported vertically	315	.With core drawing means
281	...By bending means	316	.With means to rotate plunger during withdrawal
282	..By internal forming means		
283	..By stretching means	317	.Means reciprocating or oscillating female mold member
284	.Fire-polishing means		
285	.To reshape preform by flame pressure or gravity	318	.With means varying plunger pressure during pressing
286	PREFORM RESHAPING MEANS	319	.With means for heating or cooling apparatus
287	.Sheet bending mold		
288	..With heat shield or heat sink	320	.Selectively operated plural plungers
289	..Including auxiliary movable sheet support or movable sheet guide means	321	.Plunger penetrating superimposed mold table
		322	.With means to adjust plunger stroke
290	..Movable mold section		
291	..Having movable section	323	PRODUCT OR PARISON CENTERING MEANS, OR MOLD AND/OR CORE ALIGNING MEANS
292	.Cylindrical preform		
293	..By threading means	324	MOLTEN GLASS DISPENSING MEANS (E.G., FEEDER OR LADLE)
294	..By expansible mandrel		
295	..By crimping means	325	.Discharge orifice below melt level
296	..By internal and external forming means	326	..With auxiliary heating or cooling means
297	...Both rotary driven	327	...At orifice
298	..Rotary internal, stationary external	328	..Plural plunger-type discharge assistants or discharge orifices
299	..By flaring means	329	..By differential gas pressure
300	MEANS APPLYING PNEUMATIC PRESSURE INSIDE OF DISCRETE CHARGE (I.E., BLOW MEANS)	330	..By reciprocating plunger-type discharge assistant
301	.With selective control means	331	...With diverse motion
302	ARTICLE FORMING MEANS UTILIZING MOLD MOTION (E.G., CENTRIFUGAL CASTING)	332	..With severing means
303	GOB SHAPING OR TREATING MEANS DOWNSTREAM OF GOB SEVERING MEANS	333	.Discharge lip with discharge assistant
304	WITH GOB HANDLING MEANS	334	WITH MOLTEN GLASS CHARGE CUTTING OR SCRAPING MEANS
305	PRESS MOLDING MACHINE	335	GLASS FURNACE WITH FURNACE CHARGING MEANS
306	.With product treating means		
307	.Mold ring or baffle laterally and movably supported	336	GATHERING OR DRAWING POOL TYPE FURNACE
308	.Plunger coacting with successively presented molds	337	.Supplemental heating or heat exchange means associated with pool
309	..Relative rotation between plunger and orbiting mold		
310	...Independent dies actuated by common plunger	338	..With deputer, draw ring, or draw shield
311	..Means providing orbiting mold with diverse motion	339	.Separate and distinct means defining pool (e.g., floor-supported dam)

340 ..Movably mounted
 341 ..Cascadingly connected
 342 ..By bridge
 343 ...Floating bridge
 344 ..With deputer, draw ring, or
 draw shield
 345 ..By suspended baffle
 346 **GLASS CONDITIONING CHANNEL
 SECTION**
 347 **MELTING POT OR FURNACE WITH
 STRUCTURALLY DEFINED DELIVERY
 OR FINING ZONE**
 348 **PRODUCT COOLING MEANS (E.G.,
 TEMPERING)**
 349 .With preceding reheater
 350 ..Plural spaced reheaters
 351 ..Plural spaced cooling means
 352 **DRAWING BAIT**
 353 .With air supply means
 354 ..With heating or cooling means
 355 **MEANS HEATING OR COOLING
 APPARATUS**
 356 .Internally positioned
 357 **MOLD WITH SEPARATING MEANS OR
 CLAMPING MEANS**
 358 .Core drawing means
 359 .With mold support or carrier
 360 ..Pivoted mold sections
 361 **MOLD WITH SUPPORTING OR CARRYING
 MEANS**
 362 **PLUNGER**
 370.1 **ROLLER MEANS FOR GLASSWORKING,
 TEMPERING, OR ANNEALING**
 374.1 **APPARATUS MADE OF SPECIAL
 MATERIAL**
 374.11 .Metal-nonmetal composite
 374.12 .Metallic
 374.13 .Ceramic material
 374.14 .Asbestos containing
 374.15 .Elemental carbon containing
 (e.g., graphite, charcoal,
 etc.)
 375 **MISCELLANEOUS**

FOREIGN ART COLLECTIONSFOR 000 **CLASS-RELATED FOREIGN DOCUMENTS****DIGESTS**

DIG 1 **LENS ENVELOPE**
 DIG 3 **CRACKED GLASS**
 DIG 4 **ELECTRIC HEAT**
 DIG 5 **FOIL GLASS**
 DIG 6 **GLASS ELECTRODE**
 DIG 8 **QUARTZ**
 DIG 9 **TUBE**
 DIG 10 **STEMWARE**
 DIG 11 **ENCAPSULATING**
 DIG 12 **REED SWITCH**
 DIG 13 **COMPUTER CONTROL**
 DIG 15 **NONOXYGEN CONTAINING CHALOGENIDES**
 DIG 16 .Optical filament or fiber
 treatment with fluorine or
 incorporating fluorine in
 final product

CROSS-REFERENCE ART COLLECTIONS

900 **DRYING, DEHYDRATION, MINIMIZING
 OH GROUPS**
 901 **LIQUID PHASE REACTION PROCESS**

