

400	PRODUCTS	430	...Interlooped floating strands or strand portions
401	.Uniplanar sectional web, sheet, or layer	431	...Around aperture (e.g., buttonhole)
402	.Sewn web or sheet	432	...Connecting parallel straight lines of stitching
403	..Including decomposable thread or component	433	....Included in overedge stitching
404	..Including feathers, beads, or reflective material	434	....Uniting contiguous components
405	..With longitudinally non-coextensive super-imposed panel or sheet	435	.....Plural intersecting float threads
406	..Including external fastener sewn thereto	436	...Incorporated with or held by overedge stitching
407	...Hook and/or eye	437	..Apertured or open-work (e.g., buttonhole)
408	...Button	438	..Chain stitch
409	..Fringed	439	..Ornamental stitching (e.g., embroidery)
410	..Tufted or looped surface	440	..United components
411	..With tufts or loops formed by floating strandlike portions	441	...By stitching along edge
412	..Of strands or strand portions joined by sewing	2	SPECIAL MACHINES
413	..Elastic strand or component	2.1	.Mattress sewing
414	...Including non-planar component	2.2	..Tufting
415	..Specific strand arrangement or relationship	4	.Jacquard card sewing
416	...Knitted, netted, or knotted	6	.Broom sewing
417	..With strip, strand, or strand portion between layers or components	7	.Carpet sewing
418	..With strip sewn in or over seam or over edge (e.g., welt or stay)	8	..Clamps
419	...Channel-shaped edge binding	9	.Rug sewing
420	..Fibrous or particulate layer between other layers	10	.Bag sewing
421	..Including component of varying thickness	11	.Sewing filled sacks
422	..Non-planar uniform-thickness material	12	.Sewing hats
423	...Bent flange or reverse fold at edge	13	..Work supports
424	....Including concealed or blind stitching	14	...Rotary
425	.....Overedge or along offset fold	15	..Guides and pages
426	....Included in seam joining contiguous components	16	.Glove and fur sewing
427	...Pleated, tucked, or shirred	17	..Dyeing feature
428	...Plural components	18	..Work holding and feeding
429	..Filamentary material or strandlike tape sewn to surface	19	...Clamp
		20	..Guiding
		21	.Book sewing
		22	..Knotting
		23	.Straw braid
		24	.Straw sewing
		25	.Looped fabrics
		26	..Preparing
		27	..Work holding and feeding
		28	.Leather sewing
			..Shoe sole
		29	...Separating and indenting
		30	...Tack pulling
		31	...Fair stitch
		32	...Loop lock
		33	...Tongue lock

34	...Chain stitch	80.06	....Having non-eyed needle
35	....Curved needle	80.07	...Yarn manipulation by fluid flow
36	...Lock stitch		
37	....Curved needle	80.08	....Having hollow needle
38	.....Oscillating and rotating shuttle	80.15	...Dual sided
		80.16	...Including hollow or channelled needle
39	...Back gauges and rests		
40	...Guards	80.17	...Including non-eyed needle
41	..Heating	80.18	...With condition responsive stop motion means
42	..Waxing		
43	..Lubricating and moistening	80.23	...With optical, electronic, or magnetic pattern program means
44	..Welt slitting and beveling		
45	..Channeling	80.24	....Having pattern drum
46	..Welt handling	80.3	...With specific fabric supporting, manipulating, cutting, or treating means
47	..Feeding		
48	...Awl		
49	...Needle	80.31	....Means to shift fabric laterally of feed
50	..Channel guides		
51	..Edge and crease guides	80.32	....Means to feed fabric
52	..Welt guides	80.33	....Fabric vertically moveable at tufting position
53	..Chain stitch		
54	..Lock stitch	80.4	...Including specific needle supporting or manipulating means
	..Thread handling		
55	...Orbital-movement loopers		
56	...Cast-offs	80.41	....Means to shift needle laterally of fabric feed
57	...Take-ups		
58	...Pull-offs	80.42	....Means to vertically adjust stroke
59	...Tensions		
60	..Presser devices	80.43	....Means to selectively drive one of plural needles
61	...Locking		
62	..Work supports	80.44	....Means to disconnect needle and drive
63	..Tube forming		
64	..Fringe forming	80.45	....Supporting structure
65	..Buttonhole	80.5	...Including specific loop catcher
66	..Eyelet making		
67	..Start and stop mechanism	80.51	....Bill with clip or gate
68	..Cutting	80.52	....Plural loop catchers having different shapes or orientations
69	..Thrum mechanism		
70	..Clamp feeding		
71	...With rotatable needle bar	80.53	.....Stationary relative to one another
72	...Right line and rotary		
73	...Vibrating needle	80.54	....Variable height loops
74	...Spreading	80.55	....With loop cutting means
75	...Gauging	80.56	.....Selective cutting means
76	...Clamps	80.57	.....Rotary cutter
77	...Attachments	80.58	.....Knife pivots on loop catcher
78	..Embroidering	80.59	.....Cutting means stationary relative to loop catcher
80.01	..Tufting (replacing subclass 79)		
80.02	...Rooting hair in doll or wig	80.6	.....Including supporting structure (e.g., knife block)
80.03	...Hand implement		
80.04	....With power drive	80.7	...Including specific yarn manipulating, cutting, or treating means
80.05	....Having hollow or channelled needle		

80.71	....Cutting or treating means	470.06	..Positionable work carrier under electronic pattern or program control
80.72	....Feed via intermeshing slats	470.07	...For workpiece edge sewing
80.73	....Feed roller	470.08	...For stocking
81	..Hemstitch	470.09	..Positionable work carrier under mechanical pattern or program control
82	...Universal feed	470.11	...Spiral pattern
83	..Horizontal needle	470.12	.Traveling sewing machine
84	...Pattern controlled	470.13	..Multidirectional or rotational
85	....Boring	470.14	.Positionable work carrier
86	....Fabric shifting	470.15	..For stocking
87	...Stopping	470.16	..For folding the work
88	...Article attaching	470.17	..For stitching in a circle
89	...Boring	470.18	..Driving mechanism for work carrier
90	...Fabric shifting	470.19	.Feather sewing machine
91	....Balancing	470.21	.Stringer
92	....Spring	470.22	..With knotter
93	...Stitch forming	470.23	.For sewing same length stranded material together
94	....Short thread	470.24	..Fabric tuft
95	....Shuttle type	470.25	.For making shoe sole of plant stalk material (e.g., hemp, jute, straw, etc.)
96	....Thread take-up	470.26	.Necktie
97	....Thread tension	470.27	.Upholstery
98	..Vertical needle	470.28	.Having drag clamp
99	..Attaching ornaments	470.29	.Having tube end tensioner
100	....Thread	470.31	.For sewing plural workpieces under tension
101	.....Attachments	470.32	..Differential feed of plural workpieces
102	...Fabric shifting	470.33	.Elongated article
102.5	....Electronic pattern controlled or programmed	470.34	..For attaching a belt loop
103	....Frames	470.35	.Spherical object
104	.Article attaching	470.36	.With diverse downstream operation
105	..Hook and eye		WORK MANIPULATING
106	...Feeding	122	.Trimmers
107	...Carriers	122.1	..Having specified stitching mechanism
108	..Eye-shank button	122.2	...Pinker
109	...Vibrating needle	122.3	..Rotary cutter
110	..Flat button	122.4	...Pinker
111	...Vibrated needle	125	..Manual control
112	...Vibrated clamp	126	..Laterally adjustable
113	..Feeding	127	..Ply separating
114	..Clamps	128	..Needle-bar operated
115	..Attachments	129	..Cutters
116	.Crocheting	130	.Severing
117	.Quilting	131	.Creasers and markers
118	..Fabric shifting	132	.Rufflers and gatherers
119	...Frames		
120	.Infolding		
121	.Darning		
470.01	.Pattern controlled or programmed		
470.02	..With stitch counter		
470.03	..Material sensing and subsequent feed adjustment		
470.04	..Operator controlled data entry means		
470.05	..With means for performing a diverse operation		

133	..Smocking	458	....Including pattern selection means
134	..Attachments	459	...Having cam actuation of needle or material feed
135	...Vibrating blade	460	....Including detachable cam
136	.Guides	461	....And specified material feed
137	..Binders	462	.....And fine adjustment of stitch width or material feed
138	...Strip reversing	463	.....And plural, selectively used cams
139	..Braiders and corders	464	...Including fine adjustment of stitch width
140	..Blind stitch	465	...Including plural, selectively used cams
141	..Hemmers	466	.....And plural followers
142	...Lap seam	467	...Having specified looptaker structure
143	...Adjustable	160	..Surging
144	..Tucking	161	..Purling
145	...Box plait	162	.Overseaming
146	...Spacing	163	.Multiple needle
147	..Folding	164	..Shuttle type
148	..Fabric holding	165	..Chain and double chain
149	..Fringe turning	166	...Multiple looper
150	..Pressure	167	..Adjustable
151	..Presser bar attached	168	.Convertible
152	..Strip	169	.Hand implements
153	..Edge	170	.Short thread
154	STITCH FORMING	171	..Double-pointed needle
155	..Multiple machines	172	..Overedge
156	..Knot tying	173	.Running stitch
157	..Zigzag	174	..Crimping
443	..Vibrating needle	175	..Stationary needle
159	...Shifting looper	176	.Blind stitch
444	...Having indicator	177	..Overseaming
445	....And specified electronic memory	178	..Work handling
446	...Closed pattern sewing (e.g., buttonhole)	179	.False hemstitch
447	....Including electronic memory	180	.Bobbin ejector
448	....Having cam actuation of needle or material feed	181	.Revolving-hook type
449	.....And means to change, without operator intervention, stitch width, or material feed	182	..Timing
450	...Basting stitch or skipping stitch	183	..Reciprocating bobbin
451	...Backstitch	184	..Vertical axis
452	...Having multiple needles	185	.Shuttle type
453	...Having electronic memory	186	..Shuttle replenishing
454	....Plural diverse patterns in series	187	..Loop spreaders
455	....Having computer control of linkage intermediate motor and needle or material feed	188	..Bobbin latch
456	....Including means to calculate needle or material feed parameters	189	..Rotary
457	....Including programmable or detachable memory	190	...Timing
		191	...Vertical axis
		192	..Oscillatory
		193	...Vertical axis
		194	..Reciprocatory
		195	...Longitudinal
		196	..Holders and raceways

197	.Chain or double chain	221	..Needle
198	..Hooked needle	222	.Needles
199	..Oscillating or reciprocating looper	223	..Thread releasing
200	..Four-motion looper	224	..Threading structure
201	..Rotating looper	225	..Setting and threading attachments
202	..Vertical-axis looper	226	..Clamping
303	.Feeding work material	227	..Guiding
304	..By endless conveyor	228	.Revolving hooks
305	..Under tension	229	..Bobbin tensioning
306	..Having means to align work	230	..Sectional
307	..Work of indeterminate length	231	..Bobbin holders and casings
308	..Having curvate feature	232	.Shuttles
309	...Capable of feeding through 360 degrees	233	..Tensioning
310	..Needle and helper	234	..Longitudinally reciprocating
311	..Clamp type	235	.Presser devices
312	..Plural differential feed means	236	..Embroidering and darning
313	..Having adjustment feature	237	..Lifting
314	..Having adjustment feature	238	...With tension release
315	...Stitch length	239	...Automatic
316	...Reversible feed direction	240	..Detachable connections
317	...Reversible feed direction	241	.Take-ups
318	..Rotary feed	242	..Pull-offs
319	..Intermittent feed	243	...Automatic control
320	..Engaging upper side of work material	244	..Presser-bar controlled
321	...Needle acts as feed means	245	..Needle-bar actuated
322	..Rotary feed	246	..Adjustable
323	..Four motion feed	247	..Resilient
324	..Feed dog structure	248	..Rotary
217	.Seam finishing	249	..Stationary cam
217.1	WITH TABLES OR STANDS	250	..Clamp carrying
217.2	.For plural sewing units	255	.Thread cutting, severing or breaking
217.3	.With power control or clutch	286	..With thread wiping
217.4	..Conversion of foot-treadle driven machine	287	..With thread disposal by air flow
270	ELEMENTS	288	..Thread chain
271	.Starting or stopping	289	..Rotary type
272	..Work sensing	290	..Hot wire type
273	..Thread sensing	291	..Upper and lower threads
274	..With element positioning	292	...Single cutter
275	...Electrically operated	293	..Upper thread
276	..Fluid operated or controlled	294	...Scissors type
277	..Electrically operated or controlled	295	...Single blade cutter
278	.Thread sensing	296	..Lower thread
279	.Bobbin winding	297	...Scissors type
280	.Cooling	298	...Single blade cutter
281	..Needle	299	..Manual control
282	.Waste extraction	300	..Electrically actuated
283	.Fly wheels	301	..Fluid actuated
284	.Linkage systems	253	.Thread end clamps
220	.Driving mechanisms	302	.Thread guiding or handling
		254	.Tensioning
		255	..Intermittent

256 .Lubricating
257 .Attachment holders
258 .Frames
259 ..Heads
260 ..Work supports
261 .Guards
475.01 **METHOD OF SEWING**
475.02 .Material sensing
475.03 ..Workpiece edge guiding
475.04 .Workpiece manipulation other
 than straight line feeding
475.05 ..Workpiece manipulation
 according to calculated data
 or operator produced recording
475.06 ..Folding workpiece
475.07 ..Delivering or removing
 workpiece to or from a sewing
 machine
475.08 .On specified product
475.09 ..Garment
475.11 ...Headwear
475.12 ...Stocking (e.g., sock, hose,
 pantyhose, etc.)
475.13 ...Trousers
475.14 .Attaching fastener
475.15 ..Button
475.16 ..Zipper
475.17 .Stitch forming
475.18 ..Embroidery
475.19 ...Electronically stored pattern
475.21 ...Edging
475.22 ...Relief
475.23 ...Pile type
475.24 ..Blind stitch forming
475.25 ..Buttonhole finishing or forming
475.26 ..Overedge stitch forming
1 **MISCELLANEOUS**

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

DIG 1 **SUCTION THREAD CUTTING**
DIG 2 **AIR WORK HANDLING**
DIG 3 **PNEUMATIC**