

1	PRECISION DEVICE OR PROCESS - OR WITH CONDITION RESPONSIVE CONTROL	42	..Lens
		43	...Edging
		44	..Edging
2	.Condition responsive control for sandblasting	45	.Razor, knife, or scissors sharpening
3	..Cyclic control	46	.Gauge abrading
4	.Tape controlled	47	.Gear or worm abrading
5	.Computer controlled	48	.Drill, thread, thread cutter, reamer, or rotary cutter abrading
6	.By optical sensor		
7	.Controlling temperature		
8	.With indicating	49	.Roll, roller, shaft, ball, or piston abrading
9	..Of tool or work holder position		
10	..And feeding of tool or work holder	50	..Ball abrading
		51	.Ring, tube, bushing, sleeve, or cylinder abrading
11	.With feeding of tool or work holder		
		52	..Bearing raceway
12	..And use of moving abutment	53	.With critical temperature modification or control of work or abradant
13	...Moved by cam		
14	..Screw actuated		
15	...Manually adjustable	54	.With critical nonabrading work treating
16	...Ratchet and pawl drive		
17	....Sizing gauge controlled	55	..Deforming
18	....Cam actuated	56	.With tool treating or forming
19	....Hydraulically driven	57	.Combined abrading
20	....Table dog actuated	58	..Utilizing mounted rigid abrading tool only
21	..Tool wear compensation		
22	...Sizing gauge controlled	59	.Utilizing nonrigid tool
23	..Cam actuated	60	.Abradant supplying
24	..Hydraulically driven	61	.Hollow work
25	...Sizing gauge controlled	62	.Cam
26	...Control means near and parallel to the abrader	63	.Side face of disk
27	..Tool interior of workpiece	64	MACHINE
28	ABRADING PROCESS	65	.Combined
29	.Utilizing shield (mask or stencil)	66	..Scouring or polishing means
30	..With in situ removal of nonresist portion of shield	67	..With nonabrading means
31	..With preparation of shield	68	...Work deformer
32	.Tumbling	69	...Cutter
33	..Including temperature modification or control	70	....Including abrader for cut surface
34	..In at least one of plural abrading steps	71	....Drill
35	..With auxiliary work treating or in critical fluent medium	72	...Having means to refurbish abrading tool
36	.Utilizing fluent abradant	73	...Adjunct
37	..Combined abrading	74	.Graining box
38	..By blasting	75	.Sandblast
39	...With nonsiliceous abradant	76	..Hollow interior work
40	...With nonatmospheric fluid carrier	77	..Spark plug
41	.Glass or stone abrading	78	..Electrical device
		79	..File
		80	..Having moving work holder
		81	...Endless belt type
		82	...Rotary
		83	....Rollers

84	....Table	130	....One-way work traverse
85	..Having tumbling barrel	131	.....Roller work feed
86	..And centrifugal particle propulsion means	132	....Opposed
87	..Having particle recovery means	133	.....Reciprocating work holder
88	..And separation means	134	.....Rotating work holder
89	..Having sandblast chamber	135	....Planetary
90	..Having hand-directed sandblast nozzle	136	....Reciprocating work holder
91	..Abradant propulsion means	137	.....Rectilinear
92	..Mobile machine	138	.....Rocking
93	..Magnetic	139	....Swinging tool carrier
94	..Mechanical	140	....Work rotating
95	....Centrifugal batter with abradant supply	141	....Helical blade
96	.....Powered abradant supply	142	....Cylindrical surface (e.g., roll) abrader
97	..Centrifugal batter	143	....Rotary work holder
98	..Vane structure	144	.....Pattern and follower driver
99	..Abradant supply structure	145	.....Hydraulic driver
100	..Multiple hopper	146	.....Disk or wheel abrader
101	..Valve structure	147	.....Gear abrader
102	..Sandblast nozzle structure	148	.....Hob
103	..Scouring device	149	.....Turret
104	..Immersion	150	....Rectilinearly reciprocating tool carriage
105	..Roller work feed	151	.....Hydraulic driver
106	..Rotary work holder	152	.....Screw and nut driver
107	..Drawing reel	153	.....Flexible driver
108	..Reciprocating scouring tool	154	....Rack and pinion driver
109	..Rotary cylindrical scouring tool	155	....Reciprocating spindle
110	..Opposed pair of scouring tools	156	....Hydraulic driver
111	..Rotary disk-shaped scouring tool	157	....Cam and follower driver
112	..Opposed pair of scouring tools	158	..Disk tool
113	..Immersion	159	..Oscillating
114	..By use of plural work holders, without tool	160	..Rectilinear
115	..Of valve and seat	161	....Gear abrader
116	..Plug cock	162	..Reciprocating tool
117	..Poppet valve	163	..Oscillating
118	..Slide valve	164	..Rectilinear
119	..Rotary reciprocating tool	165	..Ultrasonic
120	..Cylindrical tool	166	..Compound rectilinear motion
121	..Oscillating	167	..Endless work carrier
122	....Harvester knife	168	..Flexible strip or endless band tool
123	....Work rotating	169	....Stropping machine
124	....Rectilinear	170	....Reciprocating work holder
125	....Pattern and follower driver	171	....Rocking
126	....Blade reversing (e.g., razor blade)	172	....Roller work feed
127	....Compound rectilinear motion	173	....Rotary work holder
128	....Harvester knife	174	....Swinging tool carrier
129	....One-way work cut	175	....Having actuating handle
		176	....Drawing reel
		177	..Rotary tool
		178	..Rotary cylinder
		179	..Linear indexing of the tool

180	...Internal	231	...Stationary work holder
181	....Abrading crank-pin	232	....Reversing, obverting, or pivoting
182	...One-way work traverse	233	....Spaced portions
183	....Drawing reel	234	....Blade sharpener
184	....Endless work carrier	235	....Harvester knife
185	.....Blade sharpener	236	...Swinging tool carrier
186	....Nut and screw	237	...Templet
187	.....Blade sharpener	238	....Pantograph
188	....Roller work feed	239	....Rotary templet or pattern
189	.....Work rotating	240	....Lens abrader
190	....Opposed abrading tools	241	...Work guide
191	....Razor blade	242	...Work rotating
192	....Blade sharpener	243	....With "dead" center
193	....Blade sharpener	244	....Work handling
194	...Opposed abrading tools	245	....Through feed
195	....Alternating tools	246	....Rotary work holder
196	.....Blade sharpener	247	.....Turret
197	....Plunger infeed	248	.....Blade sharpener
198	.....Blade sharpener	249	.....Spaced abrading areas
199	....Reciprocating work holder	250	.....By hob
200	.....Rectilinear	251	.....Abrading eccentric shape
201	.....Rocking	252	.....Valve abrader
202	.....Blade sharpener	253	.....Gear abrader
203	.....Blade sharpener	254	.....Disk or wheel abrader
204	....Rocking	255	.....Lens abrader
205	.....Blade sharpener	256	.....Lens abrader
206	....Blade sharpener	257	.....Glassware ornamenting
207	....Roller work feed	258	....Disk or wheel abrader
208	....Blade sharpener	259	..Rotary disk
209	....Work rotating	260	...One-way work traverse
210	....Rotary work holder	261	....Opposed abrading tools
211	...Planetary	262	...Opposed abrading tools
212	...Reciprocating work holder	263	....Blade reversing
213	....Rectilinear	264	....Reciprocating work holder
214	.....Indexing	265	.....Rectilinear
215	.....Compound	266	.....Rocking
216	.....Rocking	267	....Work guide
217	.....Hob, tap, or fluted thread	268	....Work rotating
218	.....Work rotating	269	.....Rotary work holder
219	.....Gear forming	270	...Orbital
220	.....Long helix	271	....Planetary
221	.....Rotary work holder	272	...Reciprocating work holder
222	.....Thread abrader	273	....Rectilinear
223	.....Including work support engaging work at opposite, axial ends; e.g., opposed "centers"	274	....Work rotating
224	.....Blade sharpener	275	.....Gear generating
225	.....Harvester knife	276	....Rocking
226	....Rocking	277	.....Lens abrader
227	....Work rotating	278	...Stationary work holder
228	.....Noncircular cross section	279	....Reversing, obverting, or pivoting
229	....Blade sharpener	280	...Swinging tool carrier
230	....Harvester knife	281	...Templet
		282	...Work guide

283	...Work rotating	333	..With hopper or magazine
284	....Raceway	334	.Reciprocating
285	....Rotary work holder	335	..With hopper or magazine
286	.....By means loosely confining work	336	.Endless
287	.....Planar surface abrading	337	..With hopper or magazine
288	.....Having pressure plate	338	.Skewed feed rollers
289	.....Having vacuum or adhesive securing means	339	.Ejector or unloader
290	.....Disk or wheel abrader	340	FRAME OR MOUNT
291	.....Planetary	341	.Double treadle
292	.....Turret	342	.For hanging rigid, rotary abrading tool
293	..Blade sharpener	343	..With balancing provision
294	..Means to rotate tool	344	.Portable abrader
295	..Hydraulic driver	345	..Button cleaner
296	.Endless band tool	346	..Calk sharpener
297	..Belt tracking	347	..Rail abrader
298	..Chain	348	..Roll or wheel abrader
299	..One-way work traverse	349	..Edge-tool sharpener
300	...Endless work carrier	350	..Floor surfacing machine
301	...Roller work feed	351	...Reciprocating tool
302	..Opposed endless band abrading tools	352	...Rotary cylinder tool
303	..Presser or former	353	...Rotary disk tool
304	..Reciprocating band carrier	354	..Wall surfacing machine
305	..Reciprocating work holder	355	..Endless band tool
306	...Work rotating	356	..Reciprocating tool
307	..Rotary work holder	357	..Orbital motion tool
308	...Turret	358	..Rotary cylinder tool
309	..Superposed endless band tools	359	..Rotary disk tool
310	..Swinging band carrier	360	.Rotary tool supporter
311	..Tension device	361	..Floor or bench stand
312	.Stationary tool	362	..Turret
313	..Flexible	363	..Machine head
314	...Reciprocating work holder	364	WORK HOLDER
315	....Needle-eye polisher	365	.Clamp
316	....Stropping machine	366	..Work oscillating
317	...Work rotating	367	..Edge tool
318	....Stropping machine	368	...Seat controlled
319	..Rigid	369	...Gauging device
320	...Reciprocating work holder	370	....Portable
321	....Blade sharpener	371	.....Blade sharpener
322	.....Blade reversing	372	...Harvester knife
323	....Lens abrader	373	....Suspension
324	...Rotary work holder	374	...Rotary cutter
325	....Lens abrader	375	....Drill
326	.Tumbling device	376	.....Pattern control
327	..Rotating work about vertical axis	377	...Work reciprocating
328	..Drum	378	...Portable
329	...Planetary	379	...Work rotating
330	..Tumbling shapes	380	...Angularly adjustable
331	WORK FEEDER	381	..Hollow work
332	..Rotary	382	...Hypodermic needle
		383	..Skate
		384	..Lens holder
		385	..Work rotating

386	..Portable	437	..Internal abrader
387	..Angularly adjustable	438	.To work guide
388	.Vacuum	439	.To the work
389	.Drop or dop stick	440	.Internal abrader
390	.Lens or prism	441	.Orbital tool
391	.Portable	442	ACCESSORY
392	.Work reciprocating	443	.Dressing
393	..Rectilinearly	444	.Tool cleaner
394	...And work rotating	445	.Erasing shield
395	..Hydraulically actuated	446	.Abradant supplying
396	..Rocking	447	..Grader
397	.Work rotating	448	.Button cleaning shield
398	..Rotary work holder	449	.Cooling
399	...Crank shaft	450	..Wetting grindstone
400	...Orbital movement	451	.Guard or housing
401	...Turret	452	..Breakage guard
402	.Rotary	453	..Collector
403	.Indexing	454	..Drive shield
404	..Hand operated	455	..Spark or splash guard
405	.Angularly adjustable	456	..Suction
406	WORK REST	457	..Work guard
407	.For centerless abrader	458	.Abrading sheet applying device
408	.Steady rest	459	.Strop surface renewing
409	.Tool tooth rest	460	.Work-mounting device
410	.Gauging device	461	COMBINED TOOL
411	WORK TABLE	462	.Internal
412	.Glass work	463	CARRIER FOR RELATIVELY MOVABLE SIMULTANEOUSLY USABLE TOOLS
413	.Work rotating	464	.For radially movable tools
414	.Angularly adjustable	465	..Centrifugal force urged tools
415	ATTACHMENT	466	...Flexible flail tools
416	.To textile machine to abrade card	467	....With tool supply or storage
417	..Flat card	468	....Including self-sustaining tools
418	.To electrical machine to abrade commutator	469	.....With discrete nondestructible tool-securing means
419	.To cutting machine to sharpen blade	470	..Including conoid or wedge tool moving member
420	..Rotary abrading tool	471	...With threaded operator
421	...Rotary reciprocating tool	472	....To move conoid member
422	...Work actuated	473	.....To actuate pivotally mounted tools
423	..Stationary abrading tool	474	.....For movement of conoid members relative to each other
424	.Roll or wheel abrader	475	.....By conoid member with screw threads
425	..Rotary reciprocating tool	476	.....Including plural conoid members
426	..Reciprocating tool	477	....Including key-way or spline
427	...Nut-and-screw-type drive	478	...Conoid member
428	..Stationary abrading tool	479	..Including gear actuated tool mover
429	.To rail		
430	.Valve or valve seat abrader		
431	..Orbital tool		
432	.To sewing machine		
433	..To be driven by flywheel		
434	.To vehicle		
435	.To lathe		
436	..Center abrader		

480	..Including lever actuated tool mover	513	.Including endless band tool holding member
481	..Including hydraulically actuated tool mover	514	.Including resiliently urged tool holding member
482	..Including thread actuated tool mover	515	..Separable
483	...Interrelated to move plural tools	516	..Rotatable
484	..Including resiliently urged tool	517	..Biased for tool disengagement
485	...By coil spring	518	..Cantilever-spring actuated
486	.Including tools resiliently urged toward work	519	..Coil-spring actuated
487	CARRIER FOR A RADially MOVABLE TOOL	520	.Including tool holder having tool surface depressor
488	VENTILATION OR COOLING OF TOOL OR TOOL SUPPORT	521	.Including threaded means to retain tool holder
489	FLEXIBLE-MEMBER TOOL MOUNTED ON PLURAL ROLLS	522	..Including bar or plate tool holding member
490	TOOL SUPPORT FOR FLEXIBLE-MEMBER TOOL	523	.Manually manipulated
491	.With tool supply or storage	524	..By handle
492	..Coiled tool	525	...Detachable from tool support
493	...On spool or axle	526	FLEXIBLE-MEMBER TOOL, PER SE
494	.Having magnetic or suction tool holding means	527	.Interrupted or composite work face (e.g., cracked, nonplanar, etc.)
495	.Contour-adjustable support	528	..Uniform thickness nonplanar
496	.Including tool holding slot in rotary tool support	529	..Sectional
497	..Separable along slot	530	.Work face variegated or on projecting backing
498	...Diametrically separable	531	.Splice or joint
499	..With tool tensioning means	532	.Comprising fibers
500	...By rotary gripping element	533	.Laminate
501	...Including threaded element	534	..Discontinuous or differential coating impregnation or bond
502	.Including longitudinal tool holding slot	535	..Coil wound
503	..Separable along slot	536	..Integrated strands
504	.Including expansible external surface	537	..Non-coextensive laminae
505	..Hydraulically actuated	538	..Strippable layer or component
506	..Centrifugally actuated	539	..Abrasive on one surface only
507	..Actuated by compression of support	540	RIGID TOOL
508	.Including headed, axially disposed, tool holding member on rotary support	541	.Rotary cylinder
509	..Tool holding member disconnected from support by partial rotation	542	..Circular segments
510	..With threaded means to retain tool holding member	543	...Detachable
511	...Including conical tool holding member	544	..Laminated
512	.Including taper or wedge tool holding member	545	..Work guide
		546	..Reinforced
		547	..Ribbed periphery
		548	.Rotary disk
		549	..Work guide
		550	..Disk laps
		551	..Scroll
		552	.Stationary
		553	..Metal
		554	..Having oiler or moistener
		555	..Work guide
		556	..Razor hone
		557	.Having actuating handle

558 ..Work guide
559 MISCELLANEOUS

CROSS-REFERENCE ART COLLECTIONS

900 GEAR ABRADER
901 SUPER FINISH
902 BRAKE ABRADING
903 EGG CLEANING
904 FLEXIBLE ABRASIVE STORAGE REEL
905 METAL LAP
906 MACHINE ELEMENT OR UNIT
907 STRIP FEEDING
908 ELECTRICAL ABRADING
909 WIRE POLISHING
910 ULTRASONIC
911 TOOL MOUNTING POINT
912 SHOE ABRADING
913 CONTOUR ABRADING
914 SUPPORTING, POSITIONING, OR
FEEDING WORK
915 ABRADING WHEEL SPEED CONTROL
916 ABRADING OF BRUSH BRISTLE
917 ABRADING OF SCALLOPED CUTTING
EDGE (E.G., BREAD KNIFE
SHARPENING)
918 ADJUSTABLE WORK SUPPORT (E.G., BY
SINE BAR)
919 WANKEL
920 TIRE "ROUNDING"
921 "PAD" FOR LENS SHAPING TOOL

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

