1  PRECISION DEVICE OR PROCESS - OR
   WITH CONDITION RESPONSIVE
   CONTROL
   .Condition responsive control for
   sandblasting
   .Cyclic control
   .Tape controlled
   .Computer controlled
   .By optical sensor
   .Controlling temperature
   .With indicating
   .Of tool or work holder position
   .And feeding of tool or work
   holder
   .With feeding of tool or work
   holder
   .And use of moving abutment
   ...Moved by cam
   ...Screw actuated
   ...Manually adjustable
   ...Ratchet and pawl drive
   ....Sizing gauge controlled
   ....Cam actuated
   ....Hydraulically driven
   ....Table dog actuated
   ....Tool wear compensation
   ....Sizing gauge controlled
   ..Cam actuated
   ..Hydraulically driven
   ..Sizing gauge controlled
   ..Control means near and
   parallel to the abrader
   ..Tool interior of workpiece
   ABRADING PROCESS
   ..Utilizing shield (mask or
   stencil)
   ..With in situ removal of
   nonresist portion of shield
   ..With preparation of shield
   ..Tumbling
   ..Including temperature
   modification or control
   ..In at least one of plural
   abrading steps
   ..With auxiliary work treating or
   in critical fluent medium
   ..Utilizing fluent abradant
   ..Combined abrading
   ..By blasting
   ..With nonsiliceous abradant
   ...With nonatmospheric fluid
   carrier
   ..Glass or stone abrading

2  .Len...Edging
3  .Len...Edging
4  .Razor, knife, or scissors
5  .Gauge abrading
6  .Gear or worm abrading
7  .Drill, thread, thread cutter,
   reamer, or rotary cutter
   abrading
8  .Roll, roller, shaft, ball, or
   piston abrading
9  ..Ball abrading
10 ..Ring, tube, bushing, sleeve, or
    cylinder abrading
11 ..Bearing raceway
12 ..With critical temperature
    modification or control of
    work or abradant
13 ..With critical nonabrading work
    treating
14 ..Deforming
15 ..With tool treating or forming
16 .Combined abrading
17 ..Utilizing mounted rigid
    abrading tool only
18 ..Utilizing nonrigid tool
19 .Abradant supplying
20 .Hollow work
21 ..Cam
22 .Side face of disk

MACHINE
   .Combined
   ..Scouring or polishing means
   ..With nonabrading means
   ....Work deformer
   ....Cutter
   ....Including abrader for cut
   surface
   ....Drill
   ....Having means to refurbish
   abrading tool
   ....Adjunct
   .Graining box
   .Sandblast
   ..Hollow interior work
   ..Spark plug
   ..Electrical device
   ..File
   ..Having moving work holder
   ....Endless belt type
   ....Rotary
   ....Rollers
Having tumbling barrel
And centrifugal particle propulsion means
Having particle recovery means
And separation means
Having sandblast chamber
Having hand-directed sandblast nozzle
Abradant propulsion means
Mobile machine
Magnetic
Mechanical
Centrifugal batter with abradant supply
Powered abradant supply
Vane structure
Abradant supply structure
Multiple hopper
Valve structure
Sandblast nozzle structure
Scouring device
Immersion
Roller work feed
Rotary work holder
Drawing reel
Reciprocating scouring tool
Rotary cylindrical scouring tool
Opposed pair of scouring tools
Rotary disk-shaped scouring tool
Opposed pair of scouring tools
Immersion
By use of plural work holders, without tool
Of valve and seat
Plug cock
Poppet valve
Slide valve
Rotary reciprocating tool
Cylindrical tool
Oscillating
Harvester knife
Work rotating
Rectilinear
Pattern and follower driver
Gear abrader
Rectilinearly reciprocating tool carriage
Ultrasonic
Compound rectilinear motion
Endless work carrier
Flexible strip or endless band tool
Stropping machine
Reciprocating work holder
Rocking
Roller work feed
Rotary work holder
Swinging tool carrier
Work rotating
Helical blade
Cylindrical surface (e.g., roll) abrader
Rotary work holder
Pattern and follower driver
Hydraulic driver
Disk or wheel abrader
Gear abrader
Hob
Turret
Hydraulic driver
Screw and nut driver
Flexible driver
Rack and pinion driver
Disk or wheel abrader
Gear abrader
Turret
Cam and follower driver
Hydraulic driver
Disk tool
Oscillating
Rectilinear
Reciprocating tool
Oscillating
Rectilinear
Ultrasonic
Flexible strip or endless band tool
Linear indexing of the tool
...Internal
...Abrading crank-pin
...One-way work traverse
...Drawing reel
...Endless work carrier
...Blade sharpener
...Nut and screw
...Roller work feed
...Work rotating
...Opposed abrading tools
...Razor blade
...Blade sharpener
...Blade sharpener
...Blade sharpener
...Alternating tools
...Blade sharpener
...Plunger infeeder
...Blade sharpener
...Reciprocating work holder
...Rectilinear
...Rocking
...Blade sharpener
...Rocking
...Blade sharpener
...Roller work feed
...Blade sharpener
...Work rotating
...Opposed abrading tools
...Work guide
...Blade sharpener
...Blade sharpener
...Alternating tools
...Roller work feed
...Blade sharpener
...Blade sharpener
...Blade sharpener
...Blade sharpener
...Blade sharpener
...Roller work feed
...Blade sharpener
...Blade sharpener
...Work rotating
...Opposed abrading tools
...Opposed abrading tools
...Blade reversing
...Reciprocating work holder
...Blade sharpener
...Rocking
...Blade sharpener
...Work guide
...Hob, tap, or fluted thread
...Work rotating
...Gear forming
...Long helix
...Rotary work holder
...Thread abrader
...Including work support
...Engaging work at opposite, axial ends; e.g., opposed "centers"
...Blade sharpener
...Harvester knife
...Blade sharpener
...Rocking
...Work rotating
...Noncircular cross section
...Blade sharpener
...Harvester knife
...Harvester knife
...Stationary work holder
...Reversing, obverting, or pivoting
...Spaced portions
...Swinging tool carrier
...Templet
...Pantograph
...With "dead" center
...Work handling
...Through feed
...Rotary work holder
...Disk or wheel abrader
...Lens abrader
...Lens abrader
...Glassware ornamenting
...Disk or wheel abrader
...Rotary disk
...One-way work traverse
...Opposed abrading tools
...Opposed abrading tools
...Blade reversing
...Reciprocating work holder
...Blade reversing
...Rectilinear
...Rocking
...Work guide
...Work rotating
...Rotary work holder
...Orbital
...Planetary
...Reciprocating work holder
...Rectilinear
...Indexing
...Compound
...Rocking
...Hob, tap, or fluted thread
...Work rotating
...Gear forming
...Planetary
...Reciprocating work holder
...Rectilinear
...Including work support
...Engaging work at opposite, axial ends; e.g., opposed "centers"
...Blade sharpener
...Stationary work holder
...Reversing, obverting, or pivoting
...Swinging tool carrier
...Templet
...Work guide

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...Work rotating
...Raceway
...Rotary work holder
......By means loosely confining work
......Planar surface abrading
......Having pressure plate
......Having vacuum or adhesive securing means
......Disk or wheel abrader
......Planetary
......Turret
......Blade sharpener
......Means to rotate tool
......Hydraulic driver
......Endless band tool
......Belt tracking
......Chain
......One-way work traverse
......Endless work carrier
......Roller work feed
......Opposed endless band abrading tools
......Presser or former
......Reciprocating band carrier
......Reciprocating work holder
......Work rotating
......Rotary work holder
......Tumble
......Superposed endless band tools
......Swinging band carrier
......Tension device
......Stationary tool
......Flexible
......Reciprocating work holder
......Needle-eye polisher
......Stropping machine
......Work rotating
......Stropping machine
......Rigid
......Reciprocating work holder
......Blade sharpener
......Blade reversing
......Lens abrader
......Rotary work holder
......Lens abrader
......Tumbling device
......Rotating work about vertical axis
......Drum
......Planetary
......Tumbling shapes
......Work feeder
......Rotary

..With hopper or magazine
..Reciprocating
..With hopper or magazine
..Endless
..With hopper or magazine
.Skiped feed rollers
.Ejector or unloader
.FRAME OR MOUNT
..With balancing provision
..Portable abrader
..Button cleaner
..Calk sharpener
..Rail abrader
..Roll or wheel abrader
..Edge-tool sharpener
..Floor surfacing machine
..Reciprocating tool
..Rotary cylinder tool
..Rotary disk tool
..Wall surfacing machine
..Endless band tool
..Reciprocating tool
..Orbital motion tool
..Rotary cylinder tool
..Rotary disk tool
.. Rotary tool supporter
..Floor or bench stand
..Turret
..Machine head
.WORK HOLDER
..Clamp
..Work oscillating
..Edge tool
..Seat controlled
..Gauging device
..Portable
......Blade sharpener
......Harvester knife
......Suspension
......Rotary cutter
......Drill
......Pattern control
......Work reciprocating
......Portable
......Work rotating
......Angularly adjustable
......Hollow work
......Hypodermic needle
......Skate
......Lens holder
......Work rotating

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..Portable
..Angularly adjustable
.Vacuum
.Drop or dop stick
.Lens or prism
.Portable
.Work reciprocating
.And work rotating
.Hydraulically actuated
.Rocking
.Work rotating
.Rotary work holder
.Crank shaft
.Orbital movement
.Turret
.Rotary
.Indexing
.Hand operated
.Angularly adjustable
.WORK REST
.For centerless abrader
.Steady rest
.Tool tooth rest
.Gauging device
.WORK TABLE
.Glass work
.Work rotating
.Angularly adjustable
.ATTACHMENT
.To textile machine to abrade card
.Flat card
.To electrical machine to abrade commutator
.To cutting machine to sharpen blade
.Rotary abrading tool
.Rotary reciprocating tool
.Work actuated
.Stationary abrading tool
.Roll or wheel abrader
.Rotary reciprocating tool
.Reciprocating tool
.Nut-and-screw-type drive
.Stationary abrading tool
.To rail
.Valve or valve seat abrader
.Orbital tool
.To sewing machine
.To be driven by flywheel
.To vehicle
.To lathe
.Center abrader
..Internal abrader
..To work guide
..To the work
..Internal abrader
..Orbital tool
.ACCESSORY
..Dressing
..Tool cleaner
..Erasing shield
..Abradant supplying
..Grader
..Button cleaning shield
..Cooling
..Wetting grindstone
..Guard or housing
..Breakage guard
..Collector
..Drive shield
..Spark or splash guard
..Suction
..Work guard
..Abrading sheet applying device
..Strop surface renewing
..Work-mounting device
.COMBINED TOOL
..Internal
..For radially movable tools
..Centrifugal force urged tools
..Flexible flail tools
....With tool supply or storage
....Including self-sustaining tools
......With discrete nondestructible tool-securing means
......Including conoid or wedge tool moving member
......With threaded operator
......To move conoid member
......To actuate pivotally mounted tools
......For movement of conoid members relative to each other
......By conoid member with screw threads
......Including plural conoid members
......Including key-way or spline
......Conoid member
......Including gear actuated tool mover
480 ..Including lever actuated tool mover
481 ..Including hydraulically actuated tool mover
482 ..Including thread actuated tool mover
483 ...Interrelated to move plural tools
484 ..Including resiliently urged tool
485 ...By coil spring
486 .Including tools resiliently urged toward work
487 CARRIER FOR A RADIAL MOVABLE TOOL
488 VENTILATION OR COOLING OF TOOL OR TOOL SUPPORT
489 FLEXIBLE-MEMBER TOOL MOUNTED ON PLURAL ROLLS
490 TOOL SUPPORT FOR FLEXIBLE-MEMBER TOOL
491 .With tool supply or storage
492 ..Coiled tool
493 ...On spool or axle
494 .Having magnetic or suction tool holding means
495 .Contour-adjustable support
496 .Including tool holding slot in rotary tool support
497 ...Separable along slot
498 ...Diametrically separable
499 ...With tool tensioning means
500 ...By rotary gripping element
501 ...Including threaded element
502 .Including longitudinal tool holding slot
503 ...Separable along slot
504 .Including expansible external surface
505 ..Hydraulically actuated
506 ..Centrifugally actuated
507 ..Actuated by compression of support
508 .Including headed, axially disposed, tool holding member on rotary support
509 ..Tool holding member disconnected from support by partial rotation
510 ..With threaded means to retain tool holding member
511 ...Including conical tool holding member
512 .Including taper or wedge tool holding member
513 .Including endless band tool holding member
514 .Including resiliently urged tool holding member
515 ..Separable
516 ..Rotatable
517 ..Biased for tool disengagement
518 ..Cantilever-spring actuated
519 ..Coil-spring actuated
520 .Including tool holder having tool surface depressor
521 .Including threaded means to retain tool holder
522 ..Including bar or plate tool holding member
523 .Manually manipulated
524 ..By handle
525 ...Detachable from tool support
527 FLEXIBLE-MEMBER TOOL, PER SE
528 .Interrupted or composite work face (e.g., cracked, nonplanar, etc.)
529 ..Uniform thickness nonplanar
530 ..Sectional
531 .Work face variegated or on projecting backing
532 .Comprising fibers
533 .Laminate
534 ..Discontinuous or differential coating impregnation or bond
535 ..Coil wound
536 ..Integrated strands
537 ..Non-coextensive laminae
538 ..Strippable layer or component
539 ..Abrasive on one surface only
540 RIGID TOOL
541 .Rotary cylinder
542 ..Circular segments
543 ...Detachable
544 ..Laminated
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

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558   .Work guide
559   MISCELLANEOUS

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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  條 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

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