

1	PROCESS	30	.Rotary spindle machine tool
2	WITH SAFETY MEANS		(e.g., milling machine,
3	.Guard		boring, machine, grinding
4	WITH MEANS TO REGULATE OPERATION		machine, etc.)
	BY MEANS OF REPLACEABLE	31	..Tool having specific mounting
	INFORMATION SUPPLY (E.G.,		or work treating feature
	TEMPLET, TAPE, CARD, ETC.)	32	...Tool head
5	.Replaceable information	33	...Abrading wheel
	comprising tool location	34	...Including means for angularly
6	..Including determining optimum		orienting tool and spindle
	tool access path	35	....Spindle angularly oriented to
7	WITH CONTROL MEANS ENERGIZED IN		align with tool
	RESPONSE TO ACTIVATOR	36	..Tool changer between spindle
	STIMULATED BY CONDITION SENSOR		and matrix
8	.Responsive to tool identifying	37	...Plural matrices
	information	38	...Including tool holder
9	..Identifying information on tool		pivotable about axis
	or tool holder	39	....Plural tool holders pivotable
10	.Responsive to tool		about common axis
11	..Including means to monitor and	40	....Including intermediate tool
	control, i.e., adaptive		changer
	machining	41	.....Intermediate tool changer
12	WITH SIGNAL OR INDICATOR		includes tool holder pivotable
13	WITH MEANS TO CONDITION OR ADJUST		about axis
	TOOL OR TOOL SUPPORT	42	....Tool holders pivotable with
14	WITH MEANS TO TRANSFER WORK		respect to each other
15	.Plural machine tools, e.g.,	43	....Tool holders pivotable about
	flexible manufacturing		plural nonparallel axes
16	INCLUDING MACHINE TOOL OR	44	....Linearly movable tool
	COMPONENT		holders
17	.Rotating work machine tool	45	.....Extensible tool holders
	(e.g., screw machine, lathe,	46	.....Translatable axis
	etc.)	47	...Distinct tool changer for
18	..Tool support comprises rotary		each tool
	spindle	48	...Including intermediate tool
19	..Tool having specific mounting		changer
	or work treating feature	49	...Linearly movable tool holder
20	..Workpiece holder (e.g., chuck	50	...Tool holder pivotable about
	or chuck jaw, collet, etc.)		plural nonparallel axes
21	...Turning tool insert changer	51	..Including linearly
22	..Tool changer between tool		translatable tool changer
	support and matrix		(e.g., shuttle, ram, etc.)
23	...Plural matrices	52	...Plural tool holders
24	...Tool support comprises turret	53	...Orthogonally translatable
25	....Linearly moveable tool	54	..Direct tool exchange between
	changer		spindle and matrix
26	...Linearly moveable tool changer	55	...Spindle comprises tool changer
27	..Direct tool exchange between	56	...Matrix indexes selected tool
	tool support and matrix		to transfer position
28	.Reciprocating tool machine tool	57	...Including means to project
	(e.g., broaching machine,		tool from matrix
	shaping machine, etc.)	58	TOOL TRANSFER TO OR FROM MATRIX
29	..Including matrix	59	.Matrix including means to latch
			tool

60 .Matrix including means to
project tool for transfer
61 ..Rectilinear
62 ..Pivoting
63 .Plural matrices
64 ..including tool replenishing
65 .Including tool pot or adapter
66 .Indexing matrix
67 ..Rotary disc
68 ..Chain or belt
69 **MISCELLANEOUS**

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IN SPINDLE**
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