CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SHAPING

B28 WORKING CEMENT, CLAY, OR STONE

B28D WORKING STONE OR STONE-LIKE MATERIALS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme

1/00	Working stone or stone-like materials, e.g. brick, concrete {or glass}, not provided for elsewhere; Machines, devices, tools therefor (fine working	1/068	• • • {Components, e.g. guiding means, vibrations damping means, frames, driving means, suspension}
	of gems, jewels, crystals B28D 5/00; working	1/08	• • with saw-blades of endless cutter-type, e.g. chain
	by grinding or polishing <u>B24</u> ; devices or means	1,00	saws {, i.e. saw chains}, strap saws (B28D 1/10
	for dressing or conditioning abrasive surfaces		takes precedence)
	B24B 53/00)	1/082	• • {consisting of chain saws}
1/001	• {Cleaning bricks (by milling B28D 1/185)}	1/084	• • • (the saw chains being mounted on a
1/003	• {Multipurpose machines; Equipment therefor}	1,001	pivotingly adjustable arm}
1/005	• {Cutting sheet laminae in planes between faces	1/086	• • {consisting of strap saws}
	(splitting easily splittable material <u>B28D 1/322</u>)}	1/088	• • • {Sawing in situ, e.g. stones from rocks, grooves
1/006	• {Artificial ageing of stones; Providing stones with	1,000	in walls}
	an antique appearance}	1/10	with provision for measuring
1/008	• • {by means of a tumbler}	1/12	Saw-blades {or saw-discs} specially adapted for
1/02	 by sawing 		working stone {(B28D 1/041 takes precedence)}
1/025	• • {Use, recovery or regeneration of abrasive	1/121	{Circular saw blades}
	mediums (B28D 5/007 takes precedence; for	1/122	• • • { with exchangeable cutter bits or cutter
	grinding and polishing in general B24B 57/00)}		segments}
1/04	with circular {or cylindrical} saw-blades or saw-	1/124	• • {Saw chains; rod-like saw blades; saw cables}
	discs (B28D 1/10 takes precedence)	1/125	• • • { with exchangeable cutter bits or cutter
1/041	• • • {with cylinder saws, e.g. trepanning; saw		segments}
	cylinders, e.g. having their cutting rim equipped with abrasive particles}	1/127	• • {Straight, i.e. flat, saw blades; strap saw blades}
1/042	• • • {the saw blade being carried by a pivoted	1/120	,
1/012	lever (B28D 1/043 and B28D 1/044 take	1/128	• • • { with exchangeable cutter bits or cutter segments }
1/0/12	precedence)}	1/14	 by boring or drilling (rotary drilling machines
1/043	• • • {Gantry type sawing machines}		<u>B23B</u> ; {tools for drilling machines <u>B23B 51/00</u> };
1/044	• • • {the saw blade being movable on slide ways (B28D 1/043 takes precedence)}		portabe percussive machines <u>B25D</u> ; {rotary drilling machines for mining or quarrying <u>E21B 3/00</u> })
1/045	• • • {Sawing grooves in walls; sawing stones from	1/143	• • {lens-drilling machines}
	rocks; sawing machines movable on the stones	1/146	• • {Tools therefor (drill bits for earth or rock drilling
	to be cut}		<u>E21B 10/00</u>)}
1/046	• • • {Sawing in a plane parallel to the work table}	1/16	• by turning
1/047	• • • {with the work mounted on a carriage}	1/18	 by milling, e.g. channelling by means of milling
1/048	 {with a plurality of saw blades (<u>B28D 1/046</u> takes precedence)} 	1/181	tools
1/06	• • with reciprocating saw-blades (<u>B28D 1/10</u> takes	1/101	 { using cutters loosely mounted on a turning tool support}
1,00	precedence)	1/183	• • {Hand tools, e.g. portable, motor driven}
1/062	• • { the saw blade rotating about its longitudinal	1/185	• • {for brick cleaning}
	axis}	1/185	Tools therefor, e.g. having exchangeable cutter
1/064	• • • {Sawing grooves in walls; portable sawing	1/100	bits (B28D 1/181 takes precedence; bits for
1/066	machines} {the workpieces being moved in a horizontal		picks or pick-holders for mining or quarrying
1/000	plane, e.g. with vertically or oblique movable	1/100	<u>E21C 35/18</u>)}
	saw-blades}	1/188	• • { with exchangeable cutter bits or cutter segments }

CPC - 2024.05

1/20	 by planing, e.g. channelling by means of planing tools 	5/0076	• • {for removing dust, e.g. by spraying liquids; for lubricating, cooling or cleaning tool or work}
1/22	 by cutting, e.g. incising 	5/0082	• • {for supporting, holding, feeding, conveying or
1/221	• • {by thermic methods}		discharging work}
1/222	• • {by pressing, e.g. presses}	5/0088	• • • {the supporting or holding device being
1/223	• • {Hand-held or hand-operated tools for shearing or cleaving}	5/0094	angularly adjustable}• • {the supporting or holding device being of the
1/225	• • {for scoring or breaking, e.g. tiles}		vacuum type}
1/226	• • {vith plural scoring tools}	5/02	• by rotary tools, e.g. drills {(B28D 5/0005 takes
1/227	. { with planar scoring tools }. { for cutting tubes }		precedence)}
1/228	 • {For eatting tubes} • {Hand-held or hand-operated tools (B28D 1/222, 	5/021	• {by drilling}
1/220	B28D 1/225 take precedence)	5/022	• • {by cutting with discs or wheels}
1/24	• with cutting discs	5/023	• • {with a cutting blade mounted on a carriage}
1/24	——————————————————————————————————————	5/024	• • • { with a cutting state insumed on a carriage} • • • • { with the stock carried by a movable support
1/26	 by impact tools, e.g. by chisels or other tools having a cutting edge (portable percussive tools <u>B25D</u>) 	3,021	for feeding stock into engagement with the cutting blade, e.g. stock carried by a pivoted
1/265	• • {Scabbling machines or scabbling tools}		arm or a carriage}
1/28	• • without cutting edge {, e.g. chiseling machines}	5/025	• • • • { with the stock carried by a pivoted arm}
1/30	• to form contours, i.e. curved surfaces, irrespective	5/026	• • • { with a cutting blade carried by a movable arm,
	of the method of working used (for artistic purposes <u>B44B</u>)	3/026	e.g. pivoted (<u>B28D 5/023</u> and <u>B28D 5/028</u> take
1/32	 Methods and apparatus specially adapted for 	5/027	precedence)}
	working materials which can easily be split, e.g. mica, slate, schist	5/027	• • • {with a cutting blade arranged underneath a stationary work table}
1/322	• • {Splitting of the working materials}	5/028	• • • { with a ring blade having an inside cutting
1/325	• • {for making holes in easily splittable working		edge}
	materials}	5/029	• • • {with a plurality of cutting blades}
1/327	• • {for cutting or shearing easily splittable working	5/04	 by tools other than rotary type, e.g. reciprocating
	materials}		tools $\{(\underline{B28D \ 5/0005} \ takes \ precedence)\}$
2/00	TO 1 1911 19 (1) 4 (1	5/042	• • {by cutting with blades or wires mounted in a
3/00	Dressing mill discs or rollers (dressing the tools		reciprocating frame}
	of sawing machines or sawing devices <u>B23D 63/00</u> ; treating the cutting members of cutting machines to	5/045	• • {by cutting with wires or closed-loop blades (B28D 5/042 takes precedence)}
2/00=	facilitate cutting B26D 7/08)	5/047	• • {by ultrasonic cutting (using abrading substances
2/005			
3/005	• {Tools therefor}		or abrading tools subjected to a bouncing action
3/02	. Machines		or abrading tools subjected to a bouncing action by ultrasonic energy <u>B24B 1/04</u>)}
		7/00	by ultrasonic energy <u>B24B 1/04</u>)}
3/02 3/04	Machinesfor grooving rollers	7/00	by ultrasonic energy <u>B24B 1/04</u>)} Accessories specially adapted for use with
3/02	Machinesfor grooving rollersFine working of gems, jewels, crystals, e.g. of	7/00	by ultrasonic energy <u>B24B 1/04</u>)} Accessories specially adapted for use with machines or devices of the preceding groups
3/02 3/04	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices		by ultrasonic energy <u>B24B 1/04</u>)} Accessories specially adapted for use with machines or devices of the preceding groups {(<u>B28D 5/0058</u> takes precedence)}
3/02 3/04	Machinesfor grooving rollersFine working of gems, jewels, crystals, e.g. of	7/00 7/005	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} . {Devices for the automatic drive or the program
3/02 3/04	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for	7/005	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines}
3/02 3/04 5/00	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by 	7/005 7/02	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} . {Devices for the automatic drive or the program control of the machines} . for removing or laying dust, e.g. by spraying liquids; for cooling work
3/02 3/04 5/00 5/0005 5/0011	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} 	7/005	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or
3/02 3/04 5/00 5/0005 5/0011 5/0017	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} 	7/005 7/02	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041,
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing <u>B24</u> ; for artistic purposes <u>B44B</u>) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} 	7/005 7/02 7/04	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)}
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing <u>B24</u> ; for artistic purposes <u>B44B</u>) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} 	7/005 7/02	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • {the supporting or holding device being angularly}
3/02 3/04 5/00 5/0005 5/0011 5/0023 5/0029 5/0035	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • {the supporting or holding device being angularly adjustable}
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing <u>B24</u> ; for artistic purposes <u>B44B</u>) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} 	7/005 7/02 7/04	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • {the supporting or holding device being angularly}
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {using fluid or gas pressure} {means for conveying work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {with preliminary treatment, e.g. weakening by scoring} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with machines for fine working of gems, jewels, crystals, 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with machines for fine working of gems, jewels, crystals, e.g. of semiconductor material (B28D 5/0005, 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/000 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with machines for fine working of gems, jewels, crystals, e.g. of semiconductor material (B28D 5/0005, B28D 5/024 take precedence)} {Devices for the automatic drive or the program control of the machines} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/00 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with machines for fine working of gems, jewels, crystals, e.g. of semiconductor material (B28D 5/0005, B28D 5/024 take precedence)} {Devices for the automatic drive or the program control of the machines} {Use, recovery or regeneration of abrasive} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the
3/02 3/04 5/000 5/0005 5/0011 5/0017 5/0023 5/0029 5/0035 5/0041 5/0047 5/0052	 Machines for grooving rollers Fine working of gems, jewels, crystals, e.g. of semiconductor material; apparatus or devices therefor (working by grinding or polishing B24; for artistic purposes B44B) {by breaking, e.g. dicing} {with preliminary treatment, e.g. weakening by scoring} {using moving tools} {rectilinearly} {rotating} {cooperating with a straight breaking edge} {the workpiece being brought into contact with a suitably shaped rigid body which remains stationary during breaking} {using fluid or gas pressure} {Means for supporting or holding work during breaking (means for conveying work to or discharging work from the breaking machine B28D 5/0058)} {Accessories specially adapted for use with machines for fine working of gems, jewels, crystals, e.g. of semiconductor material (B28D 5/0005, B28D 5/024 take precedence)} {Devices for the automatic drive or the program control of the machines} 	7/005 7/02 7/04 7/043	by ultrasonic energy B24B 1/04)} Accessories specially adapted for use with machines or devices of the preceding groups {(B28D 5/0058 takes precedence)} • {Devices for the automatic drive or the program control of the machines} • for removing or laying dust, e.g. by spraying liquids; for cooling work • for supporting or holding work {or conveying or discharging work (B28D 1/047, B28D 5/0041, B28D 5/0052 take precedence)} • • {the supporting or holding device being angularly adjustable} • • {the supporting or holding device being of the

CPC - 2024.05