

**CPC****COOPERATIVE PATENT CLASSIFICATION****B23G**

**THREAD CUTTING; WORKING OF SCREWS, BOLT HEADS, OR NUTS, IN CONJUNCTION THEREWITH** (making helical grooves by turning [B23B 5/48](#), by milling [B23C 3/32](#), by forging, pressing, or hammering [B21K 1/56](#), by grinding [B24B 19/02](#); arrangements for copying or controlling [B23Q](#); thread-forming by corrugating tubes [B21D 15/04](#), by rolling [B21H 3/02](#))

**NOTE**

The term "thread cutting" is to be understood as including the use of tools similar both in form and in manner of use to thread-cutting tools, but without removing any material

**B23G 1/00****Thread cutting; Automatic machines specially designed therefor****B23G 1/02**

- on an external or internal cylindrical or conical surface, e.g. on recesses ([B23G 1/16](#), [B23G 1/22](#), [B23G 1/32](#), [B23G 1/36](#) take precedence)

**B23G 1/04**

- .. Machines with one working-spindle

**B23G 1/06**

- ... specially adapted for making conical screws, e.g. wood-screws

**B23G 1/08**

- .. Machines with a plurality of working spindles

**B23G 1/10**

- ... specially adapted for making conical screws, e.g. wood-screws

**B23G 1/12**

- .. Machines with a toothed cutter in the shape of a spur-gear of the like which is rotated to generate the thread profile as the work rotates

**B23G 1/14**

- ... specially adapted for making conical screws, e.g. wood-screws

**B23G 1/16**

- in holes of workpieces by taps ([B23G 1/26](#), [B23G 1/32](#), [B23G 1/36](#) take precedence)

**B23G 1/18**

- .. Machines with one working spindle

**B23G 1/185**

- ... {specially adapted for making nuts}

**B23G 1/20**

- .. Machines with a plurality of working spindles

**B23G 1/205**

- ... {specially adapted for making nuts}

**B23G 1/22**

- Machines specially designed for operating on pipes or tubes

**B23G 1/225**

- .. {automatically controlled}

**B23G 1/24**

- .. portable

**B23G 1/26**

- Manually-operated thread-cutting devices (features of the threading tool per se [B23G 5/00](#))

**B23G 1/261**

- .. {Die and tap wrenches (lubricating and cooling devices therefor [B23G 5/005](#); [B23G 1/265](#) takes precedence)}

**B23G 1/262**

- ... {Tap wrenches having a V slot ([B23G 1/264](#) takes precedence)}

**B23G 1/263**

- ... {Die wrenches having a cylindrical opening and a clamping screw}

**B23G 1/264**

- .... {comprising tap wrench features with a V slot}

**B23G 1/265**

- .. {Die and tap wrenches with a guiding part (lubricating and cooling devices therefor [B23G 5/005](#))}

**B23G 1/266**

- ... {Tap wrenches having a V slot ([B23G 1/268](#) takes precedence)}

**B23G 1/267**

- ... {Die wrenches having a cylindrical opening and a clamping screw}

B23G 1/268	. . . . {comprising tap wrench features with a V slot}
B23G 1/28	. . with means for adjusting the threading tool
B23G 1/30	. . without means for adjusting the threading tool, e.g. with die-stock ( <a href="#">tap wrenches B25B</a> )
B23G 1/32	. by milling
B23G 1/34	. . with a cutting bit moving in a closed path arranged eccentrically with respect to the axis of the rotating workpieces
B23G 1/36	. by grinding
B23G 1/38	. . with grinding discs guided along the workpiece in accordance with the pitch of the required thread
B23G 1/40	. . with grinding discs guided radially to the workpiece
B23G 1/42	. Centreless grinding
B23G 1/44	. Equipment or accessories specially designed for machines or devices for thread cutting
B23G 1/46	. . for holding the threading tools {( <a href="#">B23B 31/083 takes precedence</a> )}
B23G 1/465	. . . {comprising arrangements for reversing the rotation of the tool}
B23G 1/48	. . for guiding the threading tools
B23G 1/50	. . for cutting thread by successive operations
B23G 1/52	. . for operating on pipes or tubes
<b>B23G 3/00</b>	<b>Arrangements or accessories for enabling machine tools not specially designed only for thread cutting to be used for this purpose, e.g. arrangements for reversing the working spindle</b>
B23G 3/005	. {for enabling presses to be used for thread cutting}
B23G 3/02	. for withdrawing or resetting the threading tool
B23G 3/04	. . for repeatedly setting the threading tool in a predetermined working position
B23G 3/06	. for compensating inaccuracies in the pitch of the lead-screw
B23G 3/08	. for advancing or controlling the threading tool or the work by templates, cams, or the like
B23G 3/10	. . for cutting thread of variable pitch
B23G 3/12	. . for using several adjacently-arranged threading tools, e.g. using several chasers
B23G 3/14	. . for cutting thread of conical shape
<b>B23G 5/00</b>	<b>Thread-cutting tools; Die-heads</b>
B23G 5/005	. {with lubrication or cooling devices}
B23G 5/02	. without means for adjustment
B23G 5/04	. . Dies
B23G 5/043	. . . {with guiding means}
B23G 5/046	. . . {for conical thread}
B23G 5/06	. . Taps ( <a href="#">chucks therefor B23B 31/00</a> )
B23G 5/062	. . . {with a guiding means part}
B23G 5/064	. . . {with weakened shank portion}
B23G 5/066	. . . {with stops}

B23G 5/068	... {with means for removing the broken tap}
B23G 5/08	. with means for adjustment
B23G 5/083	.. {Adjustable dies}
B23G 5/086	... {with guiding means}
B23G 5/10	.. Die-heads
B23G 5/103	... {with guiding means}
B23G 5/106	... {Collet-type die-heads}
B23G 5/12	... self-releasing
B23G 5/14	.. Tapping-heads
B23G 5/16	... self-releasing
B23G 5/18	. Milling cutters
B23G 5/182	.. {combined with other tools}
B23G 5/184	... {combined with drills (B23G 5/188 takes precedence)}
B23G 5/186	... {combined with chamfering tools}
B23G 5/188	.... {and with drills}
B23G 5/20	. combined with other tools, e.g. drills {(B23G 5/182 takes precedence; screws which drill and tap F16B 25/00)}
<b>B23G 7/00</b>	<b>Forming thread by means of tools similar both in form and in manner of use to thread-cutting tools, but without removing any material (features of machines or devices not specially adapted to the particular mode of forming the thread B23G 1/00)</b>
B23G 7/02	. Tools for this purpose
<b>B23G 9/00</b>	<b>Working screws, bolt heads, or nuts in conjunction with thread cutting, e.g. slotting screw heads or shanks, removing burrs from screw heads or shanks; Finishing, e.g. polishing, any screw-thread</b>
B23G 9/001	. {Working screws}
B23G 9/002	.. {Slotting screw heads or shanks}
B23G 9/003	.. {Deburring screws}
B23G 9/004	.. {Finishing screws (B23G 9/003 takes precedence)}
B23G 9/005	. {Working nuts}
B23G 9/006	.. {Slotting nuts}
B23G 9/007	.. {Deburring nuts}
B23G 9/008	.. {Finishing nuts (B23G 9/007 takes precedence)}
B23G 9/009	. {Thread cleaning or repairing}
<b>B23G 11/00</b>	<b>Feeding or discharging mechanisms combined with, or arranged in, or specially adapted for use in connection with, thread-cutting machines (for machines tools in general B23Q)</b>
<b>B23G 2200/00</b>	<b>Details of threading tools</b>
B23G 2200/02	. Tools in which the shank and the cutting part are made from different materials or from separate components

- B23G 2200/04 . Tools with negative cutting angles
- B23G 2200/06 . Connections between parts of threading tools
- B23G 2200/062 . . Brazed connections
- B23G 2200/065 . . Glued connections
- B23G 2200/067 . . Welded connections
- B23G 2200/08 . Threading tools with adjustable elements ([manually operated thread cutting devices with means for adjusting the threading tool B23G 1/28](#))
- B23G 2200/10 . Threading tools comprising cutting inserts
- B23G 2200/12 . Threading tools comprising inserts for thread forming
- B23G 2200/14 . Multifunctional threading tools
- B23G 2200/141 . . Tools comprising means for deburring
- B23G 2200/142 . . Tools comprising means for forming threads by deformation
- B23G 2200/143 . . Tools comprising means for drilling
- B23G 2200/144 . . Tools comprising a die
- B23G 2200/145 . . Tools comprising means for milling features other than the thread
- B23G 2200/146 . . Tools comprising a tap
- B23G 2200/147 . . Tools comprising means for reaming
- B23G 2200/148 . . Tools having means for countersinking
- B23G 2200/16 . Tools with cutting edges spaced unequally around the circumference
- B23G 2200/18 . Tools rotatable in both directions
- B23G 2200/20 . Tools having a brush
- B23G 2200/22 . Tools having an end cap, e.g. for the distribution of cutting fluid
- B23G 2200/24 . Chip breakers
- B23G 2200/26 . Coatings of tools
- B23G 2200/28 . Threading tools having a conical form
- B23G 2200/30 . Cutting edges that are rounded in the cross-sectional view of the cutting edge
- B23G 2200/32 . Tools having a decreasing diameter in the direction of the shank from the tip
- B23G 2200/34 . Tools having an increasing diameter in the direction of the shank from the tip ([B23G 2200/28 takes precedence](#))
- B23G 2200/36 . Tools having provision to produce threads of more than one type or size
- B23G 2200/38 . Tools with shanks having a working end at each end of the shank
- B23G 2200/40 . Tools with variable or different helix angles
- B23G 2200/42 . Hollow tools
- B23G 2200/44 . Taps with more than one threading section, the threading sections being axially spaced from one another
- B23G 2200/46 . Tools having a section of polygonal form, e.g. for the transmission of torque
- B23G 2200/48 . Spiral grooves, i.e. spiral flutes
- B23G 2200/50 . Tools in which the pitch of the teeth is a multiple of the pitch of the thread being produced

**B23G 2210/00      Details of threads produced**

B23G 2210/04	. Internal threads
B23G 2210/08	. External threads
B23G 2210/12	. Threads having a large diameter
B23G 2210/16	. Multiple start threads
B23G 2210/21	. Threads in nuts
B23G 2210/24	. Threads having a variable pitch
B23G 2210/28	. Threads having a rounded profile
B23G 2210/36	. Threads having a square profile
B23G 2210/41	. Threads having a stepped profile
B23G 2210/44	. Threads having a trapezoidal profile
B23G 2210/48	. Threads having a special form or profile not otherwise provided for

#### **B23G 2225/00      Materials of threading tools, workpieces or other structural elements**

B23G 2225/04	. Cubic boron nitride
B23G 2225/08	. Cermets
B23G 2225/12	. Chromium
B23G 2225/16	. Diamond
B23G 2225/165	. . Polycrystalline diamond
B23G 2225/24	. Elastomers, e.g. rubber
B23G 2225/28	. Hard metal, i.e. cemented carbides
B23G 2225/32	. High speed steel
B23G 2225/36	. Molybdenum disulphide
B23G 2225/40	. Plastics not otherwise provided for
B23G 2225/44	. Titanium
B23G 2225/48	. Titanium aluminium nitride (TiAlN)
B23G 2225/52	. Titanium carbide
B23G 2225/56	. Titanium carbide nitride (TiCN)
B23G 2225/60	. Titanium nitride

#### **B23G 2240/00      Details of equipment for threading other than threading tools, details of the threading process**

B23G 2240/04	. Compensation of centrifugal force
B23G 2240/08	. Evacuation of chips or fines
B23G 2240/12	. Means for cooling or lubrication
B23G 2240/16	. Equipment for producing threaded component with a rotating disc to hold the components
B23G 2240/20	. Guiding devices with a pin affixable in a drilling chuck and with free rotation of the threading tool holder with respect to the pin
B23G 2240/24	. Guides for threading tools having a V-groove for location on cylindrical workpieces
B23G 2240/28	. Indication scales
B23G 2240/32	. Threading devices designed to be mounted in the tailstock of a lathe
B23G 2240/36	. Methods of threading not otherwise provided for

- B23G 2240/40 . Threading equipment having an integrally incorporated driving motor
- B23G 2240/44 . Tap or die wrenches with multiple locations for holding threading tools, e.g. for holding threading tools of different sizes
- B23G 2240/48 . Protective sleeves for taps
- B23G 2240/52 . Sensors
- B23G 2240/56 . Producing or refurbishing threads for spark plugs or glow plugs
- B23G 2240/60 . Thread whirling, i.e. production of a thread by means of an annular tool rotating about an axis not coincident with the axis of the thread being produced