

**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 ( [tap wrenches B25B](#) )
  
- 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 { [B23B 31/083](#) takes precedence }
- 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
  
- B23G 3/00 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**
  
- 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
  
- B23G 5/00 Thread-cutting tools; Die-heads**
  
- 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 ( chucks therefor <a href="#">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 ( <a href="#">B23G 5/188</a> 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 { ( <a href="#">B23G 5/182</a> takes precedence; screws which drill and tap <a href="#">F16B 25/00</a> ) }
<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 <a href="#">B23G 1/00</a> )</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 ( <a href="#">B23G 9/003</a> takes precedence ) }
B23G 9/005	. { Working nuts }
B23G 9/006	.. { Slotting nuts }
B23G 9/007	.. { Deburring nuts }

B23G 9/008	. . { Finishing nuts ( <a href="#">B23G 9/007</a> 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 <a href="#">B23Q</a> )</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 ( <a href="#">manually operated thread cutting devices with means for adjusting the threading tool <a href="#">B23G 1/28</a></a> )
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
<b>B23G 2240/00</b>	<b>Details of equipment for threading other than threading tools, details of the threading process</b>
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