

**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 [B23B 31/00](#) )
- 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](#) )}
  
- B23G 7/00** **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](#) )**
  
- B23G 7/02 . Tools for this purpose
  
- B23G 9/00** **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**
  
- 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 ( <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