

**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

**Guidance heading:****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 ([B23G 9/007](#) takes precedence) }
- B23G 9/009 . {Thread cleaning or repairing }

**B23G 11/00**      **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](#) )

#### Guidance heading:

#### **B23G 2200/00**      **Details of threading tools**

- 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

#### **Guidance heading:**

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| <b>B23G 2210/00</b> | <b>Details of threads produced</b> |
| 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