

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](#))

Definition statement

This place covers:

Thread cutting by chip removal.

Production of threads with no removal of chips by means of tools similar in form and manner of use to thread cutting tools.

Working of screws, bolt heads and nuts in conjunction with thread cutting.

For further details of the interpretation of these terms, please refer to the notes under the relevant main group heading.

References

Limiting references

This place does not cover:

Thread forming by corrugating tubes	B21D 15/04
Making screwthreads by rolling	B21H 3/00
Making threaded elements by forging/hammering	B21K 1/26
Making nuts by forging or hammering	B21K 1/64
Turning helical grooves	B23B 5/48
Turning tools for threading	B23B 27/065
Milling helical grooves	B23C 3/32
Making gears (inc wormwheels)	B23F
Making milling cutters for threading	B23P 15/36
Making threading tools	B23P 15/48
Multi stage processes involving threading and also other operations classed in B23B , B23C , B23D , B23F , making particular items	B23P 23/00
Details of machine tools and accessories not related to the operation being performed including:	B23Q
- tool changing	B23Q 3/155
- conveying workpiece into and from machine	B23Q 7/00
- evacuation of swarf,	B23Q 11/0042
- guarding & protective coverings	B23Q 11/08
Adaptive control and/or computer controls for turning, boring or drilling processes	B23Q 15/00 , G05B 15/02
- measuring or sensing	B23Q 17/00
Grinding helicoidal grooves	B24B 19/022

Fasteners per se	F16B
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Special rules of classification

Classification in this subclass is generally according to a literal interpretation of the group and subgroup headings by a reader with a background in, and familiar with, metal cutting processes.

Indexing Codes from the 200 series (i.e. ICO codes from the following groups:

[B23G 2200/00](#) - [B23G 2200/50](#), [B23G 2210/00](#) - [B23G 2210/48](#), [B23G 2225/00](#) - [B23G 2225/60](#) and [B23G 2240/00](#) - [B23G 2240/60](#)) should be added to documents at every possible opportunity for deep indexing.

A mirror image code scheme (i.e. [B23G 1/00](#) - [B23G 11/00](#)) has recently been created for additional information. However, this scheme should NOT be used for classification of new documents.

At the end of each section of this document drawings have been provided, which give examples of the items classified in the most widely used subgroups. The example drawings have each been taken from a document classified within the subgroup, for which the example is provided.

B23G 1/00

Thread cutting; Automatic machines specially designed therefor

Definition statement

This place covers:

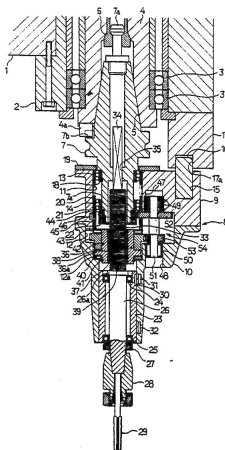
The cutting of threads and automatic machines specially designed therefor. A thread is to be understood as "a helical groove in a cylindrical hole" or a "helical ridge on a cylindrical bar, rod or shank". The term "cutting" should be understood as being by means of the removal of material, especially in the form of chips.

Illustrative example of subject matter classified in this group.

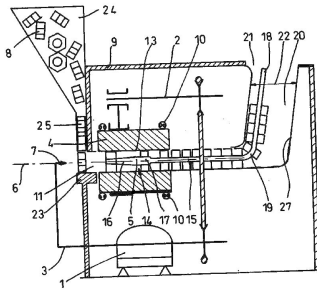
Notes:

None of the drawings is original and no copyright is claimed.

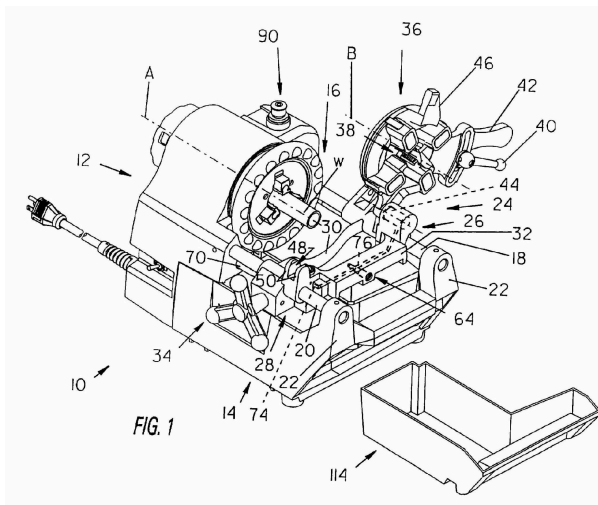
The majority of the drawings are each taken from a document classified in the group or subgroup, to which the example refers.



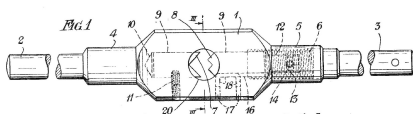
[B23G 1/16](#) Thread cutting by tapping



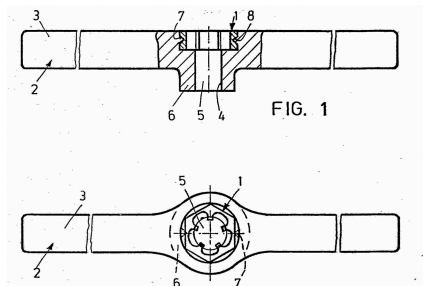
[B23G 1/185](#) Machine for tapping nuts with one working spindle (see also [B23G 9/00](#))



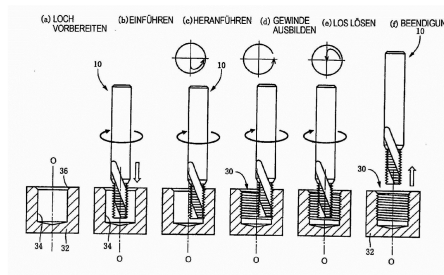
[B23G 1/22](#) and [B23G 1/24](#) Pipe threading machine
(for accessories see [B23G 1/52](#))



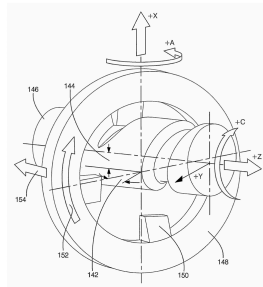
B23G 1/262 Tap wrench



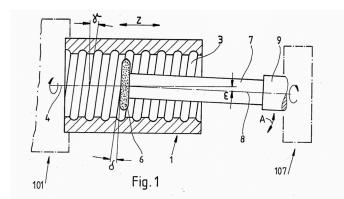
B23G1/26C2 Die wrench with guide (4)



B23G1/32 Thread milling



B23G1/34 Thread milling by whirling



B23G1/36 Thread grinding

The preceding image includes references to **B23G1/26C2**, [B23G 1/32](#), [B23G 1/34](#), and [B23G 1/36](#).

Special rules of classification

Classification within this group is according to literal interpretation of the titles of the sub-groups.

B23G 1/30

without means for adjusting the threading tool, e.g. with die-stocks (tap wrenches [B25B](#))

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

die-stock	a tool for holding a thread die, to enable the die to be rotated about a workpiece in order to cut an external thread thereon.
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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

Definition statement

This place covers:

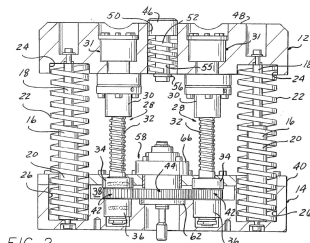
Arrangements or accessories for enabling machine tools not specially designed only for thread cutting to be used for this purpose, e.g. arrangements for reversing the working spindle.

Illustrative example of subject matter classified in this group.

Definition statement

Notes:

The drawing is not original and no copyright is claimed. The drawing is taken from a document classified in the subgroup [B23G 3/005](#), to which the example refers, and which is the only subgroup within [B23G 3/00](#), within which documents are regularly classified since the advent of CNC control.



[B23G 3/005](#) device to allow threading on a press

References

Limiting references

This place does not cover:

Tool holders suitable for tapping tools that allow for expansion or contraction, as commonly used in the threading process, either with or without an overload clutch.
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B23B 31/083

B23G 5/00

Thread-cutting tools; Die-heads

Definition statement

This place covers:

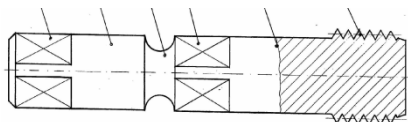
Thread-cutting tools and die-heads. The thread cutting tools of this group are the parts of the thread cutting arrangement containing the cutting edges. This can be in the form of a tool removable from a machine, manually operable, or both. Example: a tap characterised by the features of the tap itself would be classed in [B23G 5/06](#). A machine using such a tap with special features of the machine or the process of tapping is classed in [B23G 1/16](#). A tap wrench for manually using the tap is classed in [B23G 1/261](#).

Illustrative example of subject matter classified in this group.

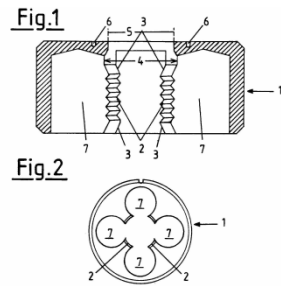
Notes:

None of the drawings is original and no copyright is claimed.

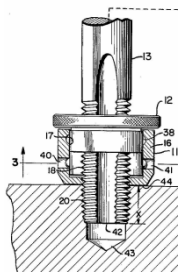
The majority of the drawings are each taken from a document classified in the group or subgroup, to which the example refers.



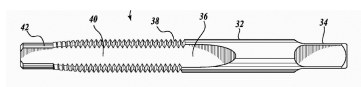
[B23G 5/064](#) & [B23G 5/068](#) Tap with weakened shank and means to remove broken tap



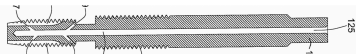
[B23G 5/043](#) threading die with guide (5)



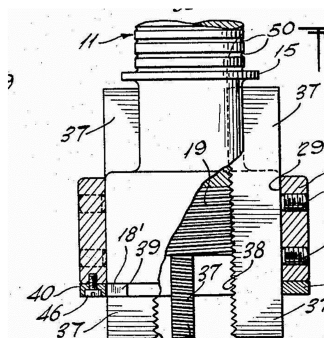
[B23G 5/066](#) Tap with stop



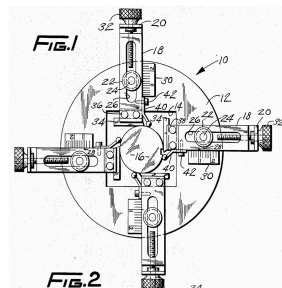
B23G5/06B tap with pilot (42)



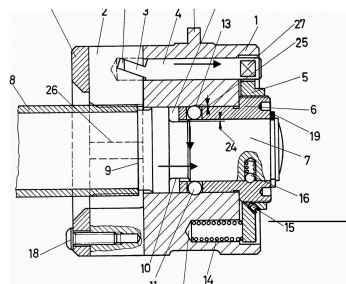
B23G5/00B and B23G5/06 Tap with multiple cutting sections and lubrication channel



B23G5/10 Die head



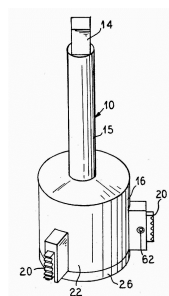
B23G5/08B Adjustable die (was L23G700/08B1)



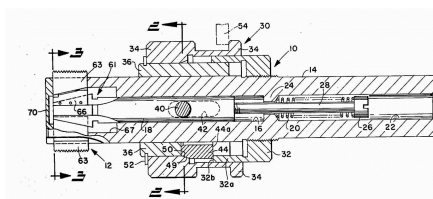
B23G5/12 Self-releasing die head

Definition statement

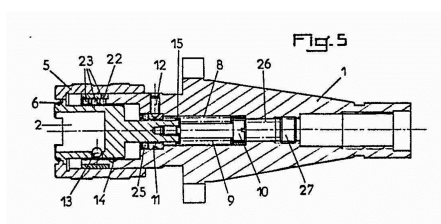
The preceding image includes references to [B23G5/06B](#), [B23G5/00B](#), [B23G 5/06](#), [B23G5/08B](#), [B23G 5/10](#), and [B23G 5/12](#).



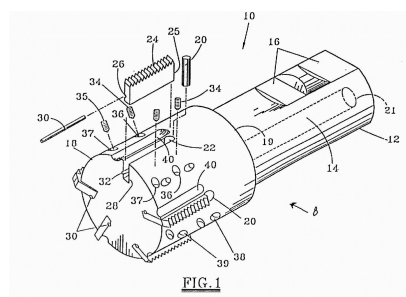
B23G5/14 Tapping head



B23G5/16 Self-releasing (collapsible) tapping head. Note that many documents for this type of equipment are still in B23G5/14 with +IDT classification

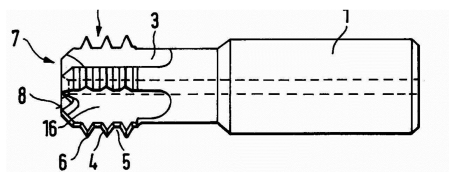


B23G5/14 contains tap holders such as this

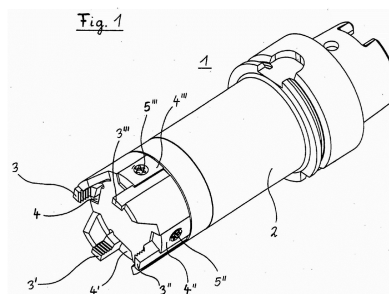


B23G5/18 Thread milling cutter with inserted cutting edges

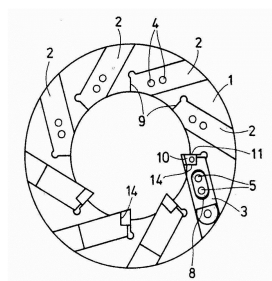
The preceding image includes references to [B23G 5/14](#), [B23G 5/16](#), and [B23G 5/18](#).



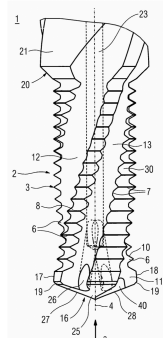
B23G5/18 Thread Milling Cutter



B23G5/18 thread milling cutter for external threads



B23G5/18 Thread milling cutter for whirling threads



B23G5/18B4B
Combined thread
mill, chamfer tool
and drill

The preceding image includes references to [B23G 5/18](#).

Special rules of classification

Classification within this group is per literal interpretation of the subgroup headings by a reader skilled in the art of metal cutting.

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](#))

Definition statement

This place covers:

Forming threads by means of tools similar both in form and in manner of use to thread-cutting tools, but without removing any material.

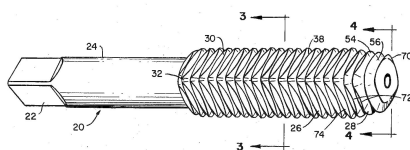
The term "similar in form and in manner of use to thread cutting tools" of [B23G 7/00](#) should be strictly interpreted. The forming tool being used should bear a very close resemblance to known cutting tools. Examples of such tools are forming taps (roll taps i.e. a tool similar to a cutting tap, rotated on its own axis and fed linearly with feed per revolution equal to thread pitch), and forming tools resembling milling cutters rotated on their own axes and used with a helical feed in which the pitch of the helix corresponds to that of the thread being produced. Although these are the most common examples, the use of thread-forming dies, similar to in form to thread cutting dies or indeed any tool falling under the term, "similar both in form and in manner of use" that isn't classed elsewhere in ECLA can be classed here.

Illustrative example of subject matter classified in this group.

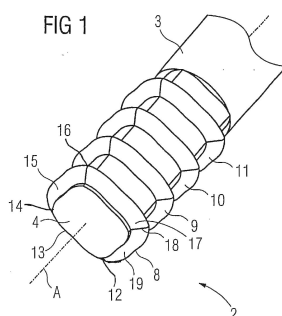
Notes:

None of the drawings is original and no copyright is claimed.

The majority of the drawings are each taken from a document classified in the group or subgroup, to which the example refers.



[B23G 7/02](#) Roll tap



[B23G 7/02](#) Tool for forming a thread by a procedure similar to milling

References

Limiting references

This place does not cover:

Thread forming by corrugating tubes	B21D 15/04
Making screwthreads by rolling	B21H 3/00
Making threaded elements by forging/hammering	B21K 1/26
Making nuts by forging or hammering	B21K 1/64

As the tools used in these processes are not similar in form and manner of use to a thread-cutting tool.

Special rules of classification

Classification is per a literal interpretation of the group/subgroup heading by a person skilled in the art of metal cutting.

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

Definition statement

This place covers:

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.

The term "in conjunction with thread cutting" in the title of group [B23G 9/00](#) should be interpreted in a very strict and limited manner. Documents should only be classified in [B23G 9/00](#) if the content refers to the mechanical working of the screw, bolt or nut. The working of screws, bolt heads or nuts **MUST** be in conjunction with the cutting of the thread. For example the coating of screw threads should be classified either according to the fastener per se or according to the process being used.

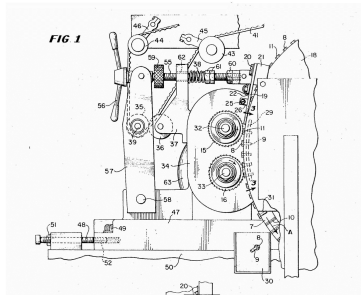
Illustrative example of subject matter classified in this group.

Notes:

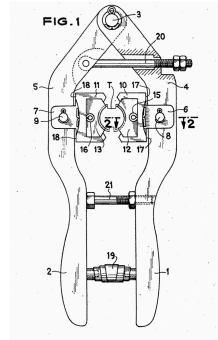
None of the drawings is original and no copyright is claimed.

Definition statement

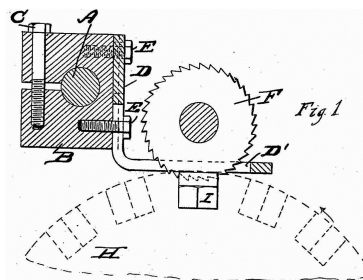
The majority of the drawings are each taken from a document classified in the group or subgroup, to which the example refers.



B23G9/00B2 Screw slotting machine.

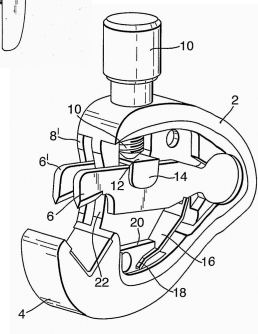


B23G9/00B3 Thread deburring tool (also classed in B23G9/00D)



B23G9/00C2 Nut slotting tool.

B23B9/00D Thread repair device



The preceding image includes references to **B23G9/00B2**, **B23G9/00B3**, **B23G9/00C2**, and **B23G9/00D**,

Special rules of classification

Classification is per a literal interpretation of the group/subgroups headings by a person skilled in the art of metal cutting.

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](#))

Definition statement

This place covers:

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](#))

[B23G 11/00](#) refers to feeding or discharging mechanisms in so far as they are specifically destined for thread cutting machines. [B23Q 7/00](#) is used for feeding or discharging mechanisms in general.

B23G 2200/08

Threading tools with adjustable elements

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Manually-operated thread-cutting devices with means for adjusting the threading tool	B23G 1/28
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