

G04D

APPARATUS OR TOOLS SPECIALLY DESIGNED FOR MAKING OR MAINTAINING CLOCKS OR WATCHES (machine tools in general B23, B24; hand tools in general B25)

Definition statement

This subclass/group covers:

Apparatus, devices, tools and machines for manufacturing, processing, assembling, lubricating and testing clocks or watches and units thereof.

Relationship between large subject matter areas

The general aspects of machine tools or metal-working not specially adapted for [G04D](#) are covered by class B23. Grinding and polishing in general are covered by class B24. The general aspects of hand tools, portable power-driven tools, handles for hand implements or manipulators are covered by class B25 .

Special rules of classification within this subclass

In horology only a low percentage of patent applications deal with machines and tools, however manufacturing methods have become very popular: these are normally classified in [G04B](#) (for example [G04B 17/066](#): manufacture of the spiral spring) however the working process of the machine may suggest a manufacturing process, so please consider searching in the relevant [G04D](#) subgroup when dealing with a manufacturing method.

G04D 1/00

Gripping, holding, or supporting devices [N: stands in general F16M; for instruments G01D11/30 , B01L]

Definition statement

This subclass/group covers:

Tools for assembling, disassembling and mounting such as tweezers, vice clamps; Supporting and holding devices for clockworks or parts of time-pieces; Equipment for opening or closing watch bottoms or covers.

Informative references

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

Surgical pinsetters	A61B 17/30
Vices, hand vices, pliers, work holders or positioners in general	B25B

Manipulators	B25 J
Supports in general	F16M
Supports specially adapted for an instruments or a set of instruments	G01D 11/30
Mounting the clockwork in the cases	G04B 37/04
Component assemblies of electronic time-pieces	G04G 17/02
Resilient or clamping means for holding component to structure	H05K 7/12

G04D 3/00

Watchmakers' or watch-repairers' machines or tools for working materials [N: metal working in general class B23]

Definition statement

This subclass/group covers:

Machines and tools for burnishing, lathing, gauging, lapping or for other processes of treatment of clocks or watches; Devices for fixing bearing jewels, placing the elements of bearings; Devices for shaping or setting watch glasses; Machines or apparatus for cleaning.

Informative references

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

Tools for setting gems in jewellery	A44C 17/04
Making jewellery or other personal adornments	A44C 27/00
Cleaning in general	B08B
Machines for assembling or disassembling parts	B23P 19/04
Setting gems or the like on metal parts, e.g. diamonds on tools	B23P 5/00

Bearings and details thereof	F16C 15/00 - F16C 33/00
Jewel bearings for mechanical watches	G04B 31/00
Sealing watch crystals or glasses	G04B 39/02
Automatically operating machines in a manufacturing environment	G05B 19/18

G04D 5/00

Oiling devices; Special lubricant containers for watchmakers [N: bearings constructed with regard to oiling of the clockwork G04B31/00T; oilcans for lubricating in general F16N3/04]

Definition statement

This subclass/group covers:

Devices or arrangements for lubricating; Special lubricant containers for watchmakers.

Informative references

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

Arrangements for lubricating tools or work	B23Q 11/10
Special parts or details of bearings in view of lubrication	F16C 33/66
Lubricating in general	F16N
Lubrication of bearings using in clocks or watches	G04B 31/08

G04D 7/00

Measuring, counting, calibrating, testing or regulating apparatus [N: measuring devices and calibers in general

G01B; counters in general H03K]

Definition statement

This subclass/group covers:

Arrangements or apparatus used for measuring, counting, calibrating, testing or regulating of clock's units or parts, e.g. such as gearworks, balance wheels or hairsprings.

Informative references

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

Instruments for measuring linear dimensions, angles, length or thickness	G01B
Instruments for measuring stress, force or torque in general	G01L 1/00 - G01L 3/00
Instruments for measuring torque, adapted for special purposes	G01L 5/00
Testing static or dynamic balance of machines or structures	G01M 1/00
Arrangements for measuring frequencies of electronic signals	G01R 23/00
Adjusting escapements	G04B 15/12
Mechanisms for setting frequency of mechanically-driven clocks or watches	G04B 18/00
Time-interval measuring	G04F

G04D 9/00

Demagnetising devices (demagnetising in general H01F13/00)

Definition statement

This subclass/group covers:

Devices or apparatus used for removing the magnetic field from clocks or watches or from parts thereof.

Informative references

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

Demagnetising devices in general	H01F 13/00
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G04D 99/00

Subject matter not provided for in other groups of this subclass