

CPC**COOPERATIVE PATENT CLASSIFICATION****G04D**

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

G04D 1/00

Gripping, holding, or supporting devices { stands in general [F16M](#); for instruments [G01D 11/30](#), [B01L](#) }

- G04D 1/0007 . { for assembly entirely by hand }
- G04D 1/0014 . . { Workbenches, supports; Workbenches provided with suction devices; for dust; Illumination }
- G04D 1/0021 . . { Supporting means facilitating assembly and mechanisation, e.g. magazines for components (machines for assembly [G04D 1/0071](#); supports in general [G04D 1/06](#)) }
- G04D 1/0028 . . { Screwdrivers (screwdrivers in general [B25B 15/00](#)) }
- G04D 1/0035 . . . { with power source for driving the screwdriver }
- G04D 1/0042 . . { tools for setting, riveting or pressing, e.g. nippers for this purpose (machines therefor [G04D 3/042](#), [G04D 3/045](#), [G04D 3/047](#)) }
- G04D 1/005 . { for non-automatic assembly, with automatic transport between workbenches }
- G04D 1/0057 . . { Conveyor belts or chains (in general [B65G](#)) }
- G04D 1/0064 . . { Turntables or plates (carousels) (in general [B65G 47/00](#)) }
- G04D 1/0071 . { for totally automated assembly }
- G04D 1/0078 . { Automated gripping means (hand-operated gripping means [G04D 1/02](#)) }
- G04D 1/0085 . . { with pneumatic holding means (hand tools with pneumatic means [G04D 1/02](#)) }
- G04D 1/0092 . { Devices for positioning and sorting of the components (sorting and positioning in general [B23Q](#)) }
- G04D 1/02 . Tweezers; Vice clamps or other special hand tools for watchmakers { [G04D 1/04](#), [G04D 1/08](#), [G04D 1/10](#) take precedence; vices [B25B](#); devices for setting bearing jewels and parts thereof [G04D 3/04](#); devices for setting watch glasses [G04D 3/06](#) }
- G04D 1/021 . . { Tweezers (tweezers for medical purposes [A61B](#); setting tools [B41B 1/00](#)) }
- G04D 1/022 . . { Universal nippers (nippers for setting watch glasses [G04D 3/067](#)) }
- G04D 1/023 . . { Revolving-head nippers (jaw plates for latches [G04D 3/0218](#)) }
- G04D 1/025 . . { Hand screws }
- G04D 1/026 . . { Clamps for holding bearing jewels (machines for setting bearing jewels [G04D 3/0002](#)) }
- G04D 1/027 . . { Hand tools for gripping or holding by magnetic means }
- G04D 1/028 . . { Hand tools for gripping or holding by pneumatic means }
- G04D 1/04 . Tools for setting springs]
- G04D 1/041 . . { for springs of driving mechanisms (machines therefor [G04D 3/0007](#)) }

- G04D 1/042 . . { for coil springs in regulating mechanisms (machines therefor [G04D 3/0041](#)) }
- G04D 1/044 . . . { for working the ends (machines therefor [G04D 3/0041](#)) }
- G04D 1/045 . . . { for fastening the ends (machines therefor [G04D 3/00B2K](#), [G04D 3/0041](#)) }
- G04D 1/047 { on the coil roll }
- G04D 1/048 { on the coil bobbin }

- G04D 1/06 . Supporting devices for clockworks or parts of time-pieces { for automatic assembly [G04D 1/0021](#) }
- G04D 1/063 . . { provided with a pick-up means, e.g. microphone (measuring and control means for comparison with a standard frequency [G04D 7/12](#)) }
- G04D 1/066 . . { Packaging and boxes for transport (packaging for small items, packaging for special items [B65D](#)) }

- G04D 1/08 . Tools for setting or removing hands { machines therefor [G04D 3/00B14B1](#) }
- G04D 1/10 . Devices for opening or closing watch bottoms or covers { machines therefor [G04D 3/00](#) }

- G04D 3/00** **Watchmakers` or watch-repairers` machines or tools for working materials { metal working in general class [B23](#) }**

- G04D 3/0002 . { for mechanical working other than with a lathe (lathes for watchmakers [G04D 3/02](#)) }
- G04D 3/0005 . . { for parts of driving means }
- G04D 3/0007 . . . { for springs (springs in general [B21F](#); mainspring construction [G04B 1/14](#); springs for the regulating mechanism see [G04D 3/0041](#)) }
- G04D 3/001 . . . { for spring barrels (construction of spring barrels [G04B 1/16](#), [G04B 1/18](#)) }
- G04D 3/0012 . . { for parts of the winding-up mechanism, e.g. for winding axles, crowns (construction thereof [G04B 3/00](#), [G04B 5/00](#)) }
- G04D 3/0015 . . { for components of the pawl construction, stop clicks, clutches (construction thereof [G04B 11/00](#)) }
- G04D 3/0017 . . { for components of gearworks (construction thereof [G04B 13/00](#)) }
- G04D 3/002 . . . { for gear wheels or gears }
- G04D 3/0023 . . . { for axles, sleeves }
- G04D 3/0025 . . . { for axletaps, e.g. for grinding or polishing thereof (on a lathe [G04D 3/02](#)) }
- G04D 3/0028 . . { for components of the escape mechanism (construction thereof [G04B 15/00](#)) }
- G04D 3/003 . . . { for levers }
- G04D 3/0033 . . . { for lever wheels }
- G04D 3/0035 . . { for components of the regulating mechanism }
- G04D 3/0038 . . . { for balances (construction therefor [G04B 17/063](#)) }
- G04D 3/0041 . . . { for coil-springs (coil-springs in general [B21F](#); springs for the driving mechanism [G04D 3/0007](#)) }
- G04D 3/0043 . . { for components of the time-indicating mechanisms (construction thereof [G04B 19/00](#)) }
- G04D 3/0046 . . . { for hands (construction thereof [G04B 19/00](#)) }
- G04D 3/0048 . . . { for dials (construction thereof [G04B 19/10](#), [G04B 19/12](#)) }
- G04D 3/0051 . . . { for time markers }

- G04D 3/0053 .. { for framework components (construction thereof [G04B 29/00](#)) }
- G04D 3/0056 .. { for bearing components (construction thereof [G04B 31/00](#)) }
- G04D 3/0058 ... { for bearing jewels (machines for boring through stones [B28D](#); for diamonds [B24B](#); diamond polishing [B24B 9/16](#); manufacture of drawing stones [B23P 5/00](#); setting of industrial stones [B23P 15/24](#)) }
- G04D 3/0061 .. { for components for protecting the mechanism against external influences (construction thereof [G04B 37/00](#), [G04B 43/00](#)) }
- G04D 3/0064 ... { for cases }
- G04D 3/0066 ... { for the fastening means of the case or bracelet (construction thereof [G04B 37/1486](#)) }
- G04D 3/0069 . { for working with non-mechanical means, e.g. chemical, electrochemical, metallising, vapourising; with electron beams, laser beams }
- G04D 3/0071 .. { for bearing components }
- G04D 3/0074 . { for treatment of the material, e.g. surface treatment }
- G04D 3/0076 .. { for components of driving mechanisms, e.g. mainspring }
- G04D 3/0079 .. { for gearwork components }
- G04D 3/0082 ... { for gear wheels or gears }
- G04D 3/0084 ... { for axles, sleeves }
- G04D 3/0087 .. { for components of the escapement mechanism, e.g. lever escapement, escape wheel }
- G04D 3/0089 .. { for components of the regulating mechanism, e.g. coil springs }
- G04D 3/0092 .. { for components of the time-indicating mechanism, e.g. dials }
- G04D 3/0094 .. { for bearing components }
- G04D 3/0097 .. { for components of the means protecting the mechanism against external influences, e.g. cases }
- G04D 3/02 . Lathes, with one or more supports; Burnishing machines, with one or more supports { metal lathes [B23B](#); automatic lathes [B23B](#); grinding and polishing in general class [B24](#) }
- G04D 3/0209 .. { Components }
- G04D 3/0218 ... { Jaw-plates, revolving-head nippers }
- G04D 3/0227 .. { for the manufacture of special components for clockworks }
- G04D 3/0236 ... { for gearwork components }
- G04D 3/0245 { for gear wheels or gears }
- G04D 3/0254 { for axles, sleeves }
- G04D 3/0263 { for axle taps }
- G04D 3/0272 ... { for components of the time-indicating mechanism, e.g. dials }
- G04D 3/0281 ... { for bearing components }
- G04D 3/029 ... { for components of the means protecting the mechanism from external influences, e.g. cases }
- G04D 3/04 . Devices for placing bearing jewels, bearing sleeves, or the like in position { fixing jewels [A44C 17/04](#); tools for assembling and taking apart gear wheels and bearing components [B25B](#); machines for the manufacture of bearing jewels and components [G04D 3/0002](#) }
- G04D 3/042 .. { for bearing jewels (pressing nippers and hand tools [G04D 1/0042](#)) }

- G04D 3/045 . . { for lever, Impulse-pin (adjustment of the escapement [G04D 7/06](#))}
- G04D 3/047 . . { for the coil rolls or bobbins }
- G04D 3/06 . Devices for shaping or setting watch glasses {(cutting watch glasses [C03B 33/04](#); fixing spectacle lenses 42HS2A1; grinding or working of spectacle lenses and lenses [B24B](#); working plastic materials in general [B29](#))}
- G04D 3/062 . . { Shaping without chipping away, e.g. by hot pressing or by punching out the whole piece from a plate }
- G04D 3/065 . . { Shaping by removing material, e.g. cutting out from a plate, milling the edges }
- G04D 3/067 . . { Setting or taking apart, whereby a temporary deformation of the glass may take place }
- G04D 3/08 . Machines or apparatus for cleaning
- G04D 3/083 . . { whereby the components to be cleaned are placed in a container }
- G04D 3/086 . . . { whereby the container rotates in a cleaning fluid }
- G04D 5/00** **Oiling devices; Special lubricant containers for watchmakers** { bearings constructed with regard to oiling of the clockwork [G04B 31/00T](#); oilcans for lubricating in general [F16N 3/04](#) }
- G04D 5/005 . { Oilcans and other hand tools for lubricating special parts of the clockwork mechanism }
- G04D 7/00** **Measuring, counting, calibrating, testing or regulating apparatus** { measuring devices and calibers in general [G01B](#); counters in general [H03K](#) }
- G04D 7/001 . { Purely mechanical measuring and testing apparatus }
- G04D 7/002 . { Electrical measuring and testing apparatus }
- G04D 7/003 . . { for electric or electronic clocks }
- G04D 7/004 . { Optical measuring and testing apparatus }
- G04D 7/005 . { Counters for small components, e.g. bearing jewels }
- G04D 7/006 . { Testing apparatus for complete clockworks with regard to external influences or general good working }
- G04D 7/007 . . { with regard to the sealing of the case }
- G04D 7/008 . . { with regard to the reaction to shocks }
- G04D 7/009 . . { with regard to the functioning of the automatic winding-up device }
- G04D 7/02 . for mainsprings
- G04D 7/04 . for gearwork, { e.g. optical control of gear wheels; optical control in general [G01B](#), [G01B 9/08](#) }
- G04D 7/06 . for escapements
- G04D 7/08 . for balance wheels

- G04D 7/081 .. { for adjusting the fellow or the shafts (adjustment of the gear wheels [G04D 7/04](#))}
- G04D 7/082 .. { for balancing }
- G04D 7/084 ... { by setting adjustable elements, e.g. balance wheel screws }
- G04D 7/085 ... { by removing material from the balance wheel itself }
- G04D 7/087 { Automatic devices therefor (balancing and loading or removing carried out automatically)}
- G04D 7/088 ... { by loading the balance wheel itself with material }
- G04D 7/10 . for hairsprings { of balances }
- G04D 7/12 . Timing devices for clocks or watches for comparing the rate of the oscillating member with a standard { supporting devices for clocks with built-in recording apparatus [G04D 1/063](#); measuring short time intervals [G04F 10/00](#); frequency measuring in general [H04B](#), [G01R](#) }
- G04D 7/1207 .. { only for measuring }
- G04D 7/1214 ... { for complete clockworks }
- G04D 7/1221 { with recording, e.g. vibrograph }
- G04D 7/1228 { Devices for facilitating the reading or the interpretation of the recording }
- G04D 7/1235 ... { for the control mechanism only (found from outside the clockwork)}
- G04D 7/1242 { for measuring amplitude }
- G04D 7/125 { for measuring frequency }
- G04D 7/1257 .. { wherein further adjustment devices are present }
- G04D 7/1264 ... { for complete clockworks }
- G04D 7/1271 ... { for the control mechanism only (from outside the clockwork)}
- G04D 7/1278 { whereby the adjustment device works on the compass }
- G04D 7/1285 { whereby the adjustment device works on the mainspring }
- G04D 7/1292 { whereby the adjustment device works on the balance wheel }
- G04D 9/00** **Demagnetising devices (demagnetising in general [H01F 13/00](#))**
- G04D 99/00** **Subject matter not provided for in other groups of this subclass**