

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 thereof [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 felloe 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