

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 3/0007 , 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 3/0046 }
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 31/08](#); 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**