

ECLA EUROPEAN 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](#))
- G04D1/00 Gripping, holding, or supporting devices** [N: stands in general [F16M](#); for instruments [G01D11/30](#), [B01L](#)]
- G04D1/00B . [N: for assembly entirely by hand]
 - G04D1/00B2 . . [N: Workbenches, supports; Workbenches provided with suction devices; for dust; illumination]
 - G04D1/00B3 . . [N: Supporting means facilitating assembly and mechanisation, e.g. magazines for components (machines for assembly [G04D1/00D](#); supports in general [G04D1/06](#))]
 - G04D1/00B5 . . [N: Screwdrivers (screwdrivers in general [B25B15/00](#))]
 - G04D1/00B5B . . . [N: with power source for driving the screwdriver]
 - G04D1/00B6 . . [N: tools for setting, riveting or pressing, e.g. nippers for this purpose (machines therefor [G04D3/04B](#), [G04D3/04C](#), [G04D3/04D](#))]
 - G04D1/00C . [N: for non-automatic assembly, with automatic transport between workbenches]
 - G04D1/00C2 . . [N: Conveyor belts or - chains (in general [B65G](#))]
 - G04D1/00C3 . . [N: Turntables or -plates (carousels) (in general [B65G47/00](#))]
 - G04D1/00D . [N: for totally automated assembly]
 - G04D1/00G . [N: Automated gripping means (hand-operated gripping means [G04D1/02](#))]
 - G04D1/00G2 . . [N: with pneumatic holding means (hand tools with pneumatic means [G04D1/02](#))]
 - G04D1/00H . [N: Devices for positioning and sorting of the components (sorting and positioning in general [B23Q](#))]
 - G04D1/02 . Tweezers; Vice clamps or other special hand tools for watchmakers [N: [G04D1/04](#), [G04D1/08](#), [G04D1/10](#) take precedence; vices [B25B](#); devices for setting bearing jewels and parts thereof [G04D3/04](#); devices for setting watch glasses [G04D3/06](#)]
 - G04D1/02B . . [N: Tweezers (tweezers for medical purposes [A61B](#); setting tools [B41B1/00](#))]
 - G04D1/02C . . [N: Universal nippers (nippers for setting watch glasses [G04D3/06D](#))]
 - G04D1/02D . . [N: Revolving-head nippers (jaw plates for latches [G04D3/02B2](#))]
 - G04D1/02F . . [N: Hand screws]
 - G04D1/02G . . [N: Clamps for holding bearing jewels (machines for setting bearing jewels [G04D3/00B](#))]
 - G04D1/02H . . [N: Hand tools for gripping or holding by magnetic means]
 - G04D1/02K . . [N: Hand tools for gripping or holding by pneumatic means]
 - G04D1/04 . Tools for setting springs]
 - G04D1/04B . . [N: for springs of driving mechanisms (machines therefor [G04D3/00B2B](#))]
 - G04D1/04C . . [N: for coil springs in regulating mechanisms (machines therefor [G04D3/00B12C](#))]

- G04D1/04C2 . . . [N: for working the ends (machines therefor [G04D3/00B12C](#))]
- G04D1/04C3 . . . [N: for fastening the ends (machines therefor [G04D3/00B2K](#), [G04D3/00B12C](#))]
- G04D1/04C3B [N: on the coil roll]
- G04D1/04C3C [N: on the coil bobbin]

- G04D1/06 . Supporting devices for clockworks or parts of time-pieces [N: for automatic assembly [G04D1/00B3](#)]
- G04D1/06B . . [N: provided with a pick-up means, e.g. microphone (measuring and control means for comparison with a standard frequency [G04D7/12](#))]
- G04D1/06G . . [N: Packaging and boxes for transport (packaging for small items, packaging for special items [B65D](#))]

- G04D1/08 . Tools for setting or removing hands [N: machines therefor [G04D3/00B14B1](#)]

- G04D1/10 . Devices for opening or closing watch bottoms or covers [N: machines therefor [G04D3/00](#)]

- G04D3/00** **Watchmakers` or watch-repairers` machines or tools for working materials** [N: metal working in general class [B23](#)]

- G04D3/00B . [N: for mechanical working other than with a lathe (lathes for watchmakers [G04D3/02](#))]
- G04D3/00B2 . . [N: for parts of driving means]
- G04D3/00B2B . . . [N: for springs (springs in general [B21F](#); mainspring construction [G04B1/14](#); springs for the regulating mechanism see [G04D3/00B12C](#))]
- G04D3/00B2C . . . [N: for spring barrels (construction of spring barrels [G04B1/16](#), [G04B1/18](#))]
- G04D3/00B4 . . [N: for parts of the winding-up mechanism, e.g. for winding axles, crowns (construction thereof [G04B3/00](#), [G04B5/00](#))]
- G04D3/00B6 . . [N: for components of the pawl construction, stop clicks, clutches (construction thereof [G04B11/00](#))]
- G04D3/00B8 . . [N: for components of gearworks (construction thereof [G04B13/00](#))]
- G04D3/00B8B . . . [N: for gear wheels or gears]
- G04D3/00B8C . . . [N: for axles, sleeves]
- G04D3/00B8D . . . [N: for axletaps, e.g. for grinding or polishing thereof (on a lathe [G04D3/02](#))]
- G04D3/00B10 . . [N: for components of the escape mechanism (construction thereof [G04B15/00](#))]
- G04D3/00B10B . . . [N: for levers]
- G04D3/00B10C . . . [N: for lever wheels]
- G04D3/00B12 . . [N: for components of the regulating mechanism]
- G04D3/00B12B . . . [N: for balances (construction therefor [G04B17/06B](#))]
- G04D3/00B12C . . . [N: for coil-springs (coil-springs in general [B21F](#); springs for the driving mechanism [G04D3/00B2B](#))]
- G04D3/00B14 . . [N: for components of the time-indicating mechanisms (construction thereof [G04B19/00](#))]
- G04D3/00B14B . . . [N: for hands (construction thereof [G04B19/00](#))]
- G04D3/00B14C . . . [N: for dials (construction thereof [G04B19/10](#), [G04B19/12](#))]
- G04D3/00B14D . . . [N: for time markers]
- G04D3/00B16 . . [N: for framework components (construction thereof [G04B29/00](#))]

- G04D3/00B18 . . [N: for bearing components (construction thereof [G04B31/00](#))]
- G04D3/00B18B . . . [N: for bearing jewels (machines for boring through stones [B28D](#); for diamonds [B24B](#); diamond polishing [B24B9/16](#); manufacture of drawing stones [B23P5/00](#); setting of industrial stones [B23P15/24](#))]
- G04D3/00B20 . . [N: for components for protecting the mechanism against external influences (construction thereof [G04B37/00](#), [G04B43/00](#))]
- G04D3/00B20B . . . [N: for cases]
- G04D3/00B20C . . . [N: for the fastening means of the case or bracelet (construction thereof [G04B37/14F](#))]
- G04D3/00C . [N: for working with non-mechanical means, e.g. chemical, electrochemical, metallising, vapourising; with electron beams, laser beams]
- G04D3/00C1 . . [N: for bearing components]
- G04D3/00D . [N: for treatment of the material, e.g. surface treatment]
- G04D3/00D2 . . [N: for components of driving mechanisms, e.g. mainspring]
- G04D3/00D8 . . [N: for gearwork components]
- G04D3/00D8B . . . [N: for gear wheels or gears]
- G04D3/00D8C . . . [N: for axles, sleeves]
- G04D3/00D10 . . [N: for components of the escapement mechanism, e.g. lever escapement, escape wheel]
- G04D3/00D12 . . [N: for components of the regulating mechanism, e.g. coil springs]
- G04D3/00D14 . . [N: for components of the time-indicating mechanism, e.g. dials]
- G04D3/00D18 . . [N: for bearing components]
- G04D3/00D20 . . [N: for components of the means protecting the mechanism against external influences, e.g. cases]
- G04D3/02 . Lathes, with one or more supports; Burnishing machines, with one or more supports [N: metal lathes [B23B](#); automatic lathes [B23B](#); grinding and polishing in general class [B24](#)]
- G04D3/02B . . [N: Components]
- G04D3/02B2 . . . [N: Jaw-plates, revolving-head nippers]
- G04D3/02C . . [N: for the manufacture of special components for clockworks]
- G04D3/02C8 . . . [N: for gearwork components]
- G04D3/02C8B [N: for gear wheels or gears]
- G04D3/02C8C [N: for axles, sleeves]
- G04D3/02C8D [N: for axle taps]
- G04D3/02C14 . . . [N: for components of the time-indicating mechanism, e.g. dials]
- G04D3/02C18 . . . [N: for bearing components]
- G04D3/02C20 . . . [N: for components of the means protecting the mechanism from external influences, e.g. cases]
- G04D3/04 . Devices for placing bearing jewels, bearing sleeves, or the like in position [N: fixing jewels [A44C17/04](#); tools for assembling and taking apart gear wheels and bearing components [B25B](#); machines for the manufacture of bearing jewels and components [G04D3/00B](#)]
- G04D3/04B . . [N: for bearing jewels (pressing nippers and hand tools [G04D1/00B6](#))]
- G04D3/04C . . [N: for lever, Impulse-pin (adjustment of the escapement [G04D7/06](#))]

- G04D3/04D . . [N: for the coil rolls or bobbins]
- G04D3/06 . Devices for shaping or setting watch glasses [N: (cutting watch glasses [C03B33/04](#); fixing spectacle lenses 42HS2A1; grinding or working of spectacle lenses and lenses B24B; working plastic materials in general B29)]
- G04D3/06B . . [N: Shaping without chipping away, e.g. by hot pressing or by punching out the whole piece from a plate]
- G04D3/06C . . [N: Shaping by removing material, e.g. cutting out from a plate, milling the edges]
- G04D3/06D . . [N: Setting or taking apart, whereby a temporary deformation of the glass may take place]
- G04D3/08 . Machines or apparatus for cleaning
- G04D3/08B . . [N: whereby the components to be cleaned are placed in a container]
- G04D3/08B2 . . . [N: whereby the container rotates in a cleaning fluid]
- G04D5/00** **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](#)]
- G04D5/00B . [N: Oilcans and other hand tools for lubricating special parts of the clockwork mechanism]
- G04D7/00** **Measuring, counting, calibrating, testing or regulating apparatus** [N: measuring devices and calibers in general [G01B](#); counters in general [H03K](#)]
- G04D7/00B . [N: Purely mechanical measuring and testing apparatus]
- G04D7/00C . [N: Electrical measuring and testing apparatus]
- G04D7/00C2 . . [N: for electric or electronic clocks]
- G04D7/00D . [N: Optical measuring and testing apparatus]
- G04D7/00G . [N: Counters for small components, e.g. bearing jewels]
- G04D7/00K . [N: Testing apparatus for complete clockworks with regard to external influences or general good working]
- G04D7/00K2 . . [N: with regard to the sealing of the case]
- G04D7/00K3 . . [N: with regard to the reaction to shocks]
- G04D7/00K4 . . [N: with regard to the functioning of the automatic winding-up device]
- G04D7/02 . for mainsprings
- G04D7/04 . for gearwork, [N: e.g. optical control of gear wheels; optical control in general [G01B](#), [G01B9/08](#)]
- G04D7/06 . for escapements
- G04D7/08 . for balance wheels
- G04D7/08B . . [N: for adjusting the felloe or the shafts (adjustment of the gear wheels [G04D7/04](#))]

- G04D7/08C . . [N:for balancing]
- G04D7/08C2 . . . [N: by setting adjustable elements, e.g. balance wheel screws]
- G04D7/08C3 . . . [N: by removing material from the balance wheel itself]
- G04D7/08C3B [N: Automatic devices therefor (balancing and loading or removing carried out automatically)]
- G04D7/08C4 . . . [N: by loading the balance wheel itself with material]

- G04D7/10 . for hairsprings [N: of balances]

- G04D7/12 . Timing devices for clocks or watches for comparing the rate of the oscillating member with a standard [N: supporting devices for clocks with built-in recording apparatus [G04D1/06B](#); measuring short time intervals [G04F10/00](#); frequency measuring in general [H04B](#), [G01R](#)]

- G04D7/12B . . [N: only for measuring]
- G04D7/12B2 . . . [N: for complete clockworks]
- G04D7/12B2B [N: with recording, e.g. vibrograph]
- G04D7/12B2B2 [N: Devices for facilitating the reading or the interpretation of the recording]

- G04D7/12B3 . . . [N: for the control mechanism only (found from outside the clockwork)]
- G04D7/12B3B [N: for measuring amplitude]
- G04D7/12B3C [N: for measuring frequency]
- G04D7/12C . . [N: wherein further adjustment devices are present]
- G04D7/12C2 . . . [N: for complete clockworks]
- G04D7/12C3 . . . [N: for the control mechanism only (from outside the clockwork)]
- G04D7/12C3B [N: whereby the adjustment device works on the compass]
- G04D7/12C3C [N: whereby the adjustment device works on the mainspring]
- G04D7/12C3D [N: whereby the adjustment device works on the balance wheel]

- G04D9/00** **Demagnetising devices** (demagnetising in general [H01F13/00](#))

- G04D99/00** **Subject matter not provided for in other groups of this subclass** [N0704]