INSTRUMENTS

G04D  APPARATUS OR TOOLS SPECIALLY DESIGNED FOR MAKING OR MAINTAINING CLOCKS OR WATCHES

1/00  Gripping, holding, or supporting devices [(stands in general F16M; for instruments G01D 11/30, B01L)]
1/0007 . [for assembly entirely by hand]
1/0014 . . [Workbenches, supports; Workbenches provided with suction devices; for dust; Illumination]
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)]
1/0028 . . [Screwdrivers (screwdrivers in general B25B 15/00)]
1/0035 . . [with power source for driving the screwdriver]
1/0042 . . [tools for setting, riveting or pressing, e.g. nippers for this purpose (machines therefor G04D 3/0042, G04D 3/045, G04D 3/047)]
1/005 . [for non-automatic assembly, with automatic transport between workbenches]
1/0057 . . [Conveyor belts or chains (in general B65G)]
1/0064 . . [Turntables or plates (carousels) (in general B65G 47/00)]
1/0071 . [for totally automated assembly]
1/0078 . [Automated gripping means (hand-operated gripping means G04D 1/02)]
1/0085 . . [with pneumatic holding means (hand tools with pneumatic means G04D 1/02)]
1/0092 . [Devices for positioning and sorting of the components (sorting and positioning in general B23Q)]
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)]
1/021 . . [Tweezers (tweezers for medical purposes A61B; setting tools B41B 1/00)]
1/022 . . [Universal nippers (nippers for setting watch glasses G04D 3/067)]
1/023 . . [Revolving-head nippers (jaw plates for latches G04D 3/0218)]
1/025 . . [Hand screws]
1/026 . . [Clamps for holding bearing jewels (machines for setting bearing jewels G04D 3/002)]
1/027 . . [Hand tools for gripping or holding by magnetic means]
1/028 . . [Hand tools for gripping or holding by pneumatic means]
1/04 . . [Tools for setting springs]
1/041 . . [for springs of driving mechanisms (machines therefor G04D 3/0007)]
1/042 . . [for coil springs in regulating mechanisms (machines therefor G04D 3/0041)]
1/044 . . [for working the ends (machines therefor G04D 3/0041)]
1/045 . . . . [for fastening the ends (machines therefor G04D 3/0007, G04D 3/0041)]
1/047 . . . . . . [on the coil roll]
1/048 . . . . . . [on the coil bobbin]
1/06 . . . . . . [Supporting devices for clockworks or parts of time-pieces ((for automatic assembly G04D 1/0021)]
1/063 . . . . . . [provided with a pick-up means, e.g. microphone (measuring and control means for comparison with a standard frequency G04D 7/12)]
1/066 . . . . . . [Packaging and boxes for transport (packaging for small items, packaging for special items B65D)]
1/08 . . . . . . [Tools for setting or removing hands (machines therefor G04D 3/0046)]
1/10 . . . . . . [Devices for opening or closing watch bottoms or covers (machines therefor G04D 3/00)]
3/00  Watchmakers' or watch-repairers' machines or tools for working materials ((metal working in general class B23)]
3/0002 . . . . [for mechanical working other than with a lathe (lathes for watchmakers G04D 3/02)]
3/0005 . . . . [for parts of driving means]
3/0007 . . . . [for springs (springs in general B21F; mainspring construction G04B 1/14; springs for the regulating mechanism see G04D 3/0041)]
3/0001 . . . . [for spring barrels (construction of spring barrels G04B 1/16, G04B 1/18)]
3/0012 . . . . [for parts of the winding-up mechanism, e.g. for winding axles, crowns (construction thereof G04B 3/00, G04B 5/00)]
3/0015 . . . . [for components of the pawl construction, stop clicks, clutches (construction thereof G04B 1/10)]
3/0017 . . . . [for components of gearworks (construction thereof G04B 13/00)]
3/002 . . . . . . [for gear wheels or gears]
3/0023 . . . . . . [for axles, sleeves]
3/0025 . . . [for axletaps, e.g. for grinding or polishing thereof (on a lathe G04D 3/02)]
3/0028 . . . [for components of the escape mechanism (construction thereof G04B 15/00)]
3/003 . . . [for levers]
3/0033 . . . [for lever wheels]
3/0035 . . . [for components of the regulating mechanism]
3/0038 . . . [for balances (construction therefor G04B 17/063)]
3/0041 . . . [for coil-springs (coil-springs in general B21F; springs for the driving mechanism G04D 3/0007)]
3/0043 . . . [for components of the time-indicating mechanisms (construction thereof G04B 19/00)]
3/0046 . . . [for hands (construction thereof G04B 19/00)]
3/0048 . . . [for dials (construction thereof G04B 19/10, G04B 19/12)]
3/0051 . . . [for time markers]
3/0053 . . . [for framework components (construction thereof G04B 29/00)]
3/0056 . . . [for bearing components (construction thereof G04B 31/00)]
3/0058 . . . [for bearing jewels (machines for boring through stones B23D; for diamonds B24B; diamond polishing B24B 9/16; manufacture of drawing stones B23P 5/00; setting of industrial stones B23P 15/24)]
3/0061 . . . [for components for protecting the mechanism against external influences (construction thereof G04B 37/00, G04B 43/00)]
3/0064 . . . [for cases]
3/0066 . . . [for the fastening means of the case or bracelet (construction thereof G04B 37/1486)]
3/0069 . . . [for working with non-mechanical means, e.g. chemical, electrochemical, metallising, vapourising; with electron beams, laser beams]
3/0071 . . . [for bearing components]
3/0074 . . . [for treatment of the material, e.g. surface treatment]
3/0076 . . . [for components of driving mechanisms, e.g. mainspring]
3/0079 . . . [for gearwork components]
3/0082 . . . [for gear wheels or gears]
3/0084 . . . [for axles, sleeves]
3/0087 . . . [for components of the escapement mechanism, e.g. lever escapement, escape wheel]
3/0089 . . . [for components of the regulating mechanism, e.g. coil springs]
3/0092 . . . [for components of the time-indicating mechanism, e.g. dials]
3/0094 . . . [for bearing components]
3/0097 . . . [for components of the means protecting the mechanism from external influences, e.g. cases]
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)}
3/0209 . . . [Components]
3/0218 . . . [Jaw-plates, revolving-head nippers]
3/0227 . . . [for the manufacture of special components for clockworks]
3/0236 . . . [for gearwork components]
3/0245 . . . [for gear wheels or gears]
3/0254 . . . . . [for axles, sleeves]
3/0263 . . . . . [for axle taps]
3/0272 . . . . . [for components of the time-indicating mechanism, e.g. dials]
3/0281 . . . . . [for bearing components]
3/029 . . . . . [for components of the means protecting the mechanism from external influences, e.g. cases]
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)}
3/042 . . . [for bearing jewels (pressing nippers and hand tools G04D 1/0042)]
3/045 . . . [for lever, Impulse-pin {adjustment of the escapement G04D 7/06}]
3/047 . . . [for the coil rolls or bobbins]
3/06 . . . Devices for shaping or setting watch glasses { (cutting watch glasses C03B 33/04; grinding or working of spectacle lenses and lenses B24B; working plastic materials in general B29)}
3/062 . . . [Shaping without chipping away, e.g. by hot pressing or by punching out the whole piece from a plate]
3/065 . . . [Shaping by removing material, e.g. cutting out from a plate, milling the edges]
3/067 . . . [Setting or taking apart, whereby a temporary deformation of the glass may take place]
3/08 . . . Machines or apparatus for cleaning
3/083 . . . [whereby the components to be cleaned are placed in a container]
3/086 . . . [whereby the container rotates in a cleaning fluid]
5/00 . . . Oilings, lubrications, or servicing of precision instruments { (lubricating of the clockwork G04B 31/08; oils for lubricating in general F16N 3/04)}
5/005 . . . [Oilcans and other hand tools for lubricating special parts of the clockwork mechanism]
7/00 . . . Measuring, counting, calibrating, testing or regulating apparatus { (measuring devices and calibers in general G01B; counters in general H03K)}
7/001 . . . [Purely mechanical measuring and testing apparatus]
7/002 . . . [Electrical measuring and testing apparatus]
7/003 . . . [for electric or electronic clocks]
7/004 . . . [Optical measuring and testing apparatus]
7/005 . . . [Counters for small components, e.g. bearing jewels]
7/006 . . . [Testing apparatus for complete clockworks with regard to external influences or general good working]
7/007 . . . [with regard to the sealing of the case]
7/008 . . . [with regard to the reaction to shocks]
7/009 . . . [with regard to the functioning of the automatic winding-up device]
7/02 . . . [for mainsprings]
7/04 . . . [for gearwork, { (e.g. optical control of gear wheels; optical control in general G01B, G01B 9/08)}]
7/06 . . . [for escapements]
7/08 . . . [for balance wheels]
7/081 . . {for adjusting the felloe or the shafts (adjustment of the gear wheels G04D 7/04)}
7/082 . . {for balancing}
7/084 . . {by setting adjustable elements, e.g. balance wheel screws}
7/085 . . {by removing material from the balance wheel itself}
7/087 . . . {Automatic devices therefor (balancing and loading or removing carried out automatically)}
7/088 . . . {by loading the balance wheel itself with material}
7/10 . for hairsprings {of balances}
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))
7/1207 . . {only for measuring}
7/1214 . . . {for complete clockworks}
7/1221 . . . . {with recording, e.g. vibrograph}
7/1228 . . . . . {Devices for facilitating the reading or the interpretation of the recording}
7/1235 . . . . . {for the control mechanism only (found from outside the clockwork)}
7/1242 . . . . . . {for measuring amplitude}
7/125 . . . . . . . {for measuring frequency}
7/1257 . . . . . {wherein further adjustment devices are present}
7/1264 . . . . . . {for complete clockworks}
7/1271 . . . . . . . {for the control mechanism only (from outside the clockwork)}
7/1278 . . . . . . . . {whereby the adjustment device works on the compass}
7/1285 . . . . . . . . . {whereby the adjustment device works on the mainspring}
7/1292 . . . . . . . . . . {whereby the adjustment device works on the balance wheel}

9/00 Demagnetising devices

99/00 Subject matter not provided for in other groups of this subclass