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

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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 3/042, 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 3/0002)]
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 timepieces ([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 11/00)]
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 axle taps, 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 thereof G04B 17/063)]
3/0041 . . [for coil-springs (coil-springs in general 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 B28D; 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 against external influences, e.g. cases]
3/002 . . [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 . . [whence the components to be cleaned are placed in a container]
3/086 . . [whence the container rotates in a cleaning fluid]
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 E16N 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]
Testing apparatus for complete clockworks with regard to external influences or general good working

with regard to the sealing of the case

with regard to the reaction to shocks

with regard to the functioning of the automatic winding-up device

for mainsprings

for gearwork, (e.g. optical control of gear wheels; optical control in general G01B, G01B 9/08)

for escapements

for balance wheels

{ for adjusting the felloe or the shafts (adjustment of the gear wheels G04D 7/04) }

{ for balancing }

{ by setting adjustable elements, e.g. balance wheel screws }

{ by removing material from the balance wheel itself }

{ Automatic devices therefor (balancing and loading or removing carried out automatically) }

{ by loading the balance wheel itself with material }

for hairsprings (of balances)

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)

{ only for measuring }

{ for complete clockworks }

{ with recording, e.g. vibrograph }

{ Devices for facilitating the reading or the interpretation of the recording }

{ for the control mechanism only (found from outside the clockwork) }

{ for measuring amplitude }

{ for measuring frequency }

{ wherein further adjustment devices are present }

{ for complete clockworks }

{ for the control mechanism only (from outside the clockwork) }

{ whereby the adjustment device works on the compass }

{ whereby the adjustment device works on the mainspring }

{ whereby the adjustment device works on the balance wheel }

Demagnetising devices

Subject matter not provided for in other groups of this subclass