

**83 Horology**

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- 83a Non-electric clocks and watches, calendar clocks, self-setting calendars similar to calendar clocks**
  - 83b Electric clocks**
  - 83c Machines, tools and devices for watch-making and clock-making**
  - 83d Measuring of short durations, precise time measuring**
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**83a Non-electric clocks and watches (electric 83b), calendar clocks, self-setting calendars similar to calendar clocks****Clock and watch drives**

- 83a-1 Clock and watch springs
- 83a-2 Spring housings for clocks and watches
- 83a-3 Mainspring fastenings: safety devices in case of and against breakage; regulators for clocks and watches
- 83a-4/01 Pocket watch drives
- 83a-4/50 Wristwatch drives (pocket watch drives 83a-4/01; drives for large clocks 83a-9)
- 83a-5 Drives for clocks with several springs, with weights and springs
- 83a-6 Drives for clocks with main and secondary springs
- 83a-7 Drives for clocks having a long running period
- 83a-8 Weight drives for clocks, clock as driving weight
- 83a-9 Drives for large clocks

**Clock trains and ratchet mechanisms**

- 83a-10 Pinions and arbors for clock and watch drives
- 83a-11 Running ratchet mechanisms for clocks and watches

**Indicating devices for clocks and watches and clocks and watches characterised by such devices**

- 83a-12 Hands for clocks and watches
- 83a-13/01 Simple dials and divisions for clocks and watches
- 83a-13/10 Alternate dials for clocks, i.e. dials for alternate indication of time from 1-12 or from 13-24 o'clock
- 83a-14 Dial fastening for clocks and watches
- 83a-15 Clocks and watches indicating different local times
- 83a-16 Clocks and watches with shifting figures, rotating dials, belts
- 83a-17 Clocks in which time is read by touch, watches for the blind
- 83a-18/01 Illumination in and on clocks and watches, night clocks and watches (clock and watch stands 34I-22)
- 83a-18/02 Luminous materials for clocks and watches
- 83a-19 Miscellaneous details for the indicating devices of clocks and watches

**Regulators for clocks and watches**

- 83a-20 Pendulums
- 83a-21 Torsion pendulums
- 83a-22 Beat regulation for pendulums
- 83a-23/01 Balances and regulators
- 83a-23/02 Hairsprings, collets, studs
- 83a-23/03 Regulators
- 83a-24 Compensation for clocks and watches
- 83a-25 Timepieces in which the works are partially or entirely visible

- 83a-26 Shifting bridges and other setting devices for clocks and watches, escapements mounted in special frames [rotary escapements]
- 83a-27 Escape wheels, anchor structures, and means of limiting the movement of the anchor in clocks and watches
- 83a-28 Free escapements for clocks and watches
- 83a-29 Free anchor escapements for clocks and watches
- 83a-30 Miscellaneous escapements for clocks and watches, constant drive
- 83a-31 Torsion pendulum escapements for clocks
- 83a-32 Liquid escapements for clocks

**Winding devices or winders for clocks** (electrical winders 83b-7)

- 83a-33 Winding devices for wall clocks and floor clocks
- 83a-34 Vibration winders, winding devices for clocks driven by wind or water power, or intermittently operating
- 83a-35 Thermometric and barometric clock winding devices (electric winding devices 83b-7/20)
- 83a-36 Indicating devices showing the running-down of the clock work
- 83a-37 Clock and watch keys
- 83a-38 Knob winders with Breguet clicks
- 83a-39 Knob winders for watches and clocks with yokes
- 83a-40 Knob winders for watches and clocks in which the stem is shifted for connecting and disconnecting
- 83a-41 Miscellaneous winding and setting devices for pocket watches, except 83a-38 – 83a-40
- 83a-42 Bow fasteners and pendants fastening of winding stems in watches and clocks, winding knobs for watches and clocks

**Clock and watch cases and frames**

- 83a-43 Clock and watch stands
- 83a-44 Hangers for clocks and watches
- 83a-45 Frames and cases for wall and grandfather clocks
- 83a-46/01 Frames and cases for pocket watches
- 83a-46/50 Frames and case parts for wristwatches (watchbands and their fastening to the casing of the watch 44a-39)
- 83a-47 Holding of the movement by means of the winding stem and other ways of fastening clocks or watches
- 83a-48 Jewel fastenings and bearings for clocks and watches (supporting of fine drive mechanisms for general purpose 47i-1)
- 83a-49 Protective devices for clocks and watches (protective covers and screens for clocks and watches 33b-12/04)
- 83a-50/01 Separate parts of cases and frames for clocks and watches
- 83a-50/02 Watch and clock crystals and their mounting
- 83a-50/03 Covers, hinges, latches, springs
- 83a-51/01 Ornamentation of clocks and watches, also by combination with mirrors, photographs, etc.
- 83a-51/02 Pocket travelling clocks
- 83a-52 Special structures of clock and watch cases and frames

**Striking mechanisms for clocks** (electrical striking mechanisms 38b-6)

- 83a-53 Locking-plate [count-wheel] striking mechanisms for clocks
- 83a-54 Rack-and-snail striking mechanisms for clocks
- 83a-55 Wheel-like gathering pallets for clock striking mechanisms
- 83a-56 Rotation rack by barrel wheels and the like, for clock striking mechanisms
- 83a-57 Noiseless rack movements for clocks
- 83a-58 Winding of clock driving mechanism through the striking mechanism and vice versa

- 83a-59 Repeating striking mechanisms, quarter-hour striking mechanisms
- 83a-60/01 Shiftable and adjustable hammers, disconnecting the hammer shaft in striking mechanisms for clocks
- 83a-60/02 Hammer heads
- 83a-61 Sounding devices for the striking mechanisms of clocks (51d-19)
- 83a-62 Details of various striking mechanisms, flies, friction regulators and the like (46e-7; 60-8; 60-9; 77f-14; 77f-15; 77f-29/00 – 77f-31/08)
- 83a-63/01 Striking mechanisms of special construction
- 83a-63/02 Self-adjusting striking mechanisms
- Alarm clocks** (electric alarm clocks with remote display or signal 74a-13 – 74a-20)
- 83a-64 Simple alarm clocks
- 83a-65 Alarm clocks with automatic disconnecting and stopping device
- 83a-66 Alarm clocks which may be set for a number of different times
- 83a-67 Alarm clocks which may be set to the minute
- 83a-68 Alarm clocks with 24-hour release
- 83a-69 Alarm clocks which operate for a number of days on one winding
- 83a-70 Repeating alarm clocks, i.e. with bells sounding at intervals, variable sound intensity or pre-signal
- 83a-71 Alarm clocks in combination with beds
- 83a-72 Alarm clocks connected with light switches (4d-28; 21c-40; 34l-8; 74a-17)
- 83a-73 Alarm clocks with devices producing music and other operations (83a-83)
- 83a-74 Means for preventing improper turning of the alarm hand in alarm clocks
- 83a-75 Pocket alarm clocks
- Clocks with secondary mechanisms**
- 83a-76 Clocks with cuckoo or other bird calls, clocks with trumpets
- 83a-77 Clocks with phonographs, musical clocks (musical alarm clocks 83a-73)
- 83a-78 Calendar clocks, self-setting calendars similar to calendar clocks (42n-12/07)
- 83a-79 Clocks with moving figures; art or figurine clocks
- Special kinds of timepieces**
- 83a-80 Timepieces using liquids, clepsydras, sun dials
- 83a-81 Pneumatic and hydraulic clocks
- 83a-82 Clocks with hidden works
- 83a-83 Clocks with pedometers, barometers, compasses, amusing toys and the like
- 83a-86 Antimagnetic clocks and watches (83c-8)
- 83b Electric clocks** (electric alarm clocks 74a)
- 83b-1/01 Independent clocks with pendulum escapement
- 83b-1/02 Independent clocks with balance escapement
- 83b-1/03 Miscellaneous independent electric clocks
- 83b-1/10 Contact devices in master clocks for the operation of slave clocks
- 83b-2/01 Impulse-driven slave clocks
- 83b-2/10 Clocks driven by means of synchronous motors (synchronous motors 21d2-16)
- 83b-2/20 Clock systems, circuits
- 83b-3 Switching devices for electric clocks (21g-3)
- 83b-4 Electrically driven devices for the setting of the hands of clocks
- 83b-5 Electric regulating devices for clocks
- 83b-6 Electrically driven striking mechanisms
- 83b-7/01 Clocks wound by means of electromagnets
- 83b-7/10 Clocks wound by means of electric motors

83b-7/20 Other electrically driven winding mechanisms for clocks; by means of hot wires, electro-pneumatically, etc. (non-electric winding devices 83a-35)

### **83c Machines, tools and devices for watch-making and clock-making**

83c-1 Wheel cutting and rounding-up machines for watchmakers and clockmakers

83c-2 Lathers and turns for watchmakers and clockmakers

83c-3/01 Watchmakers' and clockmakers' tools in general

83c-3/10 Devices for the cleaning of watches, clocks and components

83c-4 Milling machines of various kinds for watches and clocks

83c-5 Jewel-mounting tools for watchmakers and clockmakers

83c-6 Pliers and holding devices for watchmakers and clockmakers

83c-7 Tools for the hands and dials of clocks and watches

83c-8 Measuring, counting and regulating devices for watchmakers and clockmakers, demagnetising devices

### **83d Measuring of short durations, precise time measuring**

83d-1 Mechanical stop watches

83d-2 Electric stop watches (electric clocks 83b)

83d-3 Second counters

83d-4 Hour glasses, egg timers, metering clocks and the like (signal and warning clocks 74a-15 – 74a-17, 74a-19)

83d-5 Methods and circuits for the measuring of short durations and for precise time measuring independently from the applications (relaxation oscillations, general 21g-38, 21g-36/02; for other special applications 21a1-35/21, 21e-28/02, 51f-2/03, 74d-8/04, 74d-8/54)

83d-6 Devices for the measuring of short durations or for precise time measuring independently from the application (time checking devices 43a-36)

83d-7 Calibration and controlling devices for devices for measuring short durations or for precise time measuring