

G04B

MECHANICALLY-DRIVEN CLOCKS OR WATCHES; MECHANICAL PARTS OF CLOCKS OR WATCHES IN GENERAL; TIME PIECES USING THE POSITION OF THE SUN, MOON OR STARS (spring- or weight-driven mechanisms in general [F03G](#); electromechanical clocks or watches [G04C](#); electromechanical clocks with attached or built-in means operating any device at pre-selected times or after predetermined time intervals [G04C 23/00](#); clocks or watches with stop devices [G04F 7/08](#))

Definition statement

This place covers:

A mechanical timepiece is defined as a timepiece which is:

Driven by power which does not use electricity; therefore mechanically driven, pneumatically driven, hydraulically driven timepieces, sundials (but not electronic simulations of sundials);

mechanically regulated, hence making no use of electric, magnetic or electromagnetic means.

Relationships with other classification places

[G04B 19/30](#) and indented subgroups are by definition partially overlapping fields with electromechanical/electronic timepieces since an electric power (for example for the LEDs or the lamps) could be used to drive the timepiece and it could occur that the same power for driving the timepiece is used to illuminate the dial. It is therefore required to classify devices for the illumination of dials and hands in [G04B 19/30](#) and subclasses and possibly in [G04G 9/00](#) or [G04C 17/00](#) in case further aspects not concerning the illumination are present. LCD and similar electronic displays are not considered within the scope of [G04B 19/30](#) and should be classified in [G04G 9/00](#) or [G04C 17/00](#) only.

[G04B 43/007](#) : consider to classify also in [G04G 17/00](#).

In [G04B 37/1486](#) the arrangements concerning the watch case for fixing to a bracelets are classified. The details about the bracelets are classified in [A47C 15/00](#). Often a double CPC code may be needed.

Exceptions:

Winders for automatic and manually wound watches: although the heading of [G04D 7/009](#) is not appropriate, the winders for automatic watches are classified in that group and not the [G04B 5/00](#). The watch winders for manually wound watches are given the [G04B 3/006](#).

Winding up machines with means to prevent overwinding are classified in the above mentioned [G04D 7/009](#) and [G04B 3/006](#) respectively. However winding keys with means preventing overwinding are in [G04B 3/06](#).

See also comments on [G04C 1/00](#).

Timepieces combined with pen are not classified in [G04B 47/00](#) but in [B43K 29/087](#) only.

References

Limiting references

This place does not cover:

Timepieces in which the power is generated electrically AND mechanically do not form part of [G04B](#).

Mechanical parts of electronic or electromechanical timepieces should be classified in [G04C](#) or [G04G](#) in the structural parts fields, in particular in [G04G 17/00](#).

However, connections between parts, special gears that could also be used in mechanically driven watches should also be classified in [G04B](#).

Special rules of classification

[G04B 47/06](#) and subclasses: electrically driven timepieces have been classified here for long time by mistake since a suitable class was not found in [G04C-G04G](#); it is reminded that [G04B 47/00](#) is a virtual extension of [G04B 37/12](#) (case for special purposes) and mainly concerns the technical details of the cases. This means that [G04B 47/06](#) should only deal with special arrangement of the cases of mechanically driven timepieces with an extra measurement and/or indicating device not interfering with the driving. The main aspect of such timepieces are the interface between the case and the measurement/indicating device.

The same applies for the head class [G04B 47/00](#).

Typical case: a mechanically driven watch with a pressure sensor and indicator, the details about the mounting of the sensor in the case, or details about the mounting of the indicator on the dial, etc. will be classified in [G04B 47/00](#).

Electronic timepieces with integrated measuring instruments are also classified in [G04G 21/00](#).

G04B 1/00

Driving mechanisms {(driving mechanisms for Turkish time [G04B 19/22](#); driving mechanisms in the hands [G04B 45/043](#); driving mechanisms for phonographic apparatus [G11B 19/00](#); springs, driving weight engines [F03G](#); driving mechanisms for cinematography [G03B 1/00](#); driving mechanisms; driving mechanisms for time fuses for missiles [F42C](#); driving mechanisms for toys [A63H 29/00](#)}}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Driving mechanisms for toys including clockwork mechanisms	A63H 29/02
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Special rules of classification

When searching in [G04B 1/225](#) consider also to extend the search to [G04B 15/10](#) (escapements with constant pulses).

G04B 3/00

Normal winding of clockworks by hand or mechanically; Winding up several mainsprings or driving weights simultaneously {(automatic winding up [G04B 5/00](#); combined normal and automatic winding up [G04B 7/00](#); click devices [G04B 11/00](#); winding up the striking mechanism by the clockwork and vice versa [G04B 21/14](#); mechanical devices for setting the time-indication by using the winding means [G04B 27/02](#), [G04B 27/083](#); calibers of which the mainsprings are easily removable [G04B 33/14](#); winding mechanical clocks electrically [G04C 1/00](#); tools for setting springs [G04D 1/04](#); driving mechanisms for gramophones [G11B 19/00](#); driving mechanisms for cinematographs [G03B 1/00](#)}}

Special rules of classification

When searching in [G04B 3/006](#) consider also to extend the search to [A47F 7/022](#) (display cases or boxes for watches).

When searching in [G04B 3/04](#) and indented subgroups consider also to extend the search to [G04C 3/001](#) (electrical switches).

G04B 11/00

Click devices; Stop clicks; Clutches {(mechanisms for winding up by hand [G04B 3/00](#); automatic winding up [G04B 5/00](#); clutches in general, class **111**)}

Special rules of classification

Only rarely a patent application or a technical document is mainly directed to a click device or a clutch per se. In general click devices or clutches form part of a more complex device such as a transmission clutch from the oscillating weight to a mainspring, a calendar wheel or a time zone wheel etc. This entails that [G04B 11/00](#) contains almost (at least) double classified documents. It is required to classify a document here only when the details on the click/clutch are not trivial for the man skilled in the art.

G04B 13/00

Gearwork {(gearwork for driving the hands [G04B 19/02](#); calibers [G04B 33/00](#); dispositions and components for transmission in general [F16H](#))}

Special rules of classification

Only rarely a patent application or a technical document is mainly directed to a click device or a clutch per se. In general click devices or clutches form part of a more complex device such as a transmission clutch from the oscillating weight to a mainspring, a calendar wheel or a time zone wheel etc. This entails that [G04B 11/00](#) contains almost (at least) double classified documents. It is required to classify a document here only when the details on the click/clutch are not trivial for the man skilled in the art.

G04B 15/00

Escapements ({in striking mechanisms [G04B 21/06](#);} electric or magnetic means for converting oscillatory to rotary motion in electromechanical time-pieces {[G04C 5/005](#)})

References

Limiting references

This place does not cover:

In striking mechanisms	G04B 21/06
Magnetic	G04C 5/005

Informative references

Attention is drawn to the following places, which may be of interest for search:

Detent escapements	G04B 15/06
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G04B 17/00

Mechanisms for stabilising frequency {(for setting frequency [G04B 18/00](#); magnetic [G04C 5/005](#); in striking mechanisms [G04B 21/06](#); stopping and regulating of the running [G04B 23/023](#); electrically driven mechanical regulation [G04C 3/165](#); electrical and thermo-electric regulating mechanisms [G04C 5/00](#)}}

Special rules of classification

"Mechanisms for stabilising frequency" in the title of [G04B 17/00](#) should be interpreted as "Mechanisms giving time standard in mechanical watches". On the contrary [G04B 18/00](#) deals with "Adjustment or fine setting of the mechanisms giving the time standard".

There can be an overlapping between the two fields, especially when construction and fine setting come together. For example adjusting devices on the balance. So consider to search in both [G04B 18/003](#) and [G04B 17/063](#) for example.

G04B 17/28

for the effect of imbalance of the weights, e.g. tourbillon

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Balance construction for stabilising frequency	G04B 17/063
Setting frequency by adjusting devices fixed on the balance	G04B 18/006

G04B 18/00

Mechanisms for setting frequency {(for stabilising frequency [G04B 17/00](#))}

Special rules of classification

"Mechanisms for stabilising frequency" in the title of [G04B 17/00](#) should be interpreted as "Mechanisms giving time standard in mechanical watches". On the contrary [G04B 18/00](#) deals with "Adjustment or fine setting of the mechanisms giving the time standard".

There can be an overlapping between the two fields, especially when construction and fine setting come together. For example adjusting devices on the balance. So consider to search in both [G04B 18/003](#) and [G04B 17/063](#) for example.

G04B 19/00

Indicating the time by visual means ({indicating the time optically by electric means [G04C 17/00](#), e.g.} by electric lamps [G04C 17/02](#); display arrangements in general [G09F](#))

Special rules of classification

In this big group the documents are classified following different criteria:

- according to the information to be displayed: [G04B 19/22](#) and subgroups [G04B 19/26](#) and lower subgroups.
- according to structural or constructional features: all the remaining subgroups of the [G04B 19/00](#).

The two types of subgroups can be overlapping since both criteria can be used for classifying. However the first criteria normally takes priority.

Methods for dial constructions are both in [G04B 19/06](#) and subgroups and in [G04D](#), see in particular [G04D 3/0048](#) (machining), [G04D 3/0092](#) (working with non mechanical means), or [G04D 3/0272](#) (working with lathe).

Note: in the group of the watches with date ([G04B 19/24](#) and subgroups) documents are mainly classified according to the structural details, however since no class for the weekdays or particular kind of calendar (Jewish, Chinese etc) are provided, the particular calendars can be found everywhere in the subgroups of [G04B 19/24](#).

G04B 19/24

Clocks or watches with date {or week-day} indicators {, i.e. calendar clocks or watches}; Clockwork calendars

Definition statement

This place covers:

Clocks or watches with date or week-day indicators, i.e. calendar clocks or watches; Clockwork calendars

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Time pieces combined with calendars, date or week day indicators or the like, which cannot be driven by the clockwork of the time piece	G04B 47/00
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G04B 19/28

Adjustable guide marks or pointers for indicating determined points of time {{(inscriptions or pictures moved by hand [G04B 45/003](#))}}

Special rules of classification

Consider to extend the search to [G04B 39/02](#) and subgroups since by definition the bezel has the function of fastening the watch crystal to the watch case.

G04B 21/00

Indicating the time by acoustic means (at preselected times [G04B 23/00](#); by electro-acoustic means [G04C 21/04](#); {indicating the time by means other than acoustically, or by combined means [G04B 25/00](#); indicating the time by visual means [G04B 19/00](#), [G04C 17/00](#); acoustic signalling arrangements [G08B 3/00](#)})

Relationships with other classification places

[G04B 21/12](#) is an overlapping subgroup with all the subgroups of the [G04B 21/00](#) with the exception of device for manual actuation which should be found in th [G04B 21/12](#) only.

G04B 23/00

Arrangements producing acoustic signals at preselected times {{(indicating the time by optical means [G04B 19/00](#), [G04C 17/00](#); indicating the time by acoustic means [G04B 21/00](#); indicating the time by means other than acoustic or optical, or by a combination of means [G04B 25/00](#); acoustic time signals produced electrically [G04C 21/00](#); coin-freed alarm clocks [G07F 17/0007](#); acoustic signalling means [G08B 3/00](#))}}

Relationships with other classification places

[G04B 23/12](#) is an overlapping subgroup with all the subgroups of the [G04B 23/00](#) with the exception of device for manual setting of the alarm time which should be found in [G04B 23/12](#) only.

G04B 27/00

Mechanical devices for setting the time indicating means

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Time zone correction	G04B 27/005
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G04B 33/00

Calibers {(disposition of components of the automatic winding mechanism in relation to the clockwork [G04B 5/18](#))}

Definition statement

This place covers:

The general lay-out of the timepiece movement, with special reference to mutual arrangement of plates, bridges, connection parts, bearings and clockwork modules.

G04B 37/00

Cases {(cases with a special shape [G04B 45/0069](#); ornamentation of the case [G04B 47/04](#); cartridges [A45C 11/00](#) - [A45C 11/38](#))}

Special rules of classification

[G04B 37/08](#) and subgroups cover also the complete encasings in general: see heading of [G04B 37/082](#) for example which clarifies that special joint or sealing pieces may be absent.

This means that mounting arrangements of the bottom, the middle, the casing-ring, the dial and or the crystal are normally to be found here.

[G04B 37/10](#) and lower: always do this subgroup when searching for a crown or push-button construction.

[G04B 37/12](#) use this subgroup as little as possible. Use [G04B 47/00](#) or sometimes [G04B 45/00](#) instead (see also further informative reference about these two classes).

Subclasses [G04B 37/122](#), [G04B 37/125](#) and [G04B 37/127](#) can be used normally.

[G04B 37/16](#) : never use it. Use [G04B 37/1486](#) and subgroup.

[G04B 37/18](#) and [G04B 37/20](#) : never use.

G04B 39/00

Watch crystals; Fastening or sealing of crystals; Clock glasses

Special rules of classification

Consider searching in [G04B 39/02](#) and subgroup when searching for fastening the crystal to the watch case.

G04B 45/00

Time pieces of which the indicating means or cases provoke special effects, e.g. aesthetic effects (ornamental shaping of dials [G04B 19/10](#)){(lubrication of clockwork bearings [G04B 31/008](#); special effects and pictures in general [B44F](#))}

Special rules of classification

Classification range [G04B 45/0069](#) - [G04B 45/0092](#) is overlapping with [G04B 47/046](#). Consider classifying in both [G04B 45/0069](#) - [G04B 45/0084](#)" AND [G04B 45/0092](#) depending upon the case.

G04B 47/00

Time-pieces combined with other articles which do not interfere with the running or the time-keeping of the time-piece ({clockwork cases for special purposes [G04B 37/12](#); clocks with magnifying glass built in the face [G04B 39/00](#); time-pieces in which parts or cases produce special effects, e.g. aesthetic effects, [G04B 45/00](#), particularly with inscriptions or pictures moved by hand [G04B 45/003](#), with specially shaped cases or parts [G04B 45/0069](#); combination of} writing or drawing implements with devices for indicating time [B43K 29/087](#); combined with cameras, projectors, or photographic printing apparatus [G03B 29/00](#))

Special rules of classification

See comments on [G04B 45/00](#) above and the section "Special rules of classification within this group".