

Title (en)

Device having clockwork-movement and chronograph module

Title (de)

Vorrichtung mit Uhrwerk und Chronographenmodul

Title (fr)

Dispositif comportant un mouvement horaire et un module chronographe

Publication

EP 1333345 A1 20030806 (FR)

Application

EP 02405063 A 20020201

Priority

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Abstract (en)

A device comprises a base movement (MB) for a timepiece the time display of which is driven by a first barrel connected to a first mechanism and a first regulator and an autonomous chronographic module the time display of which is driven by a second barrel independent of the first and connected to a second mechanism and a second regulator. The chronographic module is exclusively comprised of mechanical components. The oscillation frequency provided by the regulator thereof is equal to N times the oscillation frequency for the regulator of the base movement, the coefficient N being able to be defined as a function of a specific application for the chronograph, such that any chronographic module as previously defined may co-operate with the same base movement. The chronograph regulator is constantly engaged with the corresponding mechanism. The chronograph module permits the reading of a time interval with a minimum precision of one hundredth of a second. The base movement body and that of the chronographic module are arranged such that in the assembled state the overall height and diameter do not exceed 7.75 mm and 30 mm respectively, the dimensions of just the chronograph are not greater than 4 mm (height) and 30 mm (diameter) when the elements thereof are mounted on a baseplate such that the device may be advantageously integrated in the case of a watch bracelet and thus permit an aesthetic fitting. The timepiece consists of a basic timekeeper (MB) with a wholly mechanical chronograph (MCA) secured on top by locating pins. The chronograph has a separate barrel (22) and regulator with balance wheel (23) and is actuated by a push button rod (1A). The rate of oscillation of the chronograph regulator is N times that of the timekeeper regulator and the value is chosen to suit a particular application.

Abstract (fr)

Un dispositif comporte un mouvement horaire de base MB dont les indicateurs horaires sont entraînés par un premier barillet relié à un premier rouage et un premier organe régulateur, et un module chronographe autonome MCA dont les indicateurs sont entraînés par un second barillet indépendant du premier, relié à un second rouage et un second organe régulateur. Le module chronographe est exclusivement composé d'éléments mécaniques. La fréquence d'oscillation fournie par son régulateur est égale à N fois la fréquence d'oscillation fournie par le régulateur du mouvement de base, le coefficient N pouvant être défini en fonction d'une application spécifique du chronographe, de sorte que tout module chronographe ainsi préalablement défini peut coopérer avec le même mouvement de base. Le régulateur du chronographe reste constamment en prise avec le rouage correspondant. Le module chronographe permet la lecture d'un intervalle de temps avec une précision minima du centième de seconde. <IMAGE>

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IPC 8 full level

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Citation (search report)

- [A] EP 0620509 A1 19941019 - HDG SARL [CH]
- [A] EP 1024416 A2 20000802 - PATEK PHILIPPE SA [CH]
- [A] EP 0806712 A2 19971112 - FORTIS AG [CH]
- [A] EP 1043636 A1 20001011 - SEIKO INSTR INC [JP]

Cited by

EP2221676A1; CH703581A3; CH703580A3; CH703573A3; CH707812A1; US7192181B2; CH707990A1; CN101833279A; EP3059642A1;
CN110237543A; EP2085834A3; RU2598299C2; US11454931B2; WO2012127016A1; US8328413B2; TWI490671B

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DE 60302040 T2 20060727; EP 1470452 A2 20041027; EP 1470452 B1 20051026; JP 2005526958 A 20050908; JP 4505054 B2 20100714;
TW 200422800 A 20041101; TW I276930 B 20070321; US 2005007888 A1 20050113; US 2011164474 A1 20110707;
US 2011164476 A1 20110707; US 2011164477 A1 20110707; US 7905655 B2 20110315; US 8113707 B2 20120214; US 8182138 B2 20120522;
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US 201113047228 A 20110314; US 89971304 A 20040727