

Title (en)
A multi-functional analog electronic watch.

Title (de)
Elektronische Analoguhr mit mehreren Funktionen.

Title (fr)
Montre électronique analogique multifonctionnelle.

Publication
EP 0347251 A2 19891220 (EN)

Application
EP 89306146 A 19890616

Priority
JP 15086288 A 19880617

Abstract (en)
A multi-functional analog electronic watch has step motors for driving hands indicating ordinary time and for indicating additional functions. One step motor drives through a gear train an hour hand (12) and a minute hand (11) indicating ordinary time by rotating about a central axis. From the same gear train a second hand (14) is driven to indicate ordinary time by rotating about an axis eccentric to the central axis and disposed along the position of the hour hand at 9 o'clock. A second step motor drives through a gear train a chronograph second hand (21) indicating seconds elapsed since pushing of a switch operating button (24) by rotating about the central axis. A third step motor drives through a gear train a chronograph minute hand (31) indicating minutes elapsed since pushing of the button (24) by rotating about an axis eccentric to the central axis and disposed along the position of the hour hand at 12 o'clock. A fourth step motor drives through a gear train alarm minute and hour hands (38, 39) indicating an alarm time set or ordinary time by rotating about an axis eccentric to the central axis and disposed along the position of the hour hand at 6 o'clock. A first stem can be pulled to a position in which the ordinary time gear train can be rotated to correct the positions of the hour and minute hands (12, 11). A second stem (23) can be pulled to either of two positions, in one of which timer or alarm functions can be achieved. In the timer function mode, pushing of the button (24) causes reverse stepping of the second and third step motors, so that the chronograph minute and second hands (31, 21) indicate elapsed time in seconds and minutes respectively.

IPC 1-7
G04C 3/14

IPC 8 full level
G04C 3/00 (2006.01); **G04C 3/14** (2006.01); **G04C 23/08** (2006.01); **G04F 8/02** (2006.01)

CPC (source: EP KR)
G04C 3/008 (2013.01 - EP); **G04C 3/14** (2013.01 - EP); **G04C 3/146** (2013.01 - EP); **G04C 9/00** (2013.01 - KR); **G04G 9/00** (2013.01 - KR)

Cited by
EP3470933A1; CN109557797A; US11372371B2

Designated contracting state (EPC)
CH DE FR GB LI

DOCDB simple family (publication)
EP 0347251 A2 19891220; **EP 0347251 A3 19910320**; **EP 0347251 B1 19970521**; CN 1025460 C 19940713; CN 1040274 A 19900307; DE 68928056 D1 19970626; DE 68928056 T2 19970828; HK 1007203 A1 19990401; JP 2628376 B2 19970709; JP H0277680 A 19900316; KR 900000739 A 19900131; KR 970010632 B1 19970628; SG 97740 A1 20030820

DOCDB simple family (application)
EP 89306146 A 19890616; CN 89106332 A 19890615; DE 68928056 T 19890616; HK 98106236 A 19980623; JP 15402089 A 19890616; KR 890008298 A 19890616; SG 1996002990 A 19890616