

Title (en)  
**MECHANICAL CLOCK MOVEMENT**

Title (de)  
**MECHANISCHES UHRWERK**

Title (fr)  
**MOUVEMENT D'HORLOGERIE MECANIQUE**

Publication  
**EP 3479175 B1 20221109 (FR)**

Application  
**EP 17733911 A 20170621**

Priority  
• EP 16176831 A 20160629  
• IB 2017053706 W 20170621

Abstract (en)  
[origin: WO2018002778A1] The invention proposes a clock movement comprising a rotary oscillator (4), a rotary impulse arm (12) for imparting pulses of mechanical energy to the oscillator (4), an energy source (1) and a transmission device (1 – 3) connecting the energy source (1) to the impulse arm (12), the transmission device (1 – 3) comprising a constant-force device (10) for periodically storing a quantity of energy to be supplied to the impulse arm (12). The said amount of energy, the geometry of the impulse arm (12) and the moments of inertia of the impulse arm (12) and of the oscillator (4) are chosen so that each time the impulse arm (12) imparts an impulse to the oscillator (4), the following relationship (I) is more or less satisfied, where  $I_1$  is the moment of inertia of the impulse arm (12),  $I_2$  is the moment of inertia of the oscillator (4),  $\omega_{1i}$  is the angular velocity of the impulse arm (12) just prior to the impulse it imparts to the oscillator (4),  $\omega_{2i}$  is the angular velocity of the oscillator (4) just prior to the said impulse,  $d_1$  is the lever arm of the impulse arm (12) and  $d_2$  is the lever arm of the oscillator (4). The invention also proposes a clock movement of the same type with an impulse arm that moves linearly and methods for achieving these movements.

IPC 8 full level  
**G04B 1/22** (2006.01); **G04B 15/10** (2006.01); **G04B 15/14** (2006.01)

CPC (source: EP)  
**G04B 1/225** (2013.01); **G04B 15/10** (2013.01); **G04B 15/14** (2013.01)

Citation (examination)  
• EP 2863272 A1 20150422 - MONTRES BREGUET SA [CH]  
• EP 2487546 A1 20120815 - MONTRES JOURNE S A [CH]

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2018002778 A1 20180104**; EP 3479175 A1 20190508; EP 3479175 B1 20221109

DOCDB simple family (application)  
**IB 2017053706 W 20170621**; EP 17733911 A 20170621