

Title (en)  
CLOCK DEVICE WITH POSITIONING MEMBER

Title (de)  
UHRVORRICHTUNG MIT POSITIONIERORGAN

Title (fr)  
DISPOSITIF HORLOGER À ORGANE DE POSITIONNEMENT

Publication  
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Application  
**EP 17169280 A 20170503**

Priority  
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Abstract (en)  
[origin: WO2018203187A1] The invention relates to a clock device (1; 3) comprising a toothed component (11; 31) and a positioning member (10; 20; 30; 40; 50; 60; 80; 90; 110; 120; 130; 140), said positioning member (10; 20; 30; 40; 50; 60; 80; 90; 110; 120; 130; 140) comprising an engagement member (15; 25; 35; 45; 55; 65; 85; 95; 115; 125; 135; 145), a support (12; 22; 32; 42; 52; 62; 82; 92; 112; 122; 132; 142) and a preset elastic member (14; 24; 44; 54; 64; 84; 94; 114; 124; 134; 144) connecting the engagement member (15; 25; 35; 45; 55; 65; 85; 95; 115; 125; 135; 145) to the support (12; 22; 32; 42; 52; 62; 82; 92; 112; 122; 132; 142), the toothed component (11; 31) being able to move into different consecutive rest positions, the engagement member (15; 25; 35; 45; 55; 65; 85; 95; 115; 125; 135; 145) being arranged so that, in each of the rest positions, it is engaged between two consecutive teeth of the toothing (111; 311) of the toothed component (11; 31) and held between said two teeth by the elastic member (14; 24; 34; 44; 54; 64; 84; 94; 114; 124; 134; 144) for holding said toothed component (11; 31) in the rest position in question, and so that, when a toothed component (11; 31) is moved by one step from a rest position to the next rest position, the engagement member (15; 25; 35; 45; 55; 65; 85; 95; 115; 125; 135; 145) is lifted by one of said two teeth against the action of the elastic member (14; 24; 34; 44; 54; 64; 84; 94; 114; 124; 134; 144) and is then positioned between said tooth and another consecutive tooth so that it holds the toothed component (11; 31) in said next rest position, the positioning member (10; 20; 30; 40; 50; 60; 80; 90; 110; 120; 130; 140) being arranged so that, when said toothed component (11; 31) is moved by one step, the engagement member (15; 25; 45; 55; 65; 85; 95; 115; 125; 135; 145) moves in a predetermined range of positions relative to the support (12; 22; 32; 42; 52; 62; 82; 92; 112; 122; 39 132, 142), the stiffness of the elastic member (14; 24; 34; 44; 54; 64; 84; 94; 114; 124; 134; 144) being nil or negative in at least one part of the predetermined range.

Abstract (fr)  
L'invention concerne un dispositif horloger (1) comprenant un composant denté (11) et un organe de positionnement (10), ledit organe de positionnement (10) comprenant un élément d'engagement (15), un support (12) et un organe élastique (14) pré-armé reliant l'élément d'engagement (15) au support (12), l'élément d'engagement (15) étant engagé dans la denture (111) du composant denté (11) et maintenu dans cette denture (111) par l'organe élastique (14) pour maintenir ledit composant denté (11) en position, l'organe de positionnement (10) étant agencé pour que, lors d'une rotation d'un pas du composant denté (11) contre l'action de l'organe élastique (14), l'élément d'engagement (15) se déplace dans une plage prédéterminée de positions par rapport au support (12), la raideur de l'organe élastique (14) étant nulle ou négative dans au moins une partie de la plage prédéterminée.

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Citation (applicant)  
• CHAO-CHIEH LAN ET AL.: "Design of adjustable constant-force forceps for robot-assisted surgical manipulation", 211 - IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION SHANGHAI INTERNATIONAL CONFERENCE CENTER  
• CHIA-WEN HOU: "Functional joint mechanisms with constant torque outputs", MECHANISM AND MACHINE THEORY, vol. 62, 2013, pages 166 - 181

Citation (search report)  
• [XII] EP 2645189 A1 20131002 - NIVAROX SA [CH]  
• [AD] HOU CHIA-WEN ET AL: "Functional joint mechanisms with constant-torque outputs", MECHANISM AND MACHINE THEORY, PERGAMON, AMSTERDAM, NL, vol. 62, 22 January 2013 (2013-01-22), pages 166 - 181, XP028970320, ISSN: 0094-114X, DOI: 10.1016/J.MECHMACHTHEORY.2012.12.002  
• [AD] CHAO-CHIEH LAN ET AL: "Design of adjustable constant-force forceps for robot-assisted surgical manipulation", ROBOTICS AND AUTOMATION (ICRA), 2011 IEEE INTERNATIONAL CONFERENCE ON, IEEE, 9 May 2011 (2011-05-09), pages 386 - 391, XP032033433, ISBN: 978-1-61284-386-5, DOI: 10.1109/ICRA.2011.5979556

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