

12

# EUROPEAN PATENT APPLICATION

21 Application number: 89109092.0

51 Int. Cl.<sup>5</sup>: G04C 3/00, G04C 1/06

22 Date of filing: 19.05.89

30 Priority: 19.05.88 JP 122582/88

43 Date of publication of application:  
 23.11.89 Bulletin 89/47

84 Designated Contracting States:  
 CH DE FR GB LI

88 Date of deferred publication of the search report:  
 23.05.90 Bulletin 90/21

71 Applicant: **SEIKO EPSON CORPORATION**  
 4-1, Nishishinjuku 2-chome  
 Shinjuku-ku Tokyo-to(JP)

72 Inventor: **Miyazawa, Osamu**  
 c/o Seiko Epson Corp. 3-5, Owa 3-chome  
 Suwa-shi Nagano-ken(JP)

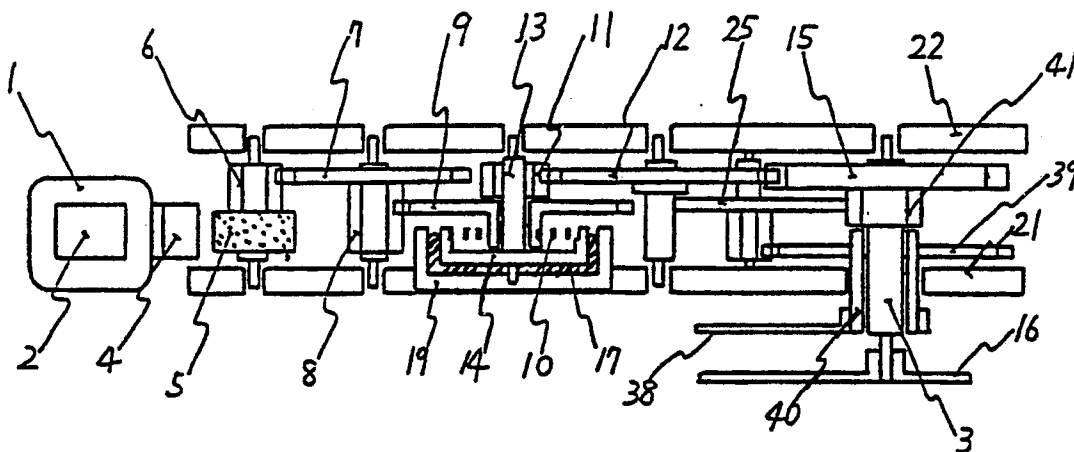
74 Representative: **Blumbach Weser Bergen**  
**Kramer Zwirner Hoffmann Patentanwälte**  
**Radeckestrasse 43**  
**D-8000 München 60(DE)**

54 **Electronic watch.**

57 An electronic watch includes a means (10) for accumulating rotational energy of an intermittently driven actuator (1, 2, 4) and a control means (14, 17) for releasing the rotational energy. The accumulating and control means are coaxially provided apart from

the central spindle (3) mounted with a hand (16). The control means involves a rotor (14) immersed in a viscous fluid (17). The accumulating means involves a hair spring (10) or a pair of permanent magnets.

Fig. 1



EP 0 342 705 A3



| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                               |                                                |                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Citation of document with indication, where appropriate, of relevant passages                                                 | Relevant to claim                              | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | US-A-3 978 654 (K.K. SUWA SEIKOSHA)<br>* Column 3, line 3 - column 4, line 4;<br>figures *<br>---                             | 1,2,4,7                                        | G 04 C 3/00<br>G 04 C 1/06                    |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | GB-A- 890 349 (KENJI TOKITA)<br>* Figures *<br>---                                                                            | 1,3,5                                          |                                               |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PATENT ABSTRACTS OF JAPAN, vol. 012359<br>(P-762), 27th June 1988; & JP-A-63 109<br>389 (SEIKO EPSON CORP.) 14-05-1988<br>--- | 1                                              |                                               |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DE-C- 940 722 (SIEMENS SCHUCKERTWERKE<br>AG)<br>* Figures *<br>-----                                                          | 1                                              |                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                               |                                                | TECHNICAL FIELDS<br>SEARCHED (Int. Cl.4)      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                               |                                                | G 04 C<br>G 04 B<br>H 02 K                    |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                               |                                                |                                               |
| Place of search<br>THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               | Date of completion of the search<br>13-03-1990 | Examiner<br>EXELMANS U.G.J.R.                 |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                                                                                                               |                                                |                                               |