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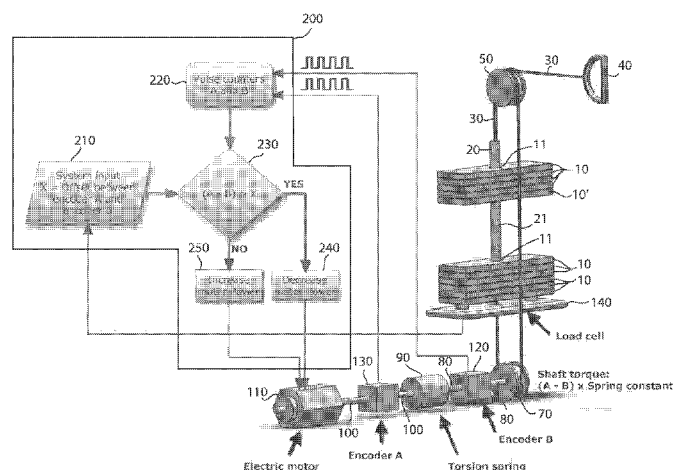
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(54) **Title:** TRAINING MACHINE WITH AUTOMATIC CONTROL OF A GRAVITATIONAL LOAD**Fig.1**

(57) **Abstract:** The present invention concerns a training machine, in particular a muscular strength machine, with automatic control of a gravitational load, including a gravitational load (10, 10') coupled to force transmission means (20, 30, 40, 50, 60, 70), by means of which the gravitational load (10, 10') is movable by a user exerting a force on said force transmission means (20, 30, 40, 50, 60, 70), the training machine being characterised in that it further comprises a first shaft (80), rotatably coupled to said transmission means (20, 30, 40, 50, 60, 70) and to a first end of a torsion spring (90), and an electric motor (110) having a rotatable second shaft (100) coupled to a second end of the torsion spring (90), the training machine also comprising first rotation angle sensing means (120) sensing a rotation angle (B) of the first shaft (80) and second rotation angle sensing means (130) sensing a rotation angle (A) of the second shaft (100), the training machine also comprising processing means (200) receiving sensed data (A, B) from said first and second rotation angle sensing means (120, 130) and controlling the electric motor (110) on the basis of said sensed data (A, B). The present invention further concerns the related process performed by the processing means (200) of such a training machine and the tools that may be used for performing the process.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 354 248 A (RAWLS R LEE [US] ET AL) 11 October 1994 (1994-10-11) the whole document	1,9,10
A	DE 10 2006 052502 A1 (JASCHKE WERNER [DE]) 8 May 2008 (2008-05-08) the whole document	1,9,10
A	US 5 407 403 A (COLEMAN VERNON [US]) 18 April 1995 (1995-04-18) the whole document	1,9,10



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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