

Title (en)
APPARATUS AND METHOD FOR DECELERATING, STOPPING AND PROPELLING MOVEMENT OF VARIOUS BODY SEGMENTS DURING HUMAN WALKING ON A TREADMILL

Title (de)
GERÄT UND VERFAHREN ZUM VERLANGSAMEN, STOPPEN UND ANTREIBEN DER BEWEGUNG VERSCHIEDENER KÖRPERTEILE WÄHREND DES MENSCHLICHEN GEHENS AUF EINEM LAUFBAND

Title (fr)
APPAREIL ET PROCÉDÉ POUR DÉCÉLÉRER, ARRÊTER ET PROPULSER UN MOUVEMENT DE DIVERS SEGMENTS DE CORPS PENDANT LA MARCHÉ D'UNE PERSONNE SUR UN TAPIS ROULANT

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Abstract (en)
[origin: WO2020190218A1] The object of the invention is an apparatus and a method for decelerating, stopping and propelling movement of various body segments during human walking on a treadmill. The method and the apparatus of the invention allow an individual who has successfully completed an early stage of rehabilitation and has his stepping function re-established to continue his walking training with a focus on some other aspects such as movement of a leg in a swing, symmetry of walking, coordination of movement, and training balance. The apparatus for decelerating, stopping and propelling movement of various body segments during human walking on a treadmill of the invention is represented by a braking mechanism (A) that is fastened at one side with its connecting means - a cable (1) to a human body segment under exercise and is provided at its other side by a weight (5) or a constant force spring that serves to bias the connecting means. When turned on, the braking mechanism that is optionally an electromagnetic brake/clutch either decelerates or completely and almost instantly stops the movement of the connecting means - the cable (1). The braking mechanism (A) has a measuring means (7) for measuring movement (position and velocity) of the connecting means - the cable (1), which measuring means together with an algorithm for identifying various sub-phases of a walking cycle manages the braking mechanism (A).

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