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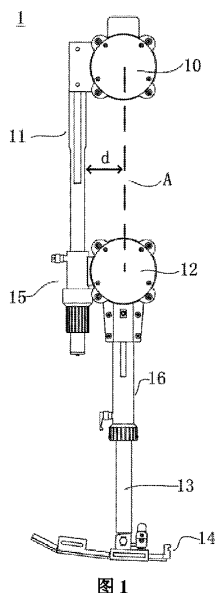
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(54) Title: LENGTH-ADJUSTABLE LOWER LIMB STRUCTURE, AND EXOSKELETON ROBOT USING SAME

(54) 发明名称: 长度可调的下肢结构和使用其的外骨骼机器人



(57) Abstract: Disclosed are a lower limb structure (1) and an exoskeleton robot having the lower limb structure. The lower limb structure comprises: a hip joint assembly (10), comprising a hip joint supporting part (100), a hip joint driving part (101) fixed to the hip joint supporting part, and a hip joint transmission handle (102) driven by the hip joint driving part; a thigh rod (11) connected to the hip joint transmission handle so as to be driven by the hip joint driving part; a knee joint assembly (12), comprising a knee joint fixing base (122), a knee joint driving part (121) fixed on the knee joint fixing base, and a knee joint transmission handle (127) driven by the knee joint driving part, with the knee joint fixing base comprising a sleeve part (124) and a connecting part (123) which is connected to the knee joint driving part, and the sleeve part being slidably fixed on the thigh rod in the direction of extension of the thigh rod; and a shank rod (13) connected to the knee joint transmission handle and driven by the knee joint driving part. The thigh rod does not coincide with the center connecting line of the hip joint driving part and the knee joint driving part, thereby achieving a wider range of movement of a knee joint on a thigh rod adjustment mechanism.

(57) 摘要: 一种下肢结构 (1) 以及具有该下肢结构的外骨骼机器人, 其包括: 髋关节组件 (10), 包括髋关节支撑部 (100)、固定于髋关节支撑部的髋关节驱动部 (101) 和由髋关节驱动部驱动的髋关节传动柄 (102); 大腿杆 (11), 与髋关节传动柄连接以便由髋关节驱动部驱动; 膝关节组件 (12), 包括膝关节固定座 (122)、固定于膝关节固定座上的膝关节驱动部 (121) 和由膝关节驱动部驱动的膝关节传动柄 (127); 其中膝关节固定座包括套管部 (124) 和与膝关节驱动部连接的连接部 (123), 套管部沿所述大腿杆的延伸方向滑动固定于大腿杆上; 和 小腿杆 (13), 与膝关节传动柄连接并由膝关节驱动部驱动; 其中大腿杆与髋关节驱动部和膝关节驱动部的中心连线不重合, 从而可使得膝关节在大腿杆调节机构上的移动范围更大。

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