

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局

(43) 国际公布日
2025 年 4 月 17 日 (17.04.2025)



(10) 国际公布号
WO 2025/076980 A1

(51) 国际专利分类号:
B62D 57/02 (2006.01)

(21) 国际申请号: PCT/CN2023/138051

(22) 国际申请日: 2023 年 12 月 12 日 (12.12.2023)

(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权:
202311301294.7 2023 年 10 月 10 日 (10.10.2023) CN

(71) 申请人: 逻腾 (杭州) 科技有限公司 (LUOTENG (HANGZHOU) TECHNOLOGY CO., LTD.) [CN/CN];
中国浙江省杭州市钱塘区白杨街道 18 号大街 795 号 1 幢 20 楼 2010 室 310018 (CN)。

(72) 发明人: 张璧萱 (ZHANG, Bixuan); 中国浙江省杭州市钱塘区白杨街道 18 号大街 795 号 1 幢 20 楼 2010 室 310018 (CN)。李光 (LI, Guang); 中国浙江省杭州市钱塘区白杨街道 18 号大街 795 号 1 幢 20 楼 2010 室 310018 (CN)。王西 (WANG, You); 中国浙江省杭州市钱塘区白杨街道 18 号大街 795

号 1 幢 20 楼 2010 室 310018 (CN)。叶泉 (YE, Quan); 中国浙江省杭州市钱塘区白杨街道 18 号大街 795 号 1 幢 20 楼 2010 室 310018 (CN)。

(74) 代理人: 北京市柳沈律师事务所 (LIU, SHEN & ASSOCIATES); 中国北京市海淀区彩和坊路 10 号 1 号楼 10 层 100080 (CN)。

(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW。

(84) 指定国 (除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚

(54) Title: ROLLING ROBOT

(54) 发明名称: 滚动机器人

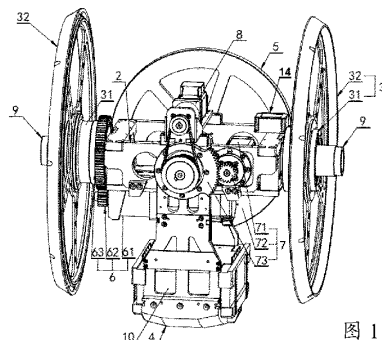


图 1

(57) Abstract: Disclosed in the present invention is a rolling robot, comprising: a housing, which is formed in the shape of a revolving body; two supporting hubs, which are fixed to two sides of the housing; a main supporting structural member, which extends horizontally in a left-right direction in the housing and is connected to the two supporting hubs by means of bearings at two ends of the main supporting structural member; a gravity pendulum, which is connected to the main supporting structural member and is swingable in the left-right direction; a rotating mass block, which is rotatably connected to the main supporting structural member about a rotating axis extending horizontally in a front-back direction when the rolling robot is stationary; a main driving electric motor, which is configured to drive the main supporting structural member, the gravity pendulum and the rotating mass block to rotate in the front-back direction; a gravity pendulum driving electric motor, which is configured to drive the gravity pendulum to swing in the left-right direction; and a rotating mass block driving electric motor, which is configured to drive the rotating mass block to rotate in the left-right direction. In the present invention, the control difficulty of the rolling robot is reduced, high-speed movement can be realized, and jitter of the rolling angle hardly occurs.

[见续页]

WO 2025/076980 A1

(AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布：
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本发明公开了一种滚动机器人, 包括: 壳体, 形成为回转体的形状; 两个支撑轮毂, 固定到壳体两侧; 主支撑结构件, 在壳体内在左右方向上水平地延伸并在其两端通过轴承连接到两个支撑轮毂; 重摆, 连接到主支撑结构件, 并在左右方向上可摆动; 转动质量块, 以在滚动机器人静止时在前后方向上水平地延伸的转动轴线可旋转地连接到主支撑结构件; 主驱动电机, 配置为驱动主支撑结构件、重摆、转动质量块在前后方向上转动; 重摆驱动电机, 配置为驱动重摆在左右方向上摆动; 以及转动质量块驱动电机, 配置为驱动转动质量块在左右方向上转动。根据本发明的滚动机器人的控制难度降低, 且能够实现高速运动而几乎不出现翻滚角的抖动。