



- (51) **International Patent Classification:**
B60R 22/02 (2006.01)
- (21) **International Application Number:**
PCT/US2024/030090
- (22) **International Filing Date:**
17 May 2024 (17.05.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
18/216,997 30 June 2023 (30.06.2023) US
- (71) **Applicant:** **UNIVERSAL CITY STUDIOS LLC**
[US/US]; 100 Universal City Plaza, Universal City, California 91608 (US).
- (72) **Inventors:** **MCVEEN, Keith Michael**; 1000 Universal Studios Plaza, Orlando, Florida 32819 (US). **HABIAK, Gregory Paul**; 1000 Universal Studios Plaza, Orlando,

Florida 32819 (US). **MAJDALI, David Gerard**; 1000 Universal Studios Plaza, Orlando, Florida 32819 (US).

- (74) **Agent:** **POWELL, W. Allen et al.**; P.O. Box 692289, Houston, Texas 77269 (US).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): 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) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,

(54) **Title:** DYNAMICALLY ADJUSTABLE COMPLIANT LAP RESTRAINT DEVICE

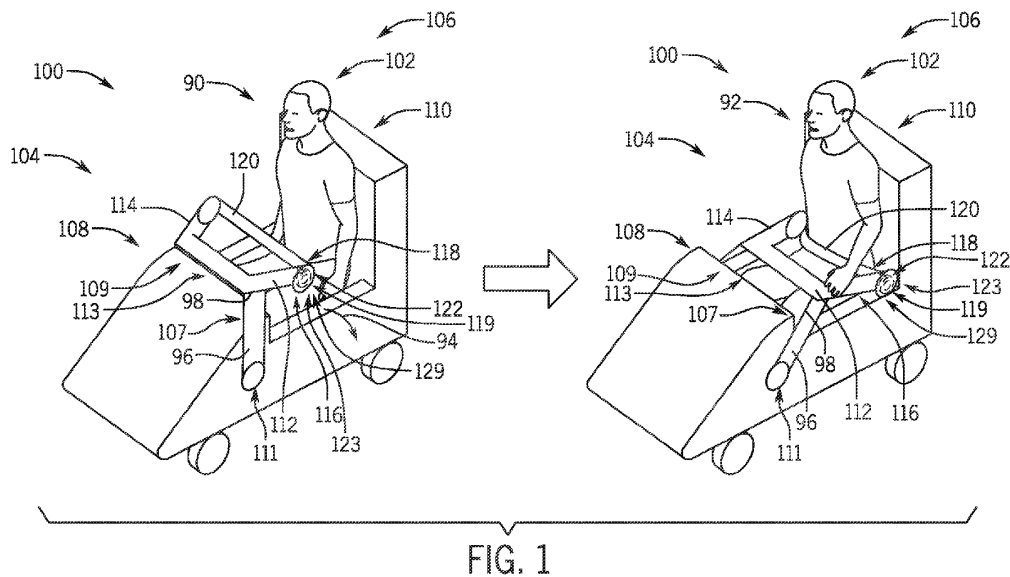


FIG. 1

(57) **Abstract:** A restraint system is used to provide a dynamically adjustable compliance for an occupant in a ride system. The restraint system includes a strap (118) with adjustable extension length to wrap around the occupant. A tension on the strap (118) is measured and used to adjust the length of the strap (118) to provide different restraint levels. The restraint level is associated with the condition of the occupant (e.g., height, weight, age, shape, size), a property of the ride system (e.g., configuration of the ride vehicle), an operating parameter of the ride vehicle (e.g., velocity, acceleration, moving direction), a feature of the environment that the ride vehicle rides in, or any combination thereof.

[Continued on next page]

SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (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).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*