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United States Patent [19] Stites

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[54] **LEANING RECUMBENT TRICYCLE**

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[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[51] **Int. Cl.**⁷ **B62K 1/00**

[52] **U.S. Cl.** **280/263; 280/266; 280/270; 280/226.1; 280/282; 280/274**

[58] **Field of Search** 280/220, 221, 280/226.1, 227, 234, 235, 263, 266, 270, 282, 240, 271, 274

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[57] **ABSTRACT**

A human-powered recumbent tricycle with an articulated frame that permits leaning of the single-wheeled front sub-frame (10) during turns. While the seat (20) and pedal crank (18) move the driver's body with the leaning front sub-frame (10), the two-wheeled rear sub-frame (71) carries the handlebar (90) for optimum driver control of vehicular orientation. Steering of the front wheel (16) is accomplished by two cables (60L, 60R) within housings (61L, 61R) that provide immunity from distortions caused by articulation (100) rotations during leaning. Front wheel (16) drive utilizes a universal joint hub (30) for continuous power drive and no chain (40, 50) twist throughout the full turning radius. High seat (20) height and narrow wheelspan of the two rear wheels (80L, 80R) provide for improved visibility and traffic penetration on congested urban streets. A low cargo rack (75) is provided such that carrying cargo lowers the overall center of gravity and increases vehicular stability. Since the front wheel (16) drive system is self-contained within the front sub-frame (10), the rear sub-frame (70) is interchangeable with other rear sub-frame (70) configurations; whereby this modular system can create vehicles for personal transportation, delivery, pedicabs, flat-bed trucks, and other custom needs; all with the same front drive sub-frame (10).

16 Claims, 14 Drawing Sheets

