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Thompson

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(54) **RECUMBENT BICYCLE AND METHODS OF RIDING EMPLOYING SUPPLEMENTAL UPPER BODY POWER, ENHANCED AERODYNAMICS, STABILITY, AND CONTROL**

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(58) **Field of Classification Search**

- CPC **B62K 3/005**; **B62K 3/02**; **B62K 21/02**; **B62K 9/00**; **B62K 21/04**; **B62J 1/28**; **B62J 17/02**; **B62L 3/02**; **B62M 9/00**

See application file for complete search history.

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(57) **ABSTRACT**

Disclosed is a recumbent bicycle configuration, structure and methods which allow effective hand power input using only components otherwise required to pedal and steer. Force and work based hand power methods are used. The effect is comparable to standing and pedaling a conventional bicycle. The configuration has front wheel drive and steering. The crankset is fork mounted on or near the steering axis. The fork has a double triangulated torque tube structure which is rigid from the hand grips to the crankshaft end-points to torsional hand and foot forces in opposition. Pedal forces on steering are controlled by a hand over foot leverage ratio, and by use of trail, which is increasingly effective with speed. A fork mounted fairing can be used. For stability, the fairing aerodynamic center of presented area is ahead of the steering axis. Hand, foot and selective braking inputs are used for enhanced control.

14 Claims, 8 Drawing Sheets

