

US007938747B2

# (12) United States Patent

## **Bothwell**

# (10) Patent No.:

# US 7,938,747 B2

## (45) **Date of Patent:**

# May 10, 2011

# (54) GAME RACKET INCLUDING A PIVOT ELEMENT

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- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 230 days.

- (21) Appl. No.: 12/072,030
- (22) Filed: Feb. 21, 2008
- (65) **Prior Publication Data**

US 2009/0215558 A1 Aug. 27, 2009

- (51) **Int. Cl.** 
  - A63B 49/02

(2006.01)

- (52) **U.S. Cl.** ...... 473/540; 473/521; 473/548
- (58) Field of Classification Search ........... 473/520–522, 473/524, 540, 542, 548

See application file for complete search history.

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### (57) ABSTRACT

The present invention is intended for use as a game racket including a handle and a head frame with strings held in tension. In particular as a high performance game racket frame including at least one generally tubular, substantially circular pivot element located at least partially within a substantially circular mating recess on at least one portion of an outside-facing peripheral surface of the head frame profile that can rotate to cooperate with at least one string. The pivot element can rest upon at least a portion of the mating recess and therefore can have at least one adjoining surface portion. In order to reduce friction, adjoining surface(s) can be coated with a suitable anti-friction agent such as silicone or it can include a "frictionless" repelling permanent magnet portion capable of sustaining magnetic levitation between the two parts. Alternatively, at least a portion of the adjoining surfaces can include communicating electromagnetic friction plates in order to control the rate at which the pivot element rotates.

## 22 Claims, 4 Drawing Sheets



