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**Higgins et al.**

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(54) **BALL AND SOCKET CONNECTION WITH AN ACOUSTIC SEAL AND MOUNTING INTERFACE FOR A HEARING ASSISTANCE DEVICE**

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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 0 days. days.

This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.**

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(Continued)

(58) **Field of Classification Search**

USPC ..... 381/322

See application file for complete search history.

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(57) **ABSTRACT**

Disclosed herein, among other things, are apparatus and methods to provide improved connections for components of hearing assistance devices. Various embodiments include an apparatus including a receiver case configured to house a hearing assistance device receiver, the receiver case including a spherical receiver spout having an opening. The apparatus also includes a receptacle housing having a spherical socket adapted to mate with the spherical receiver spout to form a ball and socket connection. An insert within the spherical socket is configured to establish a retained interference fit with the opening of the receiver spout when the connection is formed so as to create an acoustic seal therebetween.

**20 Claims, 6 Drawing Sheets**

