



(12) **United States Patent**
Pelland et al.

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(54) **SYSTEM WITH WIRELESS EARPHONES**
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H04W 40/00 (2009.01)

(52) **U.S. Cl.**
USPC **455/425**

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381/17, 103, 309

See application file for complete search history.

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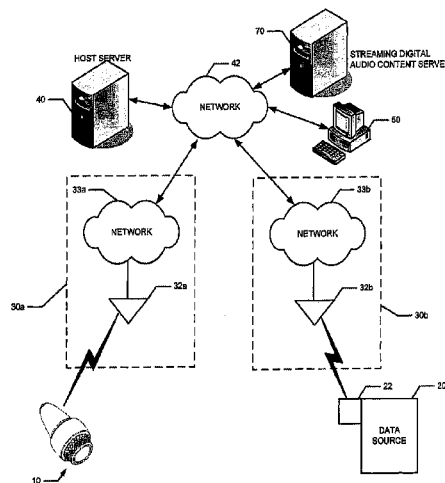
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(57) **ABSTRACT**

A system comprising a wireless network adapter and a pair of earphone. The wireless network adapter is external to a digital audio player and configured to connect to the digital audio player via an audio jack of the digital audio player. The wireless network adapter is for encoding analog audio received from the digital audio player into digital format and wirelessly transmitting the digitally-formatted audio. The pair of earphones is in direct wireless communication with the wireless network adapter and are configured to be worn simultaneously by a user. Each earphone in the pair of earphones comprises: (i) a transceiver that is for receiving the digitally-formatted audio from the wireless network adapter via the wireless network, and converting the digitally-formatted audio received via the wireless network to analog audio signals; and (ii) at least one acoustic transducer connected to the transceiver, wherein the at least one acoustic transducer is for outputting the analog audio signals.

7 Claims, 16 Drawing Sheets



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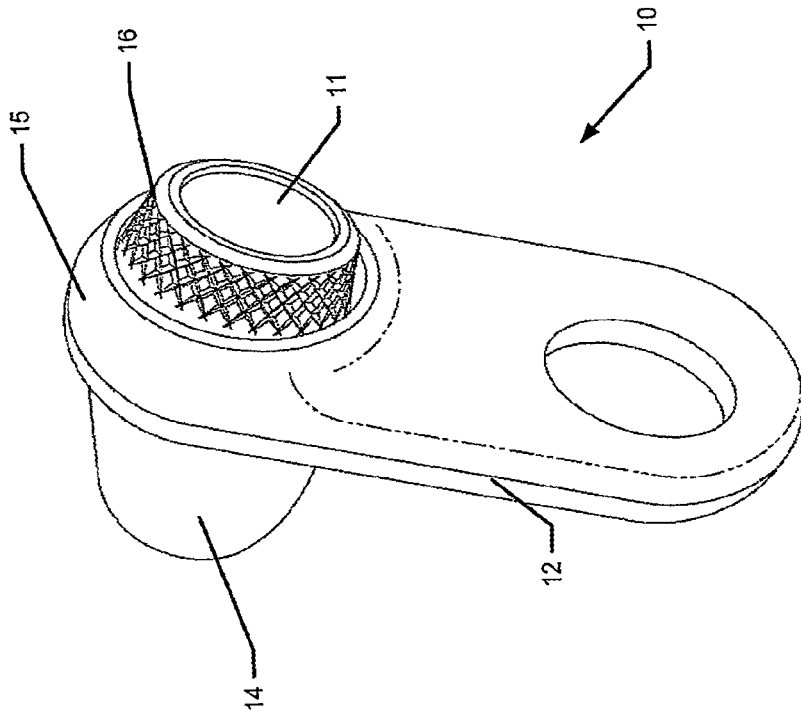


Fig. 1B

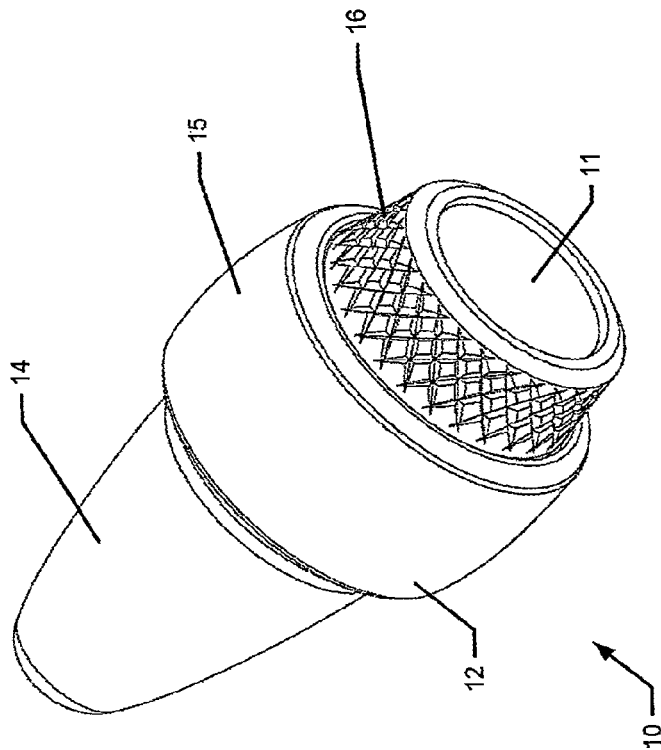


Fig. 1A

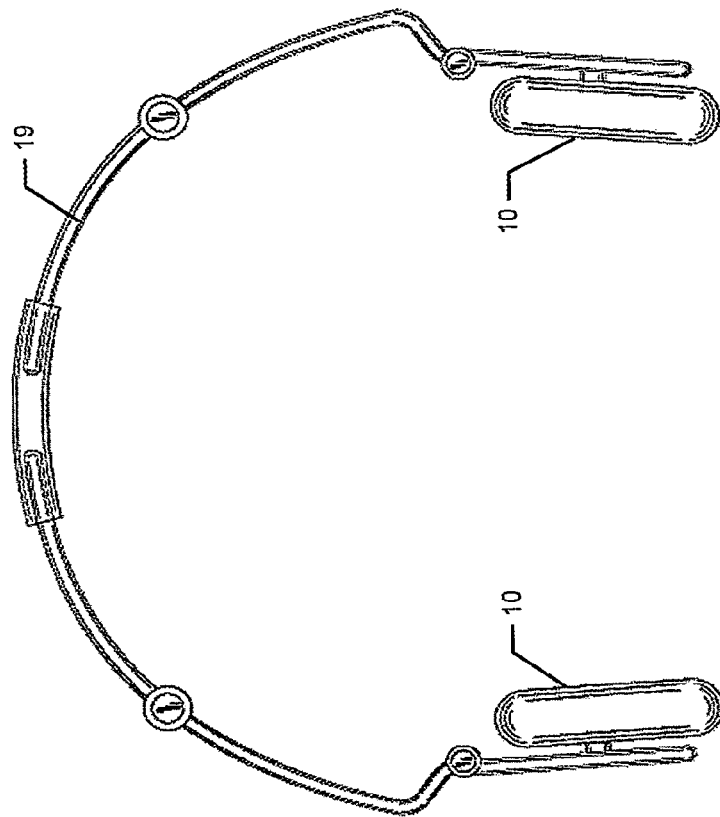
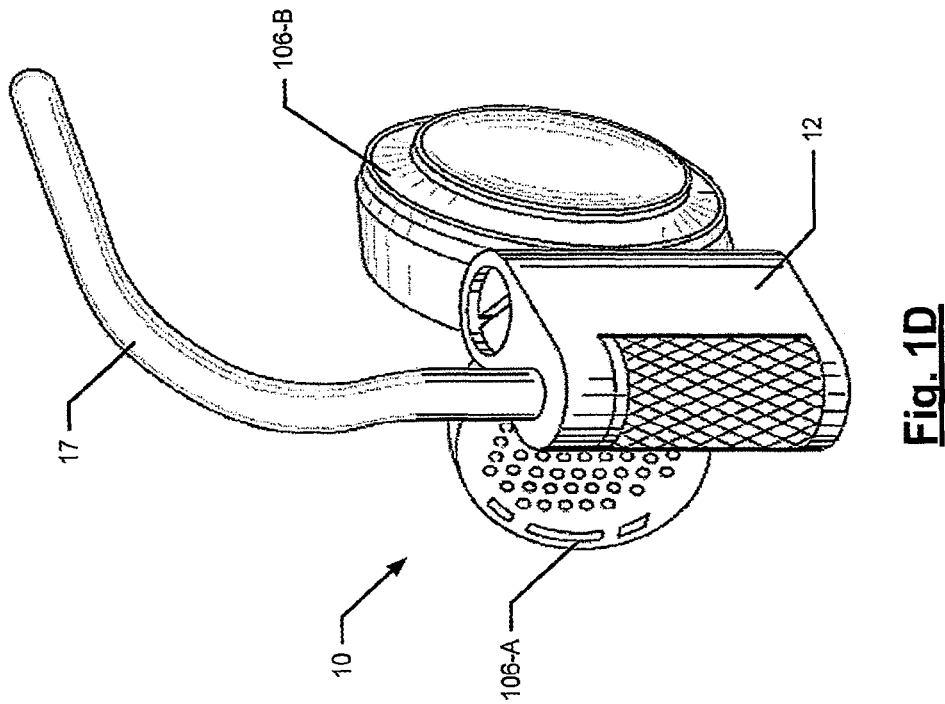
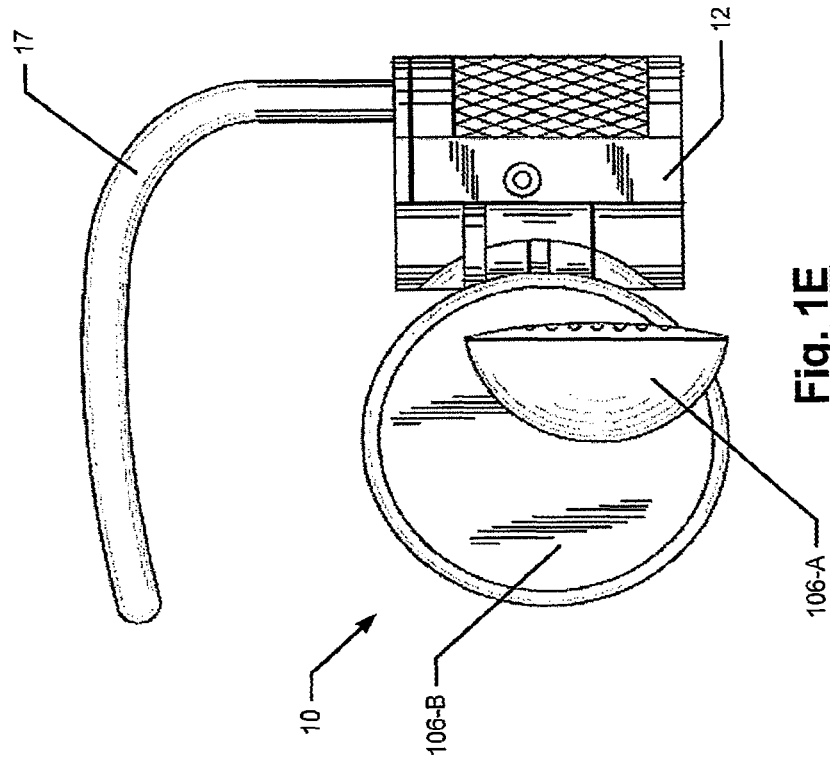


Fig. 1C



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