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(12) **United States Patent**  
**Bagha**

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(54) **MULTIPLE COMMUNICATION INTERFACE MEDICAL EXAMINATION APPARATUS, SYSTEM, AND/OR METHOD**

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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 1468 days.

This patent is subject to a terminal disclaimer.

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(51) **Int. Cl.**

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*A61B 7/00* (2006.01)  
*A61B 7/04* (2006.01)  
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CPC ..... *A61B 7/04* (2013.01); *A61B 5/0002* (2013.01); *A61B 5/0245* (2013.01); *A61B 5/0472* (2013.01); *A61B 7/003* (2013.01)

(58) **Field of Classification Search**

CPC ..... A61B 7/04; A61B 5/0002; A61B 5/0245; A61B 7/003; A61B 5/0472  
USPC ..... 181/131; 381/67, 509; 600/300, 513, 600/528, 586

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,858,005 A 12/1974 Marshall et al.  
4,248,241 A 2/1981 Tacchi

(Continued)

FOREIGN PATENT DOCUMENTS

DE 10132759 1/2003  
FR 2768323 3/1999

(Continued)

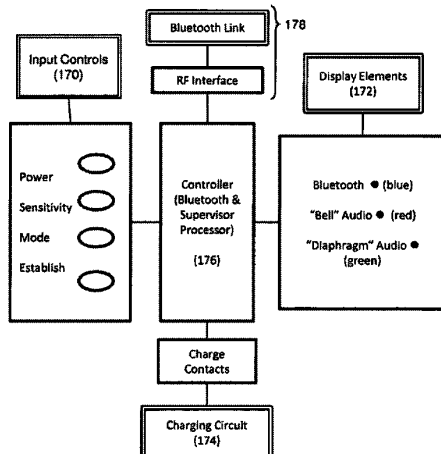
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(57) **ABSTRACT**

An embodiment of an auscultation device can be constructed using, at least in part, electronic components to provide improved acquisition, processing, and communication of sound signals. An input device can be used for detecting sounds, and electrical signals representing the sounds can be processed and transmitted via one or more of a plurality of substantially contemporaneously available wired and/or wireless communications interfaces. Bluetooth and/or another form of wireless communication can be employed. Such embodiments can employ, at least in part, one or more of several commercially available wired and/or wireless receiver devices, such as, without limitation, headsets and headphones, mobile phones, PDAs and/or other handheld devices, desktop, laptop, palmtop, and/or tablet computers, speakers and/or other conventional and/or specifically configured computer devices and/or electronic devices.

**6 Claims, 12 Drawing Sheets**



Petition for Inter Parties Review  
of U.S. Patent No. 9,258,698  
EXHIBIT

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(51)	<b>Int. Cl.</b> A61B 5/0245 (2006.01) A61B 5/0472 (2006.01)		2003/0072457 A1* 4/2003 Grasfield et al. .... 381/67 2003/0102983 A1 6/2003 Hsieh Hung 2003/0208130 A1 11/2003 Yotam et al. 2004/0032957 A1* 2/2004 Mansy et al. .... 381/67 2004/0037429 A1 2/2004 Candioty 2004/0068194 A1* 4/2004 Johnson et al. .... 600/508 2004/0076303 A1 4/2004 Vyshedskiy et al. 2004/0092846 A1 5/2004 Watrous 2004/0096069 A1 5/2004 Chien 2004/0157612 A1 8/2004 Kim 2004/0203383 A1* 10/2004 Kelton et al. .... 455/41.2 2004/0220487 A1 11/2004 Vyshedskiy et al. 2004/0220488 A1 11/2004 Vyshedskiy et al. 2004/0223621 A1 11/2004 Orten 2004/0225476 A1 11/2004 Tien 2004/0228494 A1* 11/2004 Smith ..... 381/67 2004/0249298 A1 12/2004 Selevan 2005/0043642 A1 2/2005 Sauerland 2005/0070811 A1 3/2005 Crowley 2005/0074130 A1 4/2005 Brummel et al. 2005/0083194 A1 4/2005 Shen 2005/0090755 A1 4/2005 Guion et al. 2005/0101843 A1 5/2005 Quinn et al. 2005/0107715 A1* 5/2005 Abbruscato ..... 600/528 2005/0119584 A1 6/2005 Carter 2005/0148883 A1* 7/2005 Boesen ..... 600/485 2005/0157887 A1 7/2005 Kim 2005/0157888 A1 7/2005 Yang 2005/0165310 A1 7/2005 Bindefeld 2005/0203349 A1 9/2005 Nanikashvili 2006/0047215 A1* 3/2006 Newman et al. .... 600/513 2006/0158344 A1* 7/2006 Bambini et al. .... 340/825.69 2006/0285696 A1* 12/2006 Houtsma ..... 381/67 2007/0049838 A1* 3/2007 Sauerland ..... 600/528 2007/0058818 A1* 3/2007 Yoshimine ..... 381/67 2007/0106179 A1* 5/2007 Bagha et al. .... 600/586 2008/0037800 A1 2/2008 Grasfield et al. 2009/0117526 A1* 5/2009 Lecat ..... 434/266
(56)	<b>References Cited</b>  U.S. PATENT DOCUMENTS  4,723,555 A 2/1988 Shue 4,770,189 A 9/1988 Shyu 4,777,961 A 10/1988 Saltzman 4,878,501 A 11/1989 Shue 4,972,841 A 11/1990 Iguchi 5,025,809 A 6/1991 Johnson et al. 5,027,825 A 7/1991 Phelps, Sr. et al. 5,204,500 A 4/1993 Dufresne et al. 5,206,602 A* 4/1993 Baumgartner et al. .... 330/9 5,218,969 A 6/1993 Bredesen et al. 5,360,005 A 11/1994 Wilk 5,409,010 A* 4/1995 Beach et al. .... 600/455 5,663,532 A 9/1997 Dieken et al. 5,717,769 A 2/1998 Williams 5,737,429 A 4/1998 Lee 5,812,678 A 9/1998 Scalise et al. 5,825,895 A 10/1998 Grasfield et al. 5,844,995 A 12/1998 Williams 5,909,495 A 6/1999 Andrea 6,002,777 A 12/1999 Grasfield et al. 6,005,951 A 12/1999 Grasfield et al. 6,171,263 B1 1/2001 Sullivan 6,236,862 B1* 5/2001 Erten et al. .... 455/501 6,244,376 B1* 6/2001 Granzotto ..... 181/131 6,344,025 B1 2/2002 Inagaki et al. 6,358,218 B1 3/2002 Want et al. 6,396,931 B1 5/2002 Malilay 6,533,736 B1 3/2003 Moore 6,540,673 B2 4/2003 Gopinathan et al. 6,544,198 B2 4/2003 Chong et al. 6,757,392 B1 6/2004 Granzotto et al. 6,852,084 B1 2/2005 Boesen 7,346,174 B1* 3/2008 Smith ..... 381/67 2001/0030077 A1 10/2001 Watson 2001/0050992 A1 12/2001 Carman 2002/0071570 A1 6/2002 Cohen et al. 2002/0085724 A1 7/2002 Grasfield et al. 2003/0002685 A1 1/2003 Werblud		<b>FOREIGN PATENT DOCUMENTS</b>  JP 53149352 12/1978 JP 2004081250 3/2004 JP 2004261264 9/2004

\* cited by examiner

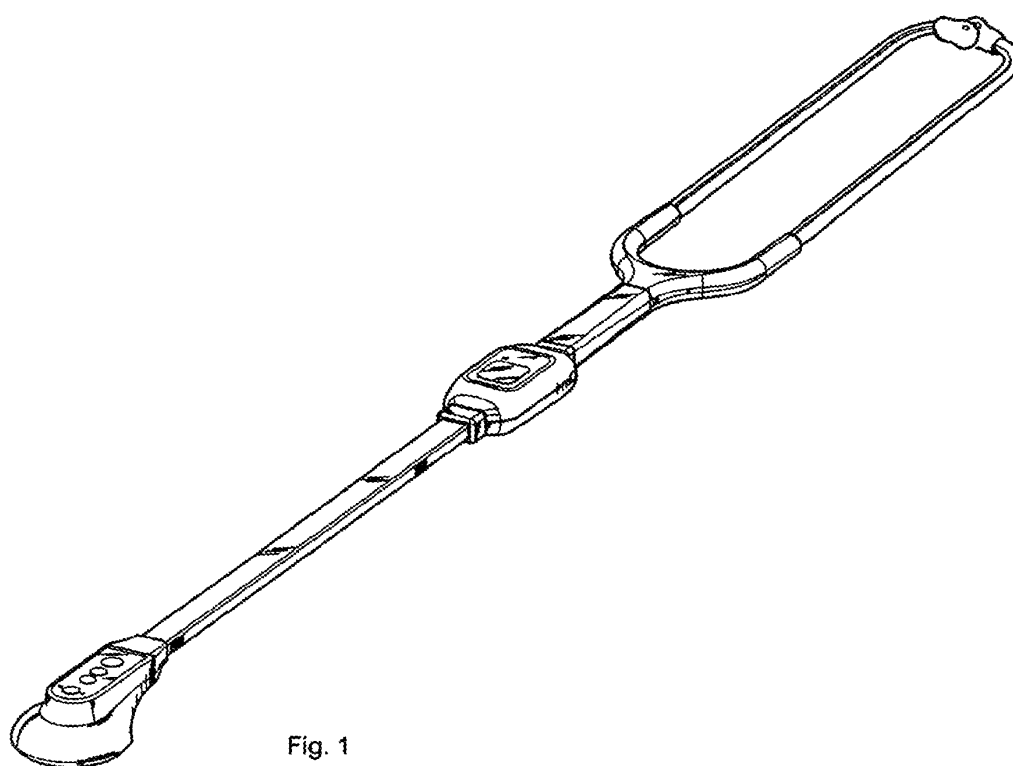
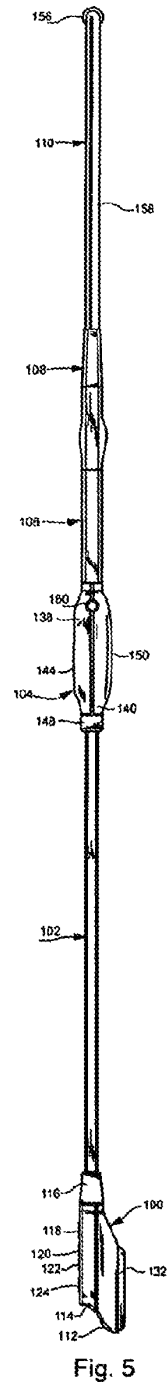
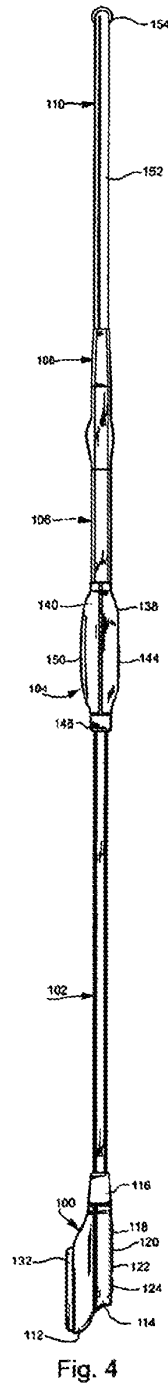
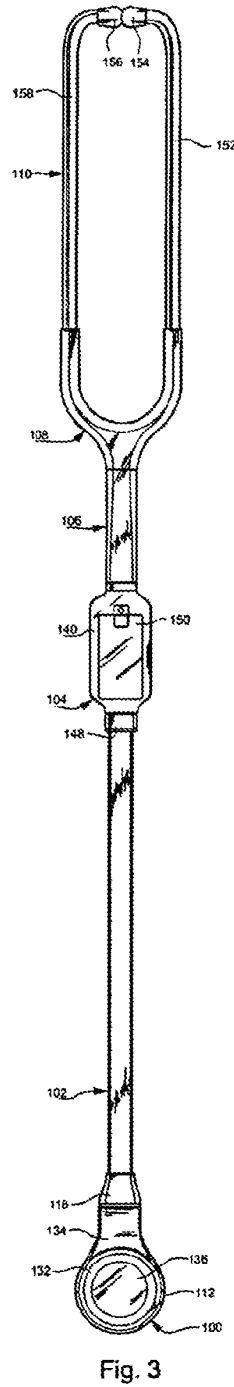
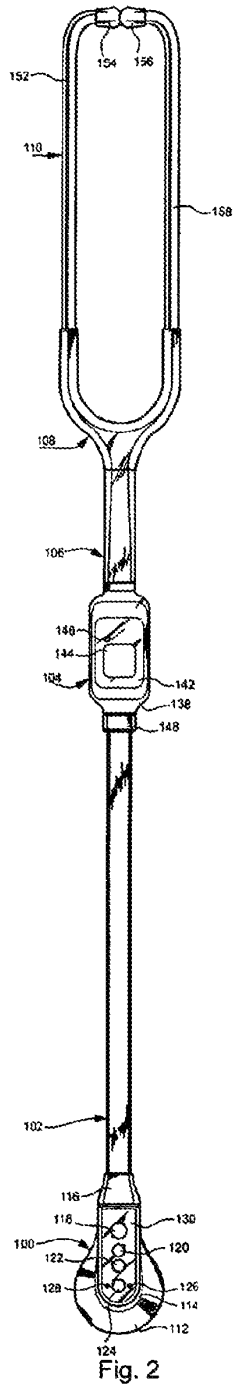


Fig. 1



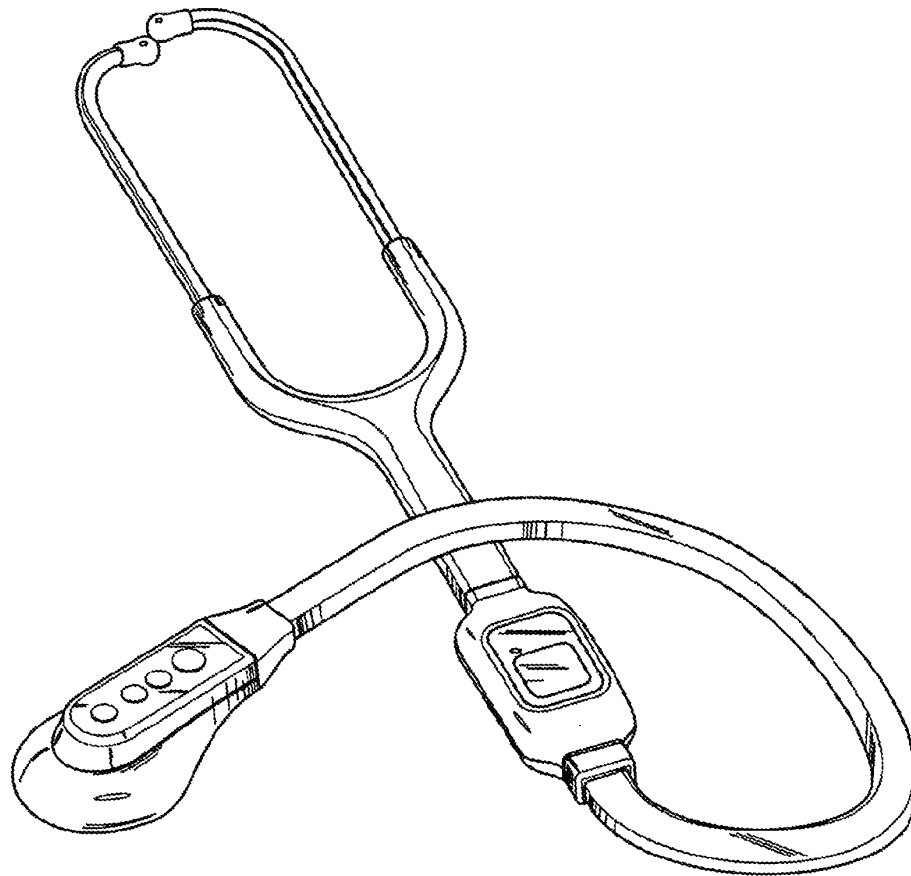


Fig. 8

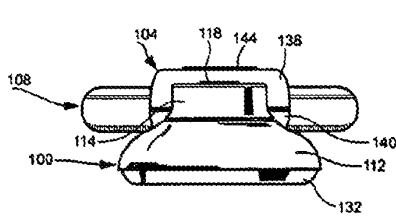


Fig. 6

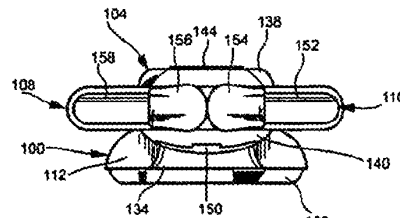


Fig. 7

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