Related U.S. Application Data

continuation-in-part of application No. 14/488,230, filed on Sep. 16, 2014, which is a continuation-in-part of application No. 14/080,725, filed on Nov. 14, 2013.

(60) Provisional application No. 62/132,497, filed on Mar. 12, 2015.

(51) **Int. Cl.**

A61B 5/04	(2006.01)
A61B 5/00	(2006.01)
A61B 5/0408	(2006.01)
A61B 5/044	(2006.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,893,453 A * 7/1975 Goldberg A61B 5/0432 346/138
4,123,785 A 10/1978 Cherry et al.
4,328,814 A 5/1982 Arkans
4,532,934 A 8/1985 Kelen
4,550,502 A 11/1985 Grayzel
4,716,903 A 1/1988 Hansen
4,809,705 A 3/1989 Ascher
4,915,656 A 4/1990 Alferness
5,025,794 A 6/1991 Albert et al.
5,168,876 A 12/1992 Quedens et al.
5,215,098 A 6/1993 Steinhaus
D341,423 S 11/1993 Bible
5,341,806 A 8/1994 Gadsby et al.
5,355,891 A * 10/1994 Wateridge A61B 5/04325 600/515
5,392,784 A 2/1995 Gudaitis
D357,069 S 4/1995 Plahn et al.
5,402,780 A 4/1995 Faasse, Jr.
5,402,884 A 4/1995 Gilman et al.
5,458,141 A 10/1995 Neil
5,473,537 A 12/1995 Glazer et al.
5,511,553 A 4/1996 Segalowitz
5,579,919 A 12/1996 Gilman et al.
5,582,181 A 12/1996 Ruess
D377,983 S 2/1997 Sabri et al.
5,601,089 A 2/1997 Bledsoe et al.
5,623,935 A 4/1997 Faisandier
5,682,901 A * 11/1997 Kamen A61B 5/0468 600/519
5,697,955 A 12/1997 Stolte
5,749,902 A 5/1998 Olsen et al.
5,817,151 A 10/1998 Olsen et al.
5,819,741 A 10/1998 Karlsson et al.
5,850,920 A 12/1998 Gilman et al.
D407,159 S 3/1999 Roberg
5,906,583 A 5/1999 Rogel
5,951,598 A 9/1999 Bishay et al.
5,957,857 A 9/1999 Hartley
5,984,102 A 11/1999 Tay
6,032,064 A 2/2000 Devlin et al.
6,038,469 A 3/2000 Karlsson et al.
6,101,413 A 8/2000 Olson et al.
6,115,638 A 9/2000 Groenke
6,117,077 A 9/2000 Del Mar et al.
6,134,479 A 10/2000 Brewer et al.
6,148,233 A 11/2000 Owen et al.
6,149,602 A 11/2000 Arcelus
6,188,407 B1 * 2/2001 Smith A61B 5/044 345/902
D443,063 S 5/2001 Pisani et al.
D445,507 S 7/2001 Pisani et al.
6,269,267 B1 7/2001 Bardy et al.
6,272,385 B1 8/2001 Bishay et al.
6,298,255 B1 10/2001 Cordero et al.
6,301,502 B1 10/2001 Owen et al.
6,304,773 B1 10/2001 Taylor et al.
6,304,780 B1 10/2001 Owen et al.
6,304,783 B1 10/2001 Lyster et al.
6,374,138 B1 4/2002 Owen et al.
6,418,342 B1 7/2002 Owen et al.
6,424,860 B1 7/2002 Karlsson et al.
6,427,083 B1 7/2002 Owen et al.
6,456,872 B1 9/2002 Faisandier
6,546,285 B1 4/2003 Owen et al.
6,605,046 B1 8/2003 Del Mar
6,607,485 B2 8/2003 Bardy
6,611,705 B2 8/2003 Hopman et al.
6,671,545 B2 12/2003 Fincke
6,671,547 B2 12/2003 Lyster et al.
6,694,186 B2 2/2004 Bardy
6,704,595 B2 3/2004 Bardy
6,705,991 B2 3/2004 Bardy
6,719,701 B2 * 4/2004 Lade A61N 1/3622 600/481
6,754,523 B2 6/2004 Toole
6,782,293 B2 8/2004 Dupelle et al.
6,856,832 B1 2/2005 Matsumura
6,860,897 B2 3/2005 Bardy
6,866,629 B2 3/2005 Bardy
6,887,201 B2 5/2005 Bardy
6,893,397 B2 5/2005 Bardy
6,904,312 B2 6/2005 Bardy
6,908,431 B2 6/2005 Bardy
6,913,577 B2 7/2005 Bardy
6,944,498 B2 9/2005 Owen et al.
6,960,167 B2 11/2005 Bardy
6,978,169 B1 12/2005 Guerra
6,993,377 B2 1/2006 Flick et al.
7,020,508 B2 3/2006 Stivoric et al.
7,027,864 B2 4/2006 Snyder et al.
7,065,401 B2 6/2006 Worden
7,085,601 B1 8/2006 Bardy et al.
7,104,955 B2 9/2006 Bardy
7,134,996 B2 11/2006 Bardy
7,147,600 B2 12/2006 Bardy
7,215,991 B2 5/2007 Besson et al.
7,248,916 B2 7/2007 Bardy
7,257,438 B2 8/2007 Kinast
7,277,752 B2 10/2007 Matos
D558,882 S 1/2008 Brady
7,328,061 B2 2/2008 Rowlandson et al.
7,412,395 B2 8/2008 Rowlandson et al.
7,429,938 B1 9/2008 Corndorf
D606,656 S 12/2009 Kobayashi et al.
7,706,870 B2 * 4/2010 Shieh A61B 5/4064 600/521
7,756,721 B1 7/2010 Falchuk et al.
7,787,943 B2 8/2010 McDonough
7,874,993 B2 1/2011 Bardy
7,881,785 B2 2/2011 Nassif et al.
D639,437 S 6/2011 Bishay et al.
7,959,574 B2 6/2011 Bardy
8,116,841 B2 2/2012 Bly et al.
8,172,761 B1 5/2012 Rulkov et al.
8,180,425 B2 5/2012 Selvitelli et al.
8,200,320 B2 6/2012 Kovacs
8,231,539 B2 7/2012 Bardy
8,231,540 B2 7/2012 Bardy
8,239,012 B2 8/2012 Felix et al.
8,249,686 B2 8/2012 Libbus et al.
8,260,414 B2 9/2012 Nassif et al.
8,266,008 B1 9/2012 Siegal et al.
8,277,378 B2 10/2012 Bardy
8,285,356 B2 10/2012 Bly et al.
8,285,370 B2 10/2012 Felix et al.
8,308,650 B2 11/2012 Bardy
8,366,629 B2 2/2013 Bardy
8,374,688 B2 2/2013 Libbus et al.
8,412,317 B2 4/2013 Mazar
8,460,189 B2 6/2013 Libbus et al.
8,473,047 B2 6/2013 Chakravarthy et al.
8,478,418 B2 7/2013 Fahey
8,554,311 B2 10/2013 Warner et al.
8,591,430 B2 11/2013 Amurthur et al.
8,594,763 B1 11/2013 Bibian et al.
8,613,708 B2 12/2013 Bishay et al.