



US00D950400S

(12) **United States Design Patent** (10) **Patent No.:** **US D950,400 S**
Fu et al. (45) **Date of Patent:** **** May 3, 2022**

- (54) **SENSING GARMENT**
- (71) Applicant: **Siren Care, Inc.**, San Francisco, CA (US)
- (72) Inventors: **Jie Fu**, Shanghai (CN); **Xuening Shen**, Shanghai (CN)
- (73) Assignee: **Siren Care, Inc.**, San Francisco, CA (US)
- (**) Term: **15 Years**
- (21) Appl. No.: **29/730,291**
- (22) Filed: **Apr. 2, 2020**

5,788,114 A	8/1998	Perego
5,929,332 A	7/1999	Brown
6,195,921 B1	3/2001	Truong
6,398,740 B1	6/2002	Lavery et al.
6,767,330 B2	7/2004	Lavery et al.
7,395,614 B1	7/2008	Bailey, Sr. et al.
D589,524 S	3/2009	Orellana et al.
7,716,005 B2	5/2010	Shoureshi et al.
8,360,987 B2	1/2013	Kantro et al.
D689,505 S	9/2013	Convay et al.
8,536,075 B2	9/2013	Leonard
D691,166 S	10/2013	Convay et al.
D732,055 S	6/2015	Schwartz
9,186,092 B2	11/2015	Mestrovic et al.
9,743,861 B2	8/2017	Giedwoyn et al.
D822,053 S	7/2018	Linders et al.
10,026,292 B2	7/2018	Baker et al.
D837,237 S	1/2019	Fraser et al.
10,301,751 B2	5/2019	Dias et al.
10,306,687 B2	5/2019	Folske et al.
10,327,700 B2	6/2019	Lee et al.
10,398,376 B2	9/2019	Berg et al.
10,480,104 B2	11/2019	Fu et al.
10,557,220 B2	2/2020	Fu et al.
10,602,932 B2	3/2020	Ma et al.
10,638,937 B2	5/2020	Ma et al.
11,103,699 B1 *	8/2021	Oppenheim A61N 1/36007
11,109,807 B2 *	9/2021	Fu A43B 17/00
2002/0082486 A1	6/2002	Lavery et al.
2004/0009729 A1	1/2004	Hill et al.
2005/0070778 A1	3/2005	Lackey et al.
2007/0194130 A1	8/2007	Bauer
2009/0076772 A1	3/2009	Hinshaw et al.
2009/0139198 A1	6/2009	Dias et al.
2010/0324455 A1	12/2010	Rangel et al.
2011/0015498 A1	1/2011	Mestrovic et al.
2011/0054359 A1	3/2011	Sazonov et al.
2011/0214501 A1	9/2011	Ross et al.
2012/0109013 A1	5/2012	Everett et al.
2013/0002533 A1	1/2013	Burroughs et al.
2013/0092742 A1	4/2013	Brun et al.
2013/0137943 A1	5/2013	Rodrigues
2013/0145588 A1	6/2013	Nakata
2013/0185003 A1	7/2013	Carbeck et al.
2013/0192071 A1	8/2013	Esposito et al.
2013/0213147 A1	8/2013	Rice et al.
2013/0258085 A1	10/2013	Leedy et al.
2013/0261494 A1	10/2013	Bloom et al.
2014/0121479 A1	5/2014	O'Connor et al.
2014/0121532 A1	5/2014	O'Connor et al.
2014/0222173 A1	8/2014	Giedwoyn et al.
2014/0268099 A1	9/2014	Moslehi
2014/0288669 A1	9/2014	Sanders et al.

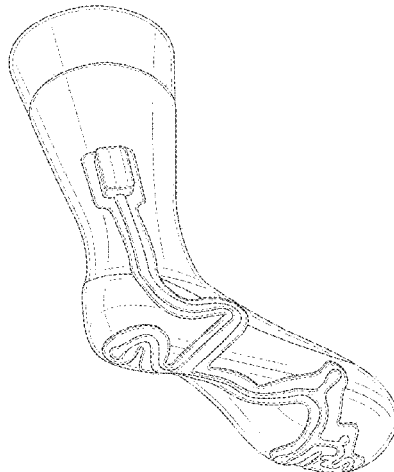
Related U.S. Application Data

- (63) Continuation of application No. 16/836,800, filed on Mar. 31, 2020, now Pat. No. 11,109,807, which is a continuation of application No. PCT/CN2019/092201, filed on Jun. 21, 2019.
- (51) **LOC (13) Cl.** **10-04**
- (52) **U.S. Cl.**
USPC **D10/52**
- (58) **Field of Classification Search**
USPC D10/46, 52
CPC A61B 5/6807; A61B 5/0008; A61B 5/01; A61B 2562/04; A61B 2562/222; A61B 5/6829; A41B 11/00; A43B 17/00; G01K 13/20; A41D 1/005
See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS

D281,081 S	10/1985	Zwissler et al.
4,670,977 A	6/1987	Scrantom et al.
D316,119 S	4/1991	McDermott et al.
5,191,895 A	3/1993	Koltringer
5,361,133 A	11/1994	Brown et al.
5,446,452 A	8/1995	Litton
5,546,955 A	8/1996	Wilk
5,642,096 A	6/1997	Leyerer et al.
5,678,566 A	10/1997	Dribbon



2014/0378786	A1	12/2014	Hong et al.	
2015/0025332	A1	1/2015	Yang	
2015/0057562	A1	2/2015	Linders et al.	
2015/0105687	A1	4/2015	Abreu	
2015/0157263	A1	6/2015	Workman et al.	
2015/0173679	A1	6/2015	West et al.	
2015/0177080	A1	6/2015	Esposito et al.	
2015/0190059	A1	7/2015	Petersen et al.	
2015/0201846	A1	7/2015	Maiershon et al.	
2015/0297100	A1	10/2015	Castillo	
2015/0359457	A1	12/2015	Blumenthal et al.	
2016/0180447	A1	6/2016	Kamalie et al.	
2016/0206242	A1	7/2016	Esposito et al.	
2016/0256706	A1	9/2016	Harrison	
2016/0367191	A1	12/2016	Esposito et al.	
2017/0188841	A1	7/2017	Ma et al.	
2017/0188950	A1	7/2017	Gazdag et al.	
2017/0275789	A1	9/2017	Dias et al.	
2017/0333256	A1	11/2017	Bassez et al.	
2017/0339524	A1	11/2017	Cho et al.	
2018/0000367	A1	1/2018	Longinotti-Buitoni	
2018/0003579	A1	1/2018	Esposito et al.	
2018/0295895	A1	10/2018	Donohoe et al.	
2018/0317597	A1	11/2018	Maxey et al.	
2018/0317820	A1	11/2018	Pace et al.	
2019/0094088	A1	3/2019	Reif et al.	
2019/0283394	A1	9/2019	Ashcroft et al.	
2019/0313913	A1	10/2019	Fu et al.	
2020/0000180	A1	1/2020	Sherrah et al.	
2020/0222001	A1*	7/2020	Fu	A61B 5/6829
2020/0245724	A1	8/2020	Kobe et al.	
2020/0253482	A1	8/2020	Ma et al.	

FOREIGN PATENT DOCUMENTS

CN	101411551	A	4/2009
CN	203914881	U	11/2014
CN	105030248	A	11/2015
CN	105188533	A	12/2015
CN	106132291	A	11/2016
CN	107669247	A	2/2018
CN	108471946	A	8/2018
CN	108697341	A	10/2018
DE	10 2011 012 458	A1	8/2012
EP	2 591 717	B1	8/2016
GB	2 426 255	A	11/2006
GB	2 472 025	A	1/2011
WO	WO-02/095839	A2	11/2002
WO	WO-02/095839	A3	11/2002
WO	WO-2008/080245	A2	7/2008
WO	WO-2008/080245	A3	7/2008
WO	WO-2009/005373	A1	1/2009
WO	WO-2011/010093	A1	1/2011
WO	WO-2014/179343	A1	11/2014
WO	WO-2015/143218	A1	9/2015
WO	WO-2016/038342	A1	3/2016
WO	WO-2017/079628	A1	5/2017
WO	WO-2017/106760	A1	6/2017
WO	WO-2017/115083	A1	7/2017
WO	WO-2017/120063	A1	7/2017
WO	WO-2017/172781	A1	10/2017
WO	WO-2017/175001	A1	10/2017
WO	WO-2018/064174	A1	4/2018

OTHER PUBLICATIONS

Buckley, P. (2016). Smart socks help prevent diabetes complications, smart2zero.com (online), located at <https://www.smart2zero.com/news/smart-socks-help-prevent-diabetes-complications>, 1 total page.

Buhr, S. (2016). Siren Care makes a “smart” sock to track diabetic health, techcrunch.com (online), located at <https://techcrunch.com/2016/11/25/siren-care-makes-a-smart-sock-to-track-diabetic-health/>, 2 total pages.

Corrected Notice of Allowability dated Mar. 2, 2020, for U.S. Appl. No. 15/382,248, filed Dec. 16, 2016, 2 pages.

Corrected Notice of Allowability dated Apr. 8, 2020, for U.S. Appl. No. 16/221,340, filed Dec. 14, 2018, 3 pages.

Extended European Search Report dated Apr. 9, 2019, for EP Application No. 16 876 847.1, filed on Dec. 16, 2016, 11 pages.

Extended European Search Report dated Aug. 21, 2020, for EP Application No. 17 857 336.6, filed on Sep. 27, 2017, 9 pages.

Final Office Action dated Jul. 12, 2019, for U.S. Appl. No. 16/221,340, filed Dec. 14, 2018, 13 pages.

Hardy, D.A et al. (2019). “Automated insertion of package dies onto wire and into a textile yarn sheath,” *Microsystem Technologies*, pp. 1-13.

Hughes-Riley, T et al. (2017). “A Study of Thermistor Performance within a Textile Structure,” *Sensors* 17:1804, 14 total pages.

International Search Report dated Mar. 27, 2017, for PCT Application No. PCT/US2016/067344, filed on Dec. 16, 2016, 3 pages.

International Search Report dated Feb. 6, 2018, for PCT Application No. PCT/US2017/053738, filed on Sep. 27, 2017, 4 pages.

International Search Report dated May 1, 2019, for PCT Application No. PCT/US2019/018714, filed on Feb. 20, 2019, 2 pages.

International Search Report dated Aug. 6, 2019, for PCT Application No. PCT/US2019/027050, filed on Apr. 11, 2019, 4 pages.

International Search Report dated Sep. 10, 2019, for PCT Application No. PCT/CN2018/0121244, filed on Dec. 14, 2018, 6 pages.

International Search Report dated Aug. 27, 2019, for PCT Application No. PCT/CN2019/092201, filed on Jun. 21, 2019, 5 pages.

International Search Report dated Aug. 28, 2019, for PCT Application No. PCT/CN2018/121246, filed on Dec. 14, 2018, 5 pages.

Nashed, M-N et al. (2019). “A novel method for embedding semiconductor dies within textile yarn to create electronic textiles,” *Fibers* 7:12, 17 total pages.

Non-Final Office Action dated Mar. 4, 2019, for U.S. Appl. No. 16/221,340, filed Dec. 14, 2018, 17 pages.

Non-Final Office Action dated Jul. 8, 2019, for U.S. Appl. No. 15/382,248, filed Dec. 16, 2016, 21 pages.

Non-Final Office Action dated May 21, 2020, for U.S. Appl. No. 16/836,800, filed Mar. 31, 2020, 16 pages.

Notice of Allowance dated May 30, 2019, for U.S. Appl. No. 15/717,473, filed Sep. 27, 2017, 9 pages.

Notice of Allowance dated Oct. 31, 2019, for U.S. Appl. No. 15/717,473, filed Sep. 27, 2017, 5 pages.

Notice of Allowance dated Sep. 10, 2019, for U.S. Appl. No. 15/717,498, filed Sep. 27, 2017, 14 pages.

Notice of Allowance dated Jan. 2, 2020, for U.S. Appl. No. 15/382,248, filed Dec. 16, 2016, 17 pages.

Notice of Allowance dated Jan. 8, 2020, for U.S. Appl. No. 16/221,340, filed Dec. 14, 2018, 12 pages.

Notice of Allowance dated Oct. 15, 2020, for U.S. Appl. No. 29/694,472, filed Jun. 11, 2019, 14 pages.

Written Opinion of the International Searching Authority dated Mar. 27, 2017, for PCT Application No. PCT/US2016/067344, filed on Dec. 16, 2016, 8 pages.

Written Opinion of the International Searching Authority dated Feb. 6, 2018, for PCT Application No. PCT/US2017/053738, filed on Sep. 27, 2017, 10 pages.

Written Opinion of the International Searching Authority dated May 1, 2019, for PCT Application No. PCT/US2019/018714, filed on Feb. 20, 2019, 4 pages.

Written Opinion of the International Searching Authority dated Aug. 6, 2019, for PCT Application No. PCT/US2019/027050, filed on Apr. 11, 2019, 9 pages.

Written Opinion of the International Searching Authority dated Sep. 10, 2019, for PCT Application No. PCT/CN2018/0121244, filed on Dec. 14, 2018, 5 pages.

Written Opinion of the International Searching Authority dated Aug. 27, 2019, for PCT Application No. PCT/CN2019/092201, filed on Jun. 21, 2019, 4 pages.

Written Opinion of the International Searching Authority dated Aug. 28, 2019, for PCT Application No. PCT/CN2018/121246, filed on Dec. 14, 2018, 4 pages.

* cited by examiner

Primary Examiner — Antoine Duval Davis
(74) Attorney, Agent, or Firm — Cooley LLP

(57) **CLAIM**

The ornamental design for a sensing garment, as shown and described.

DESCRIPTION

FIG. 1 is a rear perspective view of a sensing garment showing the new design;
FIG. 2 is a front view thereof;
FIG. 3 is a rear view thereof;
FIG. 4 is right side view thereof;
FIG. 5 is a left side view thereof;
FIG. 6 is a top plan view thereof;
FIG. 7 is a bottom plan view thereof;
FIG. 8 is a rear perspective view of another sensing garment showing the new design;
FIG. 9 is a front view thereof;
FIG. 10 is a rear view thereof;
FIG. 11 is a right side view thereof;

FIG. 12 is a left side view thereof;
FIG. 13 is a top plan view thereof;
FIG. 14 is a bottom plan view thereof;
FIG. 15 is a rear perspective view of another sensing garment showing the new design;
FIG. 16 is a front view thereof;
FIG. 17 is a rear view thereof;
FIG. 18 is a right side view thereof;
FIG. 19 is a left side view thereof;
FIG. 20 is a top plan view thereof;
FIG. 21 is a bottom plan view thereof;
FIG. 22 is a rear perspective view of another sensing garment showing the new design;
FIG. 23 is a front view thereof;
FIG. 24 is a rear view thereof;
FIG. 25 is a right side view thereof;
FIG. 26 is a left side view thereof;
FIG. 27 is a top plan view thereof; and,
FIG. 28 is a bottom plan view thereof.
The broken lines are for the purpose of illustrating portions of the article and form no part of the claim.

1 Claim, 28 Drawing Sheets



FIG. 1

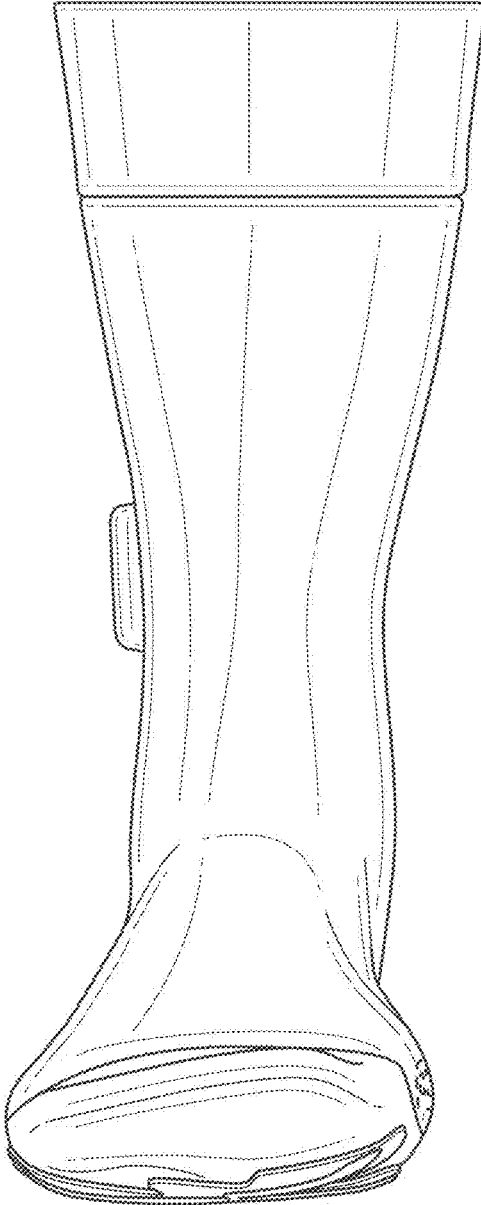


FIG. 2

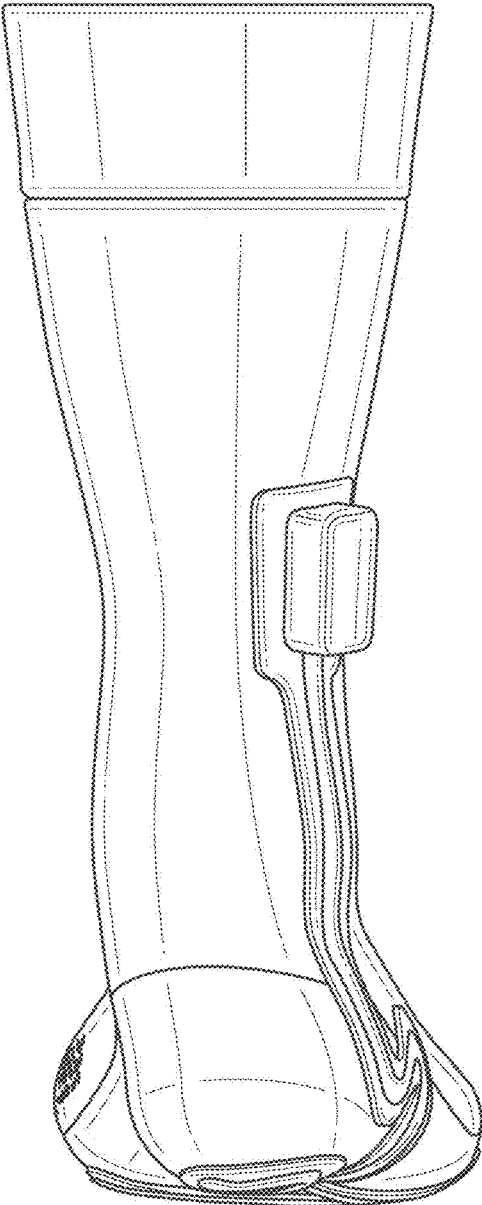


FIG. 3



FIG. 4

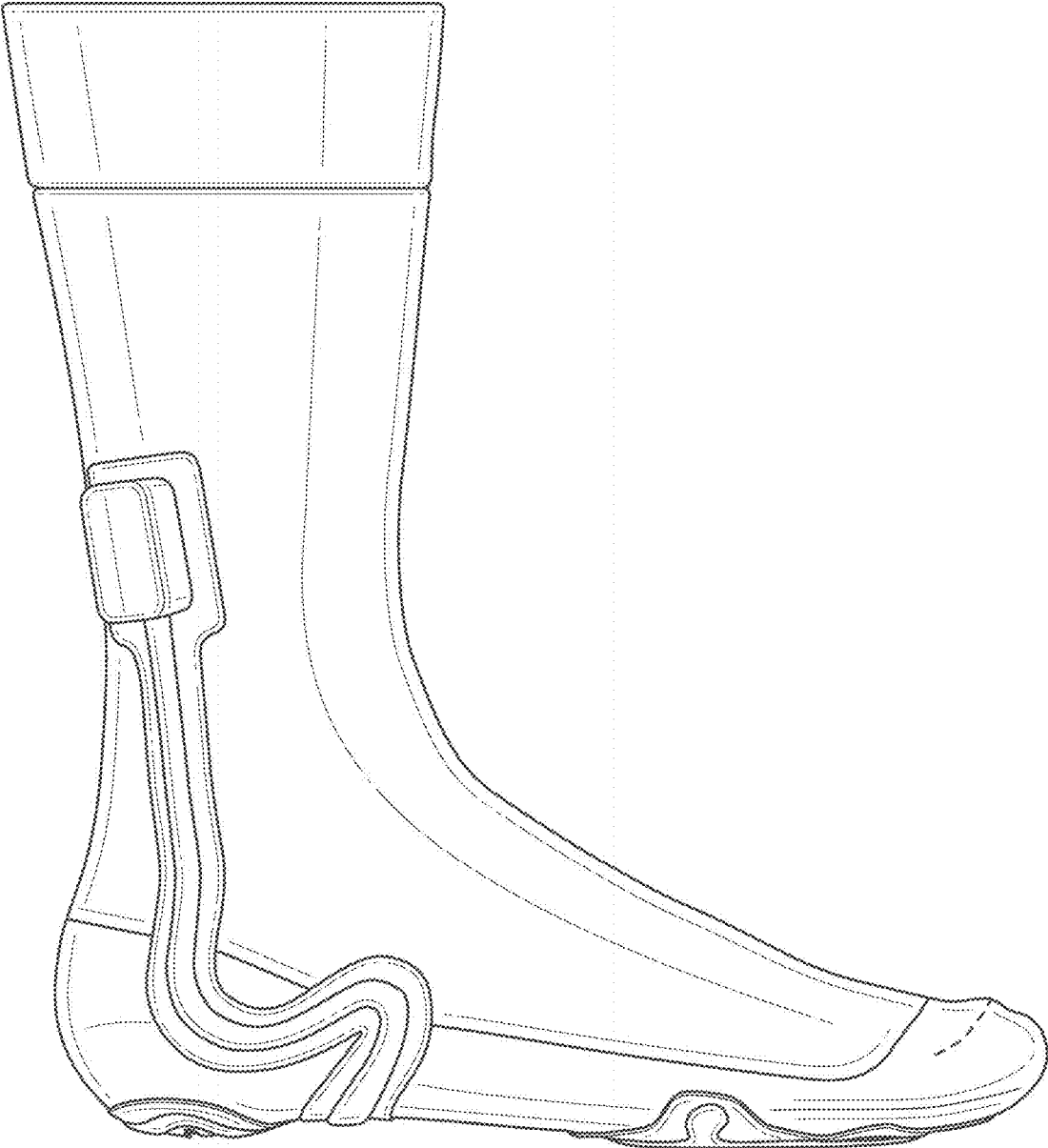


FIG. 5

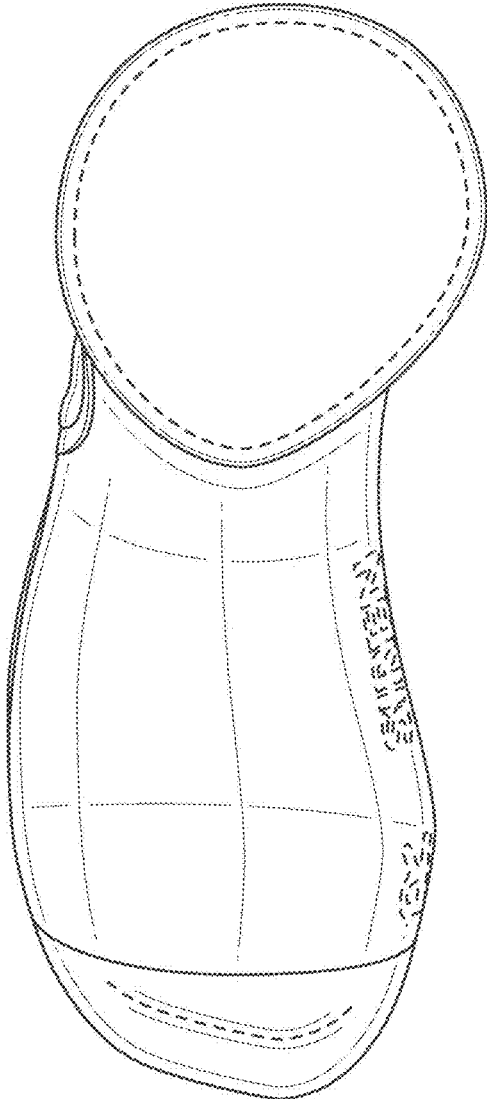


FIG. 6

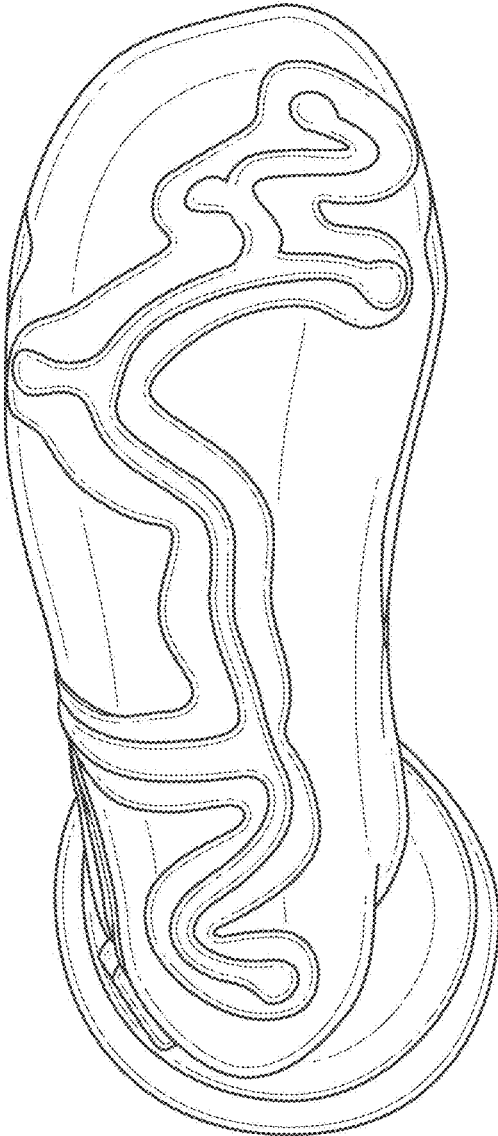


FIG. 7

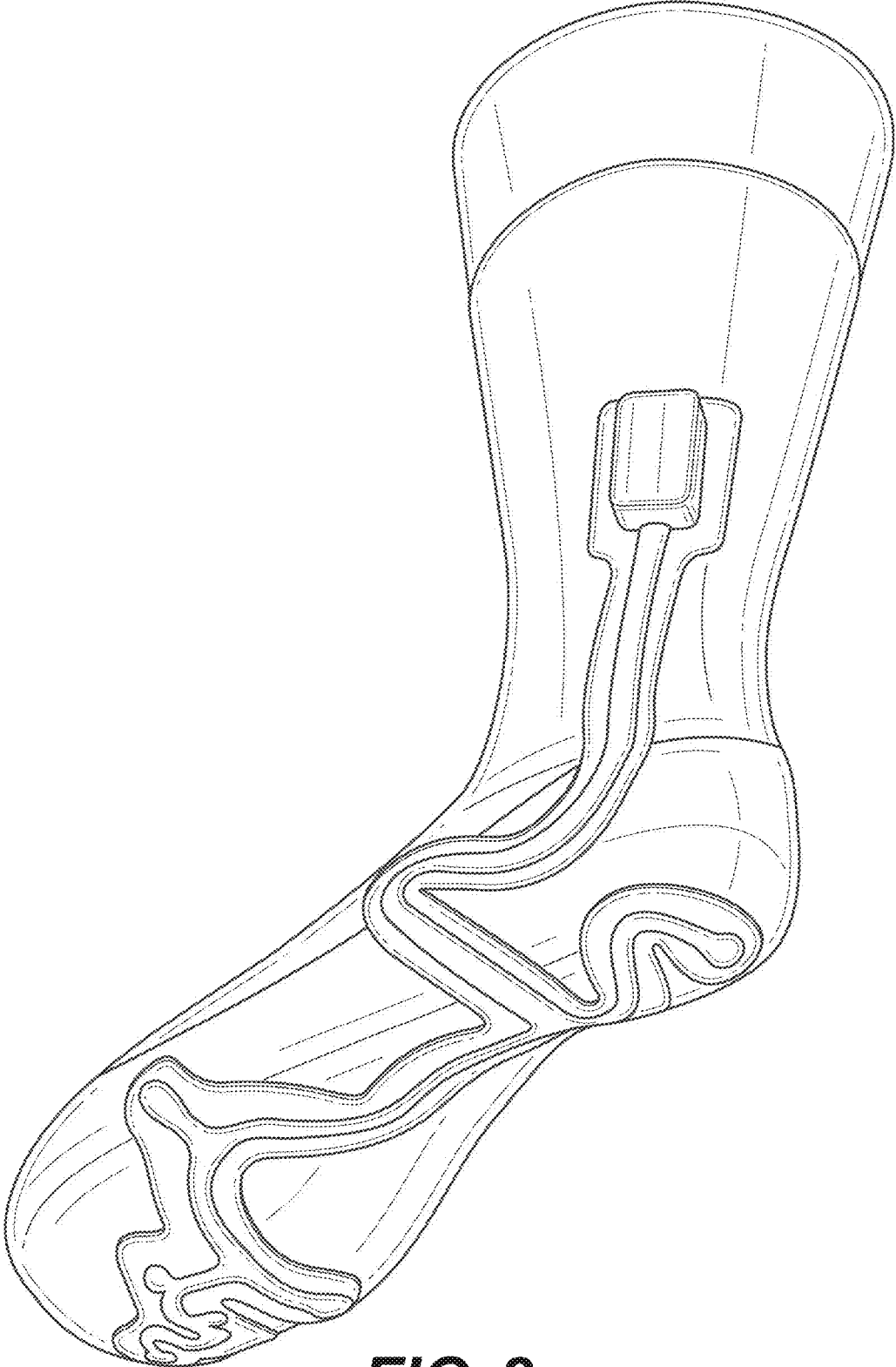


FIG. 8

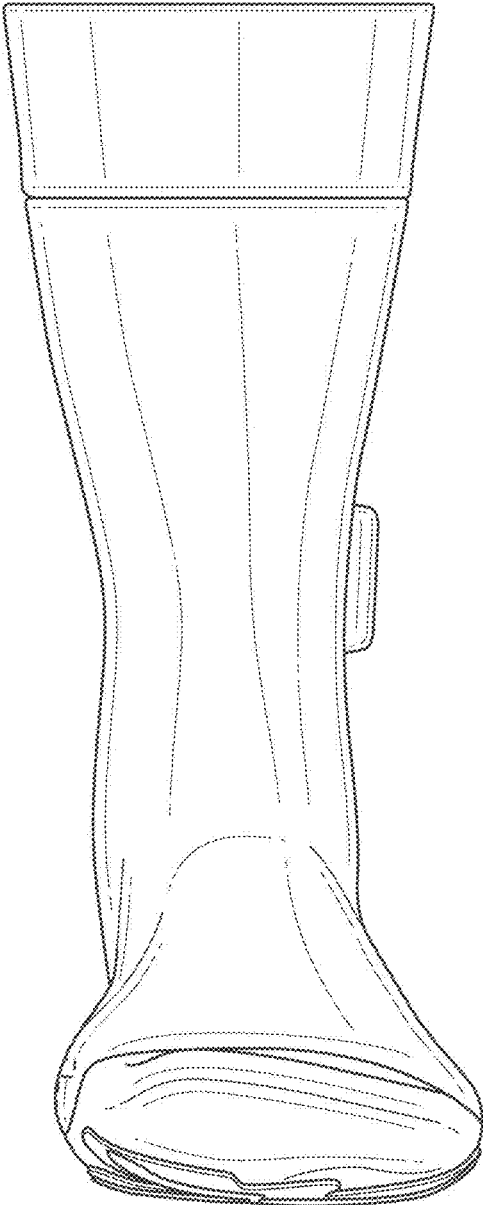


FIG. 9

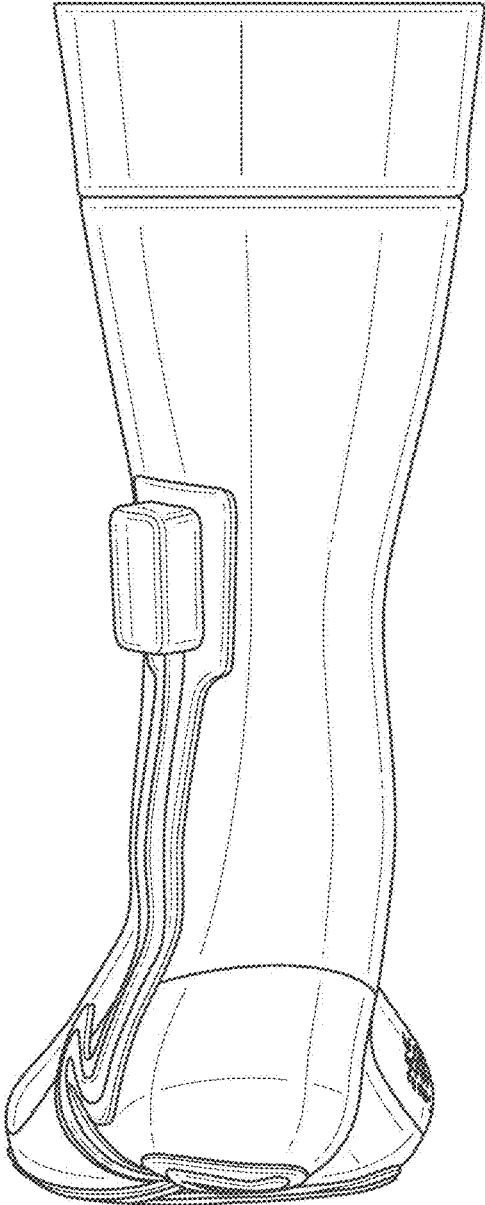


FIG. 10



FIG. 11



FIG. 12

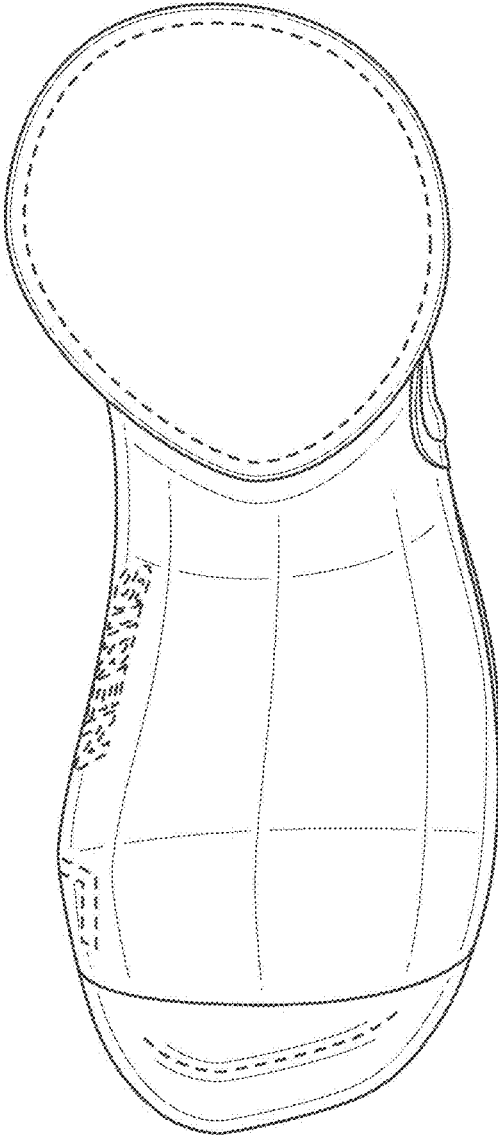


FIG. 13

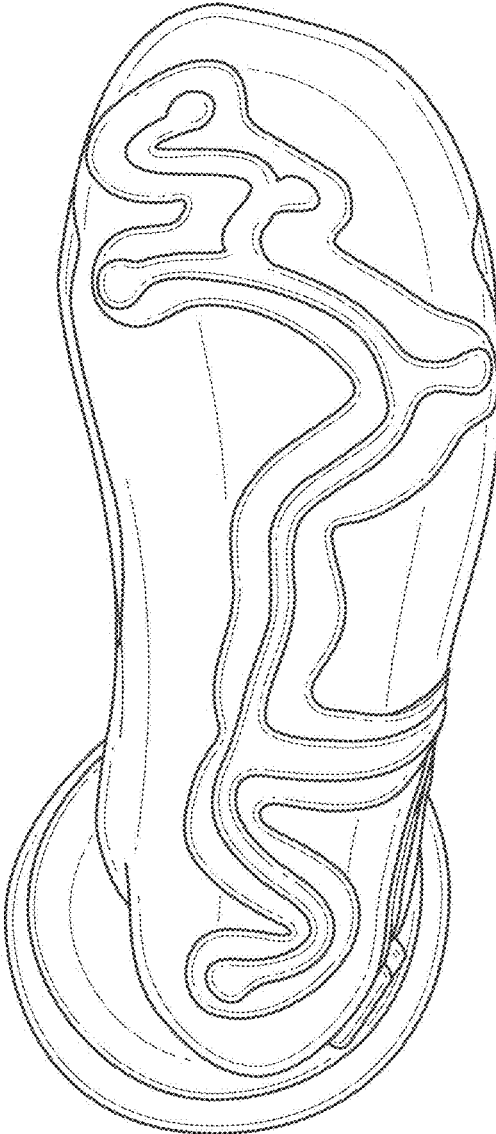


FIG. 14



FIG. 15

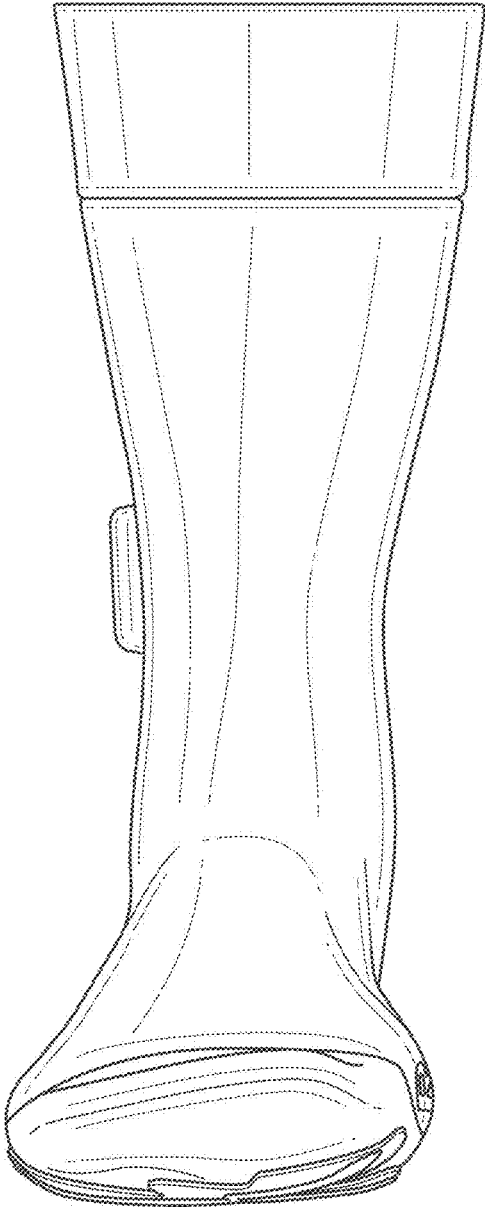


FIG. 16

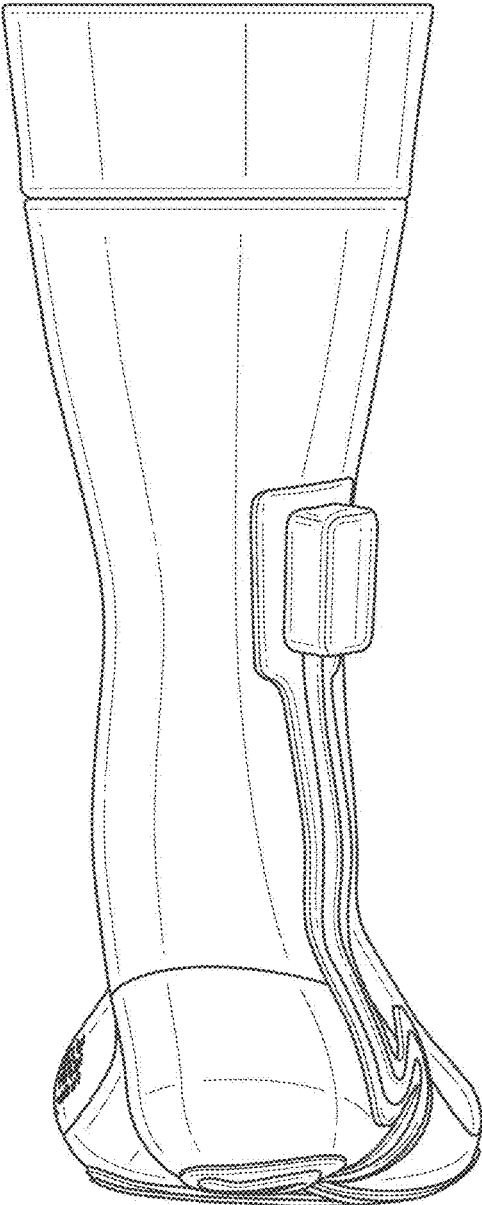


FIG. 17



FIG. 18



FIG. 19

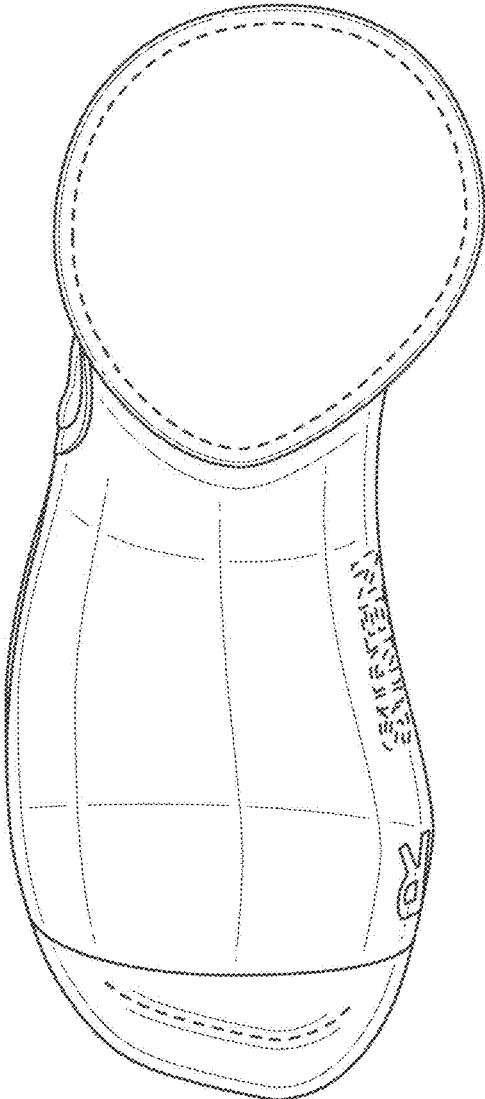


FIG. 20

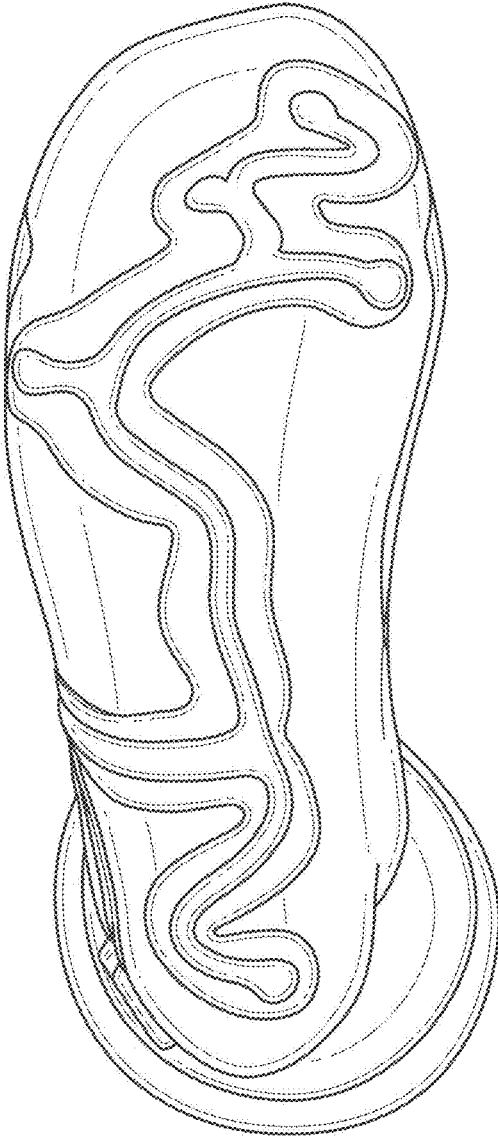


FIG. 21

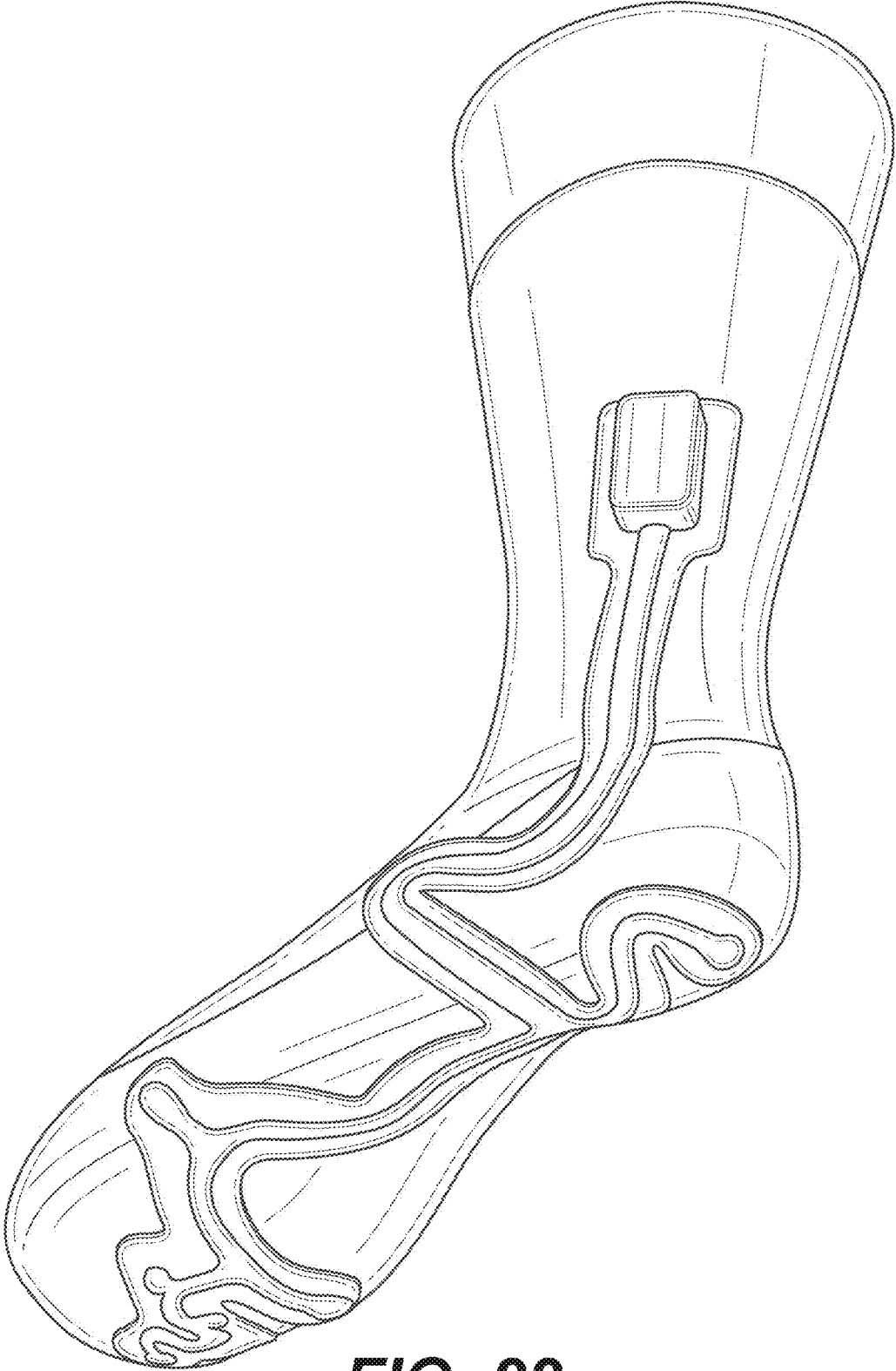


FIG. 22

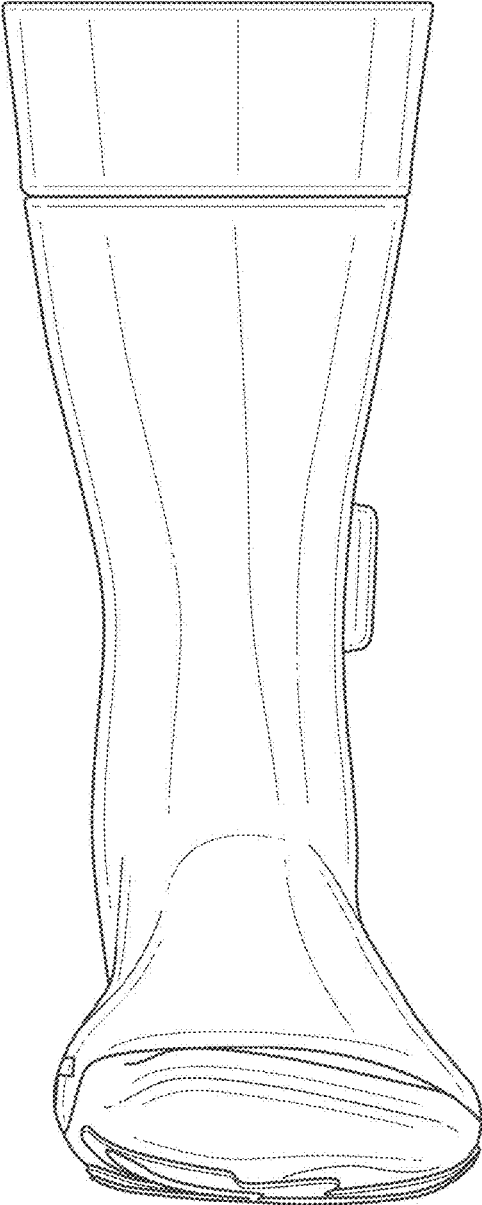


FIG. 23

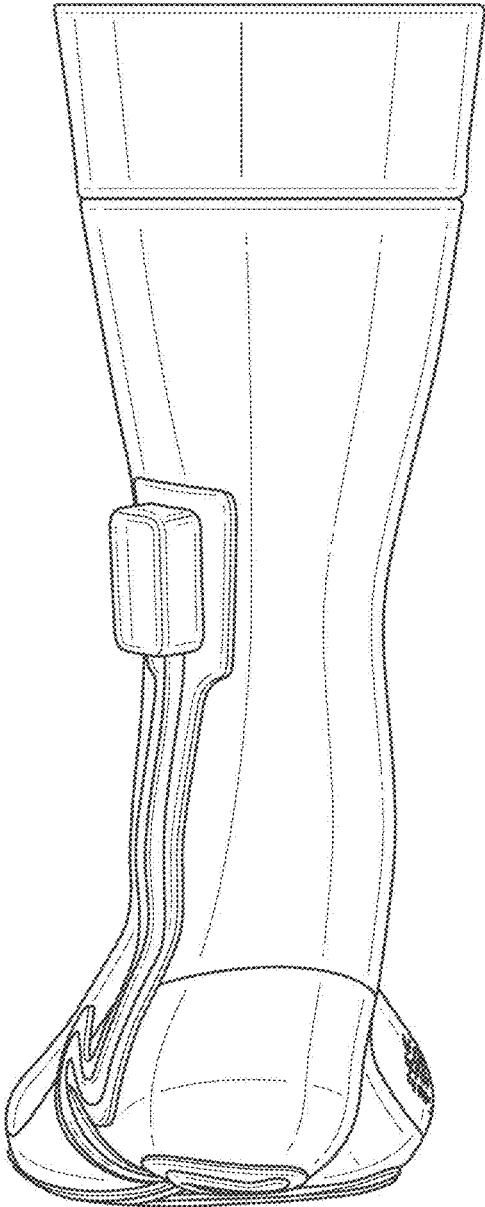


FIG. 24



FIG. 25



FIG. 26

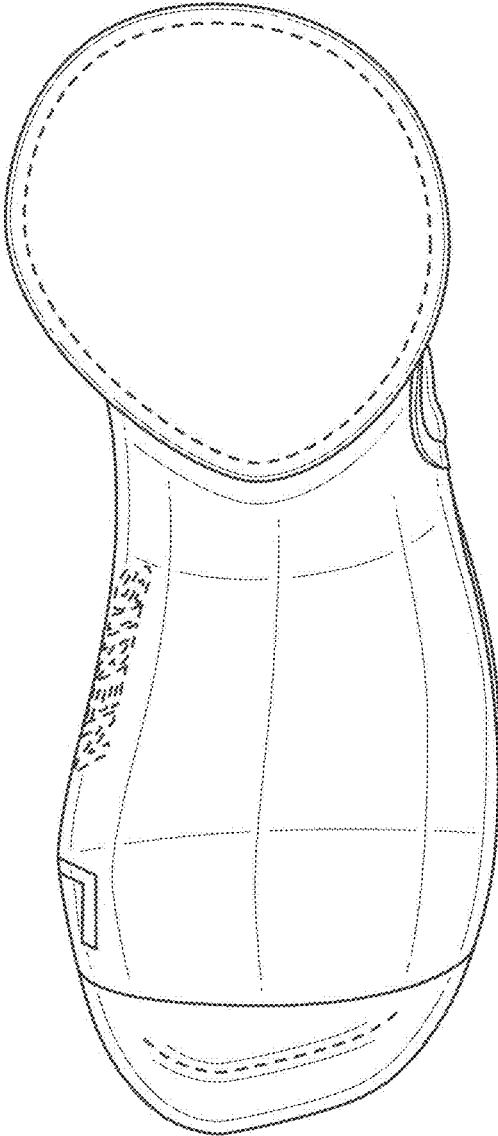


FIG. 27

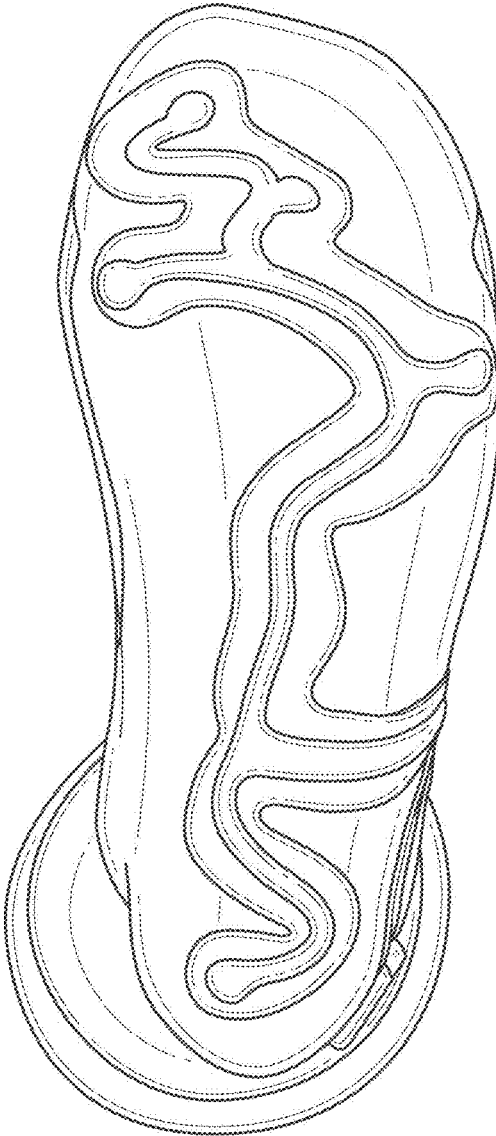


FIG. 28