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(12) **United States Design Patent**
Vailhe et al.

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(54) **SUTURE NEEDLE HAVING A WAVE SHAPE**

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(71) Applicant: **Ethicon, Inc.**, Somerville, NJ (US)

(57) **CLAIM**

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The ornamental design for a suture needle having a wave shape, as shown and described.

(73) Assignee: **Ethicon, Inc.**, Somerville, NJ (US)

DESCRIPTION

(**) Term: **15 Years**

(21) Appl. No.: **29/701,592**

(22) Filed: **Aug. 13, 2019**

(51) **LOC (13) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/145**

(58) **Field of Classification Search**
USPC D24/145–147, 133, 130
(Continued)

FIG. 1 is a perspective view of a suture needle having a wave shape, showing my new design;
FIG. 2 is a left side view of the suture needle shown in FIG. 1;
FIG. 3 is a right side view of the suture needle shown in FIG. 1;
FIG. 4 is a proximal end view of the suture needle shown in FIG. 1;
FIG. 5 is a distal end view of the suture needle shown in FIG. 1;
FIG. 6 is a top plan view of the suture needle shown in FIG. 1;
FIG. 7 is a bottom view of the suture needle shown in FIG. 1;
FIG. 8 is a perspective view of a suture needle having a wave shape, showing another embodiment of our new design;
FIG. 9 is a left side view of the suture needle shown in FIG. 8;
FIG. 10 is a right side view of the suture needle shown in FIG. 8;
FIG. 11 is a proximal end view of the suture needle shown in FIG. 8;
FIG. 12 is a distal end view of the suture needle shown in FIG. 8;
FIG. 13 is a top plan view of the suture needle shown in FIG. 8; and,
FIG. 14 is a bottom view of the suture needle shown in FIG. 8.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,869,550 A * 1/1959 Kurtz A61B 17/06
606/223
3,094,123 A * 6/1963 Kurtz A61B 17/06
606/223

(Continued)

FOREIGN PATENT DOCUMENTS

CH 597835 4/1978
DE 3223153 11/1983

(Continued)

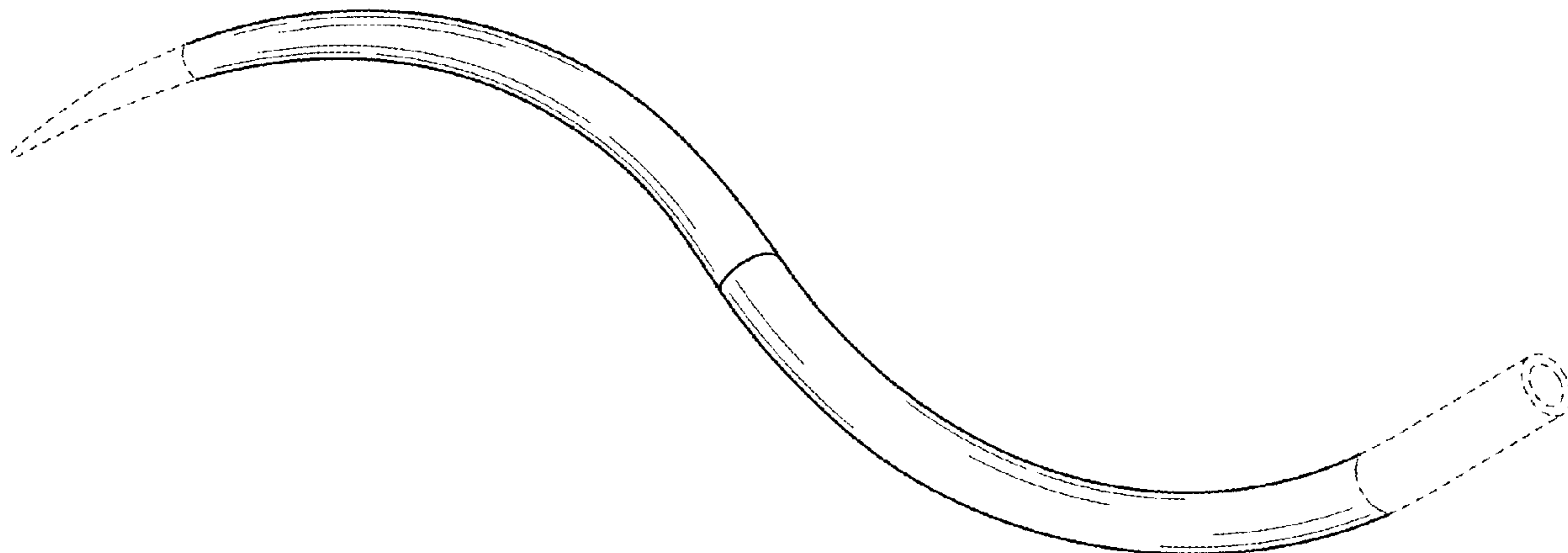
OTHER PUBLICATIONS

5 1/2" Double-Curved Cutting Edge Needle—Style 190-1. Havalon. Retrieved on Oct. 15, 2020. Retrieved from the Internet: <https://www.havalon.com/suture-needle-double-curved-2>.*

(Continued)

The dash-dot-dash type broken lines define the boundaries of the claimed design. The dash-dash-dash-dash type broken lines in the drawings depict portions of the suture needle having a wave shape and form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(58) **Field of Classification Search**

CPC A61B 17/06066; A61B 17/06; A61B 17/06004; A61B 17/06133; A61B 17/06166; A61B 2017/06066; A61B 2017/06076; A61B 2017/0608; A61B 2017/0609; A61B 2017/06133

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,197,997	A *	8/1965	Kurtz	A61B 17/06 72/377
3,249,104	A	5/1966	Hohnstein	
4,140,125	A	2/1979	Smith	
5,041,127	A *	8/1991	Troutman	A61B 17/06066 606/223
5,269,806	A *	12/1993	Sardelis	A61B 17/06066 606/222
5,382,257	A	1/1995	Lewis et al.	
5,649,961	A *	7/1997	McGregor	A61B 17/06066 606/222
5,683,415	A *	11/1997	Brunken	A61B 17/06066 148/242
5,683,416	A *	11/1997	McGregor	A61B 17/06066 163/5
5,741,299	A *	4/1998	Rudt	A61B 17/06066 606/224
5,797,961	A *	8/1998	Smith	A61B 17/06066 112/222
5,853,423	A *	12/1998	McGregor	A61B 17/06066 606/222
5,897,572	A *	4/1999	Schulsinger	A61B 17/06066 606/222
D492,778	S *	7/2004	Narini	D24/146
9,393,012	B2	7/2016	DiPiero	
9,433,409	B2	9/2016	Nose	
D895,114	S *	9/2020	Cichocki, Jr.	D24/145
2007/0135838	A1	6/2007	Meyer	
2007/0219586	A1 *	9/2007	Mahadevan	A61B 17/06066 606/223

2010/0100125	A1 *	4/2010	Mahadevan	A61B 17/06066 606/223
2011/0301642	A1	12/2011	White et al.	
2012/0158049	A1 *	6/2012	Kato	A61B 17/06066 606/223
2013/0023725	A1	1/2013	Nose et al.	
2014/0005719	A1 *	1/2014	Uetake	A61B 17/06066 606/223
2015/0142018	A1	5/2015	Sniftin et al.	
2015/0142040	A1	5/2015	Kawaura et al.	
2020/0268375	A1 *	8/2020	Cichocki, Jr.	A61B 17/06066
2020/0268378	A1 *	8/2020	Cichocki, Jr.	A61B 17/06066
2020/0268379	A1 *	8/2020	Cichocki, Jr.	A61B 17/06066
2020/0268382	A1 *	8/2020	Vailhe	A61B 17/062
2020/0268383	A1 *	8/2020	Vailhe	A61B 17/06066

FOREIGN PATENT DOCUMENTS

EP	3431014	1/2019
WO	2006027549	3/2006

OTHER PUBLICATIONS

Triangular S-curved suture needle. Prepareer Winkel.NL. Retrieved on Oct. 15, 2020. Retrieved from the Internt: <https://www.prepareerwinkel.nl/en/triangular-s-curved-suture-needle.html>.*

Scali, M., Pusch, T. P., Breedveld, P., & Dodou, D. (2017). Needle-like instruments for steering through solid organs: A review of the scientific and patent literature . Institution of Mechanical Engineers. Proceedings. Part H: Journal of Engineering in Medicine, 231(3), 250-265. DOI: 10.1177/0954411916672149.

Di Qi, Karthikeyan Panneerselvama, Woojin Ahnb, Venkata Arikatlac, Andinet Enquobahriec, & Suvrana Dea. Virtual Interactive Suturing for the Fundamentals of Laparoscopic Surgery (FLS). Journal of Biomedical Informatics 75, Nov. 2017, pp. 48-62.

International Search Report issued in counterpart foreign application International Application No. PCT/IB2020/057512, dated Nov. 4, 2020, 8 pages.

* cited by examiner

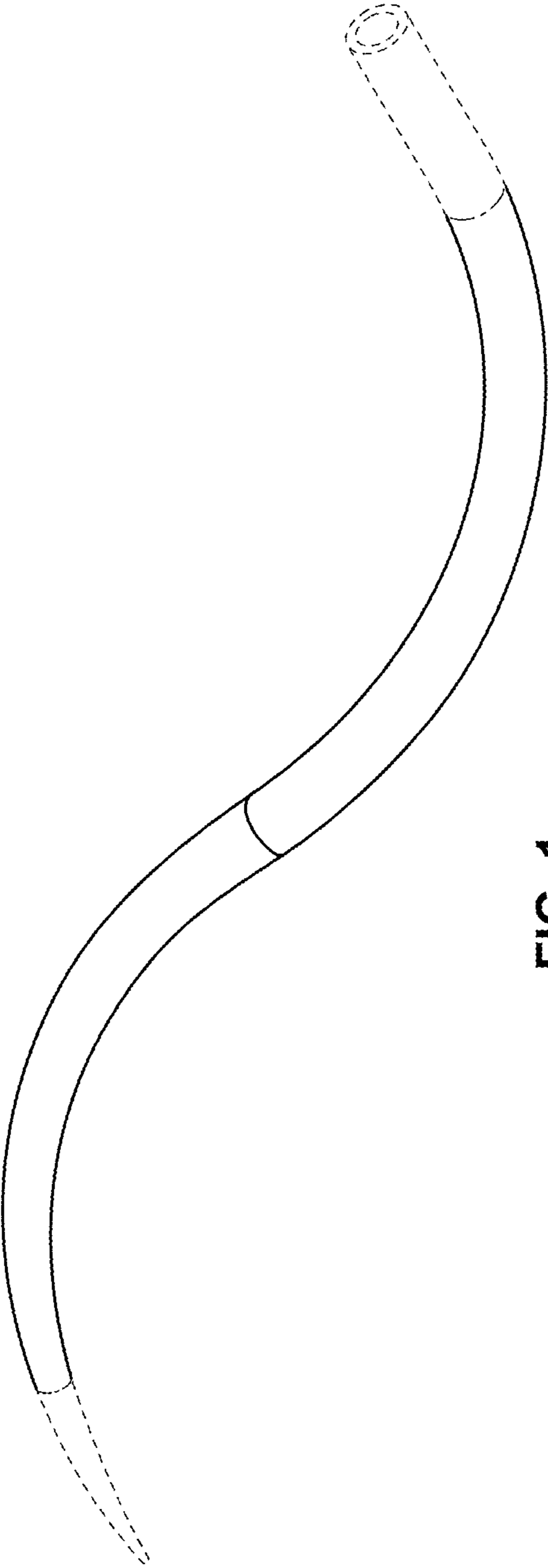


FIG. 1

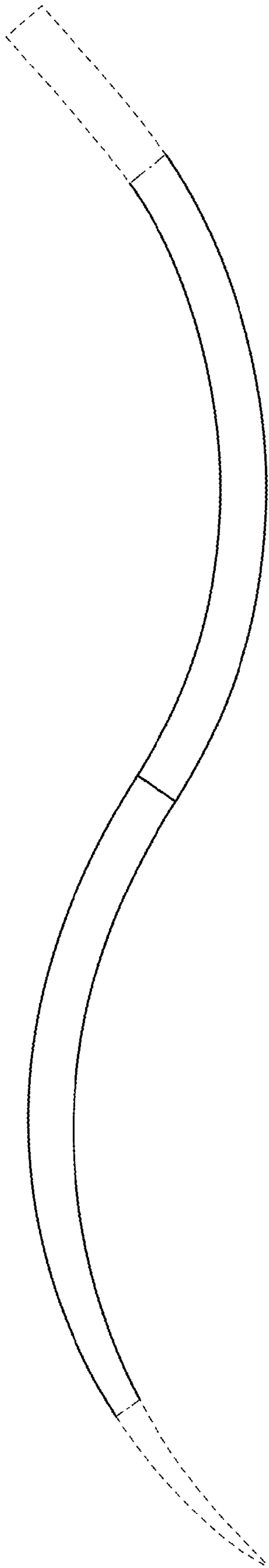


FIG. 2

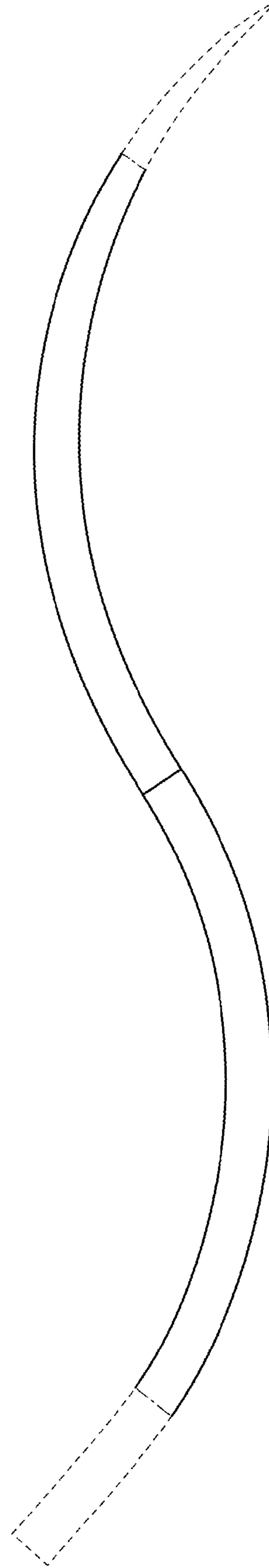


FIG. 3



FIG. 4



FIG. 5



FIG. 6



FIG. 7

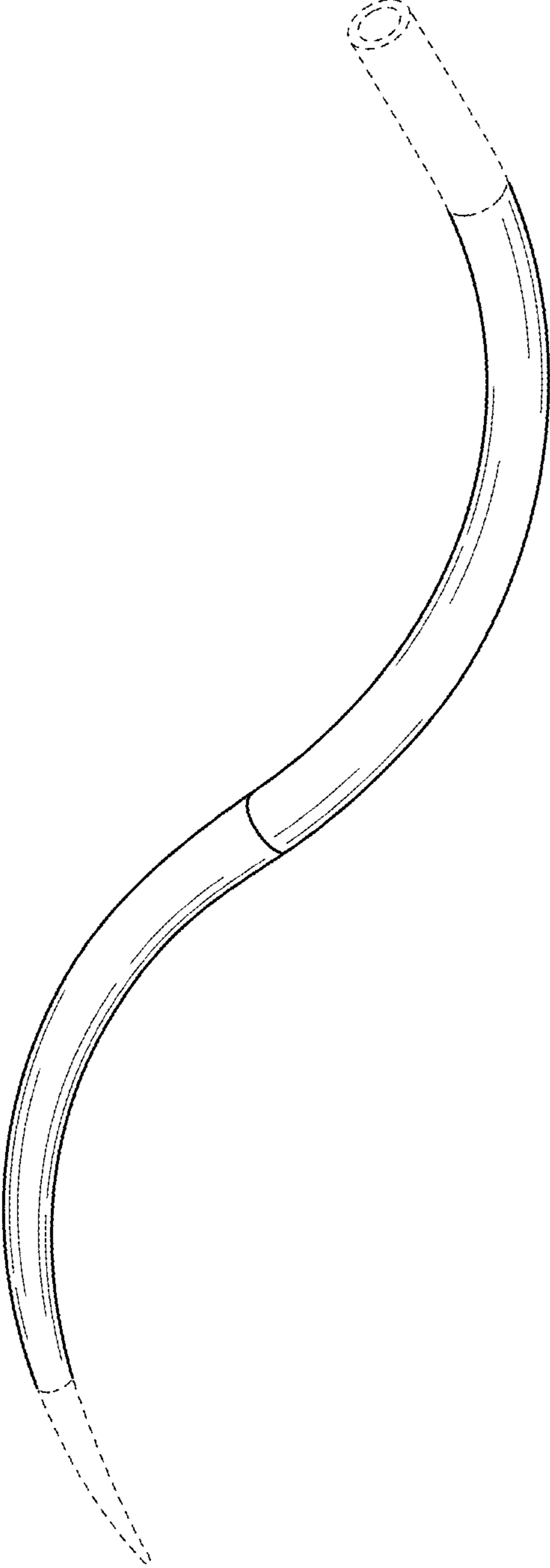


FIG. 8

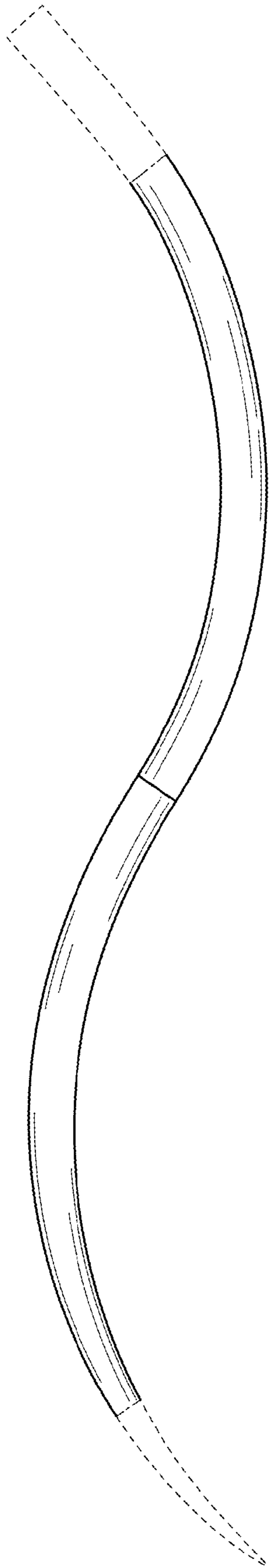


FIG. 9

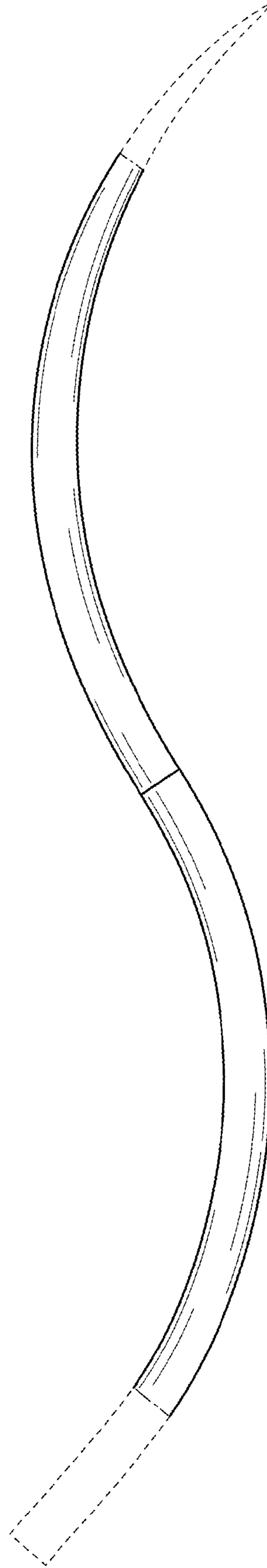


FIG. 10

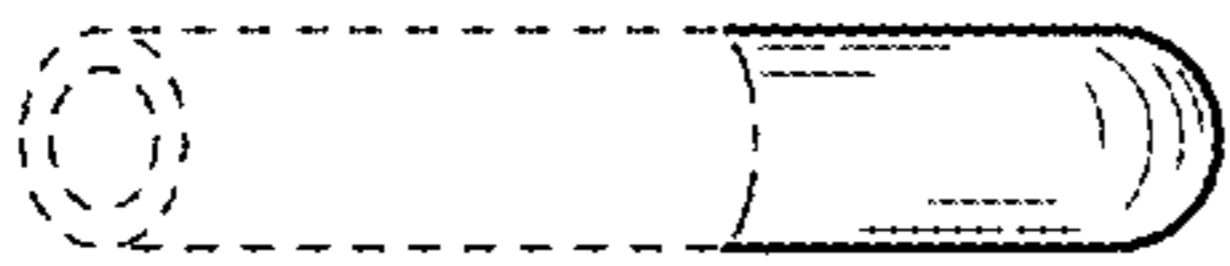


FIG. 11

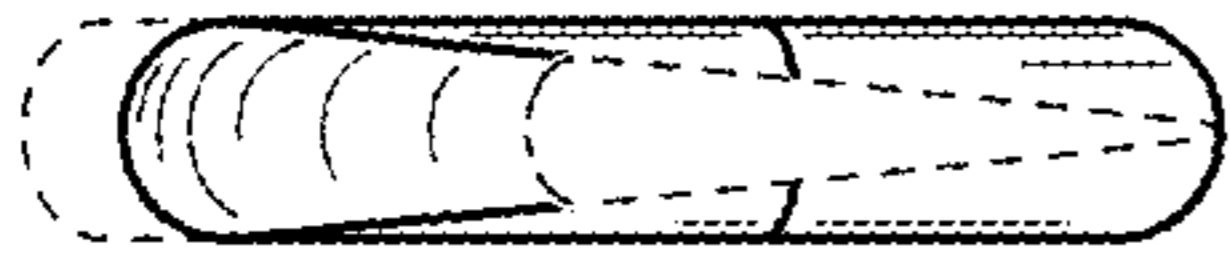


FIG. 12



FIG. 13



FIG. 14