



US00D905246S

(12) **United States Design Patent** (10) **Patent No.:** **US D905,246 S**  
**Irwin et al.** (45) **Date of Patent:** **\*\* Dec. 15, 2020**

(54) **TIBIAL IMPLANT COMPONENTS**

(71) Applicant: **MAKO Surgical Corp.**, Fort Lauderdale, FL (US)  
(72) Inventors: **Ron Irwin**, Stuart, FL (US); **Ali Abbasi**, Davie, FL (US); **Mark Nadzadi**, Memphis, TN (US); **Jason Otto**, Plantation, FL (US); **Kartik Mangudi Varadarajan**, Fort Lauderdale, FL (US); **Tom Coon**, Redding, CA (US); **Ken Gustke**, Fort Lauderdale, FL (US); **Richard Illgen**, Fort Lauderdale, FL (US); **Stefan Kreuzer**, Fort Lauderdale, FL (US); **Carlos Lavernia**, Coral Gables, FL (US); **Martin Roche**, Fort Lauderdale, FL (US); **Harry Rubash**, Fort Lauderdale, FL (US)

(73) Assignee: **MAKO Surgical Corp.**, Ft. Lauderdale, FL (US)

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

(21) Appl. No.: **29/697,065**

(22) Filed: **Jul. 3, 2019**

**Related U.S. Application Data**

(60) Division of application No. 29/546,579, filed on Nov. 24, 2015, now Pat. No. Des. 854,157, which is a (Continued)

(51) **LOC (12) Cl.** ..... **24-03**

(52) **U.S. Cl.**  
USPC ..... **D24/155**

(58) **Field of Classification Search**  
USPC ..... **D24/155**

(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,816,855 A 6/1974 Saleh  
3,869,731 A 3/1975 Waugh et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

EP 1 174 099 1/2002  
FR 2676916 12/1992  
GB 2 464 862 5/2010

**OTHER PUBLICATIONS**

International Search Report and Written Opinion for International Application No. PCT/US2012/070531, dated May 27, 2013, 18 pages.

(Continued)

*Primary Examiner* — Charles D Hanson

(74) *Attorney, Agent, or Firm* — Foley & Lardner LLP

(57) **CLAIM**

We claim the ornamental design for the tibial implant components, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view from above of the claimed design of the tibial components, showing the tibial baseplate as environmental structure;

FIG. 2 is a front view of the claimed design of the tibial components of FIG. 1;

FIG. 3 is a rear side view of the claimed design of the tibial components of FIG. 1;

FIG. 4 is a right side view of the claimed design of the tibial components of FIG. 1;

FIG. 5 is a left side view of the claimed design of the tibial components of FIG. 1;

FIG. 6 is a top view of the claimed design of the tibial components of FIG. 1;

FIG. 7 is a bottom view of the claimed design of the tibial components of FIG. 1;

FIG. 8 is a front perspective view from below of the claimed design of the tibial components of FIG. 1;

FIG. 9 is a front perspective view from above of the claimed design of the tibial components, showing the tibial baseplate as environmental structure;

FIG. 10 is a front view of the claimed design of the tibial components of FIG. 9;

(Continued)

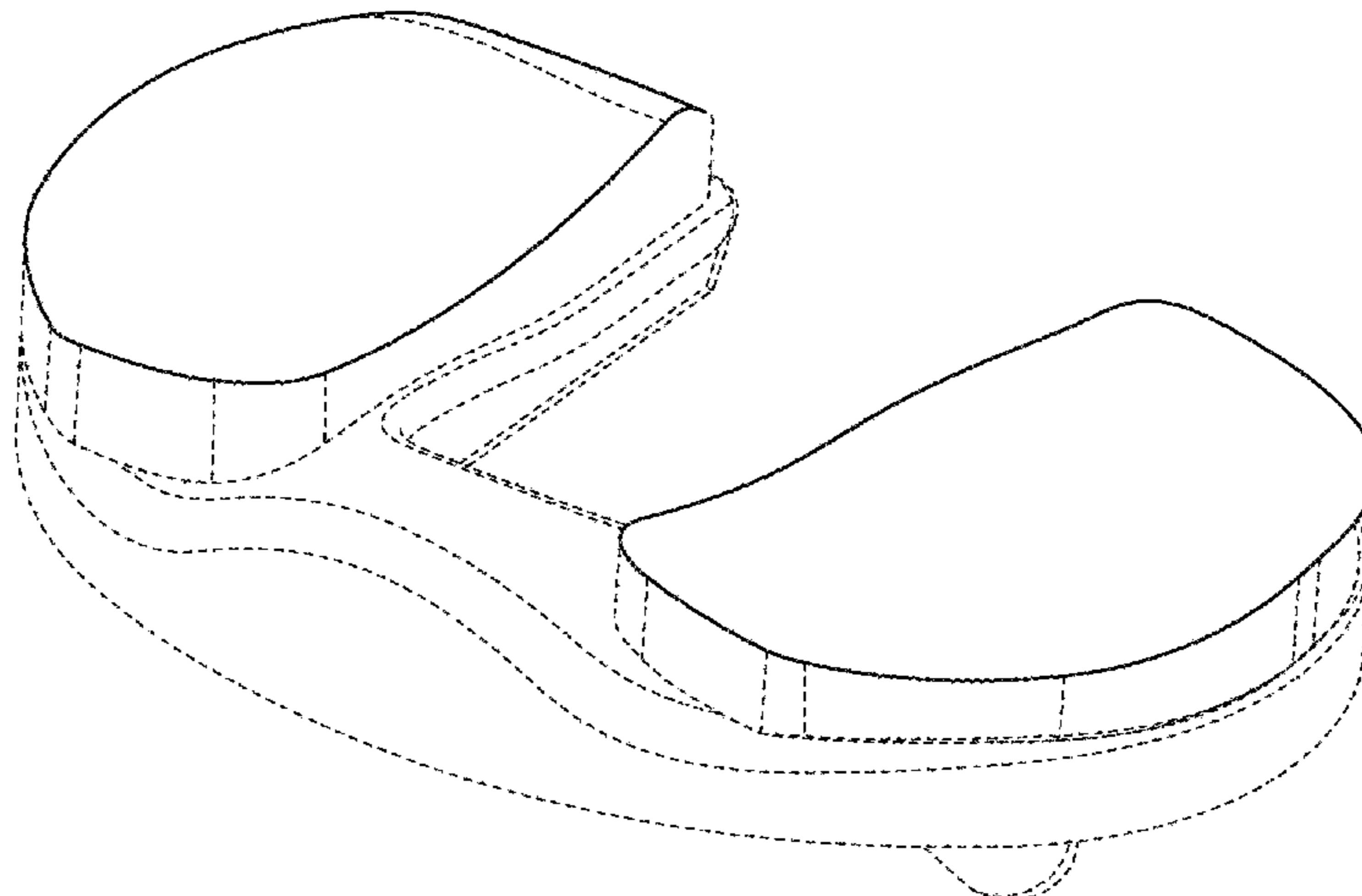


FIG. 11 is a rear side view of the claimed design of the tibial components of FIG. 9;  
 FIG. 12 is a right side view of the claimed design of the tibial components of FIG. 9;  
 FIG. 13 is a left side view of the claimed design of the tibial components of FIG. 9;  
 FIG. 14 is a top view of the claimed design of the tibial components of FIG. 9;  
 FIG. 15 is a bottom view of the claimed design of the tibial components of FIG. 9; and,  
 FIG. 16 is a front perspective view from below of the claimed design of the tibial components of FIG. 9.  
 The ornamental design which is claimed is shown in solid lines in the drawings. The broken lines in the drawings are for illustrative purposes only and form no part of the claimed design. Oblique lines show a transparent, reflective, or shiny surface, and not surface ornamentation.

**1 Claim, 8 Drawing Sheets**

**Related U.S. Application Data**

division of application No. 29/466,147, filed on Sep. 4, 2013, now Pat. No. Des. 745,158, which is a continuation-in-part of application No. 13/340,645, filed on Dec. 29, 2011, now Pat. No. 8,911,501, and a continuation-in-part of application No. 13/340,636, filed on Dec. 29, 2011, now Pat. No. 9,649,195.

(58) **Field of Classification Search**

CPC ..... A61F 2/3859; A61F 2/38; A61F 2/389;  
 A61F 2/3886; A61F 2/60; A61F 2/66;  
 A61F 2/76; A61F 2310/00023  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,207,627	A	6/1980	Cloutier
4,586,933	A	5/1986	Shoji et al.
5,037,439	A	8/1991	Albrektsson et al.
D326,156	S	5/1992	Martinez
5,137,536	A	8/1992	Koshino
D346,218	S	4/1994	White
D358,211	S	5/1995	Cohen
D358,647	S	5/1995	Cohen et al.
D369,863	S	5/1996	Hayes
D373,825	S	9/1996	Hayes

5,681,354	A	10/1997	Eckhoff
6,969,393	B2	11/2005	Pinczewski et al.
D626,234	S *	10/2010	Otto ..... D24/155
7,918,893	B2	4/2011	Romeis et al.
8,066,776	B2	11/2011	O'Connor et al.
8,137,407	B2 *	3/2012	Todd ..... A61F 2/3868 623/20.33
8,163,028	B2	4/2012	Metzger et al.
8,292,965	B2	10/2012	Walker
8,529,631	B2	9/2013	Donno et al.
8,715,359	B2	5/2014	Deffenbaugh et al.
D744,103	S	11/2015	Irwin et al.
D745,158	S *	12/2015	Irwin ..... D24/155
9,345,578	B2 *	5/2016	Collazo ..... A61F 2/389
D781,422	S	3/2017	Hahn et al.
D841,810	S *	2/2019	Irwin ..... D24/155
D854,157	S *	7/2019	Irwin ..... D24/155
D884,179	S *	5/2020	Servidio ..... A61F 2/389 D24/155
2004/0153162	A1	8/2004	Sanford et al.
2004/0193280	A1	9/2004	Webster et al.
2006/0004460	A1	1/2006	Engh et al.
2006/0184176	A1	8/2006	Straszheim-Morley et al.
2008/0215059	A1	9/2008	Carignan et al.
2009/0062925	A1	3/2009	Samuelson
2009/0076604	A1	3/2009	Linares
2010/0016980	A1 *	1/2010	Donno ..... A61F 2/389 623/20.32
2010/0305710	A1	12/2010	Metzger et al.
2011/0106268	A1	5/2011	Deffenbaugh et al.
2011/0190898	A1	8/2011	Lenz et al.
2011/0264097	A1	10/2011	Hodorek et al.
2012/0078262	A1	3/2012	Pinczewski et al.
2012/0179266	A1	7/2012	Collazo
2012/0209394	A1	8/2012	Bojarski et al.

OTHER PUBLICATIONS

International Search Report and Written Opinion for International Application No. PCT/US2012/070930, dated May 27, 2013, 16 pages.  
 Invitation to Pay Additional Fees and Communication Relating to the Results of the Partial International Search for International Application No. PCT/US2012/070531, dated Mar. 6, 2013, 7 pages.  
 Invitation to Pay Additional Fees and Partial International Search for International Application No. PCT/US2012/070930, dated Mar. 22, 2013, 6 pages.  
 Pritchett, James W., BioPro: Equalizer Modular Total Knee Replacement, available at least as early as 1999, 19 pages.  
 Townley, Charles O., Total Knee Arthroplasty: A Personal Retrospective and Prospective Review, Clinical Orthopaedics and Related Research, No. 236, 1988, 15 pages.

\* cited by examiner

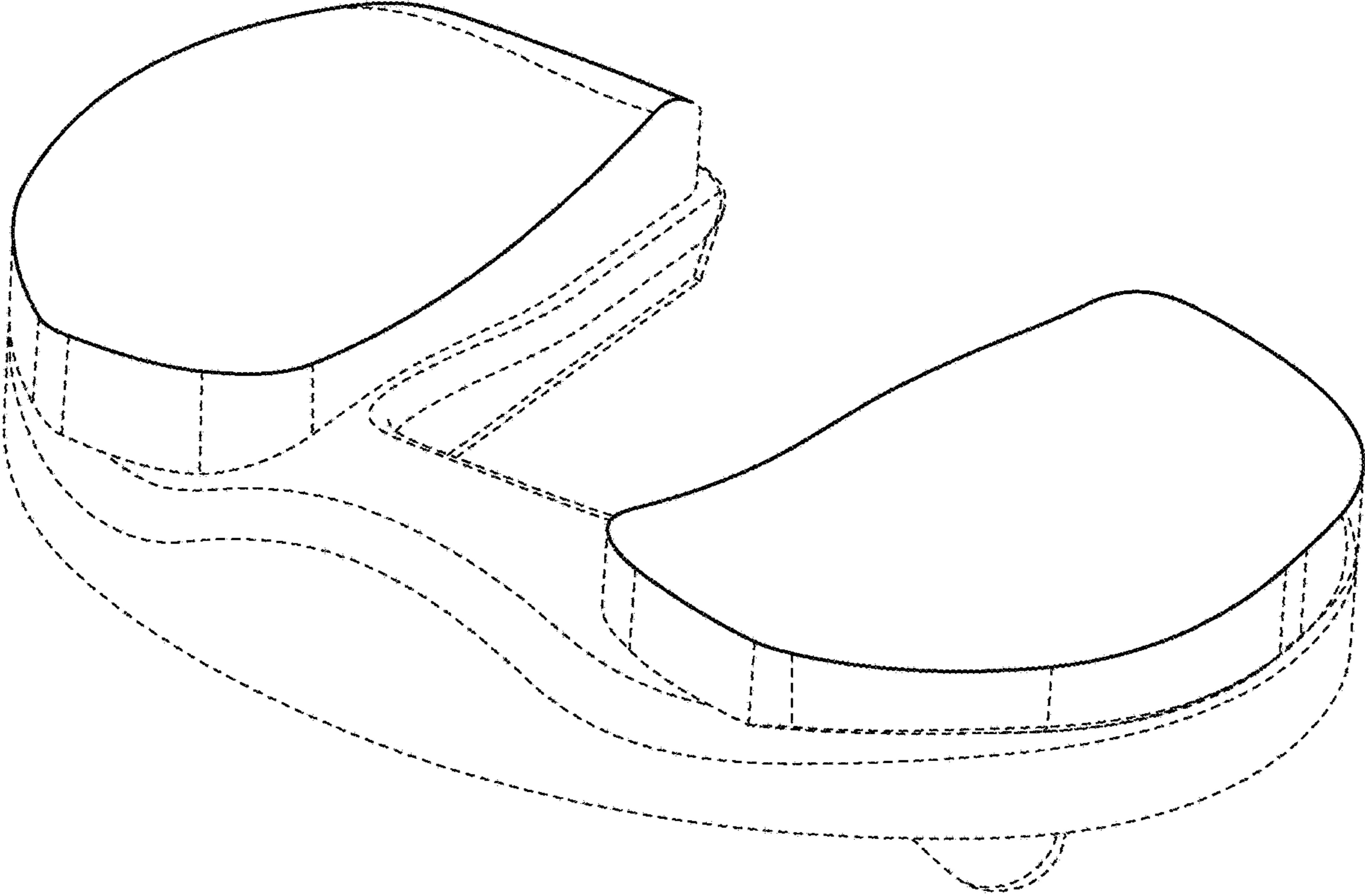


FIG. 1



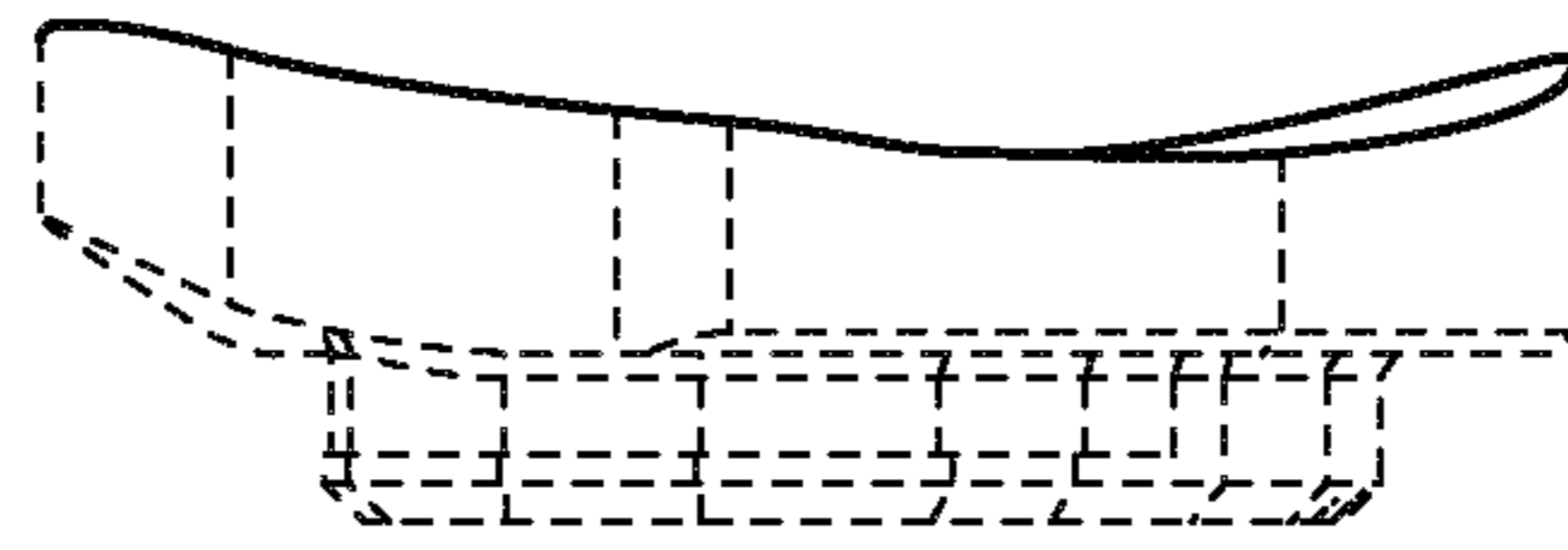
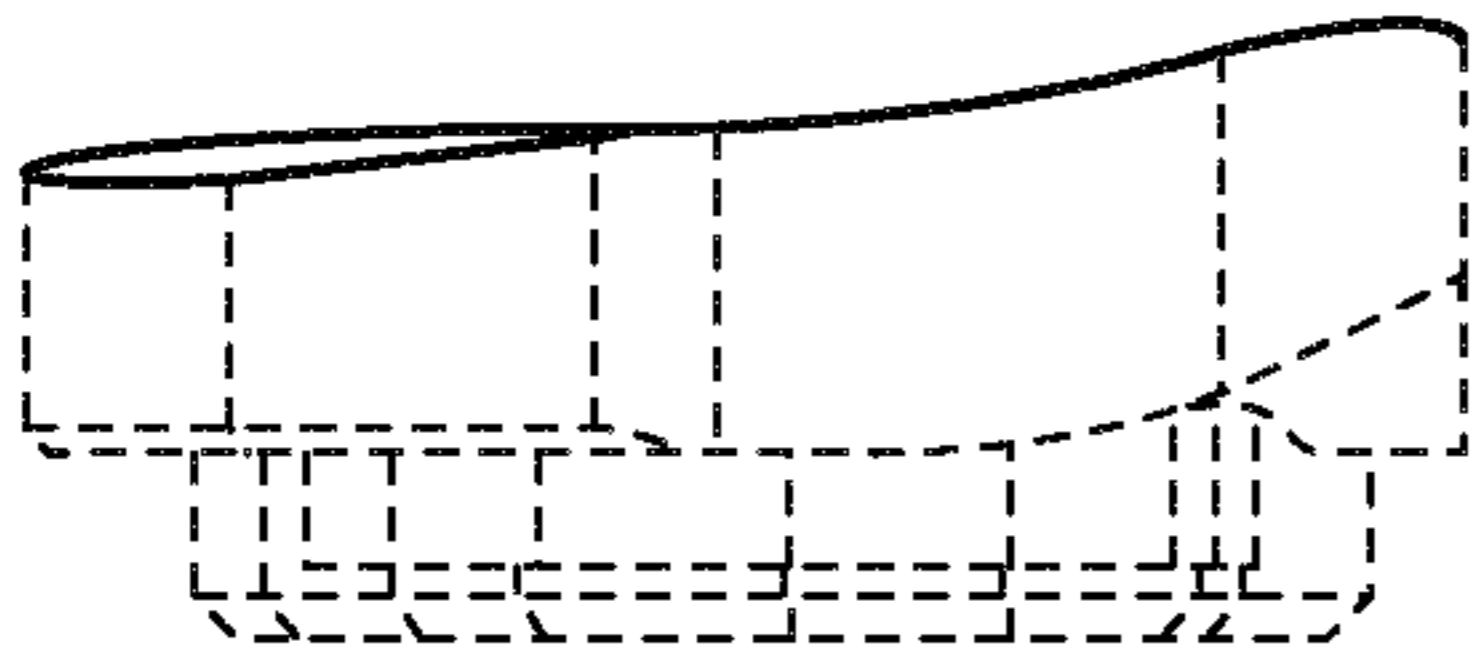


FIG. 2

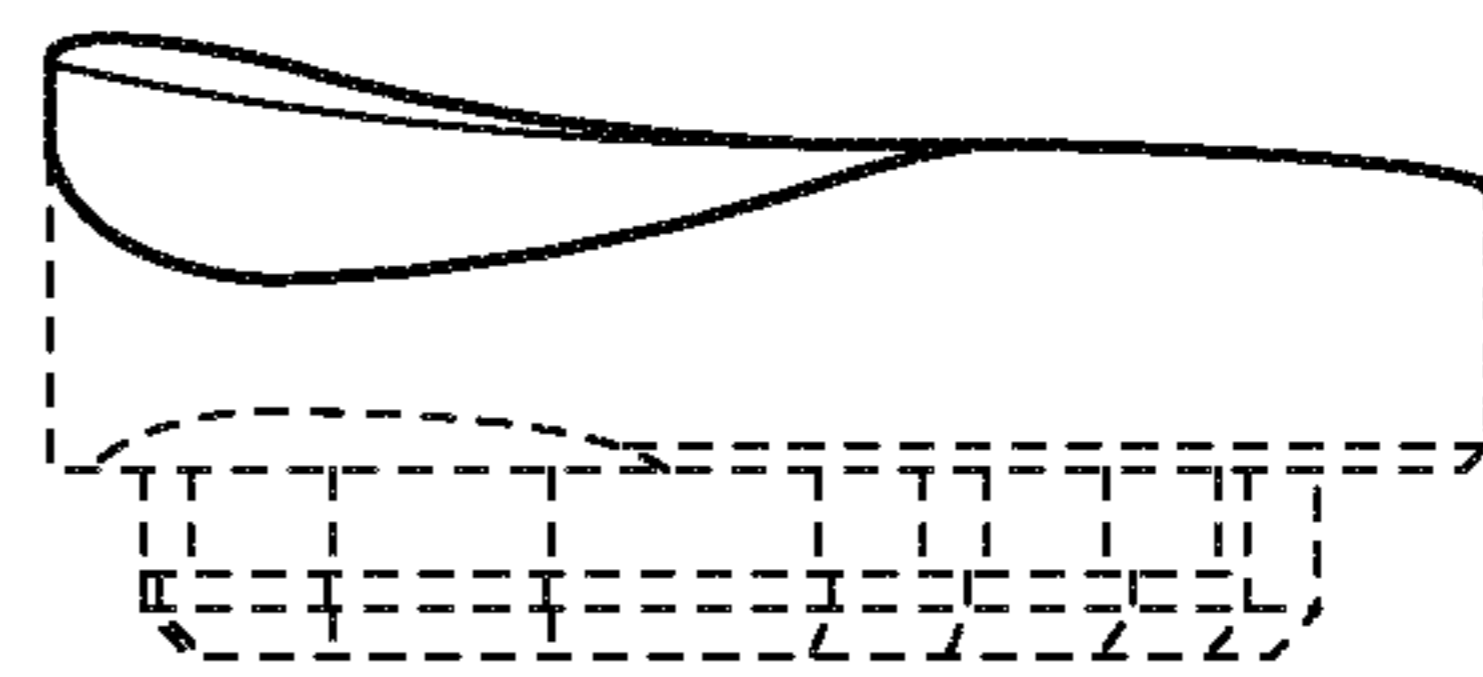
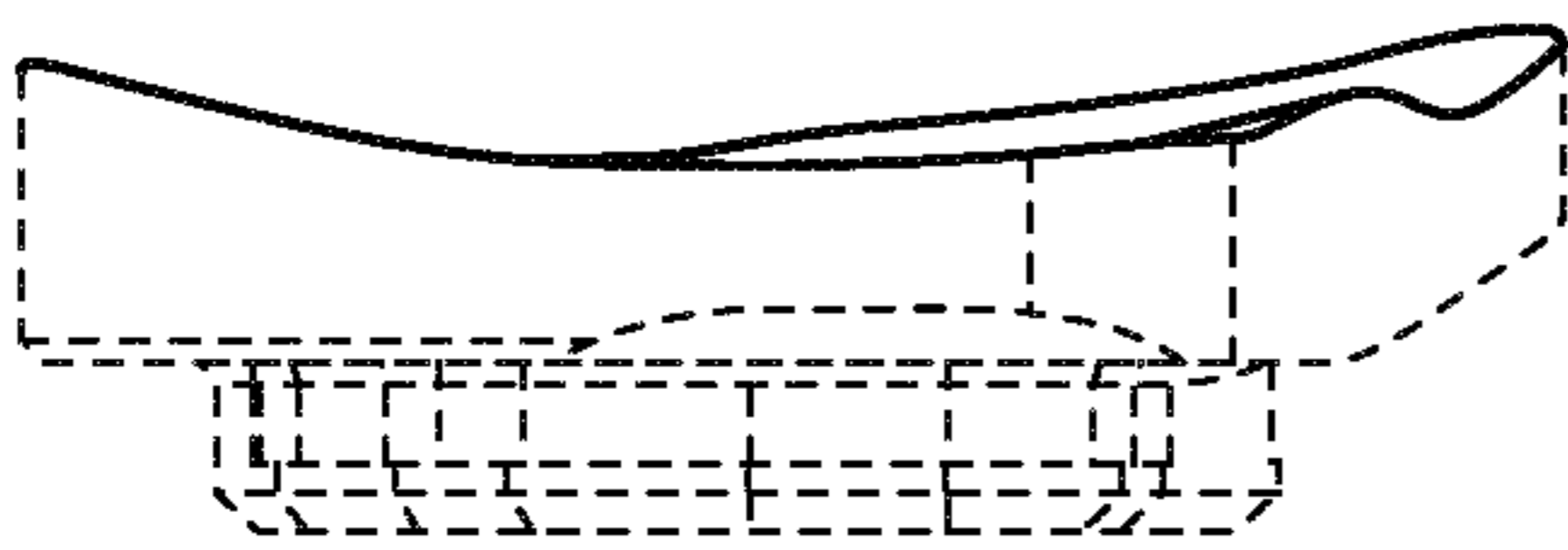


FIG. 3

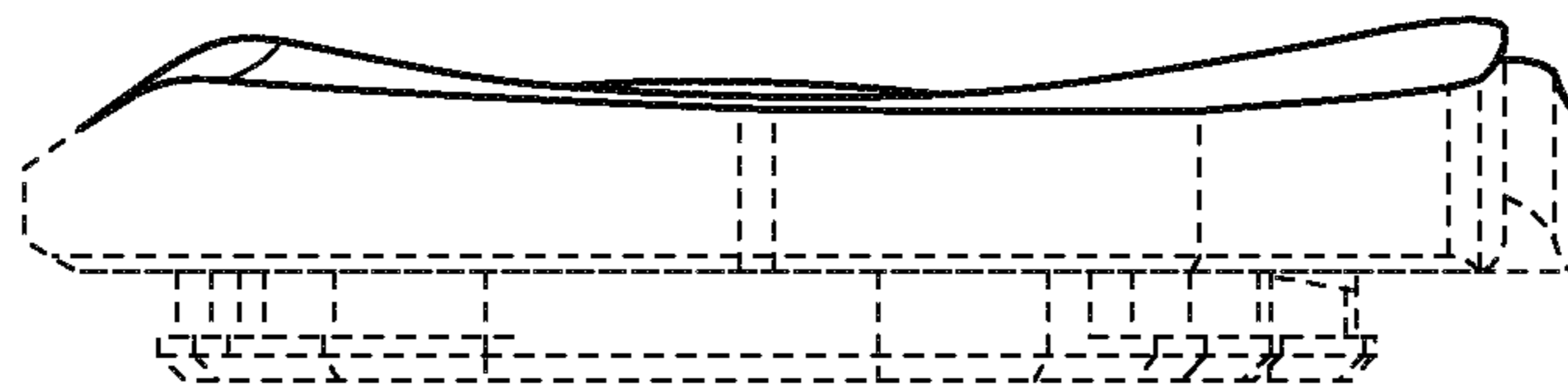


FIG. 4

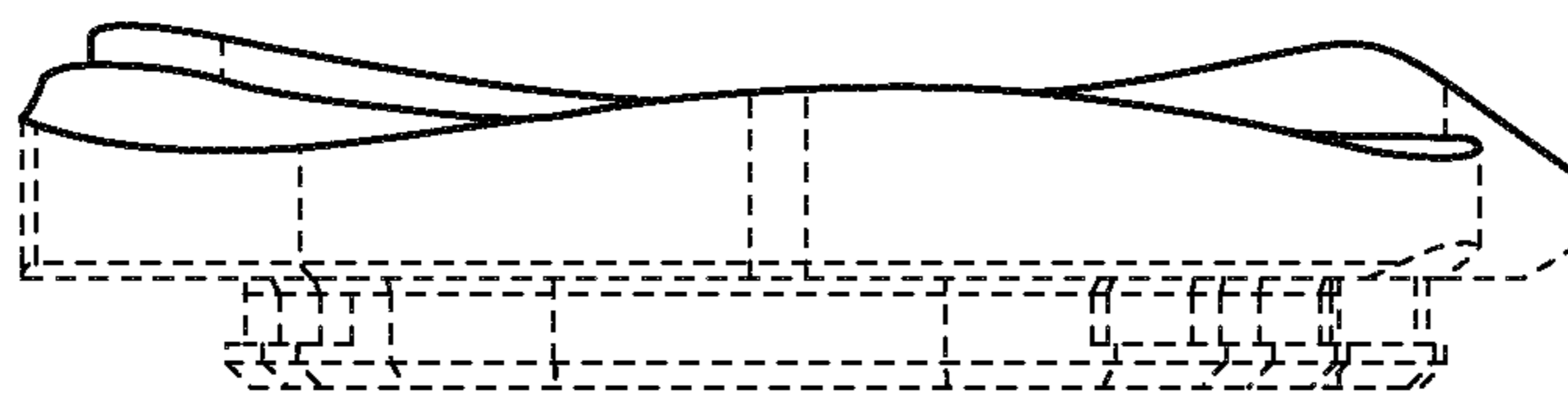
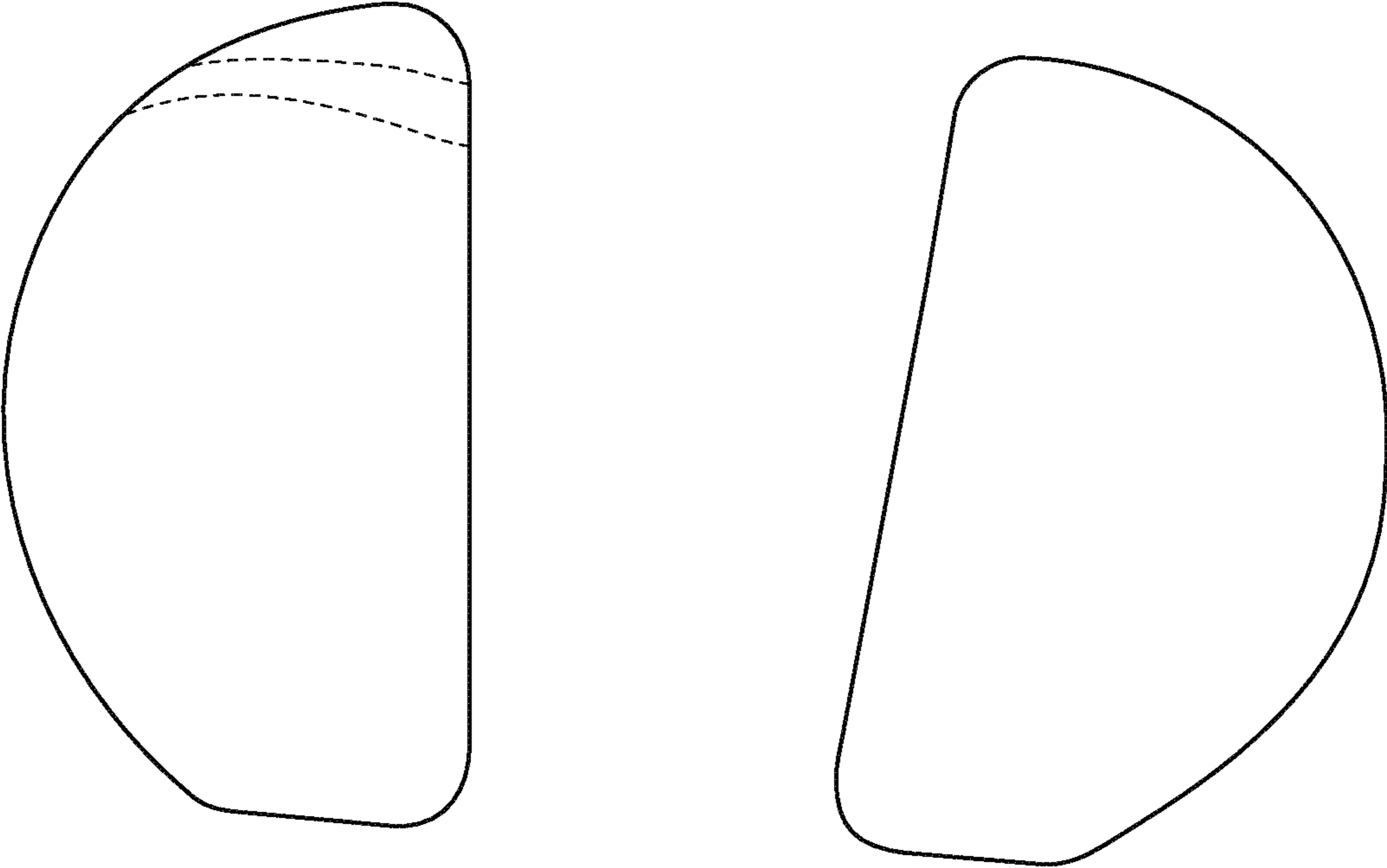
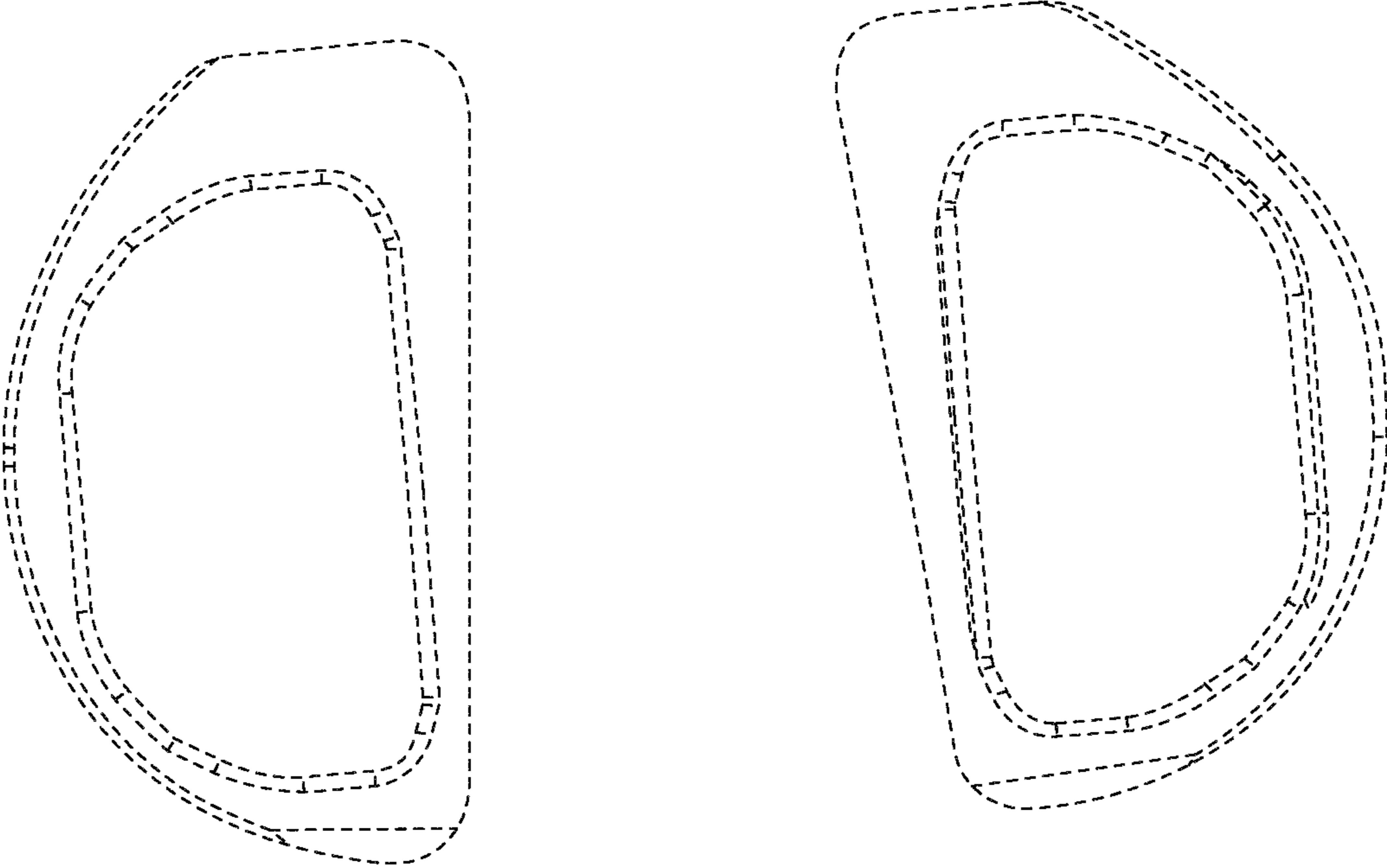


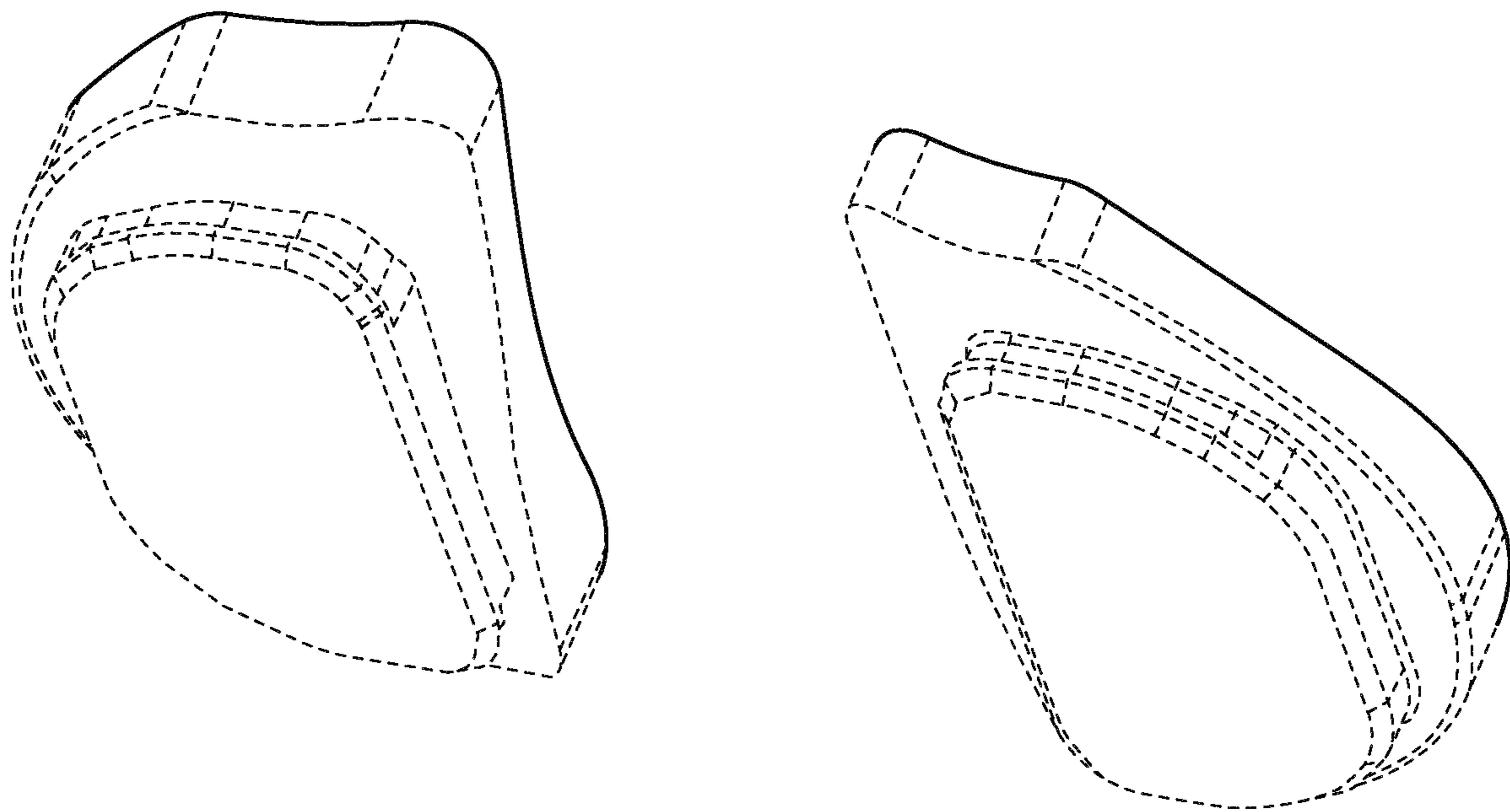
FIG. 5



**FIG. 6**



**FIG. 7**



**FIG. 8**

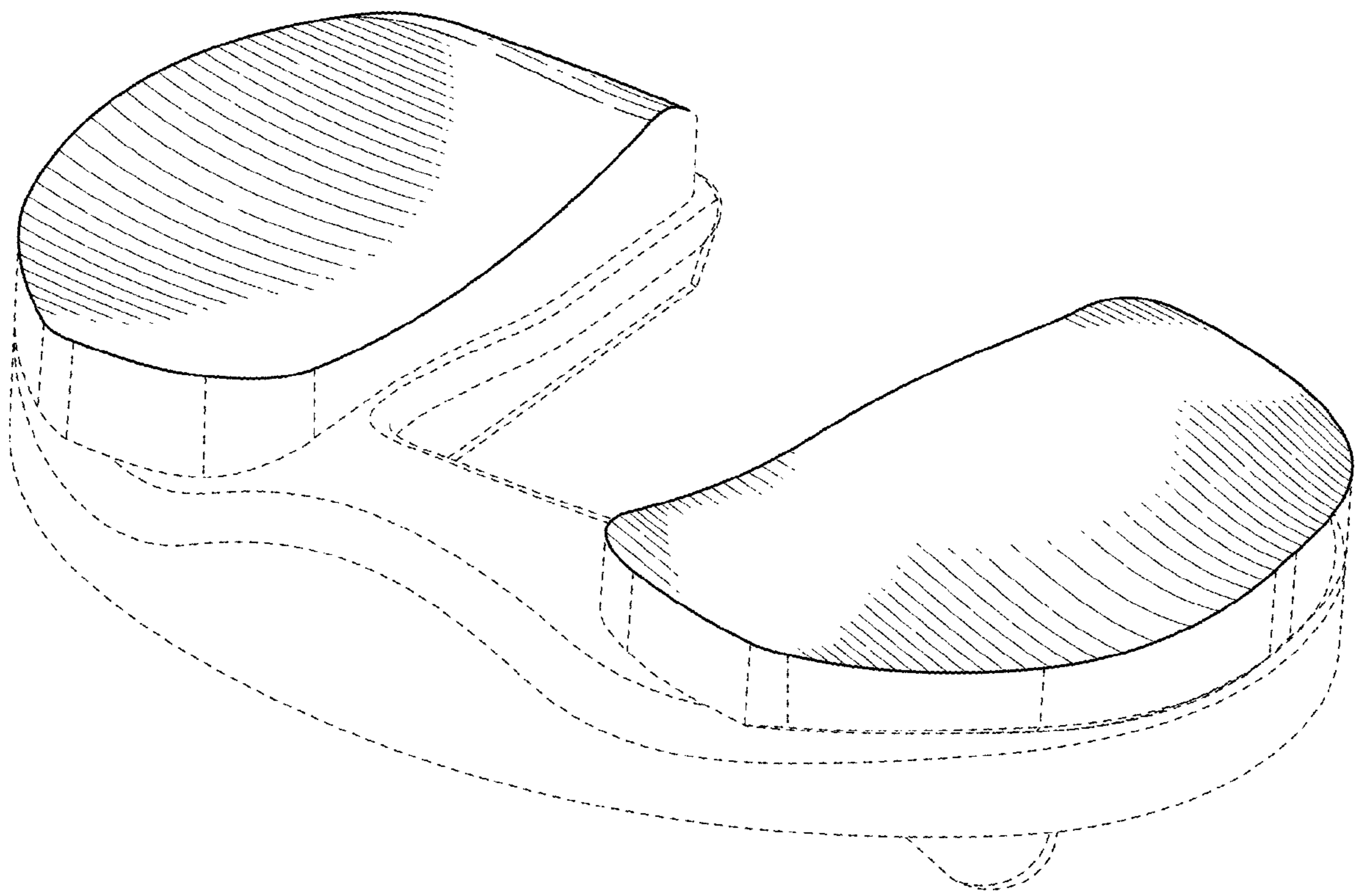


FIG. 9

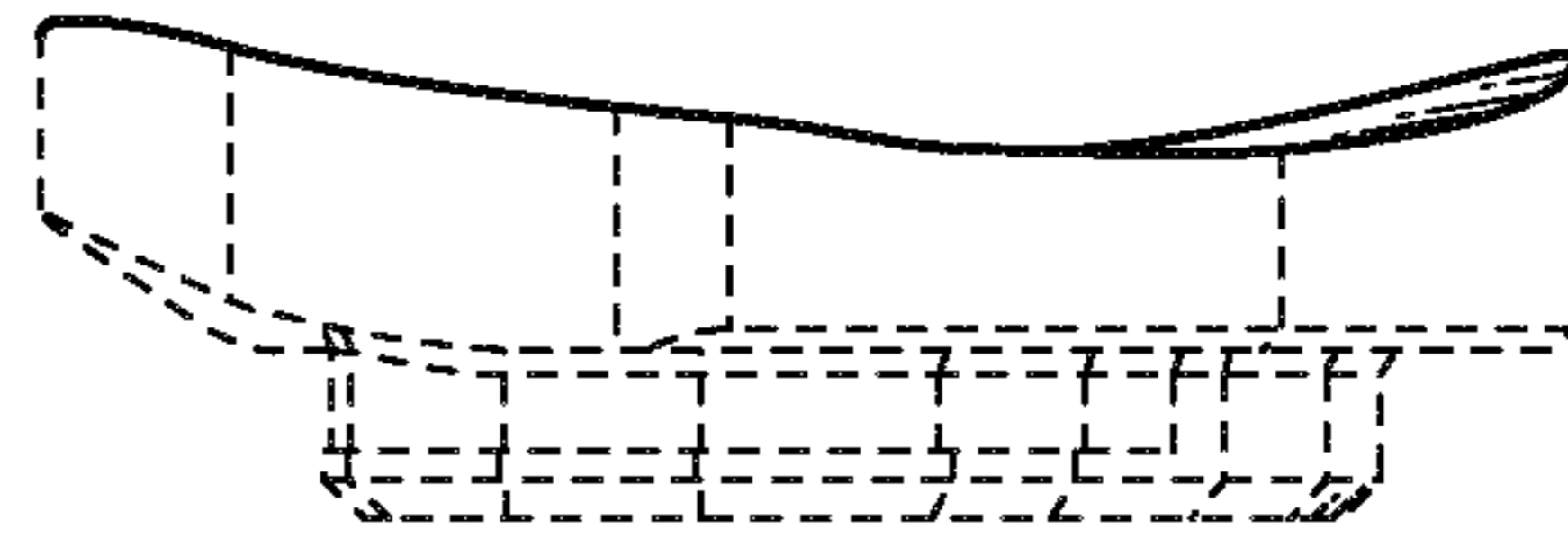
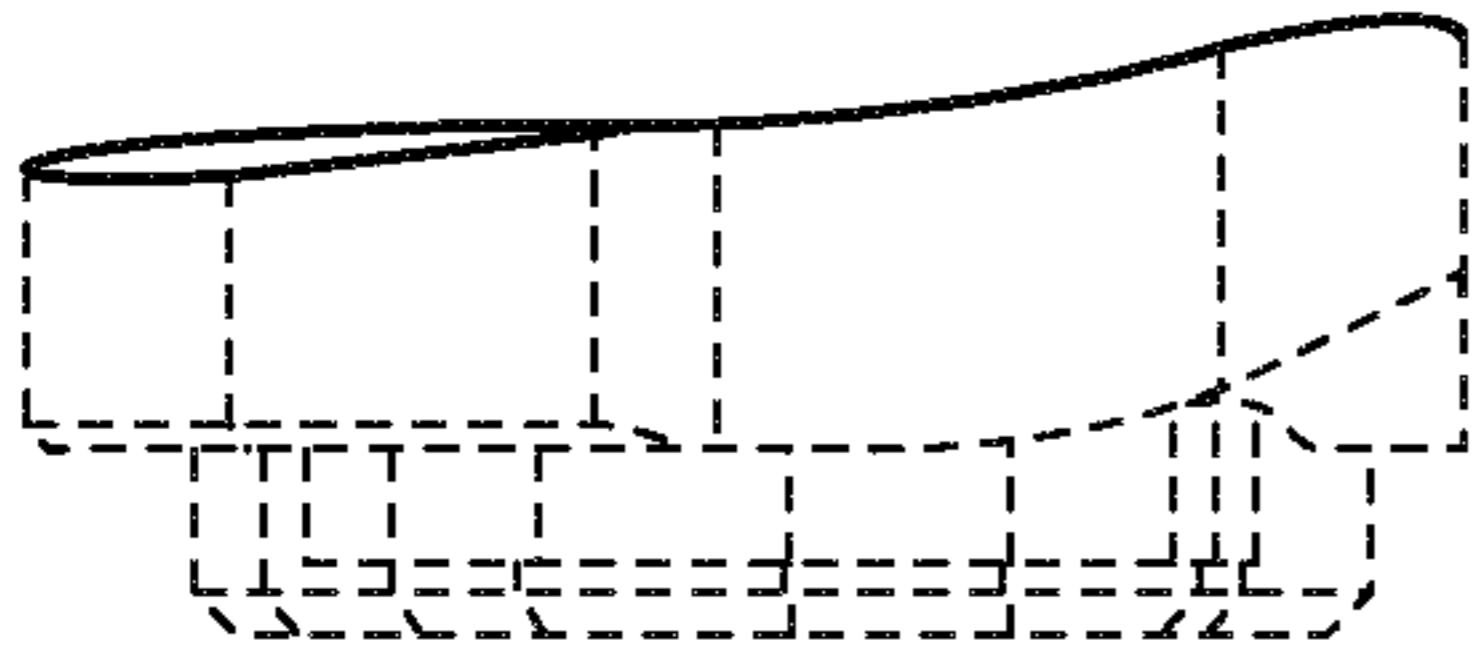


FIG. 10

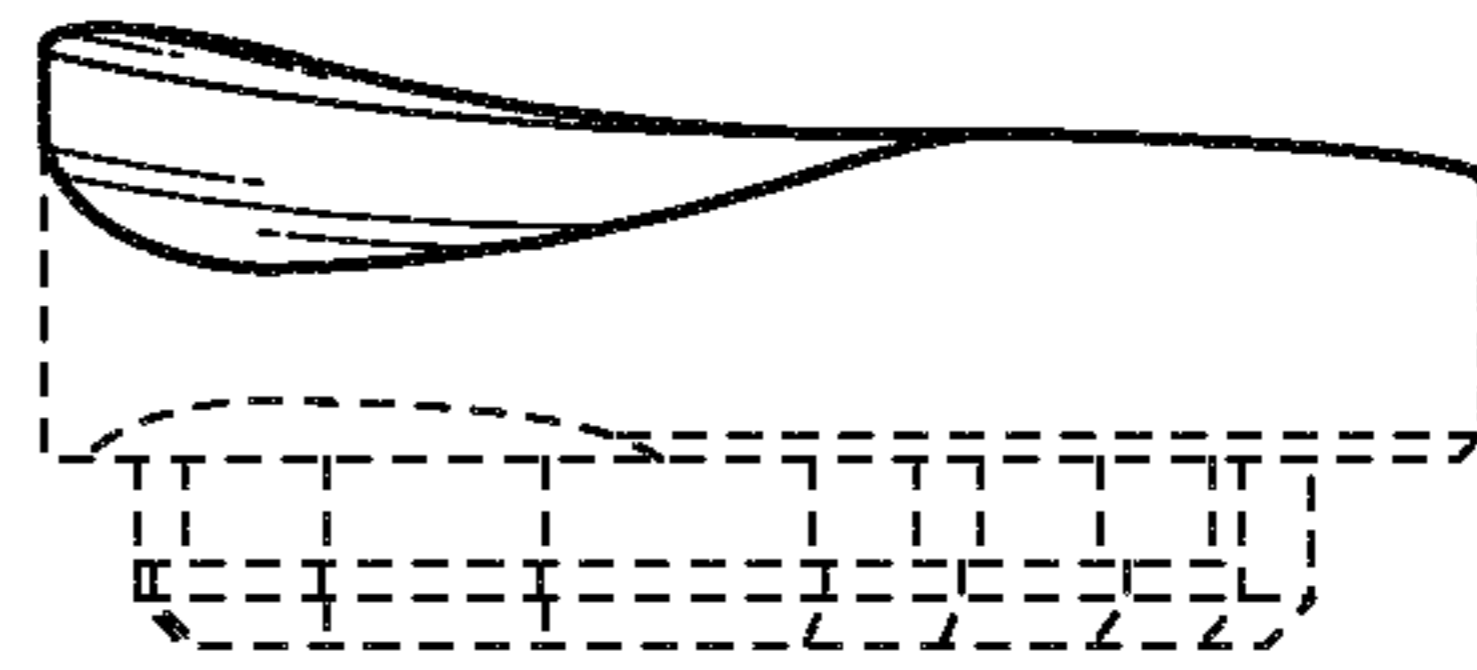
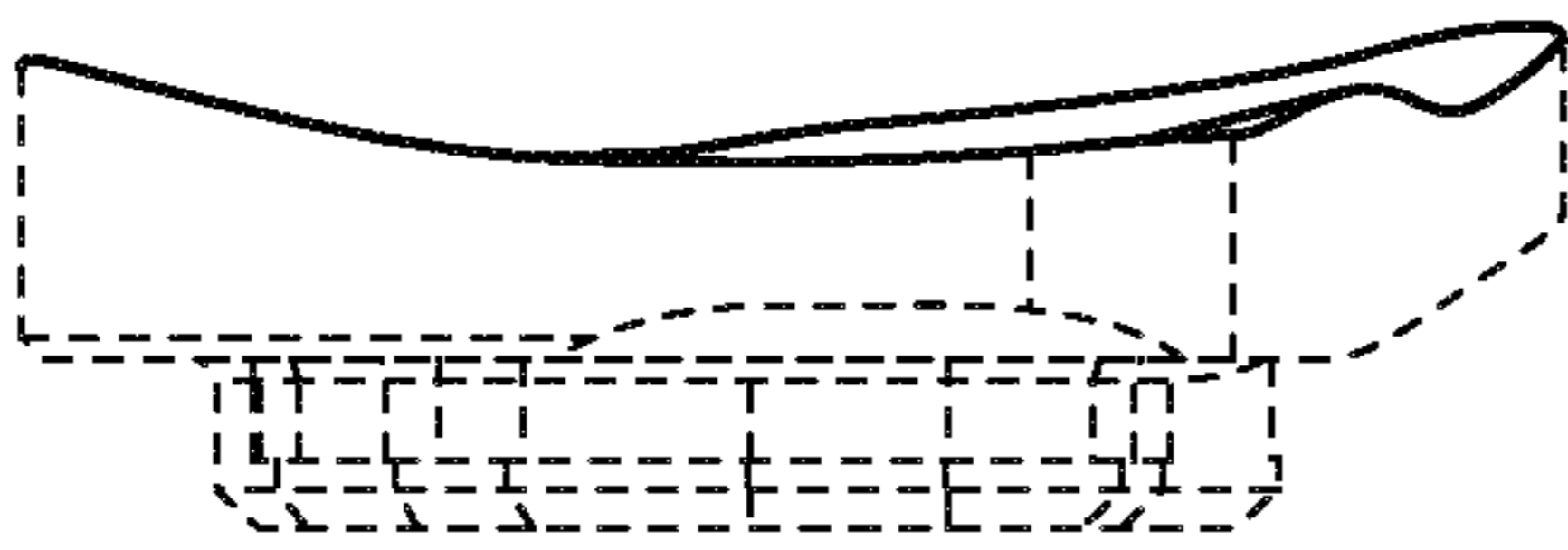


FIG. 11

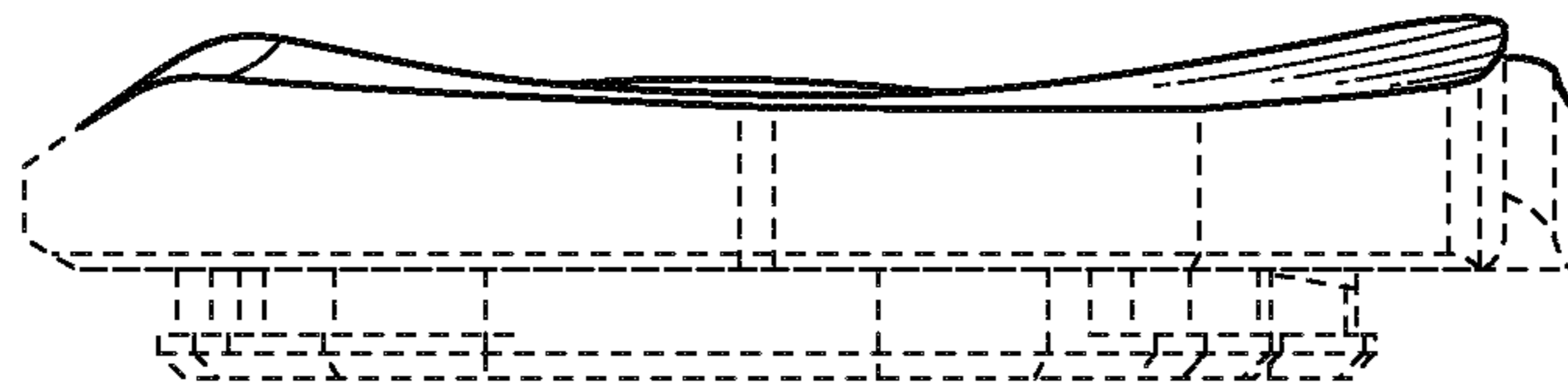


FIG. 12

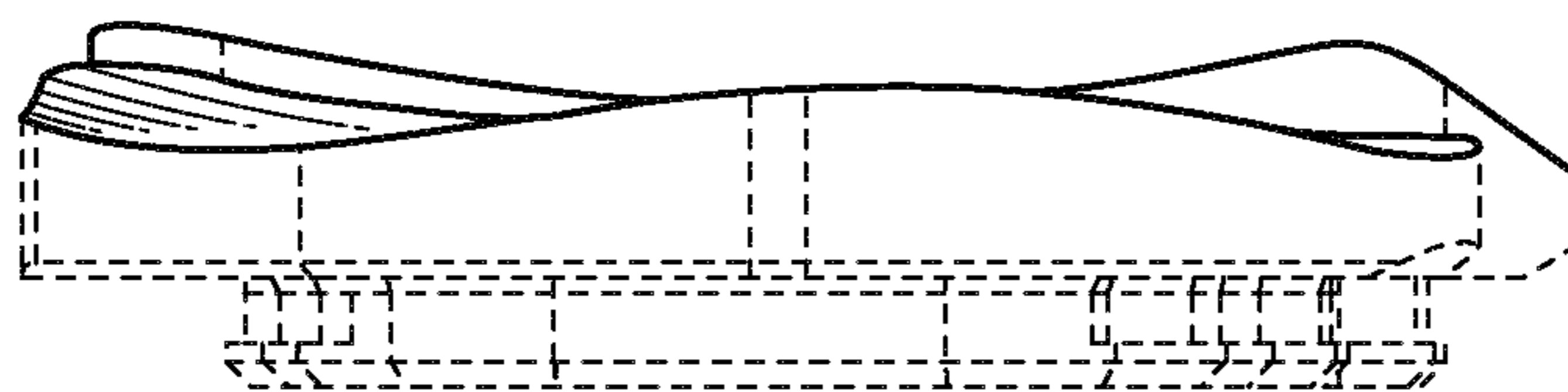


FIG. 13



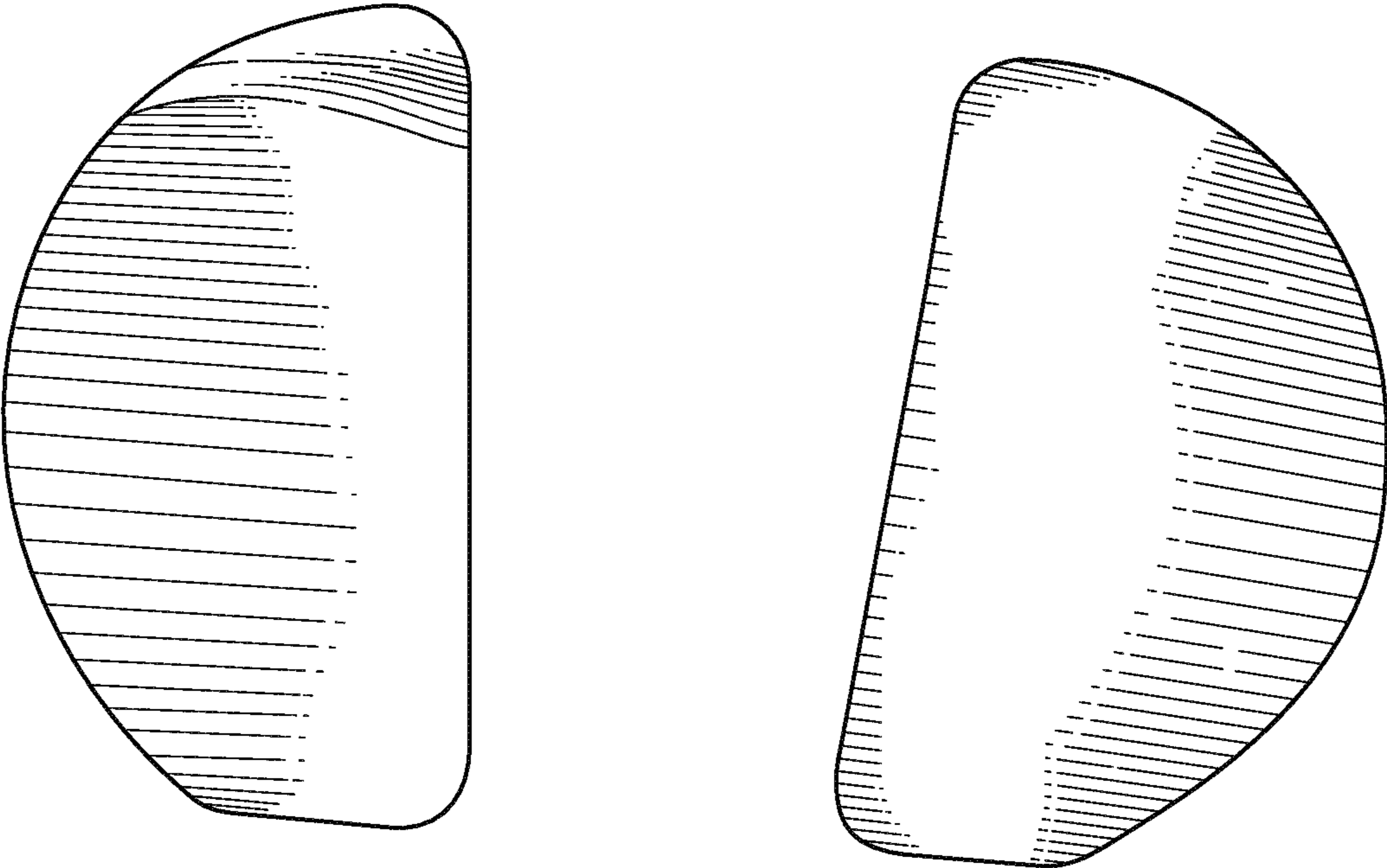


FIG. 14

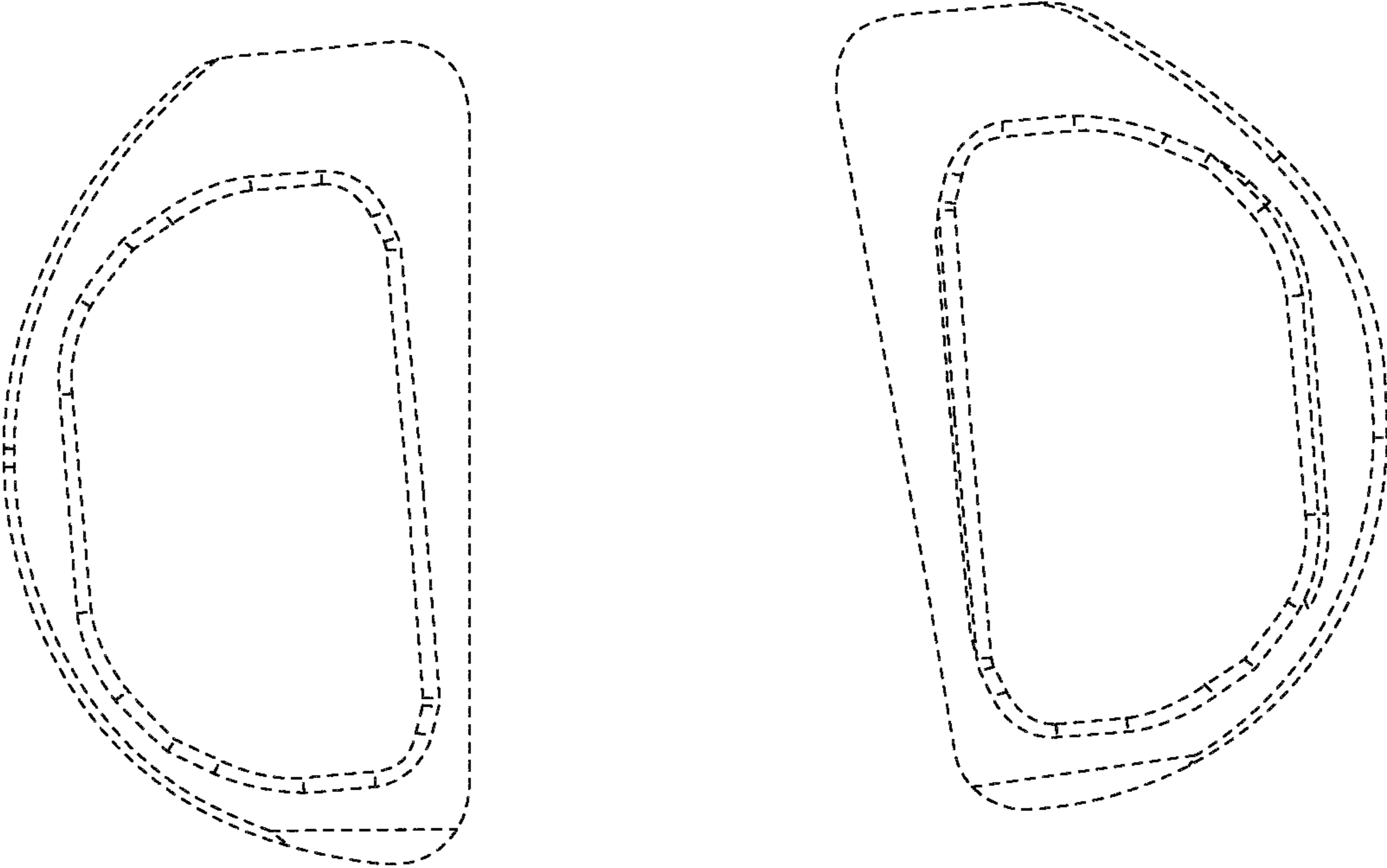


FIG. 15

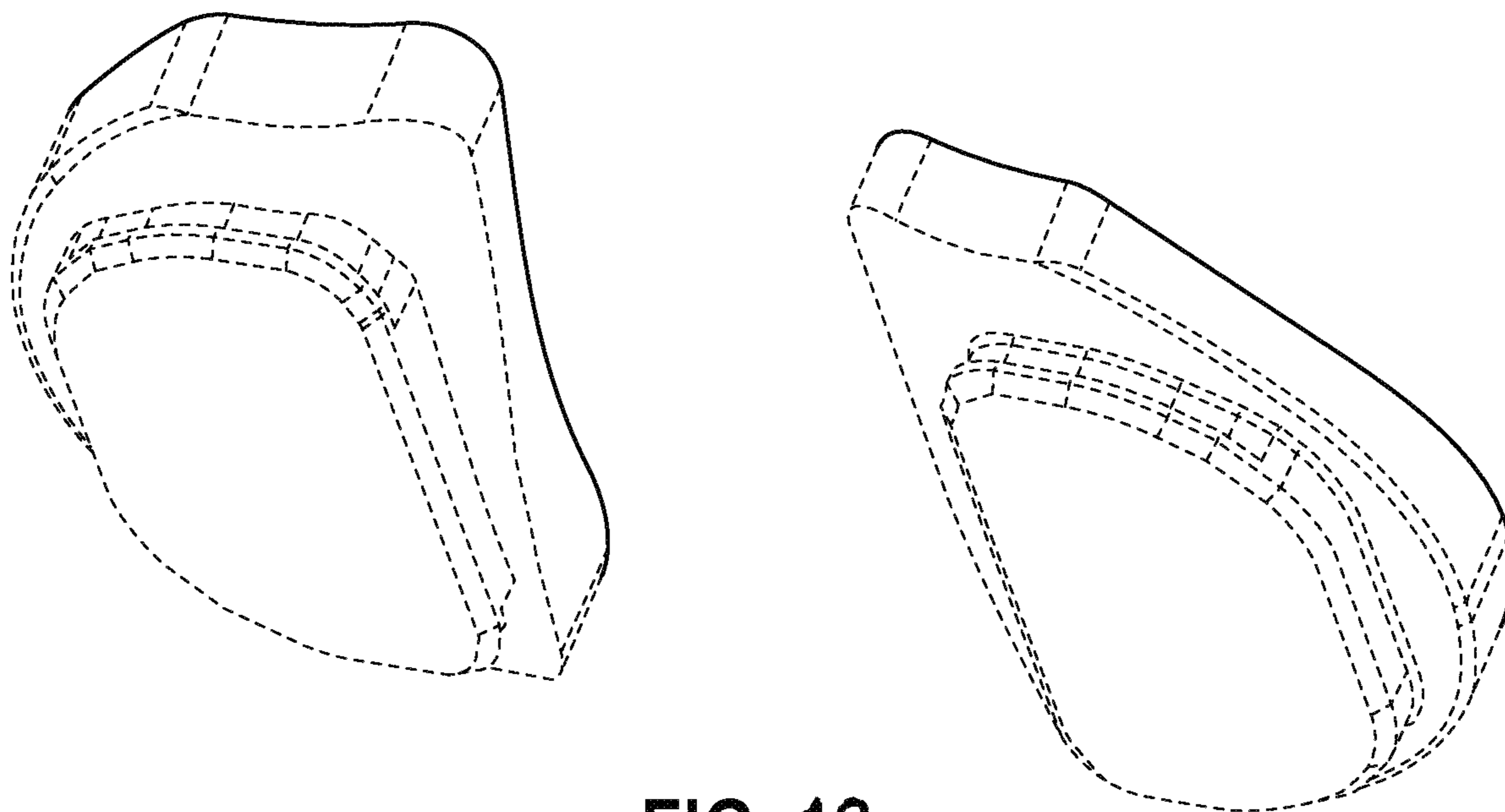


FIG. 16