



US00D876627S

(12) **United States Design Patent** (10) **Patent No.:** **US D876,627 S**  
**Nguyen et al.** (45) **Date of Patent:** **\*\* Feb. 25, 2020**

(54) **BRIDGE STRUCTURE FOR DENTAL MOUTHPIECE**

(71) Applicant: **DryShield, LLC**, Fountain Valley, CA (US)

(72) Inventors: **Thien Nguyen**, Santa Ana, CA (US); **Tam Thanh Pham**, San Francisco, CA (US)

(73) Assignee: **DRYSHIELD, LLC**, Fountain Valley, CA (US)

(\*\*) Term: **14 Years**

(21) Appl. No.: **29/477,887**

(22) Filed: **Dec. 27, 2013**

**Related U.S. Application Data**

(63) Continuation of application No. 14/100,323, filed on Dec. 9, 2013, now Pat. No. 8,911,232.

(51) **LOC (12) Cl.** ..... **24-02**

(52) **U.S. Cl.**  
USPC ..... **D24/152**

(58) **Field of Classification Search**  
USPC ..... D24/152, 133, 176, 108, 137; 433/29, 433/91-93, 140

(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

50,461 A 10/1865 Dibble  
1,471,207 A 10/1923 Napoleon

(Continued)

**FOREIGN PATENT DOCUMENTS**

CA 2851861 2/2016  
CN 102026587 4/2011

(Continued)

**OTHER PUBLICATIONS**

PCT Application No. PCT/US2014/032892 International Search Report and Written Opinion dated Sep. 4, 2014.

(Continued)

*Primary Examiner* — Wan Laymon

(74) *Attorney, Agent, or Firm* — Polsinelli LLP

(57) **CLAIM**

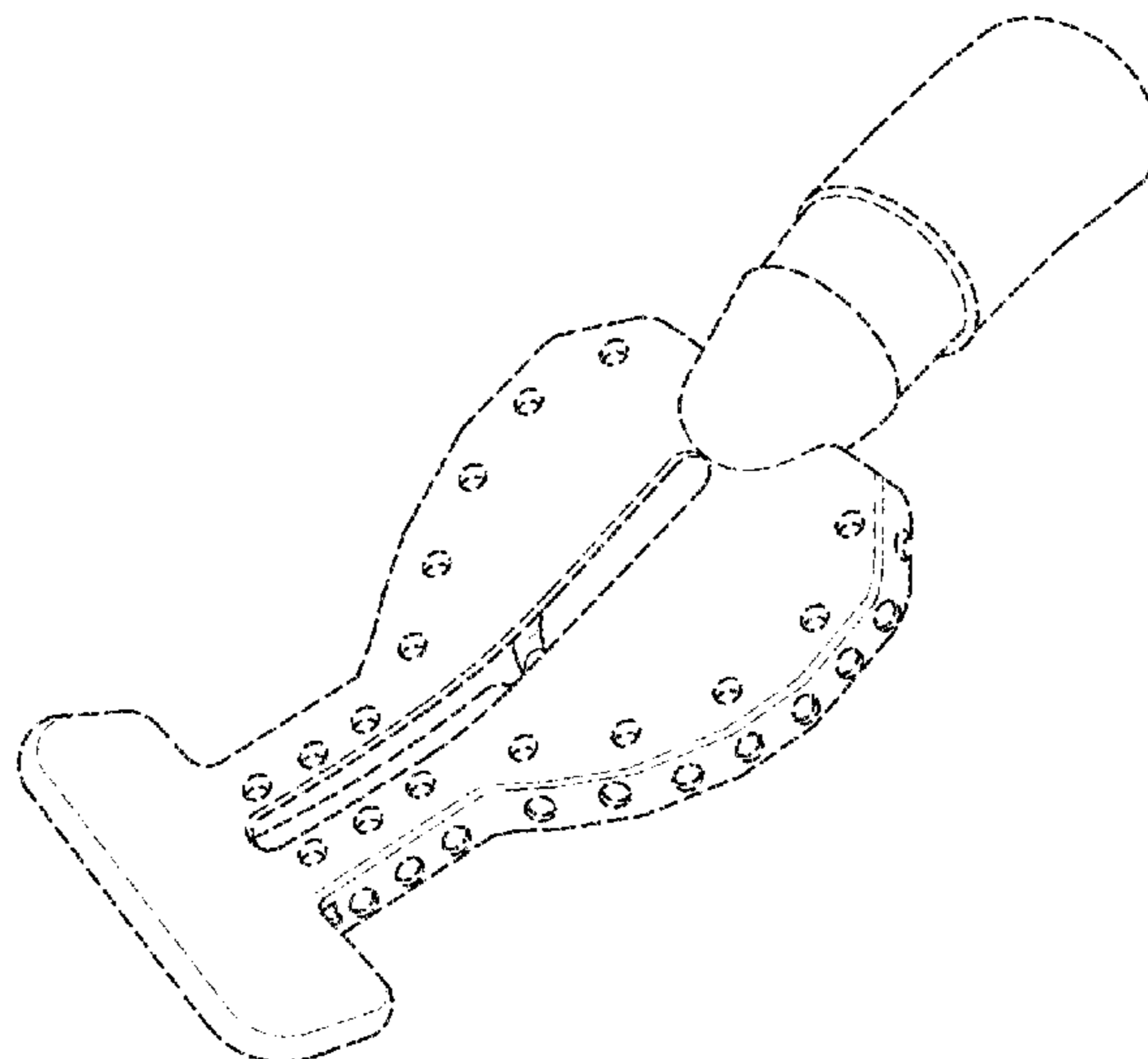
The ornamental design for a bridge structure for dental mouthpiece, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of the dental mouthpiece that includes the bridge structure for dental mouthpiece; FIG. 2 is a top plan view of the dental mouthpiece that includes the bridge structure for dental mouthpiece; FIG. 3 is a bottom plan view of the dental mouthpiece that includes the bridge structure for dental mouthpiece; FIG. 4 is a side view of the dental mouthpiece that includes the bridge structure for dental mouthpiece; FIG. 5 is a cross-sectional view of the dental mouthpiece, illustrating the bridge structure for dental mouthpiece, taken along lines 5-5 of FIG. 3; FIG. 6 is a close-up top plan view of the bridge structure for dental mouthpiece in which the walls of the dental mouthpiece are not illustrated; FIG. 7 is a cross-sectional view of a cheek retractor portion of the dental mouthpiece, which includes the bridge structure for dental mouthpiece, taken along lines 7-7 of FIG. 4; and, FIG. 8 is an enlarged, top plan view of a cheek retractor portion of the dental mouthpiece, which includes the bridge structure for dental mouthpiece, taken along the line 8-8 of FIGS. 4.

Any portion of FIGS. 1-8 illustrated in hashed lines constitutes non-claimed subject matter. Those portions of FIGS. 1-8 (if any) do not constitute a part of the claim and are presented solely for context.

**1 Claim, 4 Drawing Sheets**



(58) **Field of Classification Search**  
 CPC ..... A61C 17/04; A61C 17/043; A61C 5/14;  
 A61C 17/06; A61C 17/096; A61C  
 17/125; A16C 19/002  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,019,612	A	11/1935	Langhans et al.
2,937,445	A	5/1960	Erickson
3,090,122	A	5/1963	Erickson
3,768,477	A	10/1973	Anders et al.
3,802,081	A	4/1974	Rogers
3,877,691	A	4/1975	Foster
3,924,333	A	12/1975	Erickson
4,017,975	A	4/1977	Johnson
4,024,642	A	5/1977	Zorovich
4,083,115	A	4/1978	McKelvey
4,167,814	A	9/1979	Schubert
4,192,071	A	3/1980	Erickson
4,511,329	A	4/1985	Diamond
4,718,662	A	1/1988	North
4,802,851	A	2/1989	Rhoades
4,822,278	A	4/1989	Oliva et al.
5,037,298	A	8/1991	Hickham
5,078,602	A	1/1992	Honoshofsky
5,460,524	A	10/1995	Anderson
5,516,286	A	5/1996	Kushner
5,762,496	A	6/1998	Albertsson et al.
5,890,899	A	4/1999	Sclafani
6,022,214	A	2/2000	Hirsch et al.
6,213,772	B1	4/2001	Costello
6,267,591	B1	7/2001	Barstow
6,338,627	B2	1/2002	Hirsch et al.
6,575,746	B2	6/2003	Hirsch et al.
D495,799	S *	9/2004	Hirsch et al. .... D24/152
D497,426	S	10/2004	Hirsch et al.
6,908,308	B2	6/2005	Hirsch et al.
6,974,321	B2 *	12/2005	Hirsch et al. .... 433/93
7,287,981	B2	10/2007	Hirsch
7,293,990	B2	11/2007	Hirsch et al.
7,611,354	B2	11/2009	Hirsch et al.
D615,203	S *	5/2010	Hirsch et al. .... D24/152
7,748,981	B2	7/2010	Hirsch et al.
8,029,280	B2 *	10/2011	Black et al. .... 433/93
8,057,227	B2	11/2011	Hirsch et al.
8,057,228	B2	11/2011	Hirsch et al.
8,075,310	B2	12/2011	Hirsch et al.
8,297,973	B2	10/2012	Hirsch et al.
8,529,256	B2	9/2013	Hirsch et al.
8,535,056	B2	9/2013	Dragan et al.
D696,779	S	12/2013	Hirsch et al.
8,911,232	B2	12/2014	Nguyen
D734,851	S *	7/2015	Nguyen .... D24/152
9,084,656	B2	7/2015	Hirsch
9,089,389	B2 *	7/2015	Hirsch .... A61C 5/14
9,358,086	B2	6/2016	Hirsch
9,788,924	B2	10/2017	Nguyen
D809,660	S	2/2018	Nguyen
2003/0134253	A1	7/2003	Hirsch et al.
2006/0063126	A1	3/2006	Aloise et al.
2006/0063129	A1	3/2006	Hirsch
2006/0084031	A1	4/2006	Hirsch et al.
2008/0166684	A1	7/2008	Kanas
2008/0318183	A1	12/2008	Suzman
2009/0123886	A1	5/2009	Vaska
2009/0274991	A1	11/2009	Black et al.
2011/0207076	A1	8/2011	Hirsch et al.
2011/0311942	A1	12/2011	Black et al.
2012/0237894	A1	9/2012	Maycher et al.
2013/0095450	A1	4/2013	Ames

2013/0252193	A1	9/2013	Bowman et al.
2014/0004478	A1	1/2014	Hirsch et al.
2014/0162209	A1	6/2014	Nguyen
2014/0212837	A1 *	7/2014	Nguyen et al. .... 433/92
2014/0212838	A1 *	7/2014	Nguyen et al. .... 433/92
2014/0212839	A1	7/2014	Nguyen
2014/0212840	A1	7/2014	Nguyen
2014/0212841	A1	7/2014	Nguyen
2015/0305842	A1 *	10/2015	Hirsch ..... A61C 17/043 433/95
2015/0335409	A1 *	11/2015	Hirsch ..... A61C 17/043 433/93

FOREIGN PATENT DOCUMENTS

CN	102247140	11/2011
CN	105578986 A	5/2016
EP	3184076	6/2017
GB	2 170 106	7/1986
WO	WO 1999/037238	7/1999
WO	WO 2011/014952	2/2011
WO	WO 2015/088577	6/2015

OTHER PUBLICATIONS

Australian Patent Application No. 2014202637; AU Examination Report dated Jan. 23, 2015.  
 U.S. Appl. No. 14/100,323; Final Office Action dated Oct. 24, 2014.  
 U.S. Appl. No. 14/100,323; Office Action dated May 6, 2014.  
 U.S. Appl. No. 29/491,367 Final Office Action dated Mar. 4, 2015.  
 U.S. Appl. No. 29/491,367 Office Action dated Nov. 14, 2014.  
 U.S. Appl. No. 29/477,888 Final Office Action dated May 1, 2015.  
 U.S. Appl. No. 29/477,888 Office Action dated Nov. 14, 2014.  
 U.S. Appl. No. 29/491,367, Thien Nguyen, Dental Mouthpiece, filed May 20, 2014.  
 U.S. Appl. No. 29/477,888, Thien Nguyen, Cheek Retractor for Dental Mouthpiece, filed Dec. 27, 2013.  
 U.S. Appl. No. 14/228,046; Final Office Action dated Jun. 6, 2016.  
 U.S. Appl. No. 14/228,050; Final Office Action dated May 20, 2016.  
 U.S. Appl. No. 14/228,057; Final Office Action dated Jun. 7, 2016.  
 U.S. Appl. No. 14/228,061; Final Office Action dated Jun. 30, 2016.  
 U.S. Appl. No. 29/477,888 Final Office Action dated Jun. 1, 2016.  
 European Patent Application No. 17150671.0; Extended European Search Report dated May 19, 2017.  
 U.S. Appl. No. 14/228,054; Office Action dated Nov. 29, 2018.  
 U.S. Appl. No. 14/228,046; Office Action dated Jun. 5, 2017.  
 U.S. Appl. No. 14/228,046; Final Office Action dated Jul. 15, 2019.  
 U.S. Appl. No. 14/228,054; Final Office Action dated Aug. 8, 2019.  
 U.S. Appl. No. 14/228,061; Final Office Action dated Jul. 11, 2019.  
 U.S. Appl. No. 14/228,054; Final Office Action dated Apr. 24, 2017.  
 U.S. Appl. No. 14/228,057; Office Action dated Apr. 13, 2017.  
 U.S. Appl. No. 14/228,061; Office Action dated Apr. 12, 2017.  
 U.S. Appl. No. 14/228,046; Final Office Action dated Jan. 16, 2018.  
 U.S. Appl. No. 14/228,046; Office Action dated Nov. 7, 2016.  
 U.S. Appl. No. 14/228,050; Office Action dated Nov. 4, 2016.  
 U.S. Appl. No. 14/228,046; Office Action dated Oct. 5, 2018.  
 U.S. Appl. No. 14/228,057; Office Action dated Sep. 7, 2018.  
 U.S. Appl. No. 14/228,061; Office Action dated Oct. 4, 2018.  
 Chinese Patent Application No. 201480039991.2 First Office Action dated Dec. 29, 2016.  
 Canadian Patent Application No. 2,919,142; Ca Examination Report dated May 31, 2016.  
 U.S. Appl. No. 14/228,054; Final Office Action dated Nov. 2, 2017.  
 U.S. Appl. No. 14/228,057; Final Office Action dated Nov. 2, 2017.  
 U.S. Appl. No. 14/228,061; Final Office Action dated Oct. 20, 2017.  
 U.S. Appl. No. 14/228,057; Final Office Action dated Mar. 22, 2019.  
 U.S. Appl. No. 14/228,057; Office Action dated Oct. 7, 2019.

\* cited by examiner

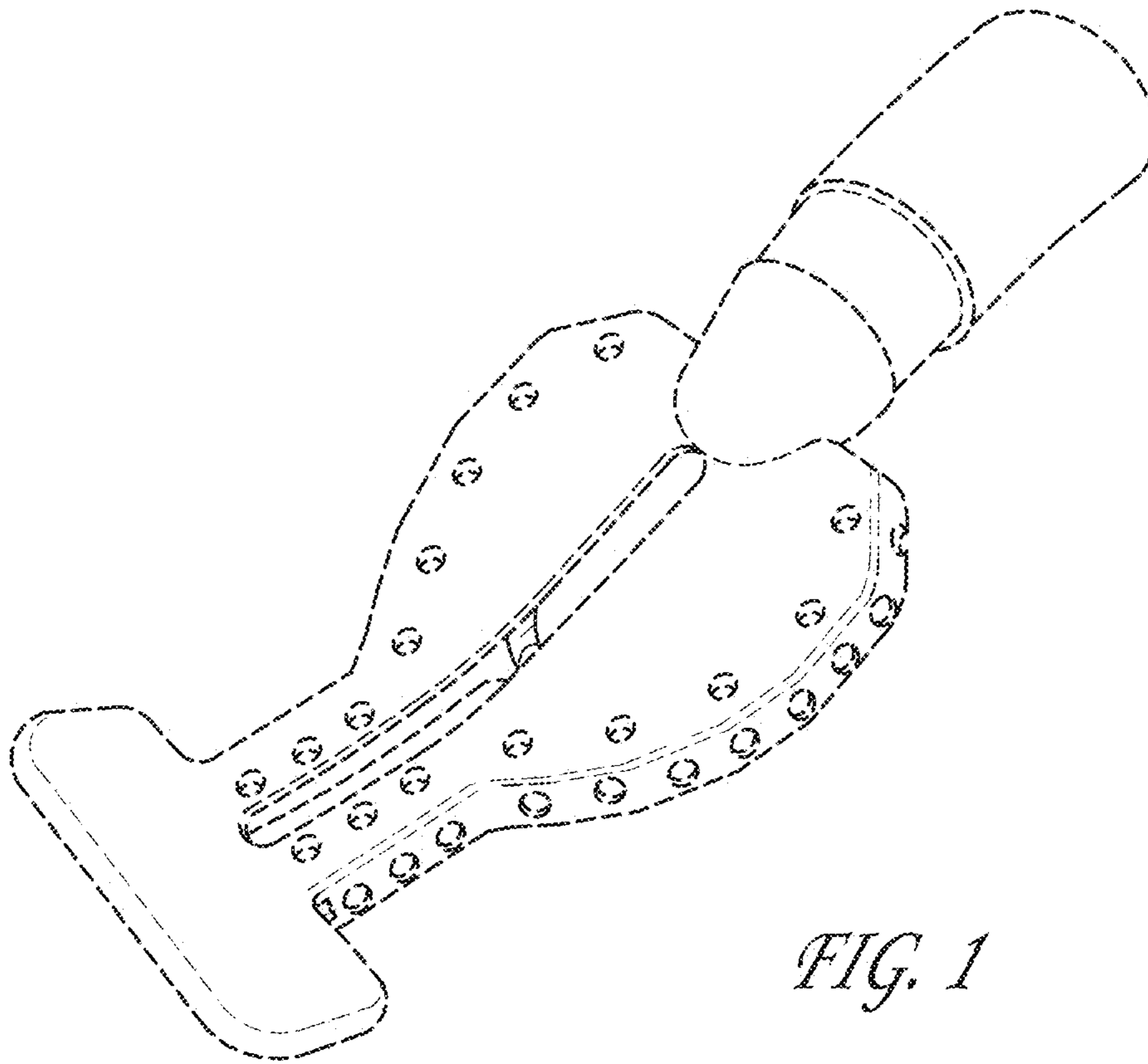


FIG. 1

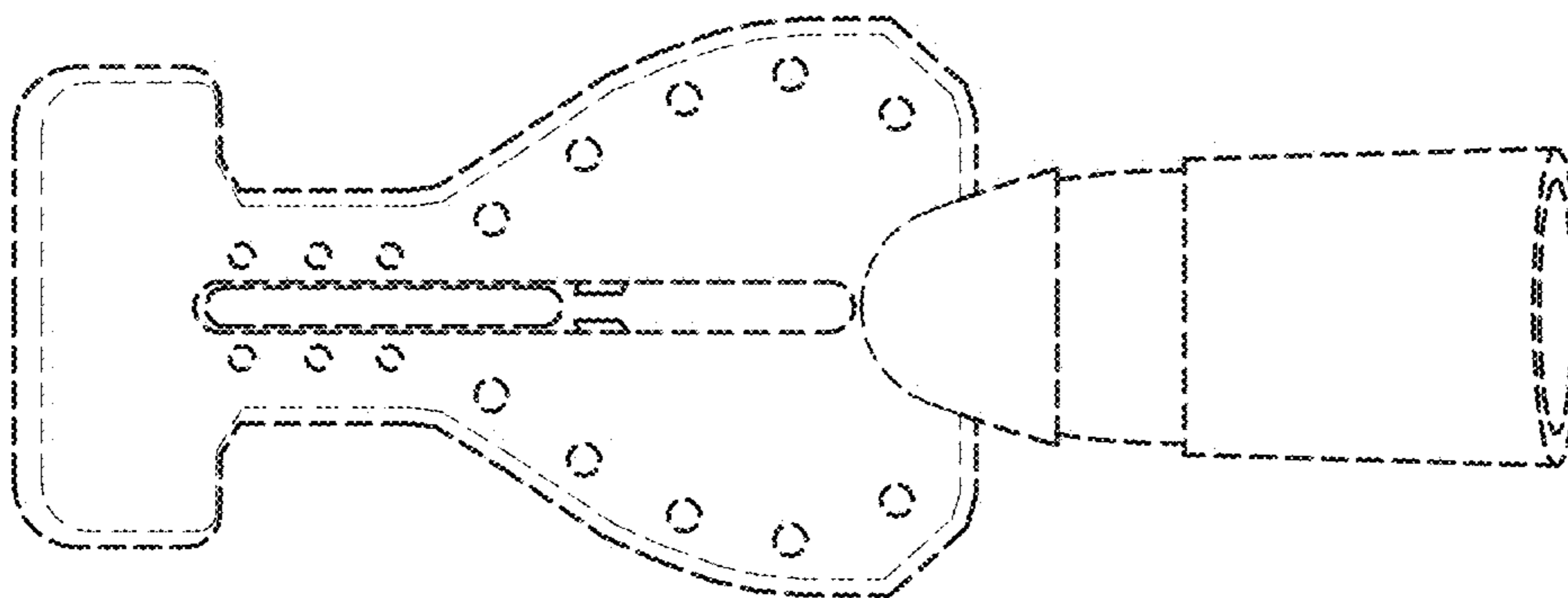


FIG. 2

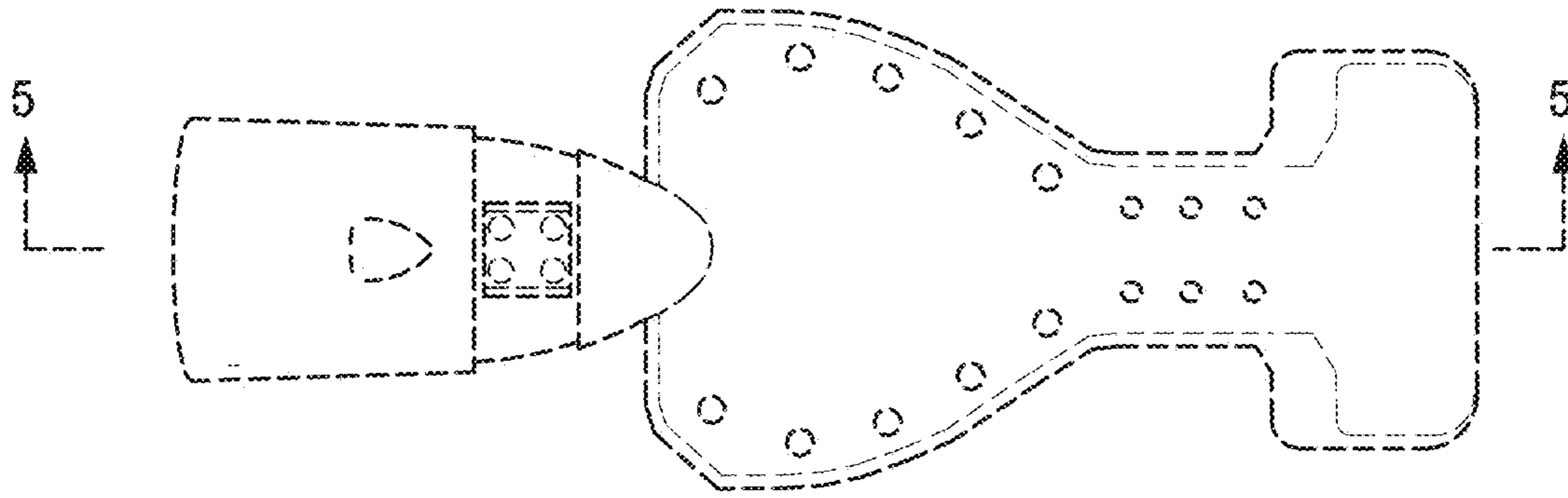


FIG. 3

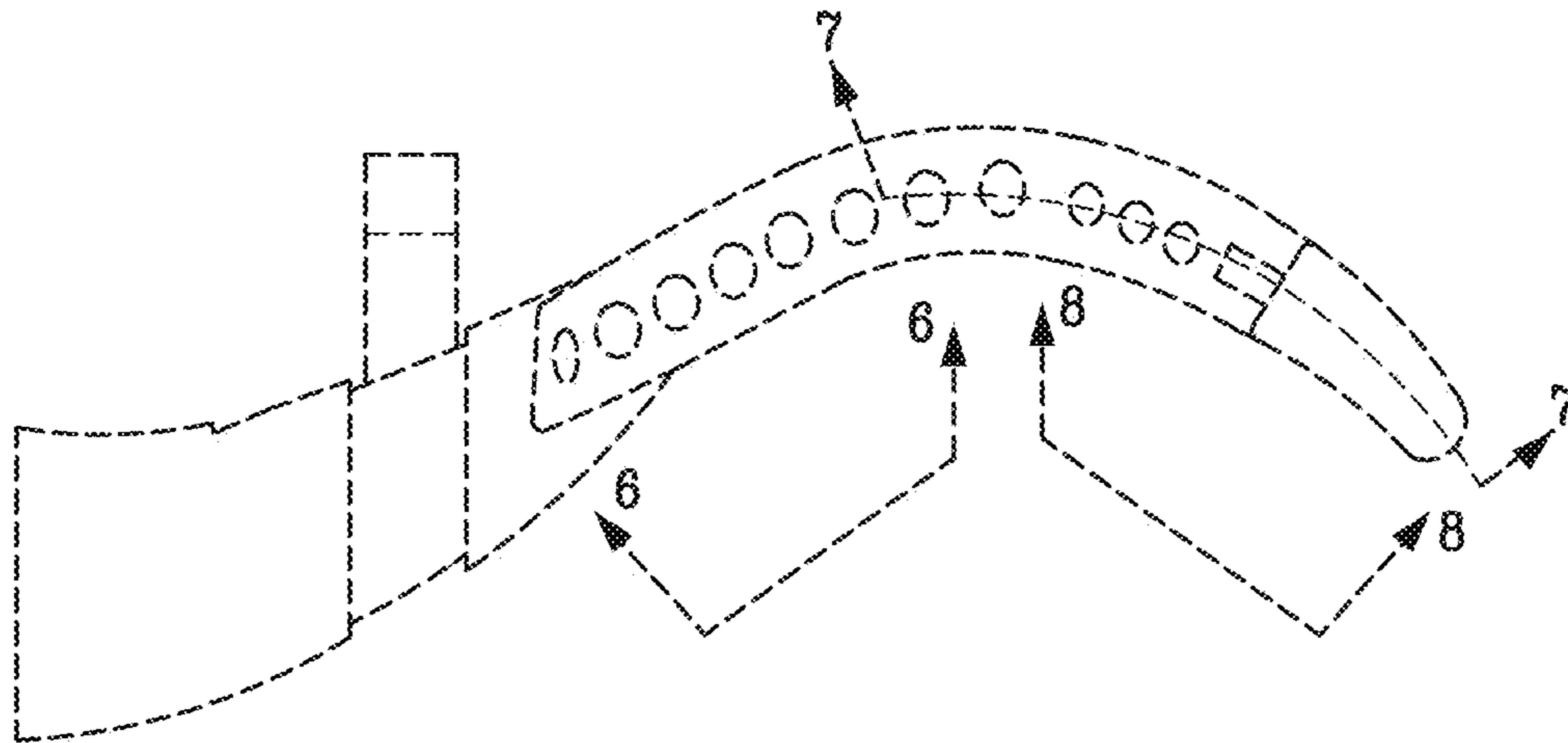
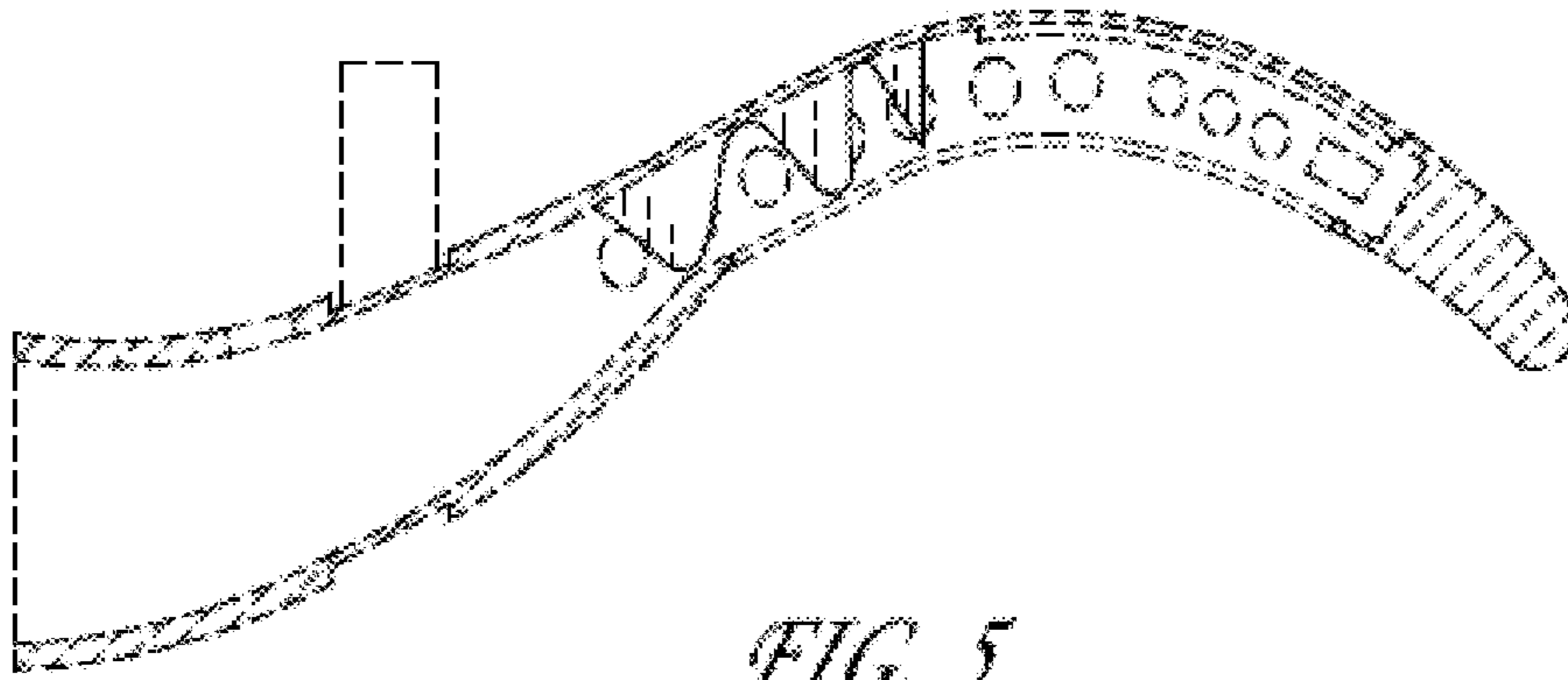
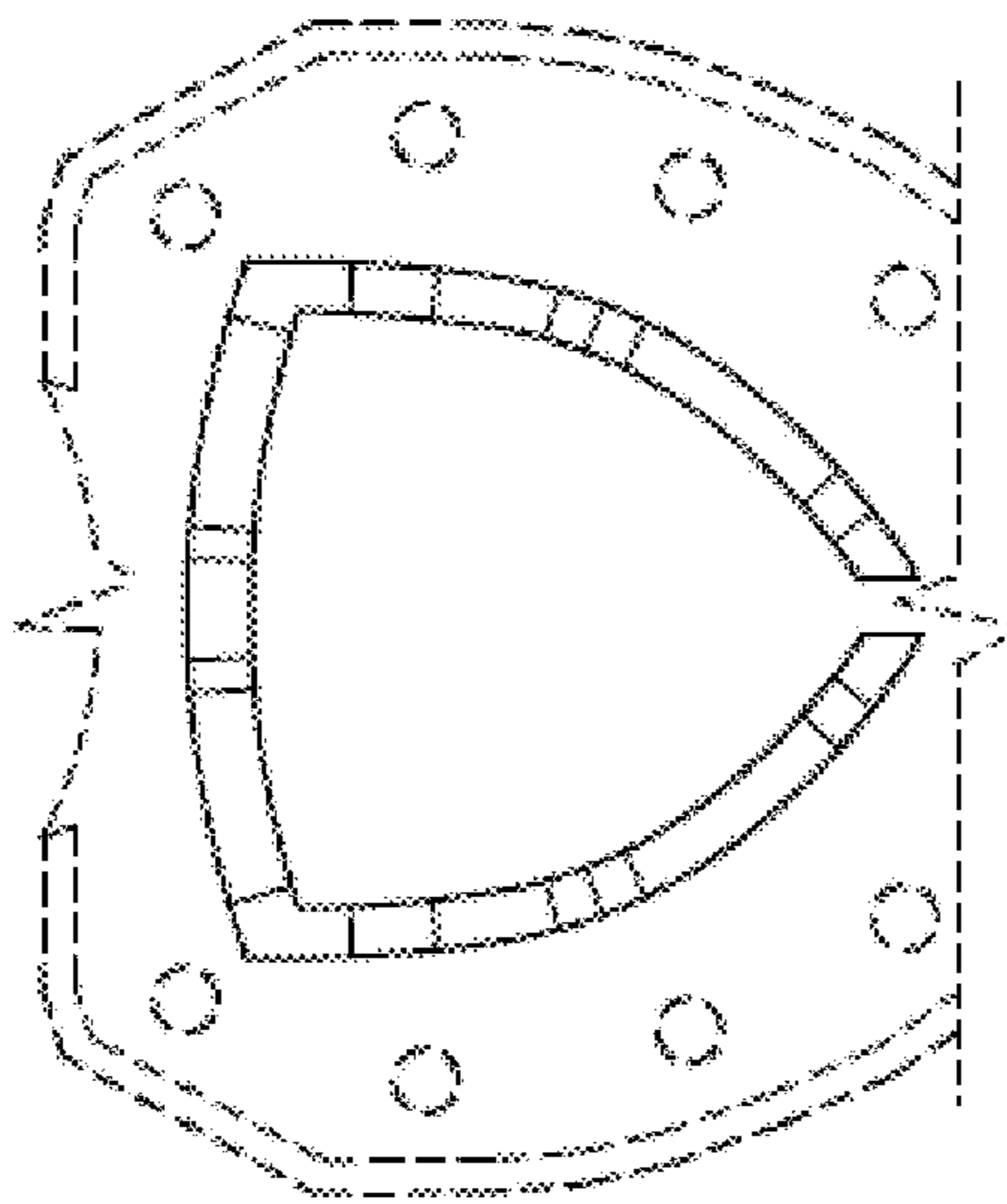


FIG. 4



*FIG. 5*



*FIG. 6*

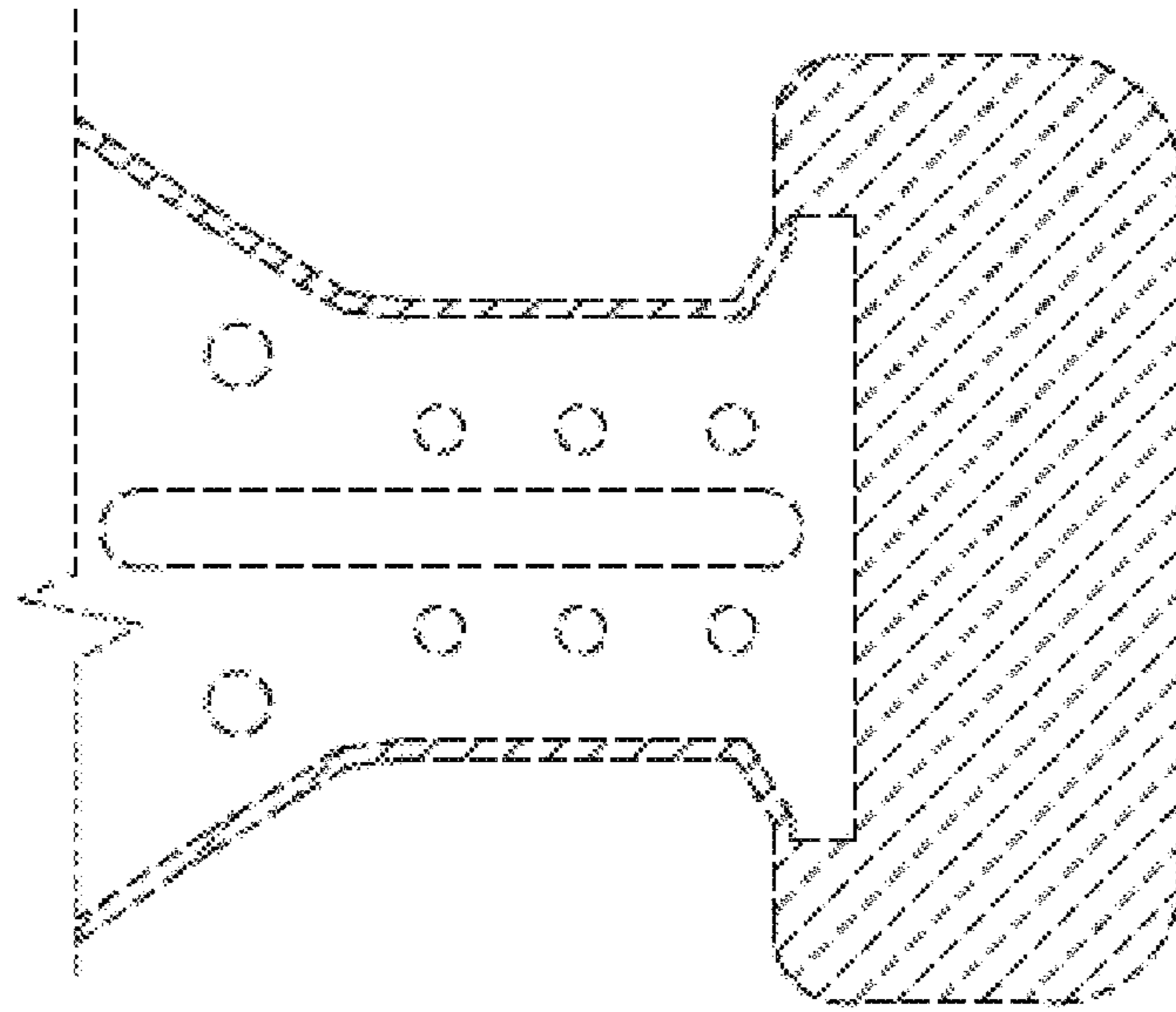


FIG. 7

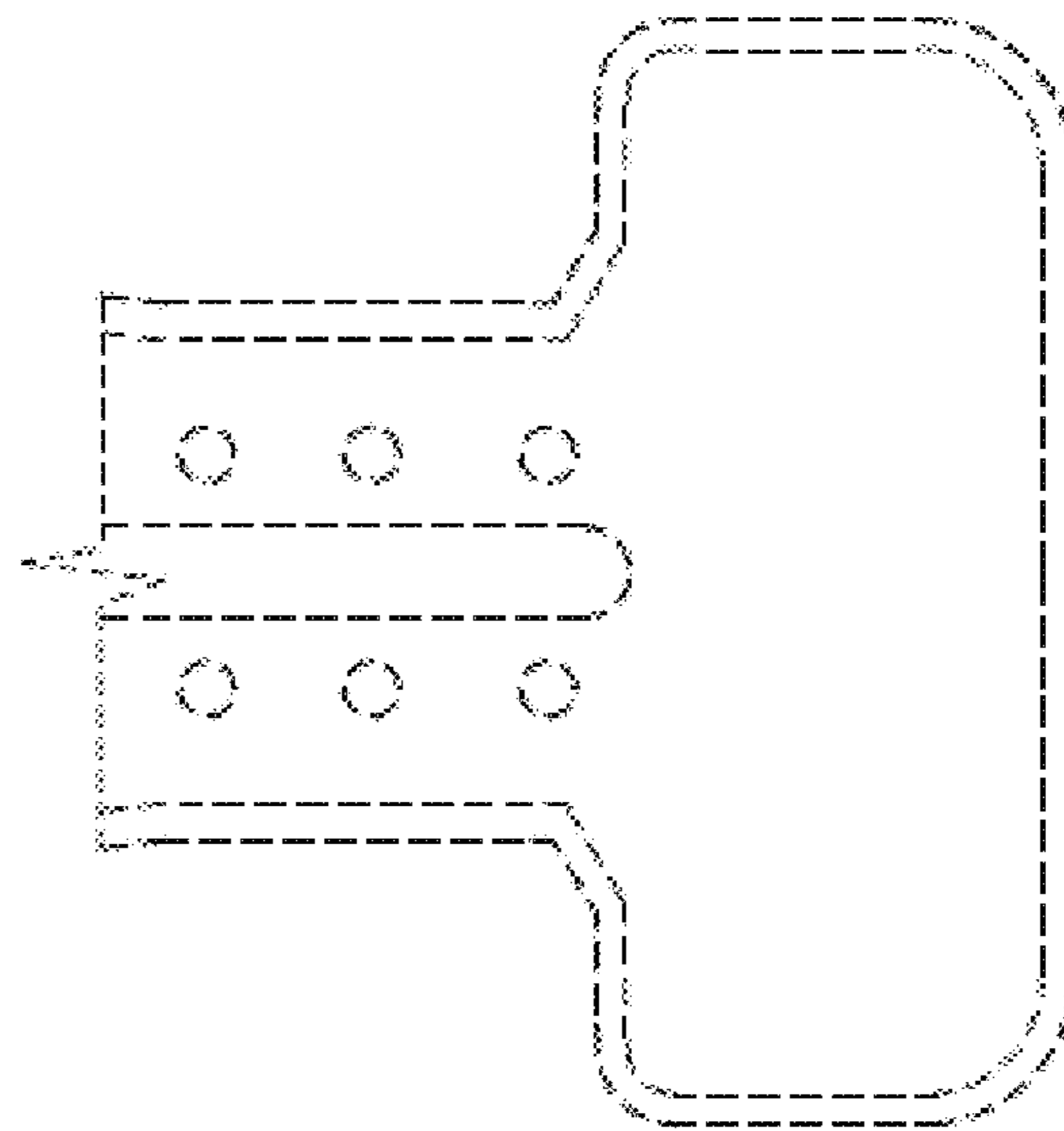


FIG. 8