



US00D687535S

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

(10) **Patent No.:** **US D687,535 S**

(45) **Date of Patent:** **** Aug. 6, 2013**

(54) **HEATER PLATE AND HEATER ELEMENT ASSEMBLY**

(71) Applicants: **Makoto Inagawa**, Pato Alto, CA (US);
Shinichi Kurita, San Jose, CA (US)

(72) Inventors: **Makoto Inagawa**, Pato Alto, CA (US);
Shinichi Kurita, San Jose, CA (US)

(73) Assignee: **Applied Materials, Inc.**, Santa Clara,
CA (US)

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

(21) Appl. No.: **29/436,342**

(22) Filed: **Nov. 5, 2012**

Related U.S. Application Data

(62) Division of application No. 29/403,680, filed on Oct.
10, 2011, now Pat. No. Des. 670,372.

(51) **LOC (9) Cl.** **23-03**

(52) **U.S. Cl.**
USPC **D23/415**

(58) **Field of Classification Search**
USPC D23/403-406, 409, 410, 422, 499,
D23/345, 347, 349, 415-419; D7/402, 407,
D7/417; 40/428, 798; 44/520, 530; 52/36.3;
126/25 B, 298, 500, 512, 540, 543, 544, 548,
126/555; 160/DIG. 9; 431/263, 273, 329;
219/549

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,294,030	A *	8/1942	Higham et al.	165/149
2,792,201	A *	5/1957	Whistler, Jr.	165/149
2,838,830	A *	6/1958	Huggins	29/890.046
3,047,702	A *	7/1962	Lefebvre	219/476
3,153,140	A	10/1964	Theodore et al.	
3,425,020	A	1/1969	Nishida et al.	
4,196,411	A *	4/1980	Kaufman	338/314

4,197,449	A	4/1980	Fessenden	
4,293,763	A	10/1981	McMullan	
4,429,214	A	1/1984	Brindley et al.	
4,429,215	A *	1/1984	Sakai et al.	219/528
4,849,255	A	7/1989	Grise et al.	
D304,855	S	11/1989	Aoki	

(Continued)

Primary Examiner — Karen S Acker

(74) *Attorney, Agent, or Firm* — Patterson & Sheridan, LLP

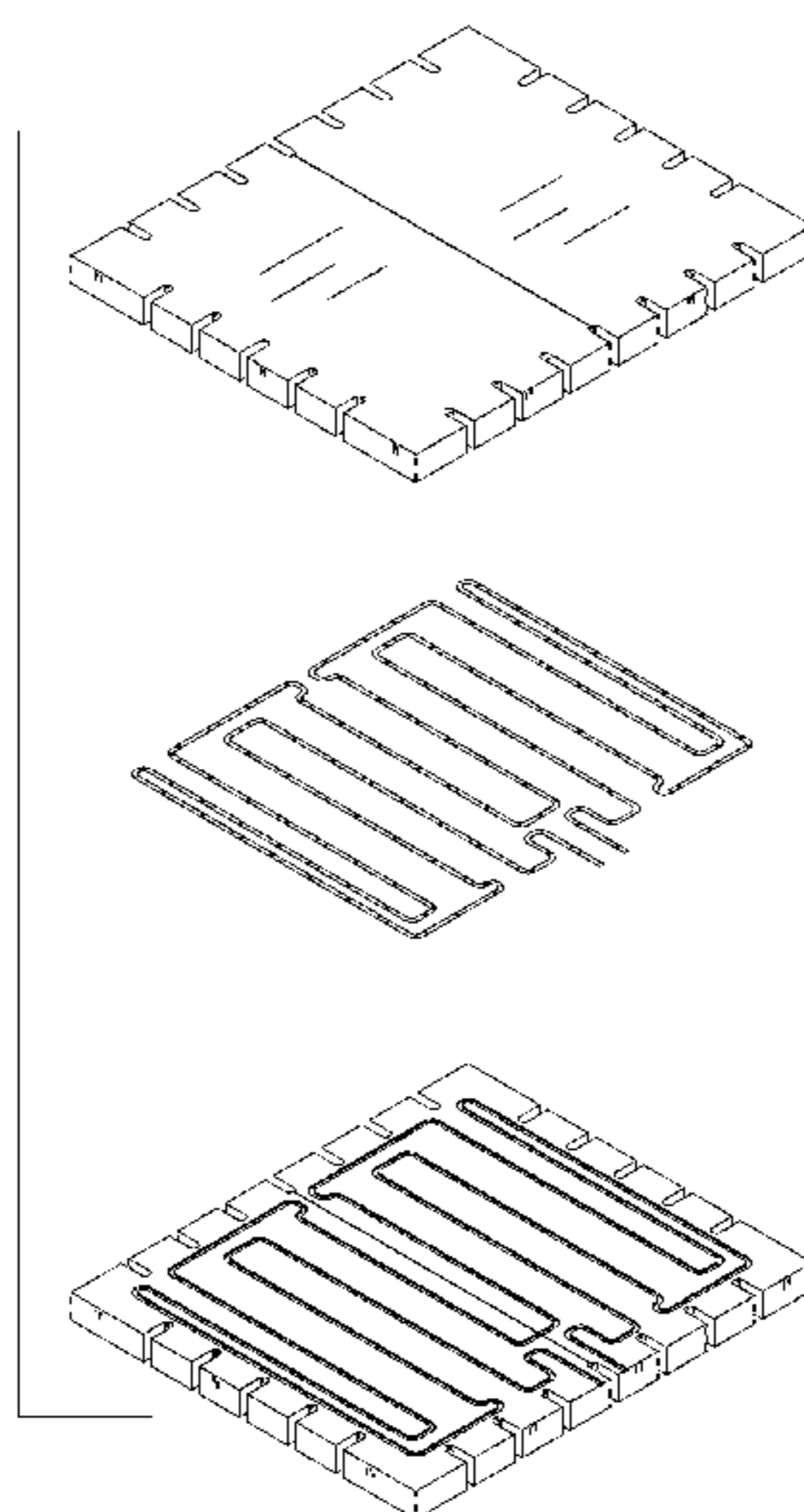
(57) **CLAIM**

The ornamental design for a heater plate and heater element assembly, as shown and described.

DESCRIPTION

FIG. 1 is an isometric view of a heater plate and heater element assembly showing my new design;
 FIG. 2 is a front elevation view thereof;
 FIG. 3 is a detailed view thereof showing the heater element within the grooves of two heater plates;
 FIG. 4 is an exploded view of the design of FIG. 1 showing the heater element between the two heater plates. The grooved surfaces face each other to provide encasement of the heater element;
 FIG. 5 is a plan view of the bottom heater plate of the design of FIG. 1, grooved on the inner side to accept the heater element;
 FIG. 6 is a front elevation view thereof;
 FIG. 7 is a side elevation view thereof, the opposite side being a mirror image;
 FIG. 8 is a rear elevation view thereof;
 FIG. 9 is an enlarged isometric view thereof showing the heater element placed within the bottom heater plate;
 FIG. 10 is a detail view thereof;
 FIG. 11 is a plan view of the heater element of the design of FIG. 1, the opposite side being a mirror image;
 FIG. 12 is a front elevation view thereof;
 FIG. 13 is a side elevation view thereof; and,
 FIG. 14 is a rear elevation view thereof.

1 Claim, 6 Drawing Sheets



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U.S. PATENT DOCUMENTS			
D304,856	S *	11/1989	Aoki D23/386
4,882,466	A *	11/1989	Friel 219/219
D320,649	S	10/1991	Fleming
5,081,339	A *	1/1992	Stine 219/217
5,144,113	A	9/1992	Hall et al.
D353,666	S	12/1994	Jonsson
5,835,983	A	11/1998	McMahen et al.
6,043,468	A	3/2000	Toya et al.
6,111,233	A *	8/2000	Rock et al. 219/545
6,176,668	B1	1/2001	Kurita et al.
D438,300	S *	2/2001	Manger D23/386
6,213,704	B1	4/2001	White et al.
6,521,873	B1	2/2003	Cheng et al.
D486,724	S *	2/2004	Bently D8/354
6,746,198	B2	6/2004	White et al.
6,906,293	B2	6/2005	Schmiz et al.
7,115,844	B2	10/2006	Ferguson
7,154,070	B2	12/2006	Watanabe et al.
D547,117	S	7/2007	Ross
7,741,582	B2	6/2010	Howick et al.
8,008,607	B2	8/2011	Ptasienski et al.
8,263,908	B2 *	9/2012	Watanabe et al. 219/444.1
D670,372	S	11/2012	Inagawa et al.
2004/0094534	A1	5/2004	Howick et al.
2007/0151841	A1	7/2007	Inagawa et al.
2008/0029387	A1	2/2008	Inagawa et al.
2009/0135567	A1	5/2009	Fann et al.

* cited by examiner

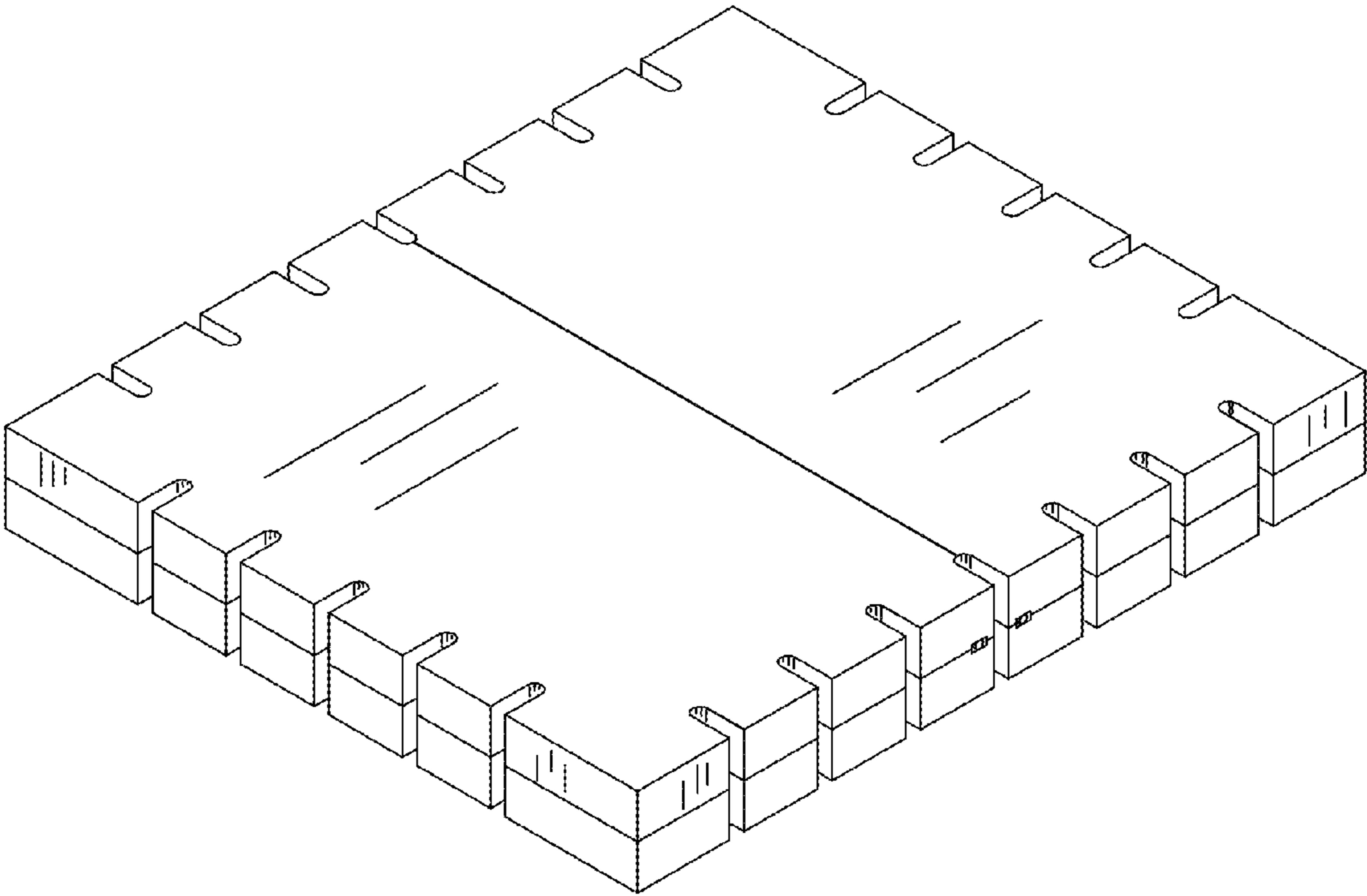


FIG. 1

FIG. 3

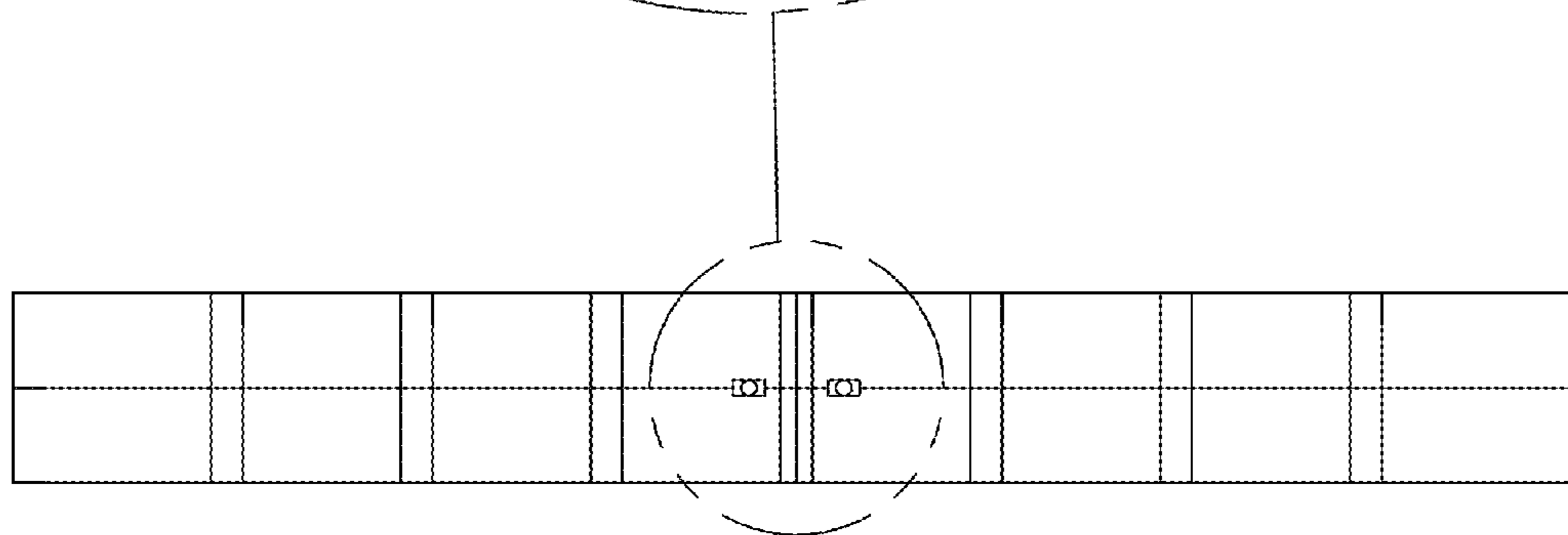
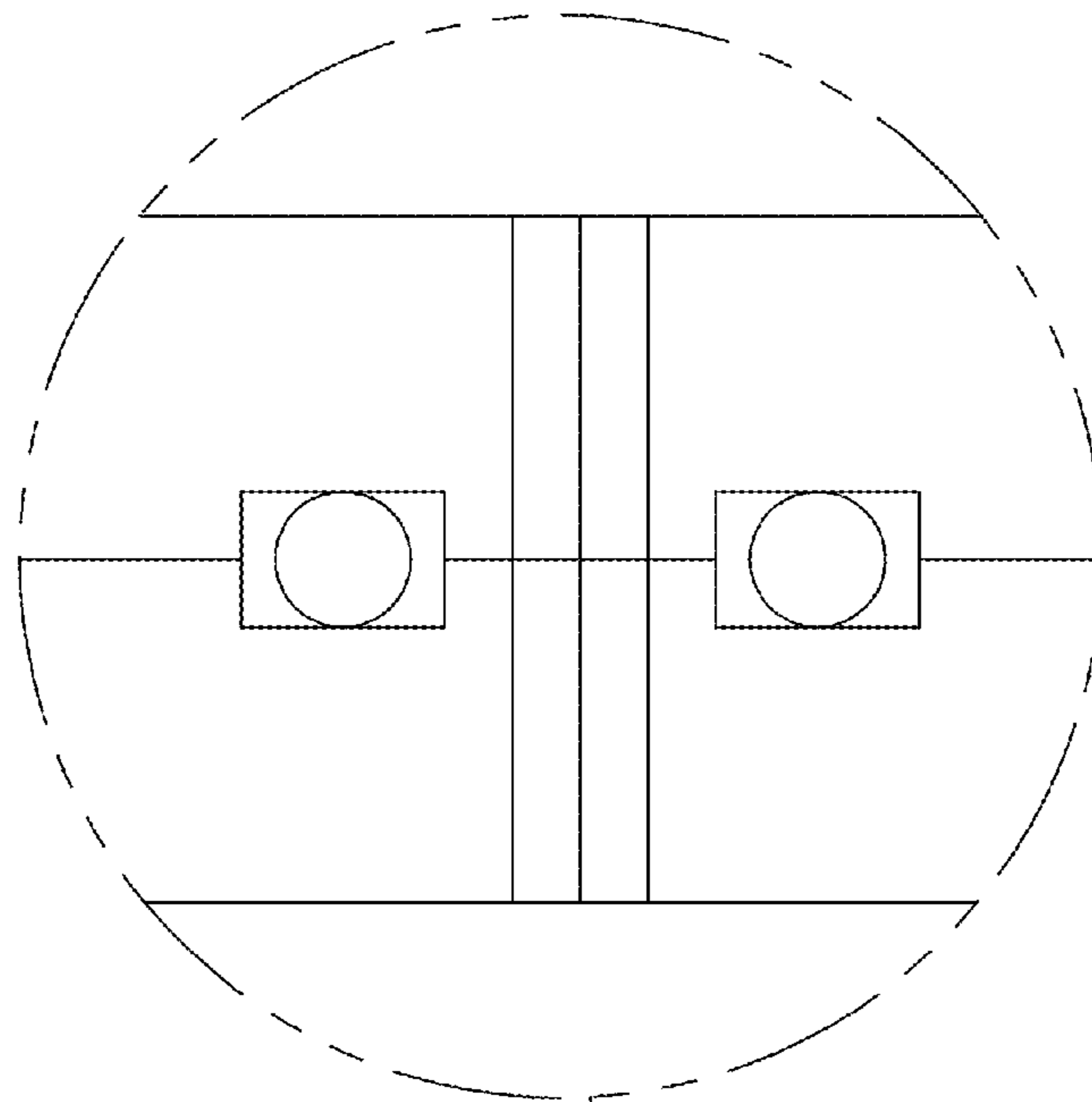


FIG. 2

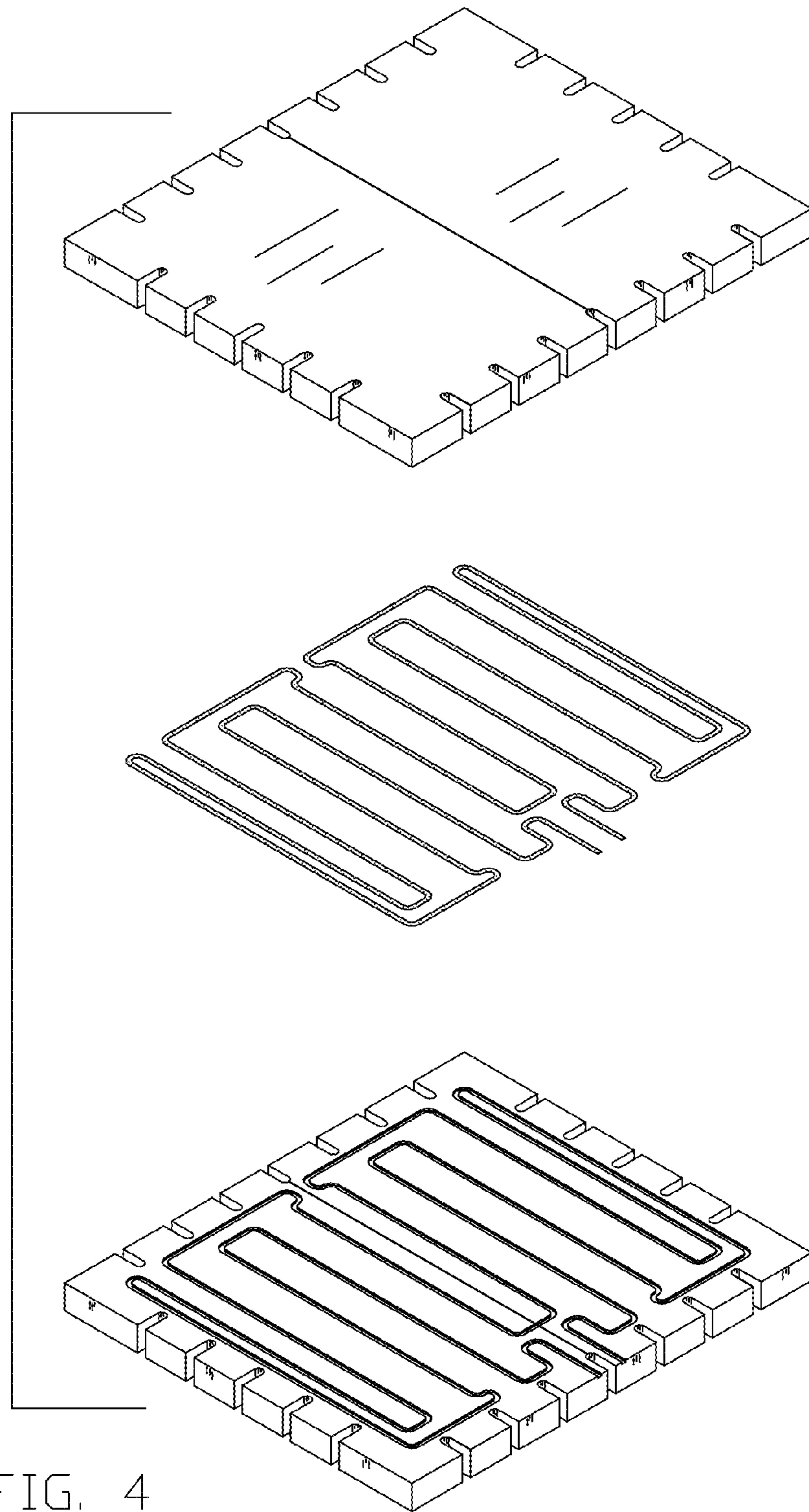


FIG. 4

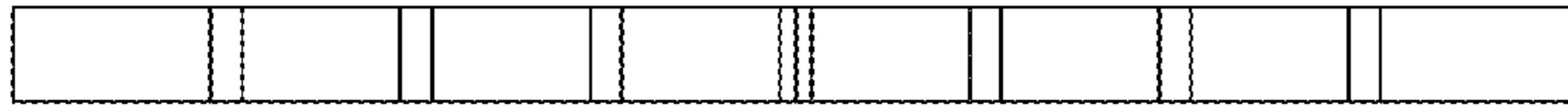


FIG. 8

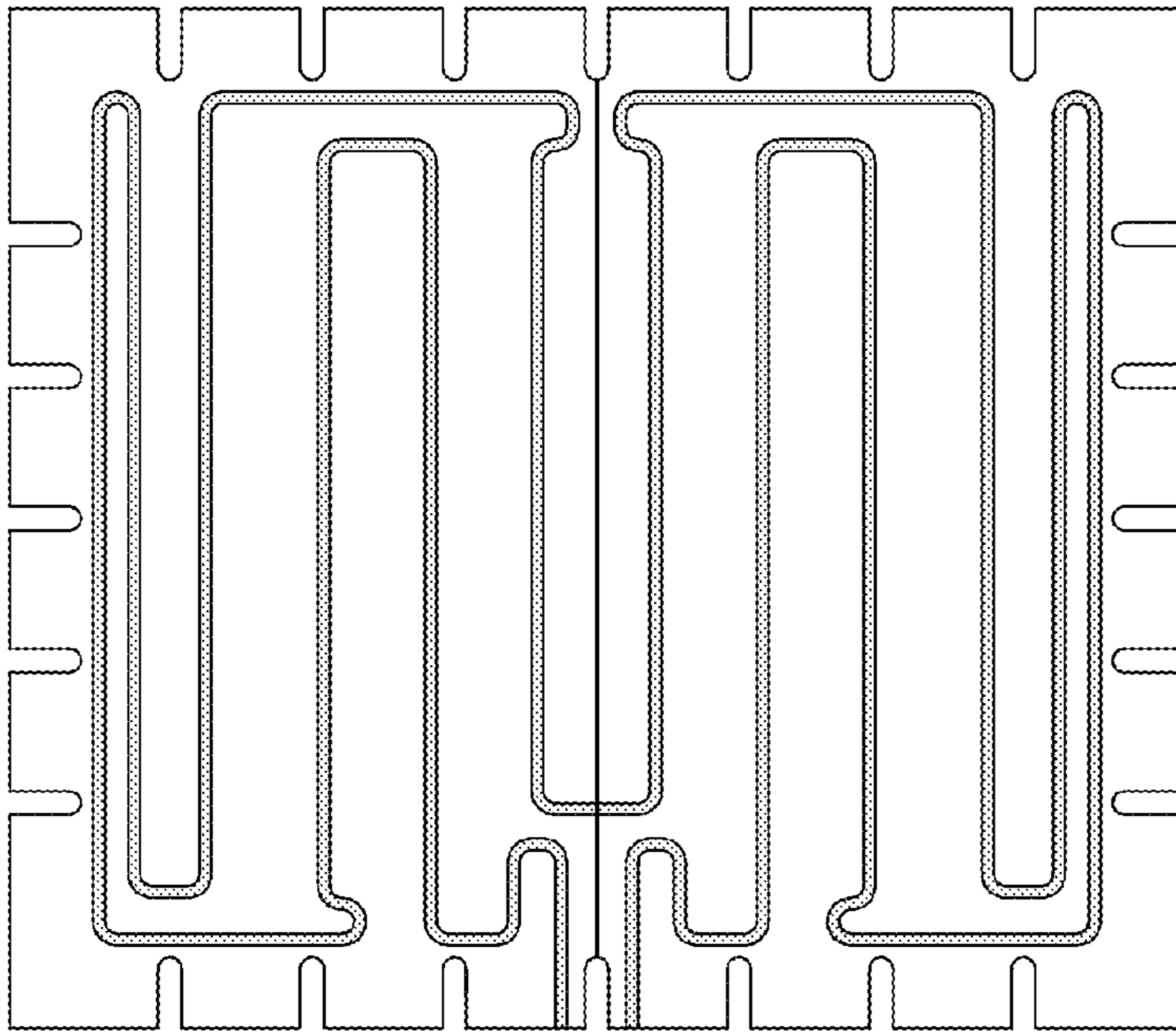


FIG. 5

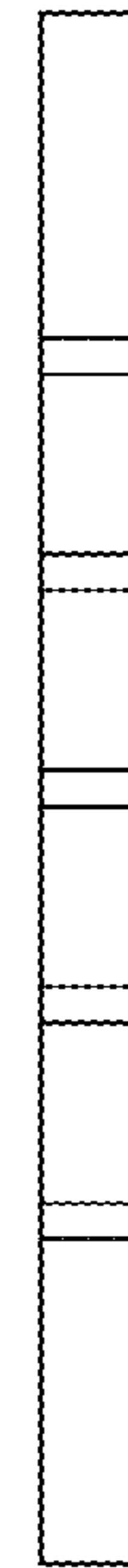
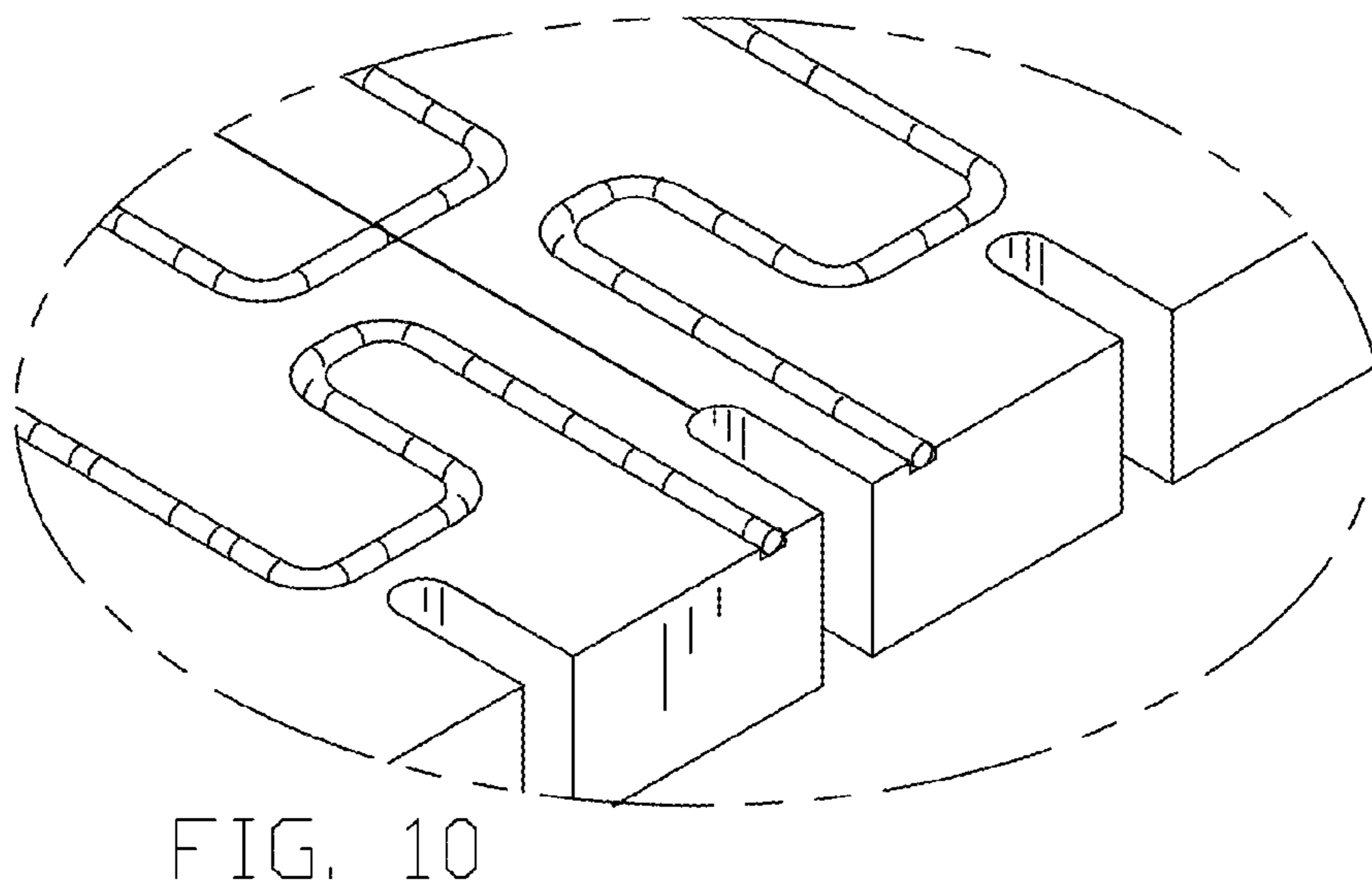
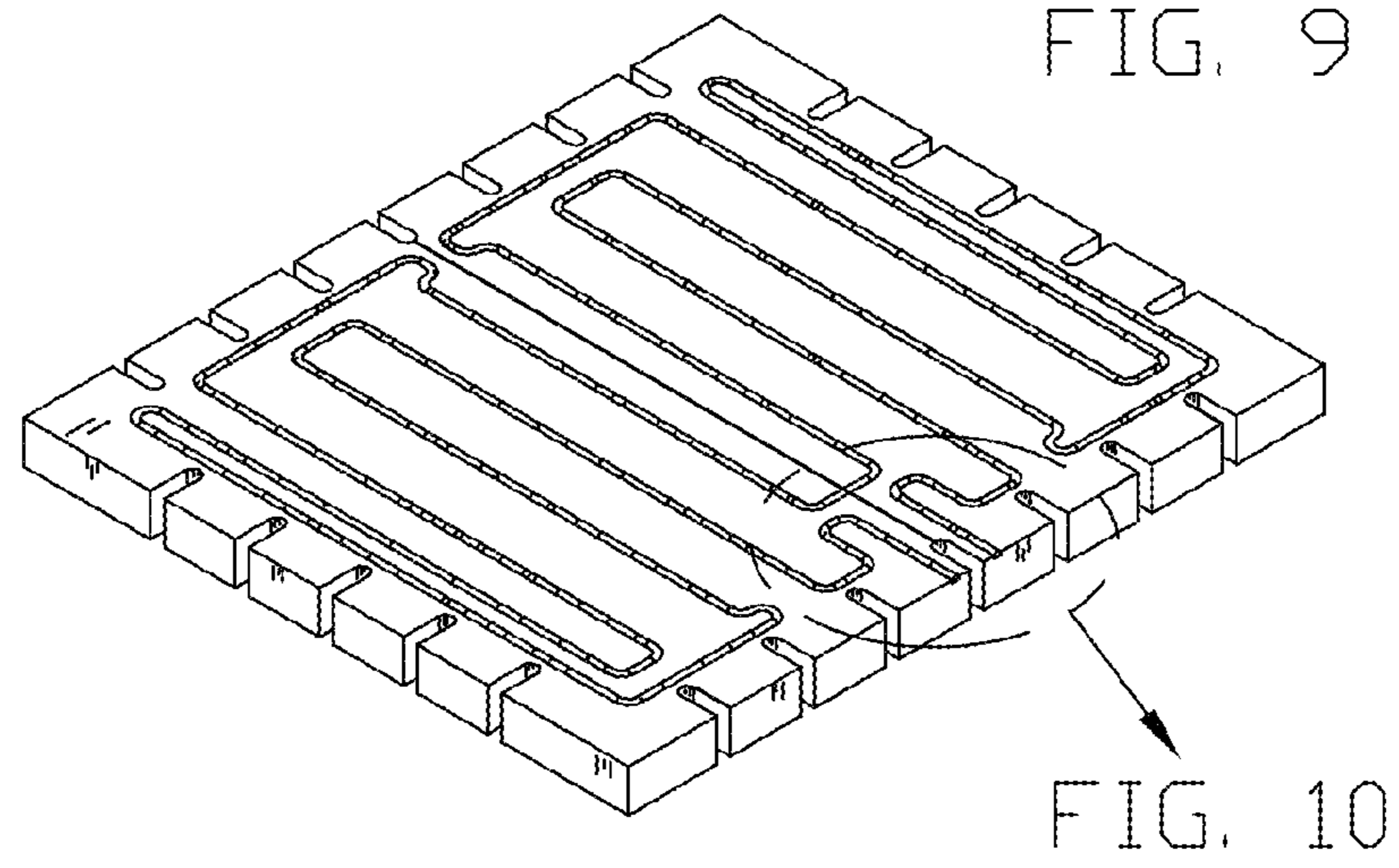


FIG. 7



FIG. 6



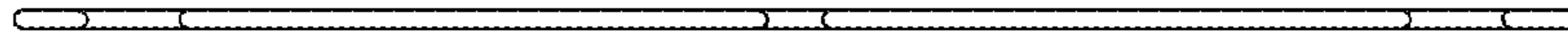


FIG. 14

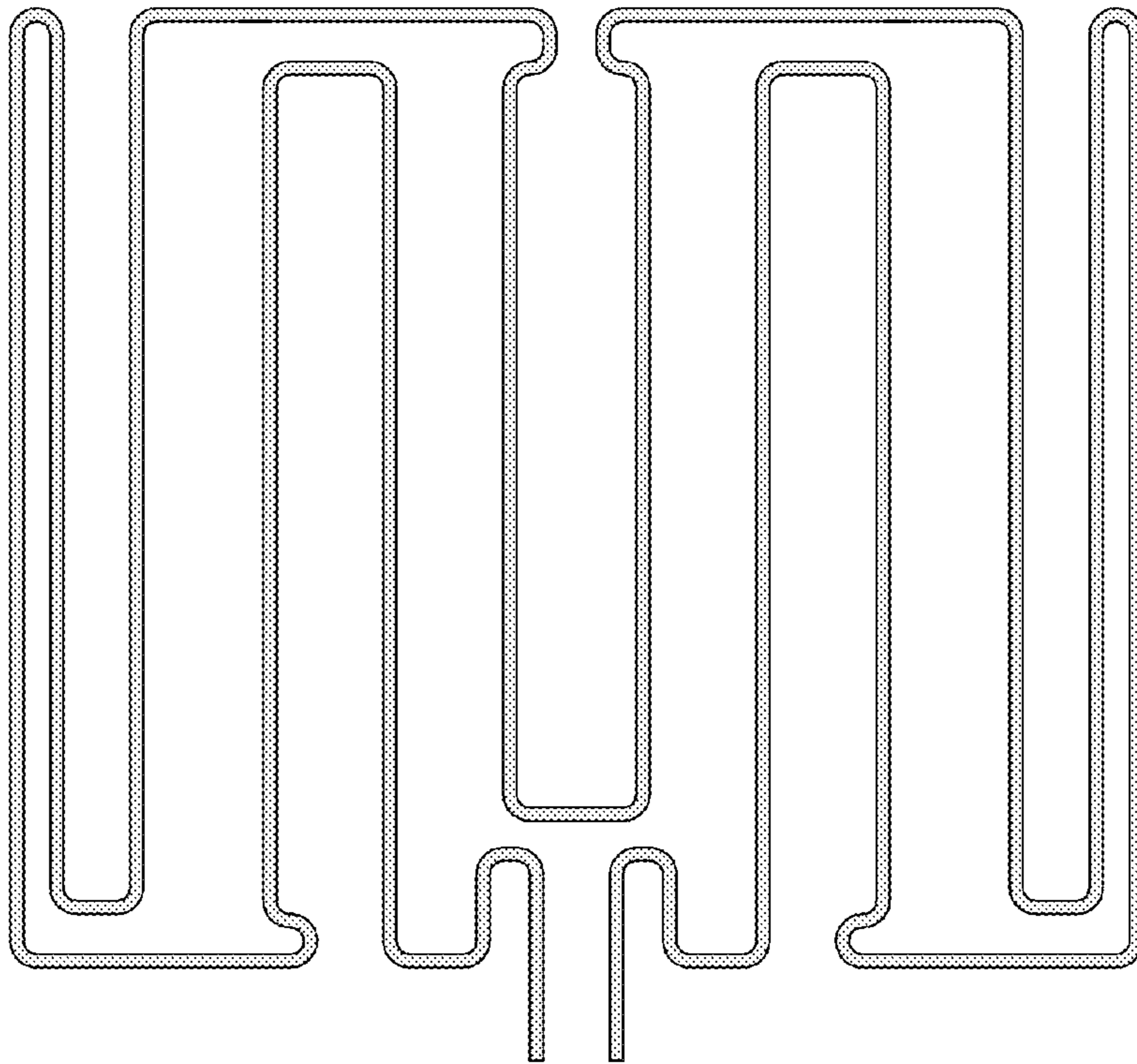


FIG. 11

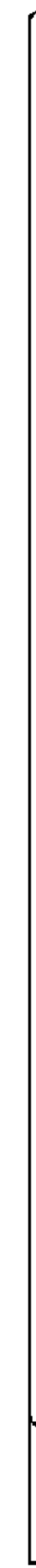


FIG. 13

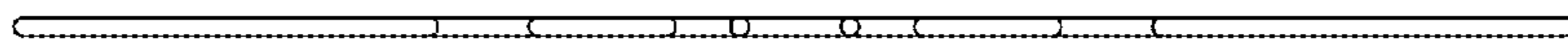


FIG. 12