US00D736361S

(12) United States Design Patent

Cole et al.

(10) Patent No.: US D736,361 S
(45) Date of Patent: ** Aug. 11, 2015

(54) **EVAPORATOR HEAT EXCHANGER PLATE**

(71) Applicant: **The Abell Foundation, Inc.**, Baltimore, MD (US)

(72) Inventors: **Barry R. Cole**, Mineral, VA (US); **Laurence Jay Shapiro**, Fair Lawn, NJ (US); **Daniel Latimer Wilkins**, Saint Leonard, MD (US); **Barry Noel**, Montpelier, VA (US); **Hoseong Lee**, College Park, MD (US); **Yunho Hwang**, Ellicott City, MD (US)

(73) Assignee: **The Abell Foundation, Inc.**, Baltimore, MD (US)

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

(21) Appl. No.: **29/442,395**

(22) Filed: **Feb. 22, 2013**

(51) **LOC (10) Cl.** **23-03**

(52) **U.S. Cl.**
USPC **D23/323**

(58) **Field of Classification Search**
USPC D23/314, 323, 330, 386, 499; 165/181, 165/121, 166, 167, 170, 150, 151, 182, 172
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,622,703 A * 3/1927 Campbell 55/315.1
2,662,273 A 12/1953 Long

(Continued)

Primary Examiner — T. Chase Nelson
Assistant Examiner — Ania Aman
(74) *Attorney, Agent, or Firm* — Fish & Richardson P.C.

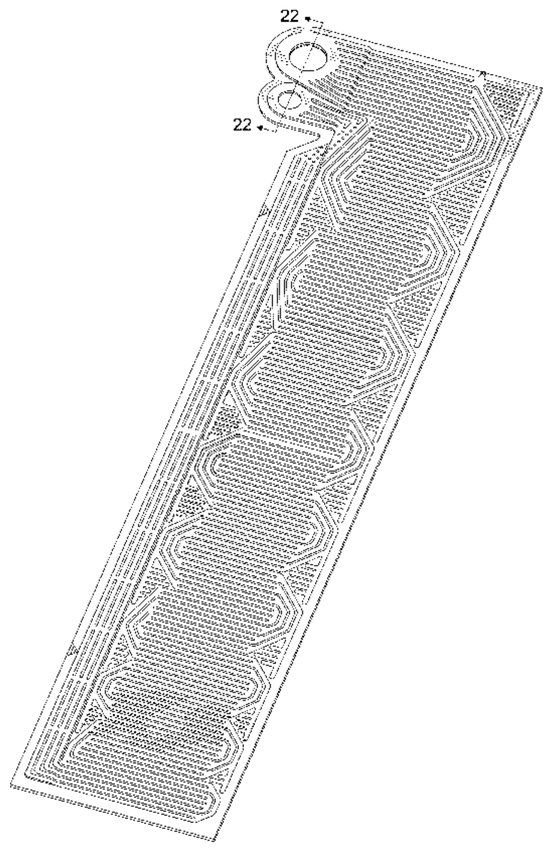
(57) **CLAIM**

The ornamental design for an evaporator heat exchanger plate, substantially as shown and described.

DESCRIPTION

FIG. **1** shows a perspective view of a design of an evaporator heat exchange plate.
FIG. **2** shows a rear view of the design.
FIG. **3** shows a front view of the design.
FIG. **4** shows a right side view of the design.
FIG. **5** shows a left side view of the design.
FIG. **6** shows a top view of the design.
FIG. **7** shows a bottom view of the design.
FIG. **8** shows a cross-sectional view along line **8-8** of FIG. **3**.
FIG. **9** shows a cross-sectional view along line **9-9** of FIG. **3**.
FIG. **10** shows a cross-sectional view along line **10-10** of FIG. **3**.
FIG. **11** shows a cross-sectional view along line **11-11** of FIG. **3**.
FIG. **12** shows an enlarged view of a portion of the left side of the design corresponding to the brace **12** of FIG. **3**.
FIG. **13** shows an enlarged view of a portion of the left side of the design corresponding to the brace **13** of FIG. **3**.
FIG. **14** shows an enlarged view of a portion of the left side of the design corresponding to the brace **14** of FIG. **3**.
FIG. **15** shows an enlarged view of a portion of the left side of the design corresponding to the brace **15** of FIG. **3**.
FIG. **16** shows an enlarged view of a portion of the right side of the design corresponding to the brace **16** of FIG. **3**.
FIG. **17** shows an enlarged view of a portion of the right side of the design corresponding to the brace **17** of FIG. **3**.
FIG. **18** shows an enlarged view of a portion of the right side of the design corresponding to the brace **18** of FIG. **3**.
FIG. **19** shows an enlarged view of a portion of the right side of the design corresponding to the brace **19** of FIG. **3**.
FIG. **20** shows an enlarged view of the top of the design corresponding to the brace **20** of FIG. **3**.
FIG. **21** shows an enlarged view of the bottom of the design corresponding to the brace **21** of FIG. **3**; and,
FIG. **22** shows a cross-sectional view along line **22-22** of FIG. **1**.

1 Claim, 9 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

2,777,300	A	1/1957	Palmer	
3,233,662	A *	2/1966	Yuen	165/46
3,291,206	A	12/1966	Nicholson	
D265,584	S *	7/1982	Butt et al.	D23/386
4,476,856	A	10/1984	Cacarda	
4,574,876	A	3/1986	Aid	
4,646,815	A	3/1987	Iwata et al.	
5,680,897	A *	10/1997	Kilmer	165/178
7,413,003	B2 *	8/2008	Oh et al.	165/153
D657,854	S	4/2012	Hwang et al.	
D657,855	S	4/2012	Hwang et al.	
D657,856	S	4/2012	Hwang et al.	
D658,748	S	5/2012	Hwang et al.	
2004/0069470	A1 *	4/2004	Gorbulsky	165/158
2004/0094291	A1 *	5/2004	Memory et al.	165/140
2004/0144524	A1 *	7/2004	Hwang et al.	165/153
2005/0045317	A1	3/2005	Huebner et al.	
2005/0115701	A1	6/2005	Martin et al.	
2005/0199372	A1 *	9/2005	Frazer et al.	165/80.4
2006/0231241	A1 *	10/2006	Papapanu et al.	165/152
2006/0278367	A1	12/2006	Dawson	
2006/0278382	A1 *	12/2006	Bhatti et al.	165/152
2007/0062681	A1	3/2007	Beech	
2008/0078538	A1 *	4/2008	Jalilevand et al.	165/170
2008/0196873	A1 *	8/2008	Svensson	165/167
2009/0285956	A1 *	11/2009	Landers et al.	426/477
2010/0084120	A1 *	4/2010	Yin et al.	165/146
2010/0258284	A1 *	10/2010	Krantz	165/166
2011/0053027	A1	3/2011	Weingaertner et al.	
2011/0168362	A1	7/2011	Hall et al.	
2013/0112382	A1 *	5/2013	Brunner et al.	165/166
2013/0192806	A1 *	8/2013	Noishiki et al.	165/166
2014/0026577	A1 *	1/2014	Reinke et al.	60/670
2014/0060789	A1 *	3/2014	Rousseau	165/166

* cited by examiner

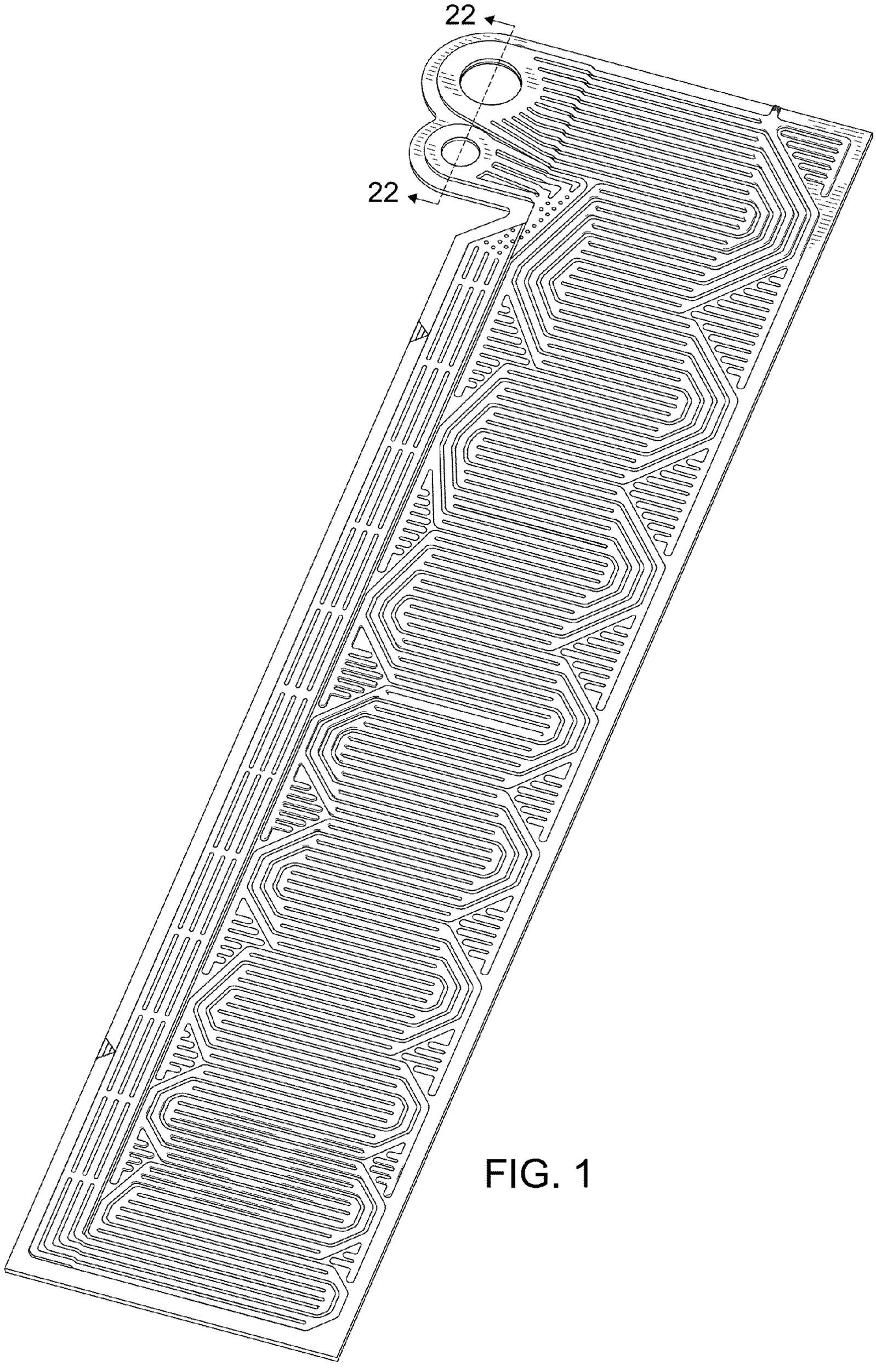


FIG. 1

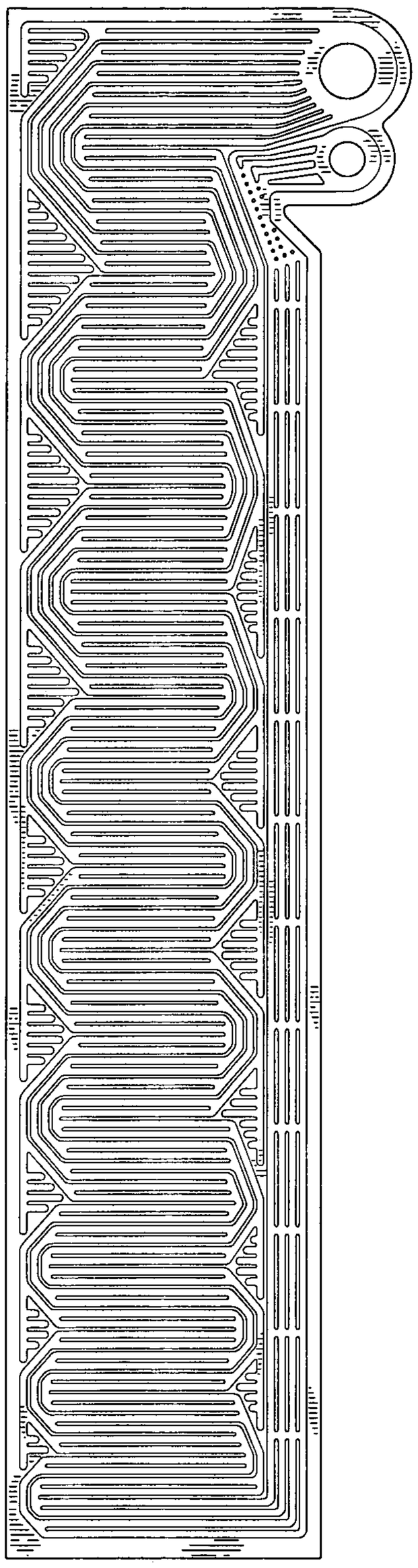


FIG. 2

FIG. 20

FIG. 12

FIG. 16

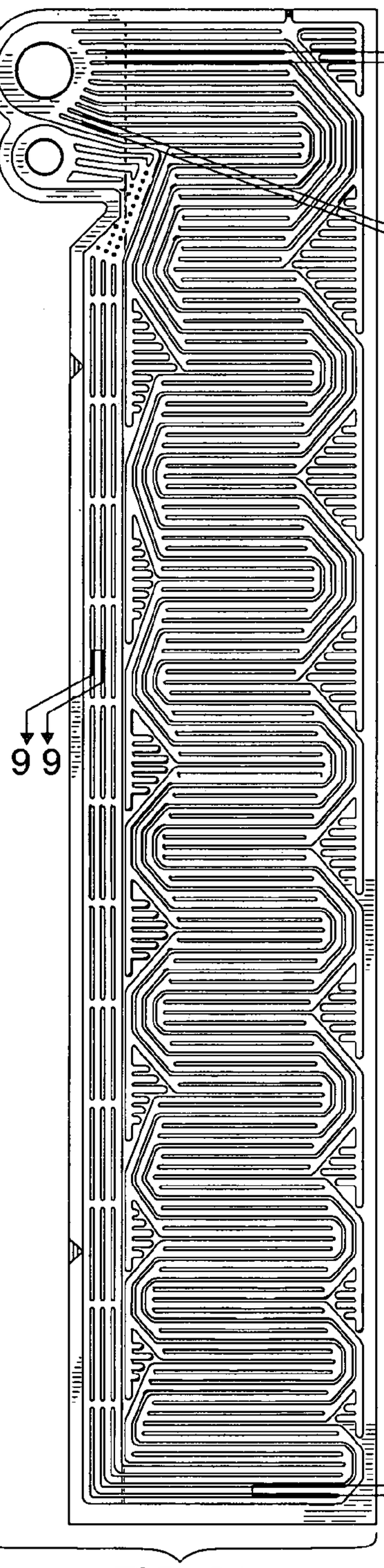


FIG. 13

FIG. 17

FIG. 14

FIG. 18

FIG. 15

FIG. 19

FIG. 3

FIG. 21

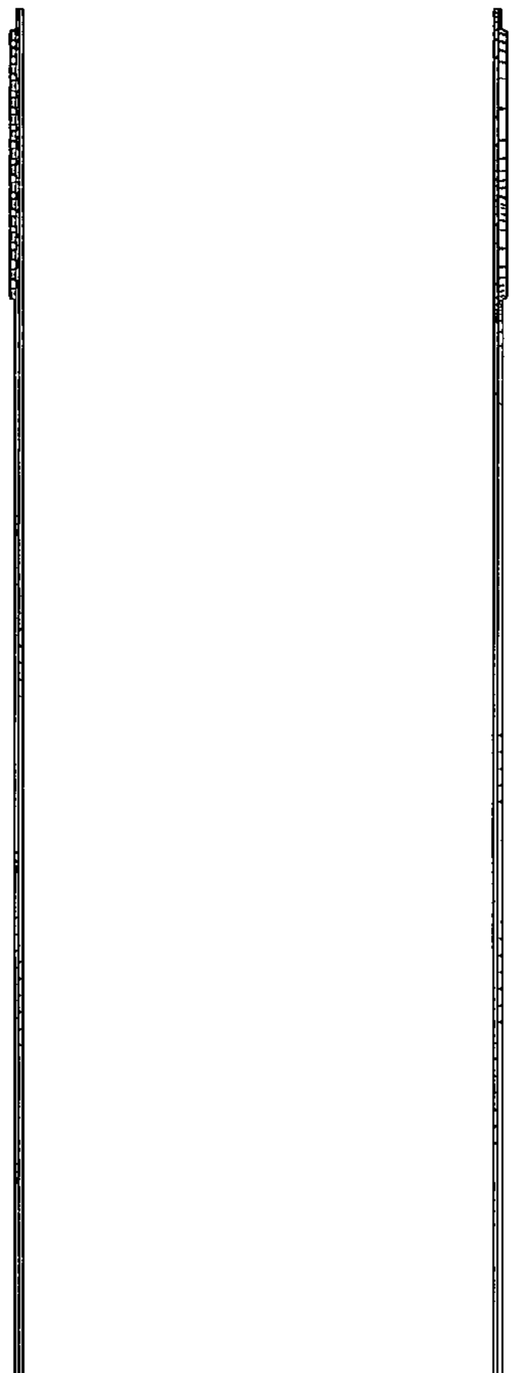


FIG. 4

FIG. 5

FIG. 6

FIG. 7

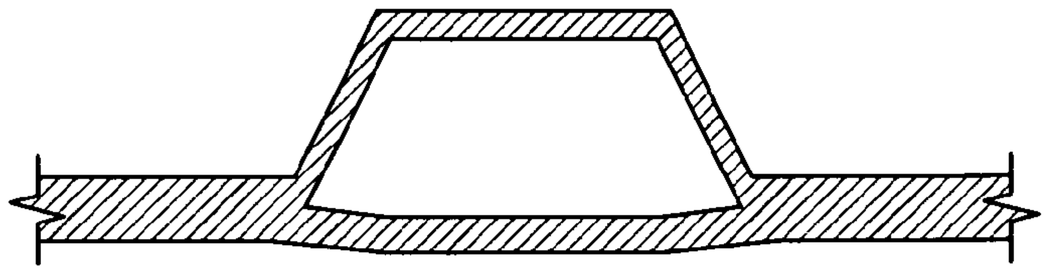


FIG. 8

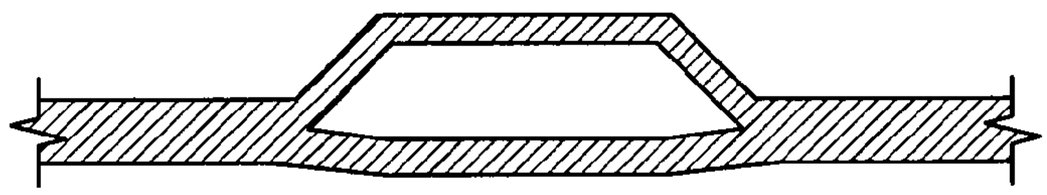


FIG. 9

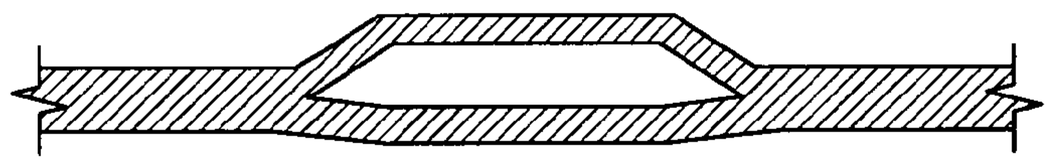


FIG. 10

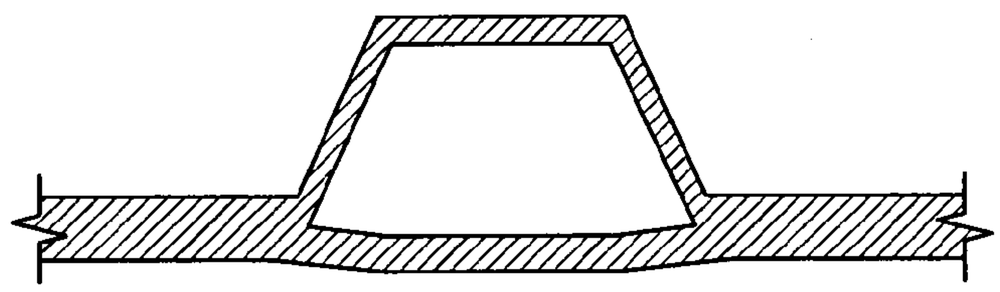


FIG.11

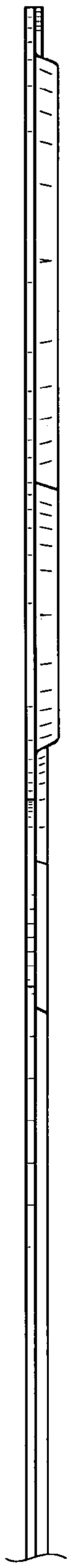


FIG. 12

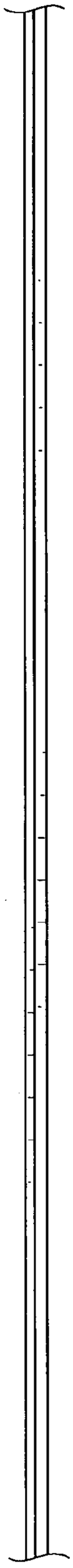


FIG. 13

FIG. 14

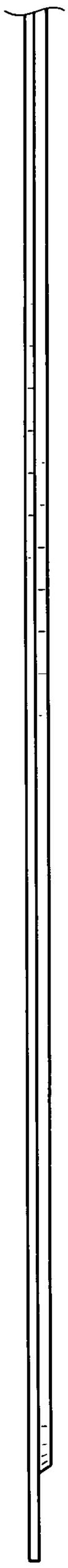


FIG. 15

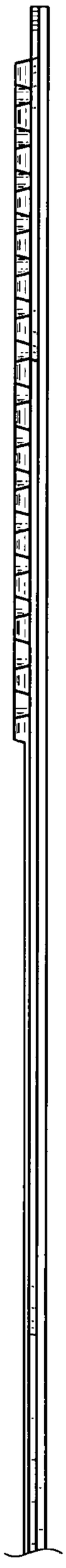


FIG. 16

FIG. 17

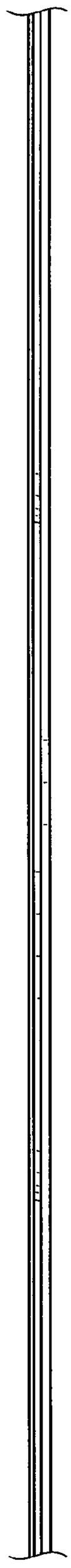


FIG. 18

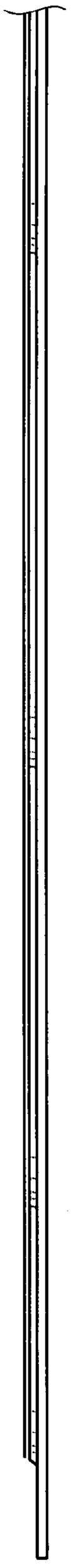


FIG. 19

FIG. 20

FIG. 21

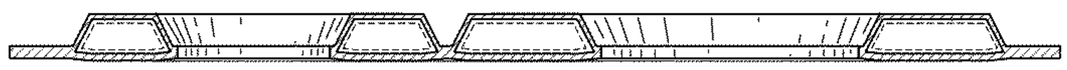


FIG. 22