



US00D673675S

(12) **United States Design Patent**
Wong

(10) **Patent No.:** **US D673,675 S**
(45) **Date of Patent:** **** Jan. 1, 2013**

(54) **SYRINGE PLUNGER ROD**

(75) Inventor: **Andrew Wong**, Philadelphia, PA (US)

(73) Assignee: **Becton, Dickinson and Company**,
Franklin Lakes, NJ (US)

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

(21) Appl. No.: **29/405,694**

(22) Filed: **Nov. 4, 2011**

(51) **LOC (9) Cl.** **24-02**

(52) **U.S. Cl.** **D24/130**

(58) **Field of Classification Search** D24/112,
D24/127, 130; 604/218, 232, 224, 228, 110,
604/195; 222/390

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,543,093	A *	9/1985	Christinger	604/228
5,075,057	A	12/1991	Hoedl		
5,129,884	A	7/1992	Dysarz		
5,226,897	A	7/1993	Nevens		
5,271,500	A	12/1993	Szacon		
5,277,869	A	1/1994	Glazer et al.		
5,328,484	A	7/1994	Somers et al.		
5,350,562	A	9/1994	Anthony		
5,395,681	A	3/1995	Hargarter et al.		
5,427,737	A	6/1995	Glazer et al.		
5,462,794	A	10/1995	Lindemann et al.		
5,508,004	A	4/1996	Held et al.		
5,520,642	A	5/1996	Bigagli et al.		
5,557,905	A	9/1996	Harding		
5,558,280	A	9/1996	Morgan		
5,582,793	A	12/1996	Glazer et al.		
5,686,527	A	11/1997	Laurin et al.		

(Continued)

FOREIGN PATENT DOCUMENTS

DE 4319989 12/1994
(Continued)

OTHER PUBLICATIONS

Zhao, Ruixiang et al., "Emerging Biodegradable Materials: starch- and protein-based bio-nanocomposites", *J Mater Sci* (2008) 43:3058-3071 Mar. 15, 2008, 14 pgs.

Primary Examiner — Eric Goodman

(74) *Attorney, Agent, or Firm* — Diehl Servilla LLC

(57) **CLAIM**

The ornamental designs for a syringe plunger rod, substantially as shown and described.

DESCRIPTION

FIG. 1 is a top right rear perspective view of a syringe plunger rod;

FIG. 2 is a right view of a syringe plunger rod;

FIG. 3 is a left view of a syringe plunger rod;

FIG. 4 is a top view of a syringe plunger rod;

FIG. 5 is a bottom view of a syringe plunger rod;

FIG. 6 is a back view of a syringe plunger rod;

FIG. 7 is a front view of a syringe plunger rod;

FIG. 8 is a top right rear perspective view of a second embodiment of a syringe plunger rod;

FIG. 9 is a right view of FIG. 8;

FIG. 10 is a left view of FIG. 8;

FIG. 11 is a top view of FIG. 8;

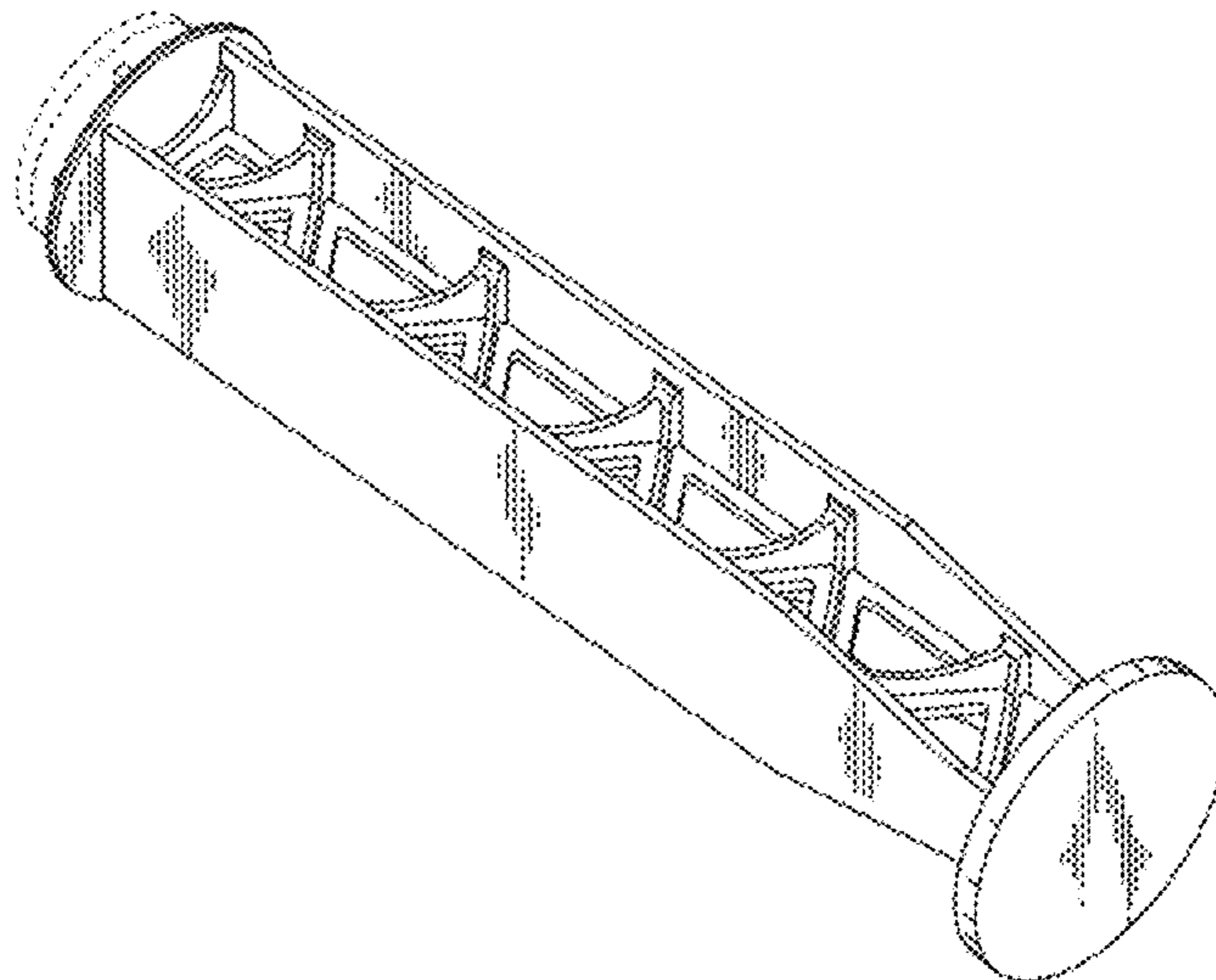
FIG. 12 is a bottom view of FIG. 8;

FIG. 13 is a back view of FIG. 8; and,

FIG. 14 is a front view of FIG. 8.

The broken line showing in FIGS. 1-7 is for the purpose of illustrating portions of the article and form no part of the claimed design.

1 Claim, 8 Drawing Sheets



US D673,675 S

U.S. PATENT DOCUMENTS			2006/0052748 A1*			3/2006 Coelho et al. 604/110		
5,693,026	A	12/1997 Spinello	2006/0161106	A1	7/2006 Wu			
5,693,278	A	12/1997 Clements	2007/0016145	A1	1/2007 Berler			
5,785,260	A	7/1998 Morgan	2007/0068832	A1	3/2007 Anderson et al.			
5,824,745	A	10/1998 Brown	2007/0068834	A1	3/2007 Smudde et al.			
5,830,396	A	11/1998 Higgins et al.	2007/0069490	A1	3/2007 Japuntich et al.			
D403,762	S *	1/1999 Gabbard et al. D24/113	2007/0078402	A1	4/2007 Yang			
D412,206	S	7/1999 Basile et al.	2007/0299307	A1	12/2007 Lew et al.			
5,998,019	A	12/1999 Rosenbaum et al.	2008/0058736	A1	3/2008 Reshamwala			
6,004,297	A	12/1999 Steinfeldt-Jensen et al.	2008/0065027	A1	3/2008 Sharp			
6,030,367	A *	2/2000 Balestracci 604/218	2008/0067093	A1	3/2008 Japuntich et al.			
6,053,314	A	4/2000 Pittman	2008/0067094	A1	3/2008 Japuntich et al.			
D427,676	S *	7/2000 Balestracci D24/114	2008/0067100	A1	3/2008 Japuntich et al.			
D432,231	S *	10/2000 Balestracci D24/114	2008/0073231	A1	3/2008 Clayton et al.			
D437,050	S *	1/2001 Balestracci D24/114	2008/0073232	A1	3/2008 Reshamwala et al.			
6,168,862	B1	1/2001 Rosenbaum et al.	2008/0073251	A1	3/2008 Reshamwala et al.			
6,242,525	B1	6/2001 Raetzsch	2008/0076879	A1	3/2008 Resemdes et al.			
6,261,655	B1	7/2001 Rosenbaum et al.	2008/0140032	A1	6/2008 O'Malley			
6,293,856	B1	9/2001 Hertz et al.	2008/0183140	A1	7/2008 Paproski et al.			
6,297,322	B1	10/2001 Ding et al.	2008/0300550	A1*	12/2008 Schiller et al. 604/220			
6,348,272	B1	2/2002 Haveaux	2009/0032423	A1	2/2009 Japuntich			
6,391,008	B1	5/2002 Tsai	2009/0048560	A1	2/2009 Caizza et al.			
6,402,721	B1	6/2002 Lo	2009/0068412	A1	3/2009 Nahmias et al.			
6,416,323	B1	7/2002 Grenfell et al.	2009/0076450	A1	3/2009 Caizza et al.			
6,478,780	B1	11/2002 Shields	2009/0120821	A1	5/2009 Japuntich et al.			
6,494,866	B1 *	12/2002 Robinson 604/228	2009/0131869	A1	5/2009 Caizza et al.			
6,500,129	B1	12/2002 Mahurkar	2009/0145901	A1	6/2009 Finnestad et al.			
6,712,207	B2	3/2004 Panek, Jr. et al.	2009/0230008	A1	9/2009 Miller et al.			
6,764,465	B2	7/2004 Chen	2010/0030159	A1	2/2010 Li			
6,792,662	B2	9/2004 Samuel	2010/0041937	A1	2/2010 Gonzelez			
6,808,820	B2	10/2004 Lee et al.	2010/0062921	A1	3/2010 Veiseh			
6,878,131	B2	4/2005 Novacek et al.	2010/0155400	A1	6/2010 Finnestad et al.			
6,881,493	B2	4/2005 Haveaux et al.	2010/0282623	A1	11/2010 Reshamwala			
6,881,790	B1	4/2005 Laurin	2011/0068036	A1	3/2011 Ji et al.			
6,997,904	B2	2/2006 Sculati	2011/0071230	A1	3/2011 Ji			
7,191,777	B2	3/2007 Brand et al.	2011/0092903	A1*	4/2011 Caizza et al. 604/110			
7,226,956	B2	6/2007 Wilkes et al.						
7,243,792	B2	7/2007 Panek, Jr. et al.						
7,531,226	B2	5/2009 Lee et al.						
7,592,408	B2	9/2009 Wilson, Jr. et al.						
7,596,844	B2	10/2009 Japuntich et al.						
7,600,639	B2	10/2009 Japuntich et al.						
7,877,849	B2	2/2011 Panek, Jr. et al.						
D638,122	S *	5/2011 Kosinski et al. D24/130						
D638,123	S *	5/2011 Kosinski et al. D24/130						
D638,538	S *	5/2011 Kosinski et al. D24/130						
2001/0056259	A1	12/2001 Skinkle et al.						
2003/0038046	A1	2/2003 Panek, Jr. et al.						
2003/0040701	A1	2/2003 Dalmoose						
2003/0213714	A1	11/2003 Moats et al.						
2004/0099555	A1	5/2004 Panek, Jr. et al.						
2004/0235970	A1	11/2004 Smith et al.						
2005/0121343	A1	6/2005 Miller et al.						
2005/0192534	A1	9/2005 Wolbring et al.						
2005/0218142	A1	10/2005 Finnestad et al.						
2005/0228682	A1	10/2005 Firestone						

FOREIGN PATENT DOCUMENTS

DE	19726105	12/1998
EP	0665327	8/1995
EP	1702637	9/2006
EP	2000164	12/2008
JP	2002059082	2/2002
JP	2009286106	12/2009
WO	WO-91/01396	2/1991
WO	WO-00/54885	9/2000
WO	WO-01/34230	5/2001
WO	WO-2006/097105	9/2006
WO	WO-2008/018921	2/2008
WO	WO-2008018920	2/2008
WO	WO-2008/039438	4/2008
WO	WO-2008/106759	9/2008
WO	WO-2011/035119	3/2011

* cited by examiner

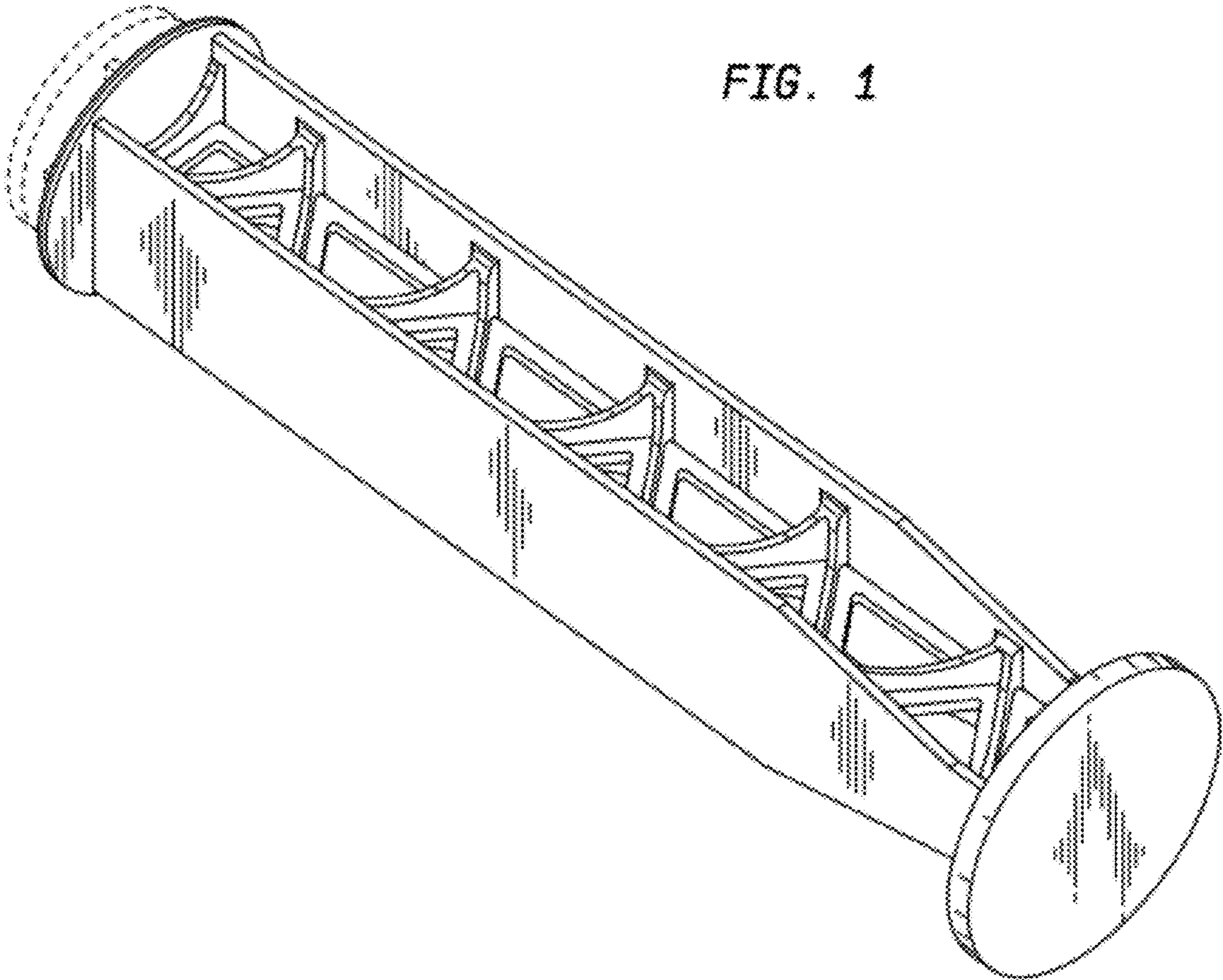


FIG. 1

FIG. 2

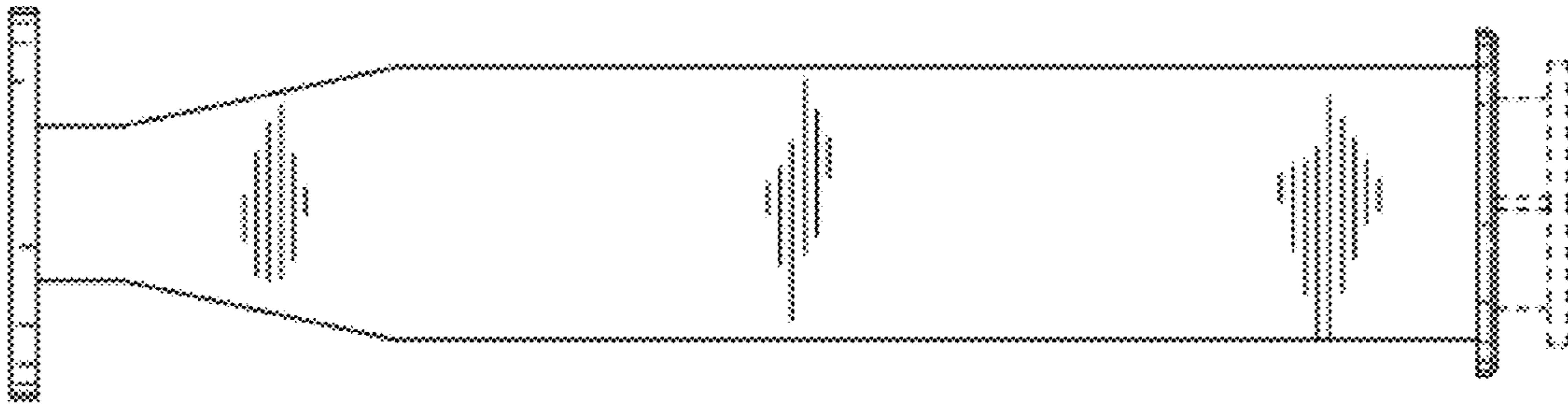


FIG. 3

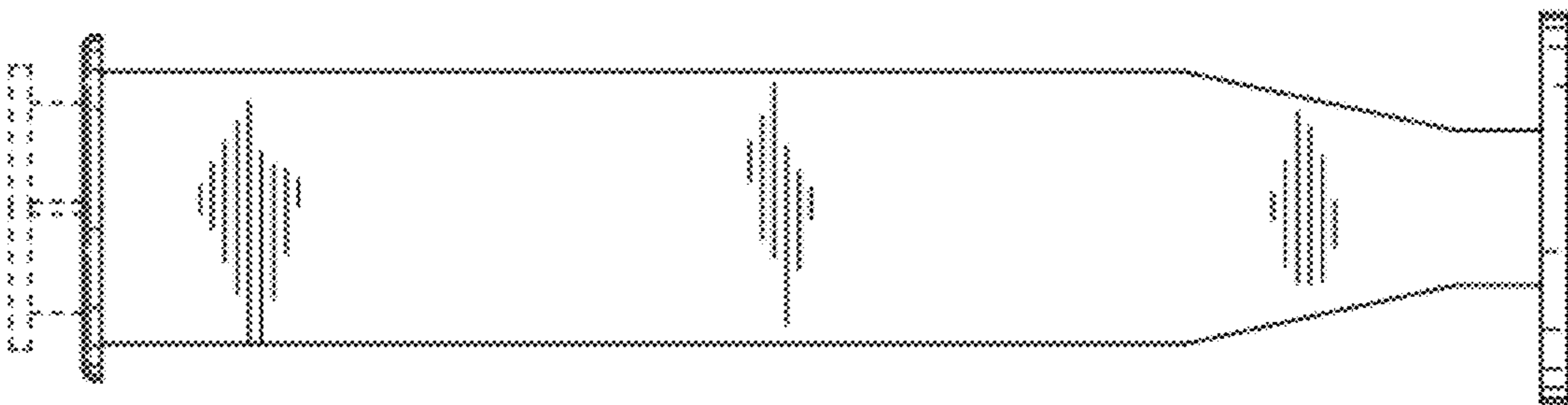


FIG. 4

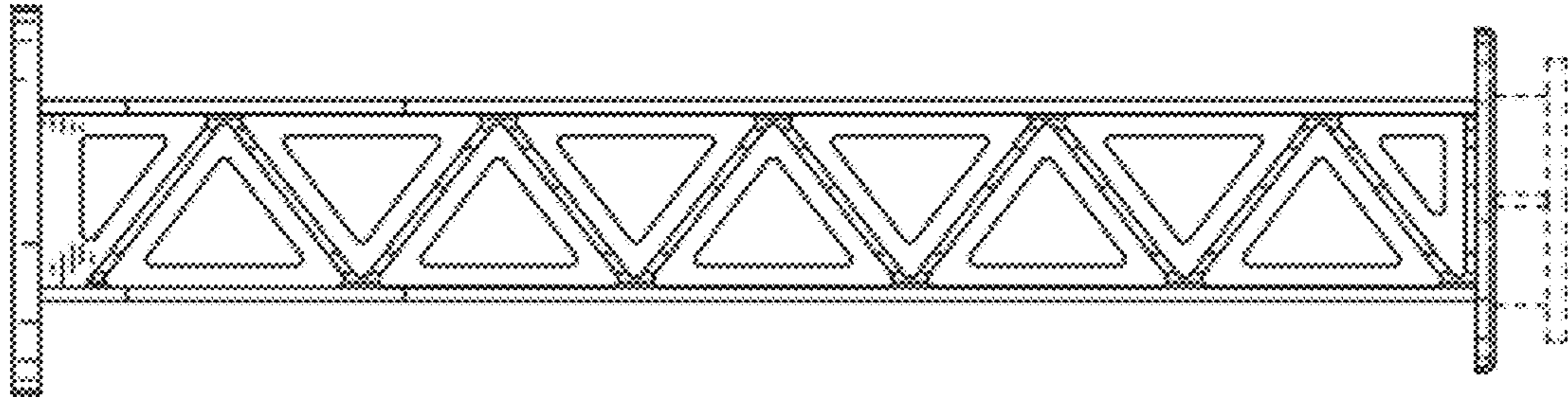


FIG. 5

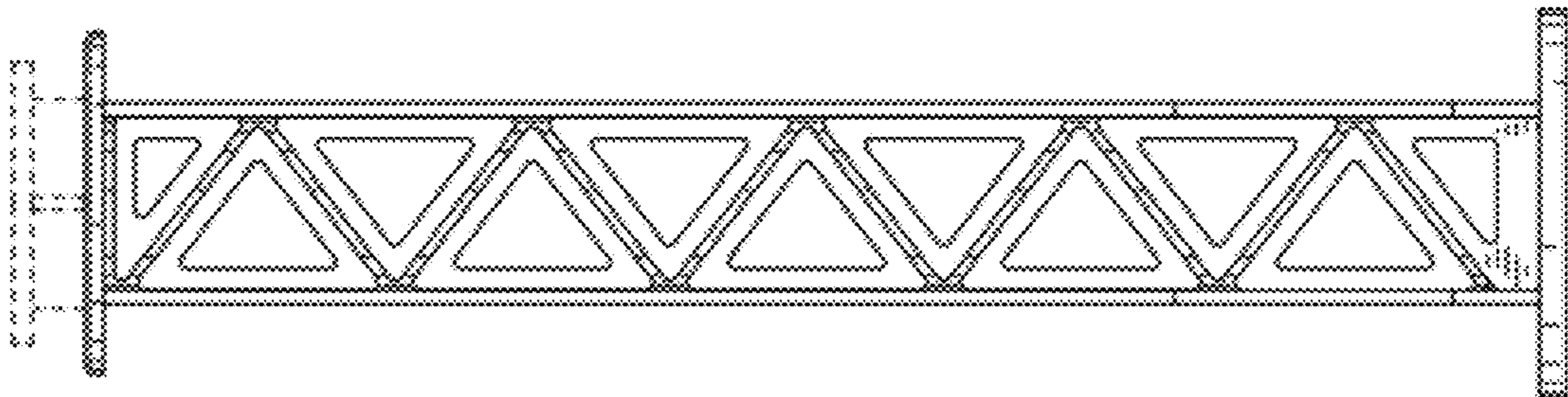


FIG. 6

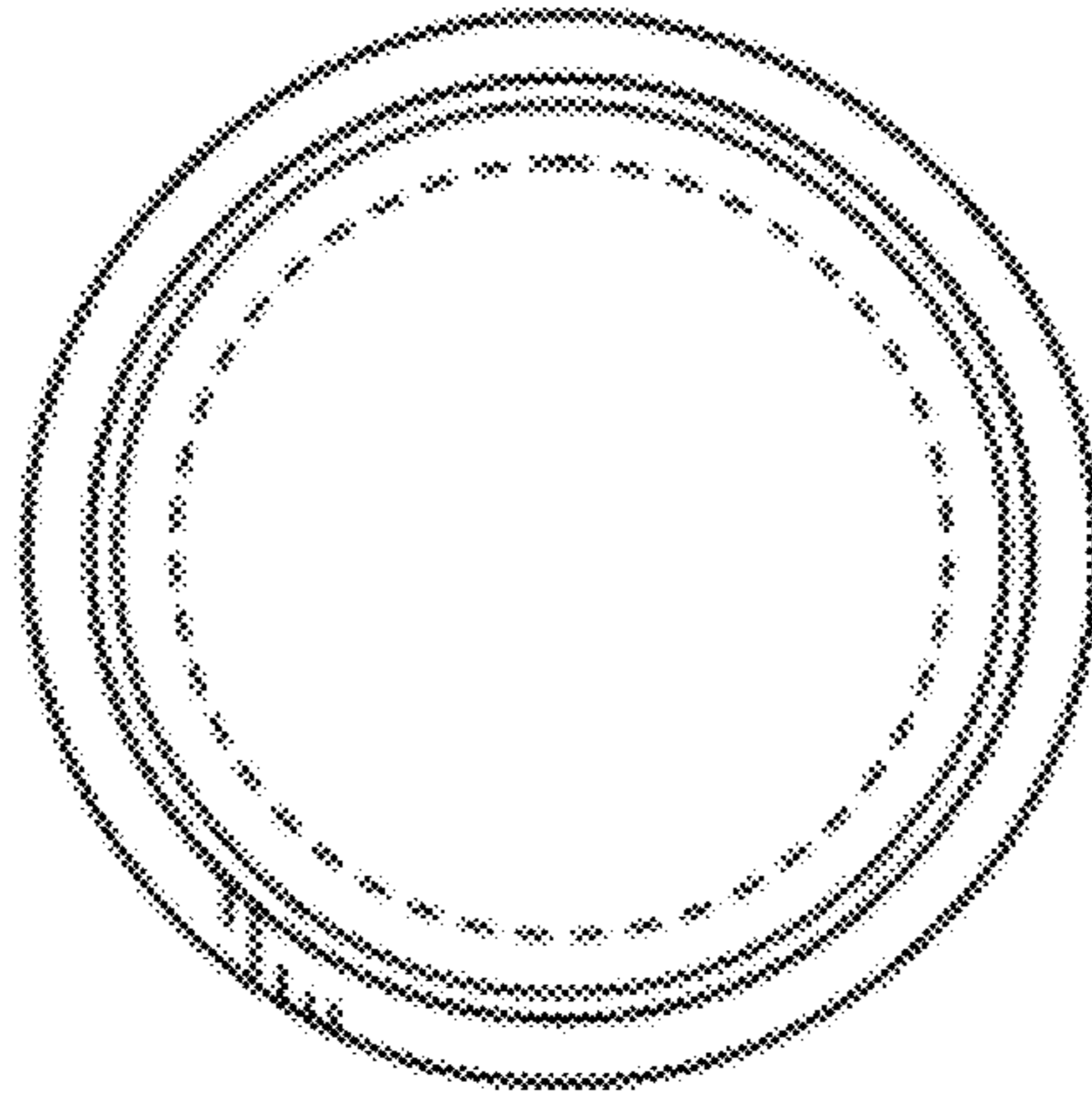
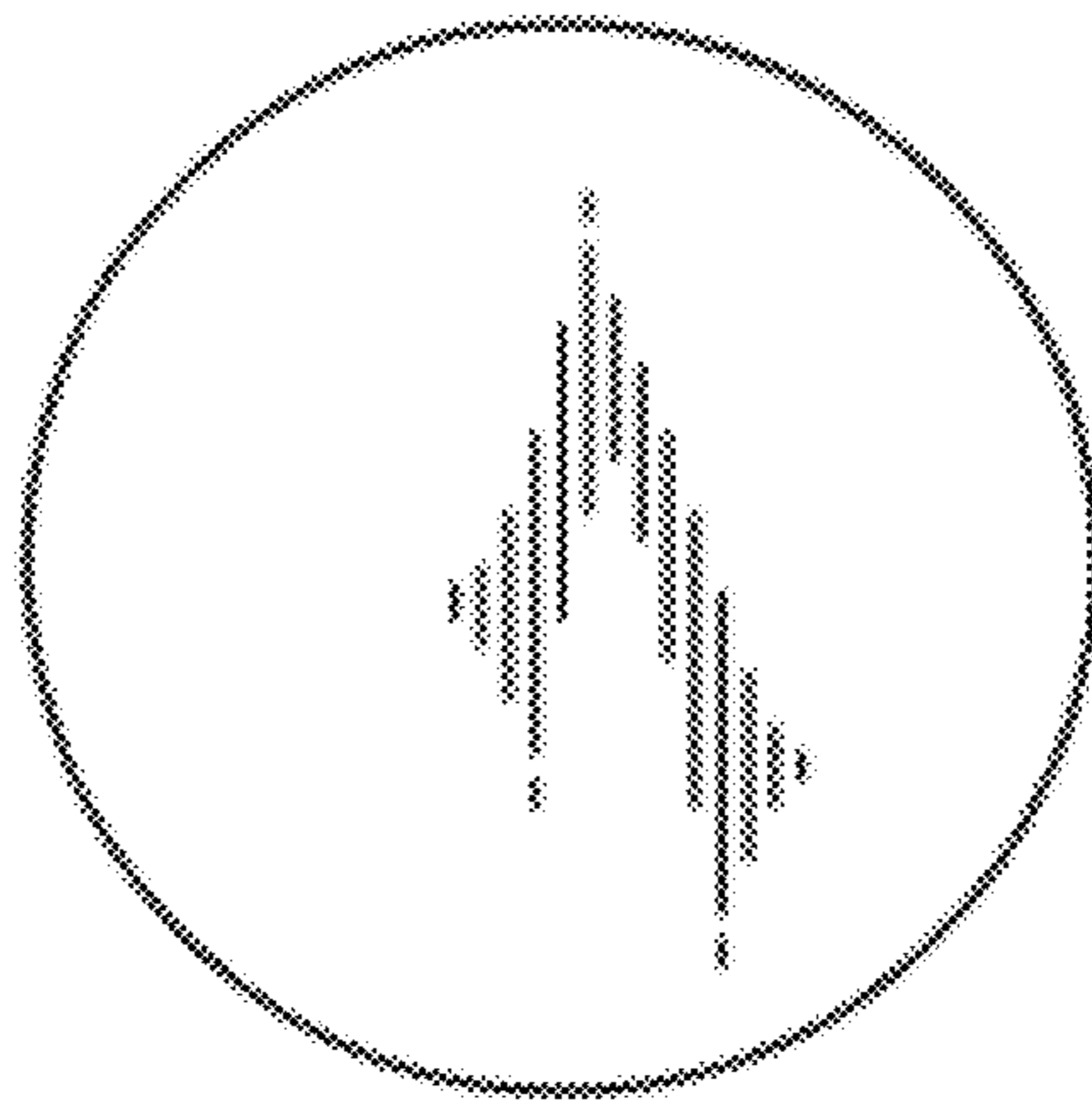


FIG. 7



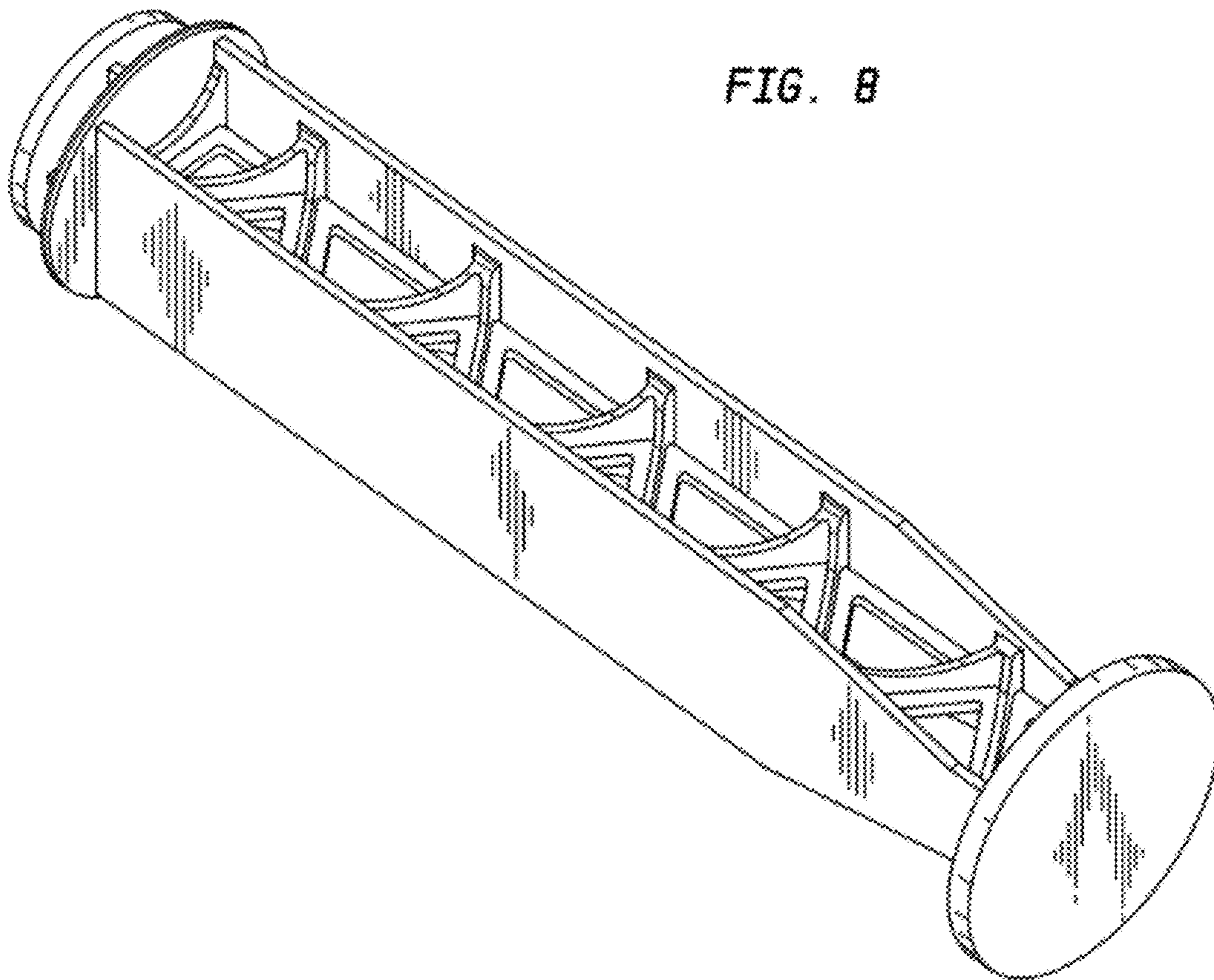


FIG. 8

FIG. 9

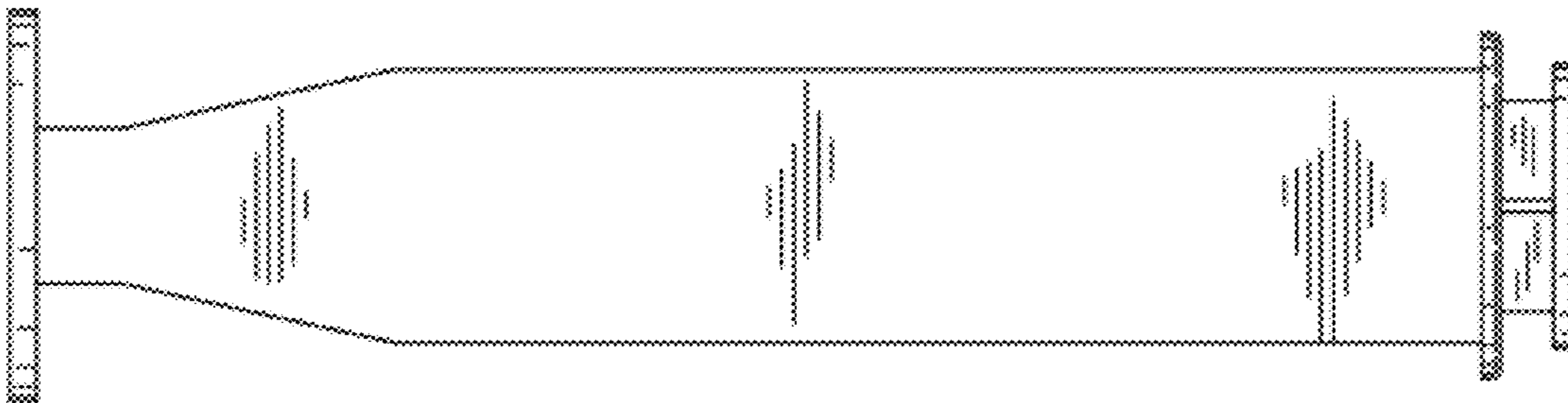


FIG. 10

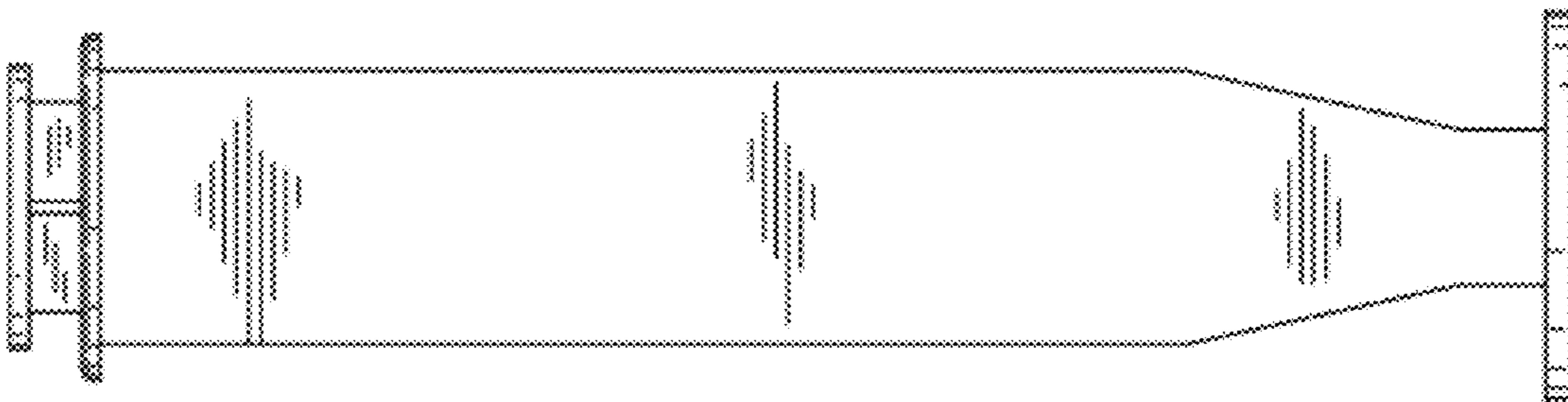


FIG. 11

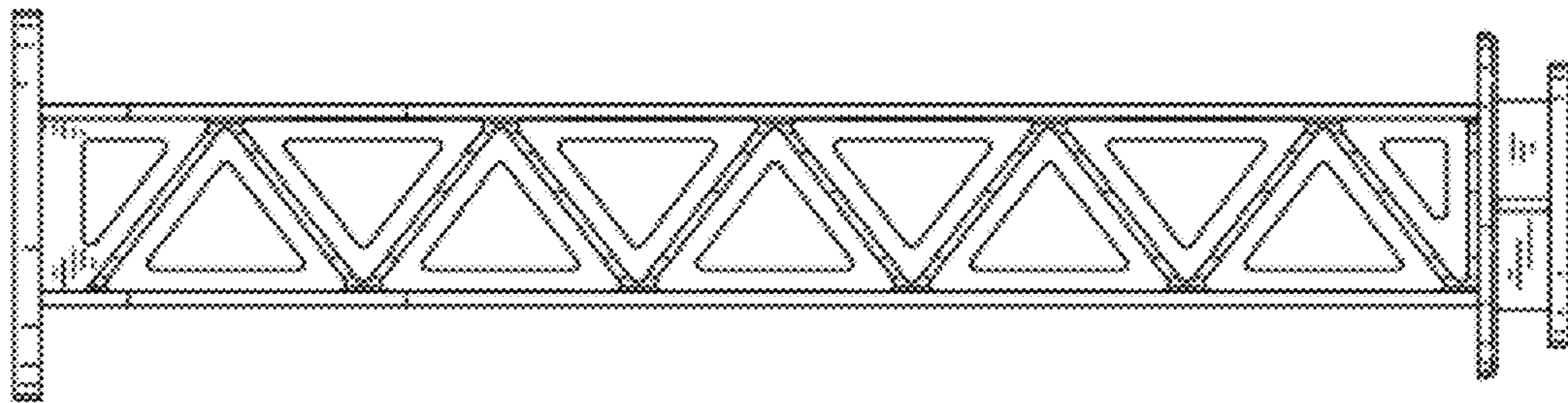


FIG. 12

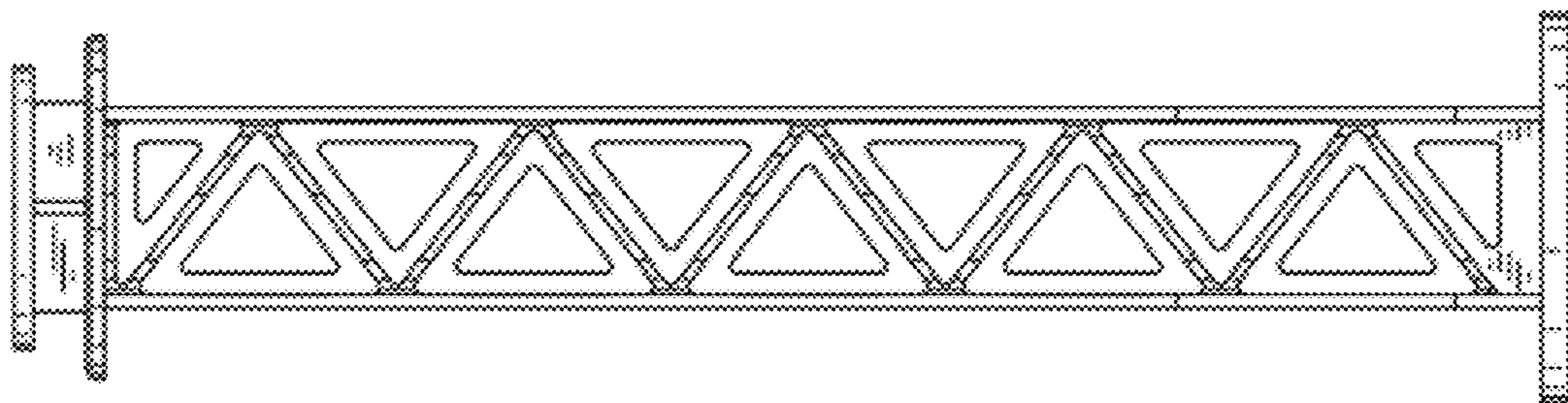


FIG. 13

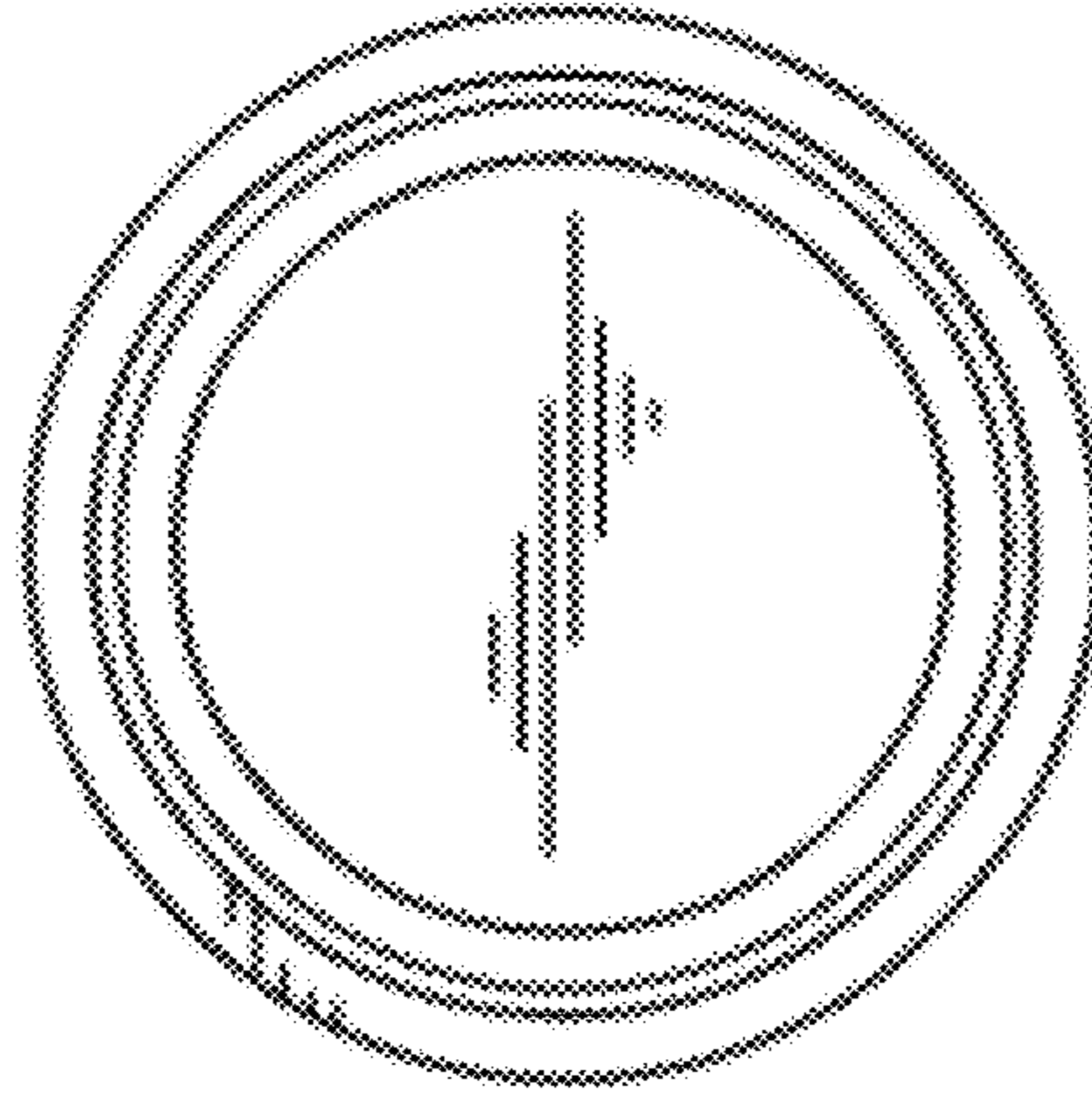


FIG. 14

