



US00D732095S

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

(10) **Patent No.:** **US D732,095 S**  
(45) **Date of Patent:** **\*\* Jun. 16, 2015**

(54) **PARTICLE CLASSIFIER**

(76) Inventor: **Richard L Enfantino**, San Jose, CA  
(US)

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

(21) Appl. No.: **29/416,408**

(22) Filed: **Mar. 21, 2012**

(51) **LOC (10) Cl.** ..... **15-09**

(52) **U.S. Cl.**  
USPC ..... **D15/147**  
CPC **B07B 13/10** (2013.01); **B07B 13/02** (2013.01)

(58) **Field of Classification Search**

USPC ..... 209/274, 684–687, 689–692, 3, 18, 44,  
209/458; D4/130; D15/127, 147; D32/50  
CPC ..... A46B 1/00; A46B 3/005; A46B 9/00;  
A46B 9/06; A46B 15/00; A45B 5/0095;  
A46D 1/00; A46D 3/00; B01D 33/00; B01D  
33/06; B01D 35/00; B01F 11/0088; B23D  
29/02; B26B 1/00; B26B 13/00; B26B  
2029/00; B29C 45/00; B26D 3/169; B65B  
65/00; B65B 65/4881; G03G 15/08; G03G  
15/0839; H02G 1/00; H02G 1/005; Y10S  
234/00; Y10S 81/00; Y10S 83/00

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D225,128	S	*	11/1972	Gregor	.....	D34/29
4,290,527	A	*	9/1981	Wright	.....	209/458
4,312,749	A	*	1/1982	Bingham	.....	209/44
4,319,985	A	*	3/1982	Hibbard	.....	209/3
4,375,491	A	*	3/1983	Honig	.....	428/167
D268,588	S	*	4/1983	Cubbison et al.	.....	D15/147
D268,842	S	*	5/1983	Gordon, Jr.	.....	D15/147
4,400,269	A	*	8/1983	Gordon, Jr.	.....	209/447
D271,697	S	*	12/1983	Weir	.....	D15/147
4,592,833	A	*	6/1986	Perdue	.....	209/44
D302,018	S	*	7/1989	Messenger et al.	.....	D15/147
D377,182	S	*	1/1997	Simpson	.....	D15/147
6,708,911	B2	*	3/2004	Patterson et al.	.....	241/101.762

7,156,333	B2	*	1/2007	Lepage et al.	.....	241/101.763
8,763,812	B2	*	7/2014	Enfantino	.....	209/18
2013/0001138	A1	*	1/2013	Enfantino	.....	209/273

**OTHER PUBLICATIONS**

Tub Grinders Bale Processors (3 records) [online]. Big Iron, 2013 [retrieved on Apr. 7, 2014]. Retrieved from the Internet: <URL: www.3com.com/products/dsheets/400347.html>.\*

\* cited by examiner

*Primary Examiner* — Deanna L Pratt

(57) **CLAIM**

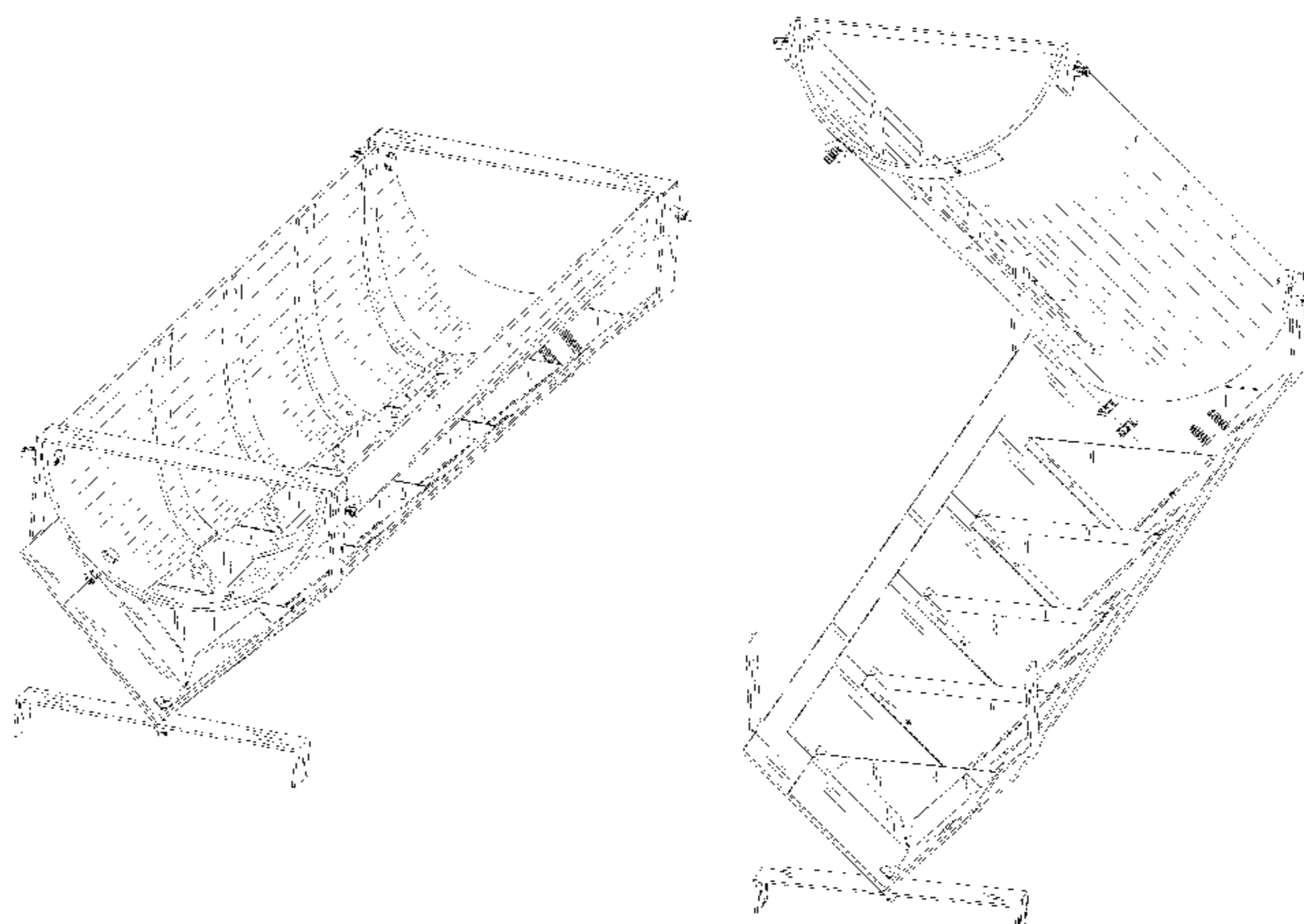
The ornamental design for a particle classifier, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a particle classifier;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a top view thereof;  
FIG. 5 is a bottom view thereof;  
FIG. 6 is a left view thereof;  
FIG. 7 is a right view thereof;  
FIG. 8 is a perspective view of a particle classifier in open position;  
FIG. 9 is a front view thereof;  
FIG. 10 is a rear view thereof;  
FIG. 11 is a top view thereof;  
FIG. 12 is a bottom view thereof;  
FIG. 13 is a right view thereof;  
FIG. 14 is a left view thereof; and,  
FIG. 15 is an exploded view of a particle classifier.

The claimed particle classifier is utilized to separate precious metals from alluviums in placer mining. The plurality of curved bars functions as riffles to entrap heavy precious metals and conduct the said heavy precious metals into the slit and consequently into the plurality of small troughs located beneath the slit. The claimed particle classifier is operated along with a flow of stream water, which deposits particles and sediment into the slit and the plurality of small troughs. The claimed particle classifier may be operated along with a flow of water from any source other than streams.

**1 Claim, 15 Drawing Sheets**



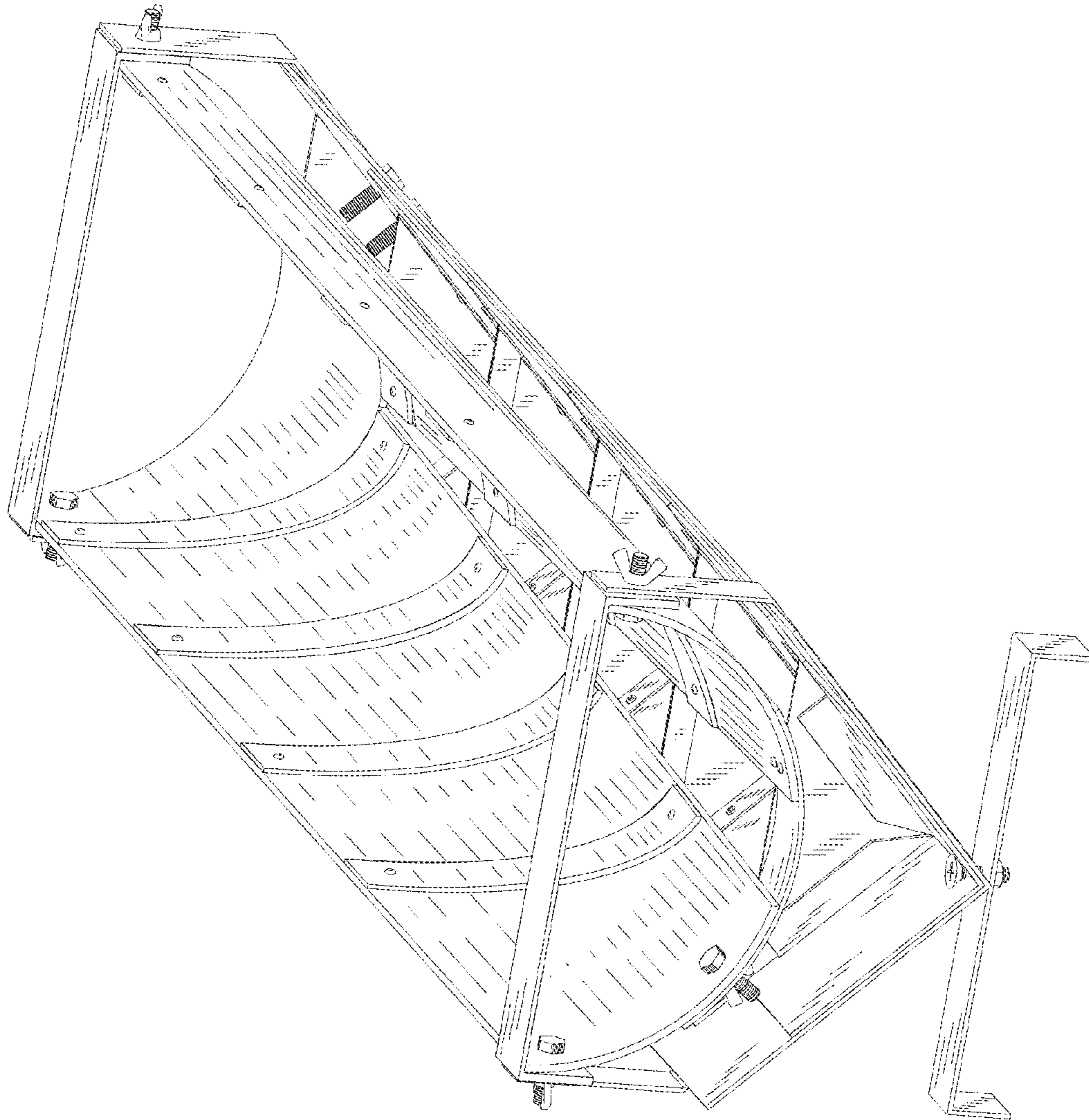


FIG. 1

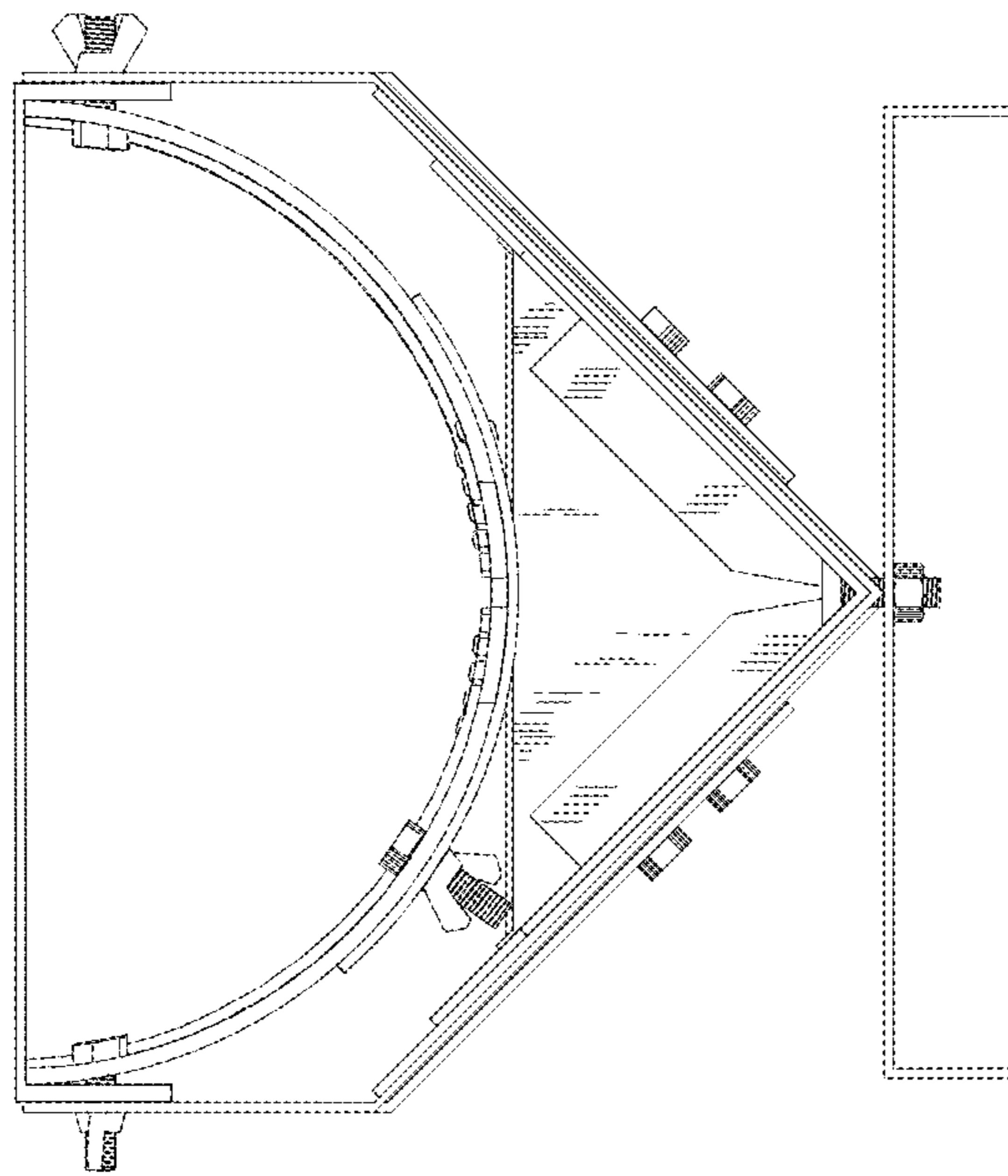


FIG. 2

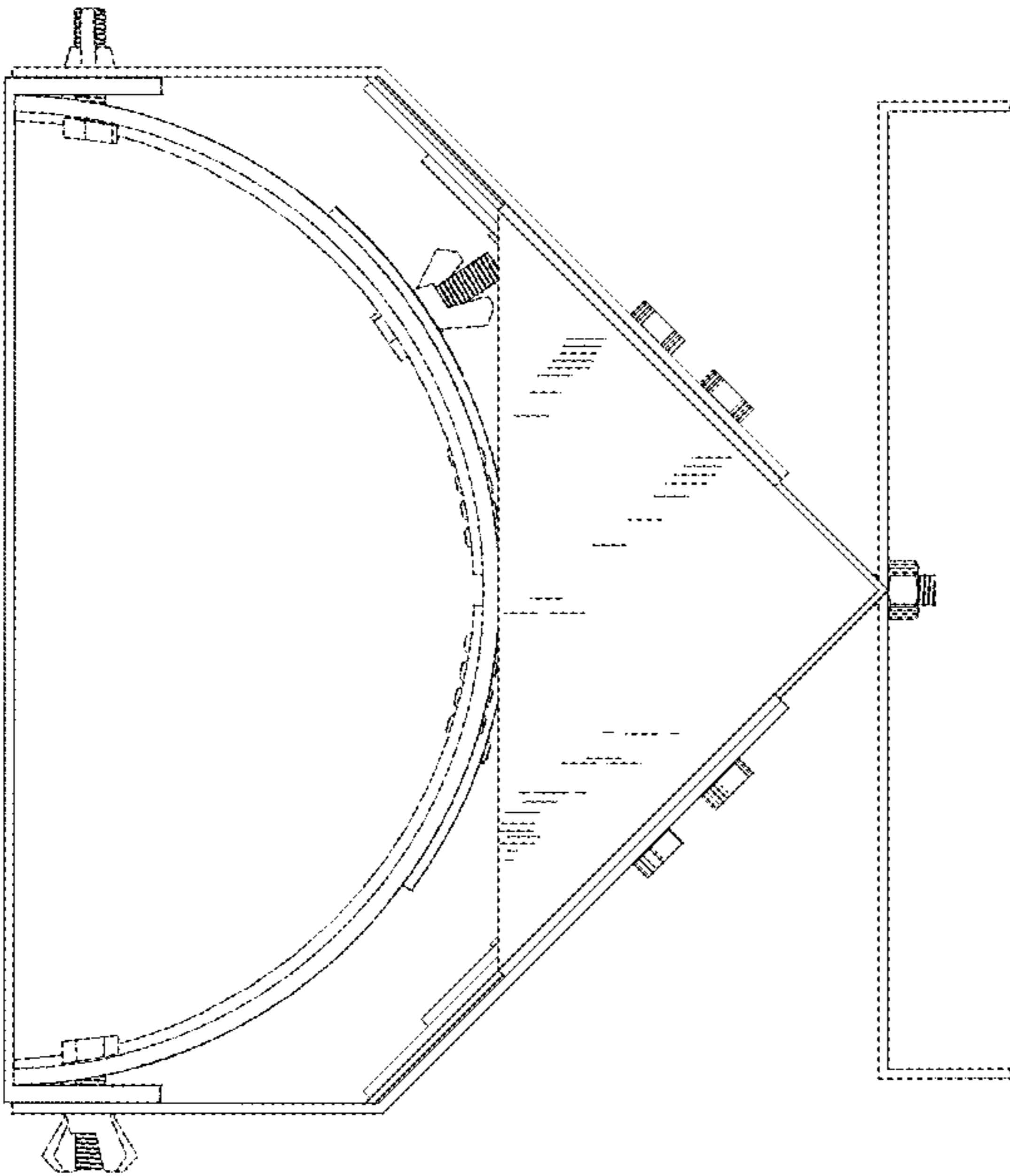


FIG. 3

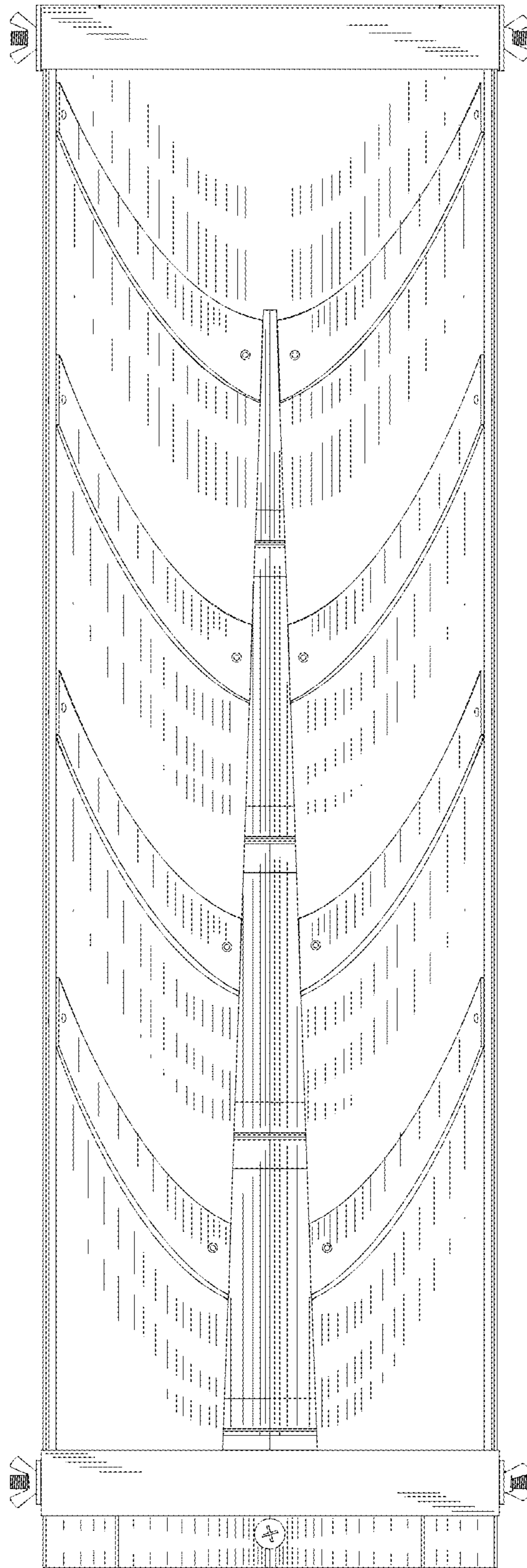


FIG. 4

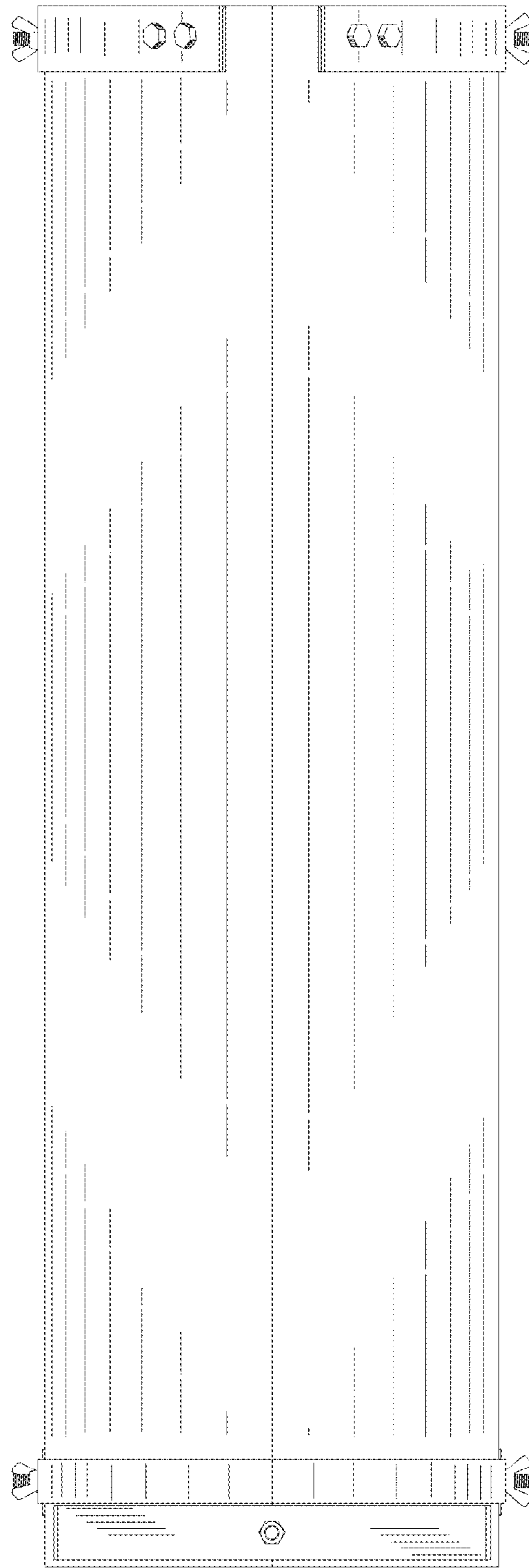


FIG. 5



FIG. 6

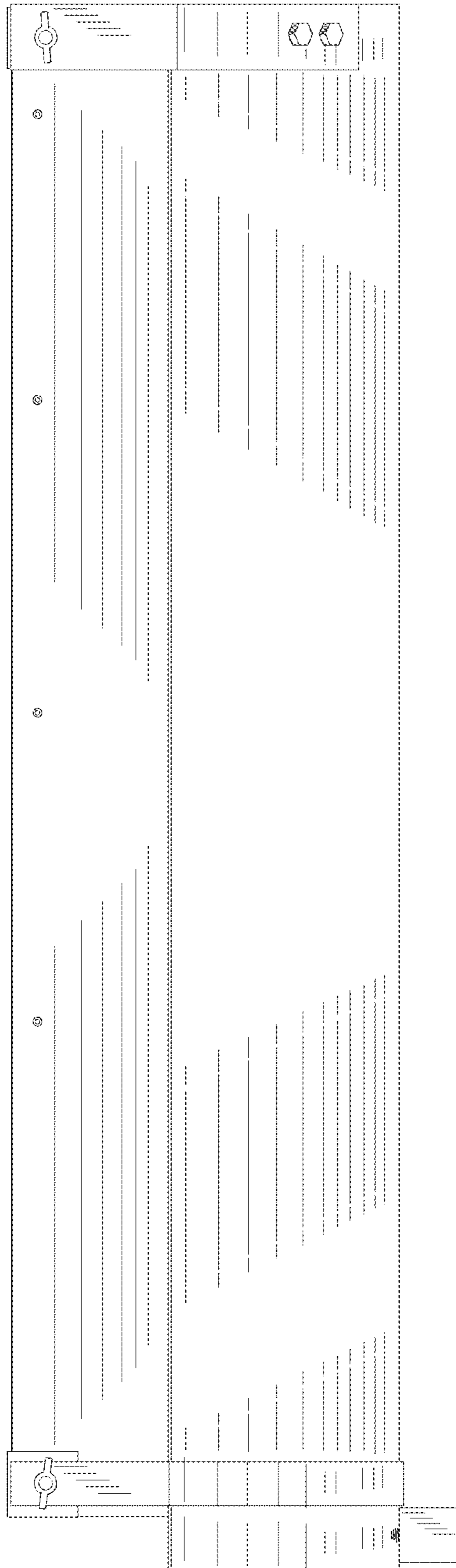


FIG. 7



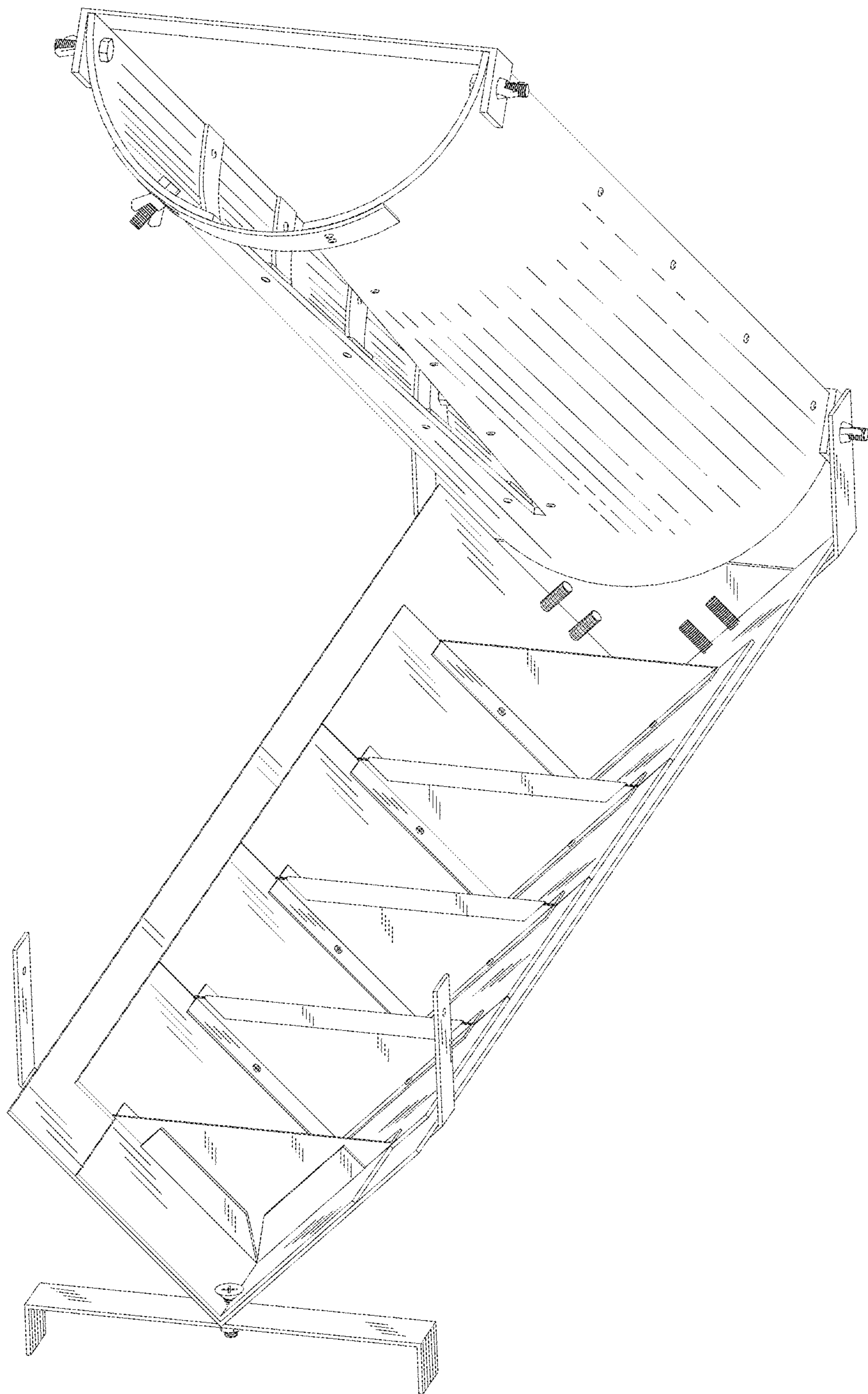


FIG. 8

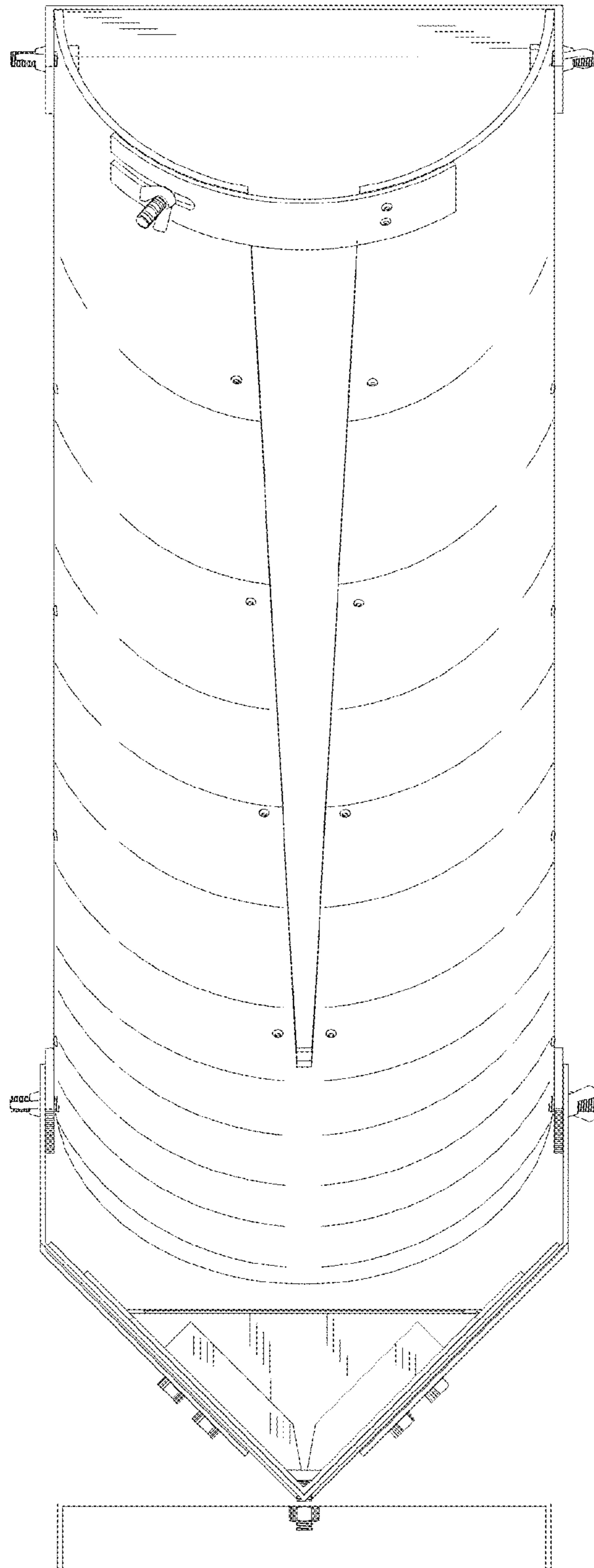


FIG. 9

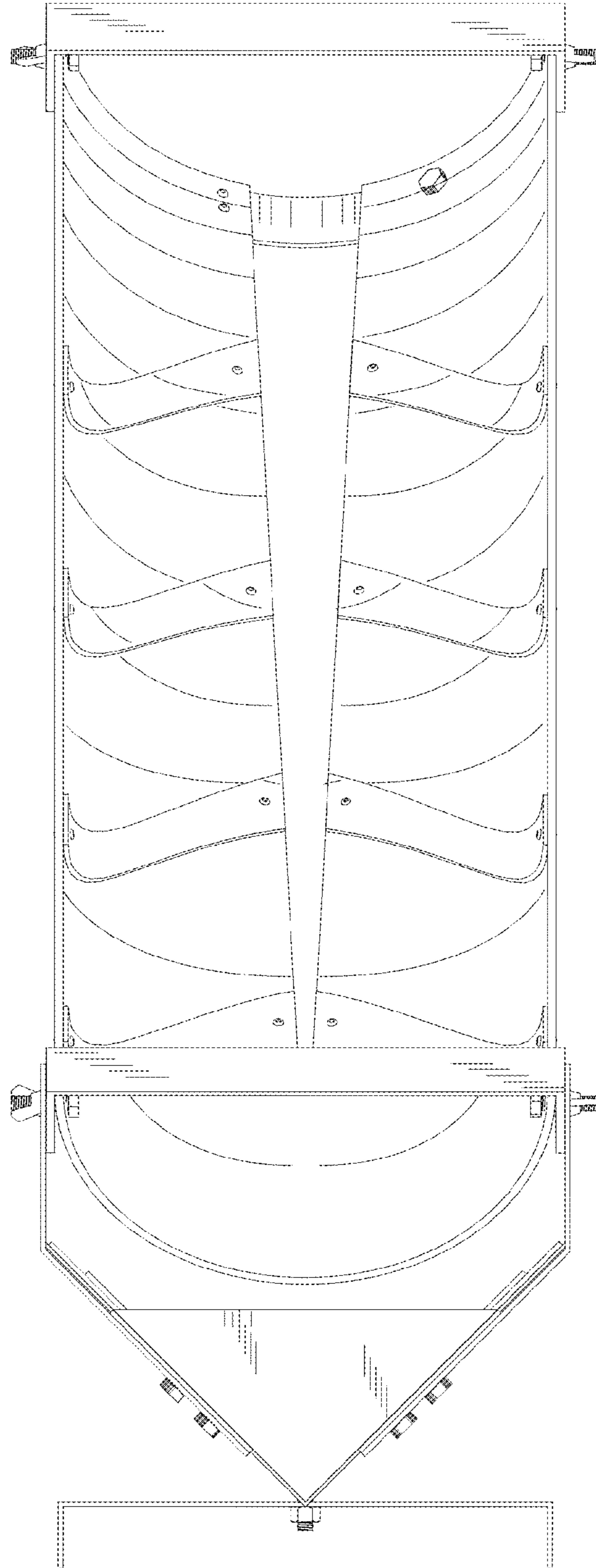


FIG. 10

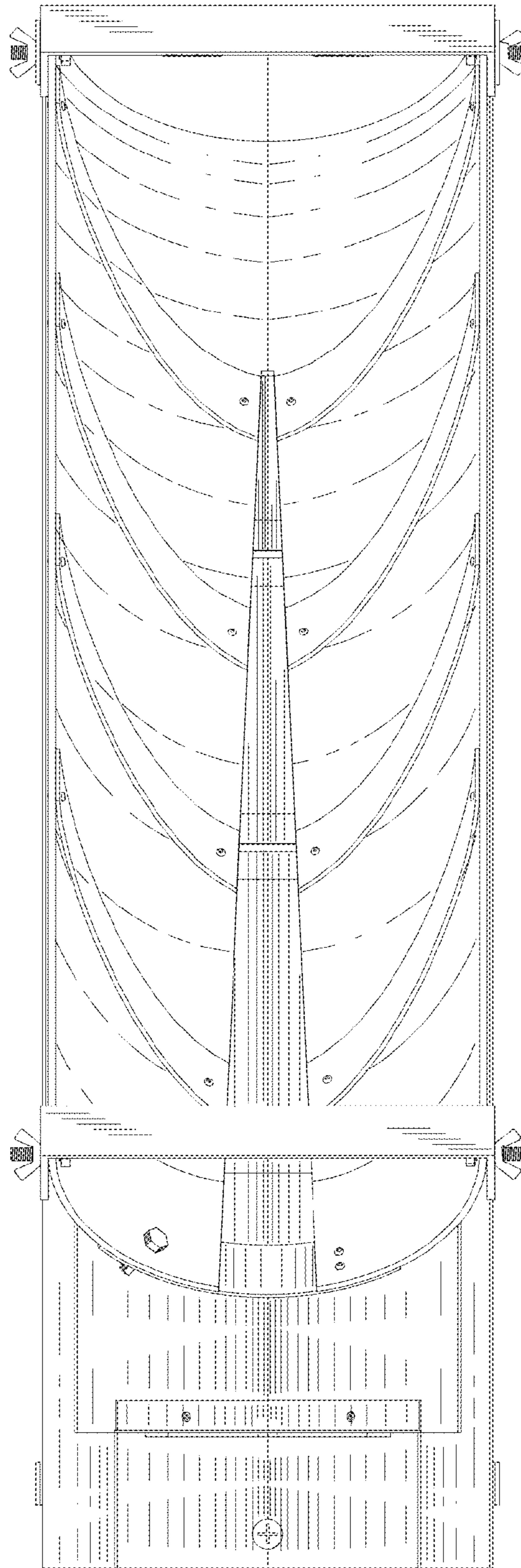


FIG. 11

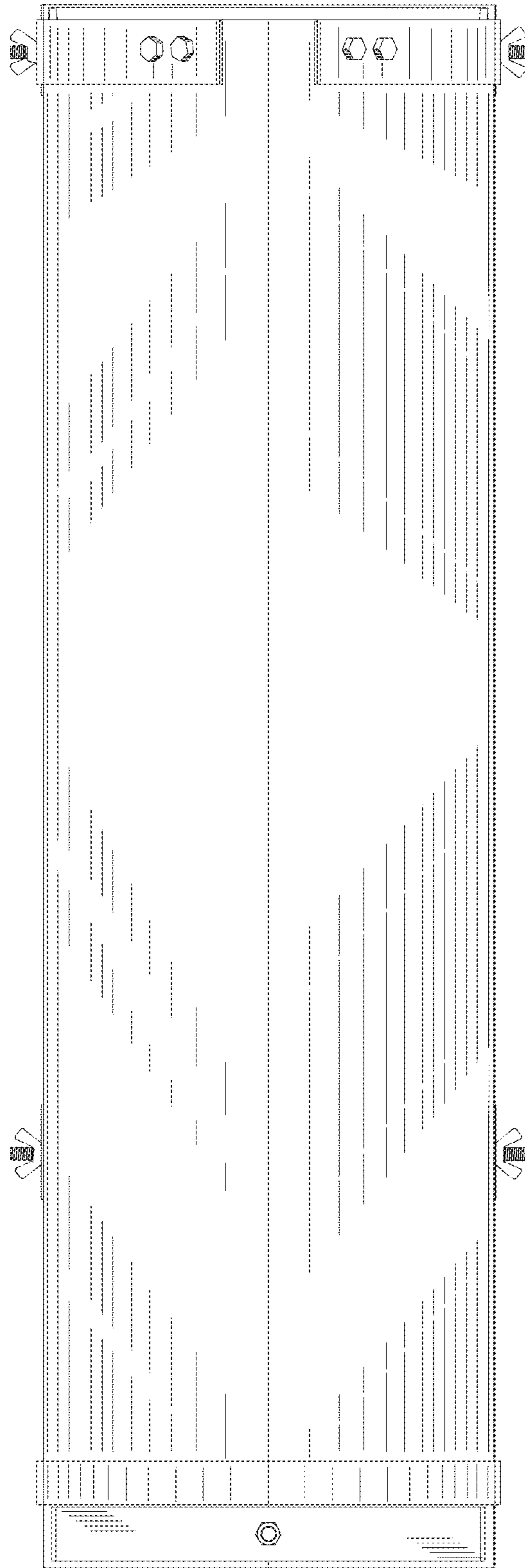


FIG. 12

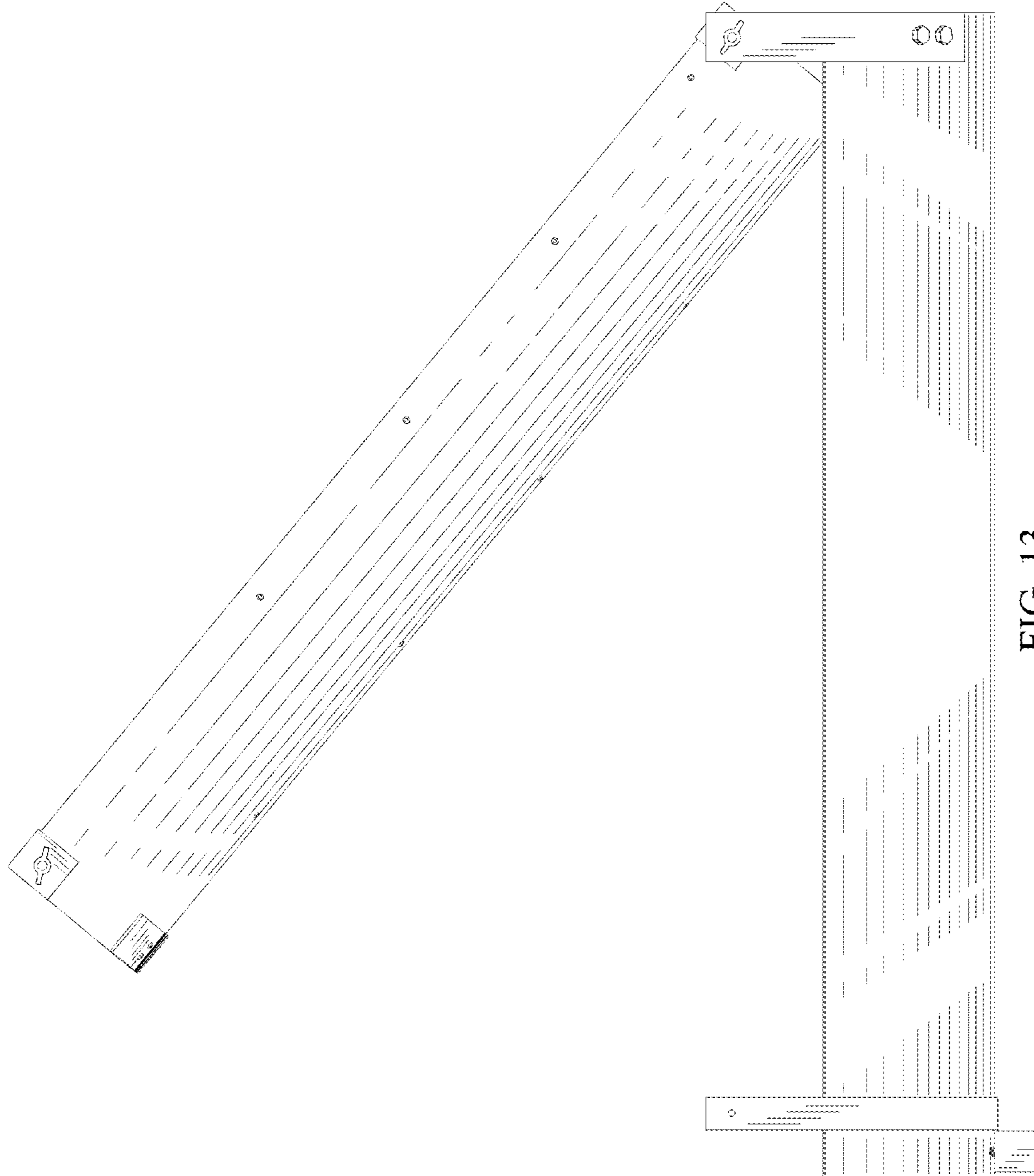


FIG. 13

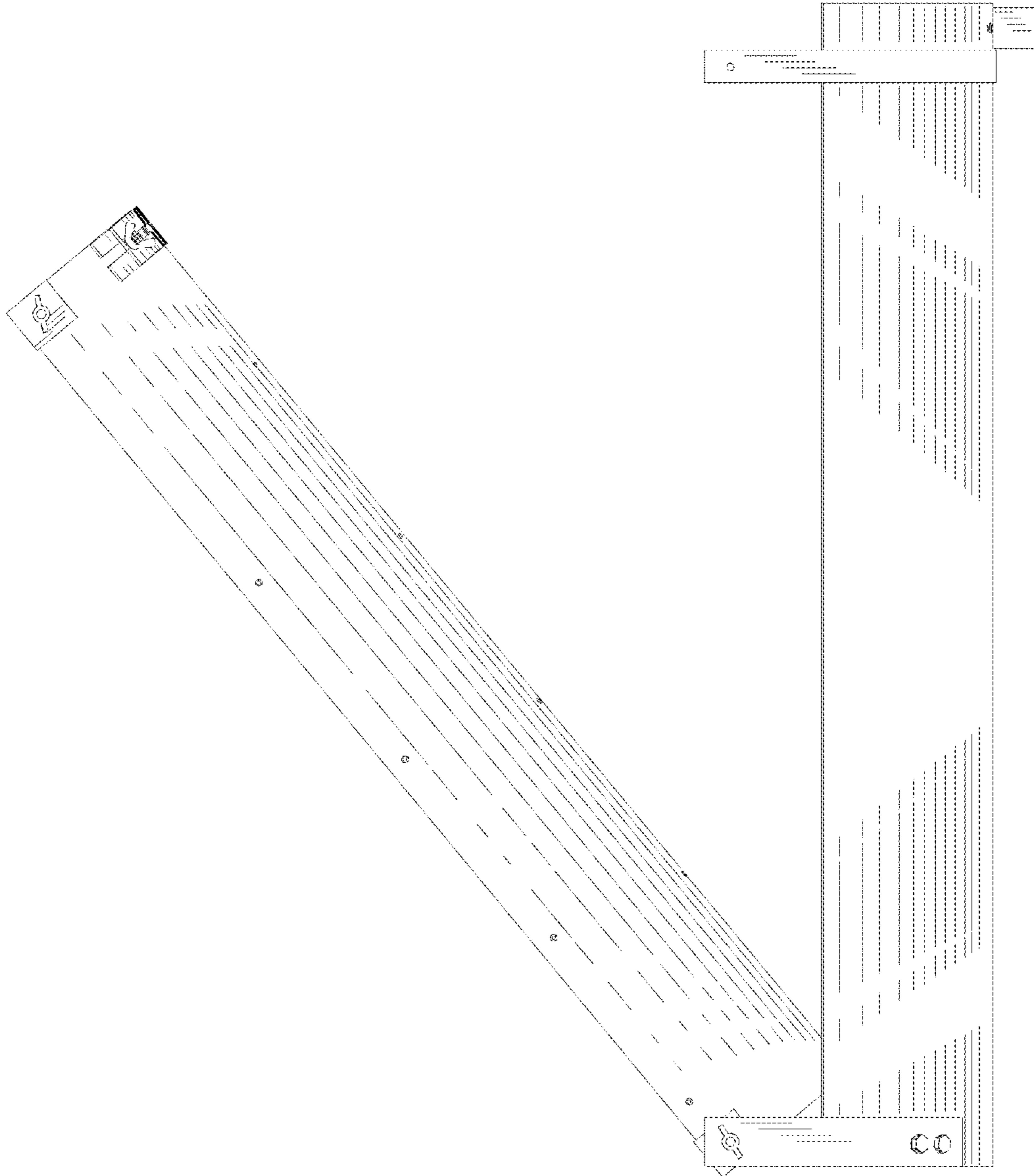


FIG. 14

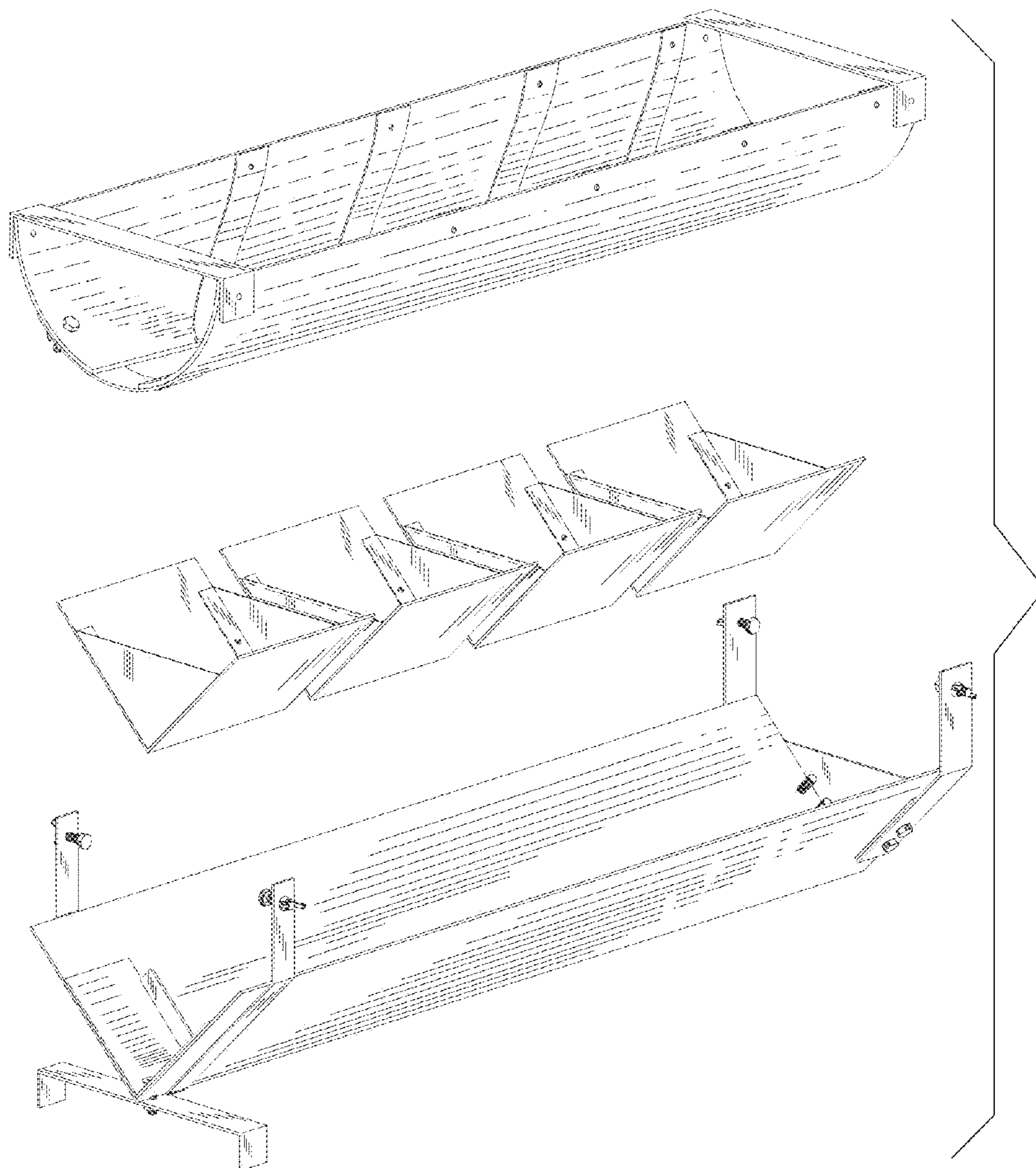


FIG. 15