



US00D815161S

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

(10) **Patent No.:** **US D815,161 S**
(45) **Date of Patent:** **** Apr. 10, 2018**

(54) **FEED CHUTE FOR MOLDING SAND WITH DAMPER FOR FLASK-LESS MOLDING MACHINE**

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(**) Term: **15 Years**

(21) Appl. No.: **29/583,625**

(22) Filed: **Nov. 8, 2016**

(30) **Foreign Application Priority Data**

May 17, 2016 (JP) 2016-010427

(51) **LOC (11) Cl.** **15-03**

(52) **U.S. Cl.**
USPC **D15/135**

(58) **Field of Classification Search**
USPC D15/122, 135, 136, 137, 138, 141, 142, D15/199, 89, 91; D12/1, 2, 8; D8/313; D7/339-341, 348-349, 402-404
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D332,955 S * 2/1993 Hull D15/122
D373,226 S * 8/1996 Bloom D30/124
(Continued)

FOREIGN PATENT DOCUMENTS

CN 201692710 U 1/2011
CN 201791089 U 4/2011
TW 151847 2/2013

OTHER PUBLICATIONS

United States Patent and Trademark Office, Notice of Allowance in U.S. Appl. No. 29/583,631, dated Oct. 5, 2017.

(Continued)

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(57) **CLAIM**

The ornamental design for a feed chute for molding sand with damper for flask-less molding machine, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a feed chute for molding sand with damper for flask-less molding machine of the present invention.

FIG. 2 is a front view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

FIG. 3 is a rear view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

FIG. 4 is a top plan view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

FIG. 5 is a bottom view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

FIG. 6 is a right side view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

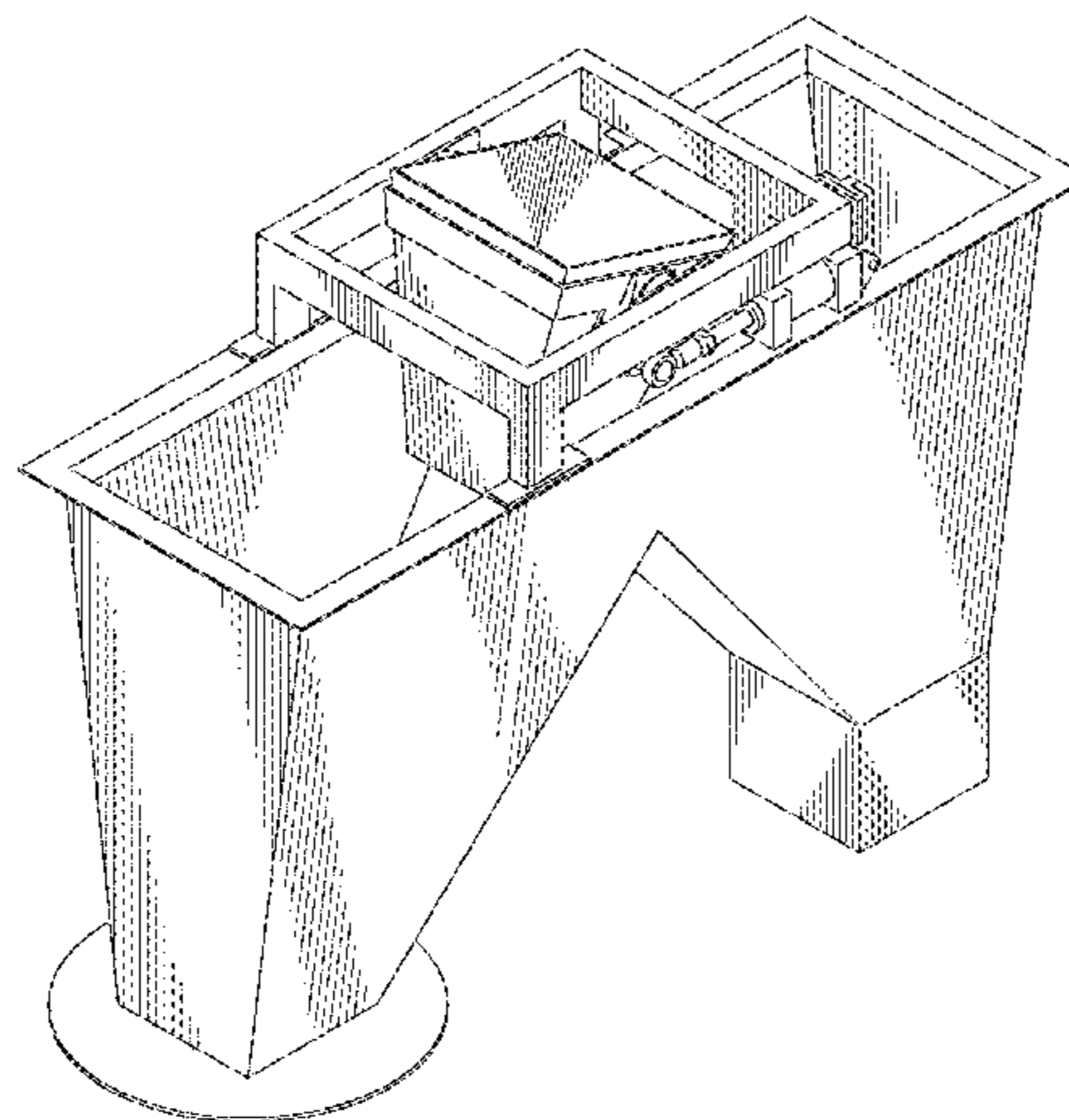
FIG. 7 is a left side view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1.

FIG. 8 is a sectional view taken along the line 8-8 of the feed chute for molding sand with damper for flask-less molding machine of FIG. 2; and,

FIG. 9 is a reference perspective view of the feed chute for molding sand with damper for flask-less molding machine of FIG. 1 in use, wherein the feed chute is attached to a flask-less molding machine for molding a cast, which is for illustrative purpose only and form no part of the claimed design.

The broken line showing in FIGS. 2, 3, and 8 is included for the purpose of illustrating portions of the feed chute for molding sand with damper for flask-less molding machine

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and forms no part of the claimed design. The features shown in broken lines in FIG. 9 depict environmental subject matter and form no part of the claimed design.

1 Claim, 9 Drawing Sheets

(58) **Field of Classification Search**

CPC B29C 45/0001; B29C 2043/3427; B29C 2043/3494; B29C 2045/0006; B29C 2045/0043; B29C 2045/0049; B29C 2045/14803; B29C 2945/76444; B29C 43/24; B29C 45/0005; B29C 45/0025; B29C 45/006; B29C 45/14311; B29C 45/14778; B29C 45/14811; B29C 45/14819; B29C 45/1657; B29C 45/1671; B29C 45/1761; B29C 45/2708; B29C 45/40; B29C 45/401; B29C 45/42; B29C 45/84; B29C 47/0004; B29C 47/0021

See application file for complete search history.

(56)

References Cited

U.S. PATENT DOCUMENTS

D520,567	S	*	5/2006	Iannello	.....	D20/9
D547,336	S		7/2007	Kai		
D617,356	S		6/2010	Wang		
D665,682	S	*	8/2012	Nagai	.....	D10/94
D665,683	S	*	8/2012	Nagai	.....	D10/94
D690,331	S		9/2013	Kitamura		
D707,273	S		6/2014	Maringer		
D710,912	S	*	8/2014	Wehmeier	.....	D15/28
D725,163	S		3/2015	Ackley et al.		
D754,226	S	*	4/2016	Caylor	.....	D15/147
D768,216	S		10/2016	Funakoshi et al.		
D768,741	S		10/2016	Funakoshi et al.		
D769,339	S		10/2016	Funakoshi et al.		
2008/0303183	A1		12/2008	Rote et al.		

OTHER PUBLICATIONS

Taiwan Patent Office, Notice of Allowance in Taiwan Counterpart Application No. 105306741, dated Jun. 15, 2017.
 United States Patent and Trademark Office, Office Action in U.S. Appl. No. 29/583,632, dated Nov. 29, 2017.

* cited by examiner

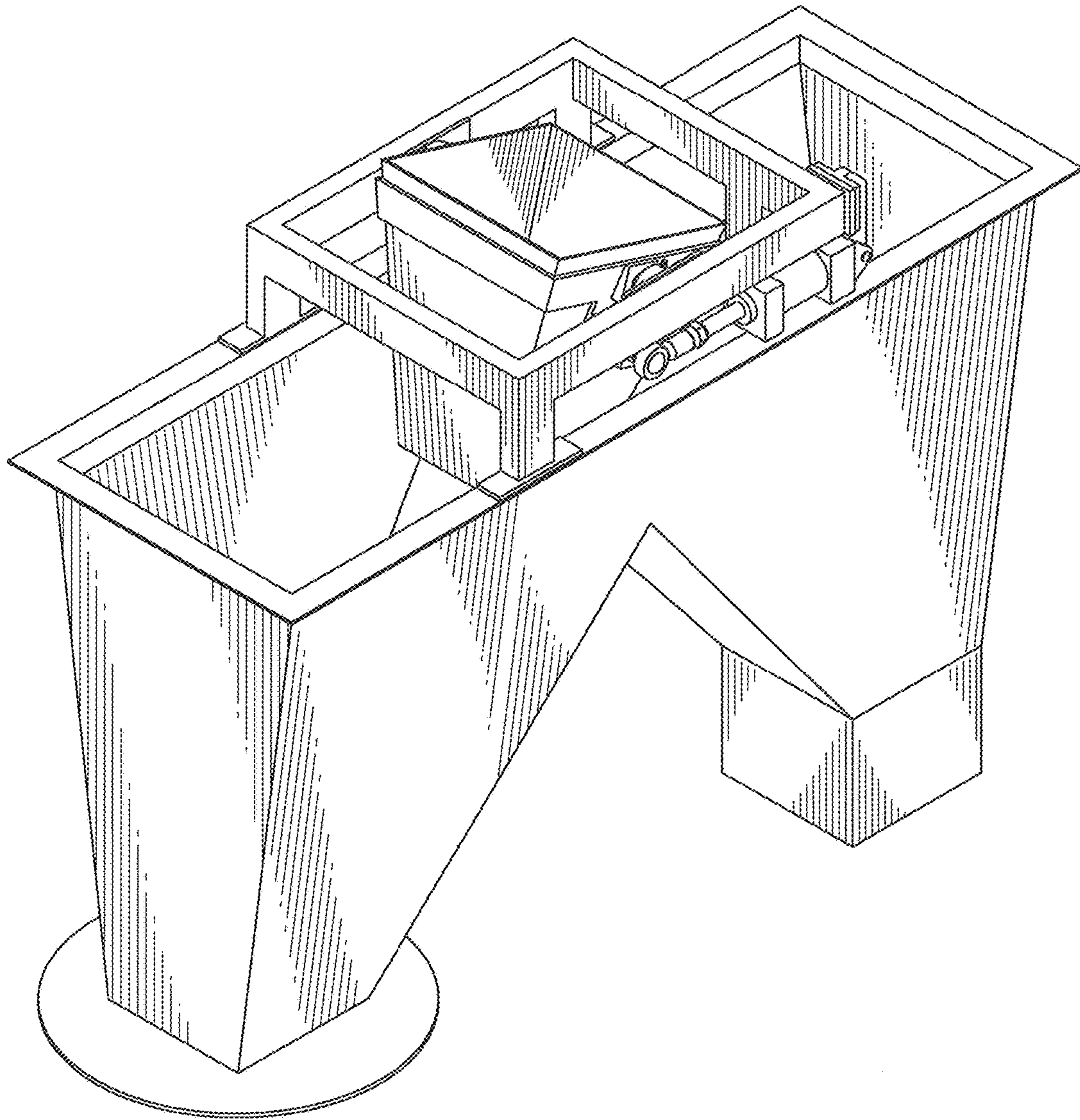


FIG. 1

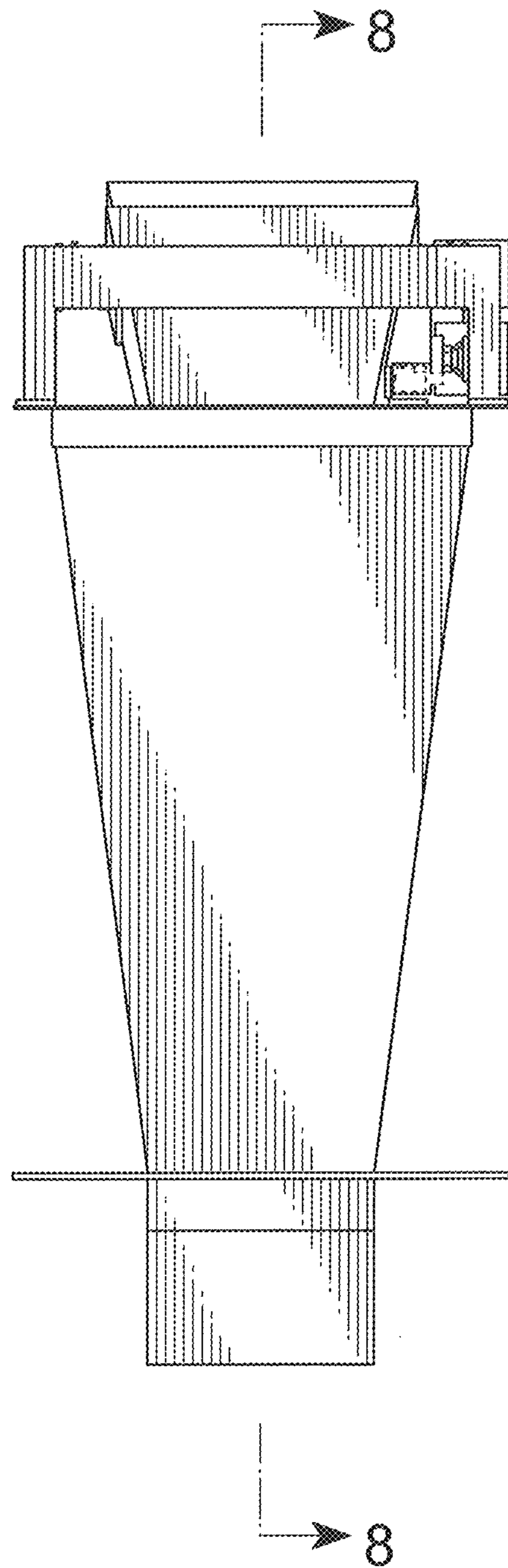


FIG. 2

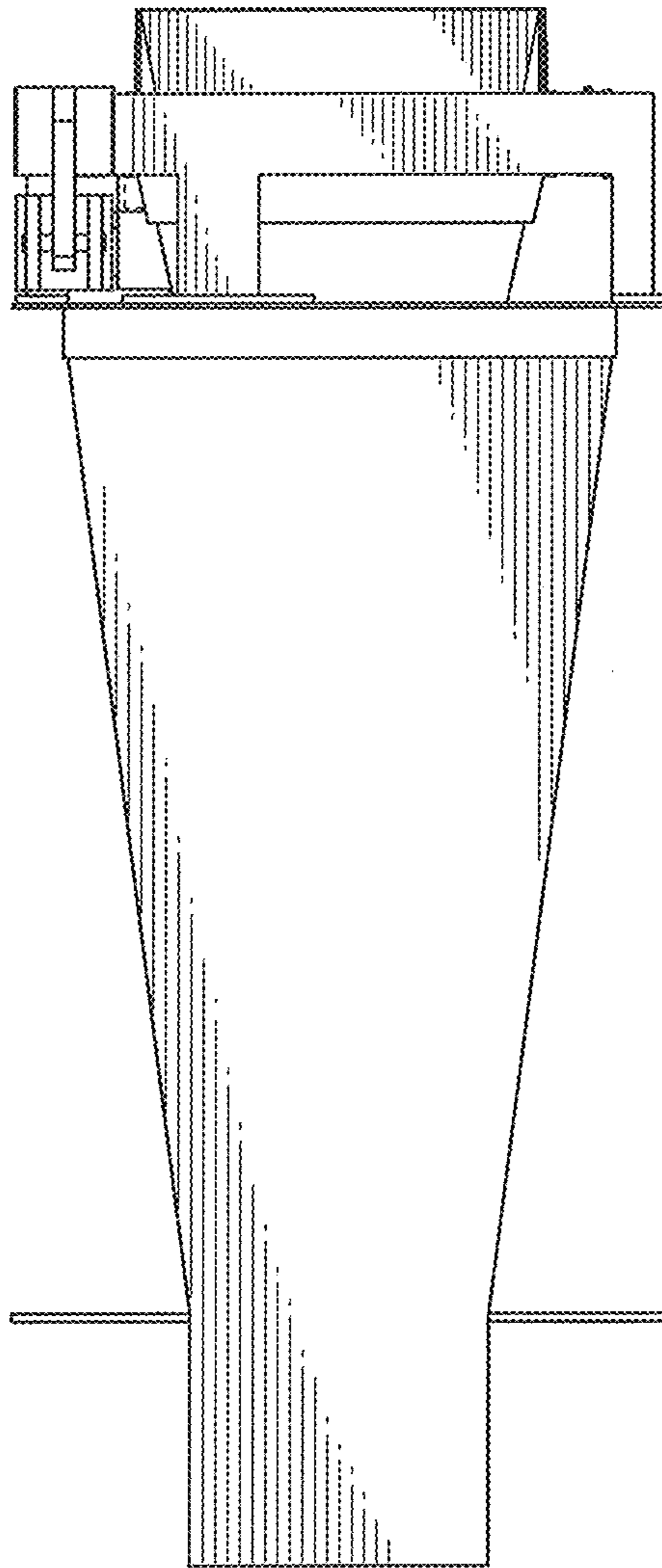


FIG. 3

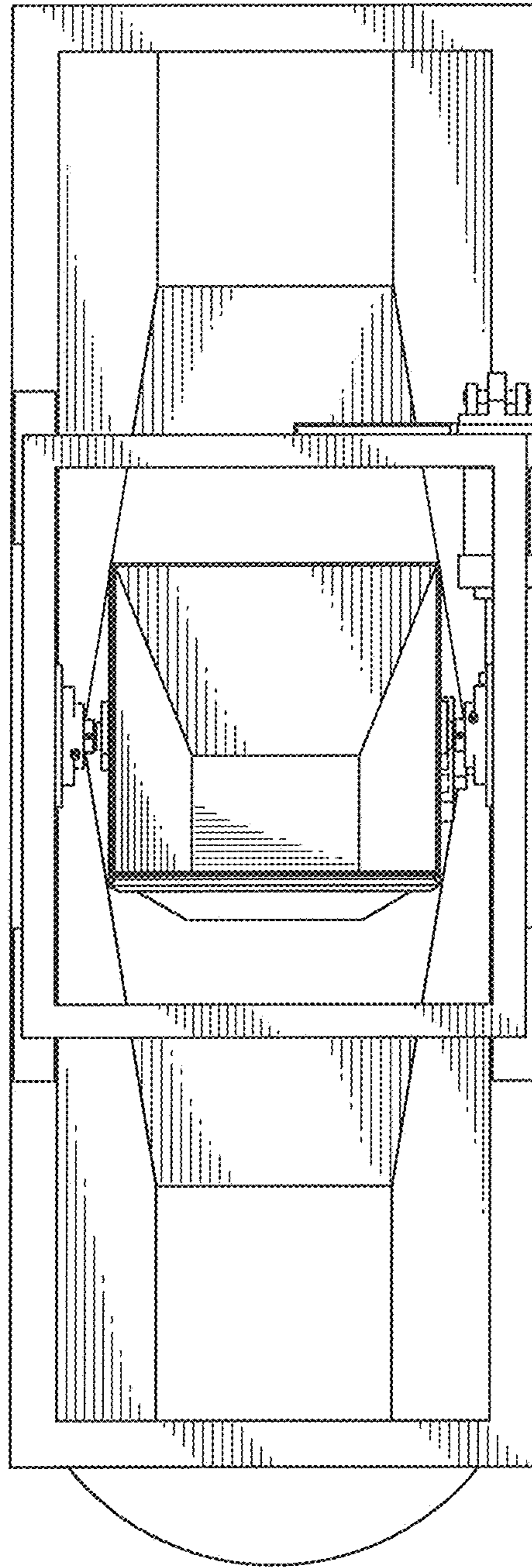


FIG. 4

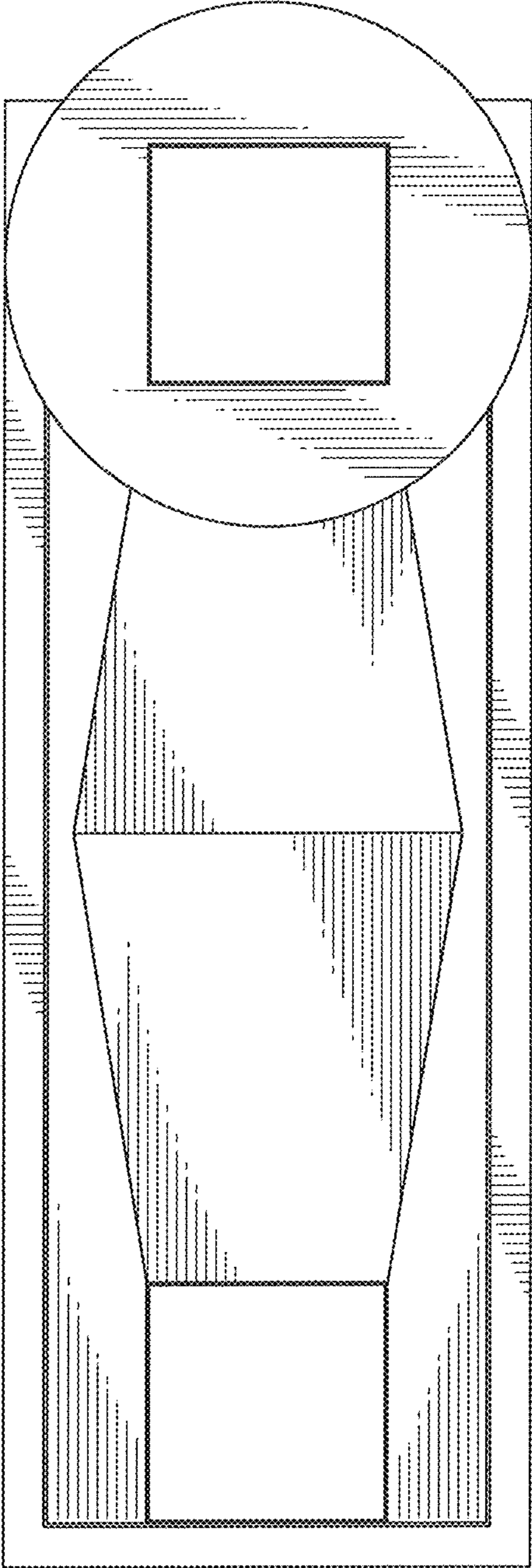


FIG. 5

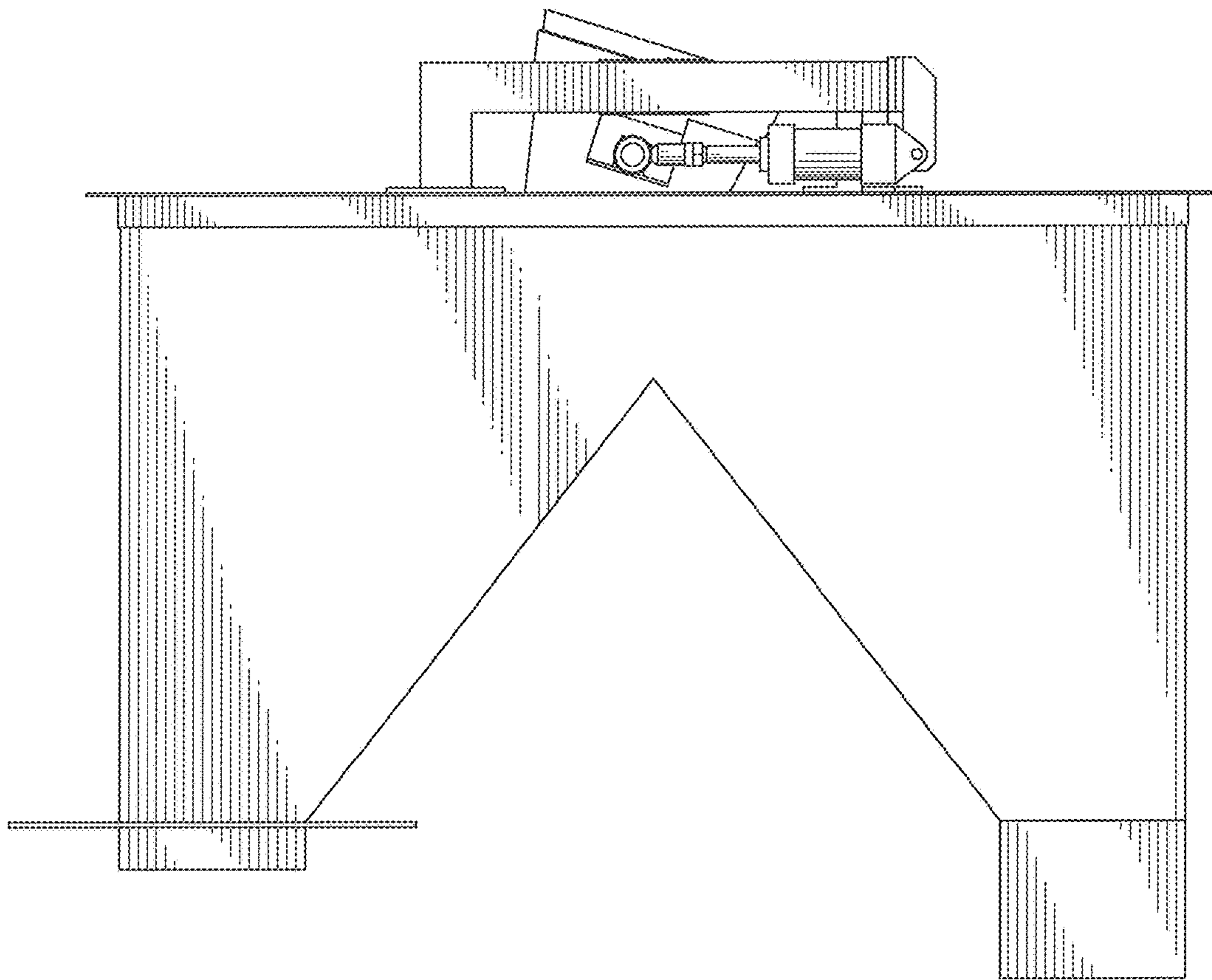


FIG. 6

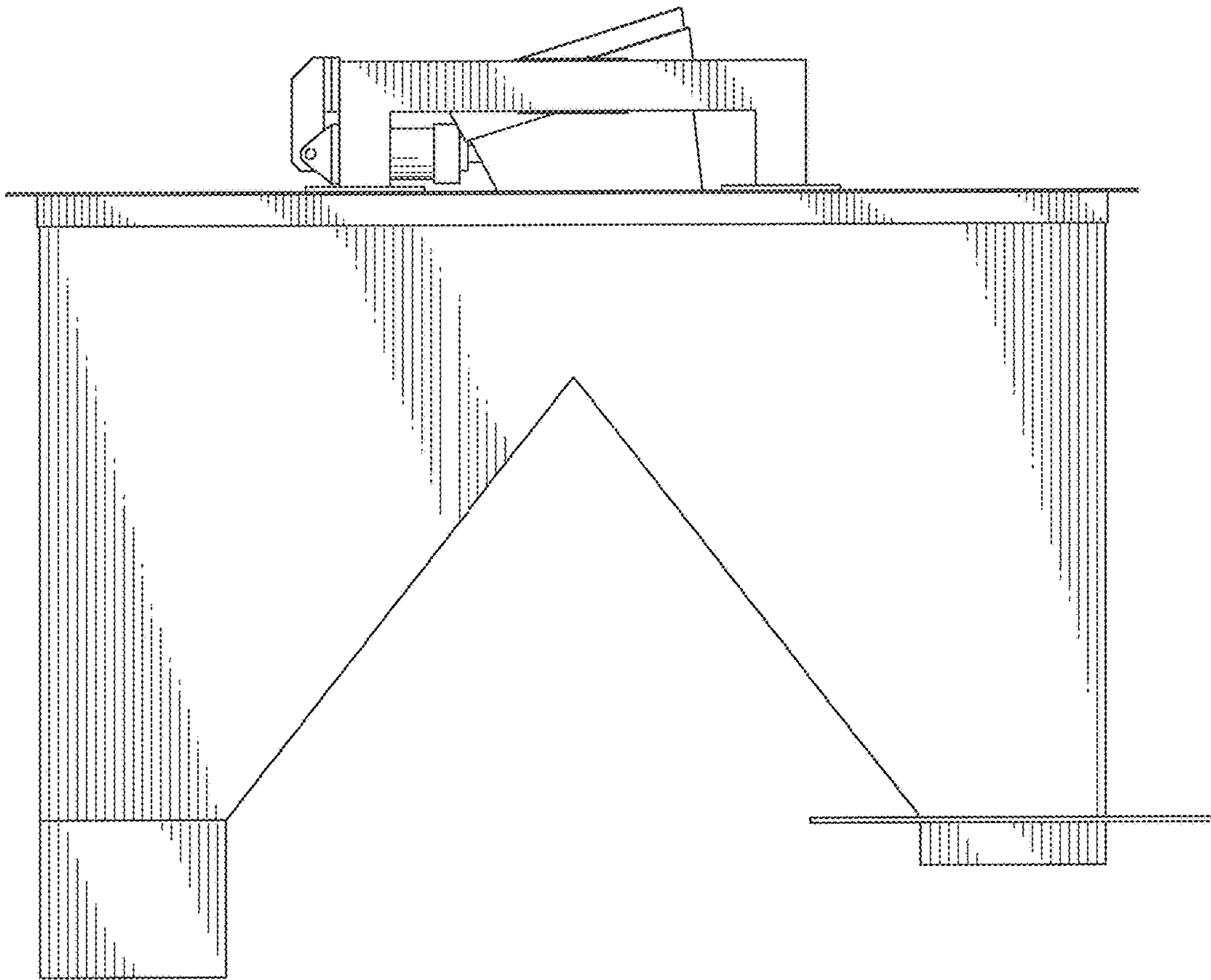


FIG. 7

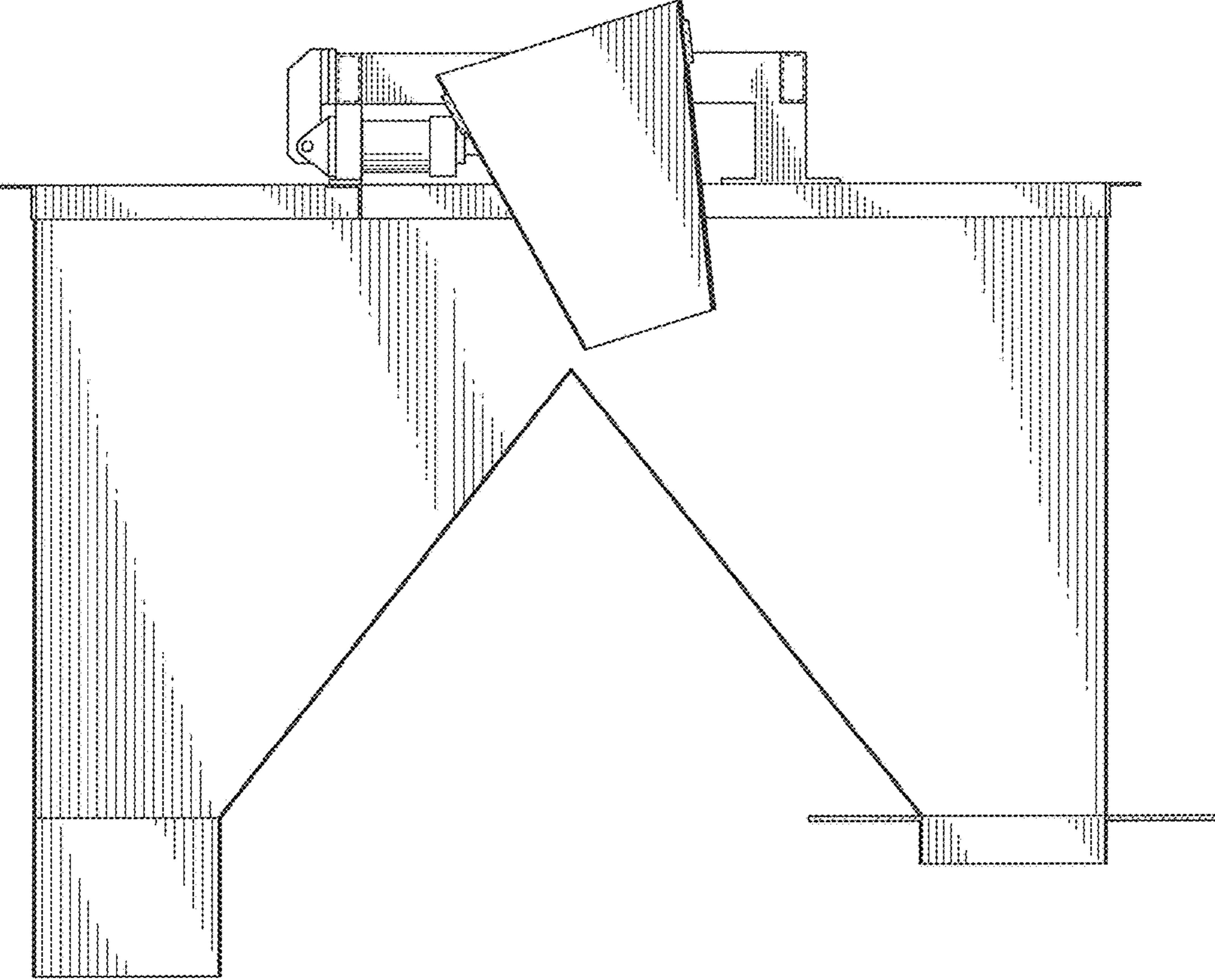


FIG. 8

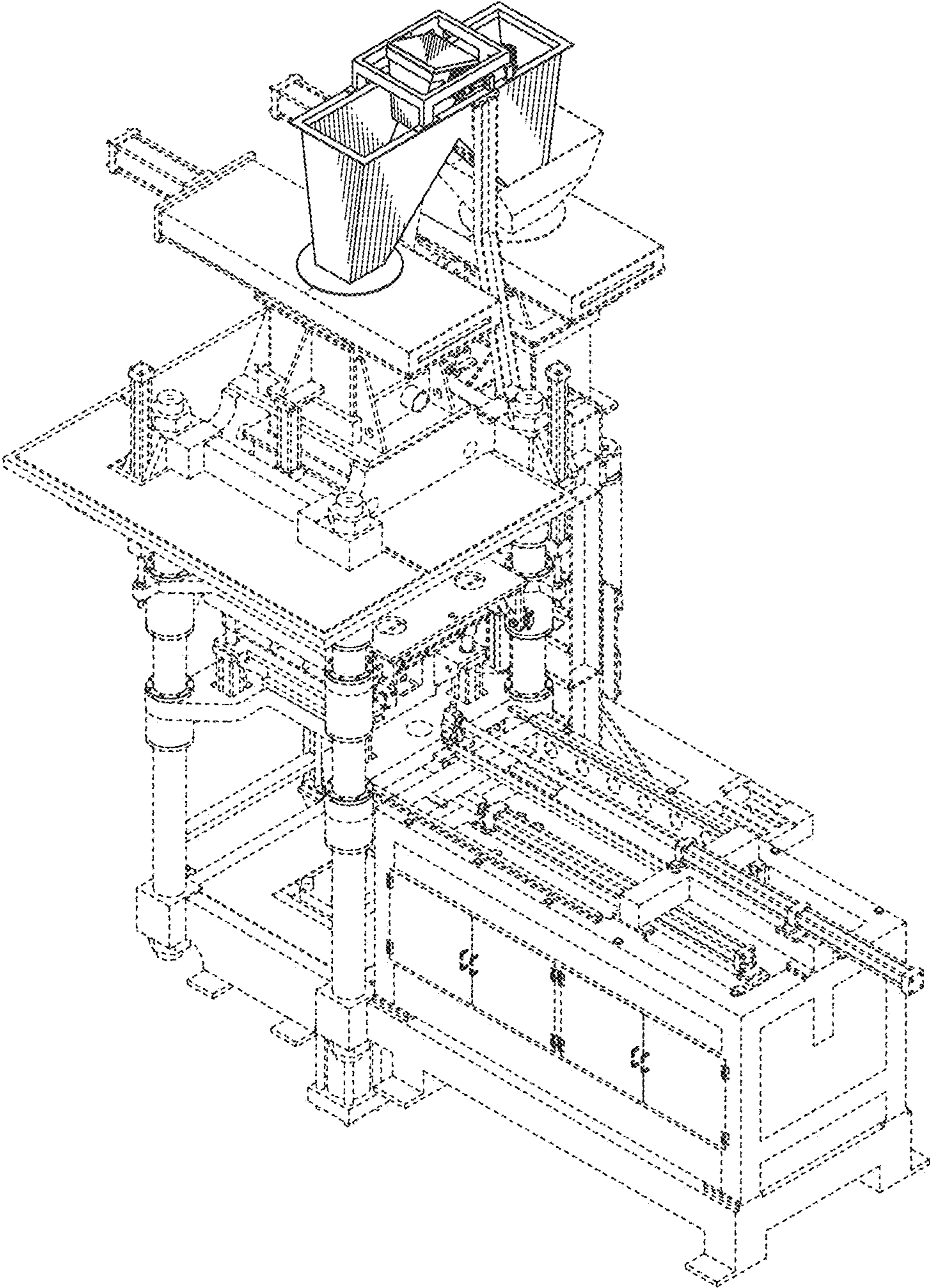


FIG. 9