



US00D665683S

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

(10) **Patent No.:** **US D665,683 S**  
(45) **Date of Patent:** **\*\* Aug. 21, 2012**

(54) **MEASURING HOPPER FOR COMBINED WEIGHING INSTRUMENT**

**DESCRIPTION**

- (75) Inventor: **Takayuki Nagai, Akashi (JP)**
- (73) Assignee: **Yamato Scale Co., Ltd., Akashi-shi (JP)**
- (\*\*) Term: **14 Years**
- (21) Appl. No.: **29/390,887**
- (22) Filed: **Apr. 29, 2011**
- (30) **Foreign Application Priority Data**

Oct. 30, 2010 (JP) ..... 2010-026200

- (51) **LOC (9) Cl.** ..... **10-04**
- (52) **U.S. Cl.** ..... **D10/94**
- (58) **Field of Classification Search** ..... D10/87,  
D10/88, 89, 90, 93, 94; 53/53; 73/146; 141/1,  
141/83; 177/1, 25.11, 25.12, 25.13, 25.14,  
177/25.18, 34, 50, 105, 123, 134, 185, 187,  
177/210 FP; 198/484.1, 533, 566, 601, 803.11;  
194/202, 204; 209/586; 222/1, 56, 504;  
310/20; 324/225; 453/17, 32; 700/219,  
700/305; 702/41, 88, 123, 173; 708/300;  
714/805

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,840,240 A \* 6/1989 Toyota et al. .... 177/25.18  
(Continued)

*Primary Examiner* — Antoine D Davis

(74) *Attorney, Agent, or Firm* — Alleman Hall McCoy Russell & Tuttle LLP

(57) **CLAIM**

The ornamental design for a measuring hopper for combined weighing instrument, as shown and described.

FIG. 1 is a front view of a design for a measuring hopper for a combined weighing instrument according to the present invention.

FIG. 2 is a rear view of the measuring hopper of FIG. 1.

FIG. 3 is a top view of the measuring hopper of FIG. 1.

FIG. 4 is a bottom view of the measuring hopper of FIG. 1.

FIG. 5 is a left side view of the measuring hopper for of FIG. 1.

FIG. 6 is right side view of the measuring hopper of FIG. 1.

FIG. 7 is a front perspective view of the measuring hopper of FIG. 1.

FIG. 8 is a rear perspective view of the measuring hopper of FIG. 1.

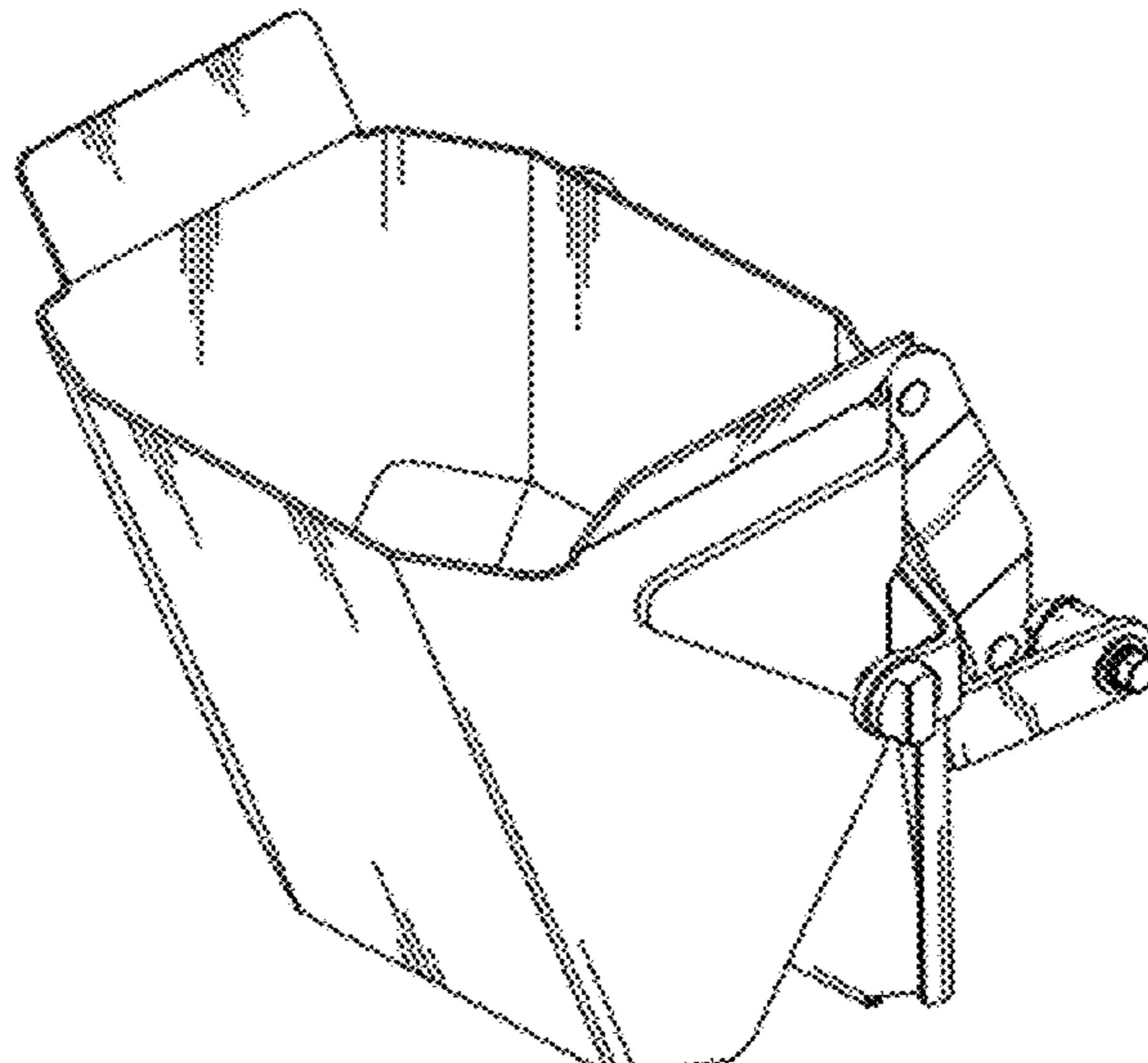
FIG. 9 is a front perspective view of the measuring hopper of FIG. 1, showing a gate of the measuring hopper in an open state.

FIG. 10 is a rear perspective view of the measuring hopper of FIG. 1, showing the gate of the measuring hopper in an open state; and,

FIG. 11 is a front view of the measuring hopper of FIG. 1, shown positioned in a combined weighing instrument, which is illustrated in broken lines.

The dashed lines in FIG. 11 illustrate a combined weighing instrument which includes a plurality of measuring portions, each for holding a respective load of bulk material, and which discharges the material from a subset of the measuring portions with loads that have been measured to have a combined weight that is within an allowable range of a combined target weight. The material to be measured is put in an input port of the measuring hopper of the claimed design in a state in which a gate is closed, by a pool hopper of a combined weighing instrument, whereby the measuring hopper can temporarily retain the material to be measured. Further, if a drive apparatus of the combined weighing instrument oscillates upward an oscillating arm of the measuring hopper, a gate of the measuring hopper is opened, whereby the measuring hopper can discharge the retained material to be measured from a discharge port to a collecting chute. The broken lines form no part of the claimed design.

**1 Claim, 6 Drawing Sheets**



# US D665,683 S

Page 2

---

## U.S. PATENT DOCUMENTS

5,074,436	A *	12/1991	Inoue	.....	222/56				
5,819,901	A *	10/1998	Filiberti	.....	194/202				
5,944,162	A *	8/1999	Filiberti	.....	194/204				
5,954,576	A *	9/1999	Coulter et al.	.....	453/17				
5,981,881	A *	11/1999	Kawanishi et al.	.....	177/25.18				
						6,046,411	A *	4/2000	Kawanishi et al. .... 177/25.13
						6,176,774	B1 *	1/2001	Filiberti et al. .... 453/32
						2009/0133939	A1 *	5/2009	Taylor et al. .... 177/108
						2009/0277692	A1 *	11/2009	Tatsuoka et al. .... 177/25.18
						2011/0036645	A1 *	2/2011	Kageyama et al. .... 177/25.18

\* cited by examiner

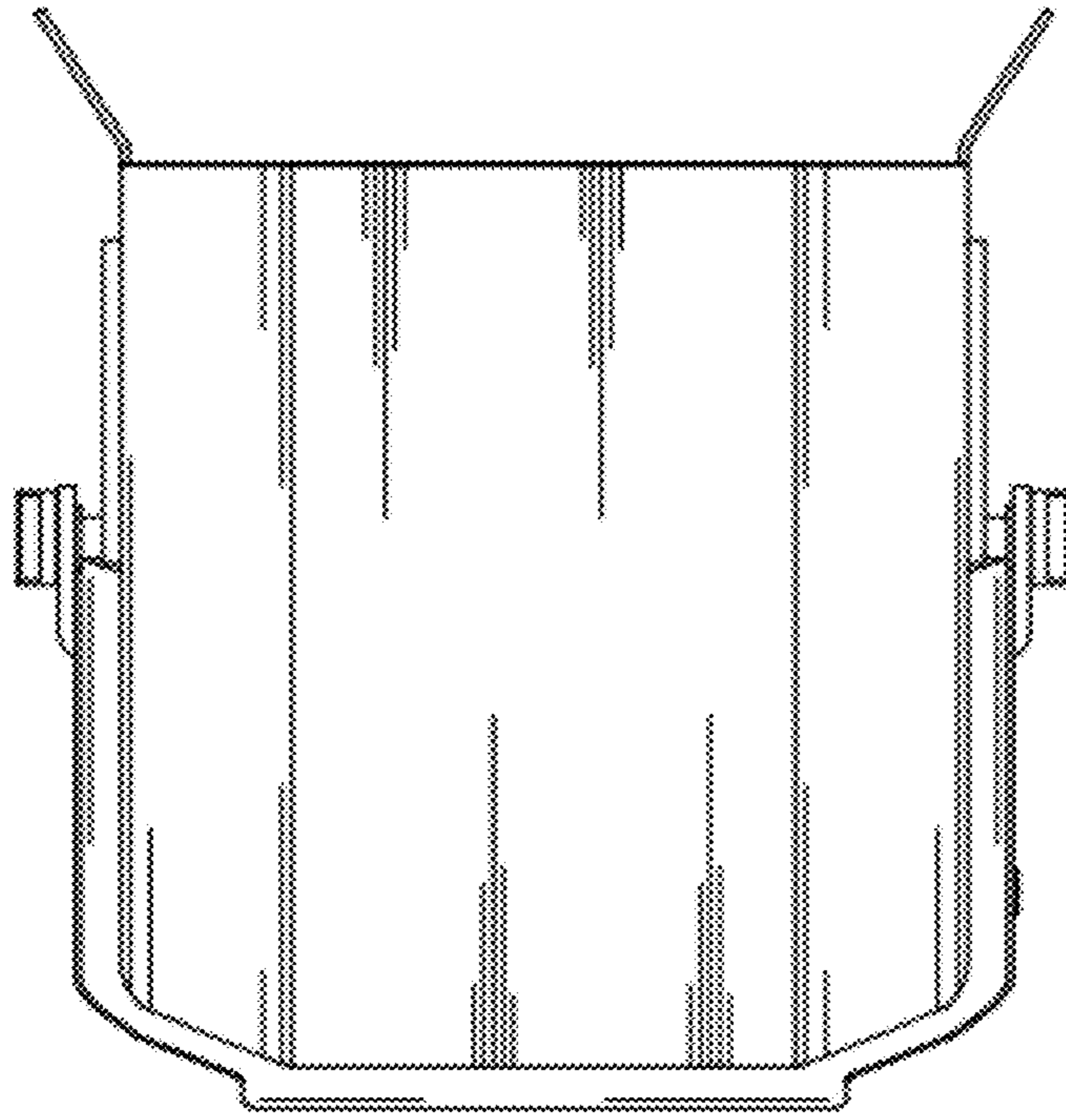


FIG. 1

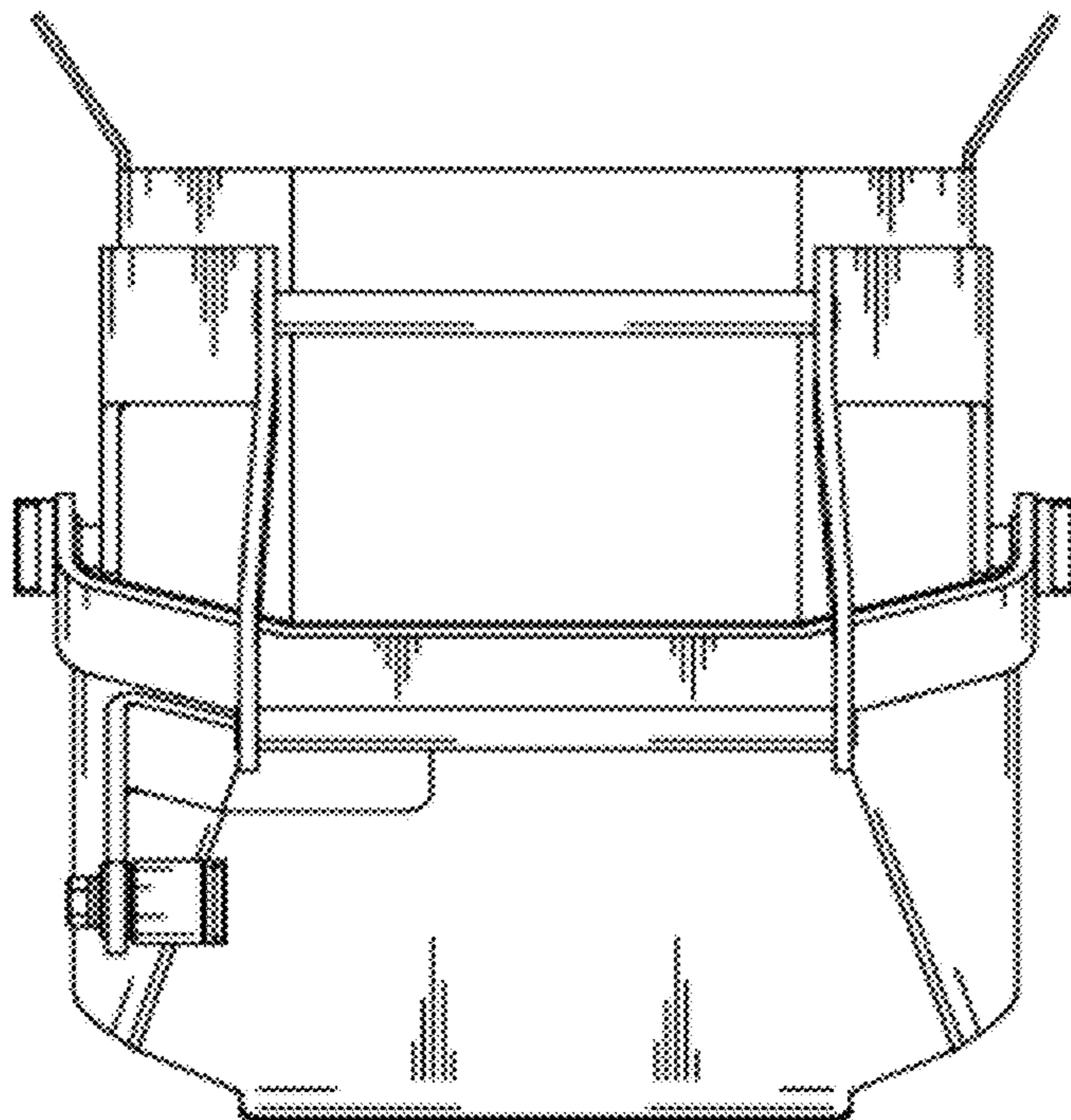


FIG. 2

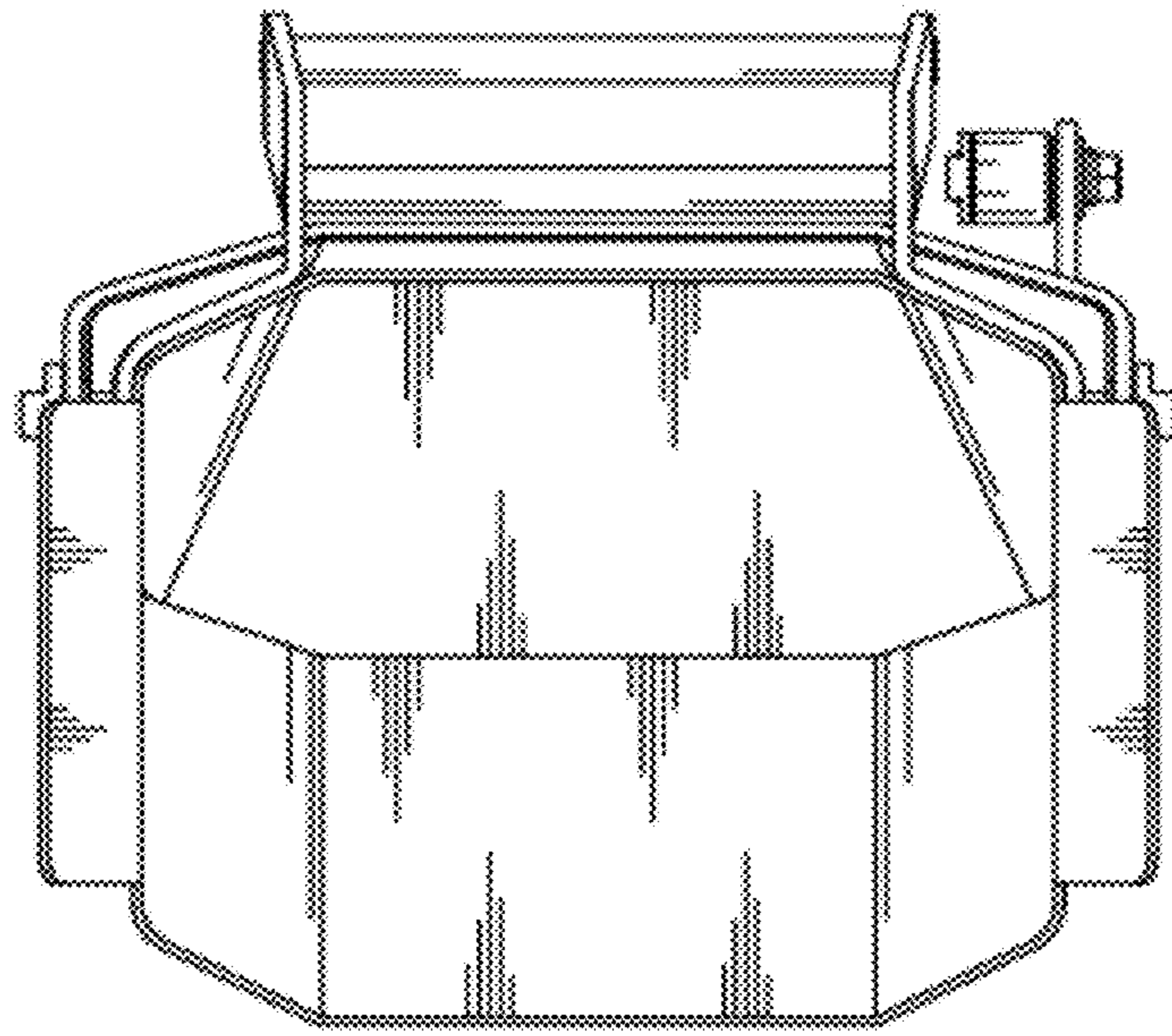


FIG. 3

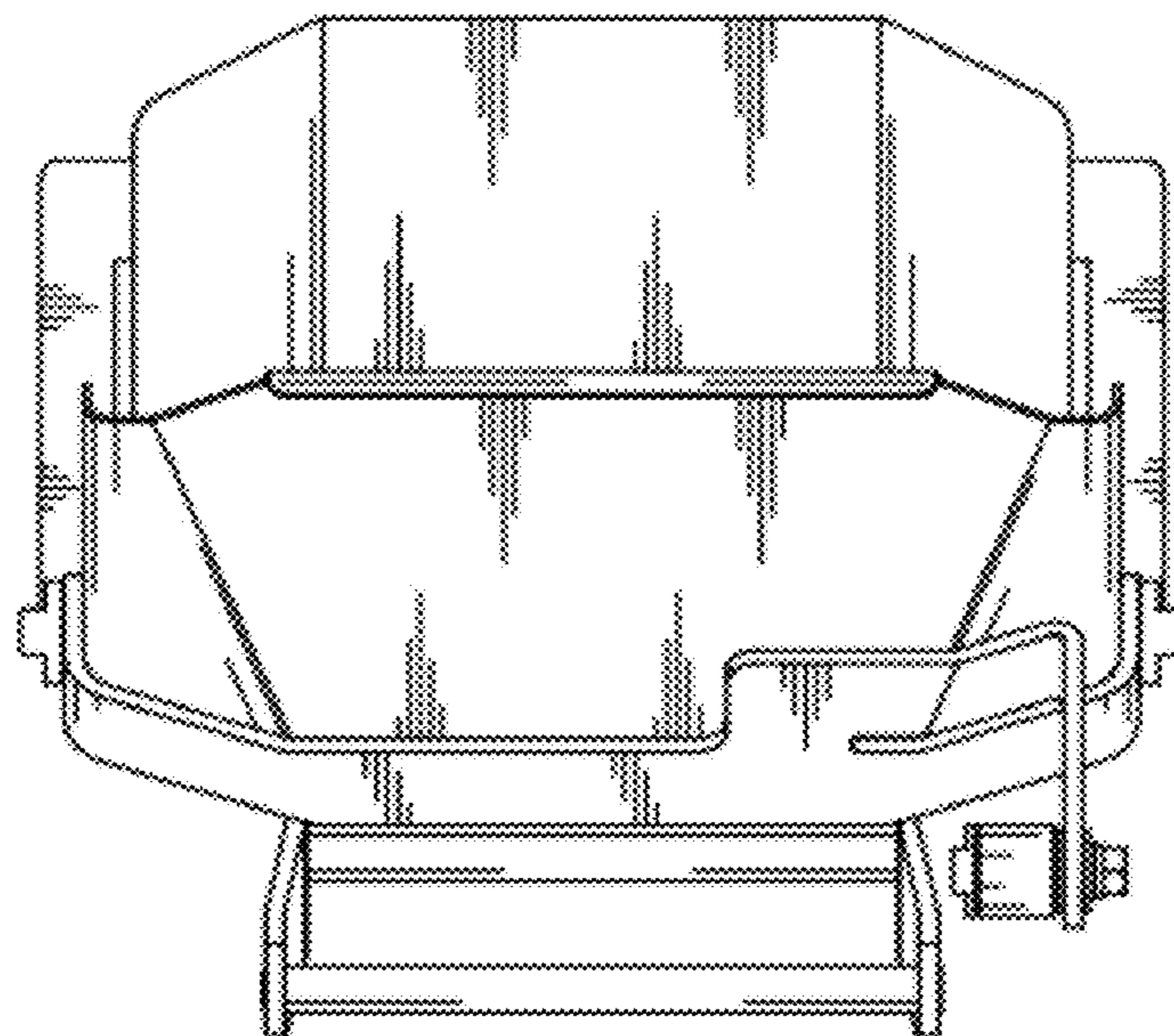


FIG. 4

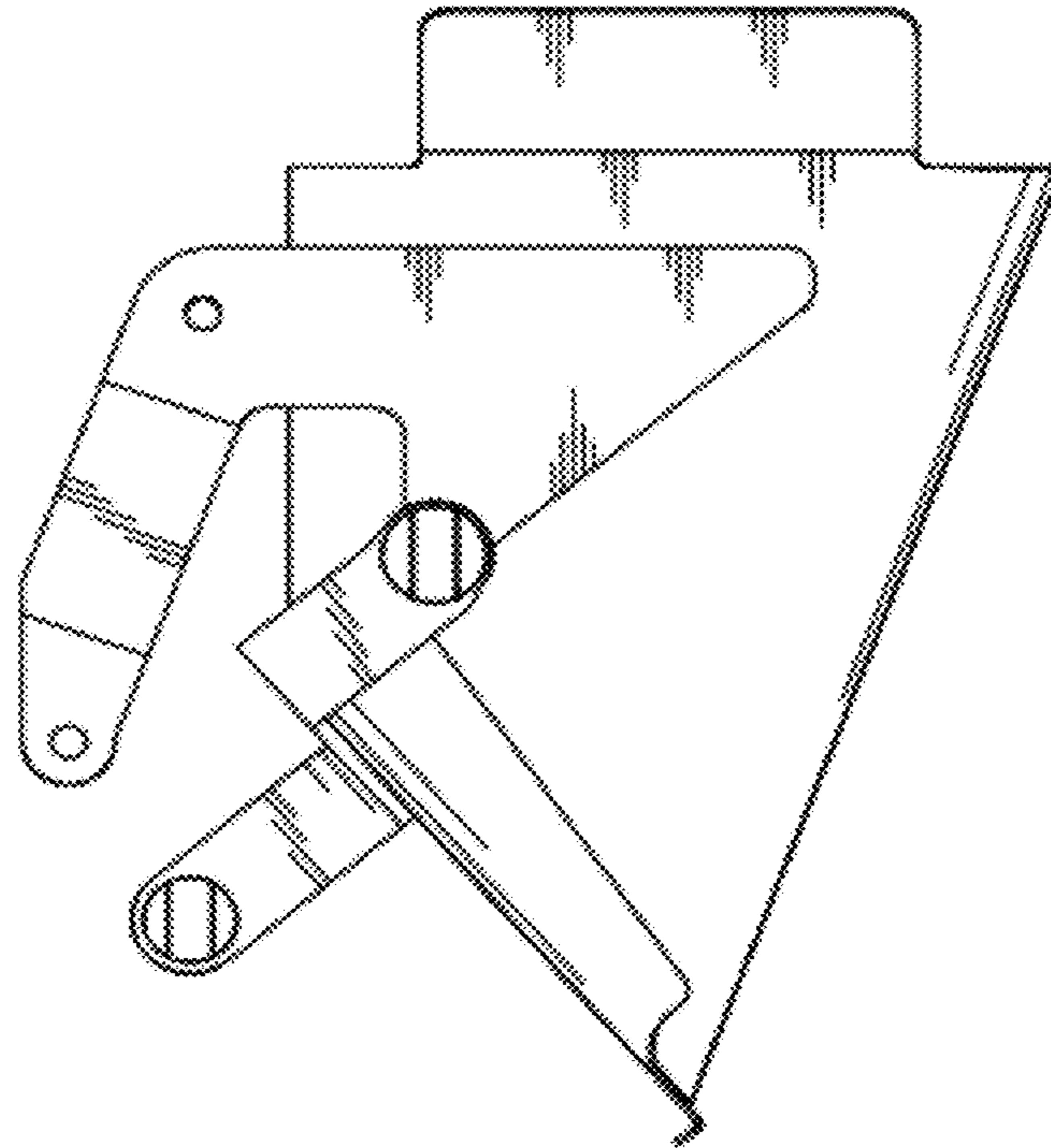


FIG. 5

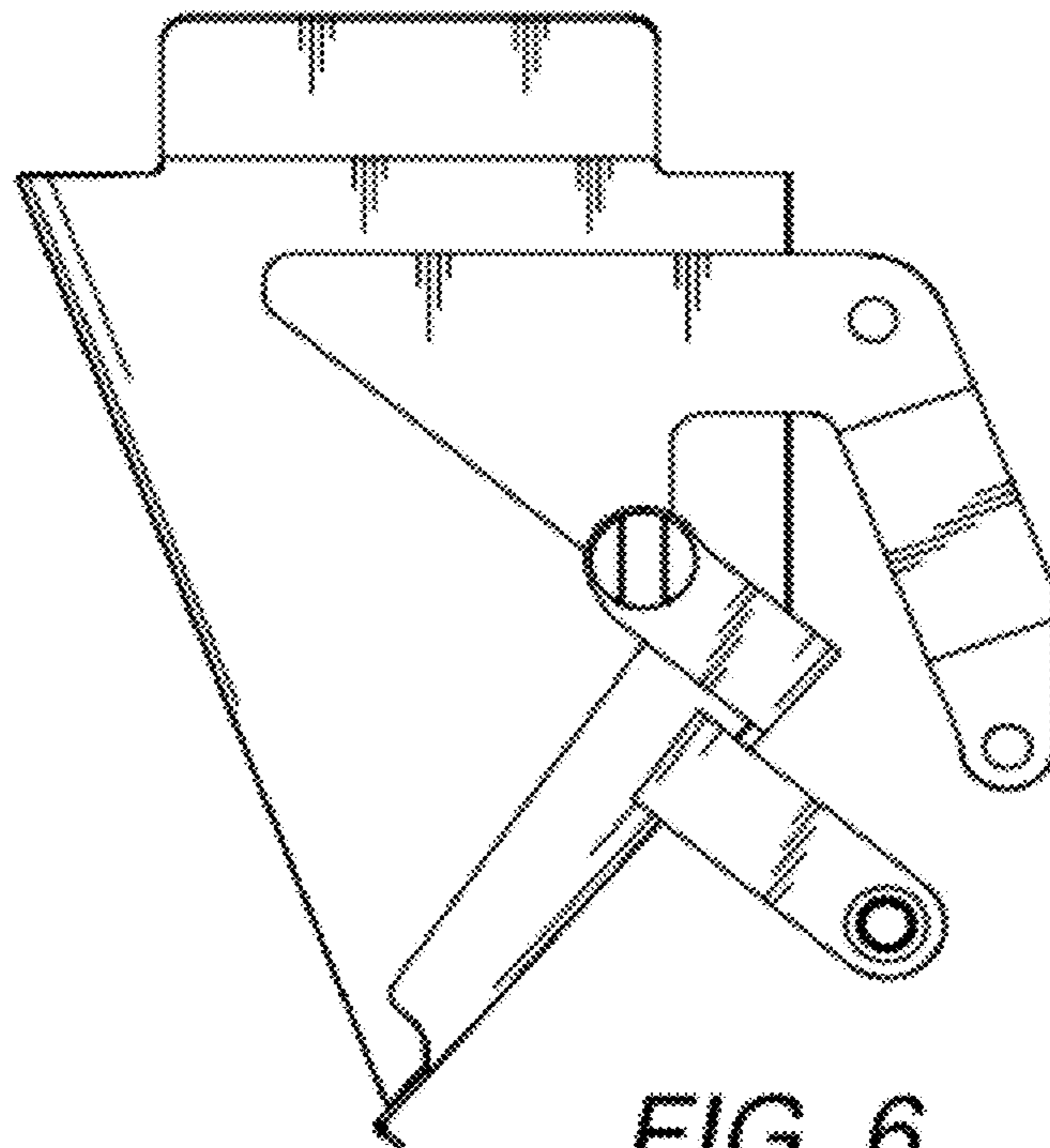


FIG. 6

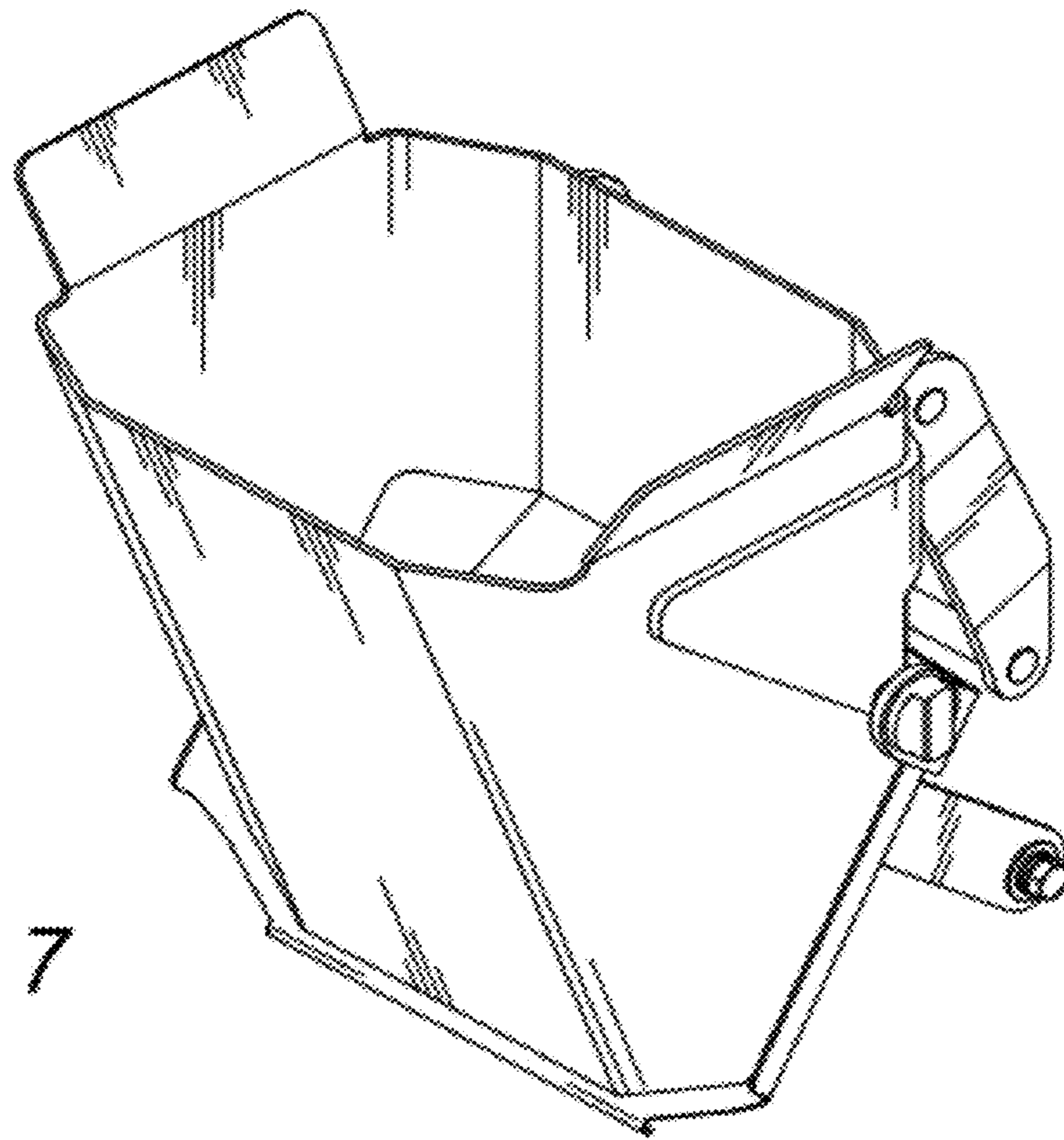


FIG. 7

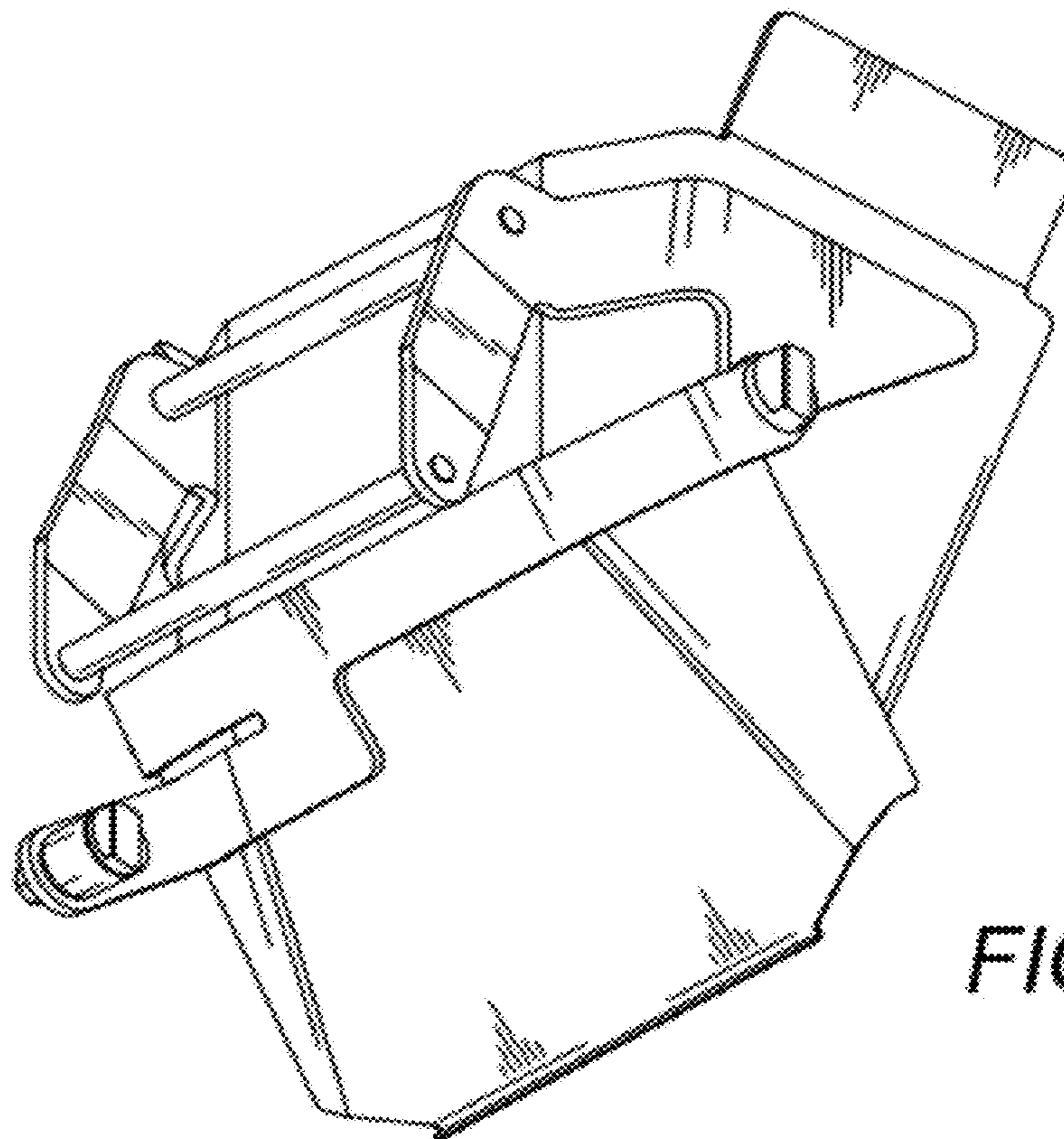
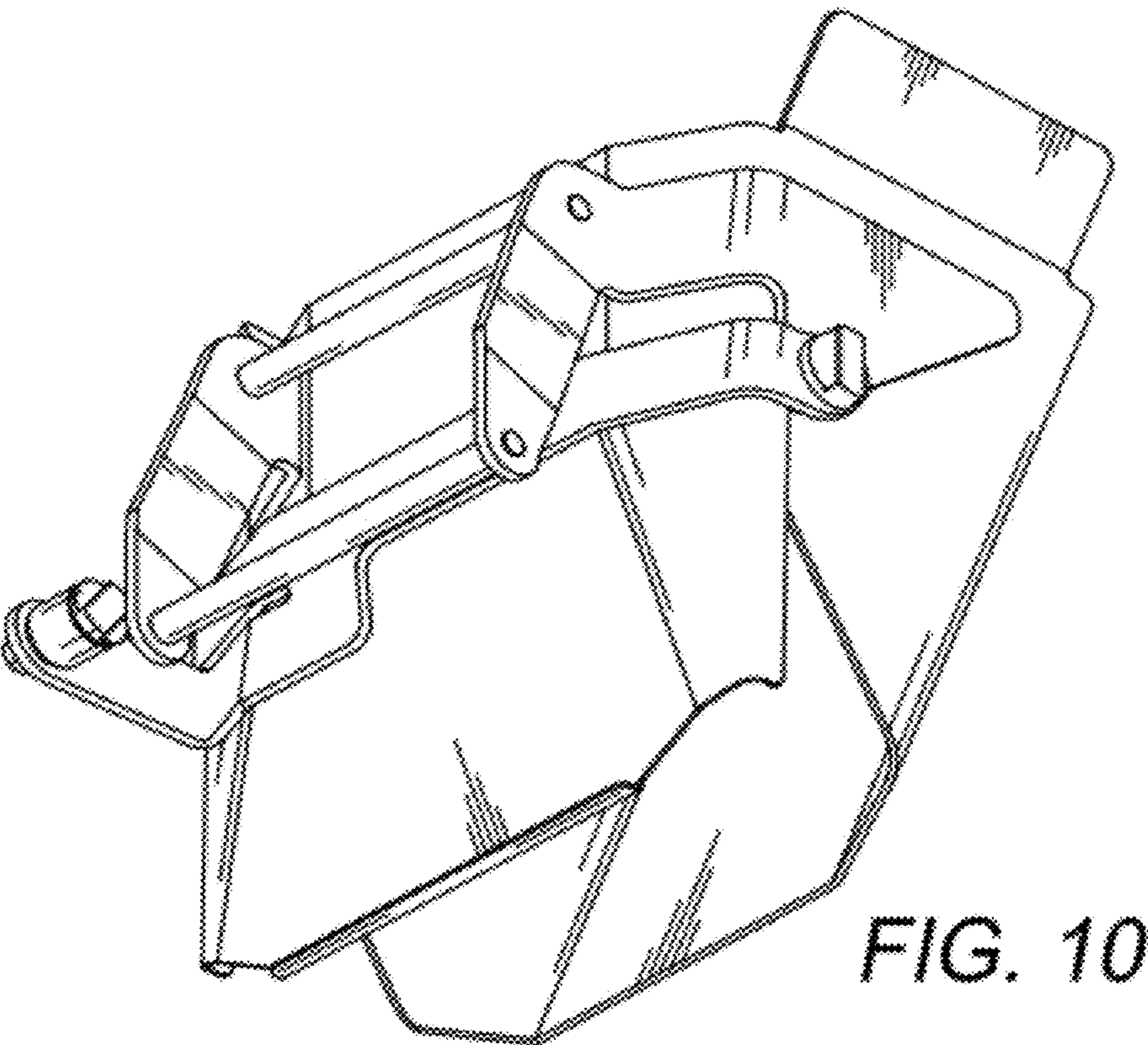
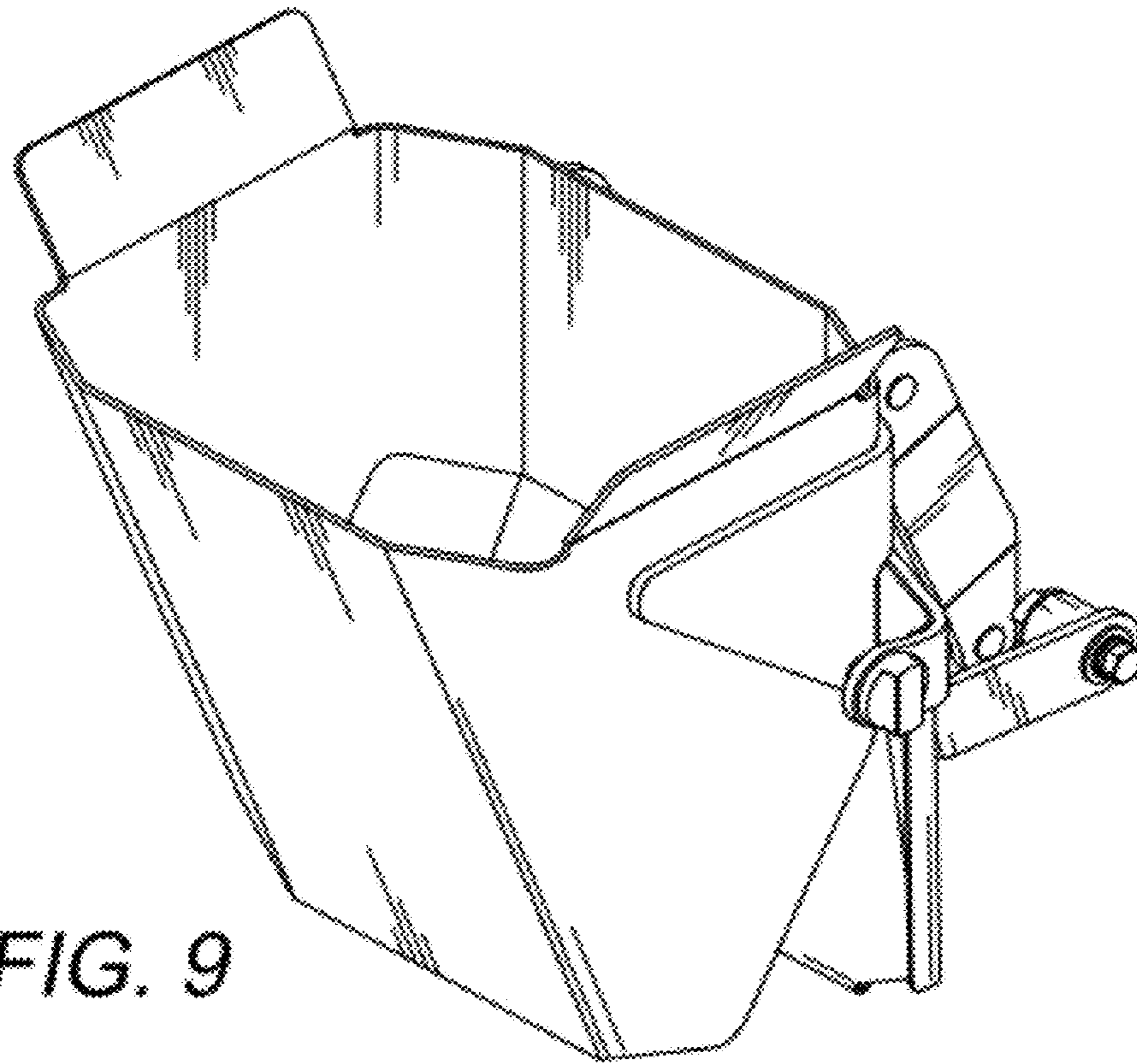


FIG. 8



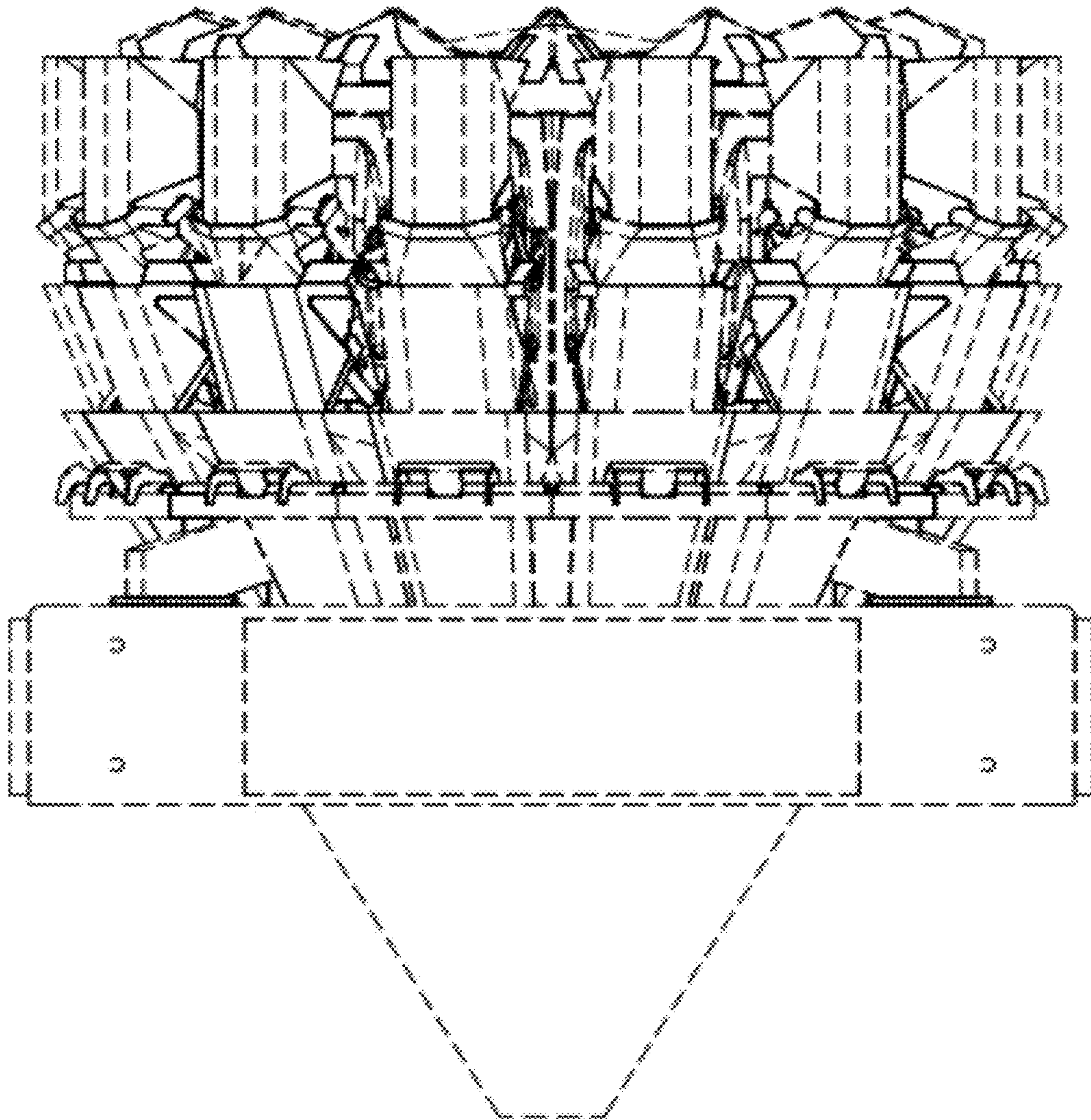


FIG. 11



UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : D665,683 S  
APPLICATION NO. : 29/390887  
DATED : August 21, 2012  
INVENTOR(S) : Takayuki Nagai

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title page in the Description of the drawings:

Of Fig. 5, delete “for”.

Of Fig. 10, delete “;and,” and insert a --- after “state”.

Signed and Sealed this  
Thirtieth Day of October, 2012

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, slightly slanted style.

David J. Kappos  
*Director of the United States Patent and Trademark Office*