



US00D842845S

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

(10) **Patent No.:** **US D842,845 S**
(45) **Date of Patent:** **** Mar. 12, 2019**

(54) **HOUSING FOR A VOICE COIL MOTOR USED IN A FOCUSING PRODUCT**

(71) Applicants: **Cong Lin**, Mengzhou (CN); **Kun Peng**, Mengzhou (CN); **Fuquan Liu**, Mengzhou (CN); **Xinke Lyu**, Mengzhou (CN)

(72) Inventors: **Cong Lin**, Mengzhou (CN); **Kun Peng**, Mengzhou (CN); **Fuquan Liu**, Mengzhou (CN); **Xinke Lyu**, Mengzhou (CN)

(73) Assignee: **Henan Province Hozel Electronics Co., Ltd.**, Mengzhou, Henan Province (CN)

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

(21) Appl. No.: **29/614,505**

(22) Filed: **Aug. 21, 2017**

(51) **LOC (11) Cl.** **14-02**

(52) **U.S. Cl.**
USPC **D14/224**

(58) **Field of Classification Search**
USPC D14/224, 221, 222, 230, 209, 204, 217; D26/118; D15/5; D13/100, 118, 147, D13/154, 173; 181/166, 164, 171, 150; 381/386, 413, 412, 199, 190, 191, 174, 381/355, 360, 202, 151, 398, 188
CPC . H04R 25/00; H04R 7/20; H04R 9/00; H04R 1/06; H04R 9/04; H04R 19/04; H04R 1/02

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,912,605 A * 11/1959 Tibbetts G10K 9/122
257/417
3,509,290 A * 4/1970 Ishimura H04R 7/06
181/164

4,032,725 A * 6/1977 McGee H04R 1/025
248/27.1
D256,915 S * 9/1980 Needleman D14/224
4,228,327 A * 10/1980 Sawafuji H04R 7/20
381/398
D281,495 S * 11/1985 Ponticelli D14/224
4,730,293 A * 3/1988 Pierce G11B 7/09
235/454
4,764,690 A * 8/1988 Murphy H04R 19/01
29/594
4,860,369 A * 8/1989 Koshimura H04R 1/025
381/395
4,993,510 A * 2/1991 Kato B60R 11/0217
181/141
5,125,033 A * 6/1992 Lee A61H 23/0236
381/151
5,331,119 A * 7/1994 Leger H04R 1/025
181/150
5,548,658 A * 8/1996 Ring H04R 19/016
367/170

(Continued)

Primary Examiner — Paula Allen Greene

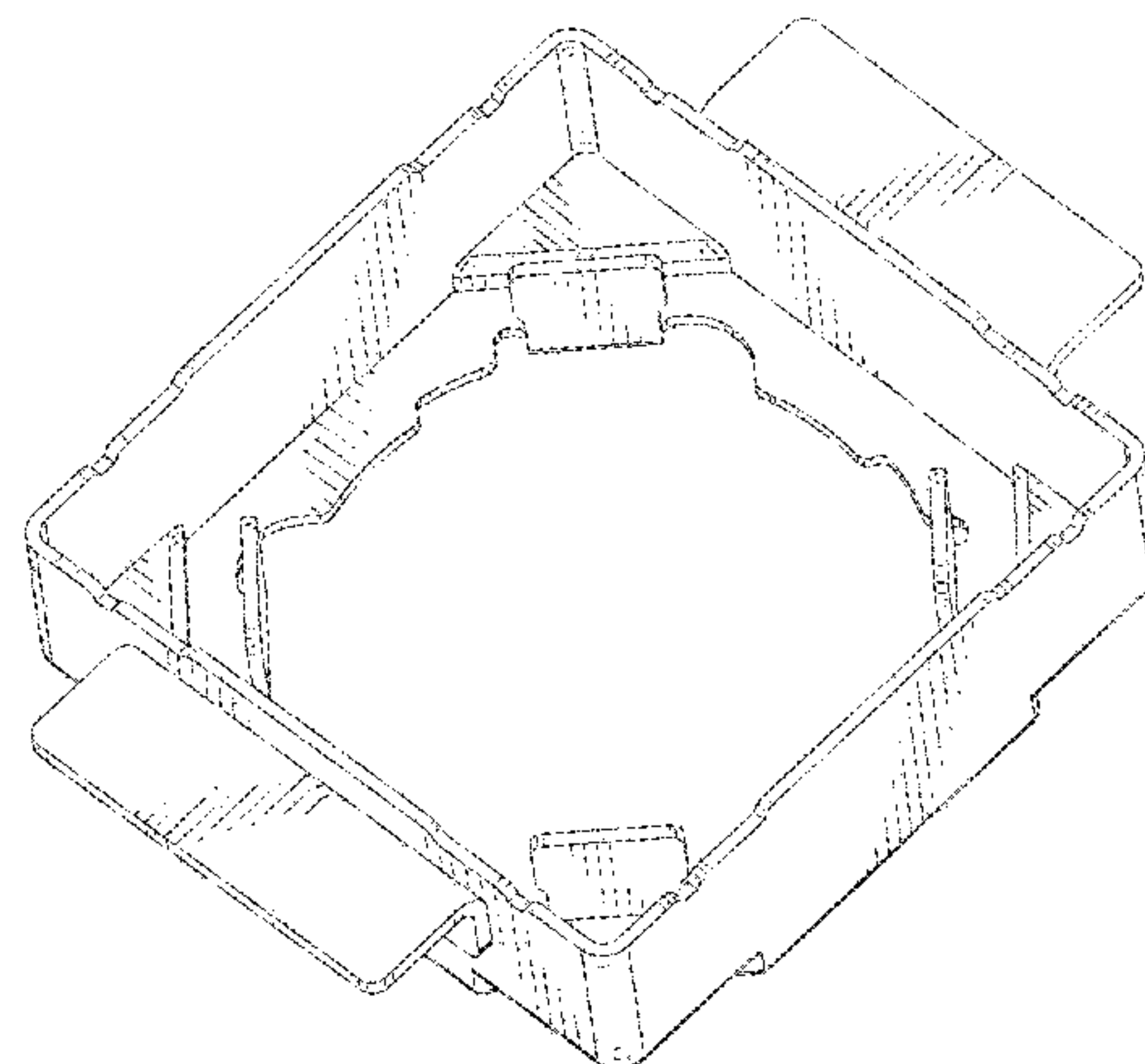
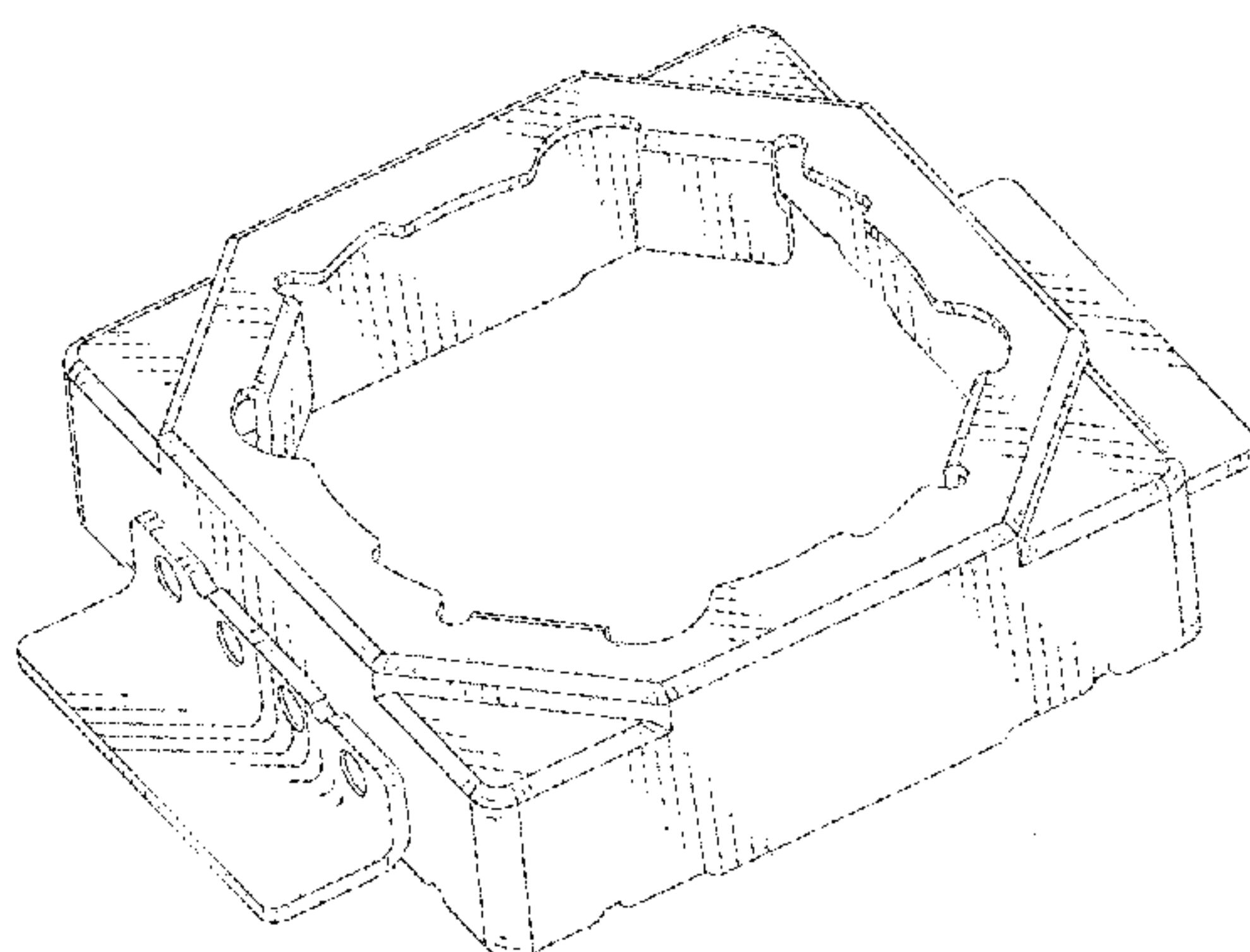
(57) **CLAIM**

We claim the ornamental design for a housing for a voice coil motor used in a focusing product, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a housing for a voice coil motor used in a focusing product showing my new design; FIG. 2 is a front elevational view thereof; FIG. 3 is a rear elevational view thereof; FIG. 4 is a left side elevational view thereof; FIG. 5 is a right side elevational view thereof; FIG. 6 is a top plan view thereof; FIG. 7 is a bottom plan view thereof; and, FIG. 8 is another perspective view thereof.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,653,522 A * 8/1997 Loucks G02B 27/1073
348/E9.027
5,868,485 A * 2/1999 Fujimori G02B 7/00
348/E5.141
6,532,293 B1 * 3/2003 Collins H04R 19/01
381/174
6,653,934 B2 * 11/2003 Pan H04R 9/00
310/322
D511,766 S * 11/2005 Suzuki D14/214
7,130,436 B1 * 10/2006 Tabata A42B 3/30
381/190
D538,794 S * 3/2007 Ho D14/225
D565,551 S * 4/2008 Yoshinaga D14/216
D571,358 S * 6/2008 Yoshinaga D14/214
D615,068 S * 5/2010 Yuasa D14/216
D635,712 S * 4/2011 Leen D26/118
8,794,374 B2 * 8/2014 Kim H04R 7/16
181/164
9,473,837 B2 * 10/2016 Choi H04R 9/025
D771,021 S * 11/2016 Matsunaga D14/214
9,621,994 B1 * 4/2017 Bongiovi H04R 9/043
D810,050 S * 2/2018 Uemoto D14/216
10,021,488 B2 * 7/2018 Stolz H04R 9/046
10,045,126 B2 * 8/2018 Berger H04R 7/20
2005/0241876 A1 * 11/2005 Sperle H04R 1/025
181/150

* cited by examiner

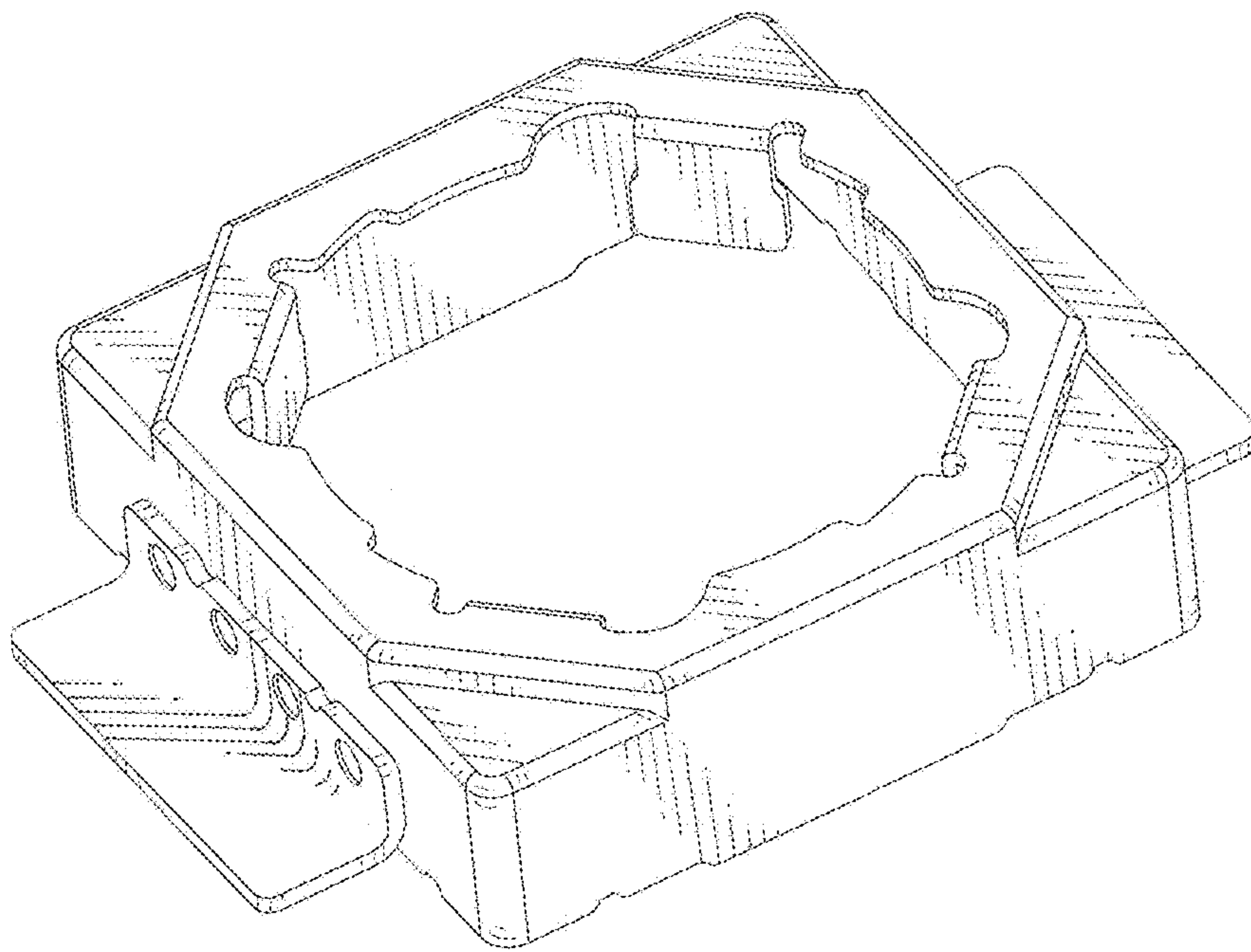


Fig.1

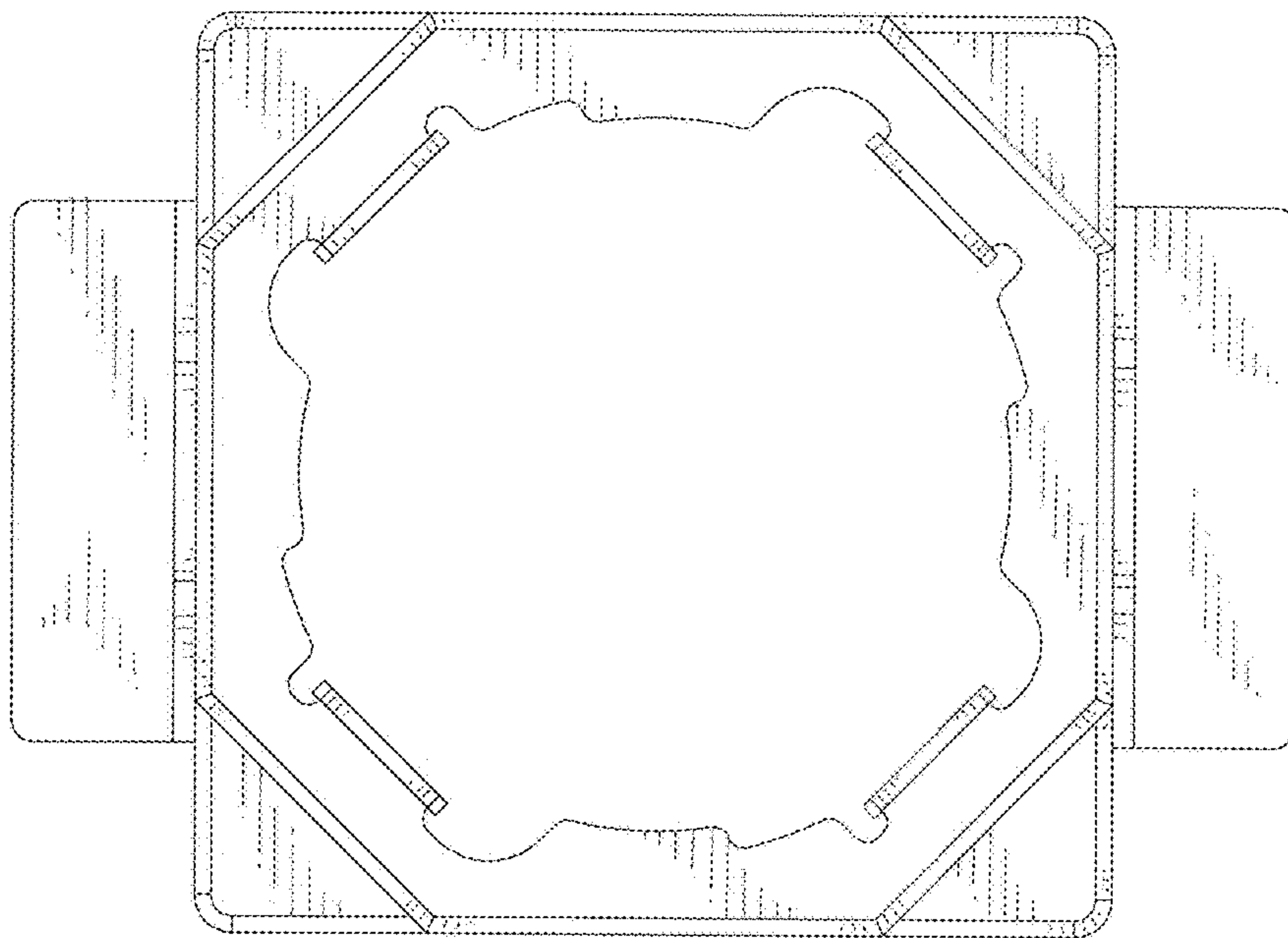


Fig.2

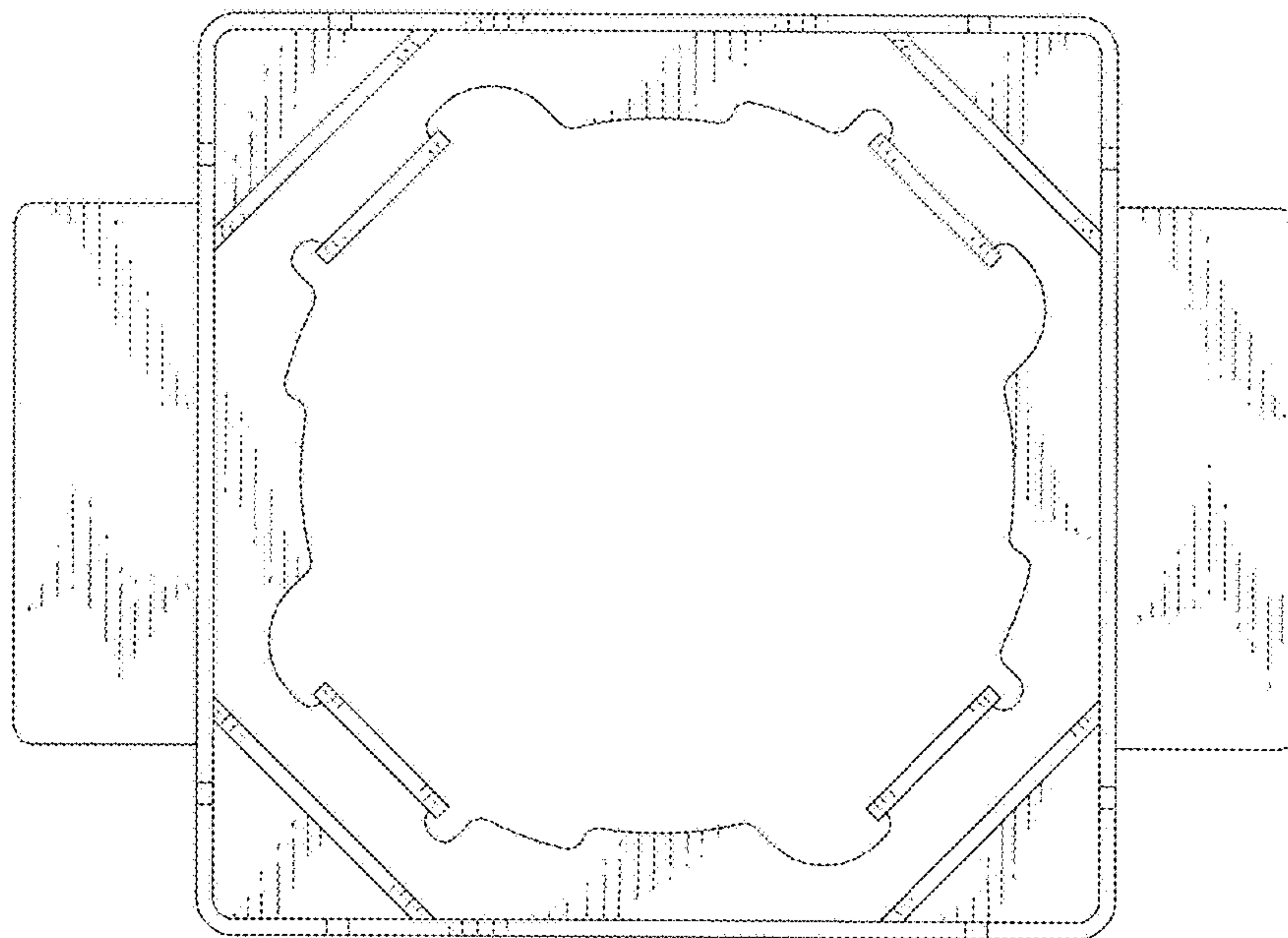


Fig.3

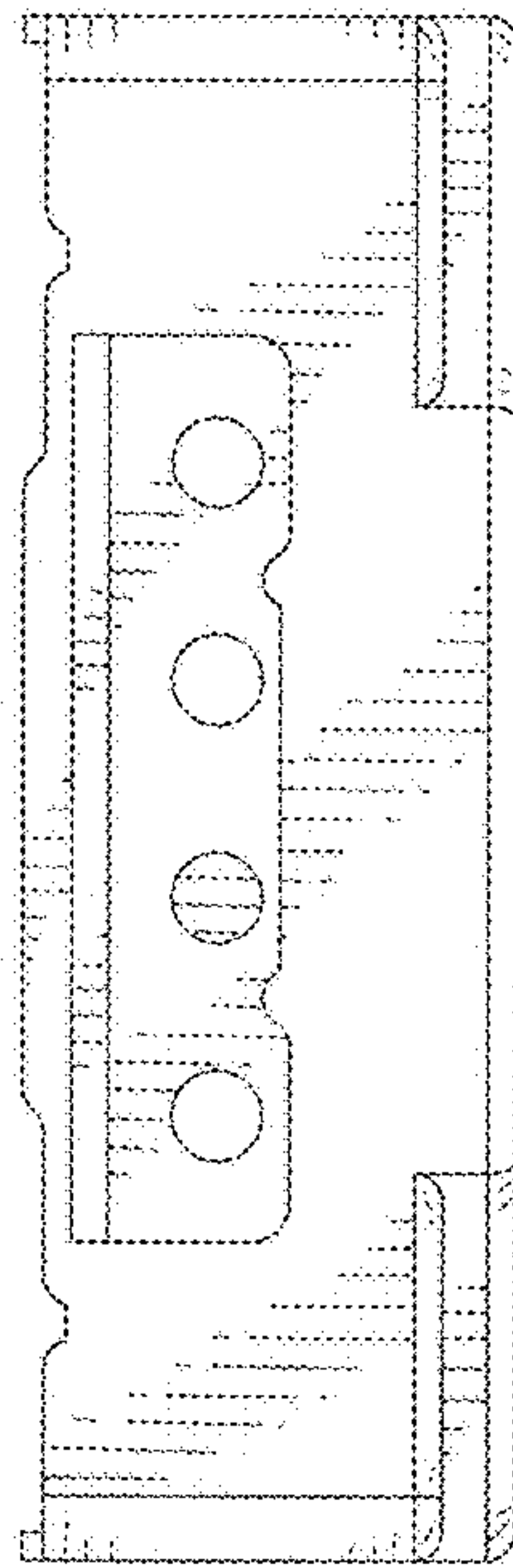


Fig.4

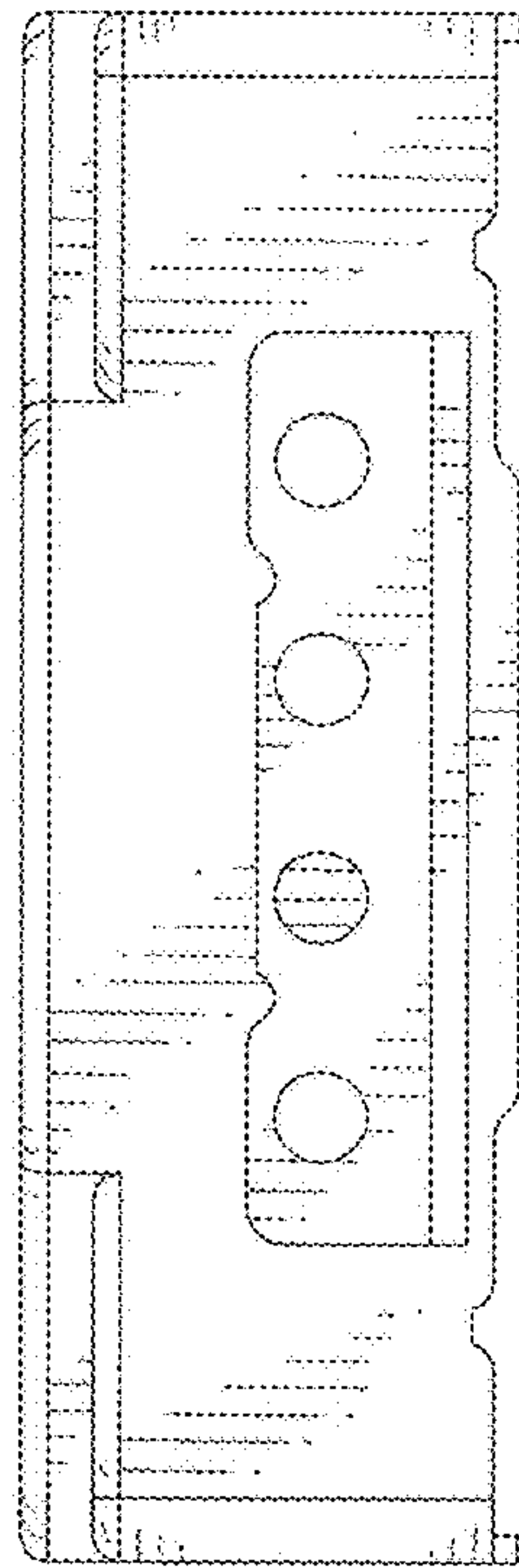


Fig.5

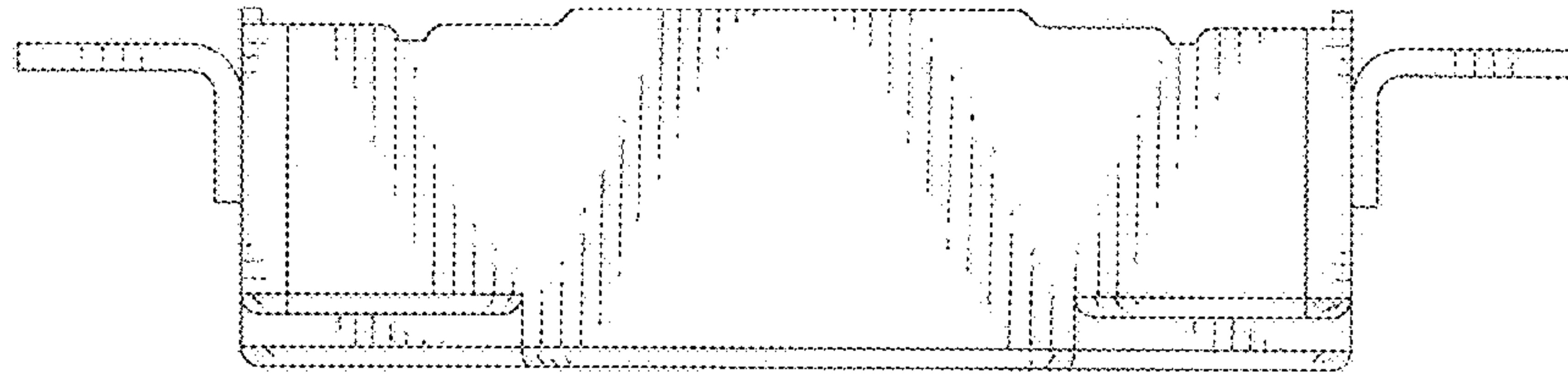


Fig.6

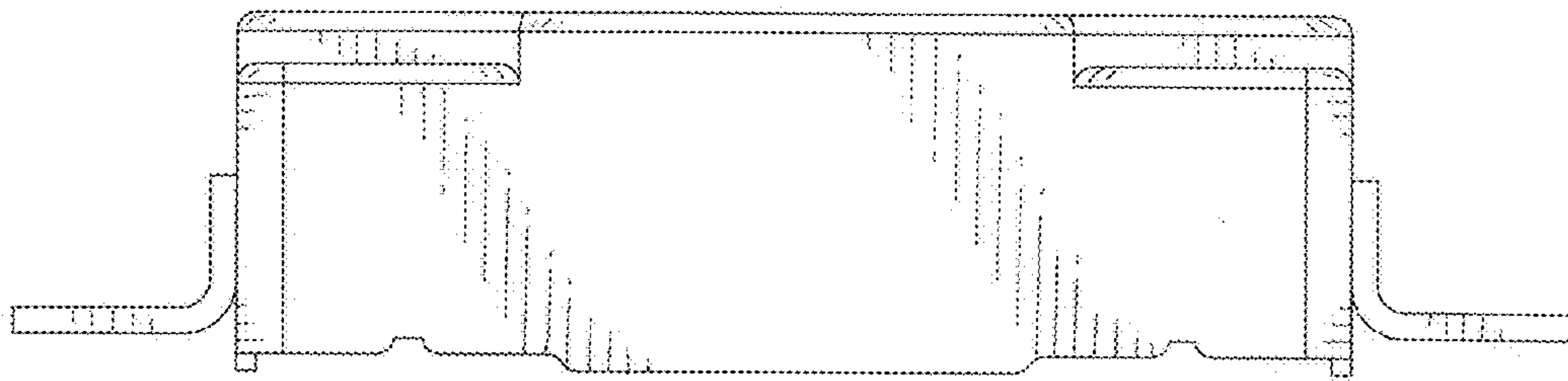


Fig.7

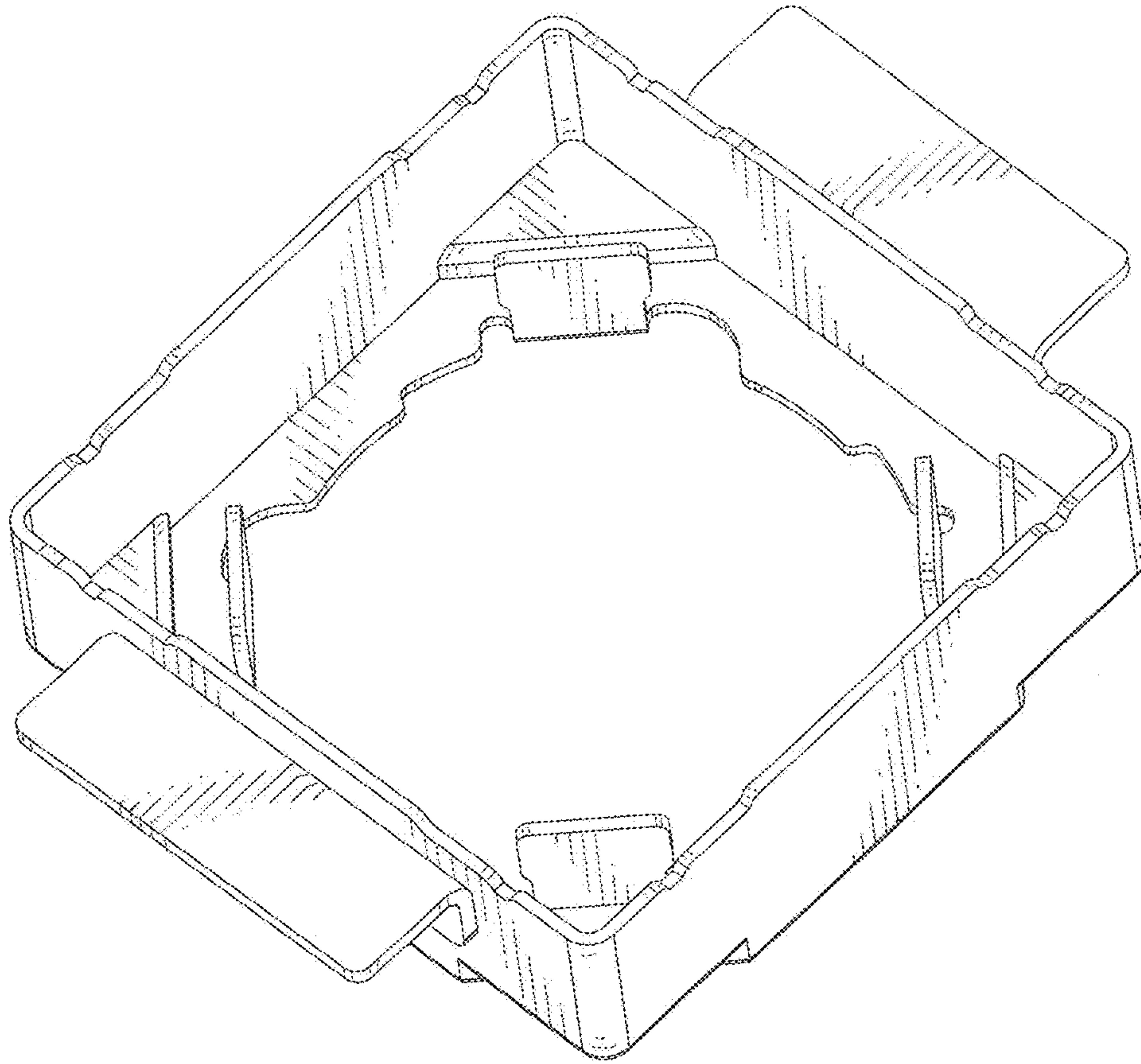


Fig.8