



US00D884638S

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

(10) **Patent No.:** **US D884,638 S**

(45) **Date of Patent:** **** May 19, 2020**

(54) **ELECTRICAL CONNECTOR**

(71) Applicant: **J.S.T. CORPORATION**, Farmington Hills, MI (US)

(72) Inventors: **Jong Soo Kim**, Naperville, IL (US);
Gwendolyn Upson, Ypsilanti, MI (US);
Ping Chen, Novi, MI (US)

(73) Assignee: **J.S.T. CORPORATION**, Farmington Hills, MI (US)

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

(21) Appl. No.: **29/650,721**

(22) Filed: **Jun. 8, 2018**

(51) **LOC (12) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/133**

(58) **Field of Classification Search**
USPC D13/101, 118, 123, 133, 145-147, 149,
D13/154, 184, 199
CPC . G02B 6/36; G02B 6/38; H01R 13/43; H01R
13/44; H01R 13/436; H01R 13/514;
H01R 13/62; H01R 13/627; H01R
13/629; H01R 13/63; H01R 13/639;
H01R 13/641

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D323,143 S *	1/1992	Ohkura	.....	D13/133
5,628,648 A *	5/1997	Higgins, Jr.	.....	H01R 13/6272 439/489
D454,334 S *	3/2002	Okada	.....	D13/133
6,712,636 B2 *	3/2004	Fukuda	.....	H01R 13/6271 439/353
D535,620 S *	1/2007	Mace	.....	D13/133
D747,689 S *	1/2016	Endo	.....	D13/147
D803,161 S *	11/2017	Li	.....	D13/147
D840,938 S *	2/2019	Hsu	.....	D13/147

D847,756 S *	5/2019	Endo	.....	D13/147
D850,382 S *	6/2019	Hisada	.....	D13/133
D854,500 S *	7/2019	Asano	.....	D13/133

(Continued)

FOREIGN PATENT DOCUMENTS

JP 2007334103 A * 12/2007

Primary Examiner — Angela J Lee

Assistant Examiner — Shawn T Gingrich

(74) *Attorney, Agent, or Firm* — Kratz, Quintos & Hanson, LLP

(57) **CLAIM**

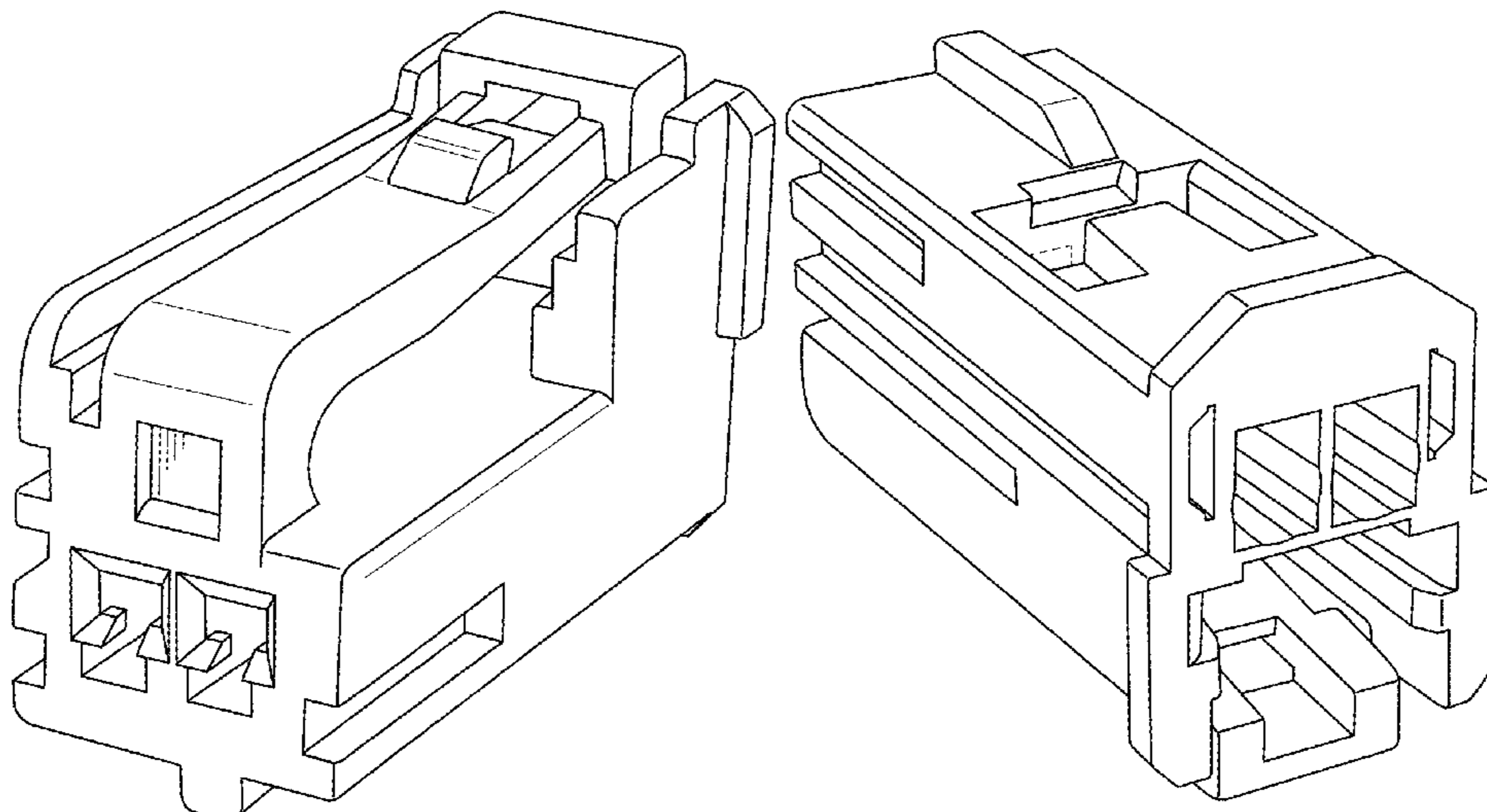
The ornamental design for electrical connector, as shown and described.

DESCRIPTION

FIG. 1 is a top and front perspective view of an electrical connector according to the claimed design;
 FIG. 2 is a top and back perspective view of the electrical connector according to the claimed design;
 FIG. 3 is a bottom and front perspective view of the electrical connector according to the claimed design;
 FIG. 4 is a bottom and back perspective view of the electrical connector according to the claimed design;
 FIG. 5 is a front elevational view of the electrical connector according to the claimed design;
 FIG. 6 is a back elevational view of the electrical connector according to the claimed design;
 FIG. 7 is a left side elevational view of the electrical connector according to the claimed design;
 FIG. 8 is a right side elevational view of the electrical connector according to the claimed design;
 FIG. 9 is a top plan view of the electrical connector according to the claimed design; and,
 FIG. 10 is a bottom plan view of the electrical connector according to the claimed design.

The broken lines in the drawings illustrate portions of the electrical connector that form no part of the claimed design.

1 Claim, 9 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D854,501 S * 7/2019 Asano D13/133
10,461,458 B2 * 10/2019 Kim H01R 13/639
2002/0114583 A1 * 8/2002 Asada G02B 6/3849
385/78
2018/0034185 A1 * 2/2018 Nagasaka H01R 13/428
2018/0062314 A1 * 3/2018 Schmidt H01R 13/639
2019/0109399 A1 * 4/2019 Kim H01R 13/4362
2019/0199036 A1 * 6/2019 Kanemura H01R 13/639
2019/0319400 A1 * 10/2019 Azad H01R 43/26
2019/0393639 A1 * 12/2019 Chiba H01R 13/11
2020/0006891 A1 * 1/2020 Miyamura H01R 13/6463

* cited by examiner

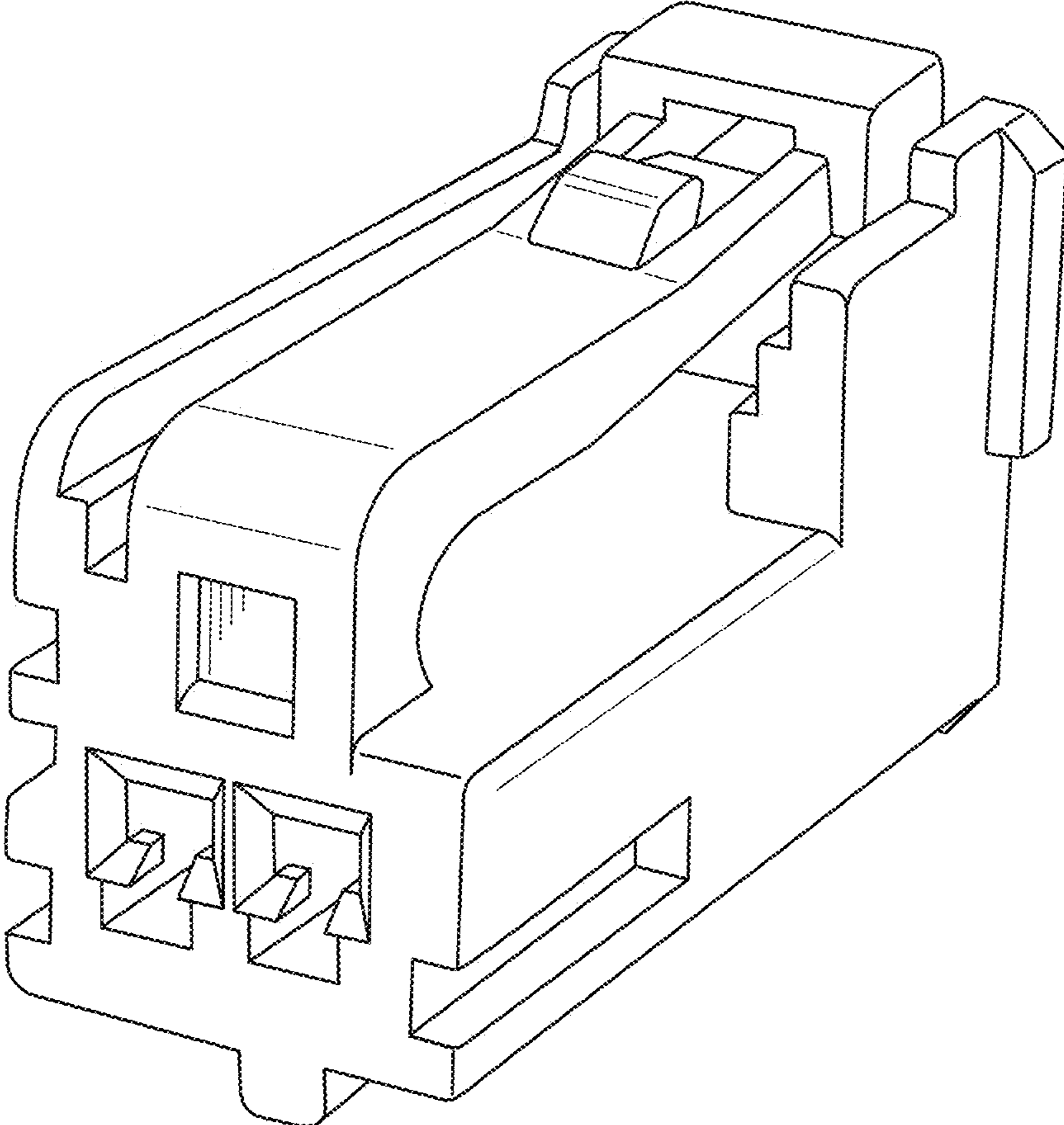


FIG. 1

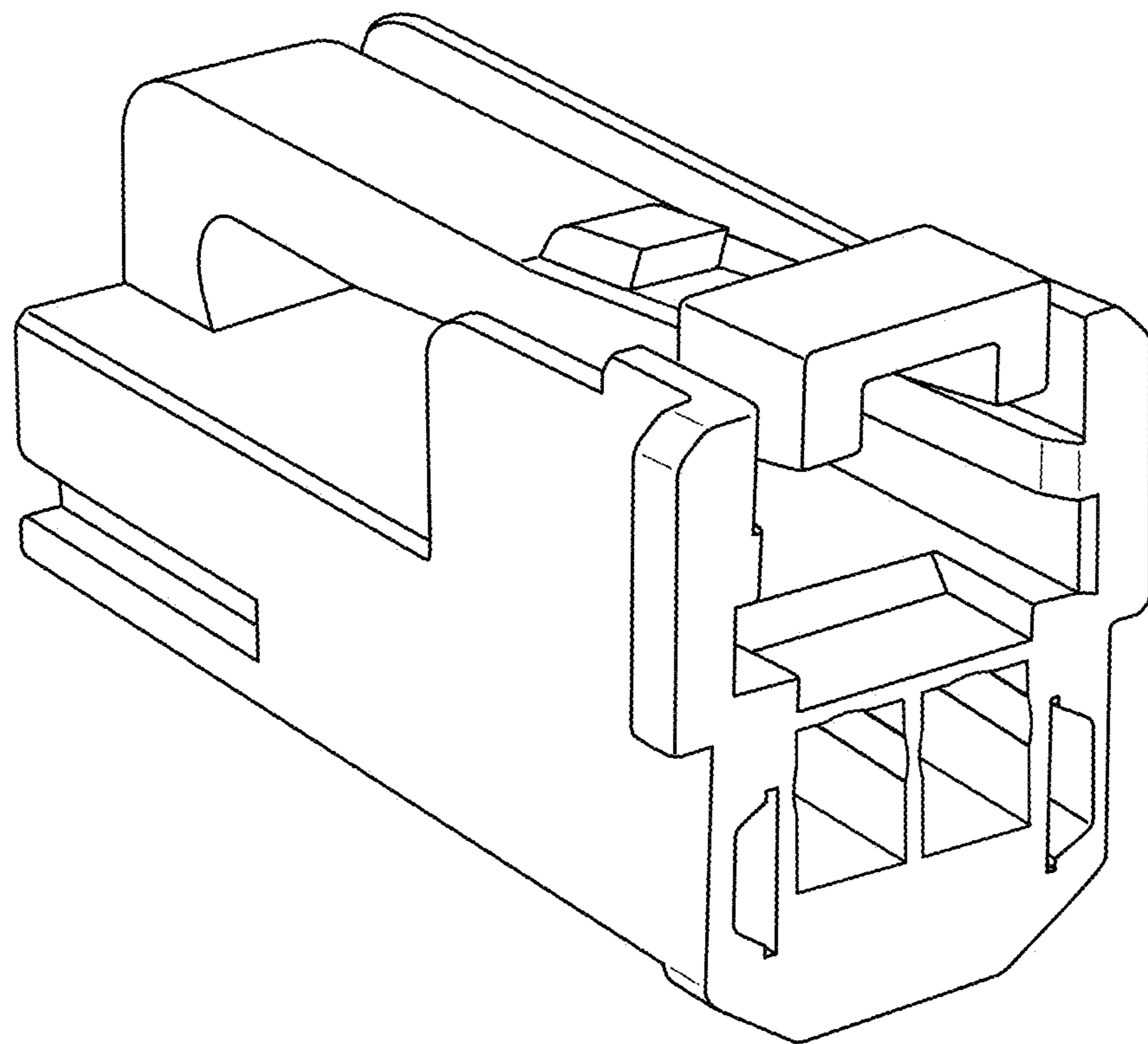


FIG. 2

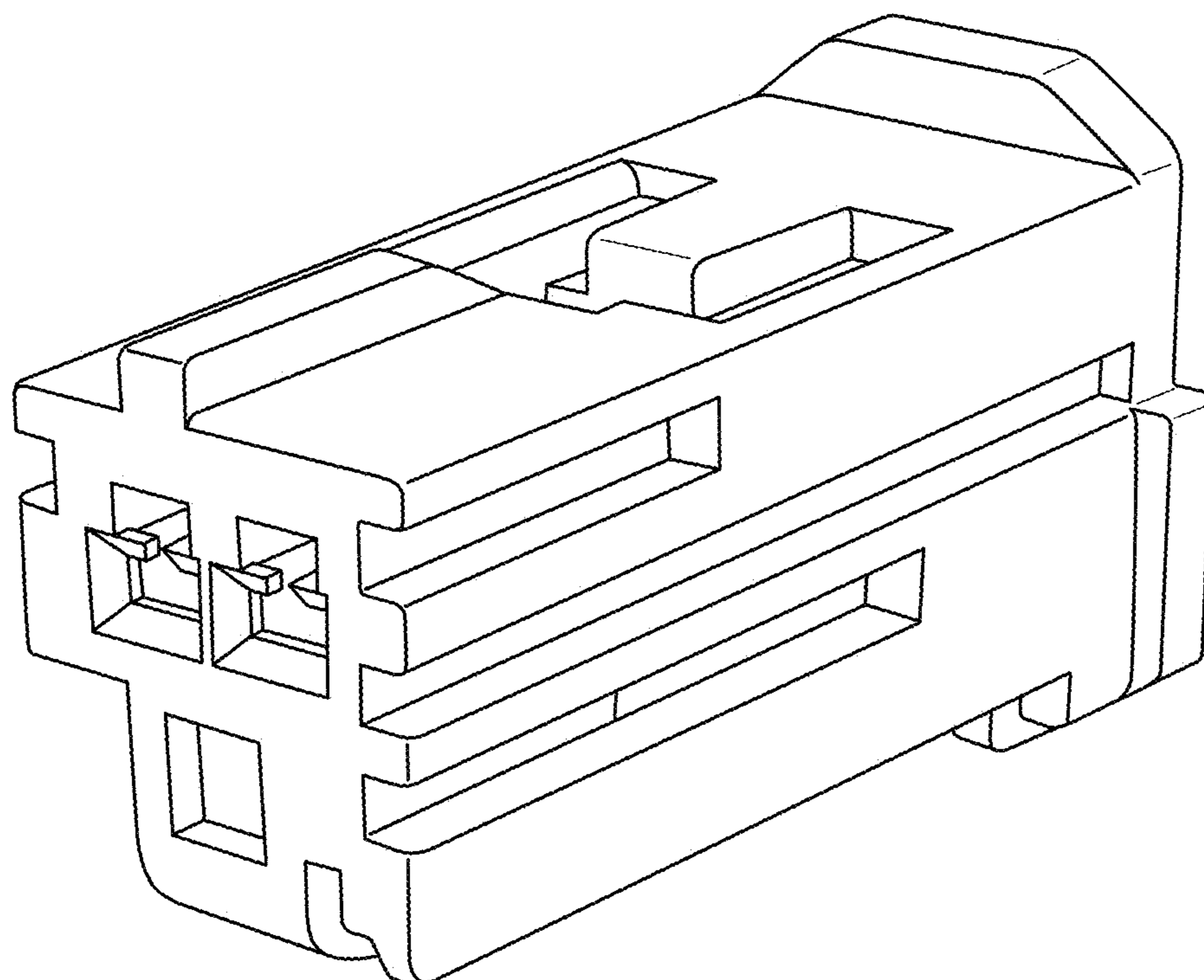


FIG. 3

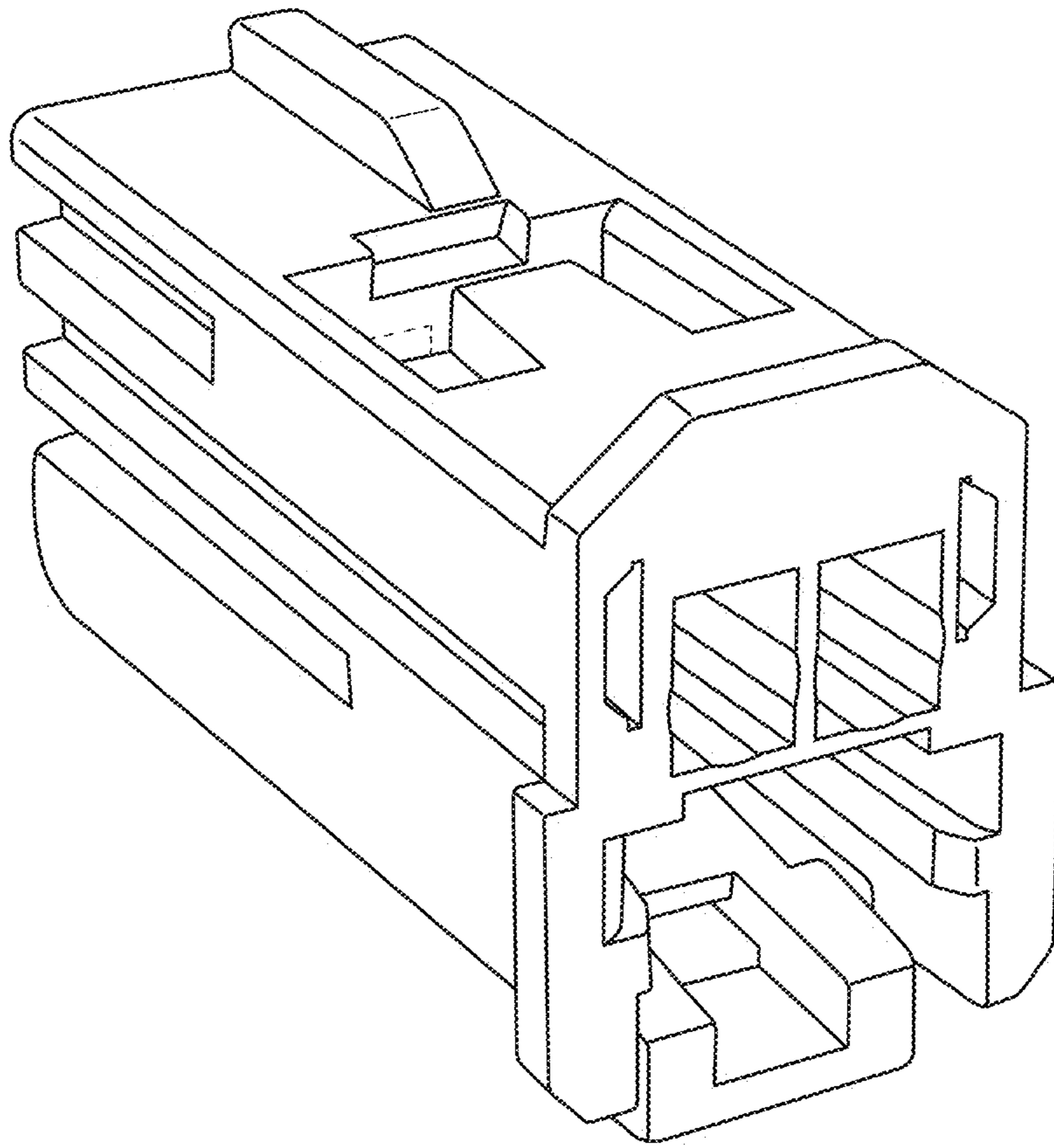


FIG. 4

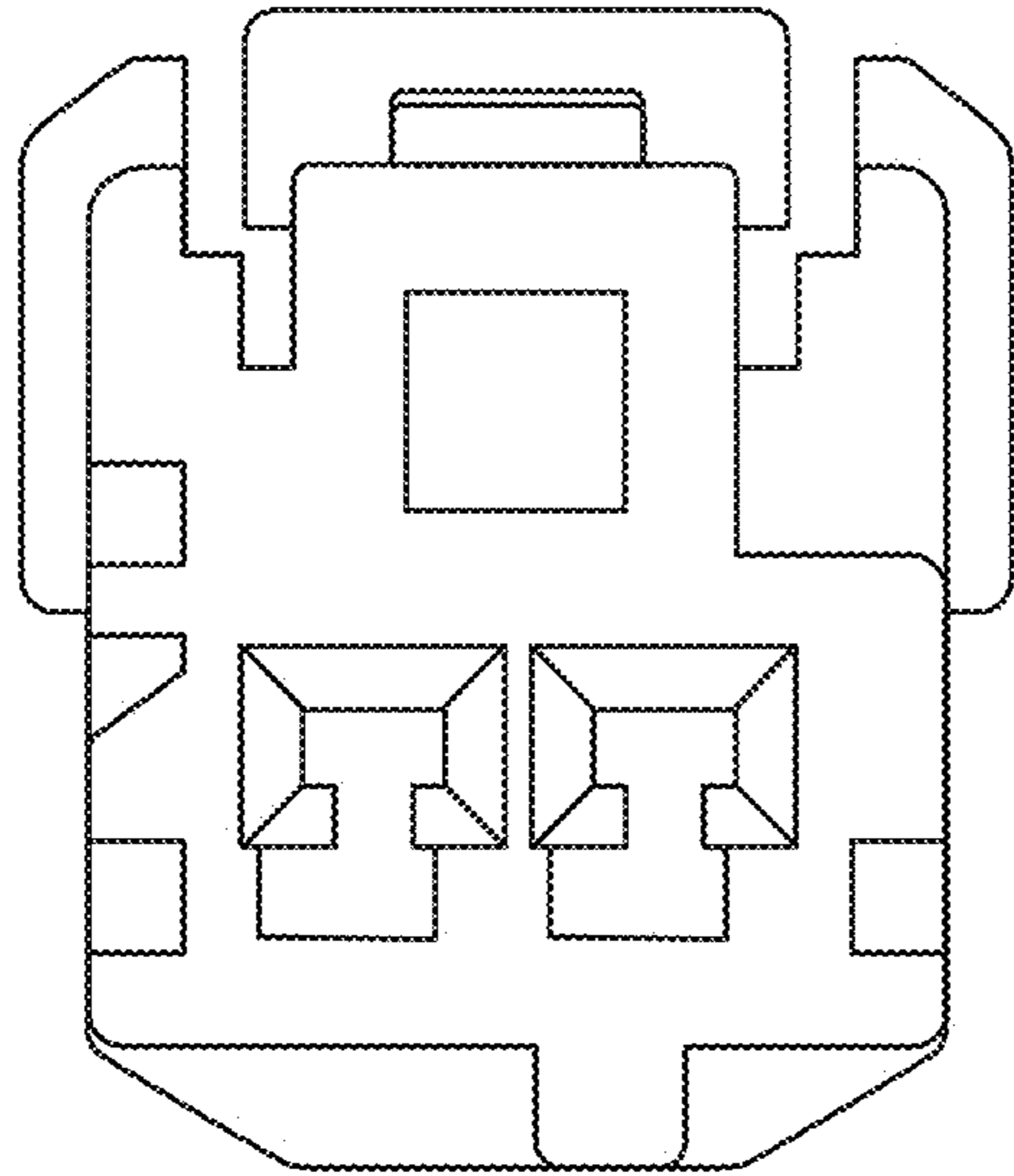


FIG. 5

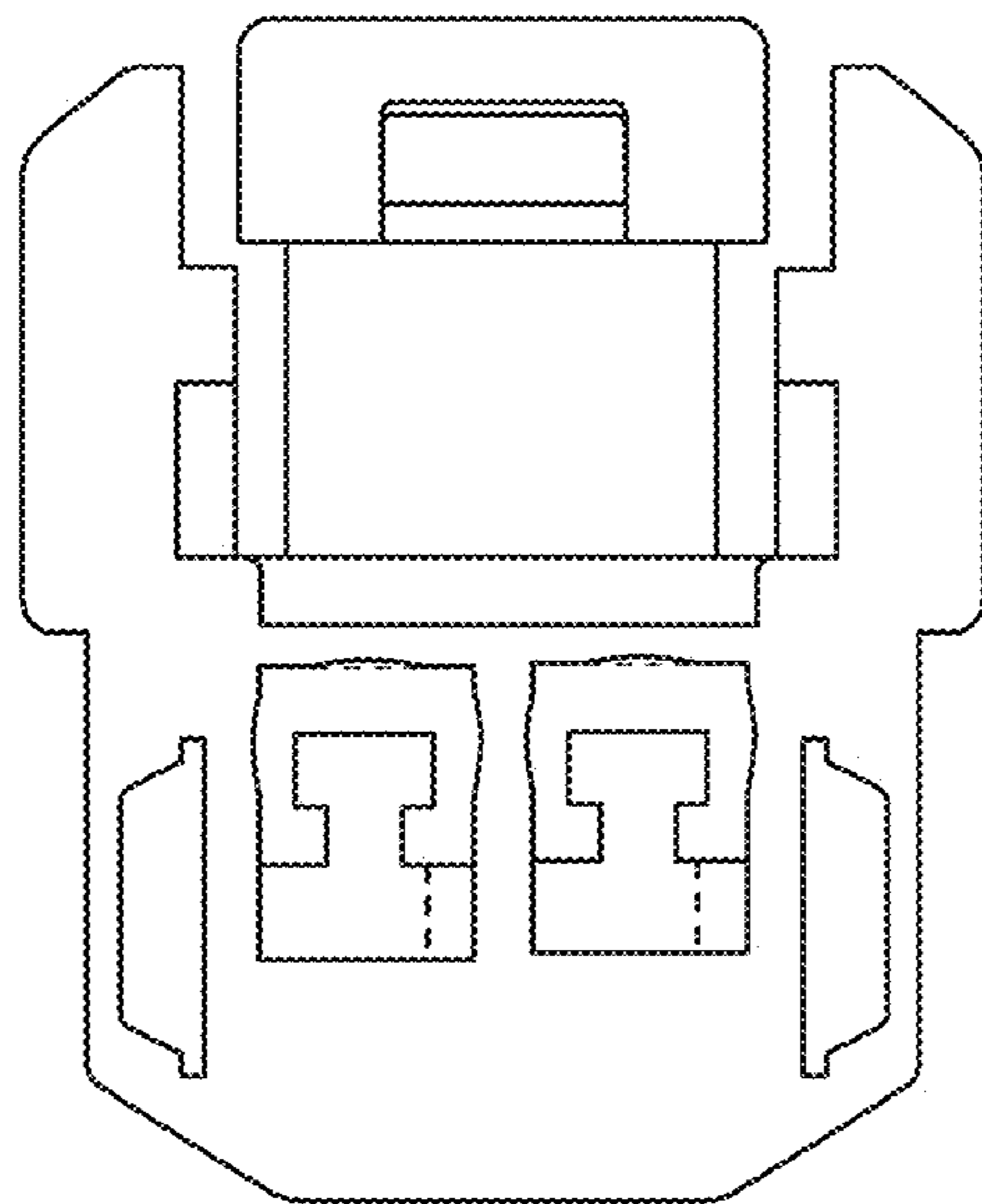


FIG. 6

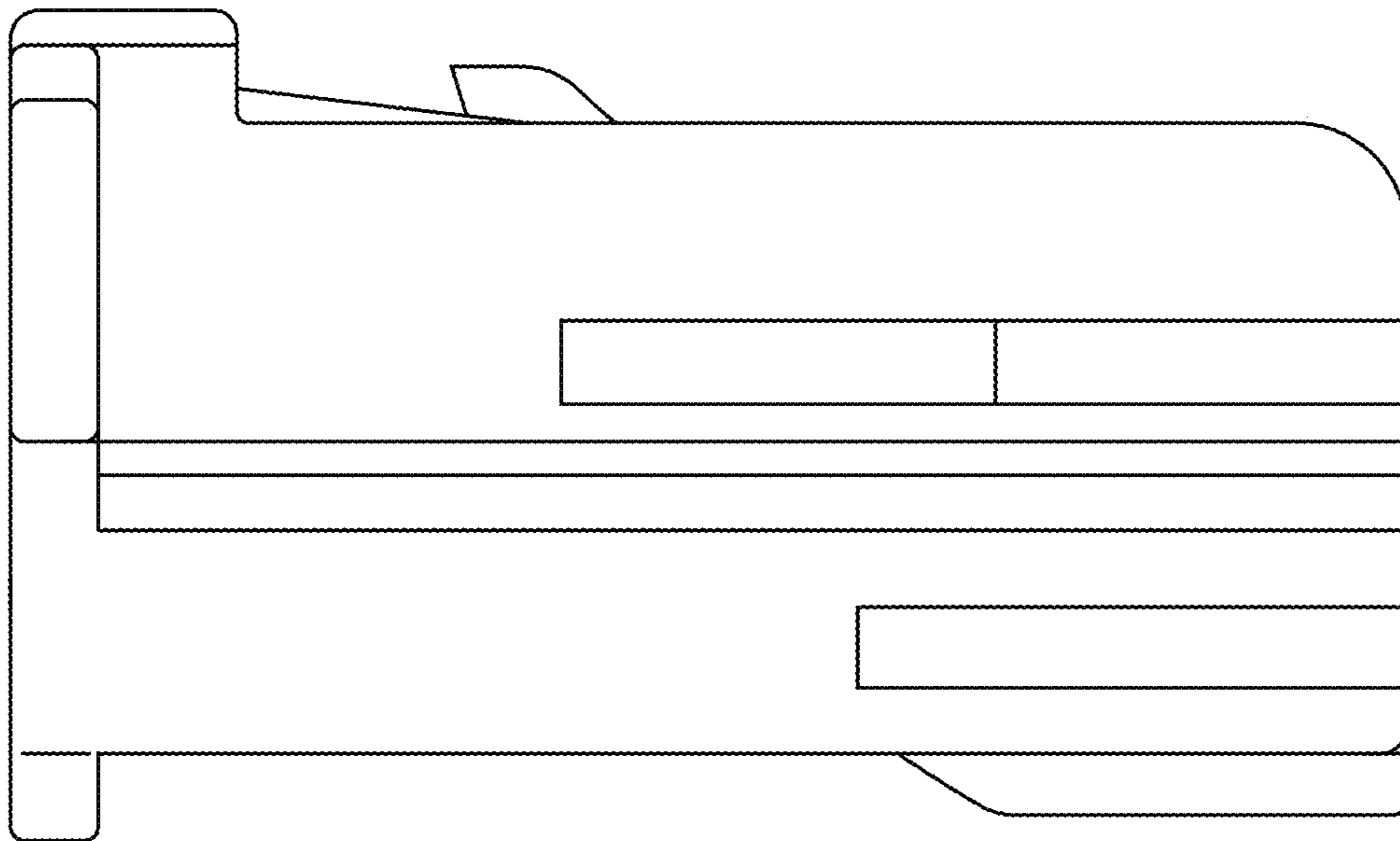


FIG. 7

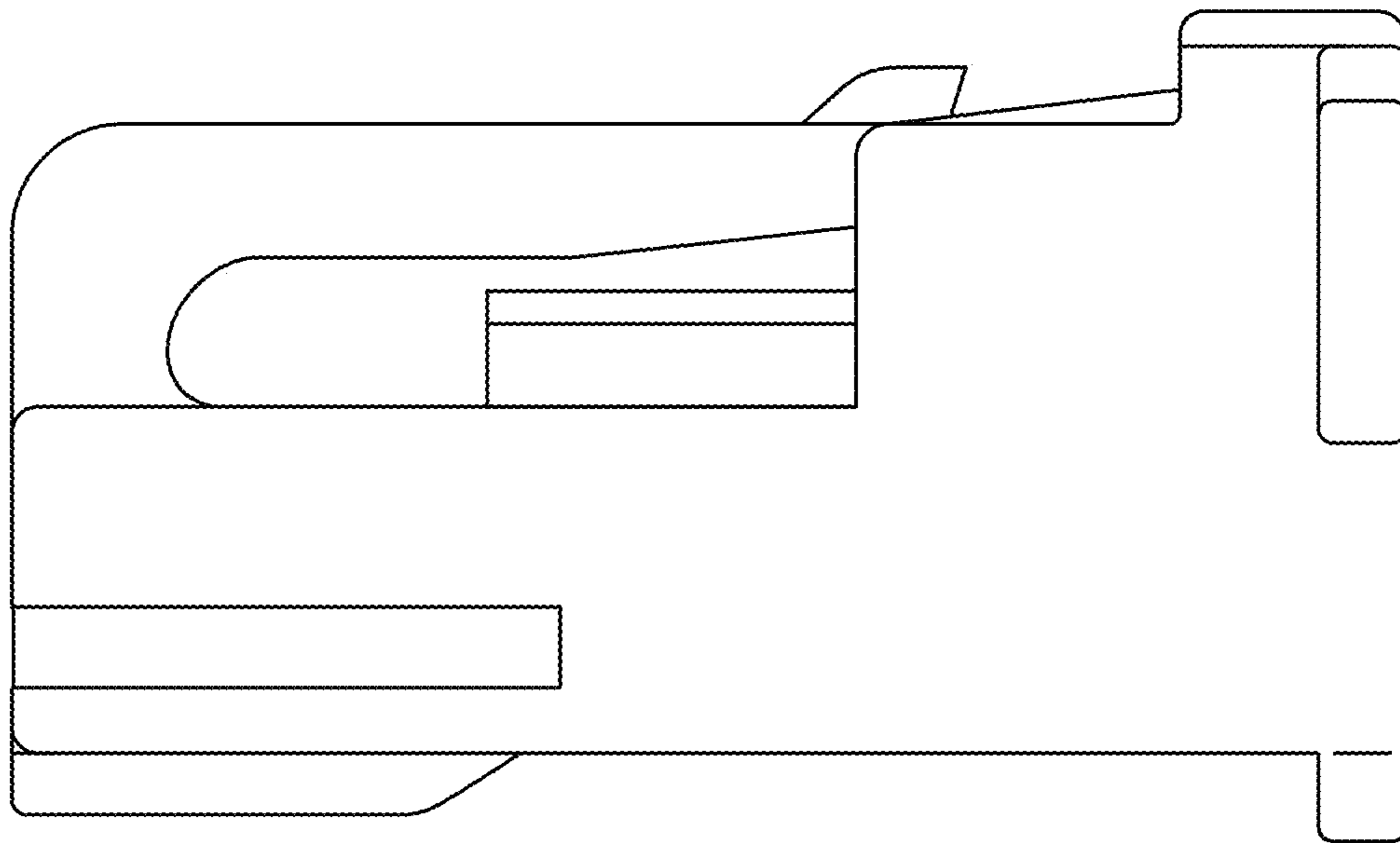


FIG. 8

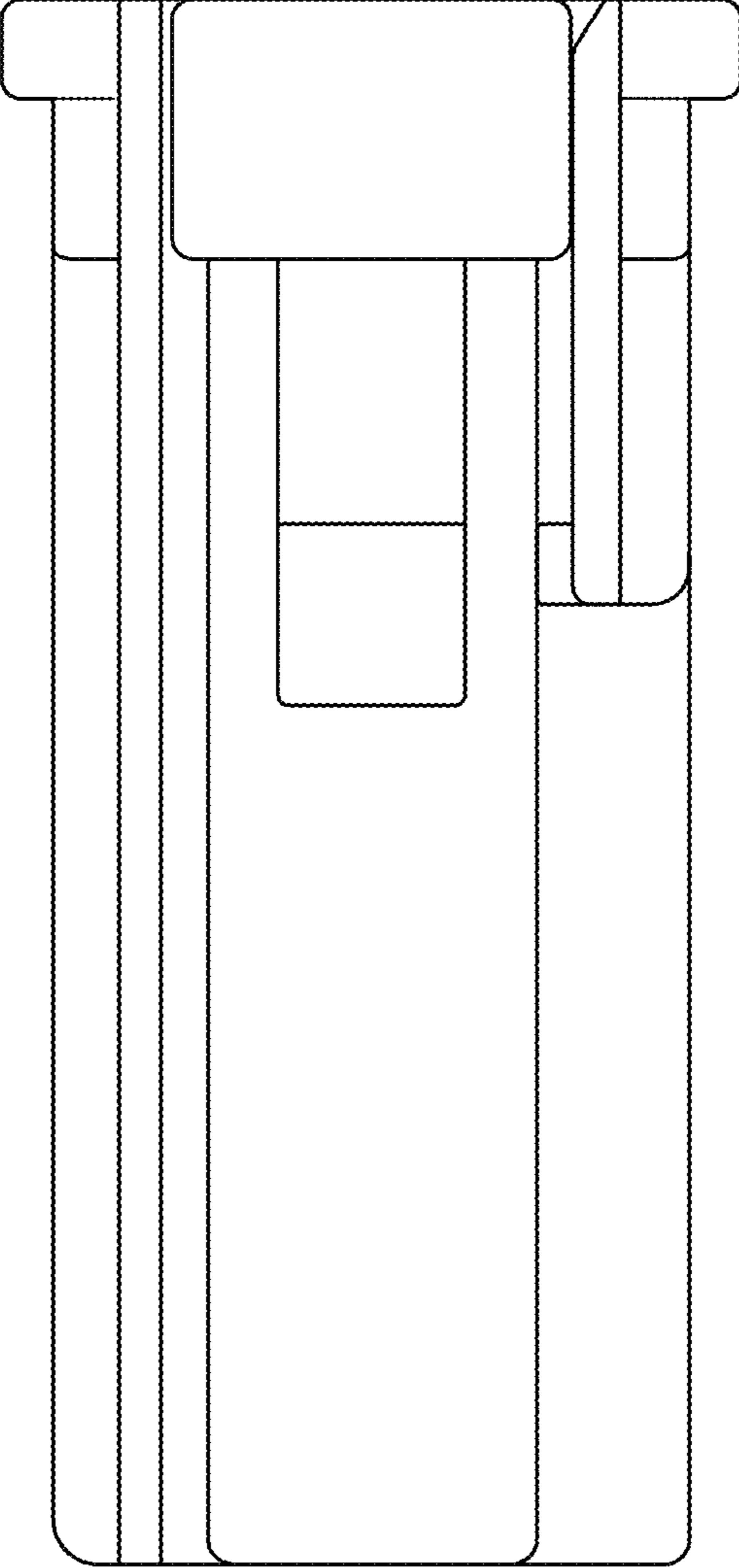


FIG. 9

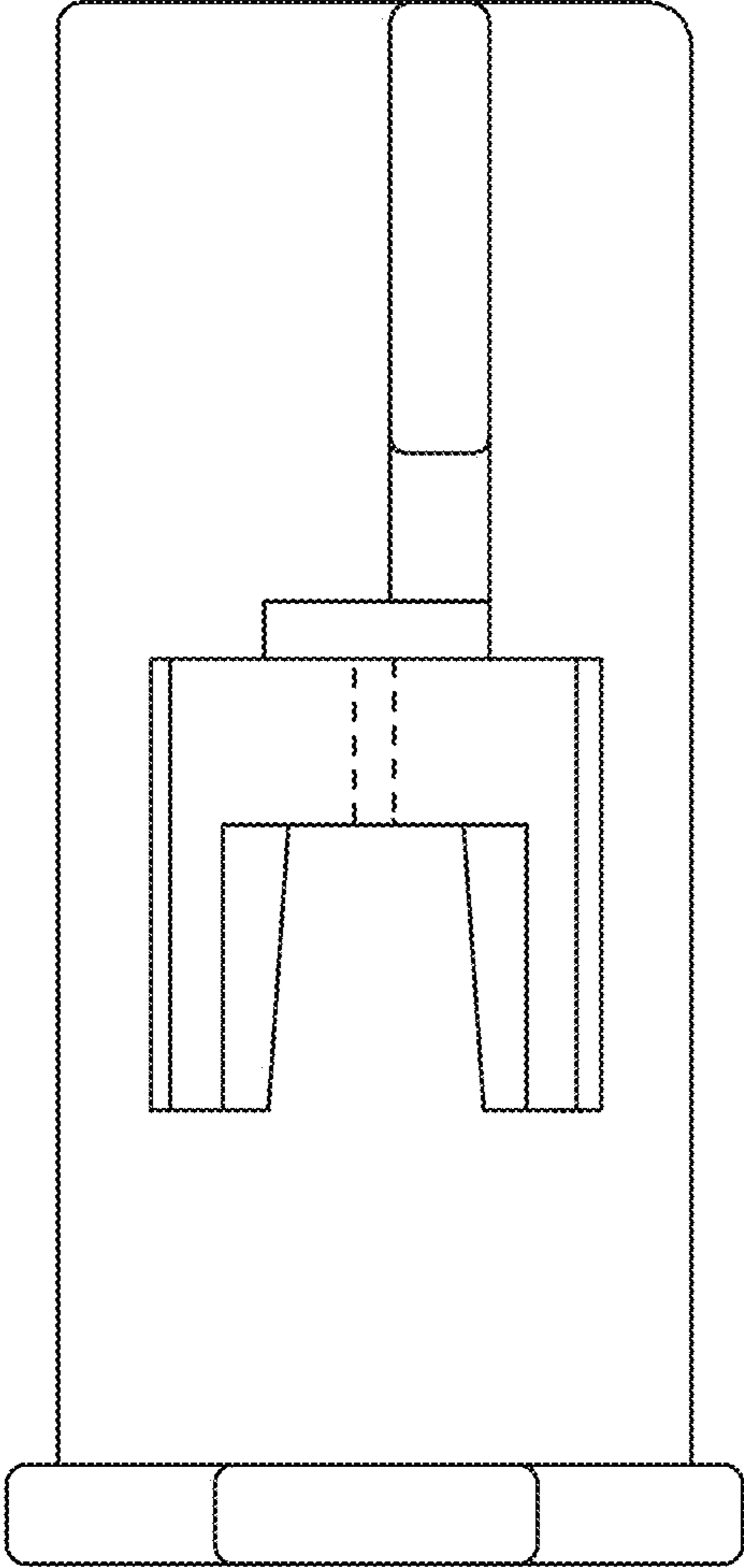


FIG. 10