



US00D875150S

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

(10) **Patent No.:** **US D875,150 S**

(45) **Date of Patent:** **** Feb. 11, 2020**

(54) **END PLATE FOR MOTION GUIDE DEVICE**

(71) Applicant: **THK CO., LTD.**, Tokyo (JP)

(72) Inventors: **Hiroyuki Kishi**, Tokyo (JP);
Mitsumasa Wada, Tokyo (JP);
Hiroyoshi Yasutake, Tokyo (JP); **Eriko Oshima**, Tokyo (JP)

(73) Assignee: **THK CO., LTD.**, Tokyo (JP)

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

(21) Appl. No.: **29/627,657**

(22) Filed: **Nov. 29, 2017**

(30) **Foreign Application Priority Data**

May 31, 2017 (JP) 2017-011618
May 31, 2017 (JP) 2017-011619

(51) **LOC (12) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/148**

(58) **Field of Classification Search**
USPC D15/148, 199
CPC F16C 29/065; F16C 29/086
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D297,122 S * 8/1988 Kabaya D10/32
4,775,247 A * 10/1988 Isert F16C 29/004
384/43
D301,015 S * 5/1989 Nakai D10/32
4,909,637 A * 3/1990 Mottate F16C 29/063
384/45
5,143,454 A * 9/1992 Morita F16C 29/002
384/37
5,181,780 A * 1/1993 Morita B23Q 11/0032
384/37

5,267,796 A * 12/1993 Nonaka B22D 19/00
384/13
5,360,271 A * 11/1994 Agari F16C 29/064
384/15
5,393,144 A * 2/1995 Higuchi B23Q 1/58
384/45

(Continued)

OTHER PUBLICATIONS

Office Action dated Feb. 2, 2018, issued in counterpart Japanese Application No. 2017-011618.

Primary Examiner — Patricia A Palasik
(74) *Attorney, Agent, or Firm* — Westerman, Hattori, Daniels & Adrian, LLP

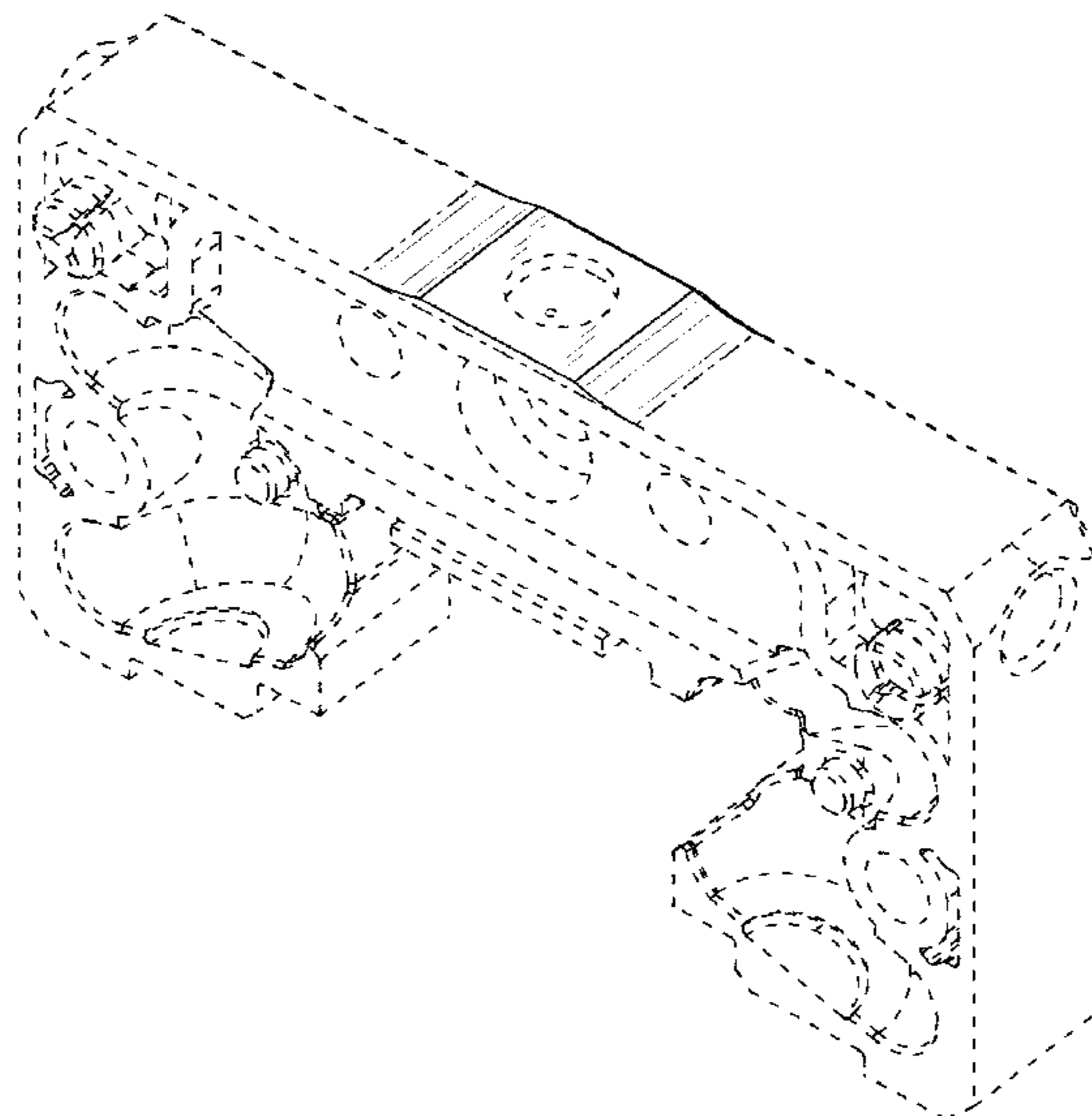
(57) **CLAIM**

The ornamental design for an end plate for motion guide device, as shown and described.

DESCRIPTION

FIG. 1 is a front elevational view of an end plate for motion guide device, showing our new design.
FIG. 2 is a rear elevational view thereof.
FIG. 3 is a right side elevational view thereof.
FIG. 4 is a left side elevational view thereof.
FIG. 5 is a top plan view thereof.
FIG. 6 is a bottom plan view thereof.
FIG. 7 is a perspective view, showing the front, top, and right-side thereof.
FIG. 8 is a perspective view, showing the rear, bottom, and left-side thereof.
FIG. 9 is a perspective view, showing the front, bottom, and right-side thereof; and,
FIG. 10 is a perspective view, showing the rear, top, and left-side thereof.
The broken lines illustrate environmental structure and form no part of the claimed design. The dot-dash lines form boundaries of the claimed design and form no part thereof.

1 Claim, 10 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,435,649	A *	7/1995	Kuwahara	.....	F16C 29/064	384/13
5,575,566	A *	11/1996	Faulhaber	.....	F16C 29/082	384/15
6,045,265	A *	4/2000	Shirai	.....	F16C 29/0602	384/45
6,106,154	A *	8/2000	Agari	.....	F16C 29/086	384/13
6,176,617	B1 *	1/2001	Kamimura	.....	F16C 29/064	384/13
6,203,200	B1 *	3/2001	Teramachi	.....	F16C 29/001	29/898.03
6,250,805	B1 *	6/2001	Kuwahara	.....	F16C 29/064	384/15
D451,116	S *	11/2001	Kono	.....	D10/31	
D719,123	S *	12/2014	Park	.....	D10/38	
D729,649	S *	5/2015	Phillips	.....	D10/103	
D729,671	S *	5/2015	Nuovo	.....	D10/103	
D729,673	S *	5/2015	Kopp, Jr.	.....	D10/103	
D758,996	S *	6/2016	Wai	.....	D14/218	
D805,929	S *	12/2017	Akana	.....	D10/70	
2002/0102035	A1 *	8/2002	Kuwahara	.....	F16C 29/0657	384/45
2002/0136472	A1 *	9/2002	Mochizuki	.....	F16C 29/0607	384/45
2002/0141667	A1 *	10/2002	Ishihara	.....	F16C 29/0657	384/45
2003/0156768	A1 *	8/2003	Miyata	.....	F16C 29/005	384/45
2003/0179962	A1 *	9/2003	Ishihara	.....	F16C 29/065	384/45
2007/0223845	A1 *	9/2007	Kakei	.....	F16C 29/0635	384/15
2008/0095479	A1 *	4/2008	Chen	.....	F16C 29/00	384/45
2008/0260307	A1 *	10/2008	Geka	.....	F16C 29/0607	384/50
2009/0161996	A1 *	6/2009	Michioka	.....	F16C 29/00	384/8
2009/0252442	A1 *	10/2009	Michioka	.....	F16C 29/0607	384/13
2009/0304312	A1 *	12/2009	Horie	.....	B25J 19/0062	384/13
2010/0080496	A1 *	4/2010	Mochizuki	.....	F16C 29/005	384/45
2010/0247007	A1 *	9/2010	Kanoh	.....	F16C 29/041	384/57
2010/0314006	A1 *	12/2010	Hashimoto	.....	C21D 1/10	148/333
2012/0014628	A1 *	1/2012	Kanoh	.....	F16C 33/541	384/51
2012/0195535	A1 *	8/2012	Shibuya	.....	F16C 29/065	384/13
2012/0328221	A1 *	12/2012	Maki	.....	F16C 29/065	384/13
2015/0159695	A1 *	6/2015	Geka	.....	F16C 33/3706	384/44
2015/0233427	A1 *	8/2015	Chang	.....	F16C 33/6659	384/13
2015/0345554	A1 *	12/2015	Kikuchi	.....	F16C 29/064	384/13
2016/0281777	A1 *	9/2016	Nara	.....	F16C 29/063	
2016/0319865	A1 *	11/2016	Nara	.....	F16C 29/041	
2017/0016483	A1 *	1/2017	Sakagami	.....	F16C 41/007	
2017/0089388	A1 *	3/2017	Matsumoto	.....	F16C 29/0609	
2017/0146059	A1 *	5/2017	Tomita	.....	F16C 29/0602	
2017/0241536	A1 *	8/2017	Lintunen	.....	G01B 3/38	
2017/0254362	A1 *	9/2017	Ishihara	.....	F16C 29/065	
2017/0307011	A1 *	10/2017	Aoki	.....	F16C 29/0609	
2017/0341092	A1 *	11/2017	Yoshida	.....	B05B 1/005	
2018/0010634	A1 *	1/2018	Nara	.....	F16C 29/043	
2018/0066709	A1 *	3/2018	Yamagishi	.....	F16C 29/06	
2018/0073558	A1 *	3/2018	Sakai	.....	F16C 29/06	
2018/0347626	A1 *	12/2018	Nagao	.....	F16C 29/005	
2018/0355915	A1 *	12/2018	Aoki	.....	F16C 29/0623	

* cited by examiner

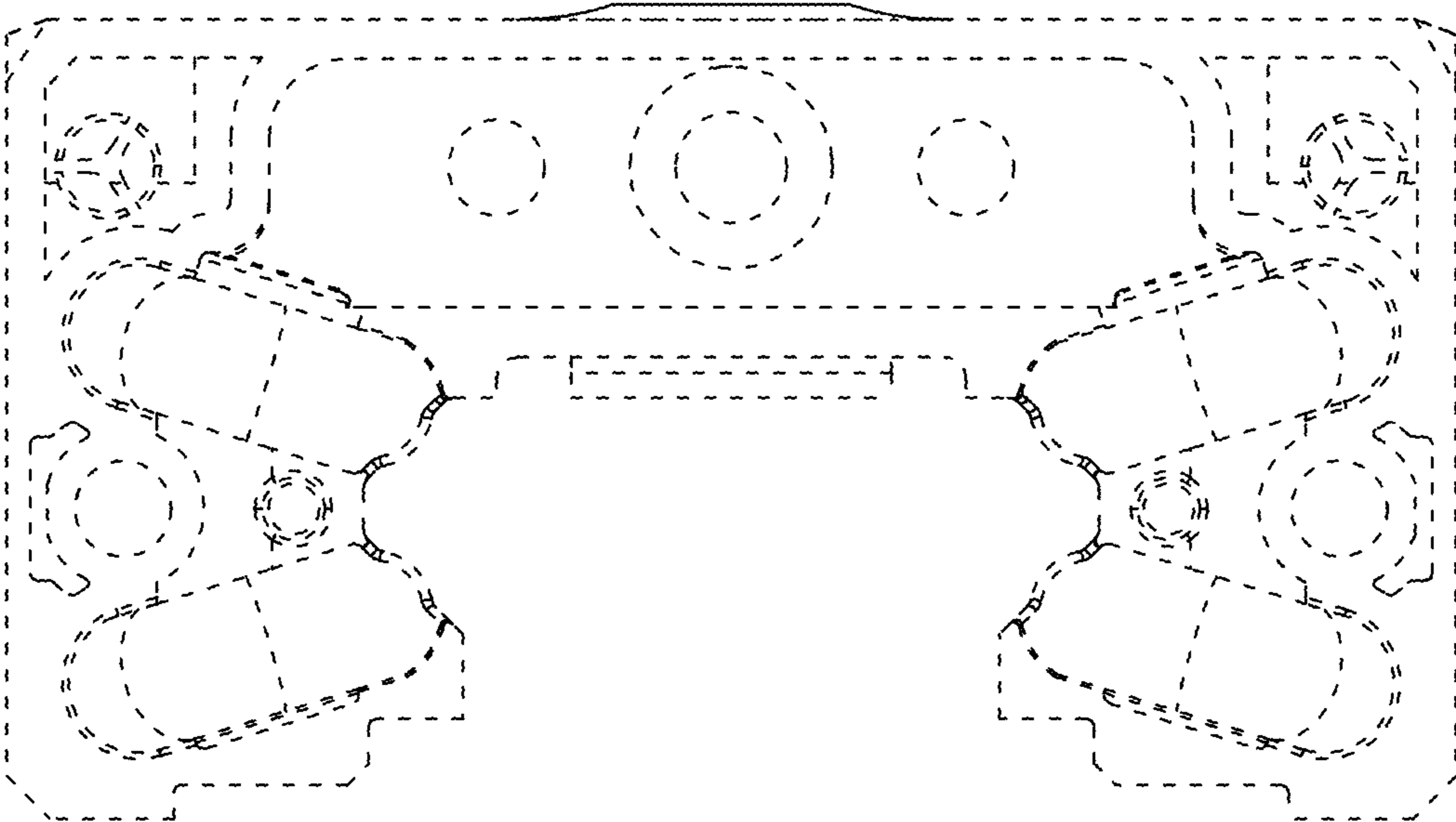


FIG. 1

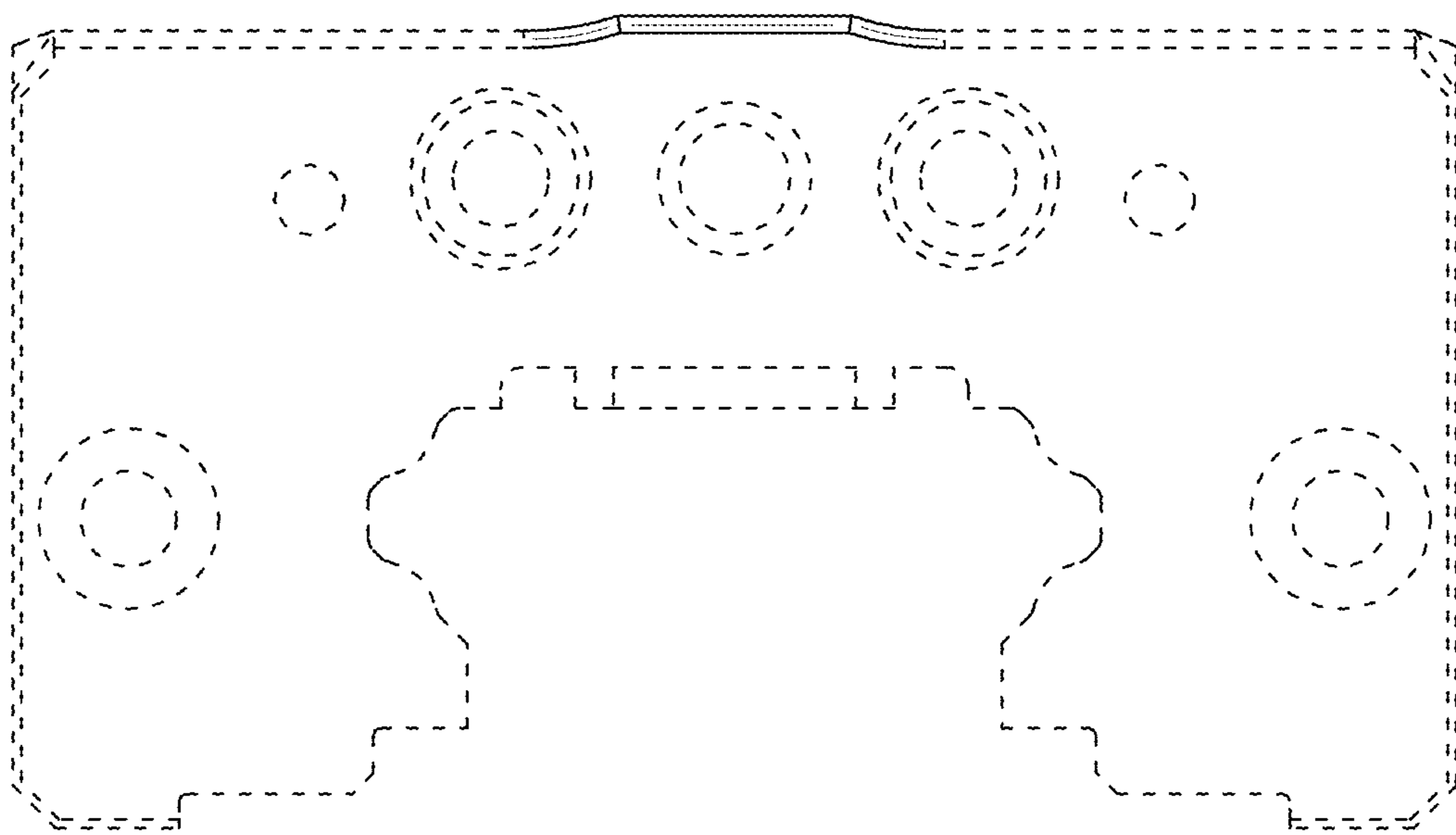


FIG. 2

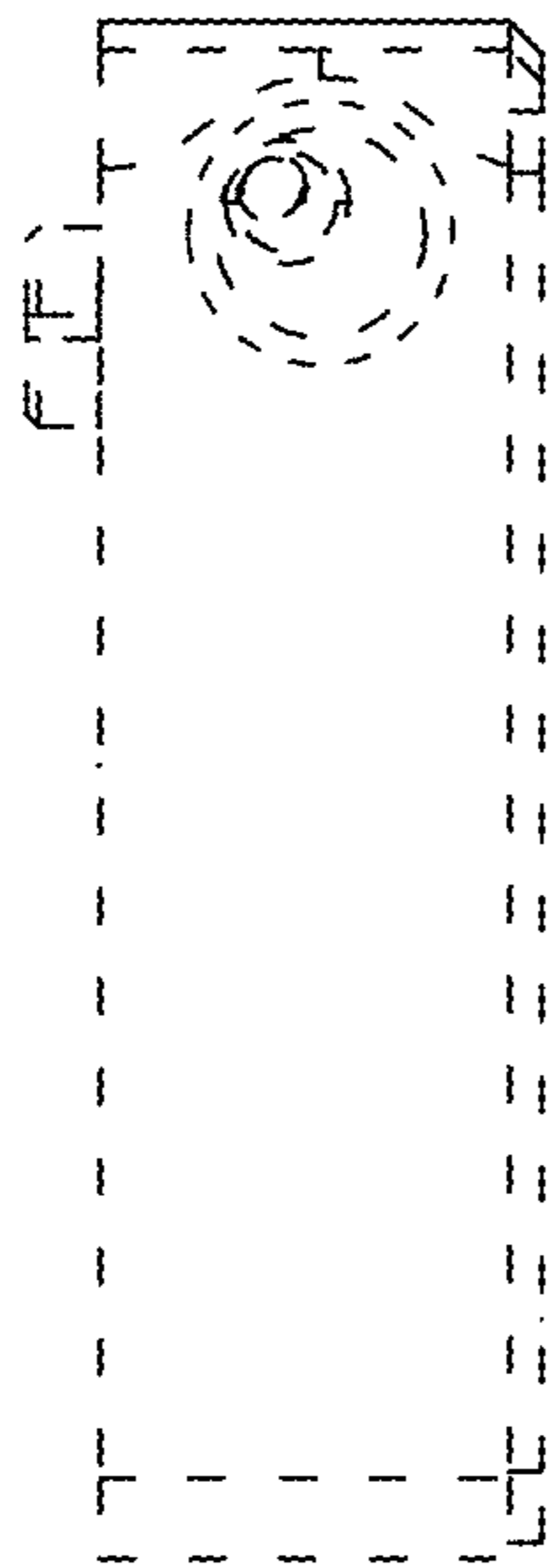


FIG. 3

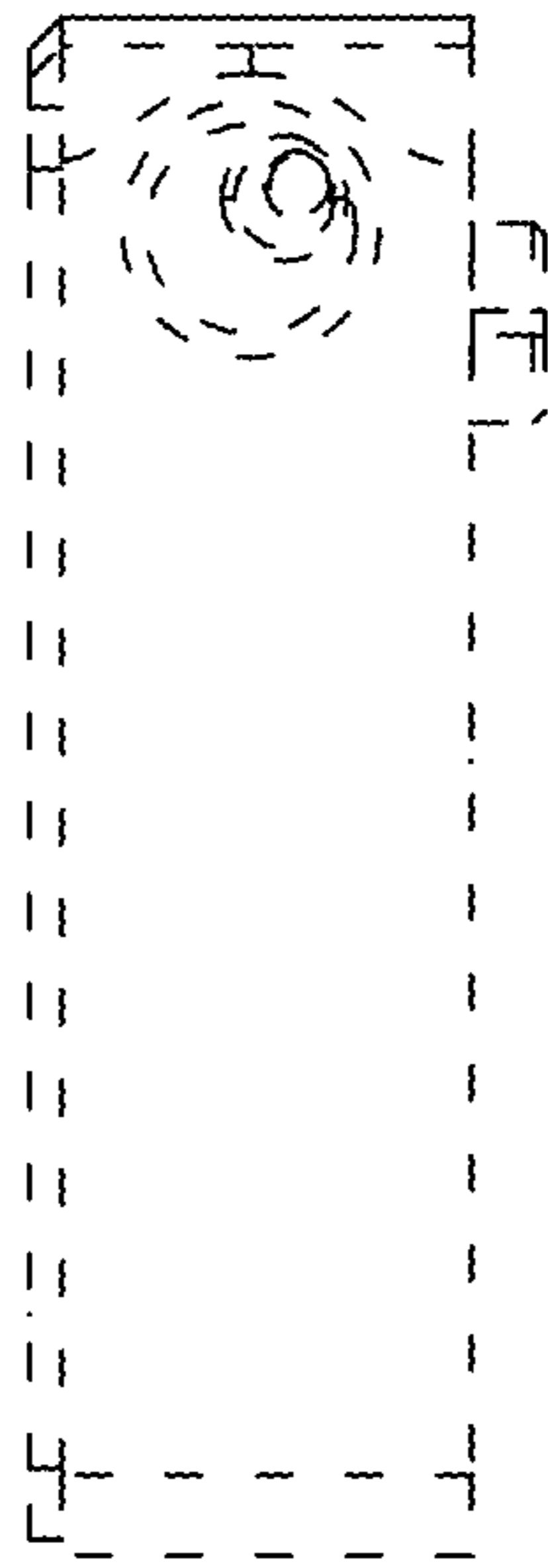


FIG. 4

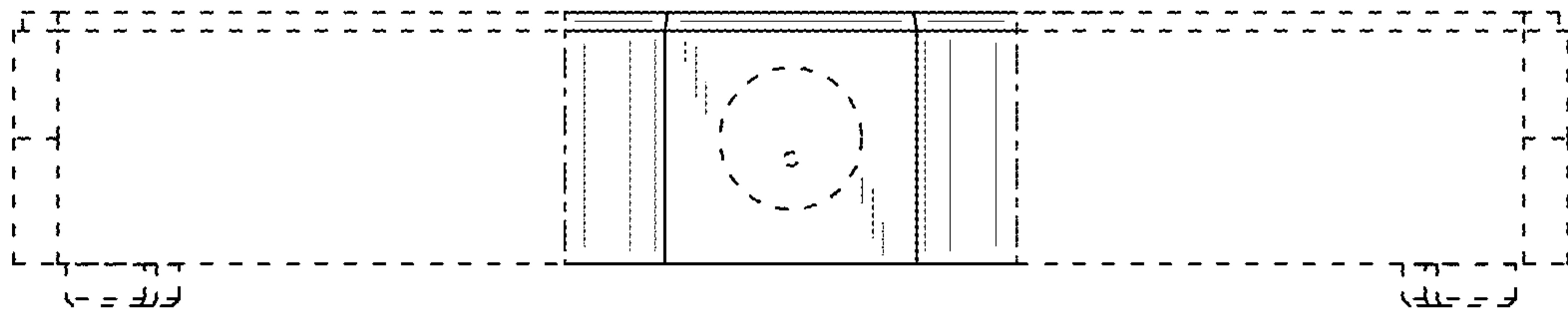


FIG. 5

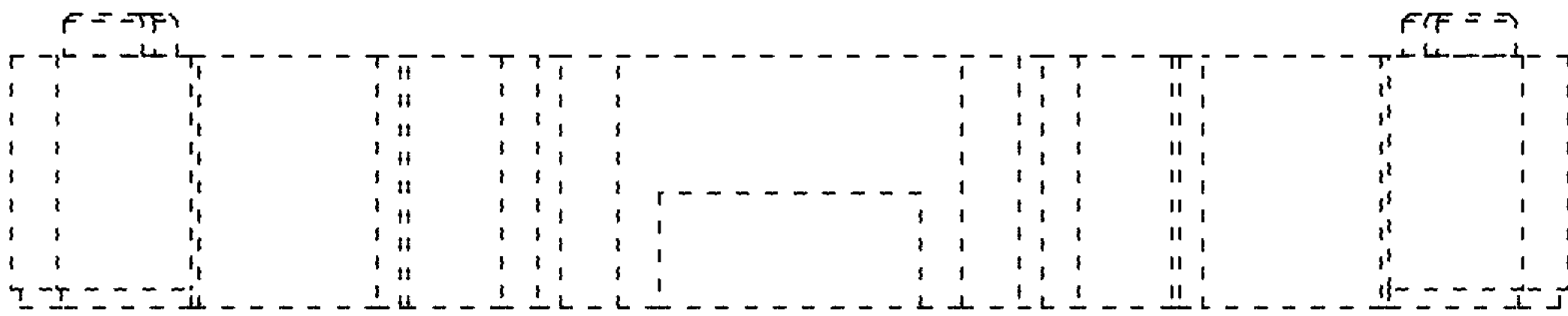


FIG. 6

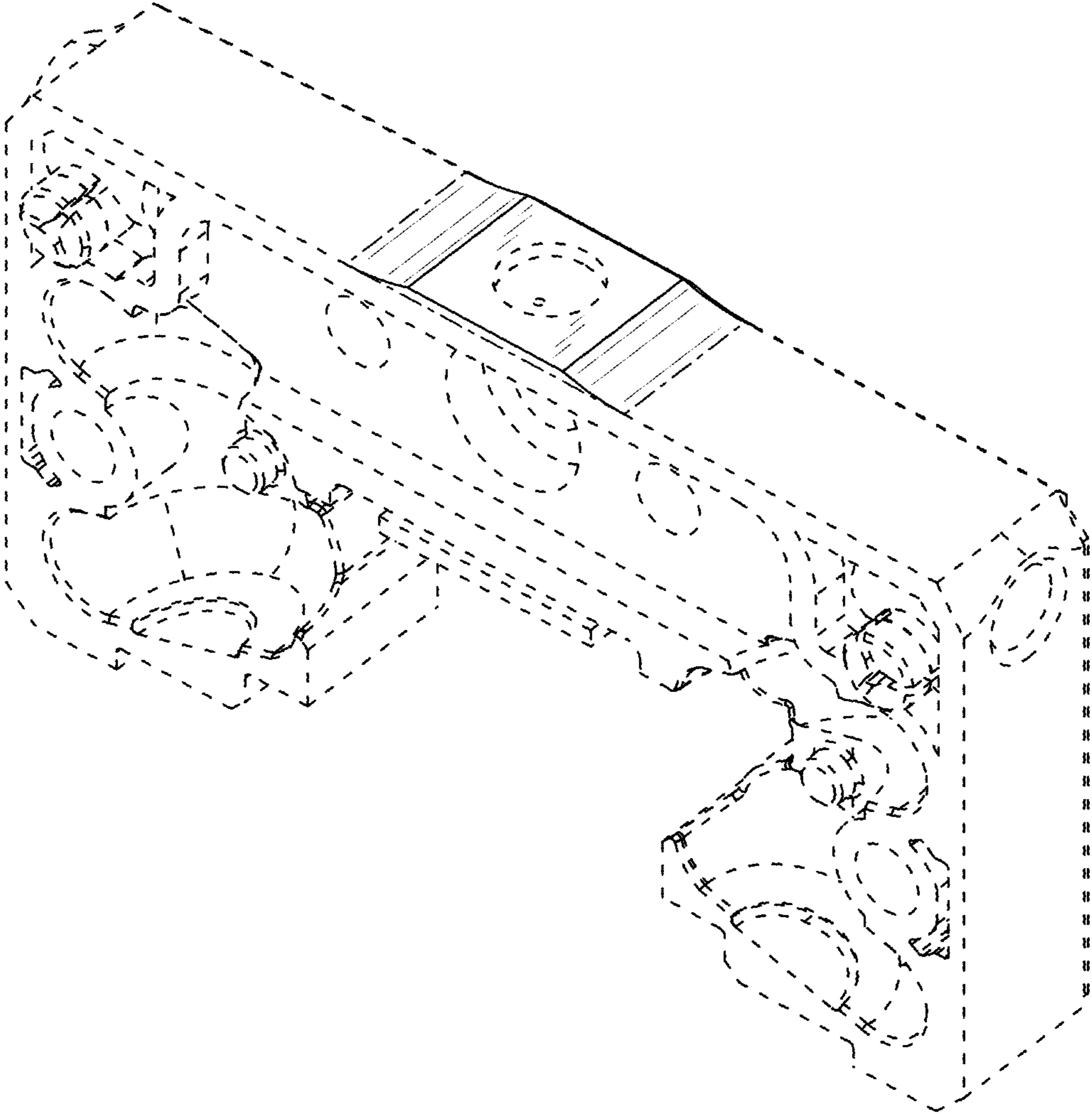


FIG. 7

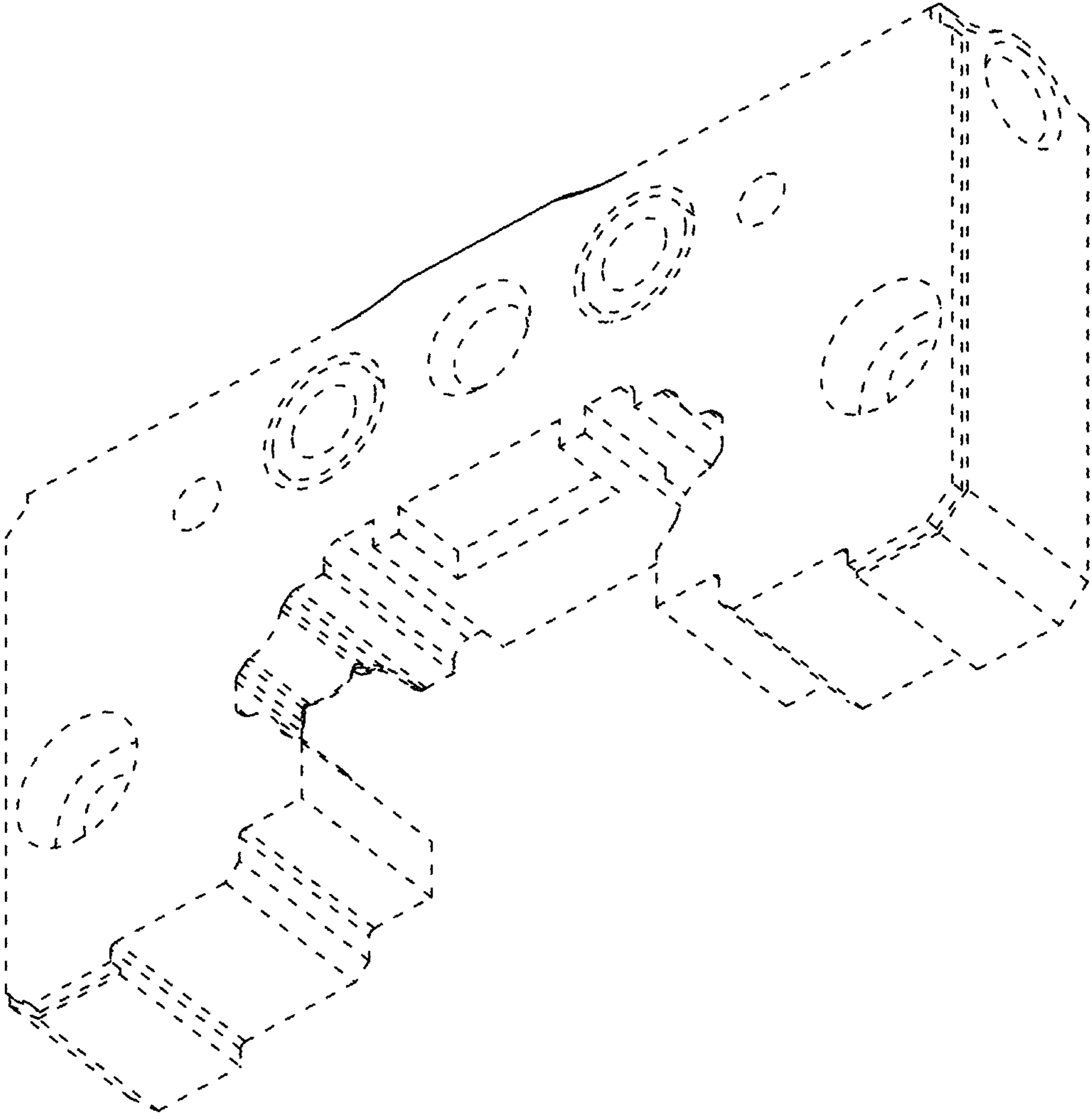


FIG. 8

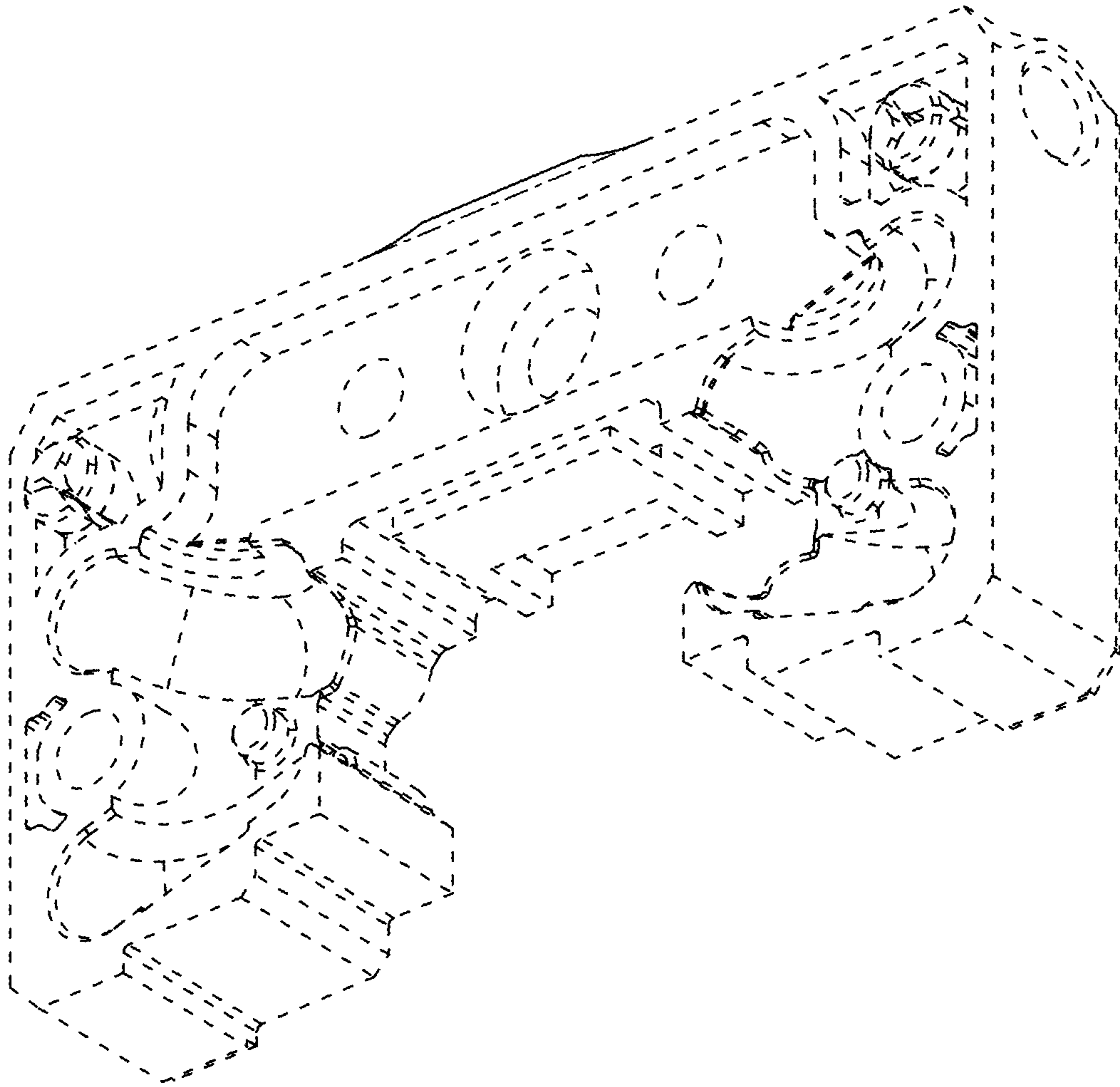


FIG. 9

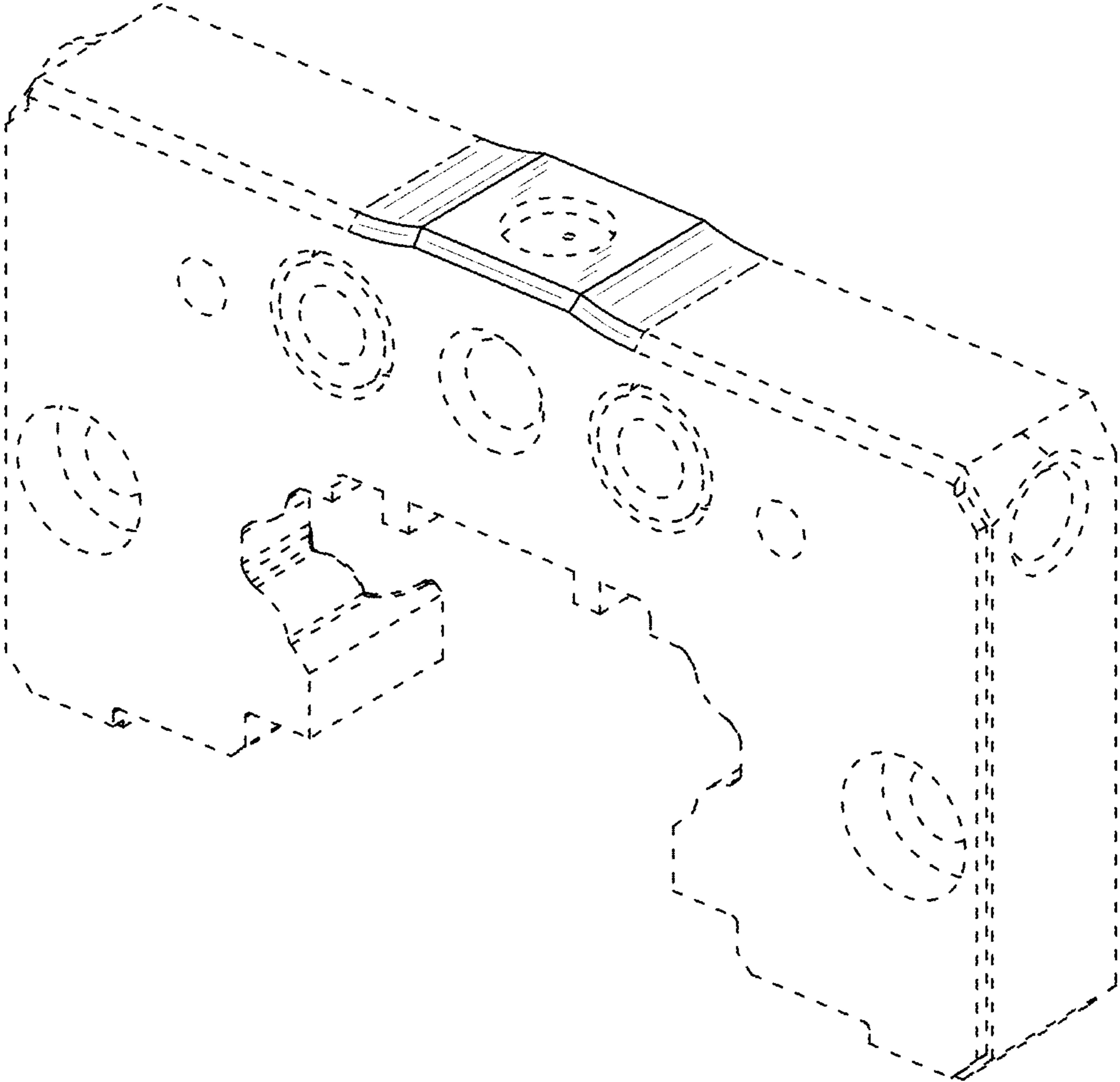


FIG. 10