



US00D932445S

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

(10) **Patent No.:** **US D932,445 S**

(45) **Date of Patent:** **\*\* Oct. 5, 2021**

(54) **CONNECTOR**

(71) Applicant: **Molex, LLC**, Lisle, IL (US)

(72) Inventors: **Ishwarappa Ganamukhi**, Bangalore (IN); **Pierre Perez**, Aurora, IL (US)

(73) Assignee: **Molex, LLC**, Lisle, IL (US)

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

(21) Appl. No.: **29/713,307**

(22) Filed: **Nov. 15, 2019**

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

(52) **U.S. Cl.**

USPC ..... **D13/154**; D13/133

(58) **Field of Classification Search**

USPC ..... D13/118, 120, 173, 103, 107, 108, 110,  
D13/112, 123, 133, 137.1, 145-147,  
(Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D320,383 S \* 10/1991 Oka ..... D13/154  
5,628,648 A 5/1997 Higgins, Jr. et al.  
(Continued)

**FOREIGN PATENT DOCUMENTS**

TW D172637 S 12/2015  
TW D174894 S 4/2016  
(Continued)

**OTHER PUBLICATIONS**

Non Final Office Action received for U.S. Appl. No. 29/713,303,  
dated Dec. 16, 2020, 10 Pages.

(Continued)

*Primary Examiner* — Susan Bennett Hattan

*Assistant Examiner* — Landon Thomas Cassell

(57) **CLAIM**

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

**DESCRIPTION**

FIG. 1 is a front perspective view of a connector showing our new design;

FIG. 2 is a rear perspective view thereof;

FIG. 3 is a front view thereof;

FIG. 4 is a rear view thereof;

FIG. 5 is a left side view thereof;

FIG. 6 is a right side view thereof;

FIG. 7 is a top view thereof;

FIG. 8 is a bottom view thereof;

FIG. 9 is a front perspective view of an alternate embodiment of the connector showing our new design which is a mirror image of the connector of FIGS. 1-8;

FIG. 10 is a rear perspective view thereof;

FIG. 11 is a front view thereof;

FIG. 12 is a rear view thereof;

FIG. 13 is a left side view thereof;

FIG. 14 is a right side view thereof;

FIG. 15 is a top view thereof;

FIG. 16 is a bottom view thereof;

FIG. 17 is a front perspective view of an alternative embodiment of the connector showing our new design;

FIG. 18 is a rear perspective view thereof;

FIG. 19 is a front view thereof;

FIG. 20 is a rear view thereof;

FIG. 21 is a left side view thereof;

FIG. 22 is a right side view thereof;

FIG. 23 is a top view thereof;

FIG. 24 is a bottom view thereof;

FIG. 25 is a front perspective view of an alternate embodiment of the connector showing our new design which is a mirror image of the connector of FIGS. 17-24;

FIG. 26 is a rear perspective view thereof;

FIG. 27 is a front view thereof;

FIG. 28 is a rear view thereof;

FIG. 29 is a left side view thereof;

FIG. 30 is a right side view thereof;

FIG. 31 is a top view thereof;

(Continued)

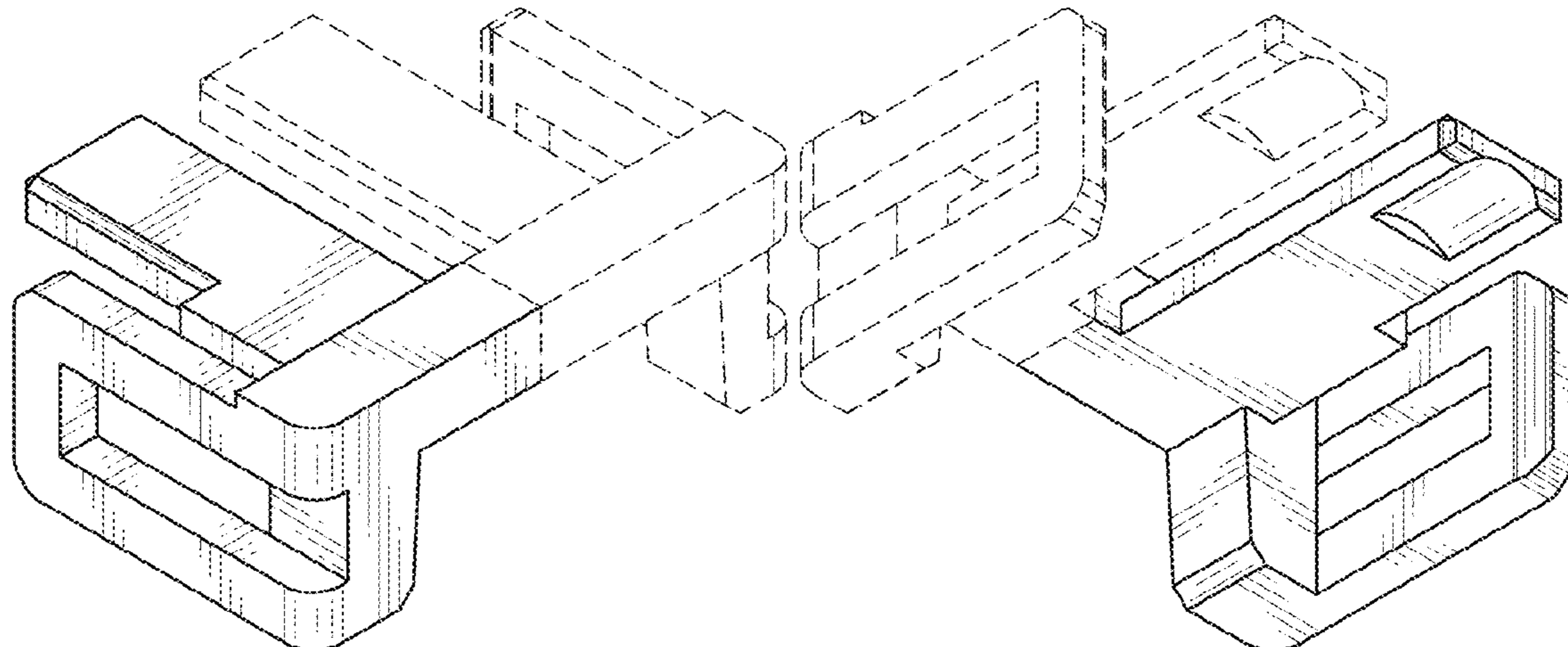


FIG. 32 is a bottom view thereof;  
 FIG. 33 is a front perspective view of an alternative embodiment of the connector showing our new design;  
 FIG. 34 is a rear perspective view thereof;  
 FIG. 35 is a front view thereof;  
 FIG. 36 is a rear view thereof;  
 FIG. 37 is a left side view thereof;  
 FIG. 38 is a right side view thereof;  
 FIG. 39 is a top view thereof;  
 FIG. 40 is a bottom view thereof;  
 FIG. 41 is a front perspective view of an alternate embodiment of the connector showing our new design which is a mirror image of the connector of FIGS. 33-40;  
 FIG. 42 is a rear perspective view thereof;  
 FIG. 43 is a front view thereof;  
 FIG. 44 is a rear view thereof;  
 FIG. 45 is a left side view thereof;  
 FIG. 46 is a right side view thereof;  
 FIG. 47 is a top view thereof; and,  
 FIG. 48 is a bottom view thereof.  
 The broken lines immediately adjacent to the shaded areas depict the bounds of the claimed design and form no part thereof. The broken lines depicting the remainder of the connector show features that form no part of the claimed design.

**1 Claim, 18 Drawing Sheets**

(58) **Field of Classification Search**  
 USPC ..... D13/149-156, 158, 177, 184, 199, 242;  
 D14/240, 242, 256, 432, 433, 434, 435.1,  
 D14/438, 480.1-480.7, 484  
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D434,385 S	11/2000	Ko et al.	
D524,742 S	7/2006	Kumagai	
D524,751 S	7/2006	Lee et al.	
D538,230 S	3/2007	Kudo	
D564,452 S	3/2008	Kudo	
D583,324 S	12/2008	Iijima et al.	
D652,387 S *	1/2012	Ohkuma .....	D13/147
D708,583 S	7/2014	Asano	
D733,652 S	7/2015	Wenji et al.	
D747,689 S	1/2016	Endo et al.	
D748,580 S	2/2016	Endo et al.	
D748,588 S	2/2016	Endo et al.	
D751,990 S	3/2016	Ikeda et al.	

9,620,879 B2	4/2017	Li	
D791,080 S *	7/2017	Li .....	D13/133
D791,083 S *	7/2017	Li .....	D13/147
D792,853 S	7/2017	Li et al.	
D795,199 S *	8/2017	Ikeda .....	D13/154
D802,538 S	11/2017	Li et al.	
D831,581 S *	10/2018	Motoshige .....	D13/160
10,263,350 B2	4/2019	Huo et al.	
D847,755 S	5/2019	Hamachi	
D847,756 S	5/2019	Endo et al.	
D852,753 S	7/2019	Endo et al.	
D854,503 S	7/2019	Gieski et al.	
D870,673 S	12/2019	Obata et al.	
D877,703 S	3/2020	Holub et al.	
D884,638 S	5/2020	Kim et al.	
D896,757 S *	9/2020	Somanathapura Ramanna .....	D13/133
D897,963 S	10/2020	Wu	
D899,370 S	10/2020	Thyagaraj et al.	
D900,030 S	10/2020	Thyagaraj et al.	
D900,745 S *	11/2020	Thyagaraj .....	D13/133
D900,755 S	11/2020	Kurita et al.	
D901,389 S	11/2020	Gonzalez et al.	
2011/0207357 A1 *	8/2011	Dick .....	H01R 13/4365 439/345
2013/0008712 A1	1/2013	Kobayashi et al.	
2013/0316560 A1	11/2013	Yoon et al.	
2014/0045381 A1	2/2014	Tsukamoto et al.	
2015/0056848 A1	2/2015	Yu et al.	
2016/0064837 A1	3/2016	Yu et al.	
2019/0118739 A1	4/2019	Takamatsu et al.	
2020/0136303 A1	4/2020	Ito et al.	

FOREIGN PATENT DOCUMENTS

TW	D183852 S	6/2017
TW	D185253 S	9/2017
TW	D187635 S	1/2018
TW	D188002 S	1/2018
TW	D188868 S	3/2018
TW	D196567 S	3/2019
TW	D196948 S	4/2019
TW	D198590 S	7/2019

OTHER PUBLICATIONS

Non Final Office Action received for U.S. Appl. No. 29/713,312, dated Dec. 16, 2020, 8 Pages.  
 Non Final Office Action received for U.S. Appl. No. 29/713,323, dated Dec. 16, 2020, 10 Pages.  
 Connectors, Date ranges: May 2, 2001-Jun. 17, 2019, [Online PDF of Foreign Prior Art references selected by Examiner], Site visited Jan. 6, 2021, Available from Internet URL: <https://www.orbit.com/export/LICZAH96B/pdf4/547df235-4de8-4e6b-9dc5-57b64c2a032a-142130.pdf> (Year: 2021).

\* cited by examiner

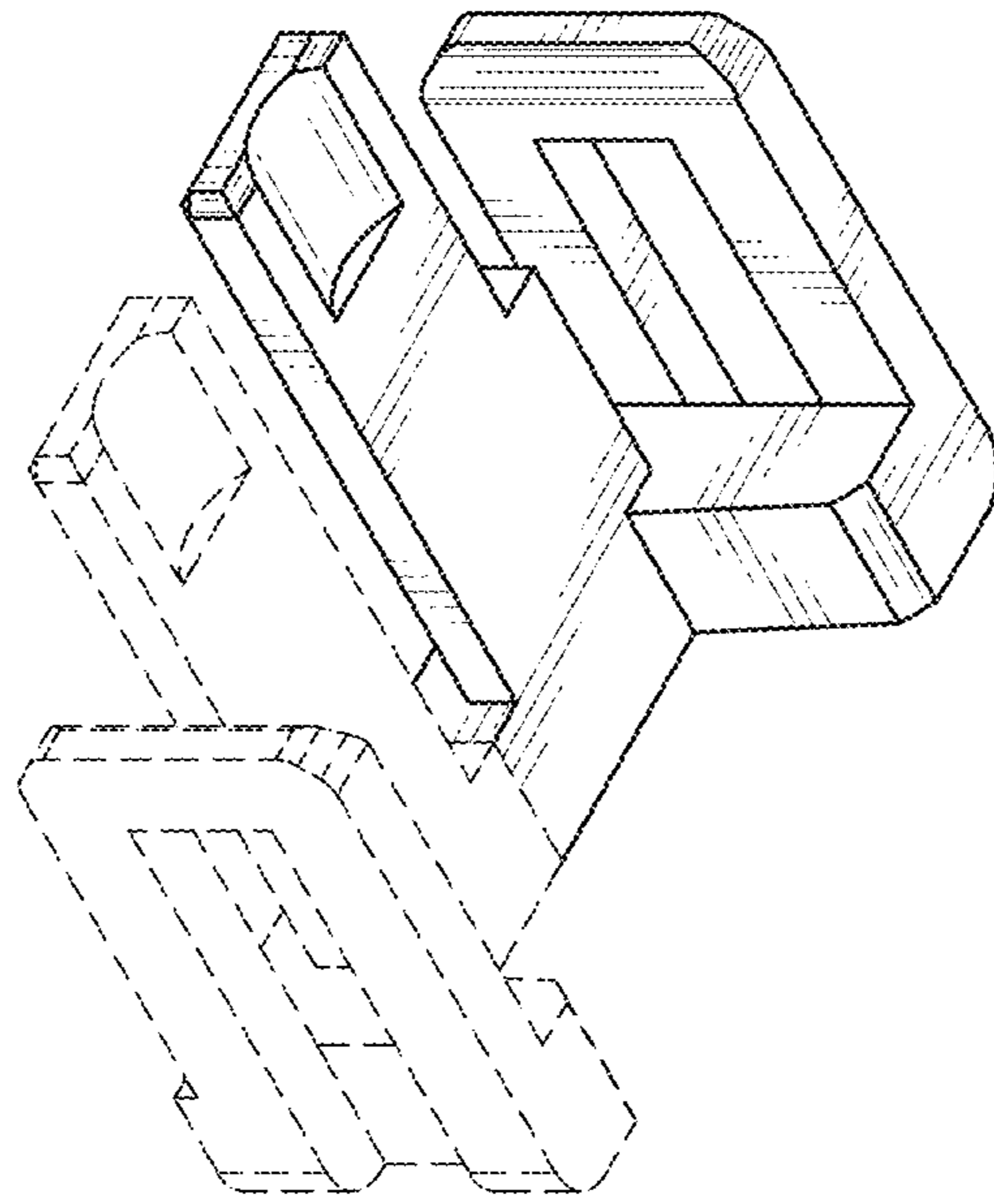


FIG. 2

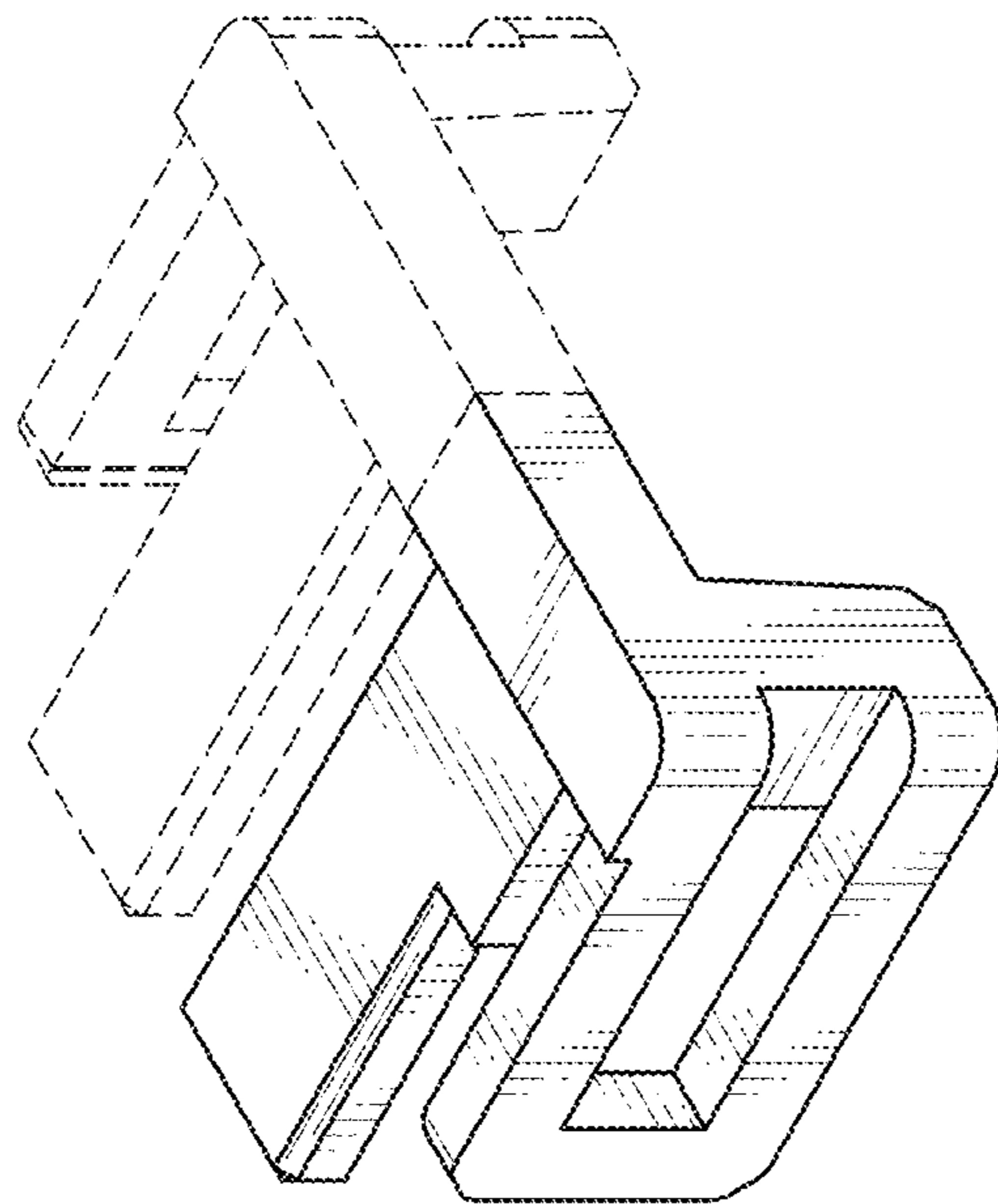


FIG. 1

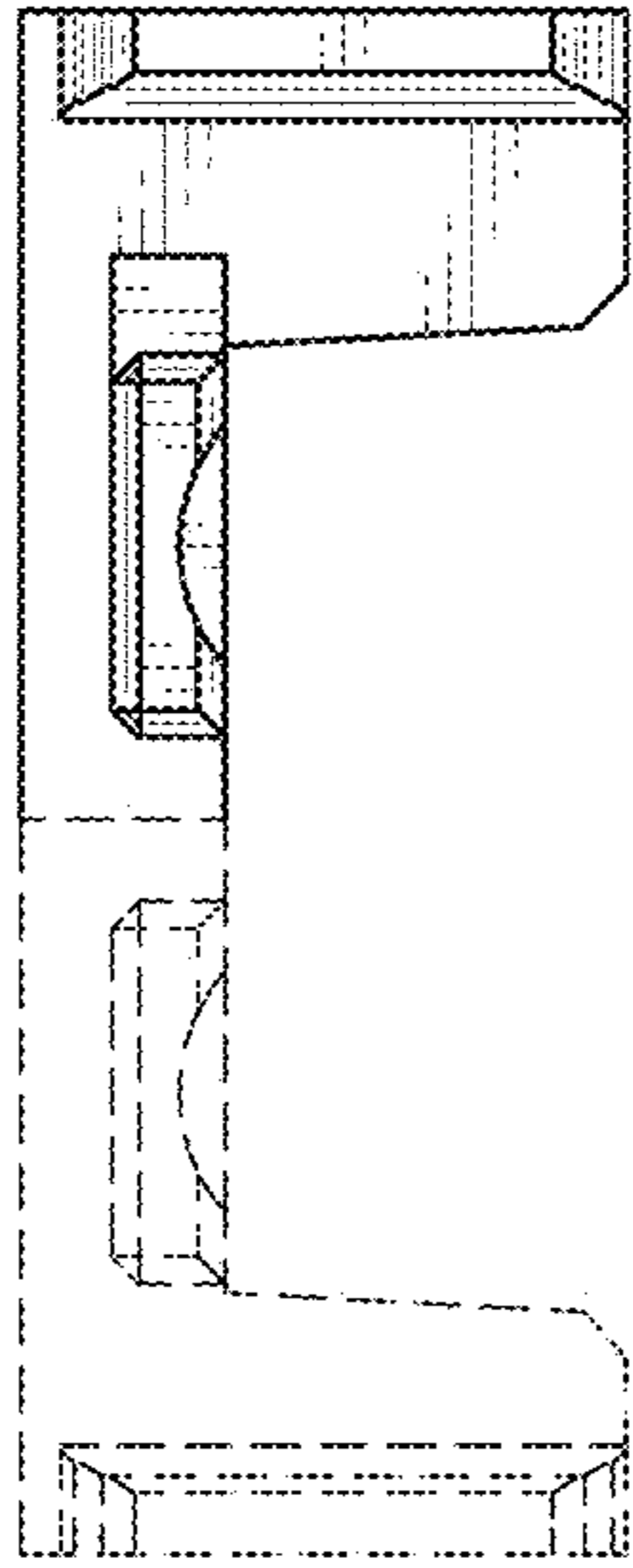


FIG. 3

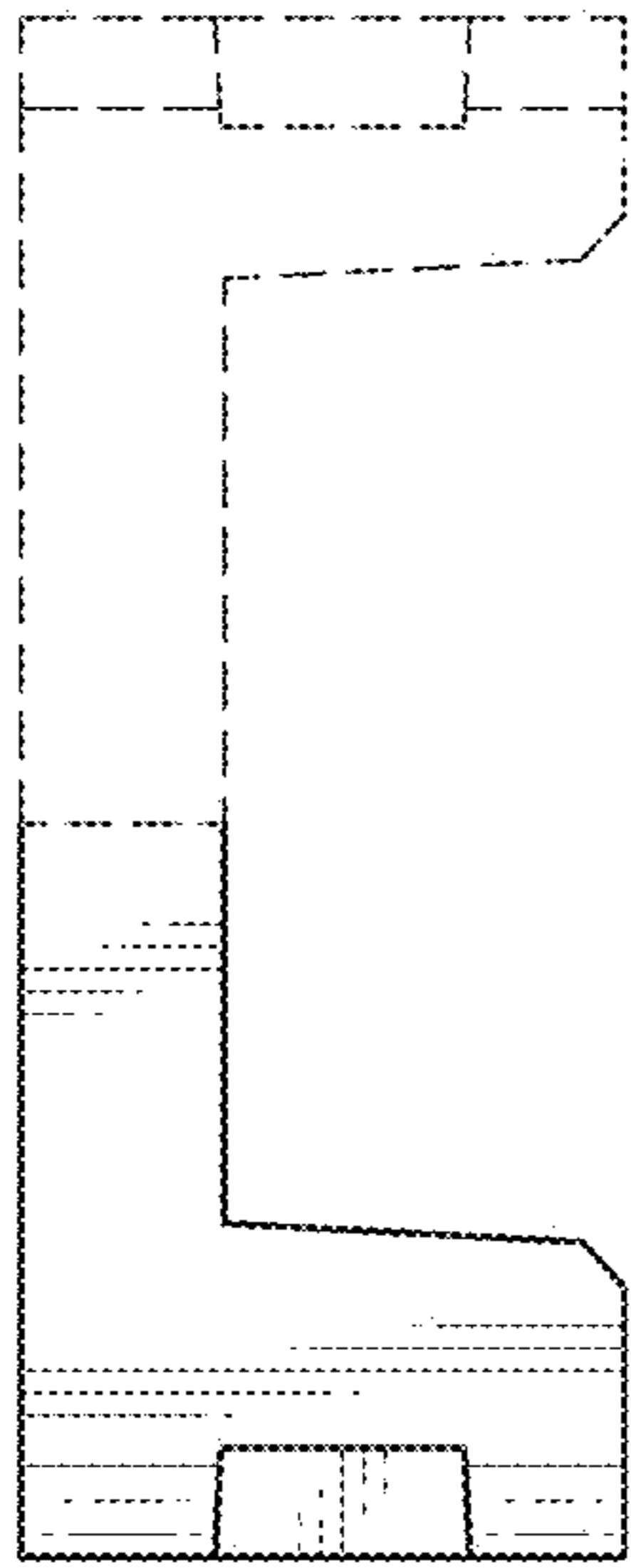


FIG. 4

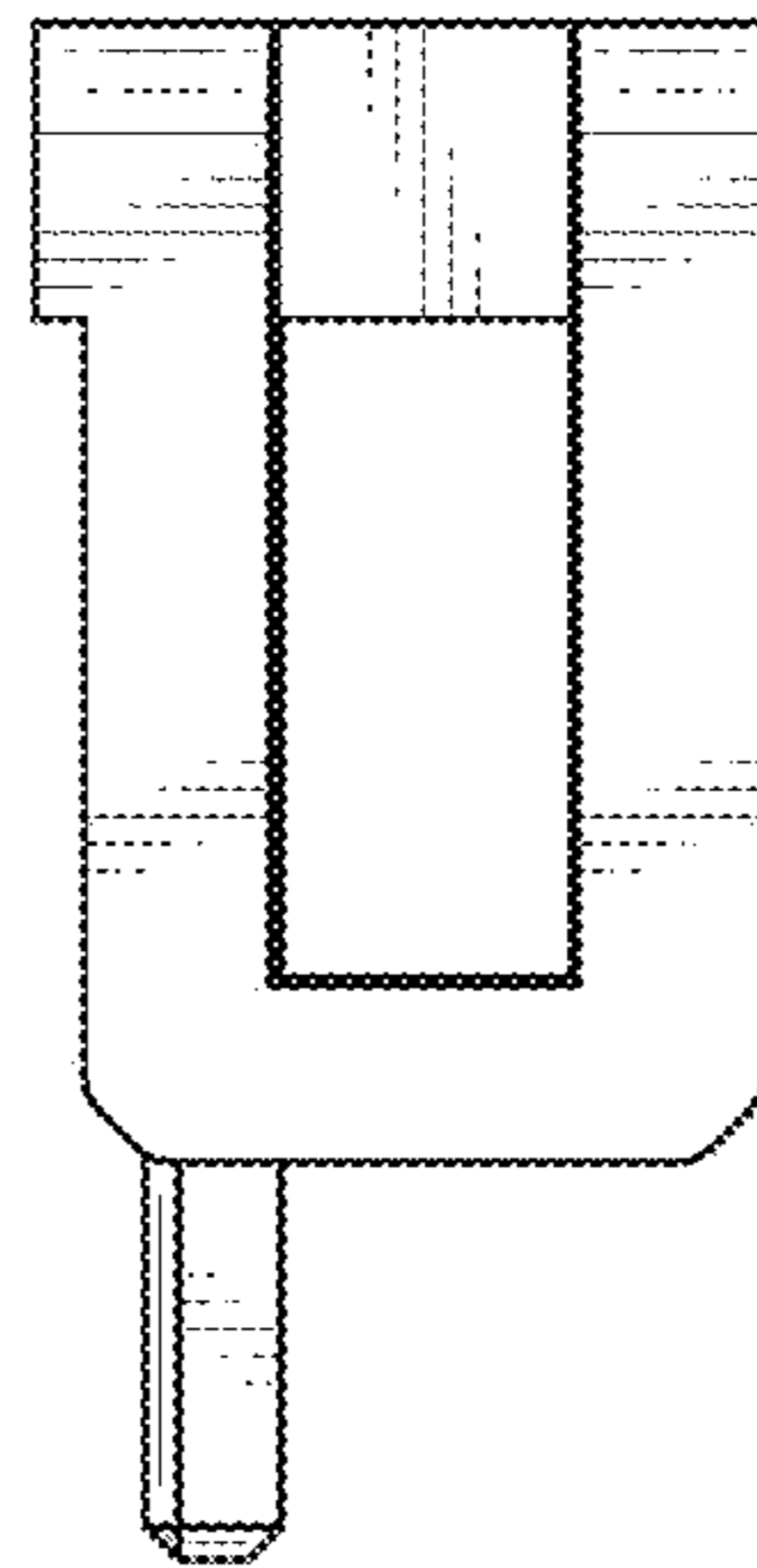


FIG. 5

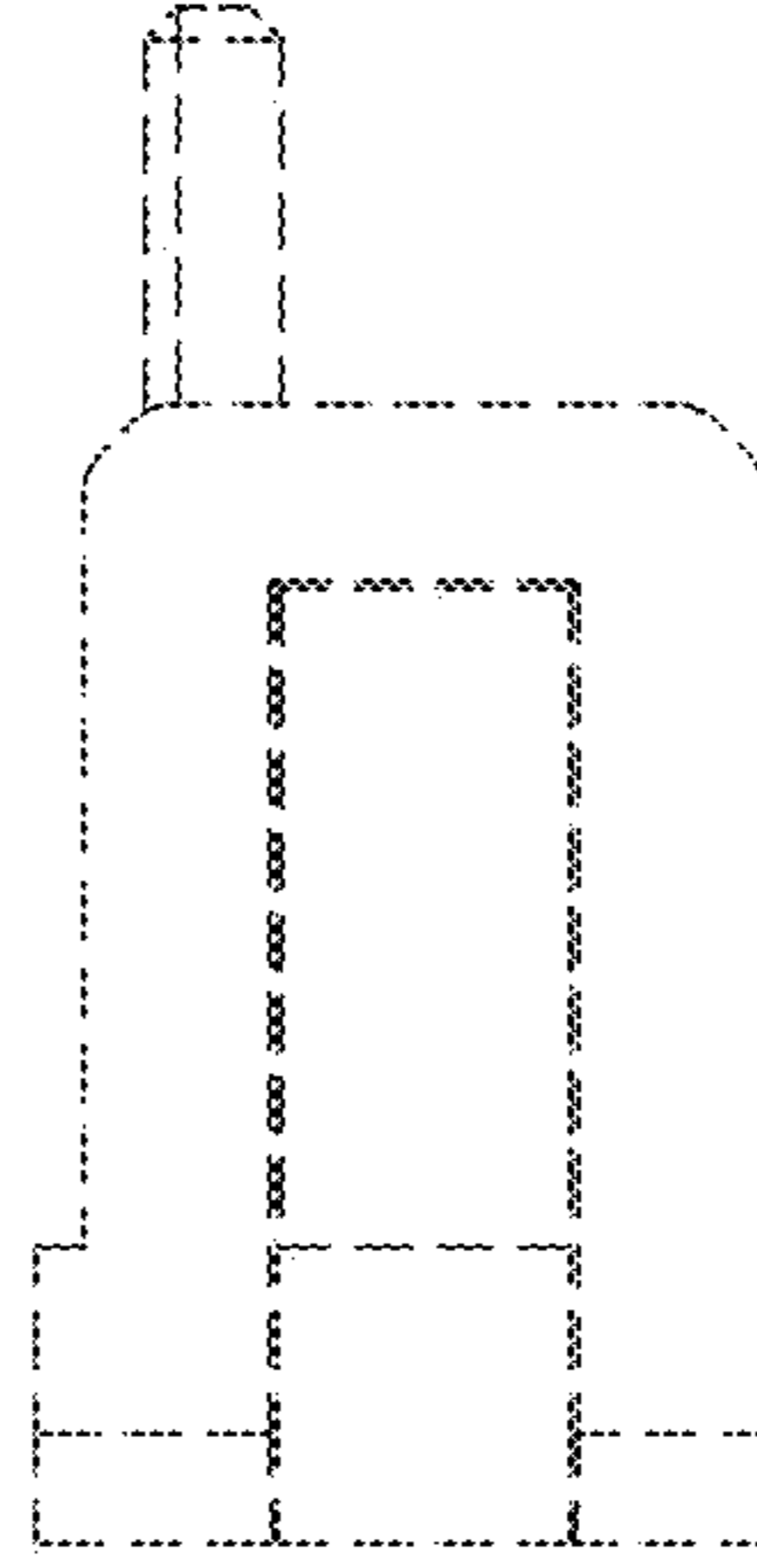


FIG. 6

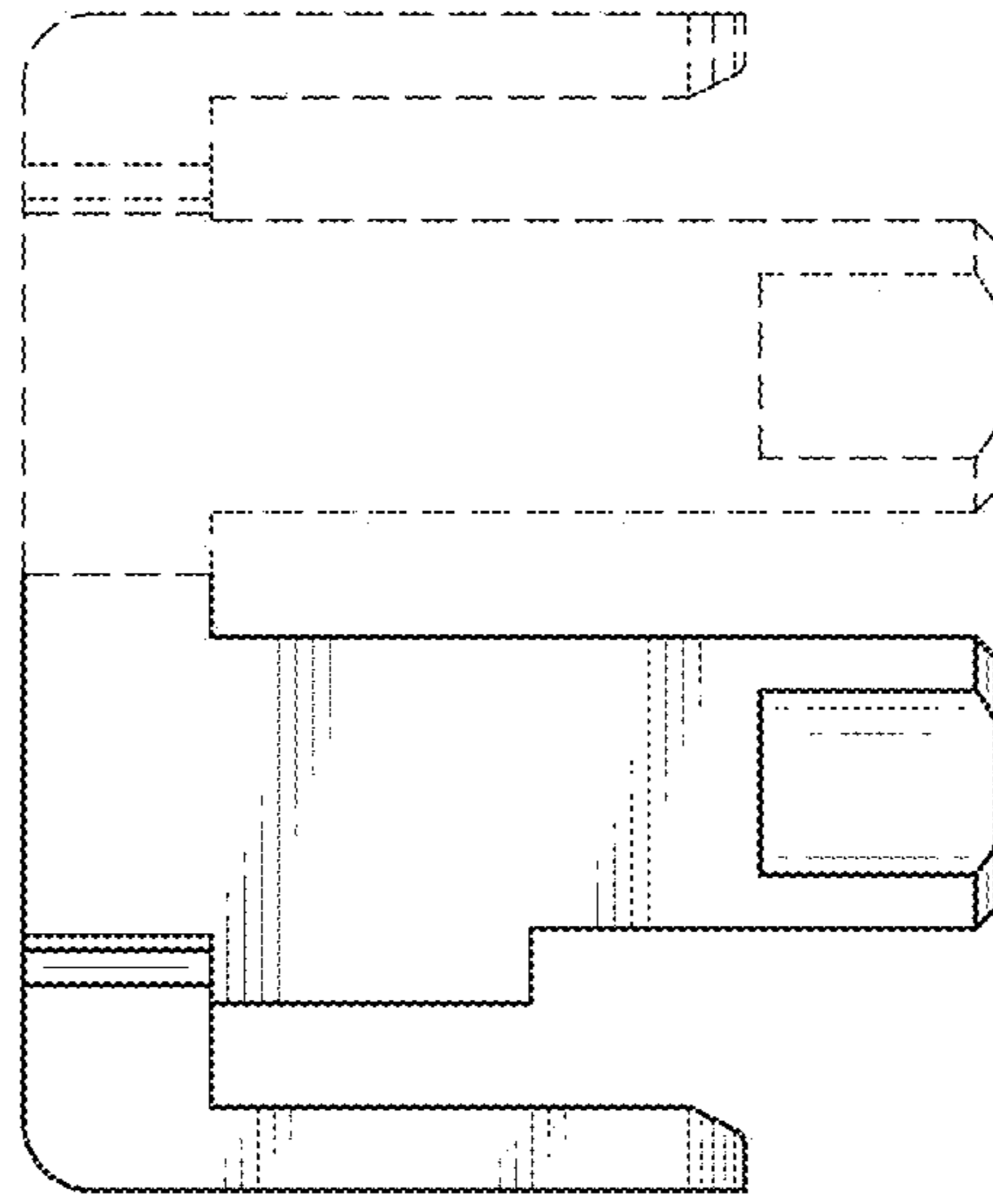


FIG. 7

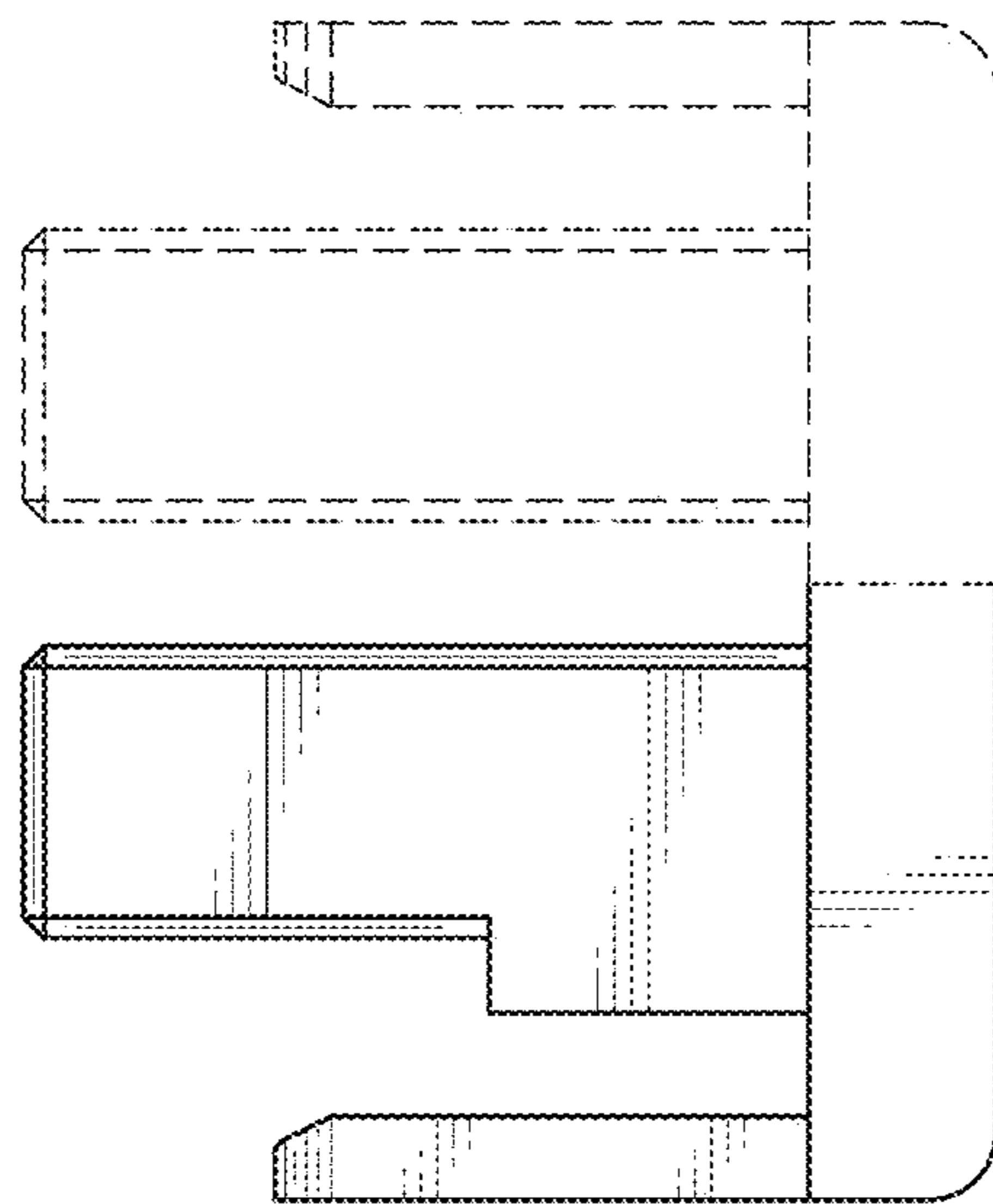


FIG. 8

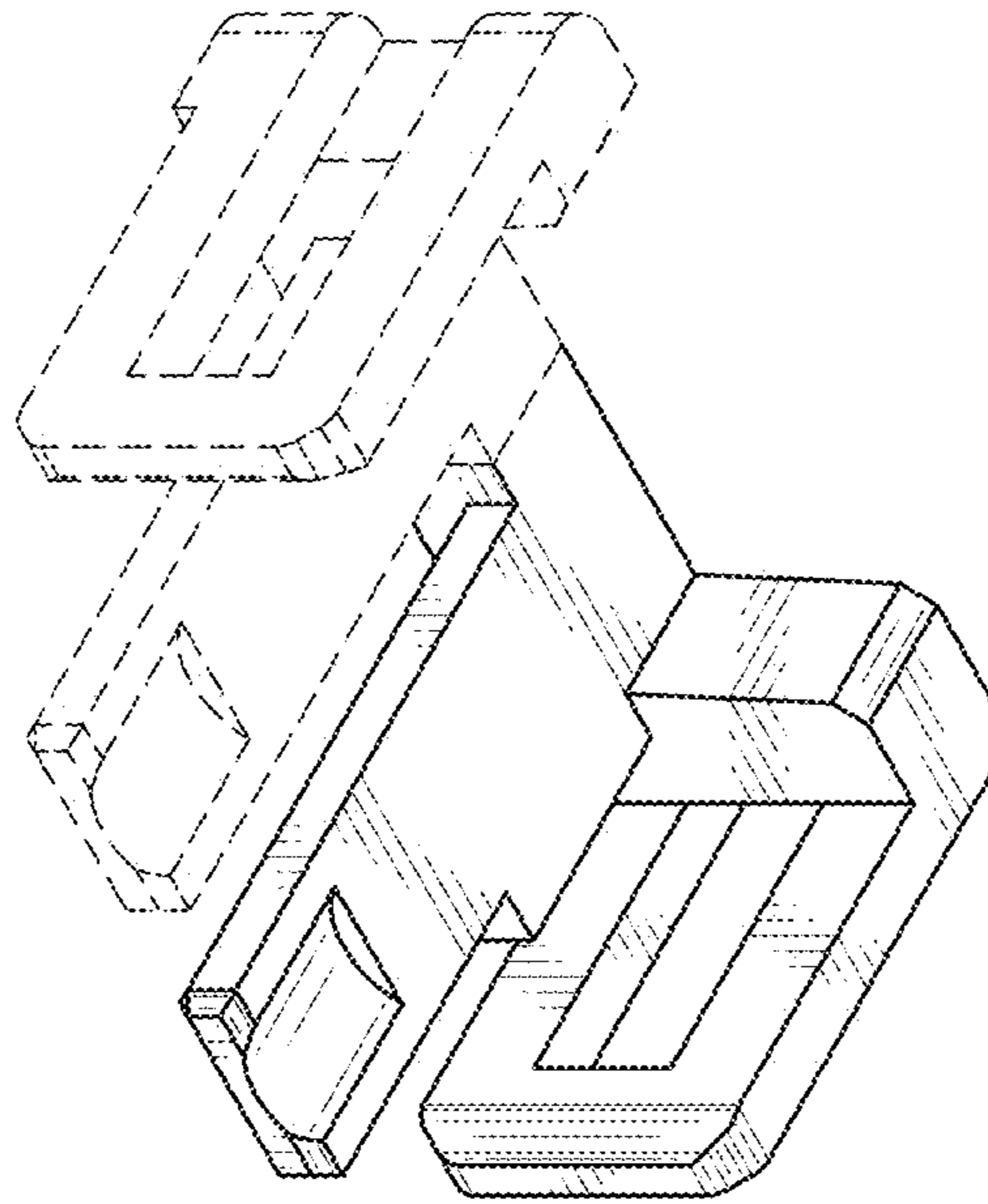


FIG. 10

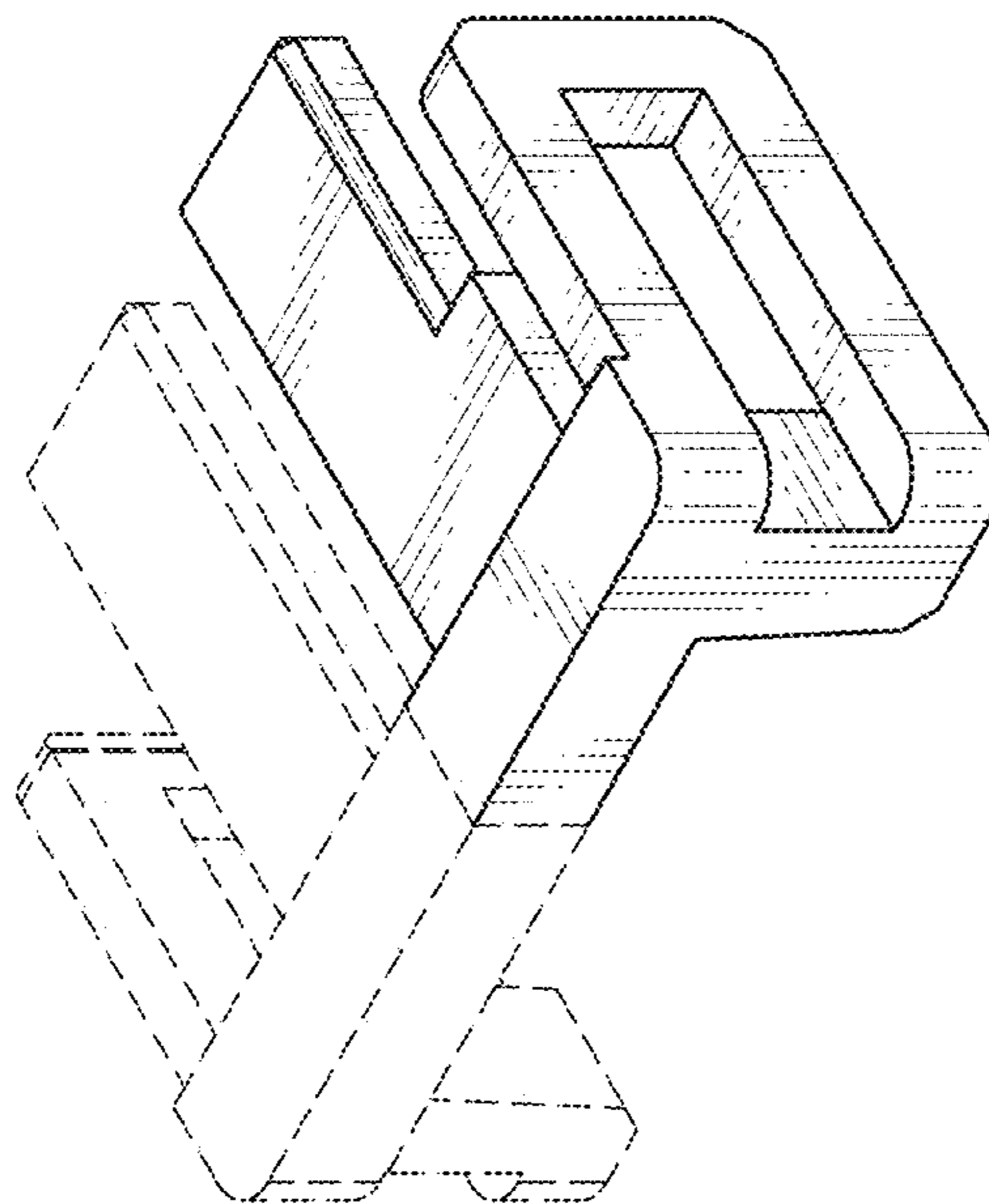


FIG. 9

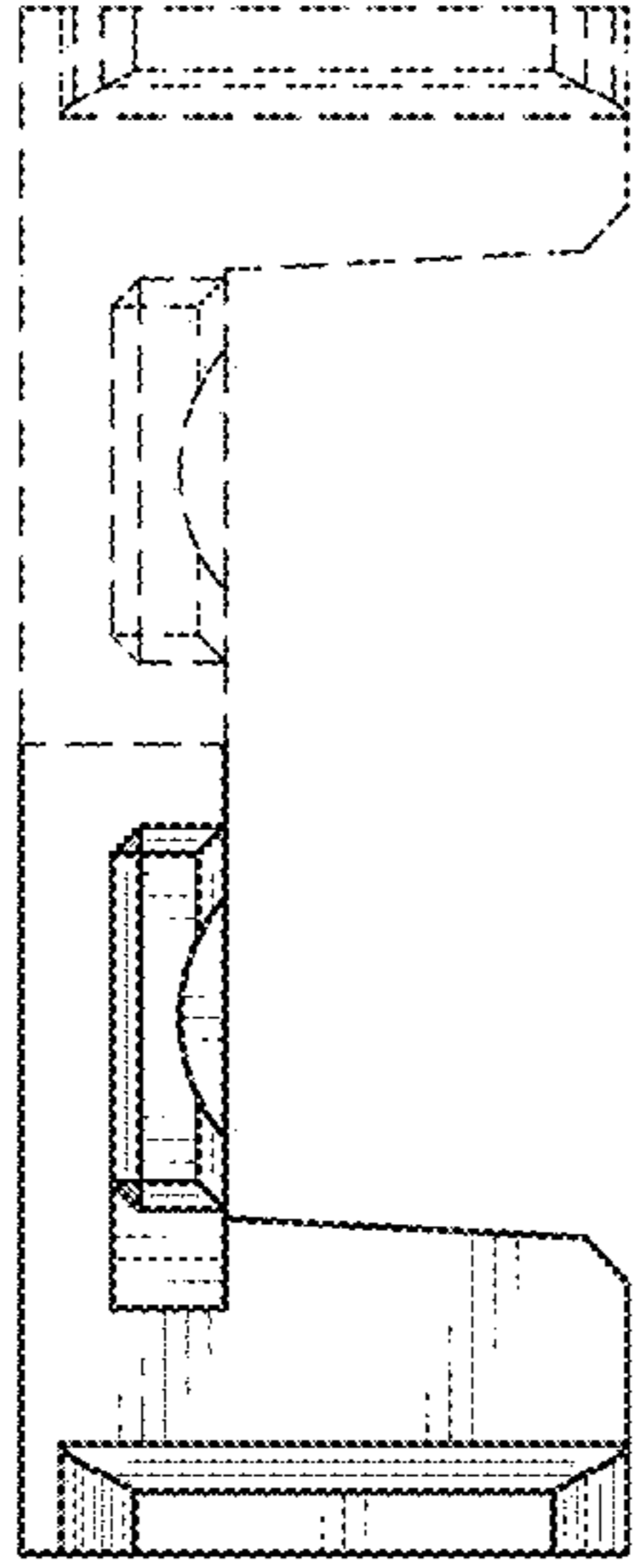


FIG. 11

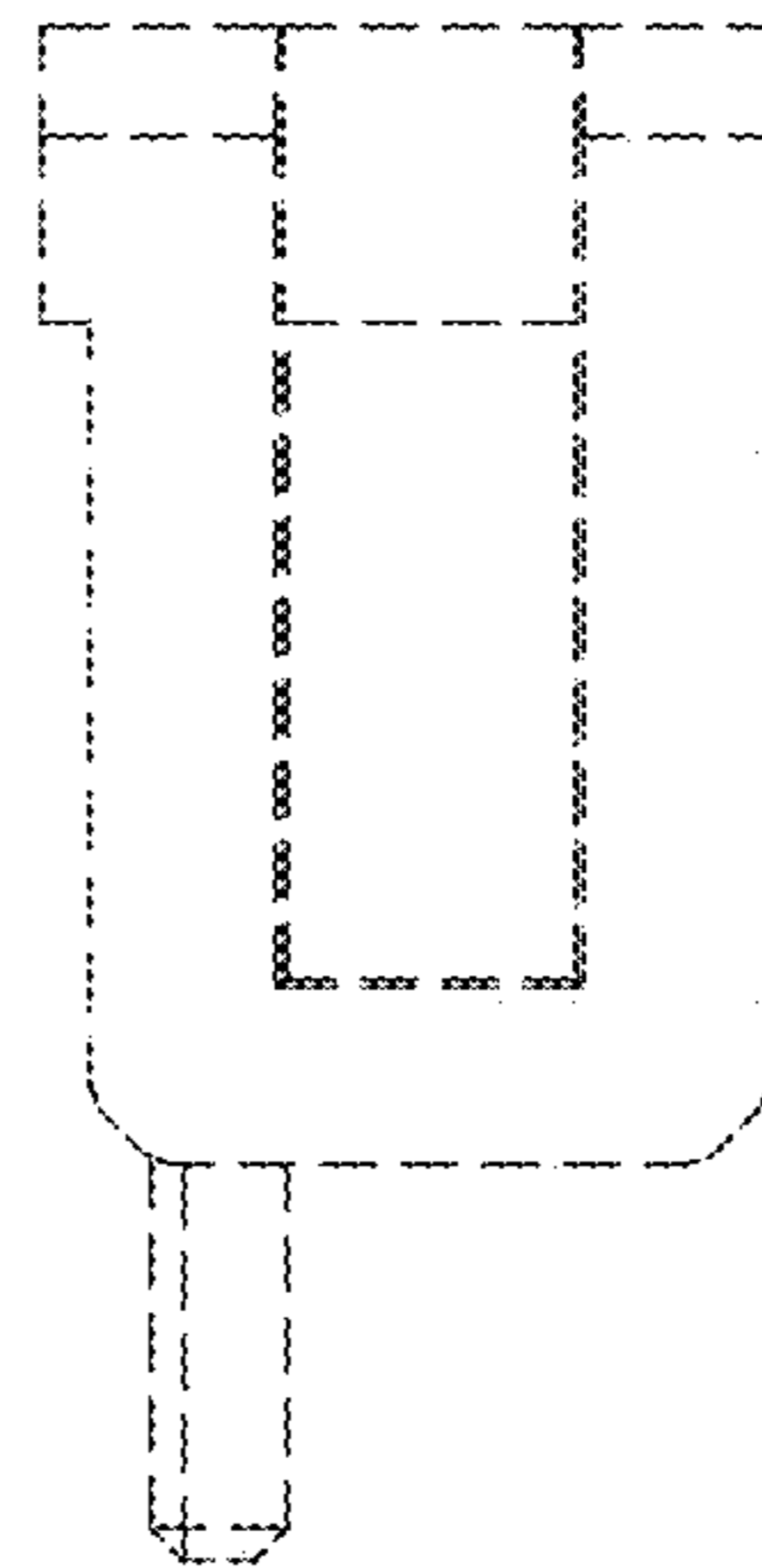


FIG. 12

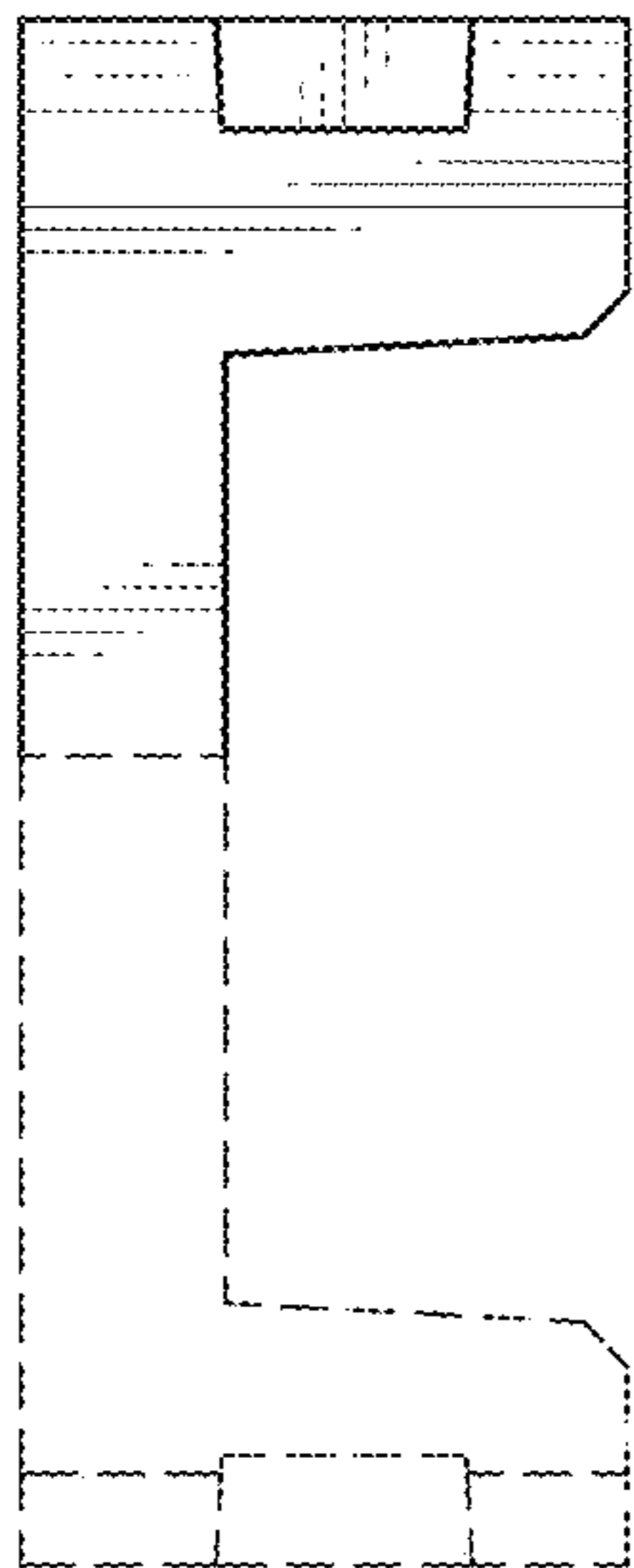


FIG. 13

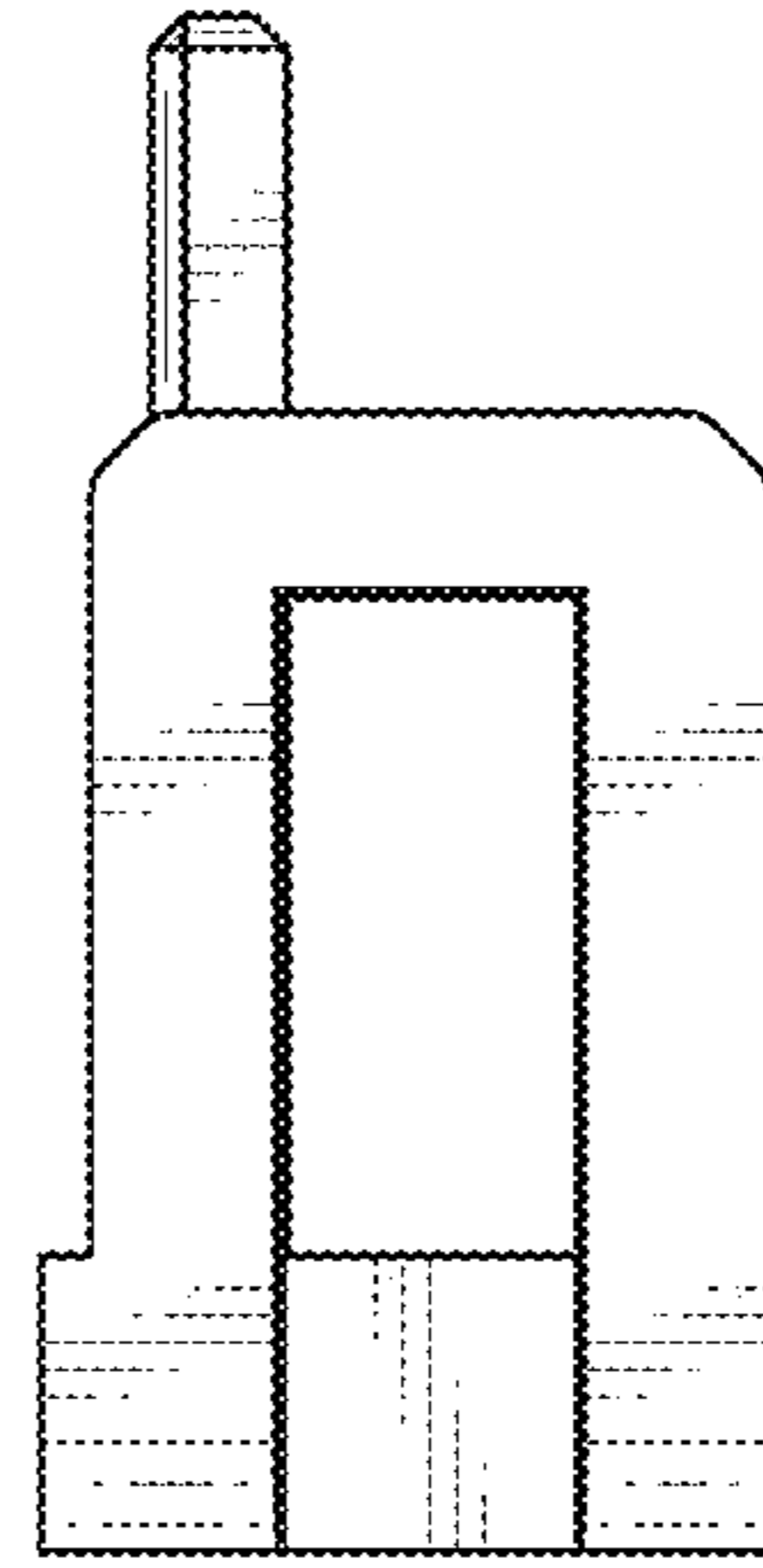


FIG. 14

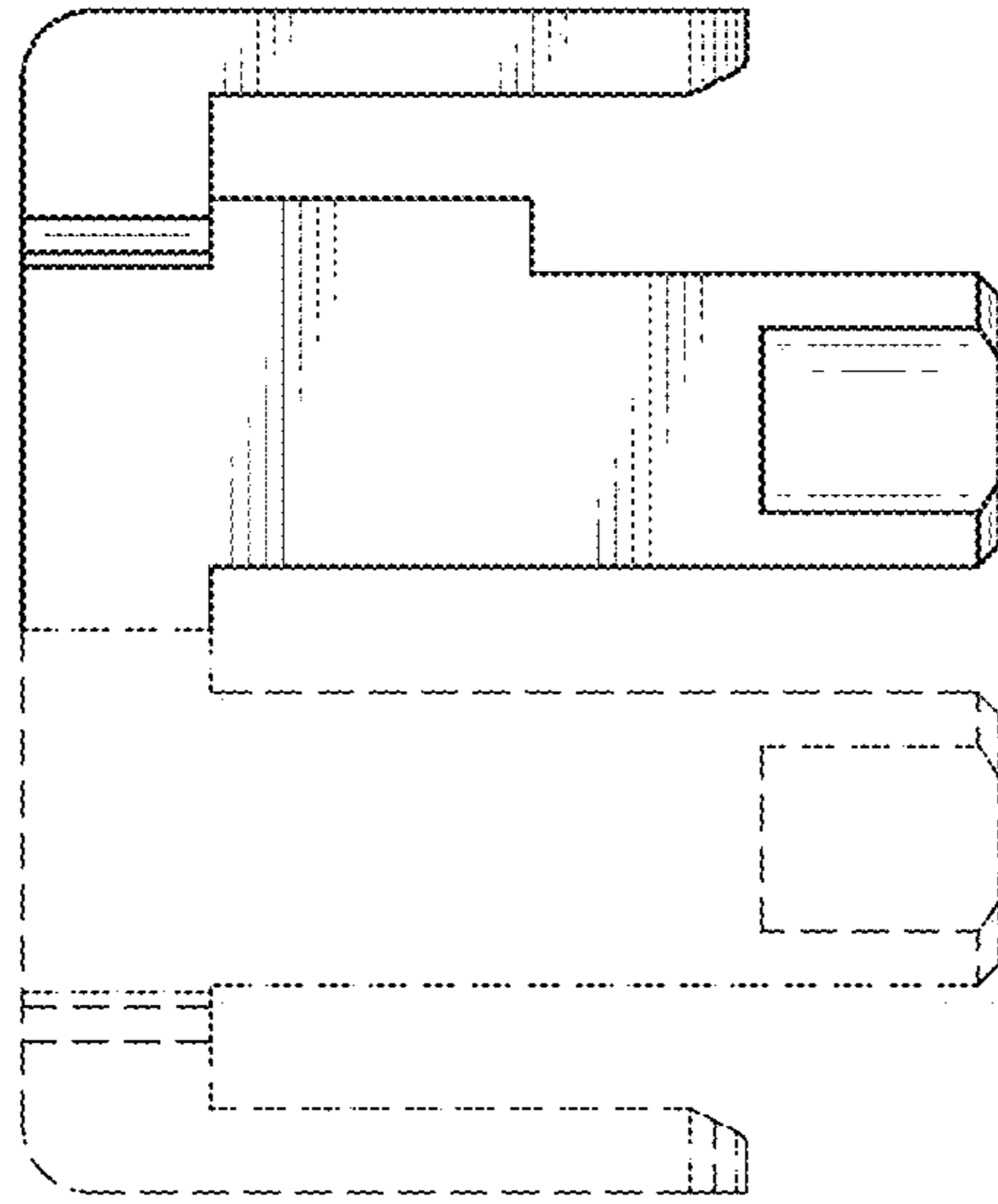


FIG. 15

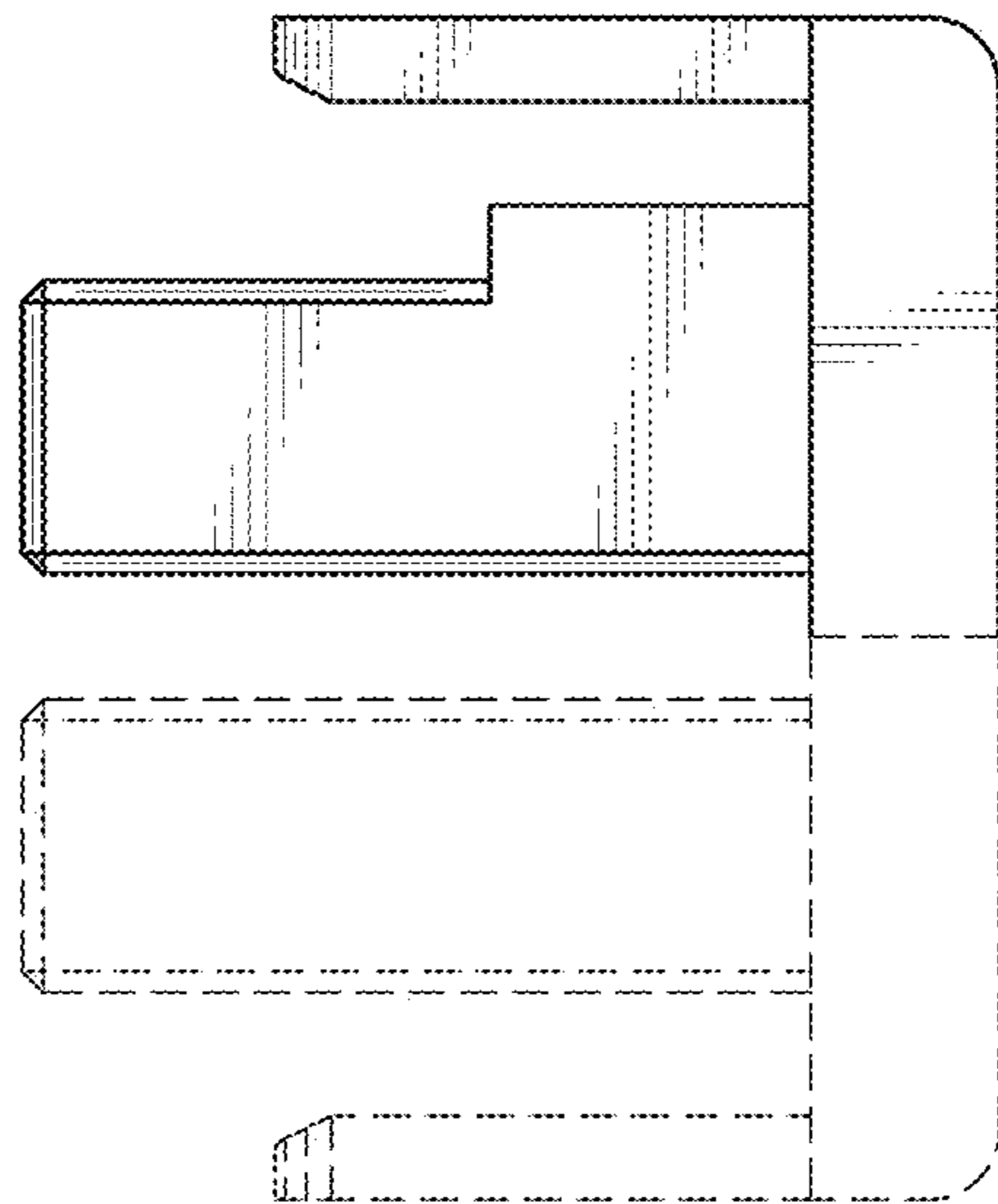


FIG. 16



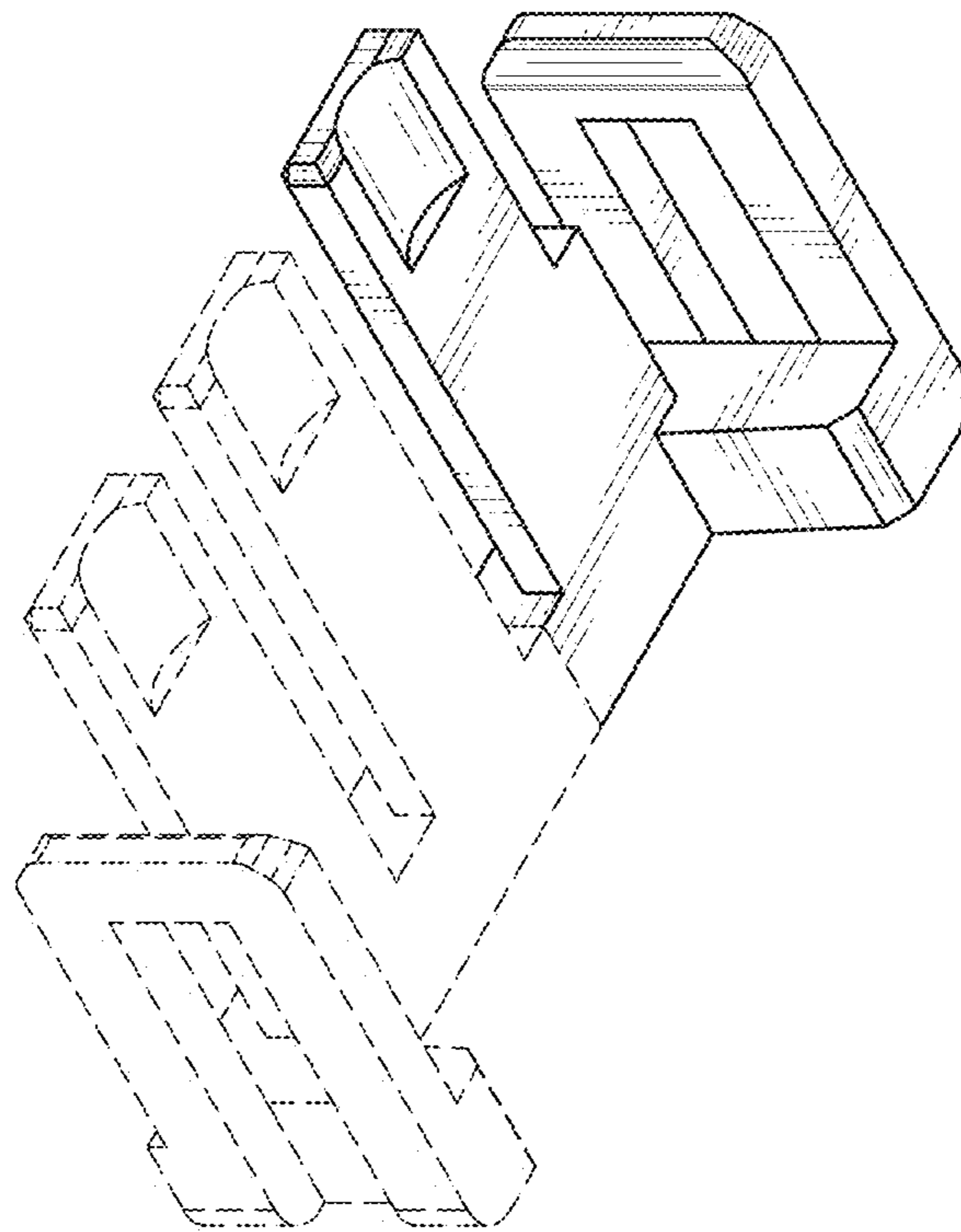


FIG. 18

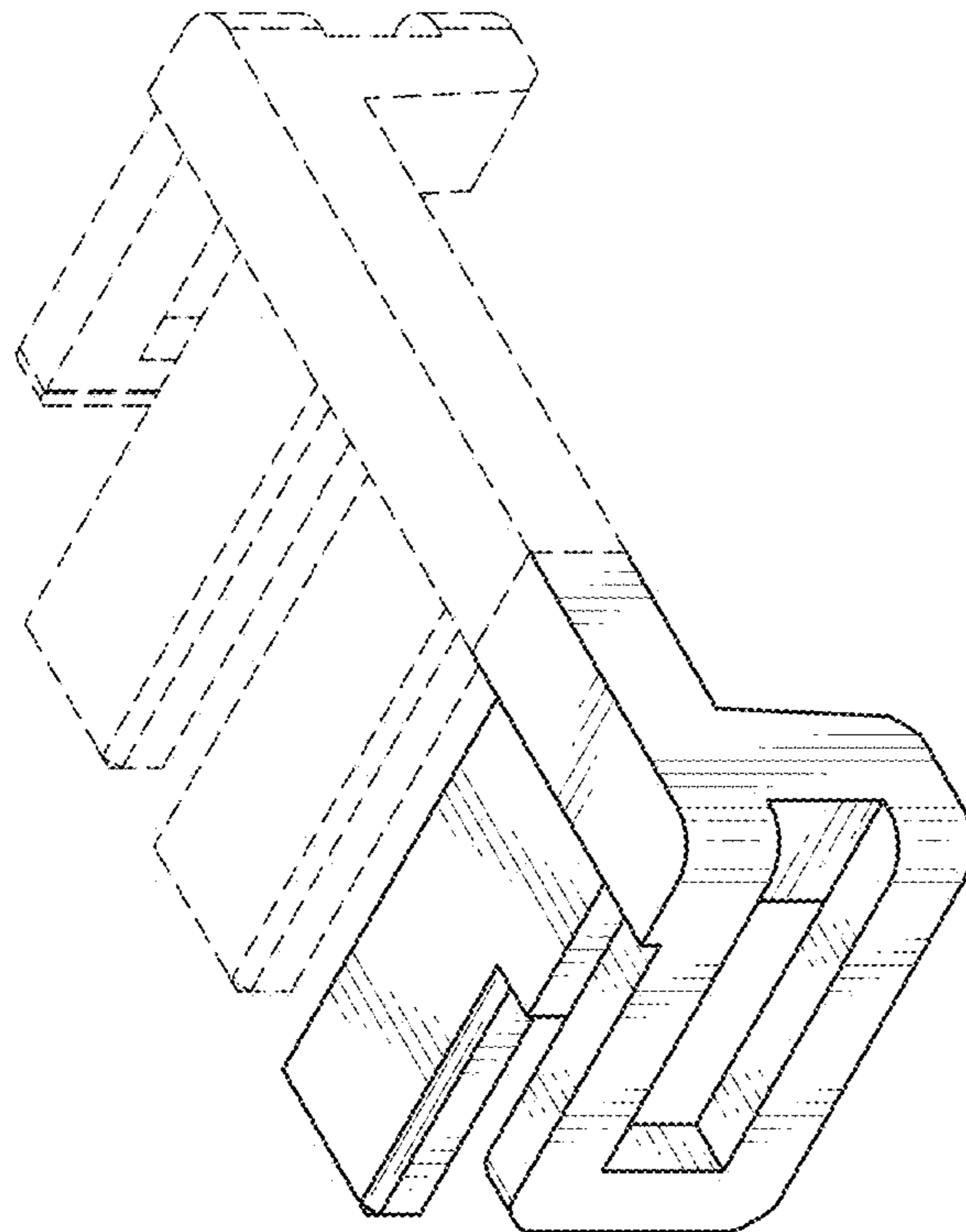


FIG. 17

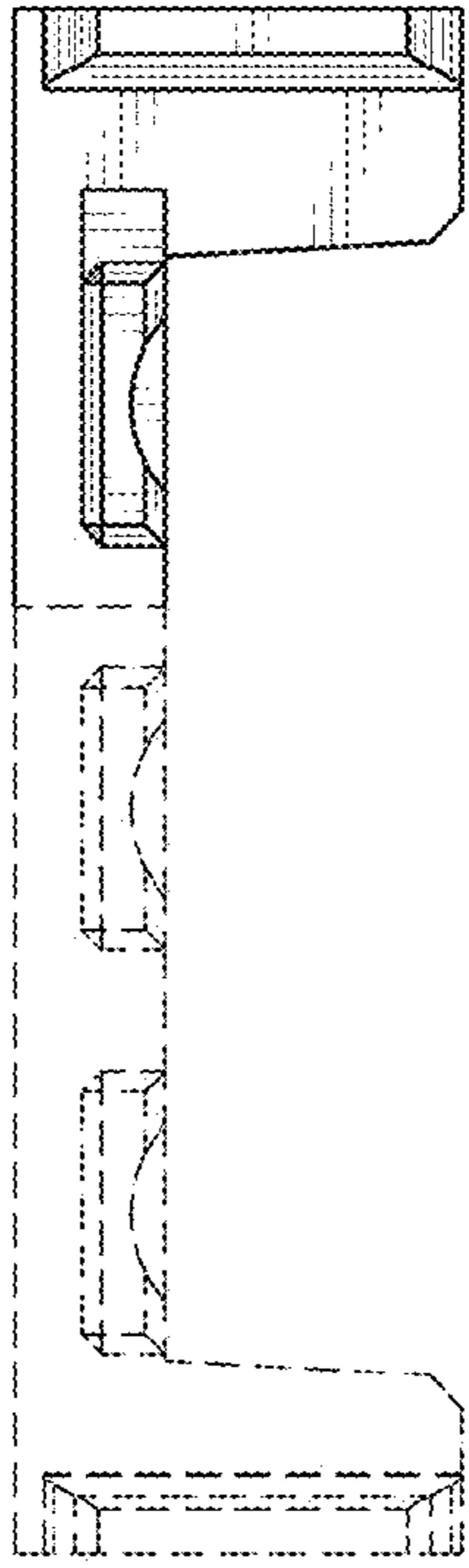


FIG. 19

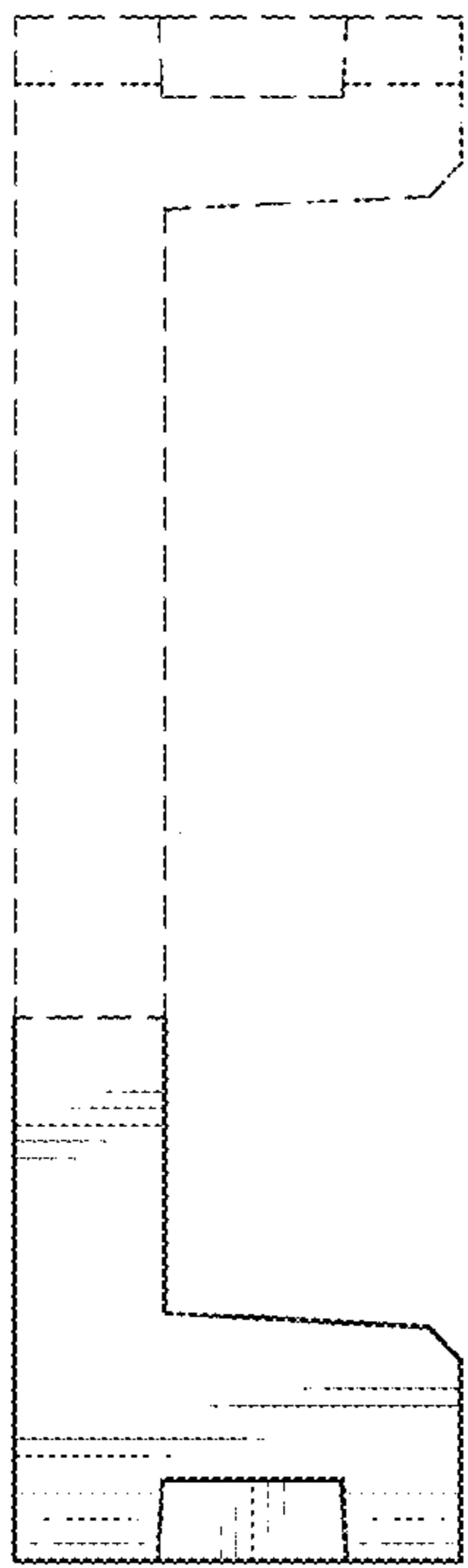


FIG. 20

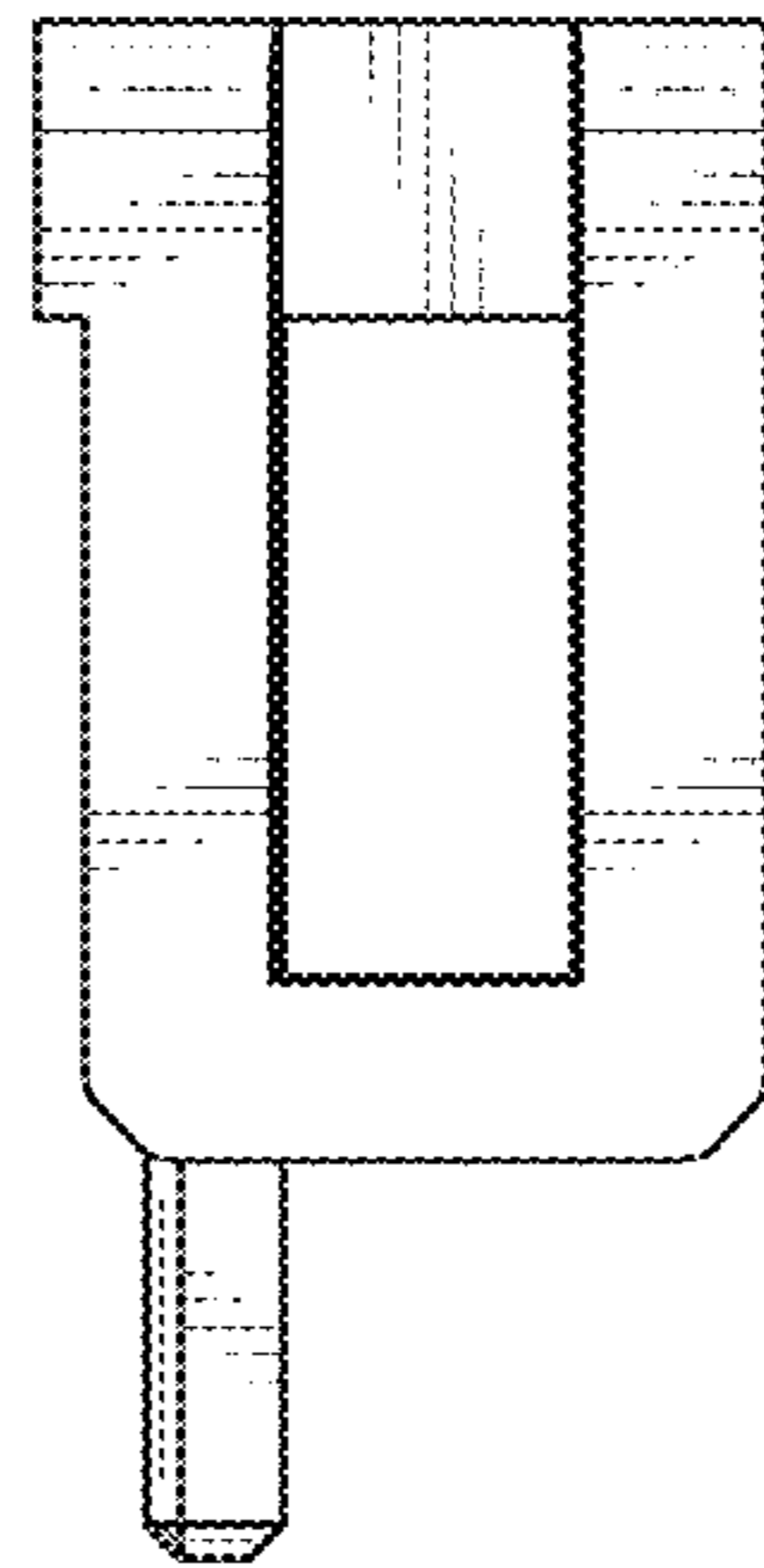


FIG. 21

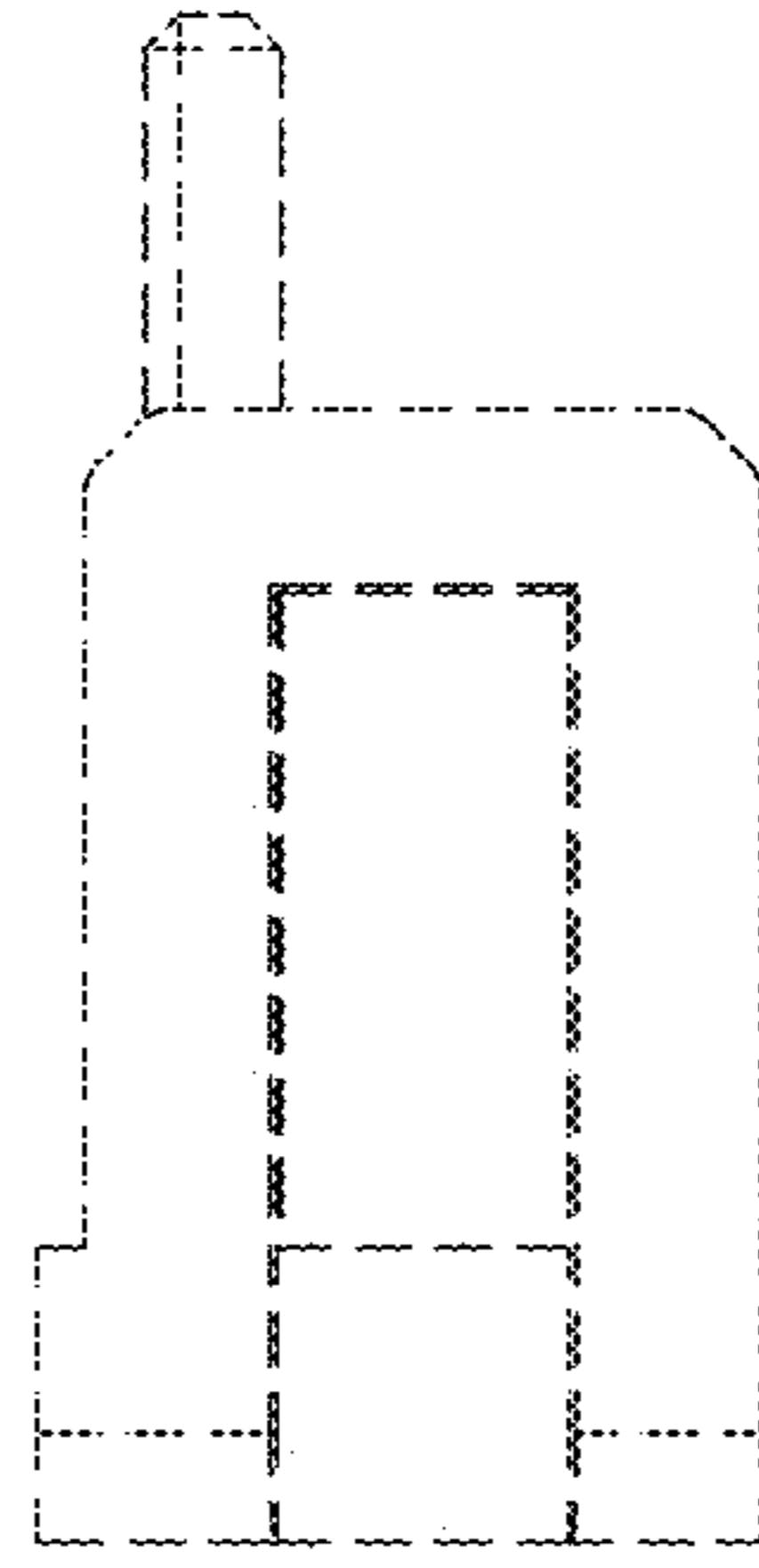


FIG. 22

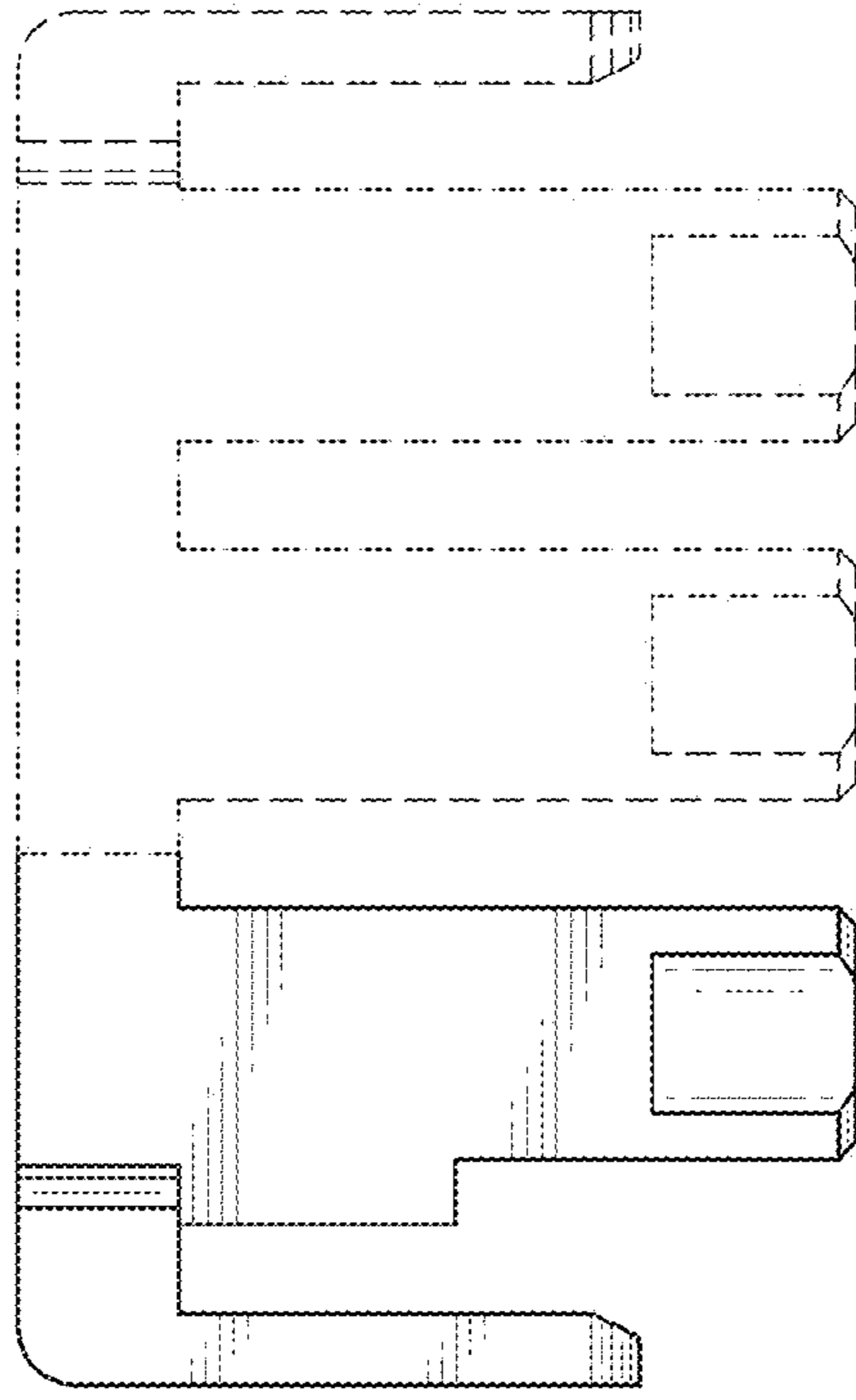


FIG. 24

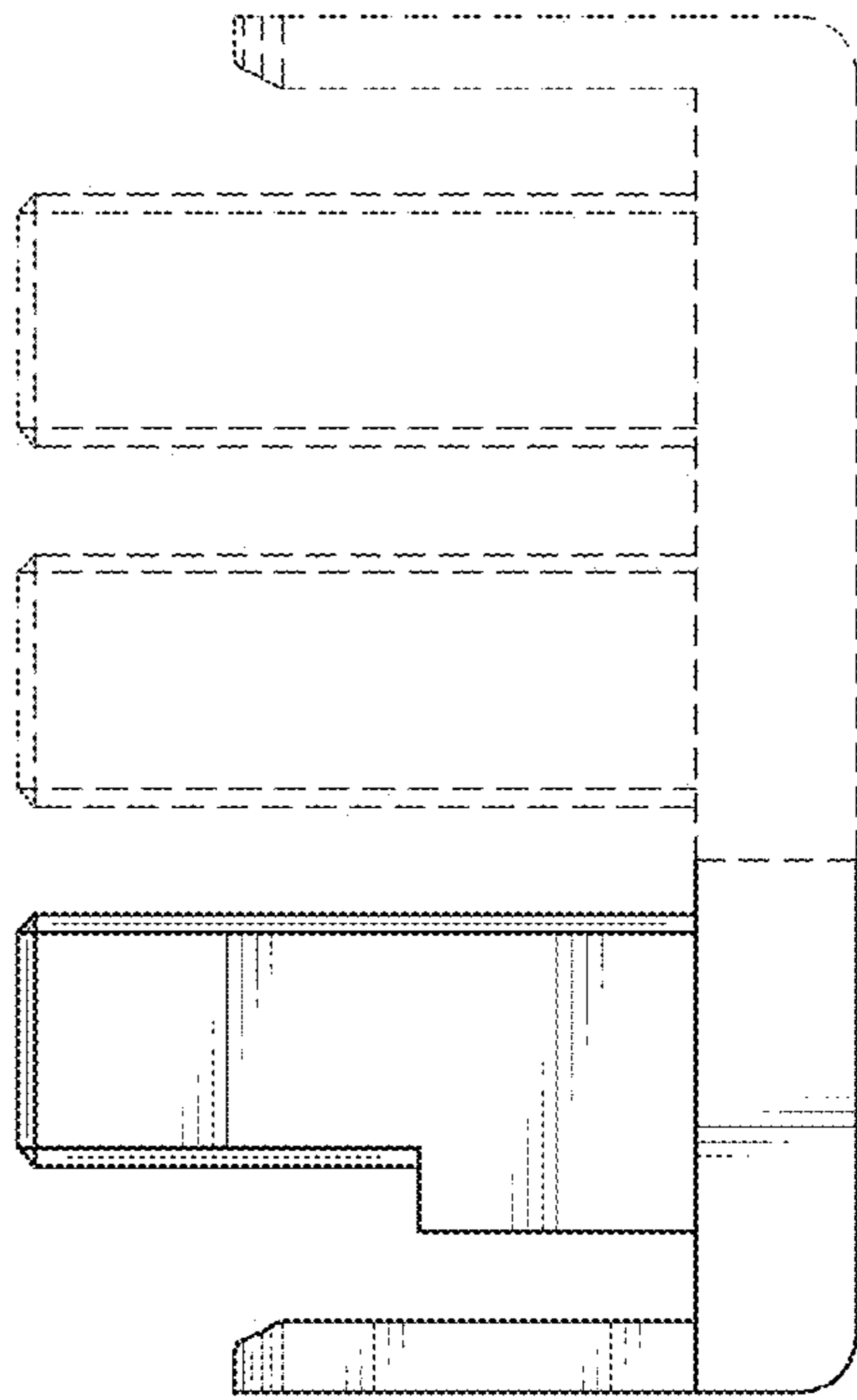


FIG. 23

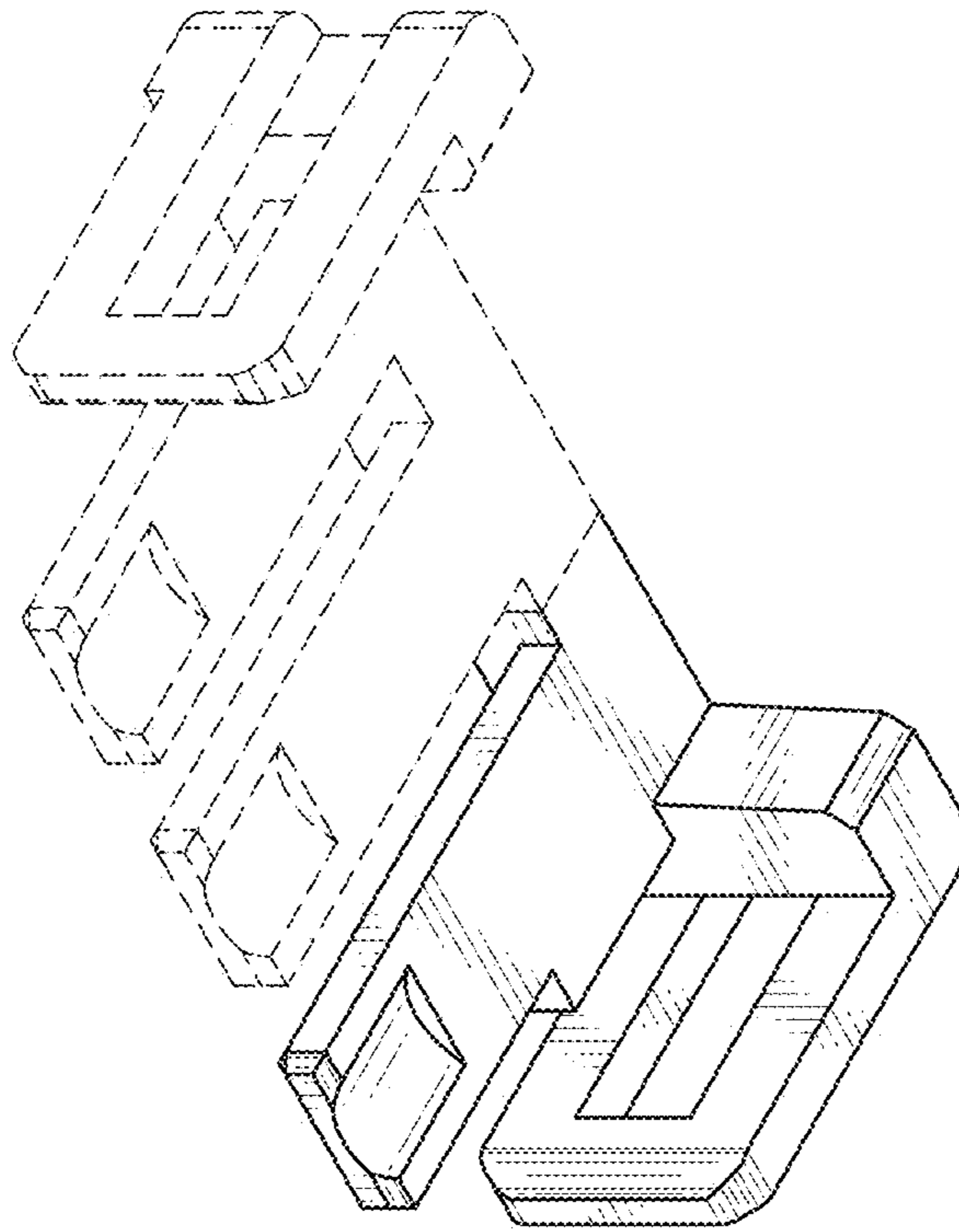


FIG. 26

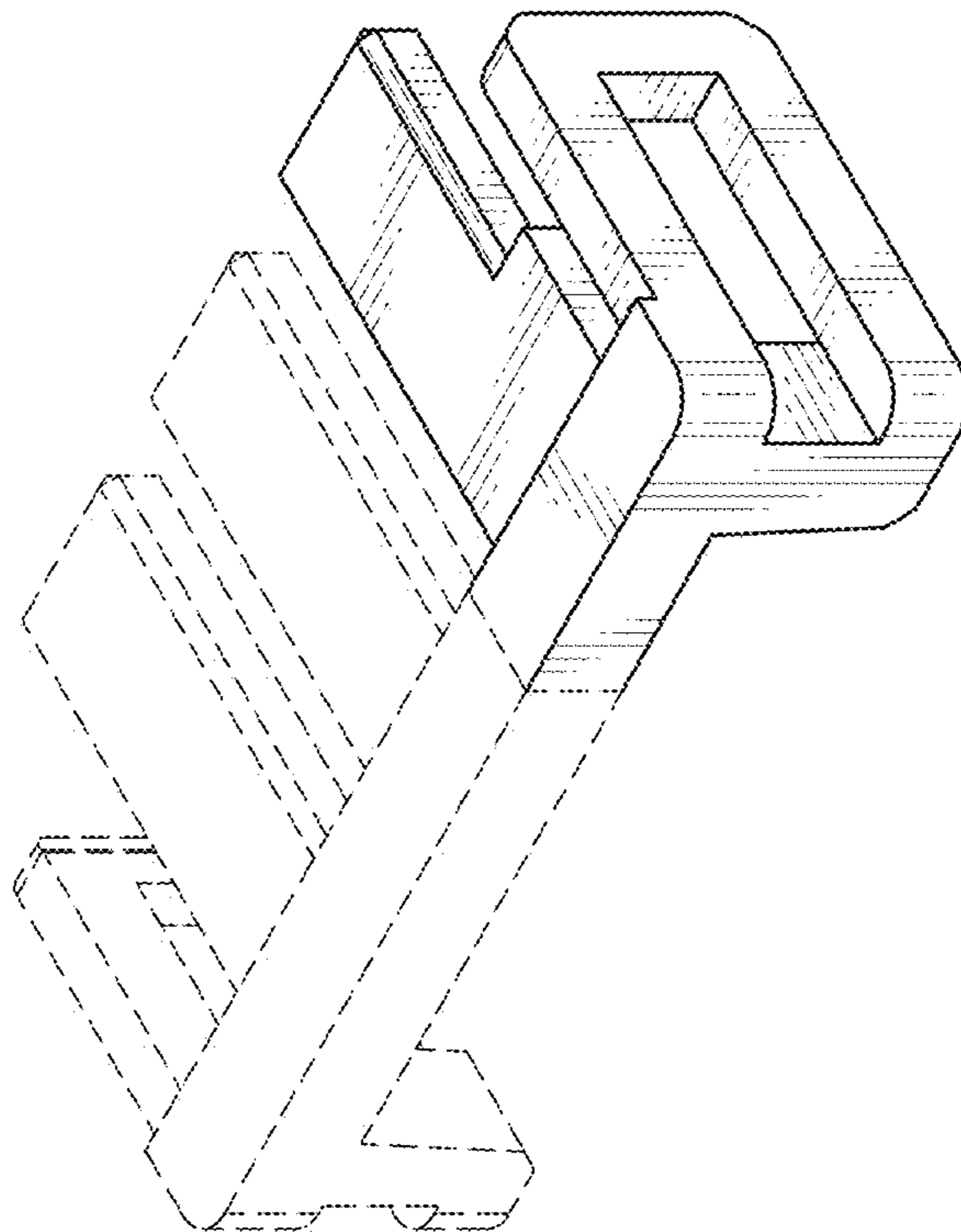


FIG. 25

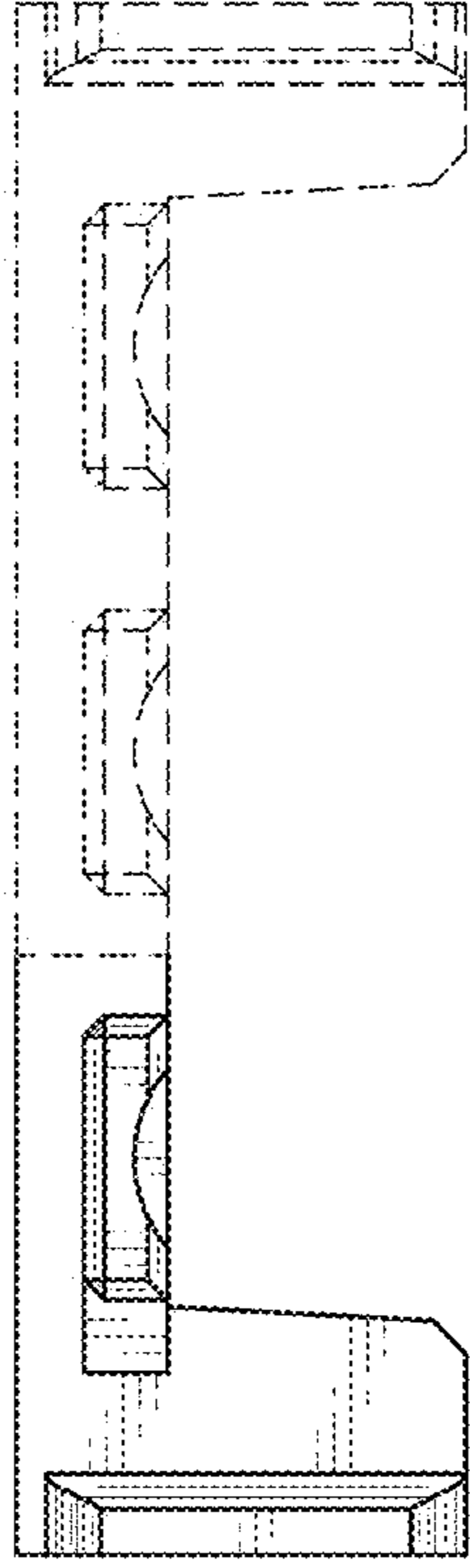


FIG. 27

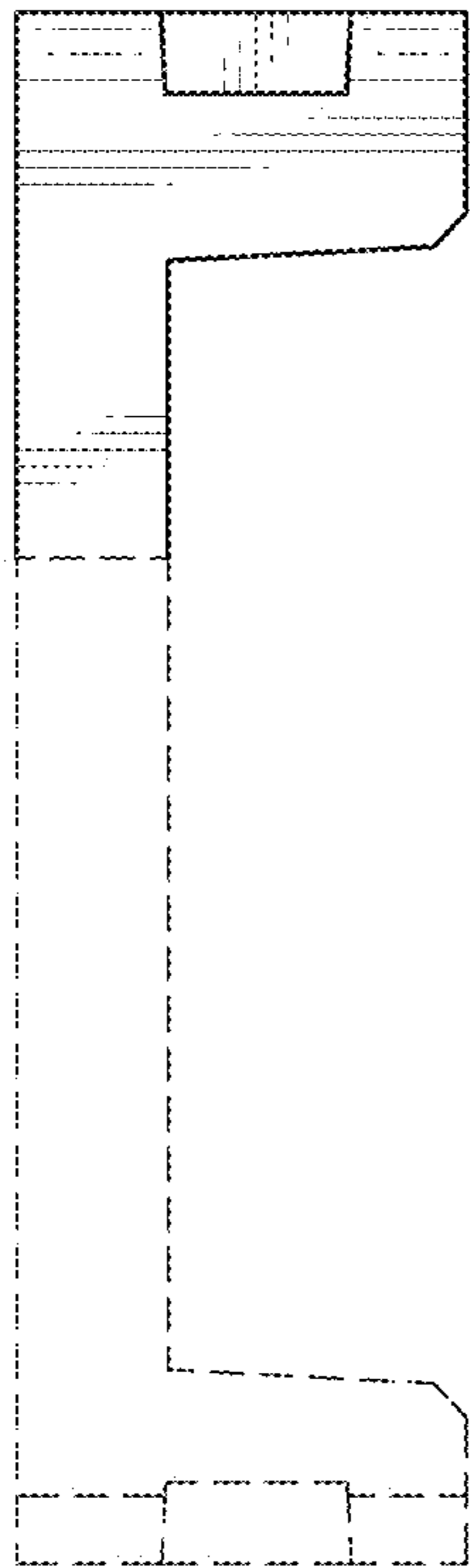


FIG. 28

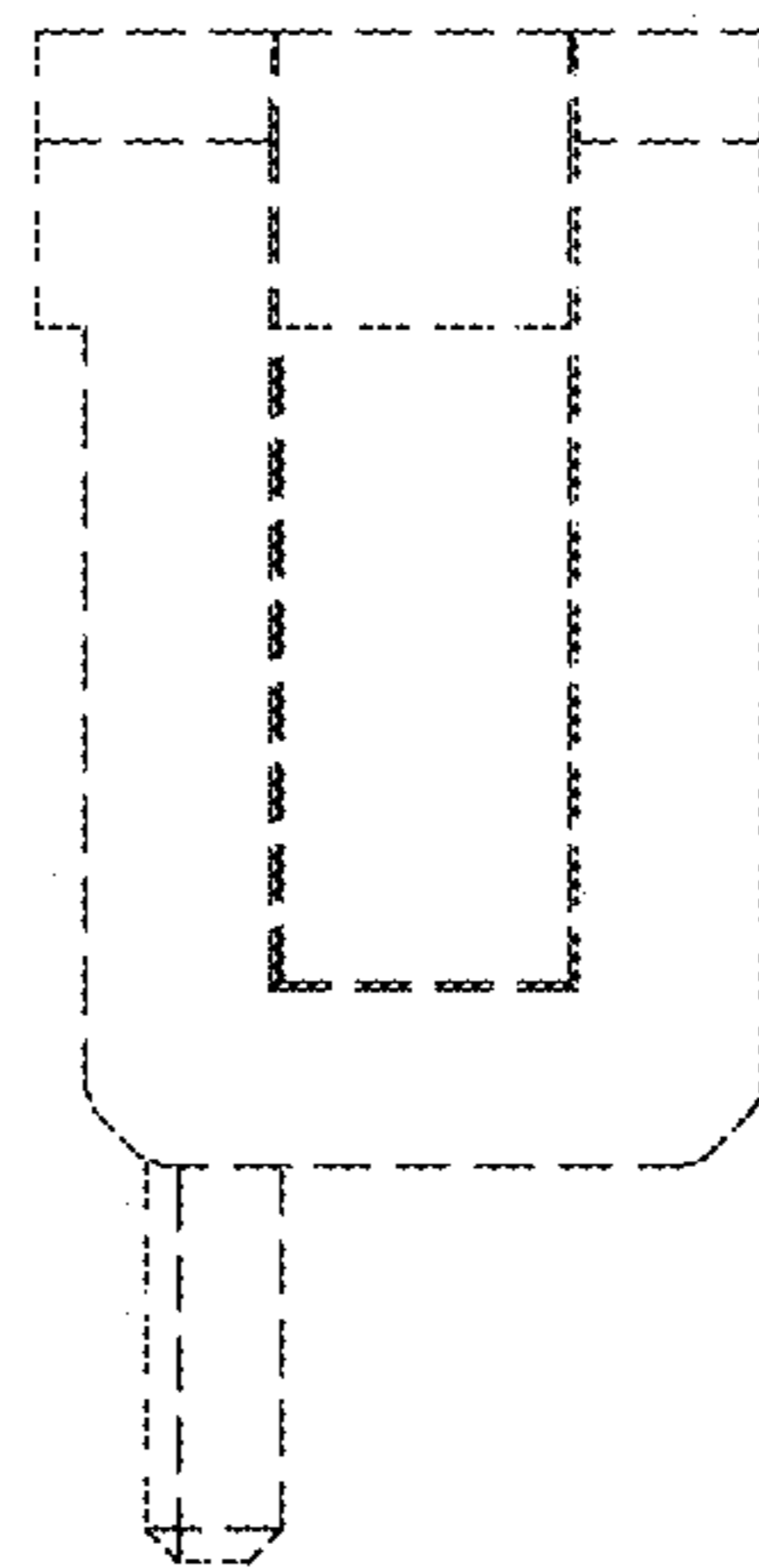


FIG. 29

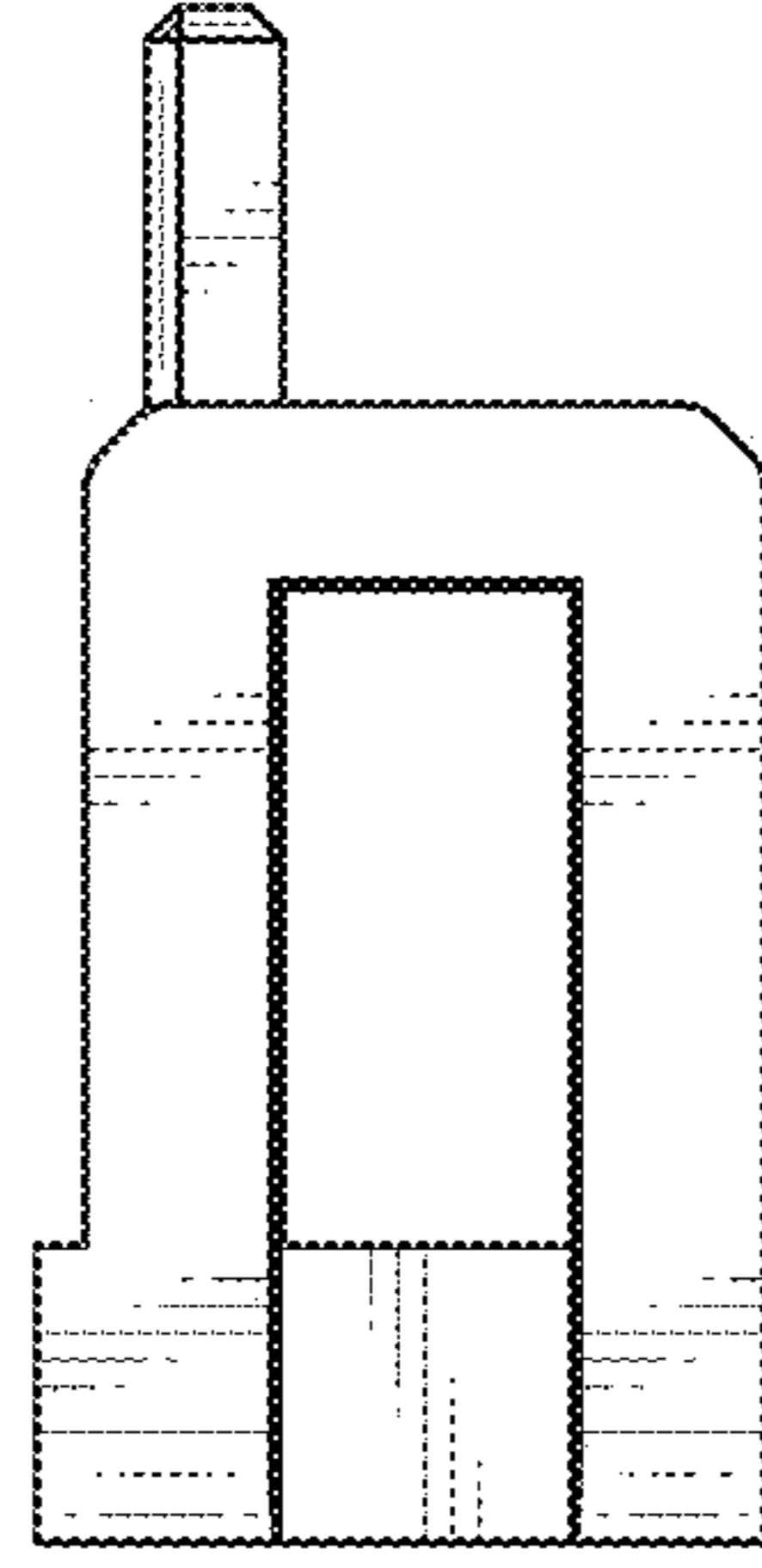


FIG. 30

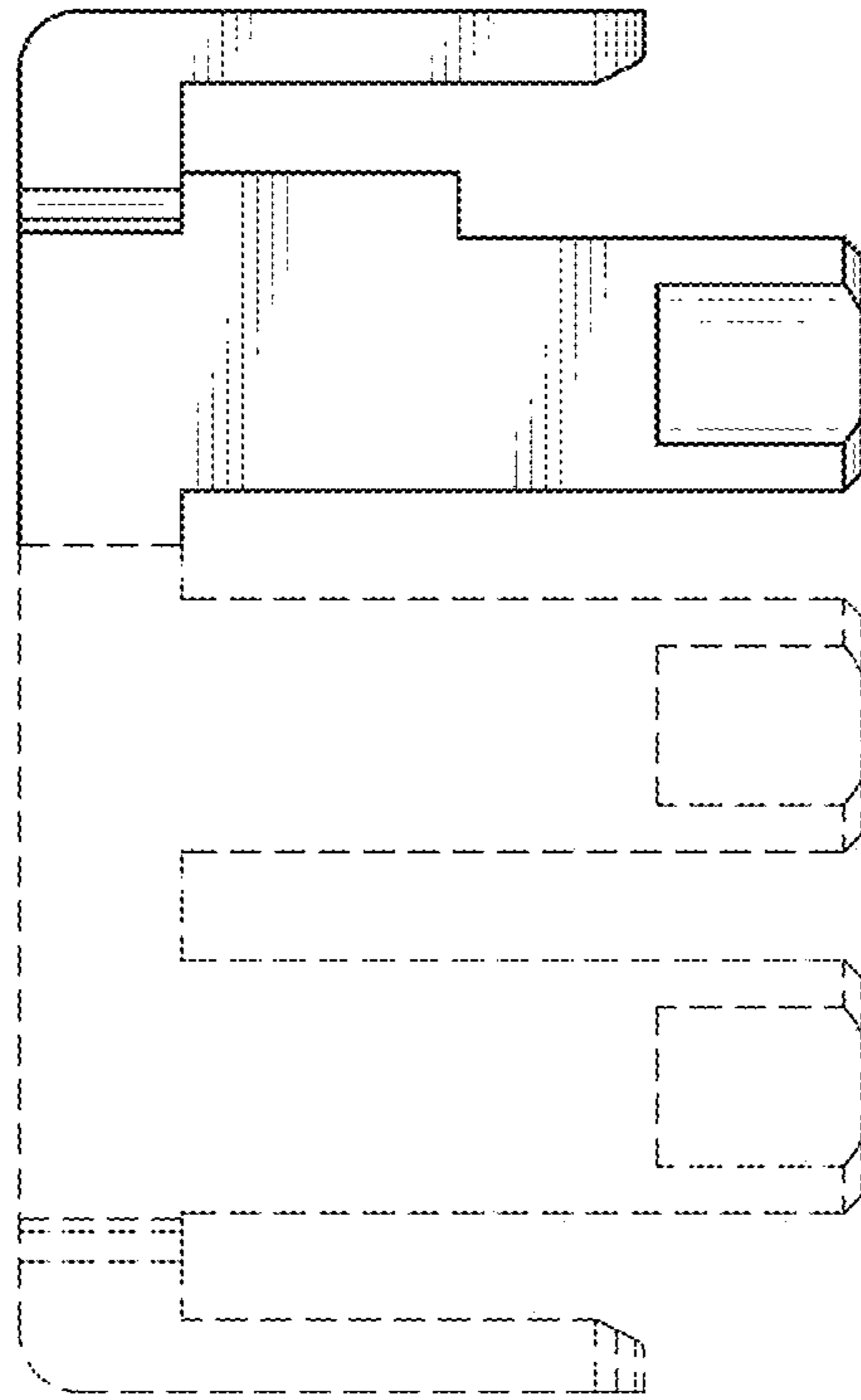


FIG. 32

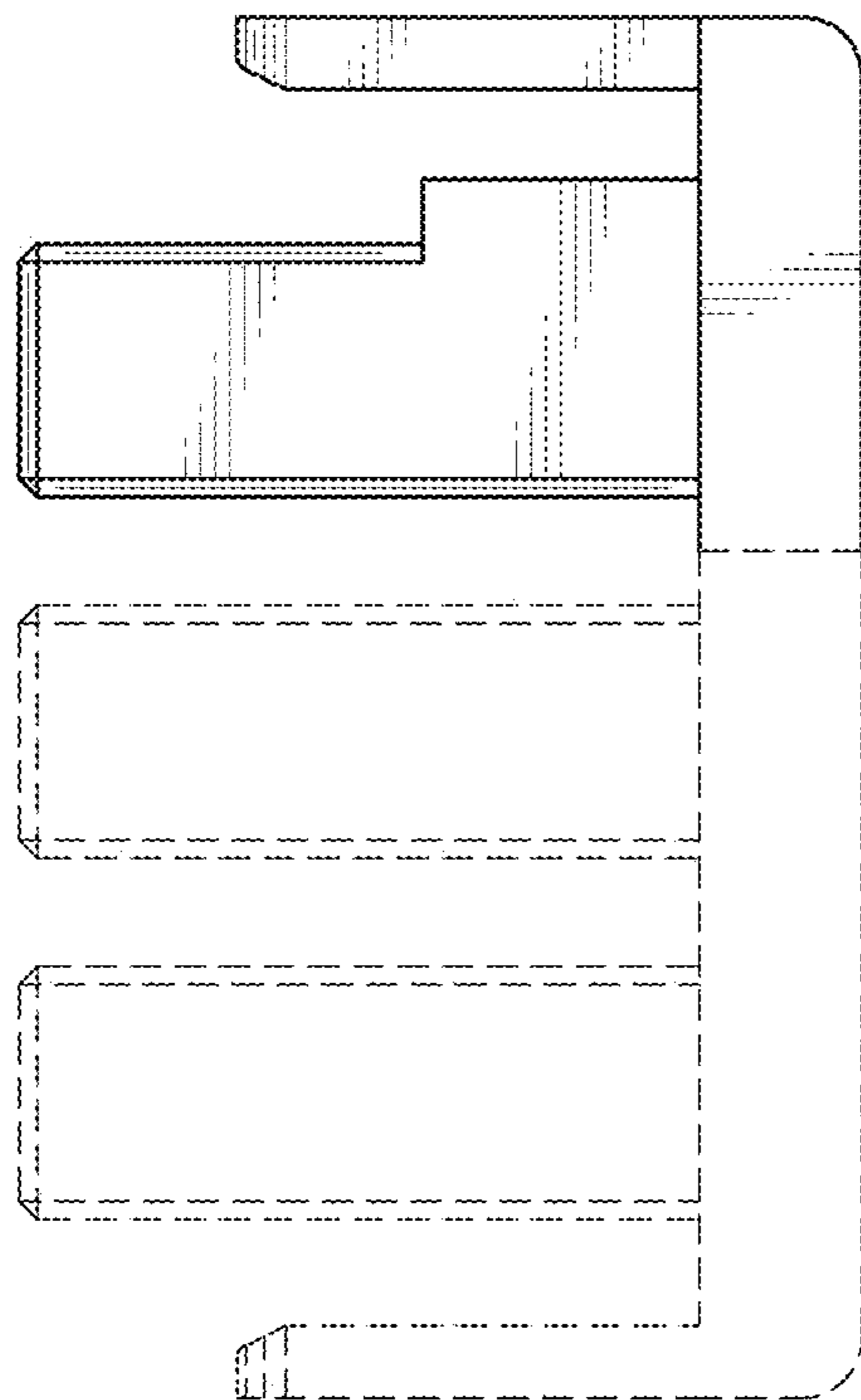


FIG. 31

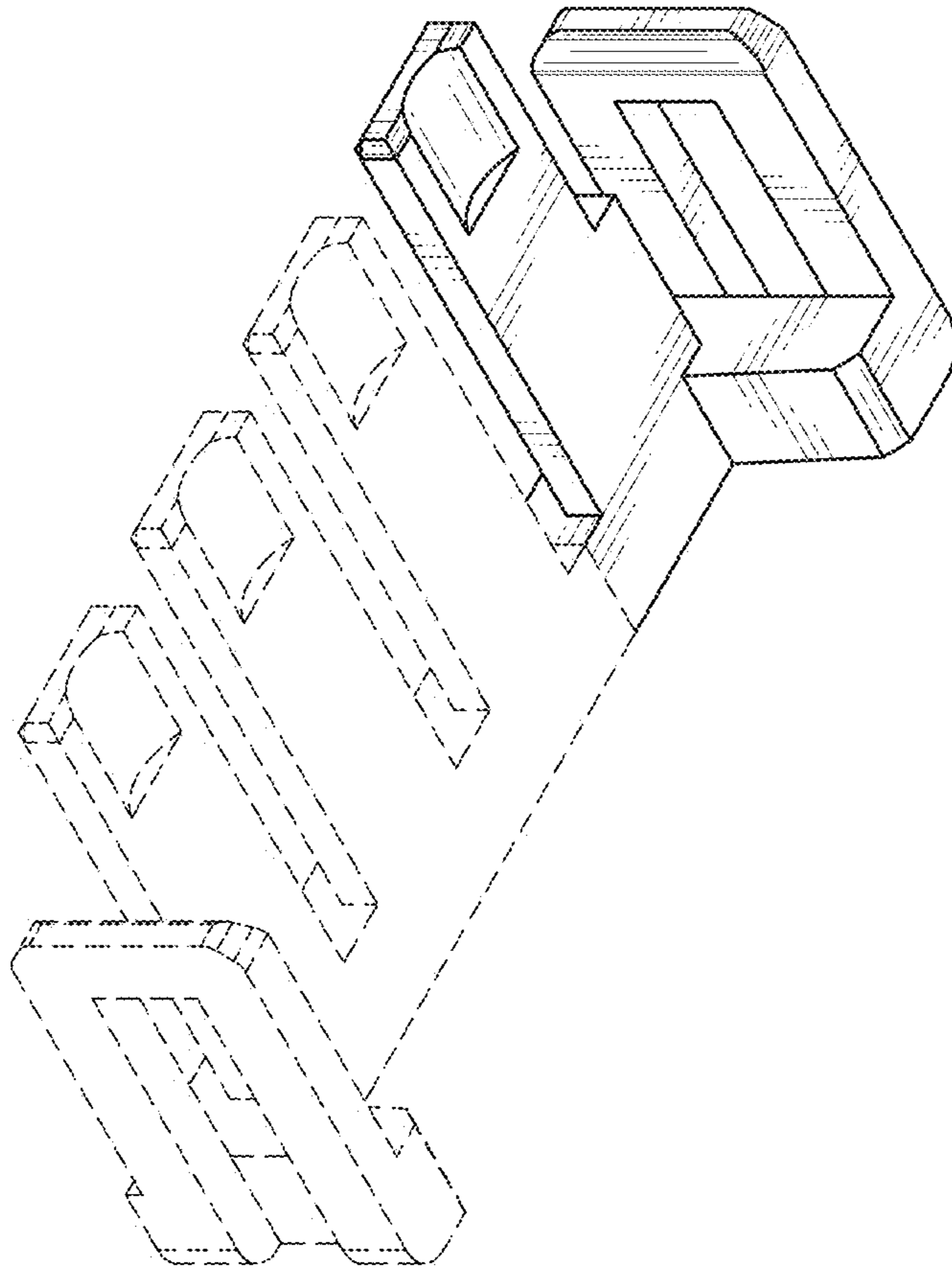


FIG. 34

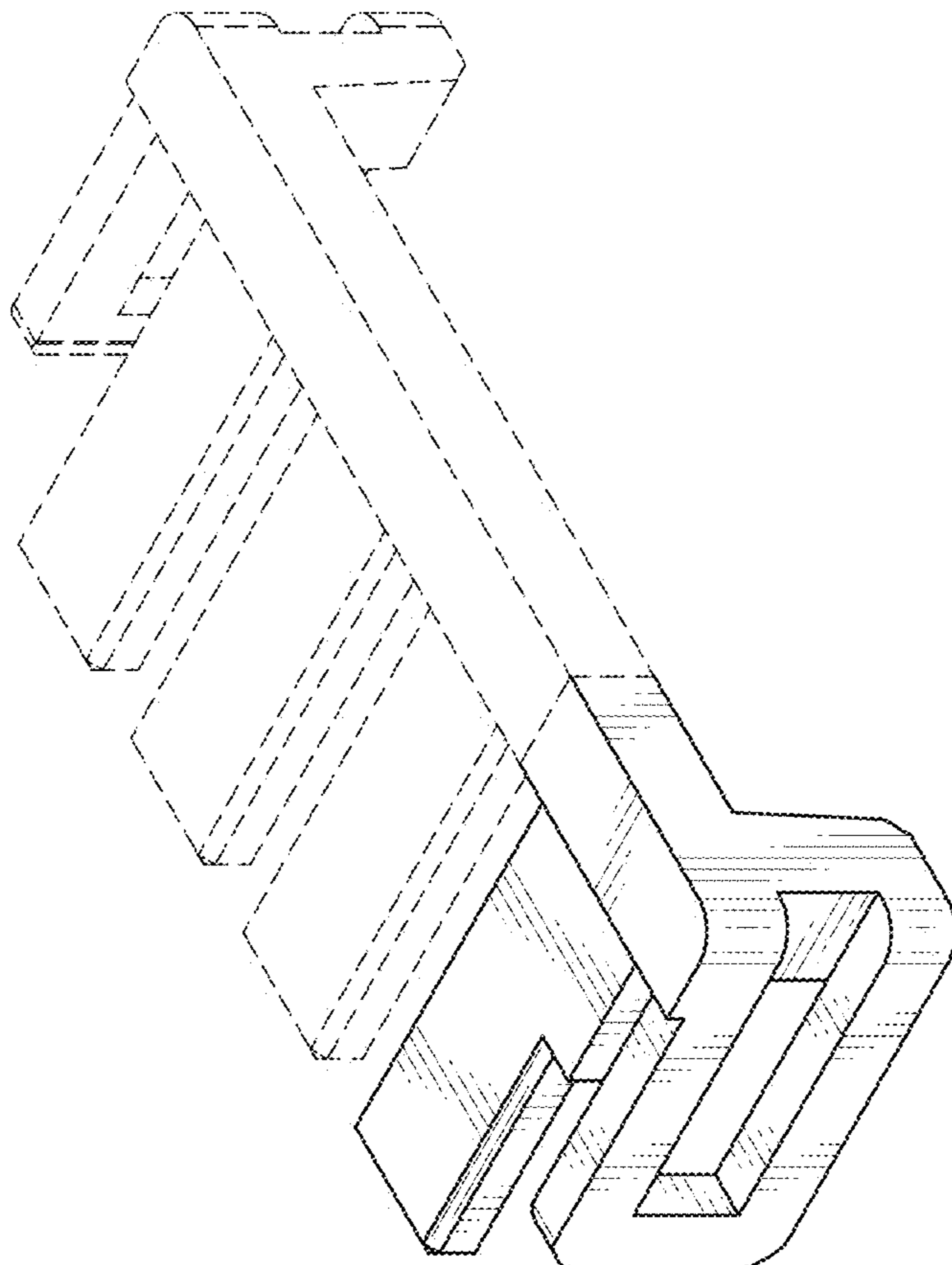


FIG. 33

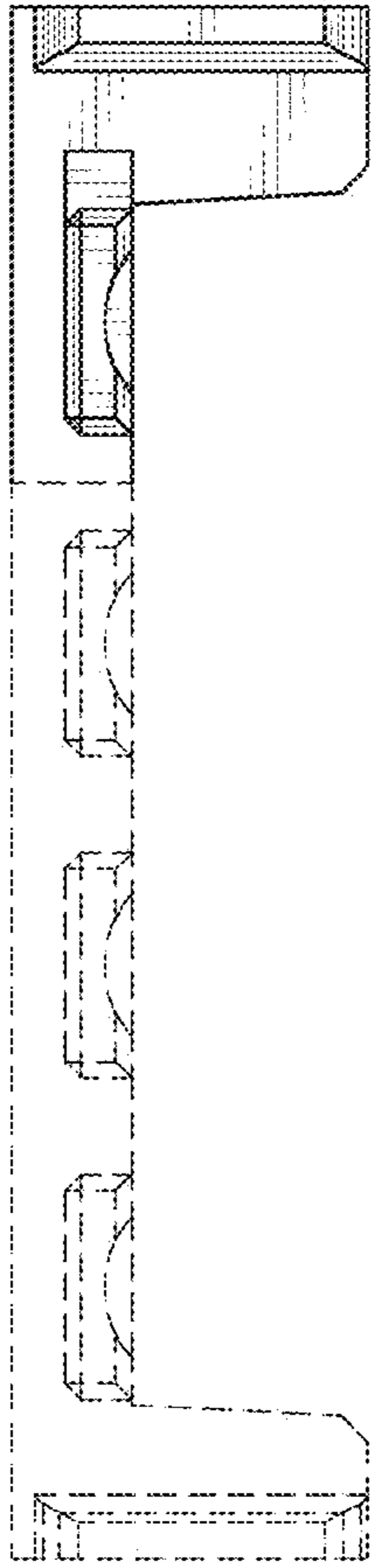


FIG. 35

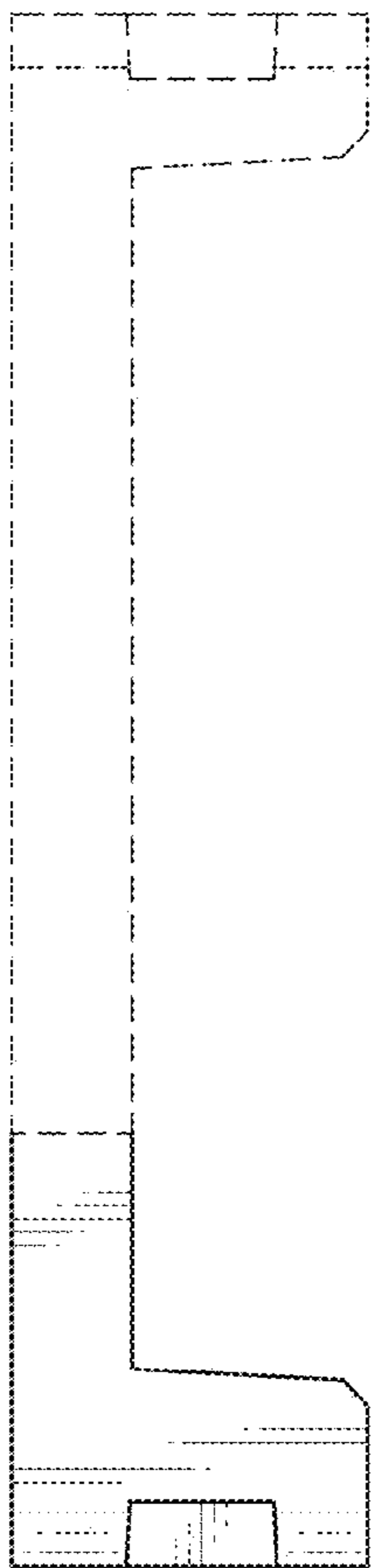


FIG. 36

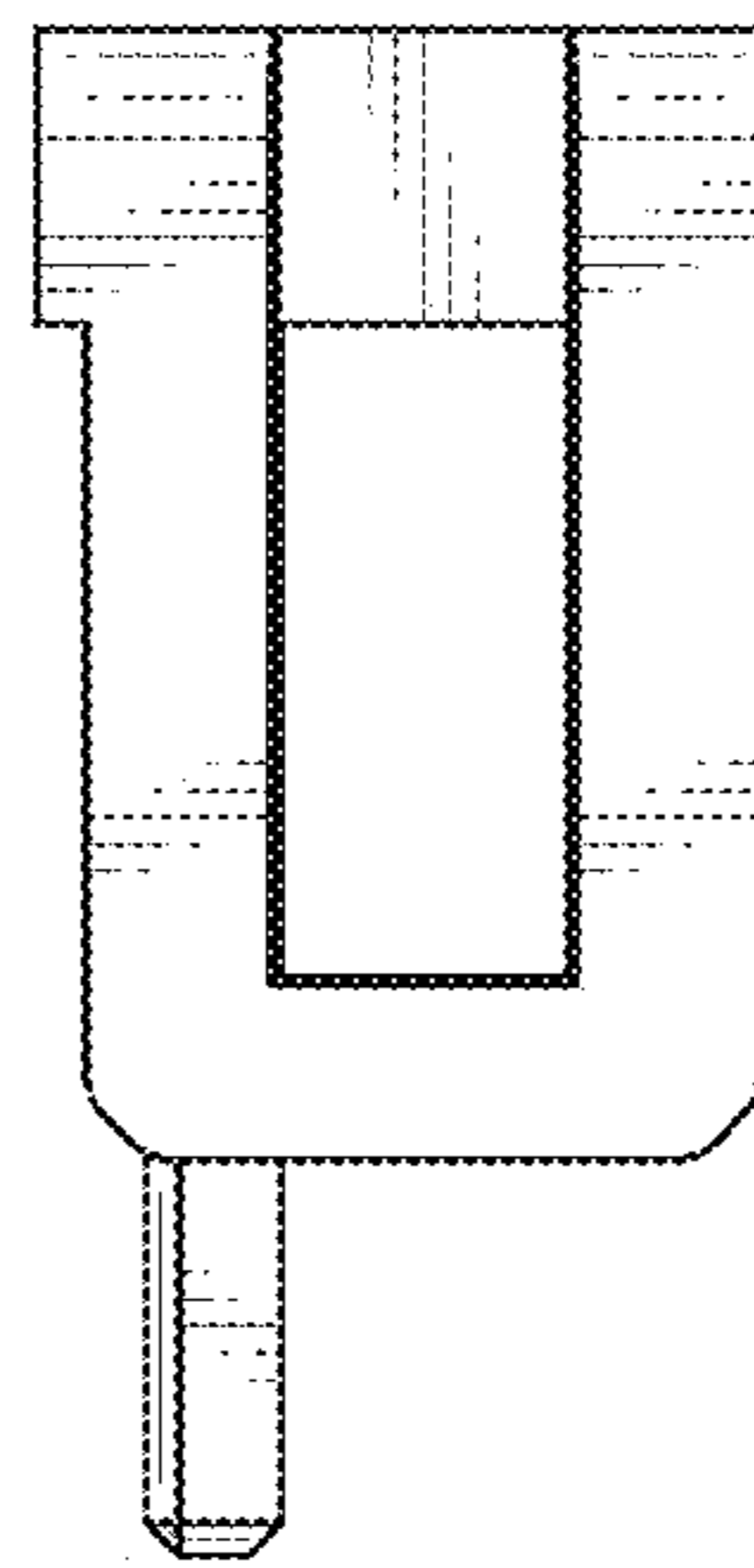


FIG. 37

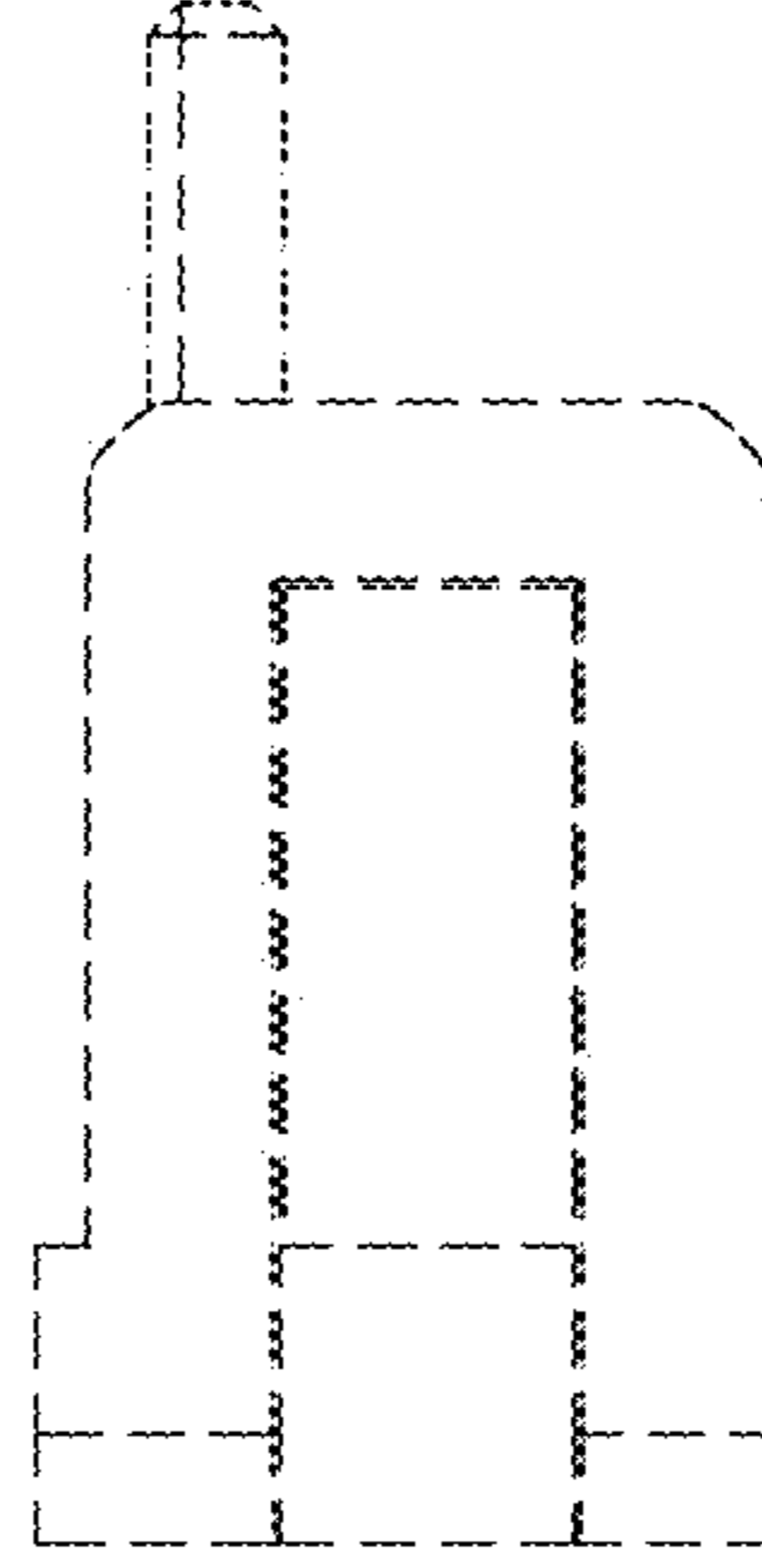


FIG. 38



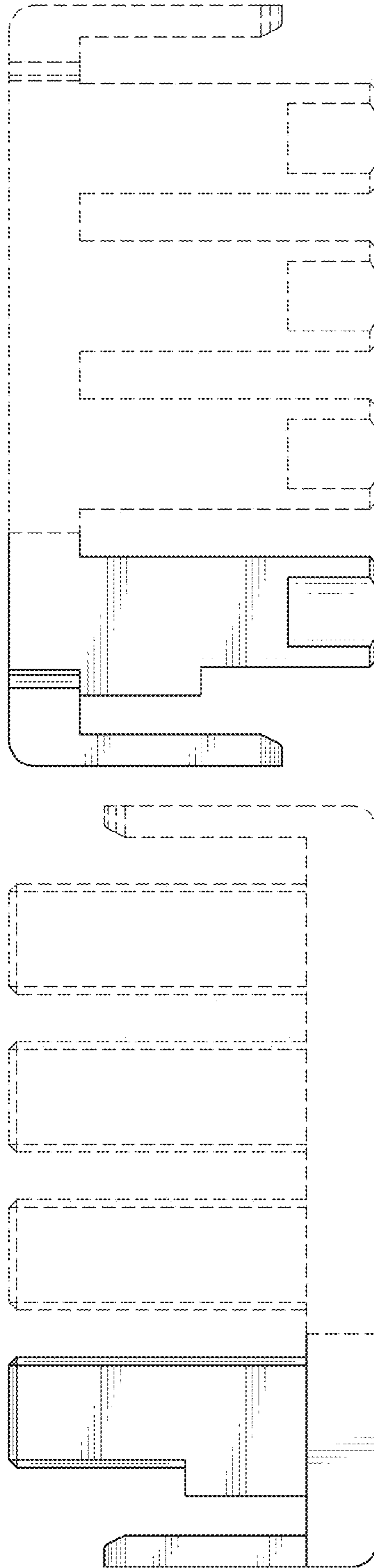


FIG. 39

FIG. 40

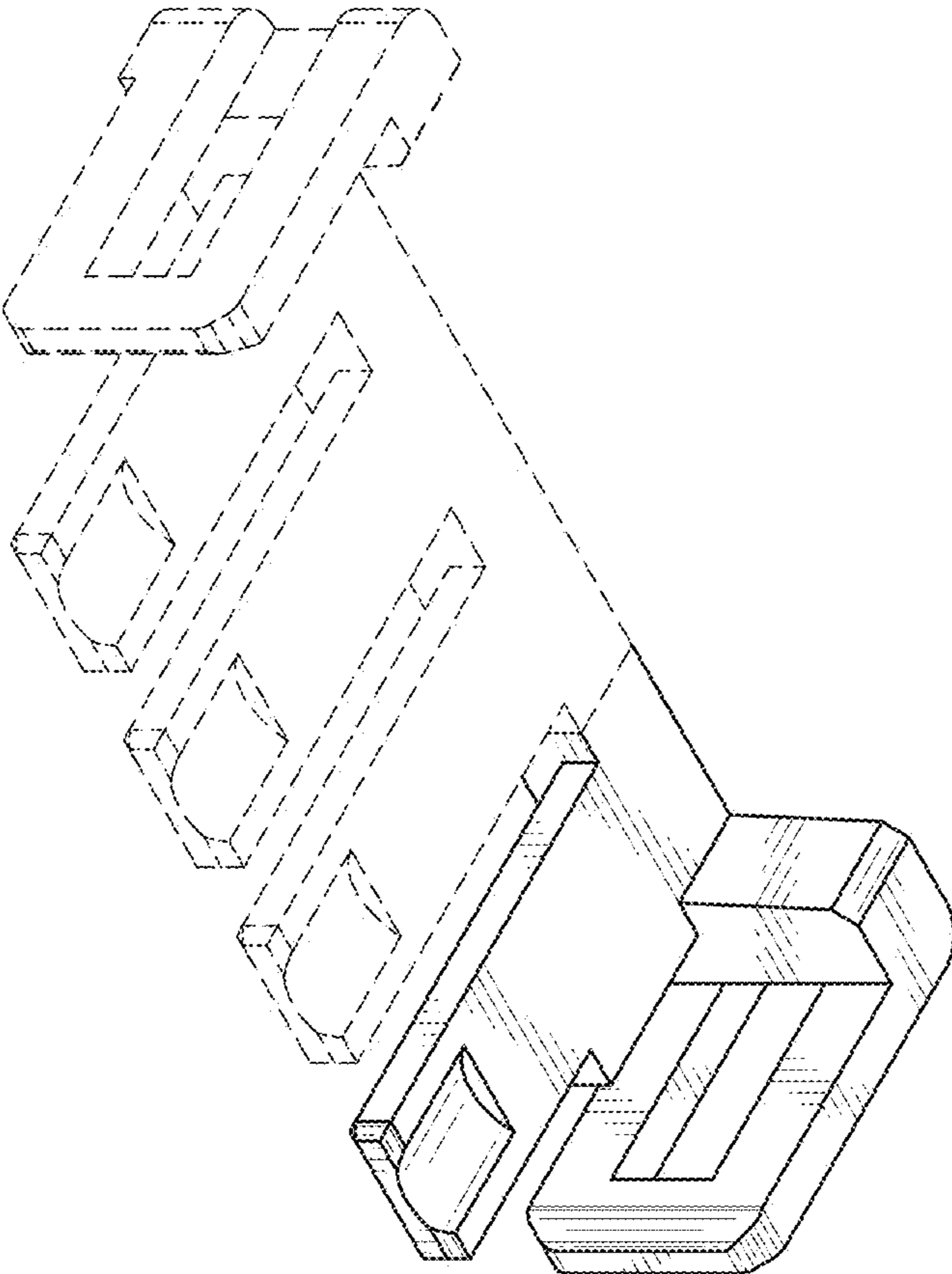


FIG. 42

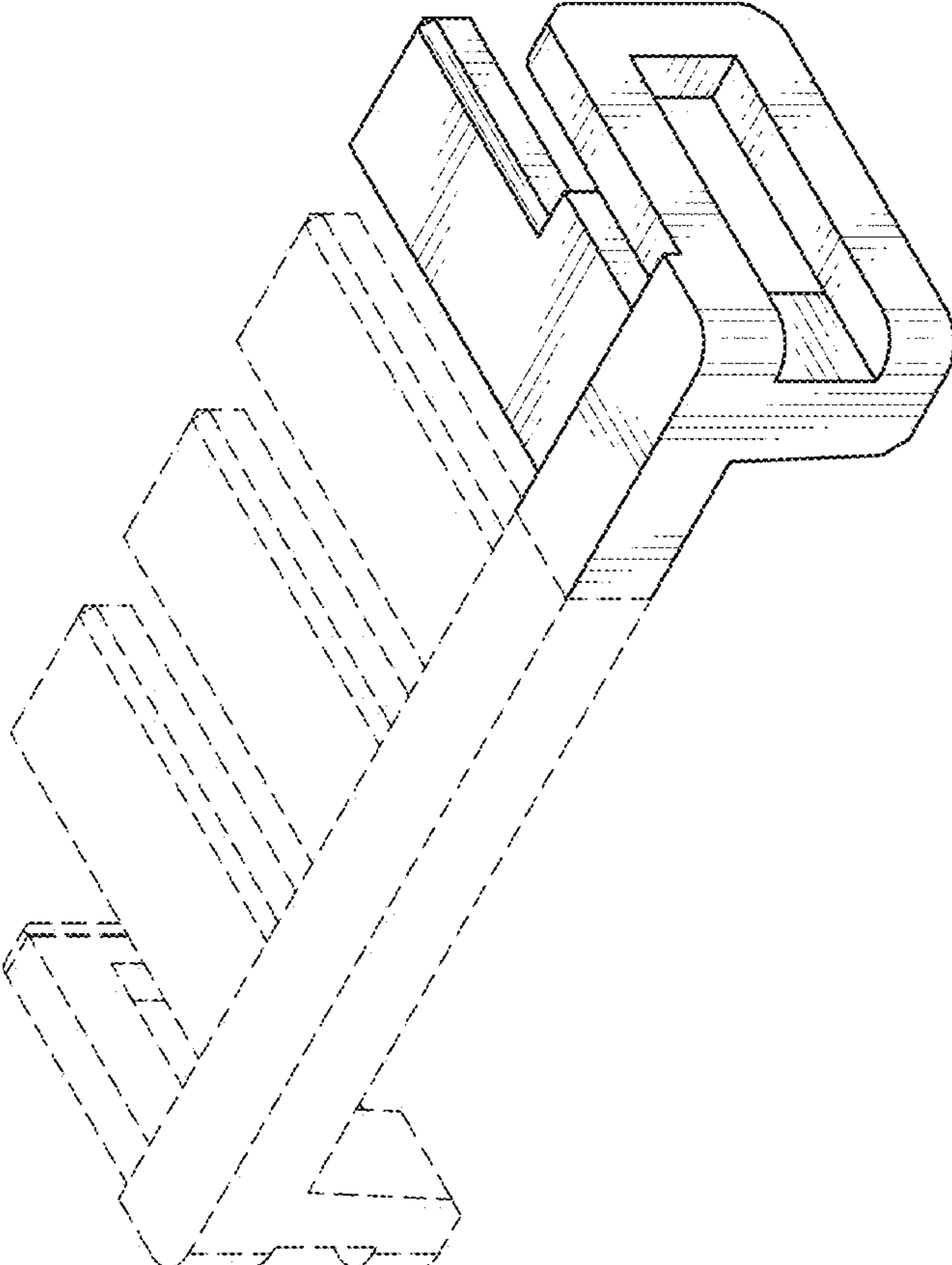


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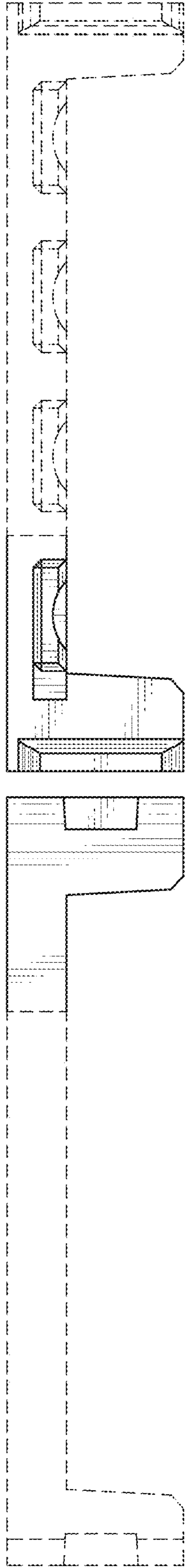


FIG. 43

FIG. 44

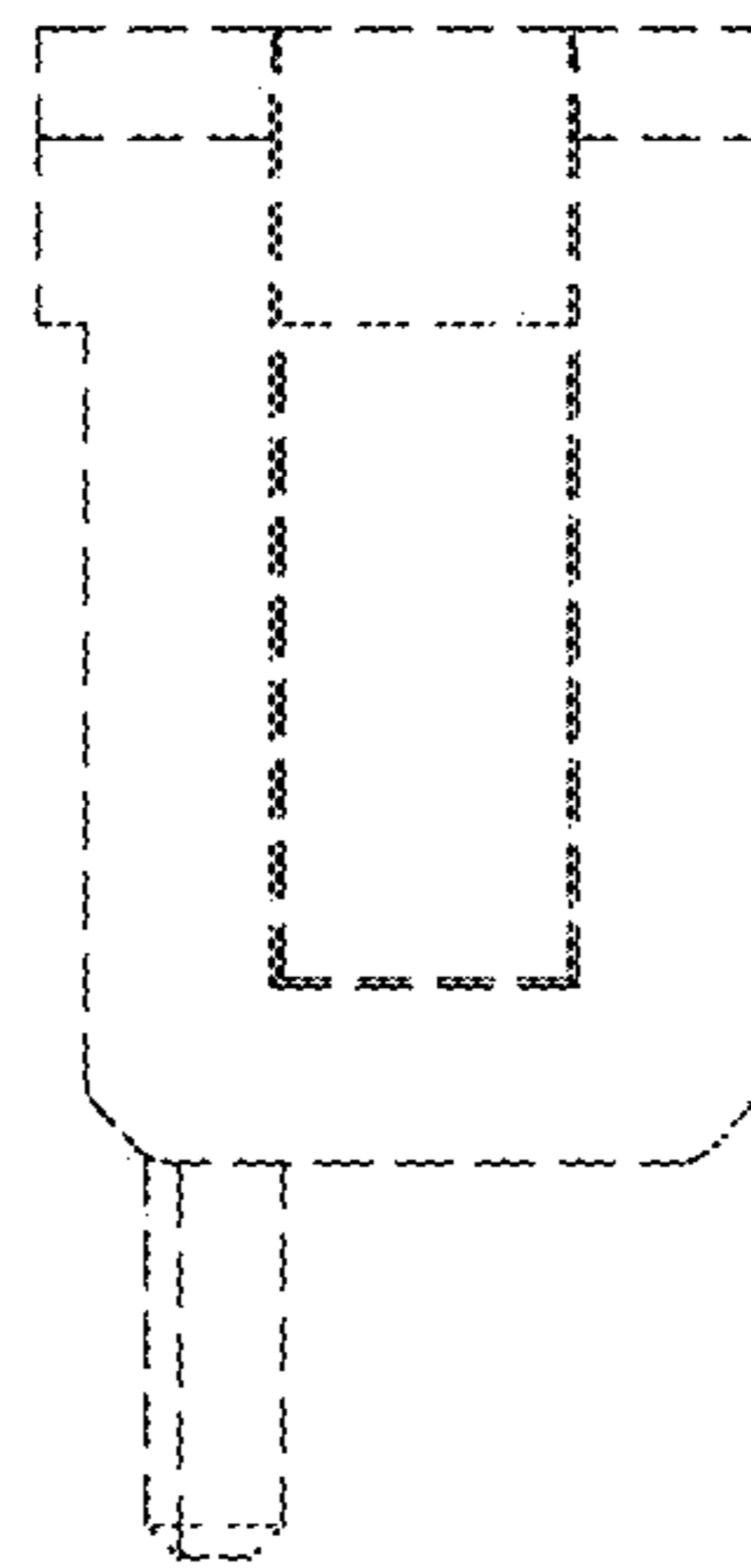


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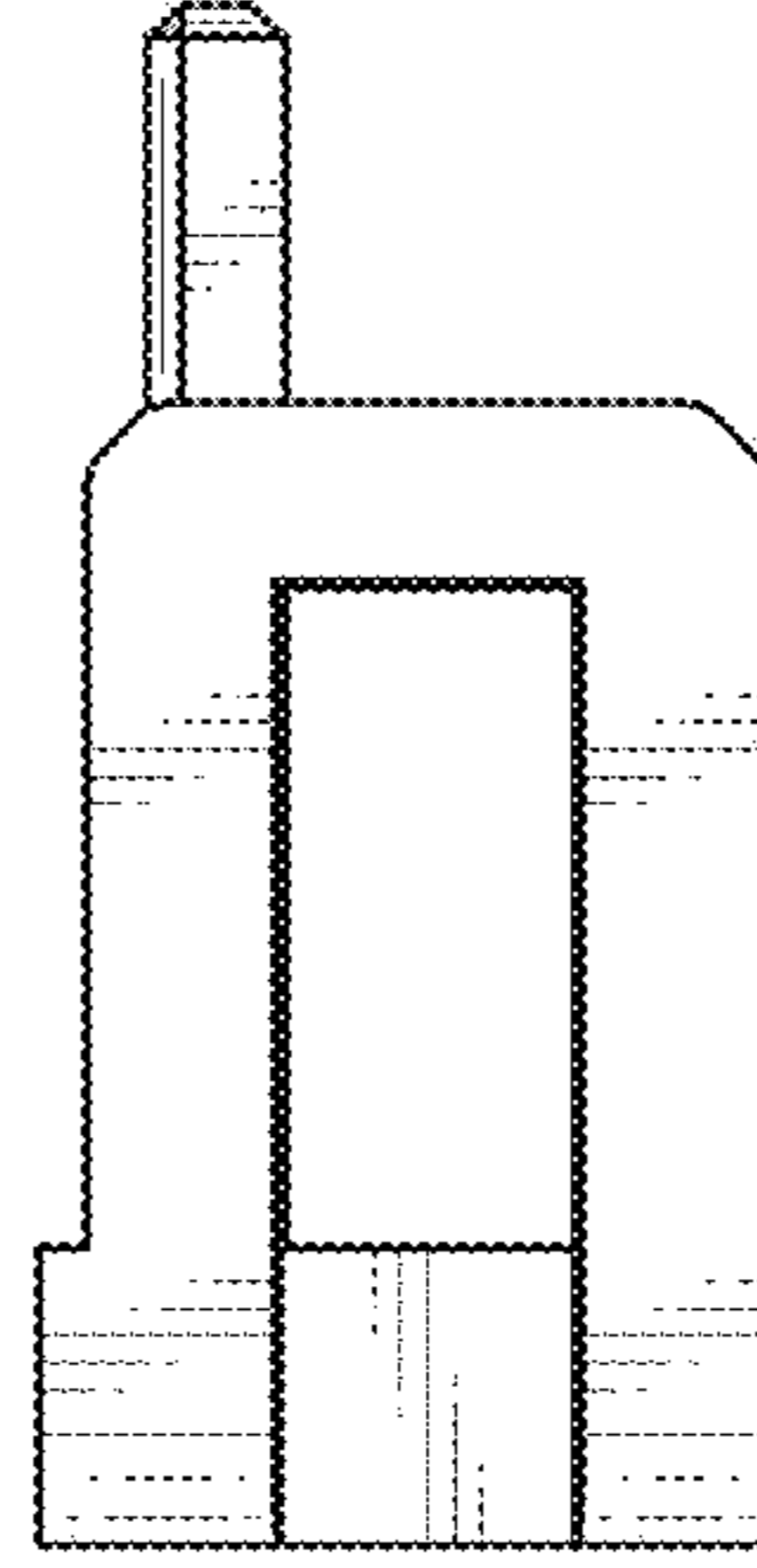


FIG. 46

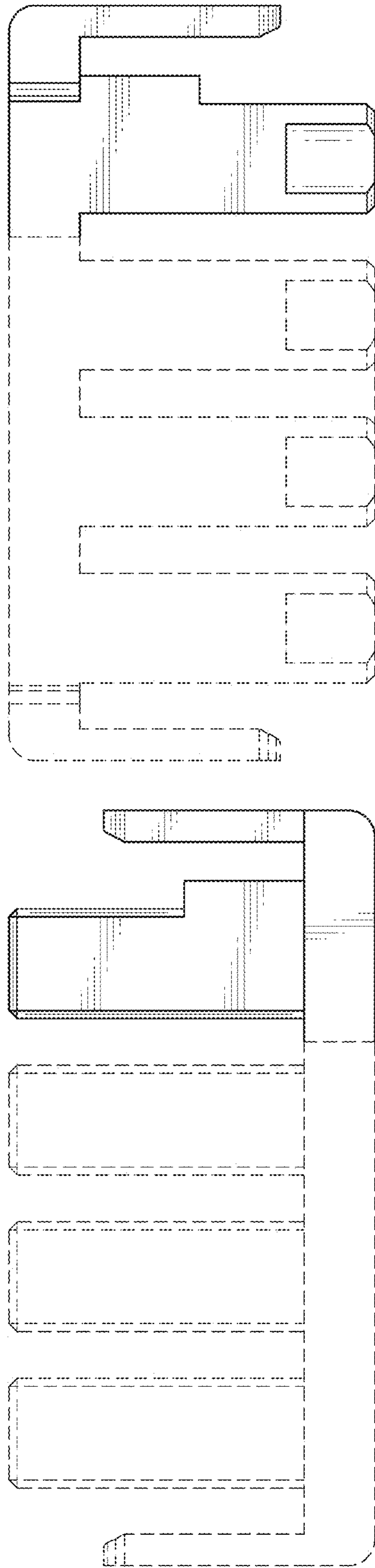


FIG. 47

FIG. 48