



US00D738524S

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

(10) **Patent No.:** **US D738,524 S**

(45) **Date of Patent:** **** Sep. 8, 2015**

(54) **CELL-COLLECTING CARTRIDGE**

FOREIGN PATENT DOCUMENTS

(71) Applicant: **HITACHI CHEMICAL COMPANY, LTD.**, Chiyoda-ku, Tokyo (JP)

JP	D 1381637	8/2011
JP	D 1461166	2/2013
JP	D 1461167	2/2013

(72) Inventors: **Yoshihito Kikuhara**, Oyama (JP); **Hisashige Kanbara**, Oyama (JP); **Akio Kotato**, Hitachi (JP); **Taihei Odagiri**, Hitachi (JP); **Masafumi Kanetomo**, Tokyo (JP)

OTHER PUBLICATIONS

TW Office Action of Design Appln. No. 102307886 dated Aug. 21, 2014.

* cited by examiner

(73) Assignee: **Hitachi Chemical Company, Ltd.**, Tokyo (JP)

Primary Examiner — Anhdao Doan

(74) *Attorney, Agent, or Firm* — Fitch, Even, Tabin and Flannery LLP

(**) Term: **14 Years**

(21) Appl. No.: **29/476,088**

(57) **CLAIM**

We claim the ornamental design for a cell-collecting cartridge, as shown and described.

(22) Filed: **Dec. 10, 2013**

(30) **Foreign Application Priority Data**

DESCRIPTION

Nov. 25, 2013 (JP) D2013-027550

(51) **LOC (10) Cl.** **24-01**

(52) **U.S. Cl.**
USPC **D24/216; D24/225**

(58) **Field of Classification Search**
USPC D24/216, 223–225, 231, 232, 186, 107, D24/108, 121; D10/81; 422/503, 551, 554; 435/287.2, 287.3, 288.3, 288.4, 288.5; 436/808, 809

CPC B01L 3/5027; B01L 3/502707
See application file for complete search history.

FIG. 1 is a front view of the cell-collecting cartridge showing our new design;

FIG. 2 is rear view thereof;

FIG. 3 is a top plan view thereof;

FIG. 4 is a bottom view thereof;

FIG. 5 is a right side view thereof;

FIG. 6 is a left side view thereof;

FIG. 7 is a top perspective view thereof;

FIG. 8 is a bottom perspective view thereof;

FIG. 9 is an A-A sectional view thereof along line A-A in FIG. 3;

FIG. 10 is a B-B sectional view thereof along line B-B in FIG. 3;

FIG. 11 is an exploded reference view thereof;

FIG. 12 is a front view of the cover thereof;

FIG. 13 is a rear view of the cover thereof;

FIG. 14 is a top plan view of the cover thereof;

FIG. 15 is a bottom view of the cover thereof;

FIG. 16 is a right side view of the cover thereof;

FIG. 17 is a left side view of the cover thereof;

FIG. 18 is a top perspective view of the cover thereof;

FIG. 19 is a bottom perspective view of the cover thereof;

(56) **References Cited**

U.S. PATENT DOCUMENTS

D404,497	S *	1/1999	Lahm et al.	.....	D24/224
D495,805	S *	9/2004	Lea et al.	.....	D24/216
D636,893	S *	4/2011	Nicholls et al.	.....	D24/225
D692,578	S *	10/2013	Kikuhara et al.	.....	D24/216
2003/0118477	A1 *	6/2003	Liljestrand et al.	.....	422/52
2004/0029258	A1 *	2/2004	Heaney et al.	.....	435/287.2
2011/0008223	A1 *	1/2011	Tsao et al.	.....	422/554
2012/0052560	A1 *	3/2012	Knight et al.	.....	435/287.2

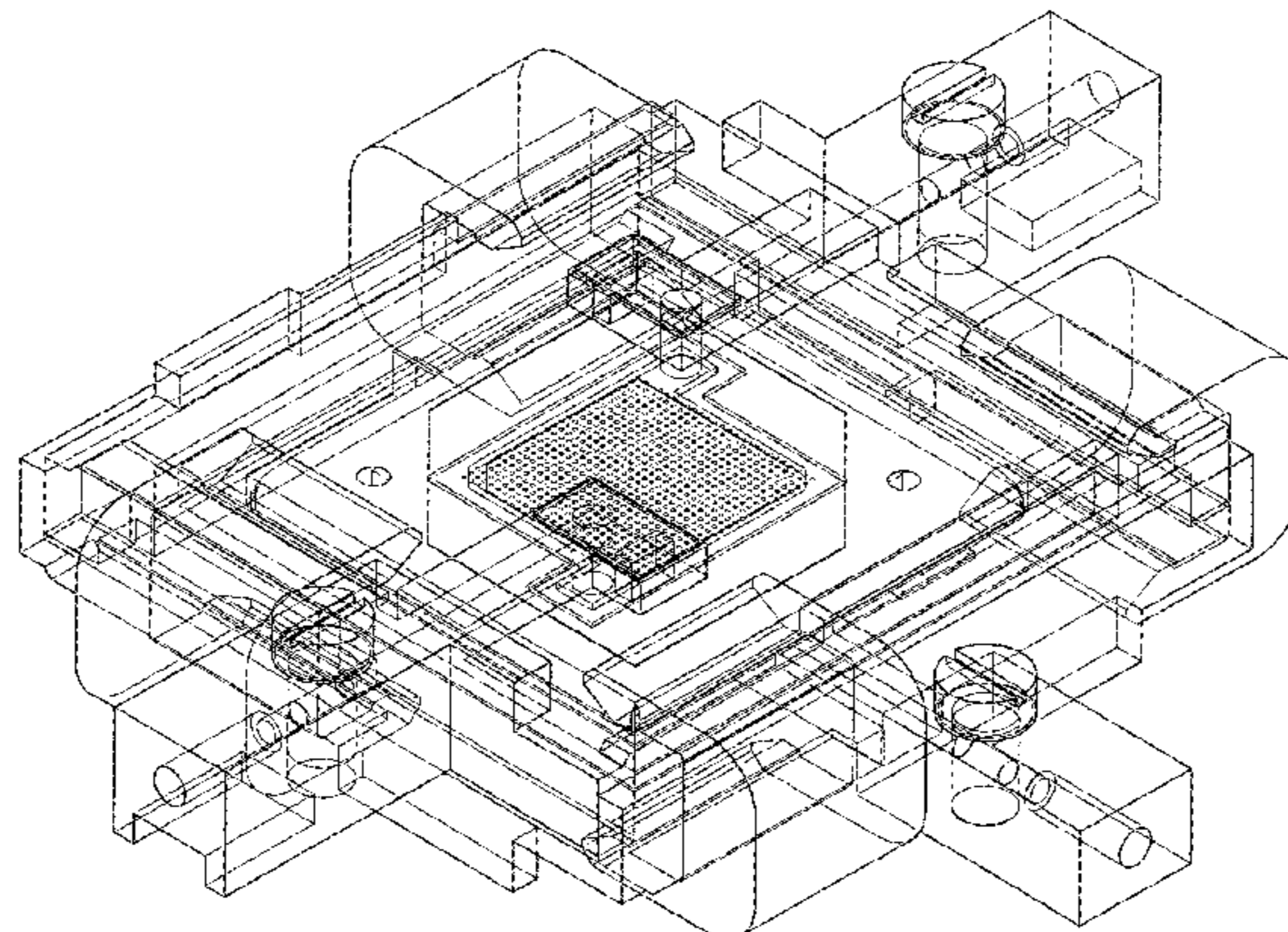


FIG. 20 is a C-C sectional view of the cover thereof along line C-C in FIG. 12;

FIG. 21 is a front view of the receiver thereof;

FIG. 22 is a rear view of the receiver thereof;

FIG. 23 is a top plan view of the receiver thereof;

FIG. 24 is a bottom view of the receiver thereof;

FIG. 25 is a right side view of the receiver thereof;

FIG. 26 is a left side view of the receiver thereof;

FIG. 27 is a top perspective view of the receiver thereof;

FIG. 28 is a bottom perspective view of the receiver thereof;

FIG. 29 is a D-D sectional view of the receiver thereof along line D-D in FIG. 23;

FIG. 30 is an enlarged front view of a clip thereof;

FIG. 31 is an enlarged left side view of a clip thereof;

FIG. 32 is an enlarged perspective view of a clip thereof;

FIG. 33 is an enlarged top plan view of a seal thereof;

FIG. 34 is an enlarged perspective view of a seal thereof;

FIG. 35 is an enlarged front view of a valve thereof;

FIG. 36 is an enlarged right side view of a valve thereof;

FIG. 37 is an enlarged top perspective view of a valve thereof;

FIG. 38 is an enlarged front view of a stopper thereof;

FIG. 39 is an enlarged bottom view of a stopper thereof;

FIG. 40 is an enlarged bottom perspective view of a stopper thereof;

FIG. 41 is an enlarged front view of the filter thereof;

FIG. 42 is an enlarged top plan view of the filter thereof; and,

FIG. 43 is an enlarged top perspective view of the filter thereof.

The original and ornamental design comprises an assembly of a transparent cover (shown in more detail in FIGS. 12-20), a transparent receiver (shown in more detail in FIGS. 21-29), transparent clips (shown in more detail in FIGS. 30-32), semi-transparent seals (shown in more detail in FIGS. 33 and 34), transparent valves (shown in more detail in FIGS. 35-37), transparent stoppers (shown in more detail in FIGS. 38-40), and an opaque sheet-shaped filter having many small openings in a rectangular area (shown in more detail in FIGS. 41-43).

1 Claim, 43 Drawing Sheets

【FRONT VIEW 2】

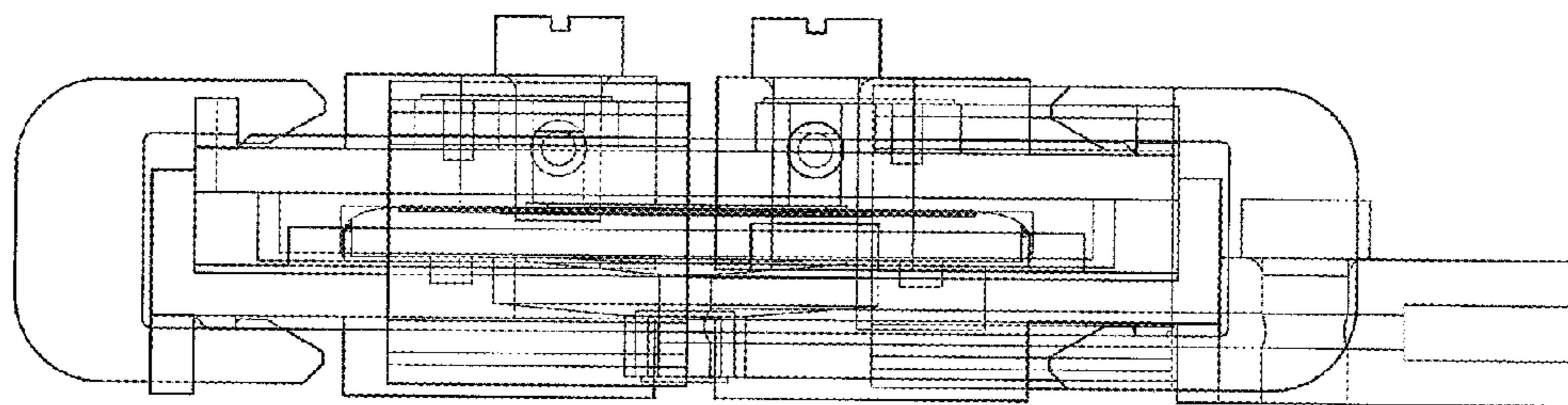


FIG. 1

[REAR VIEW 2]

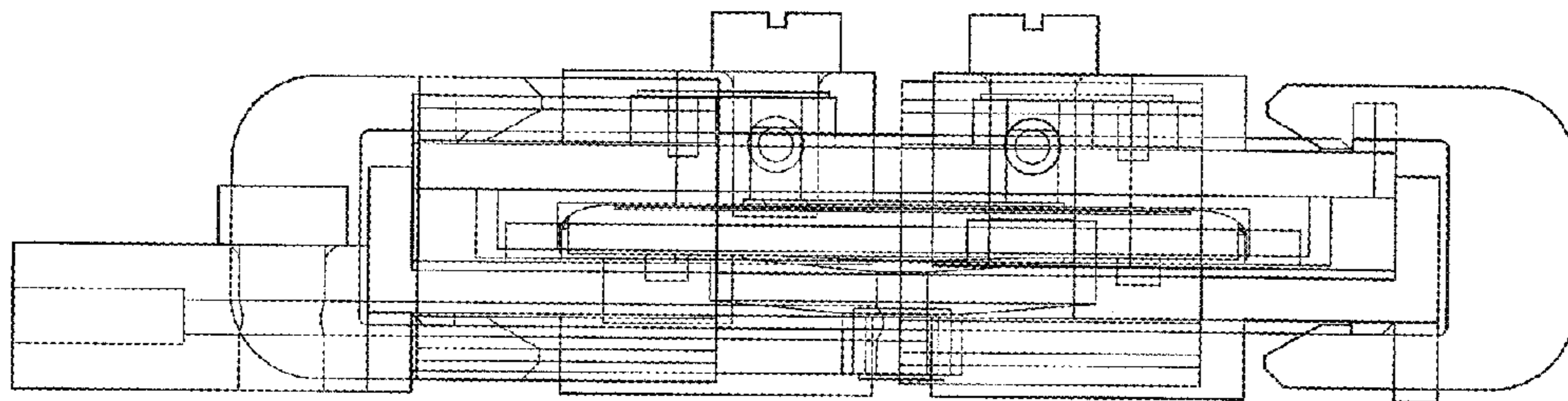


FIG. 2

[TOP PLAN VIEW 2]

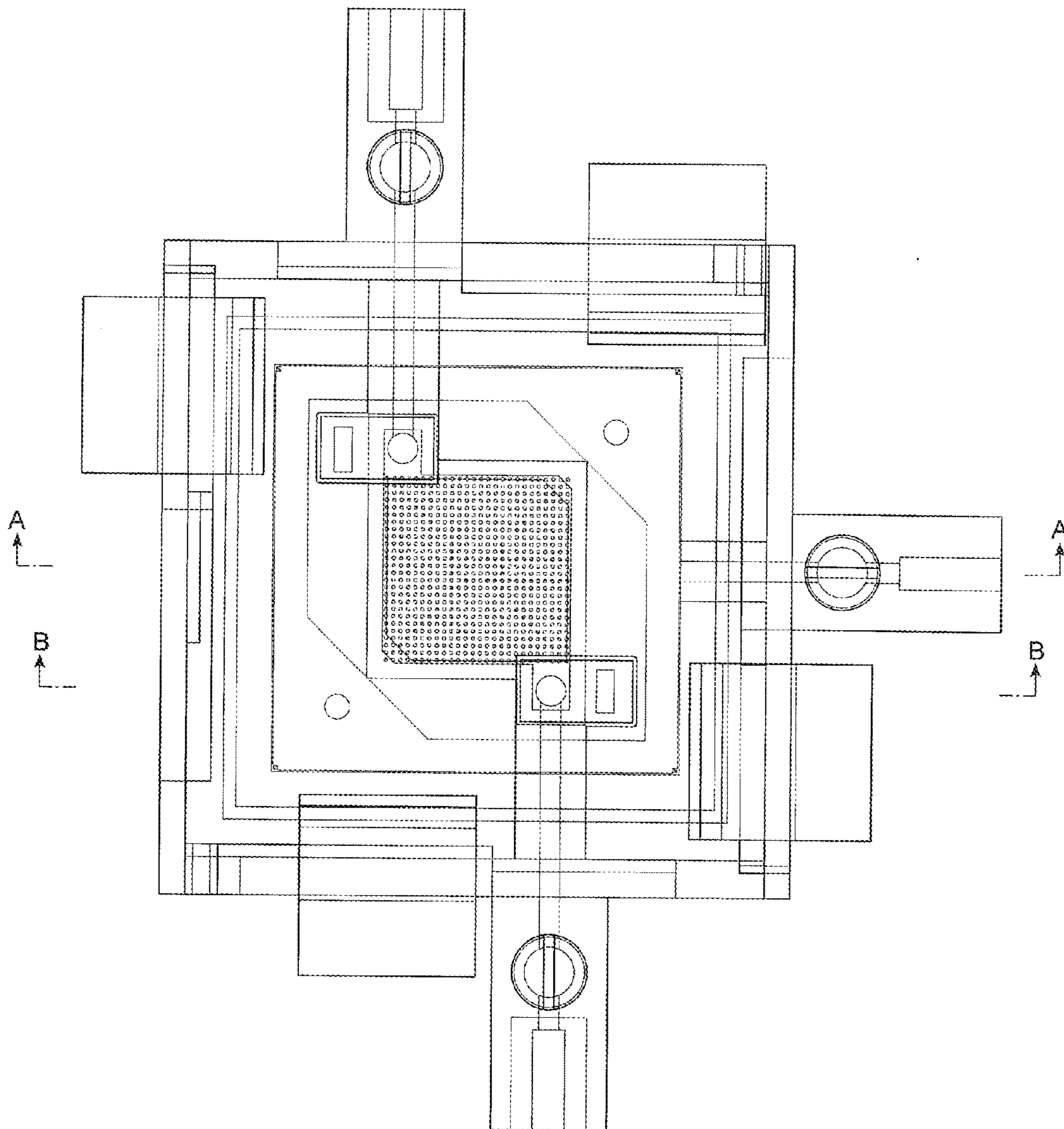


FIG. 3

【BOTTOM VIEW 2】

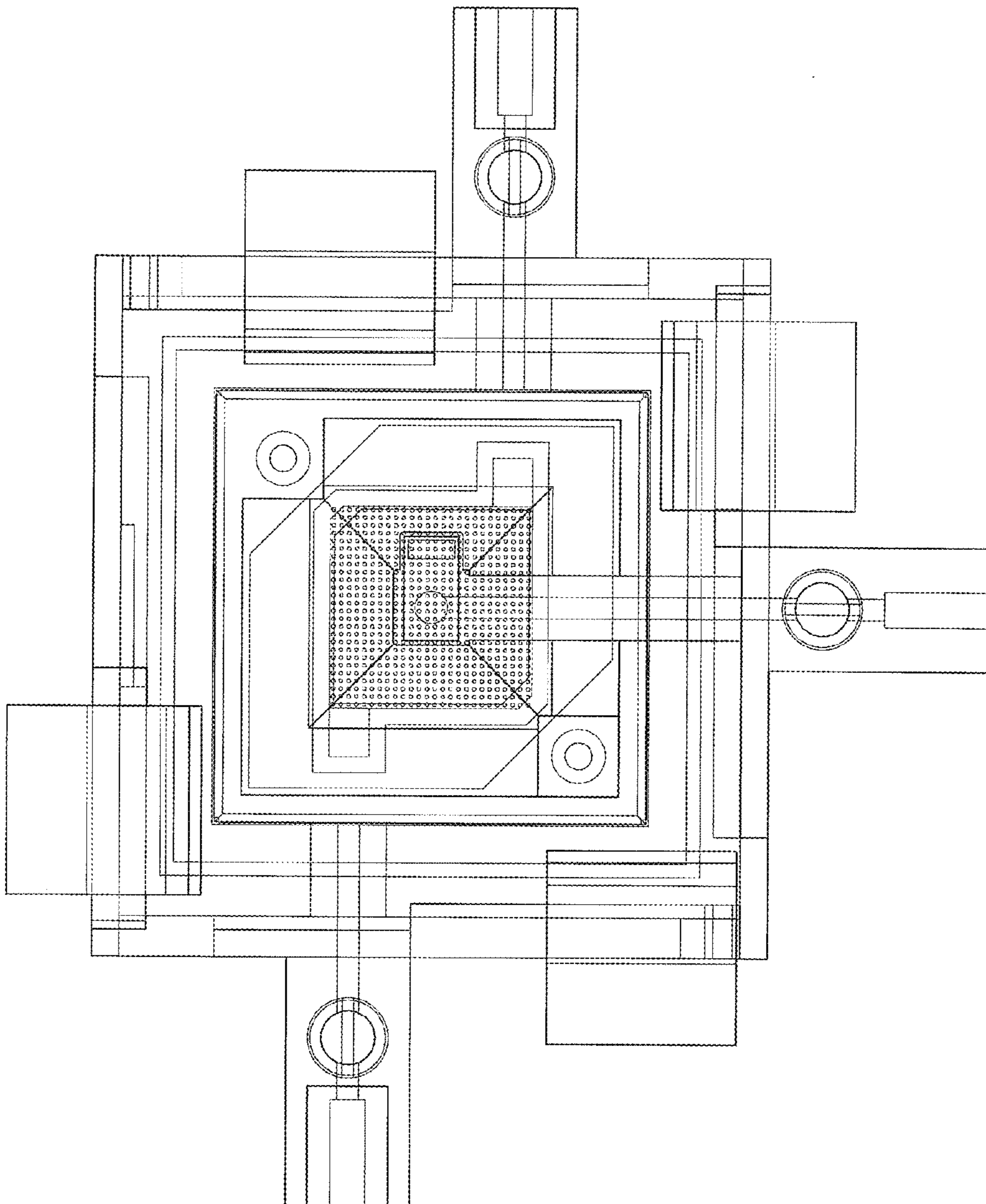


FIG. 4

[RIGHT SIDE VIEW 2]

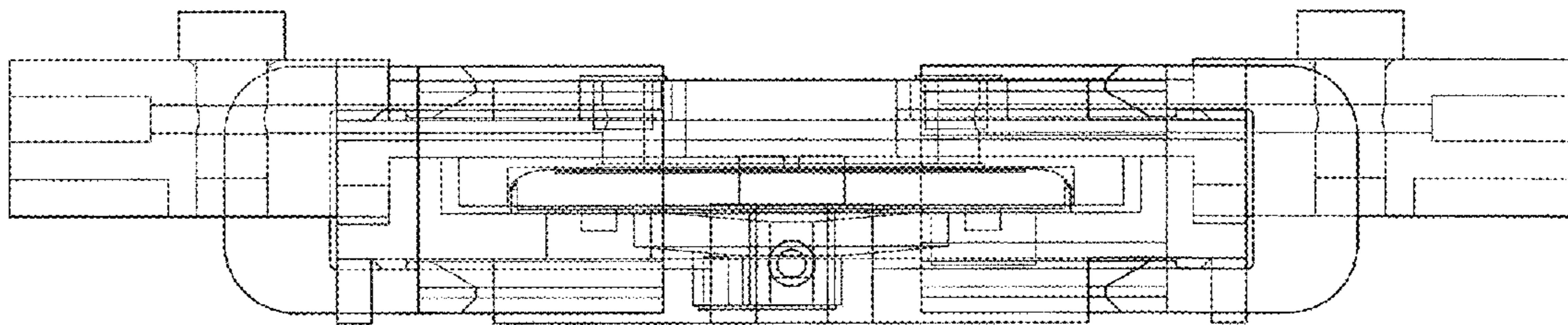


FIG. 5

[LEFT SIDE VIEW 2]

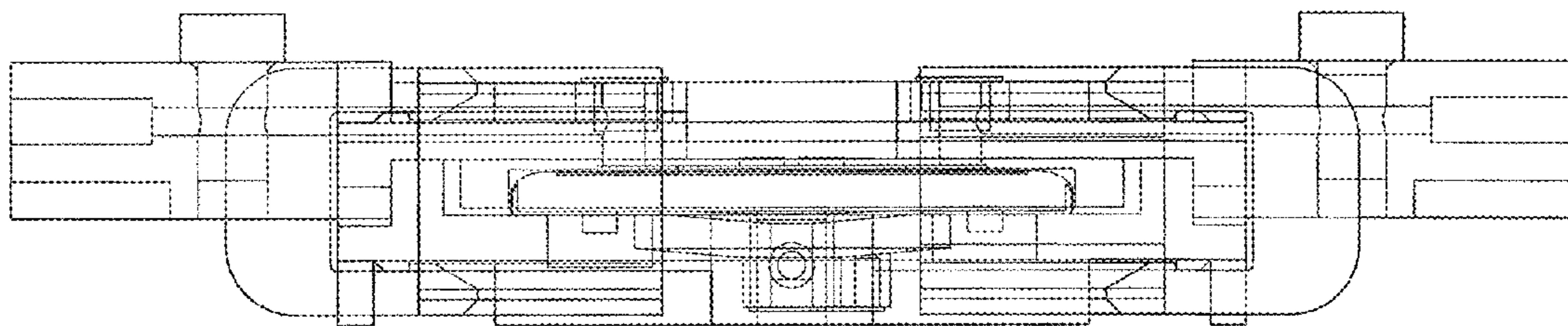


FIG. 6

【TOP PERSPECTIVE VIEW 2】

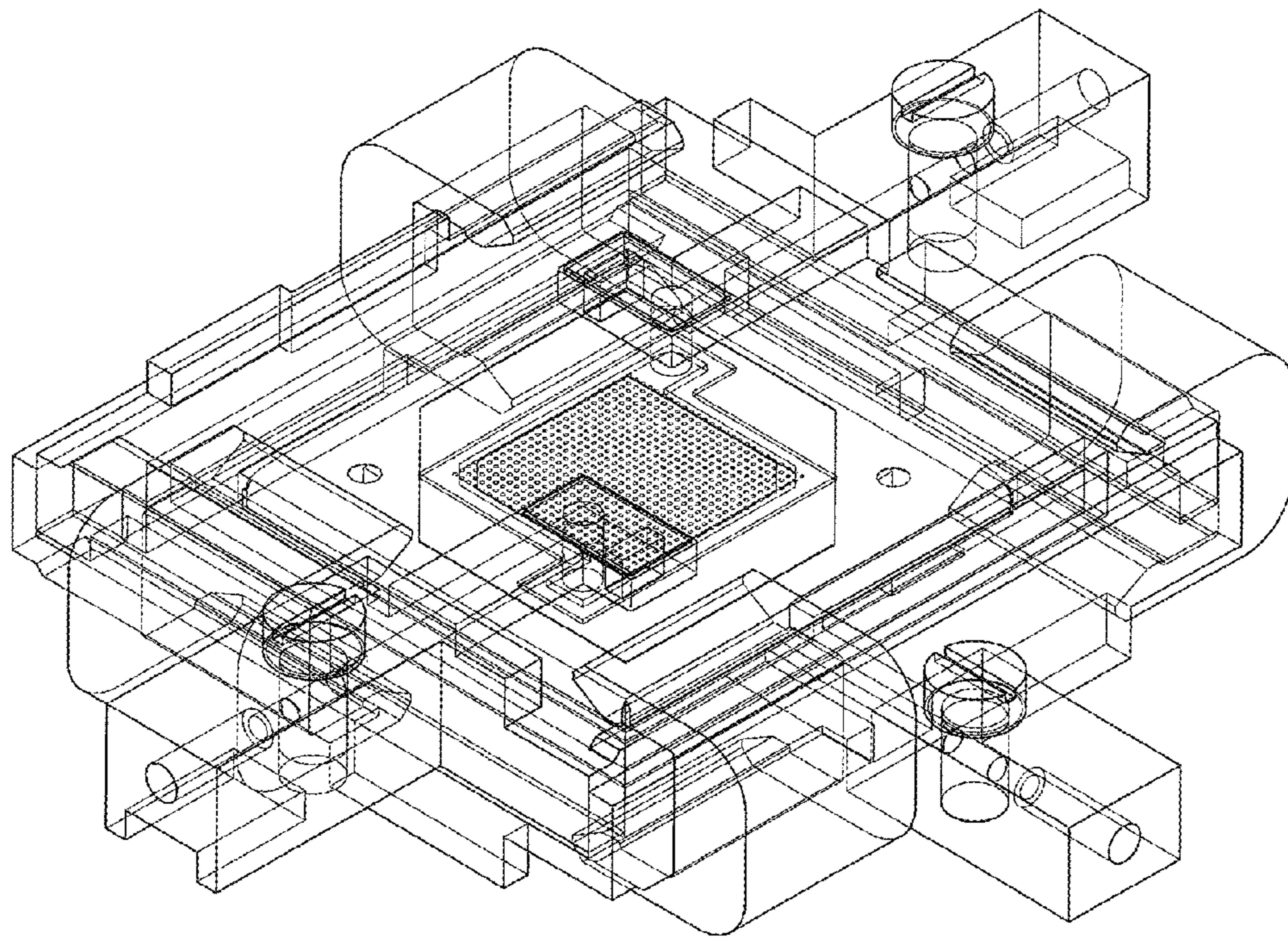


FIG. 7

[BOTTOM PERSPECTIVE VIEW 2]

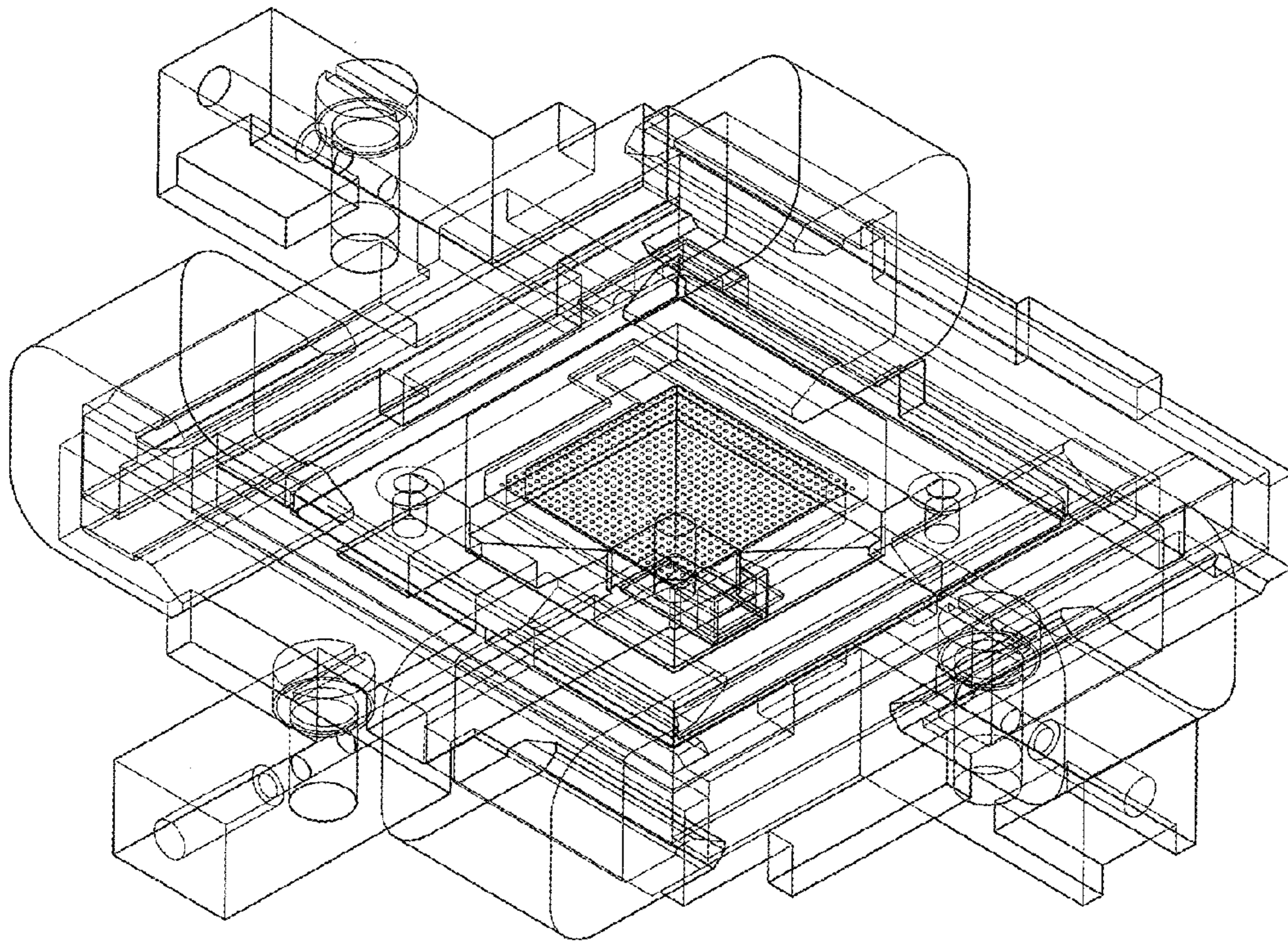


FIG. 8

[A-A SECTIONAL VIEW 2]

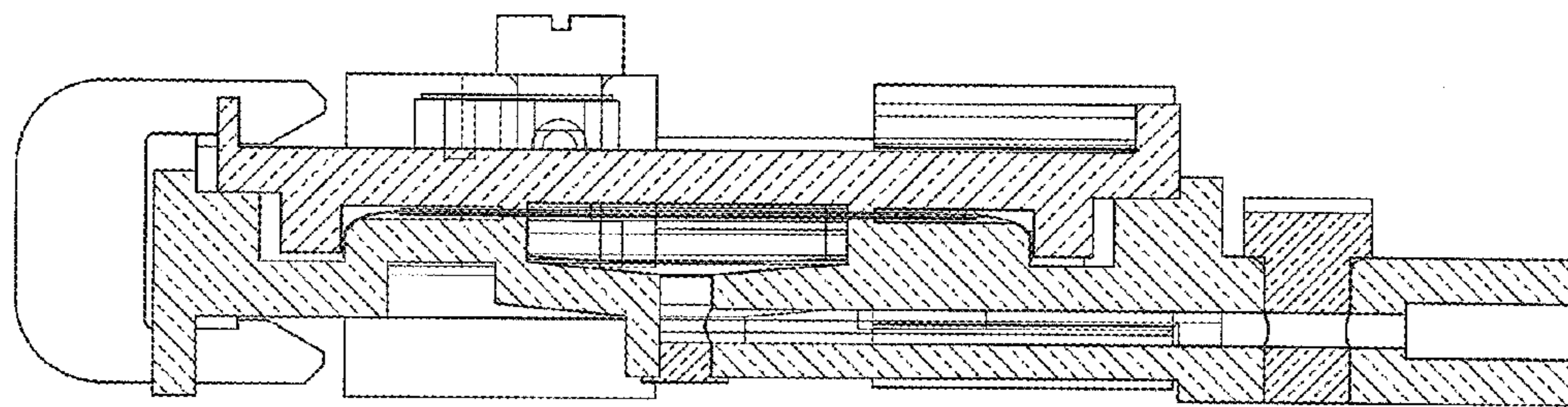


FIG. 9

【B-B SECTIONAL VIEW 2】

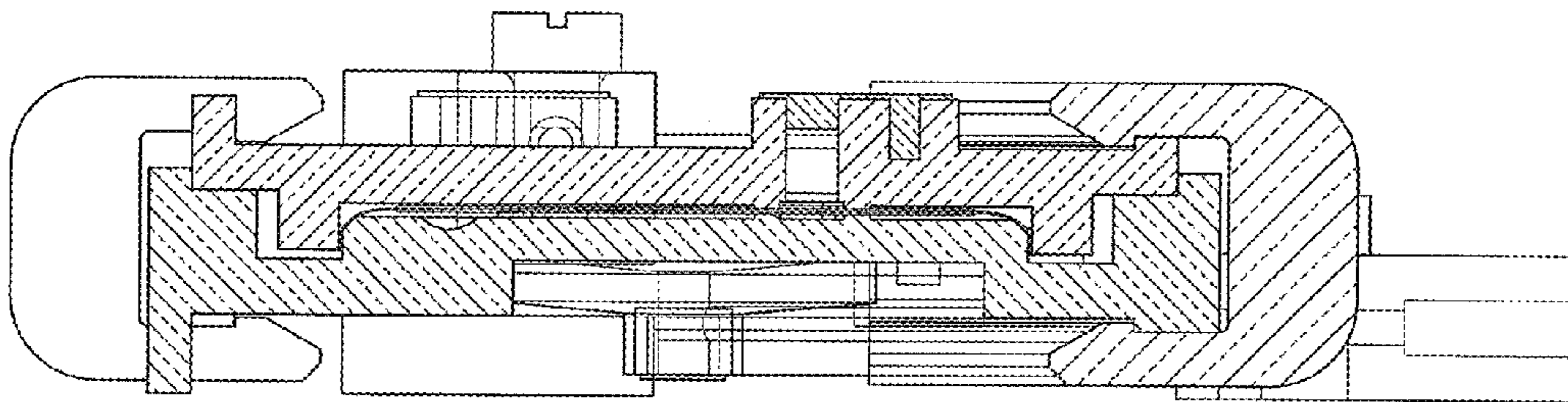


FIG. 10

【EXPLODED REFERENCE VIEW 2】

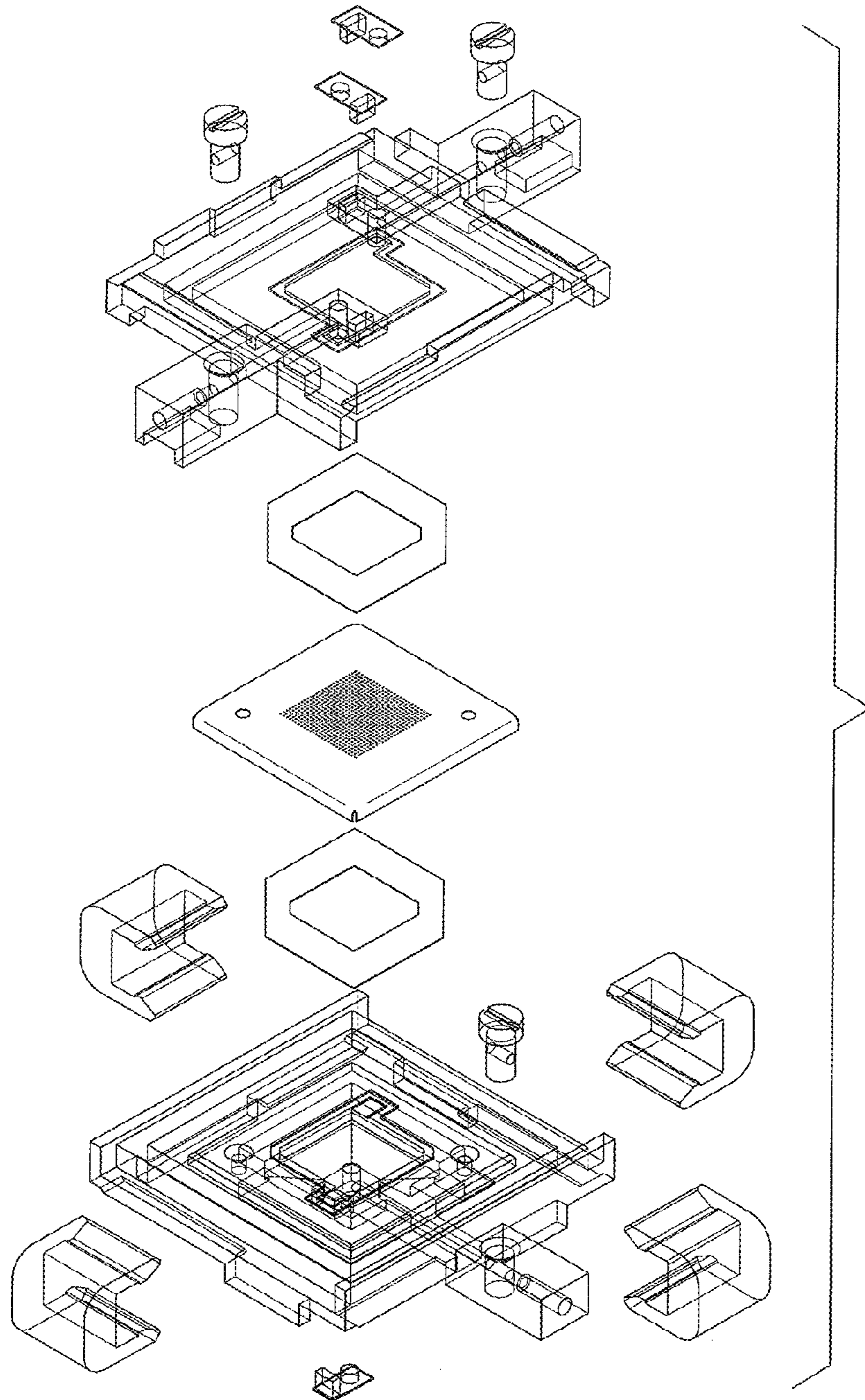


FIG. 11

【FRONT VIEW OF COVER 2】

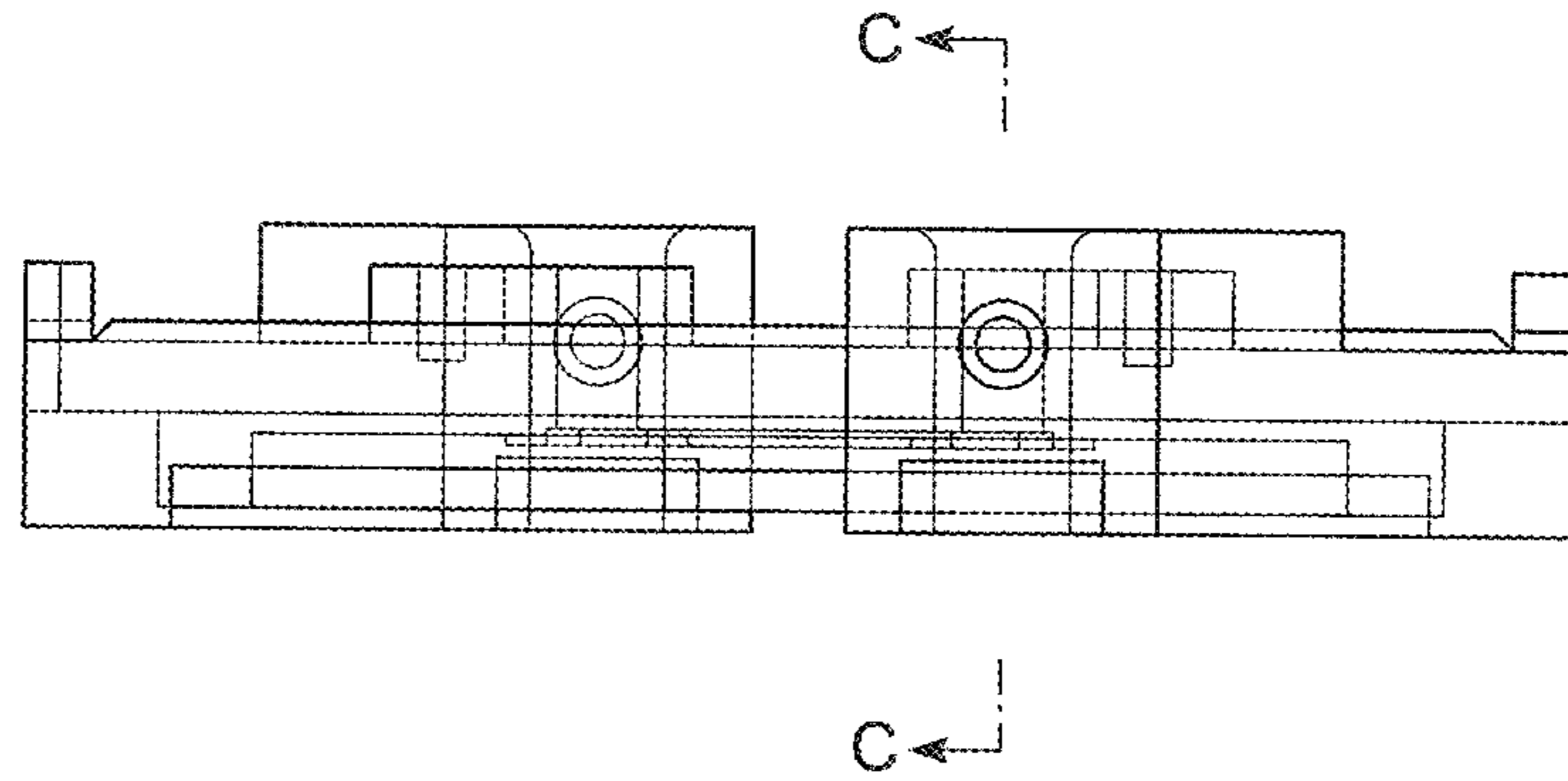


FIG. 12

【REAR VIEW OF COVER 2】

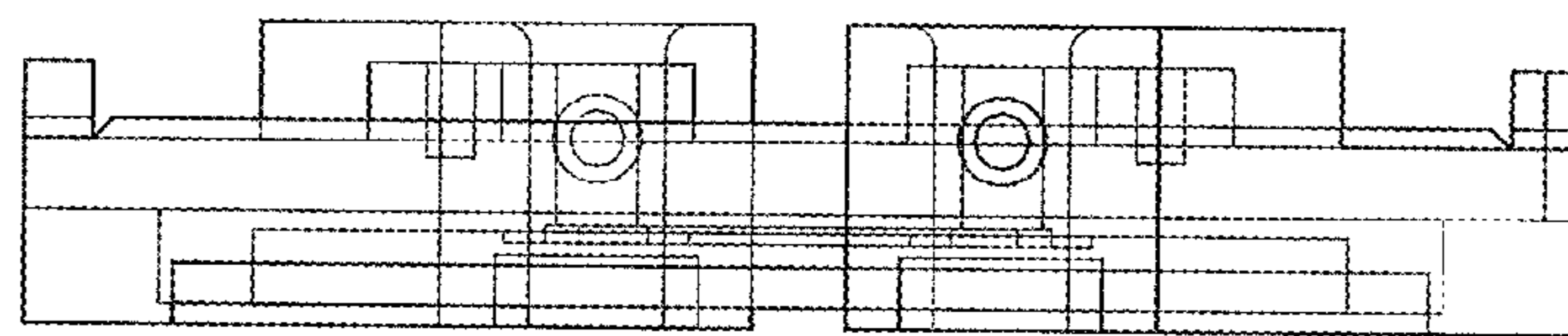


FIG. 13

【TOP PLAN VIEW OF COVER 2】

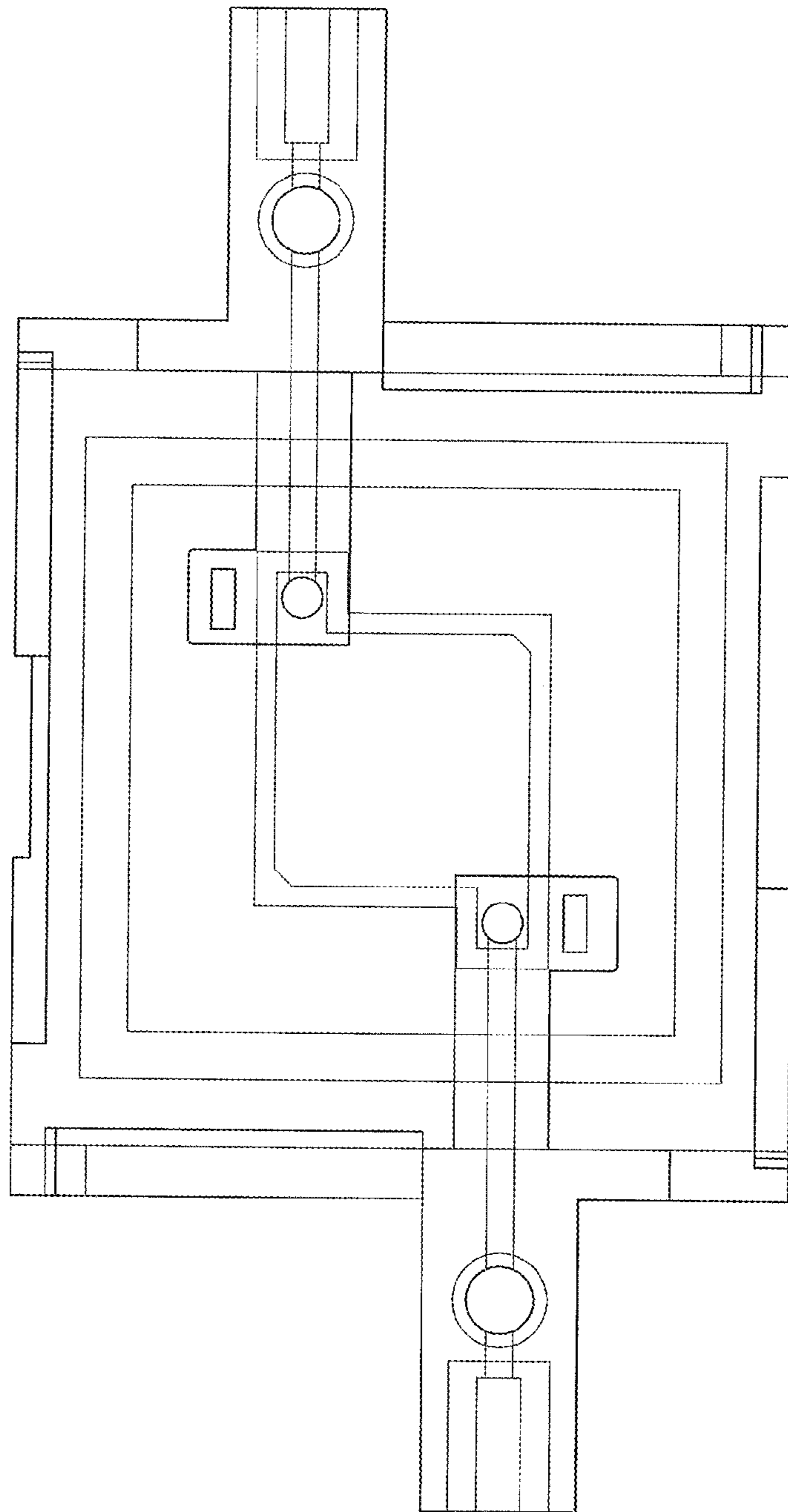


FIG. 14

【BOTTOM VIEW OF COVER 2】

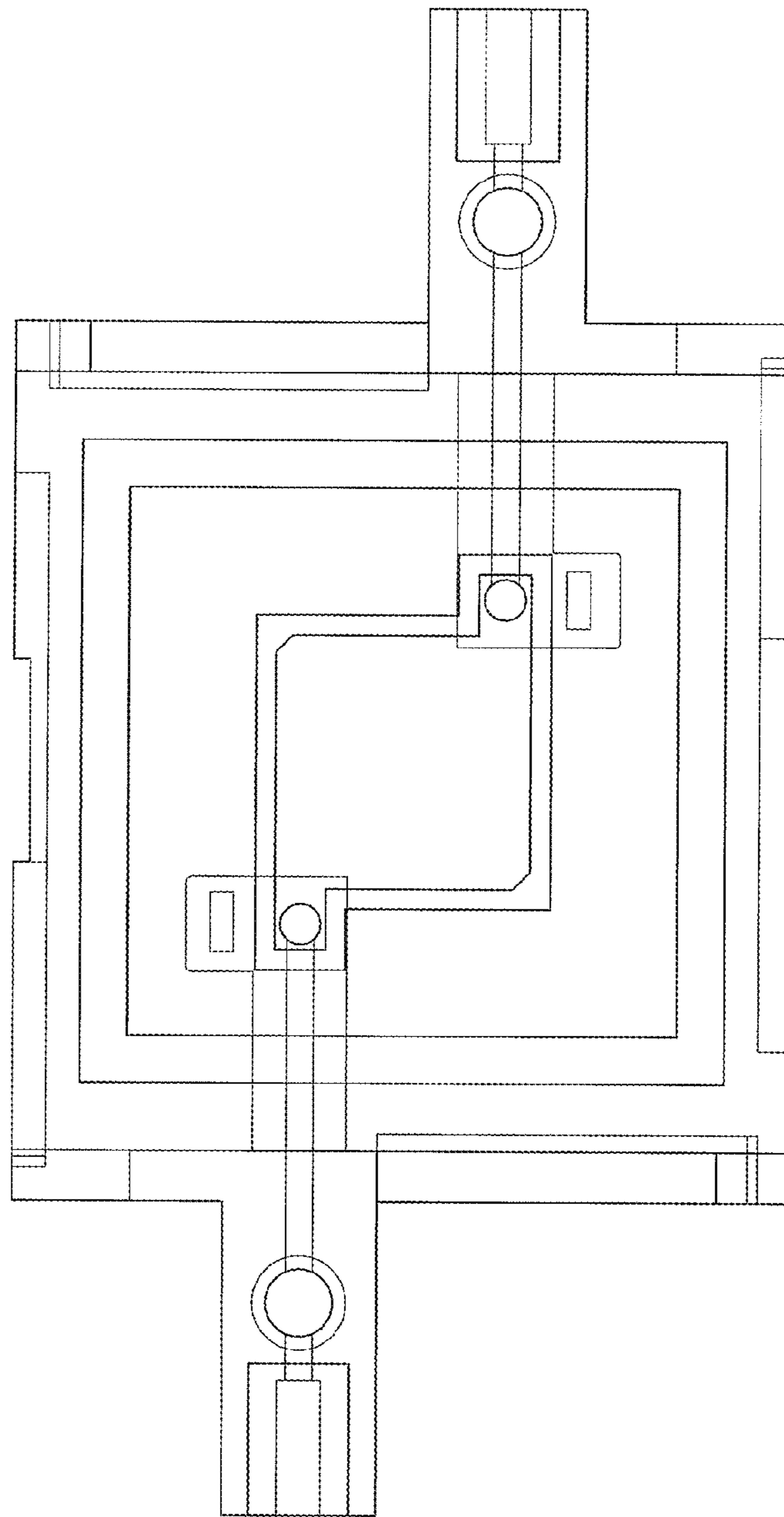


FIG. 15

[RIGHT SIDE VIEW OF COVER 2]

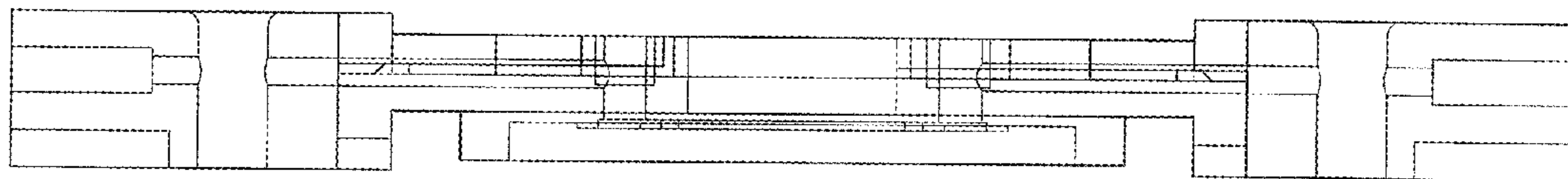


FIG. 16

[LEFT SIDE VIEW OF COVER 2]

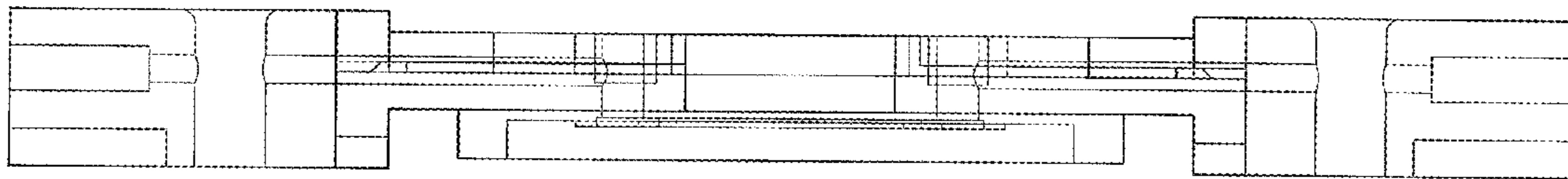


FIG. 17

[TOP PERSPECTIVE VIEW OF COVER 2]

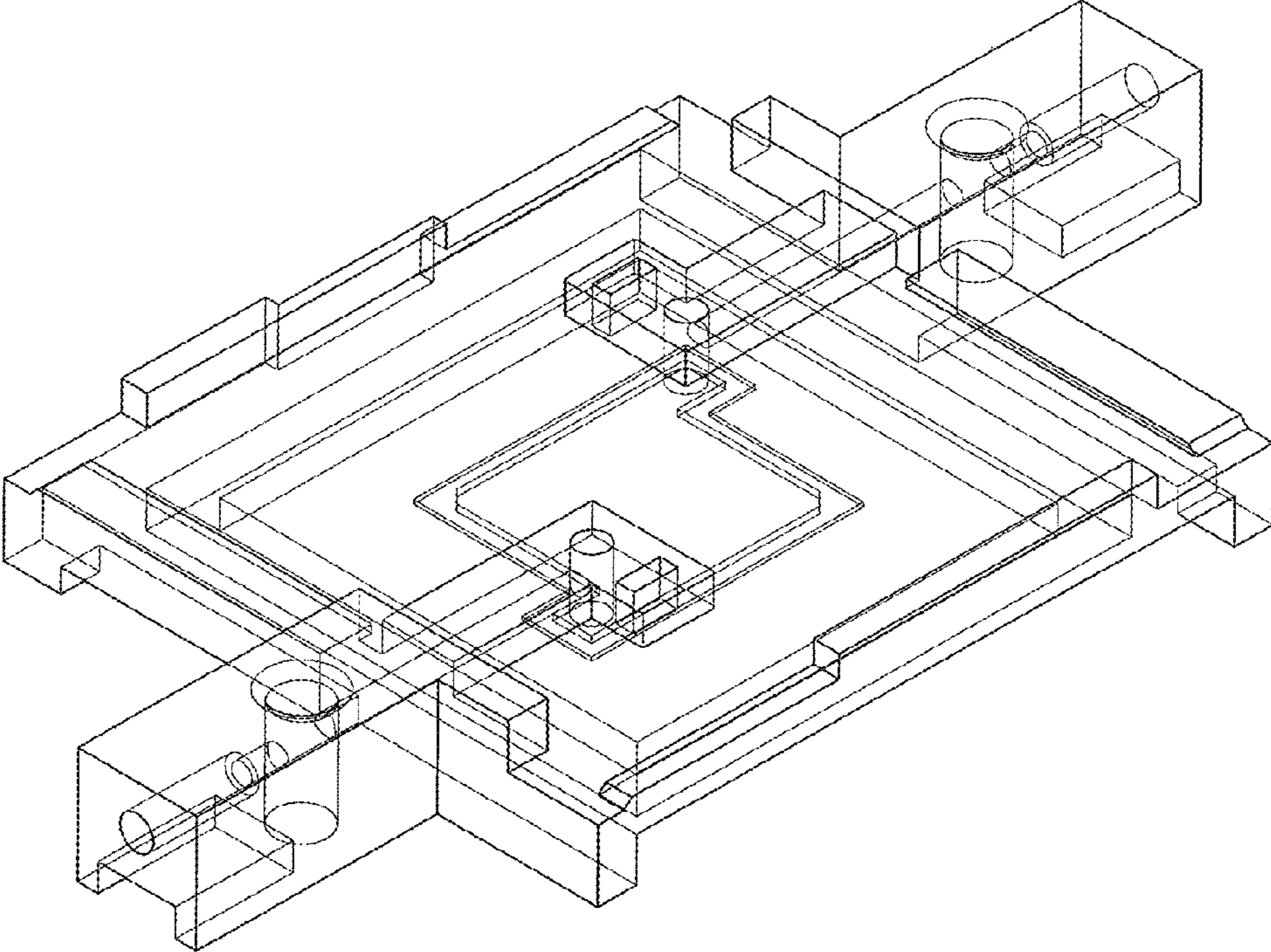


FIG. 18

[BOTTOM PERSPECTIVE VIEW OF COVER 2]

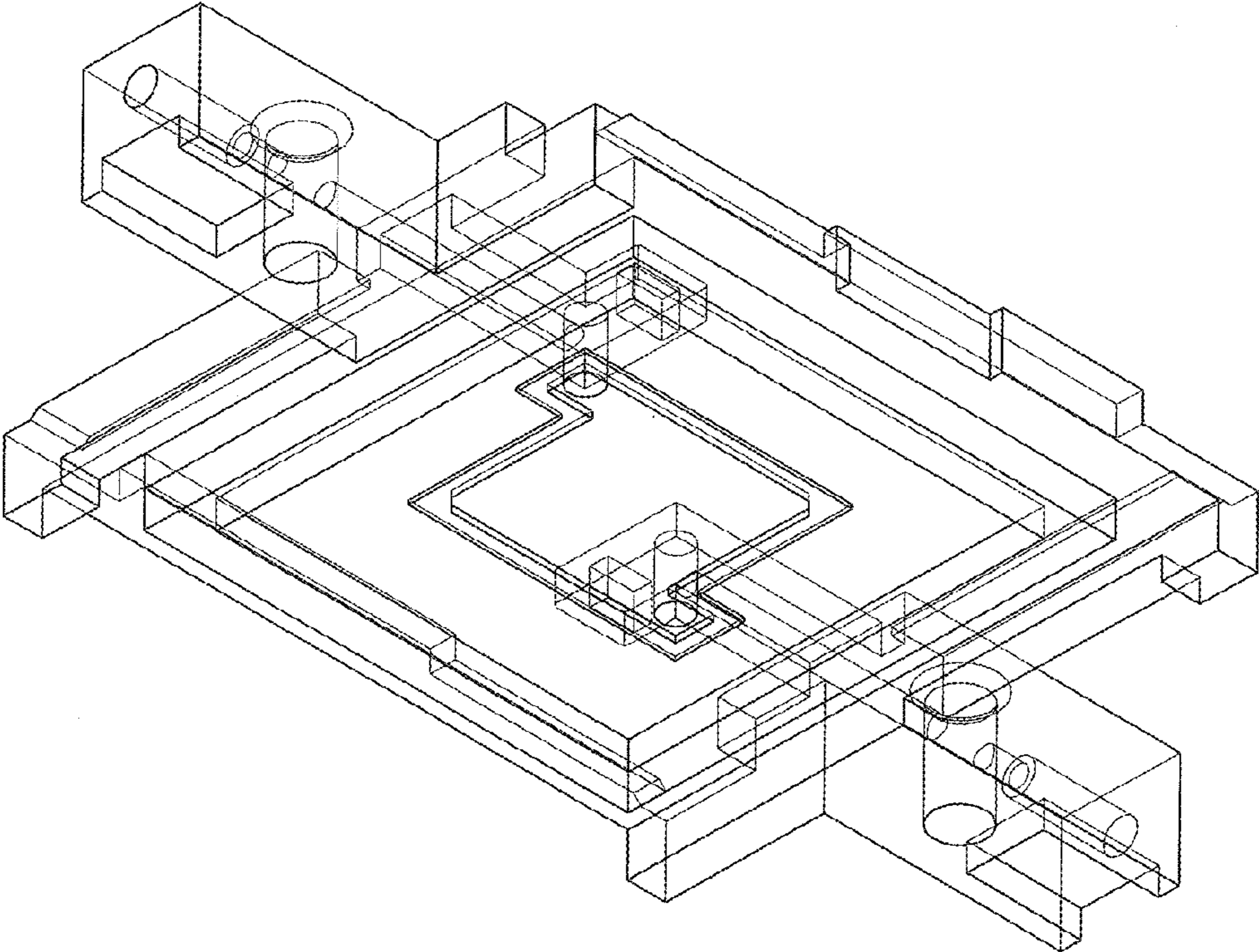


FIG. 19

[C-C SECTIONAL VIEW 2]

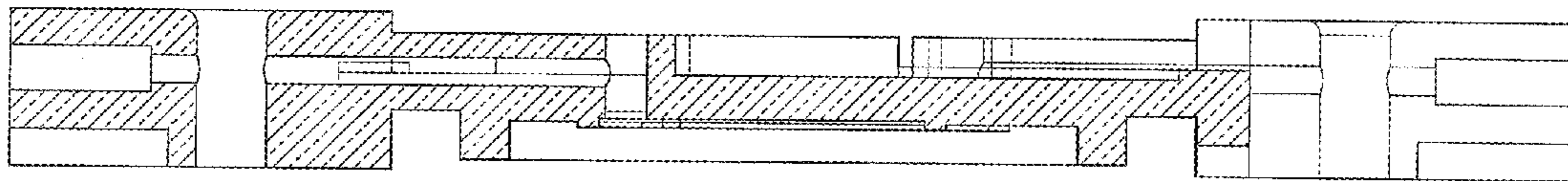


FIG. 20

【FRONT VIEW OF RECEIVER 2】

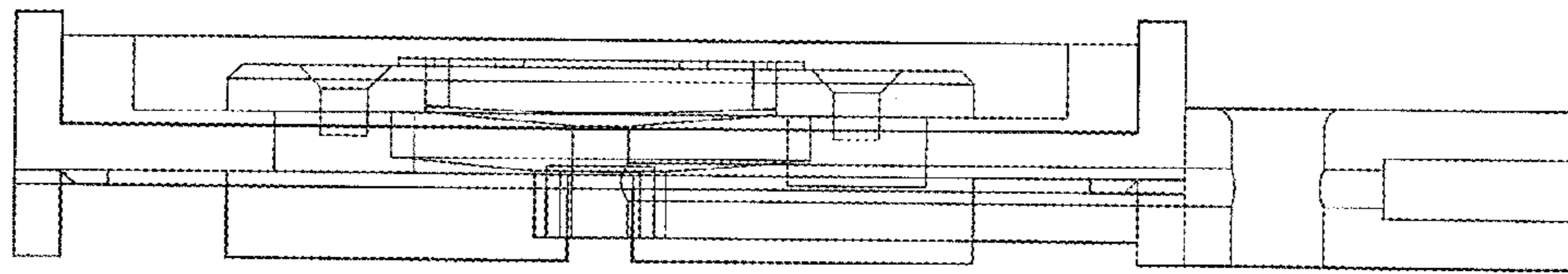


FIG. 21

【REAR VIEW OF RECEIVER 2】

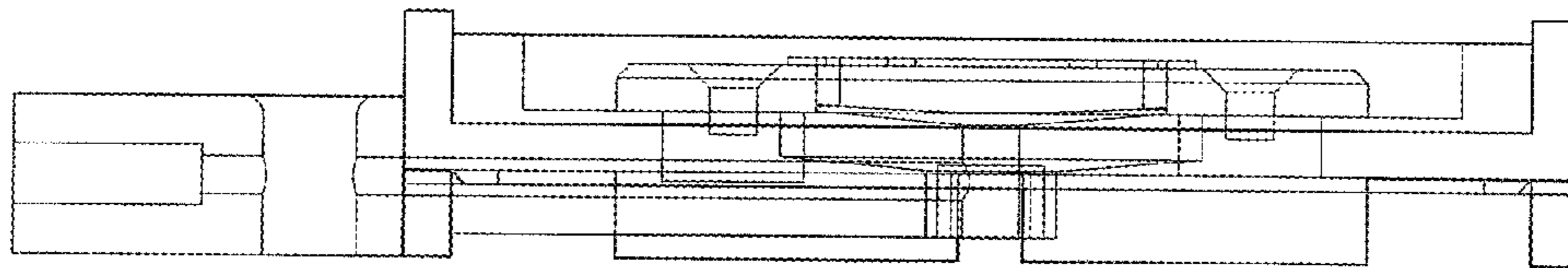


FIG. 22

[TOP PLAN VIEW OF RECEIVER 2]

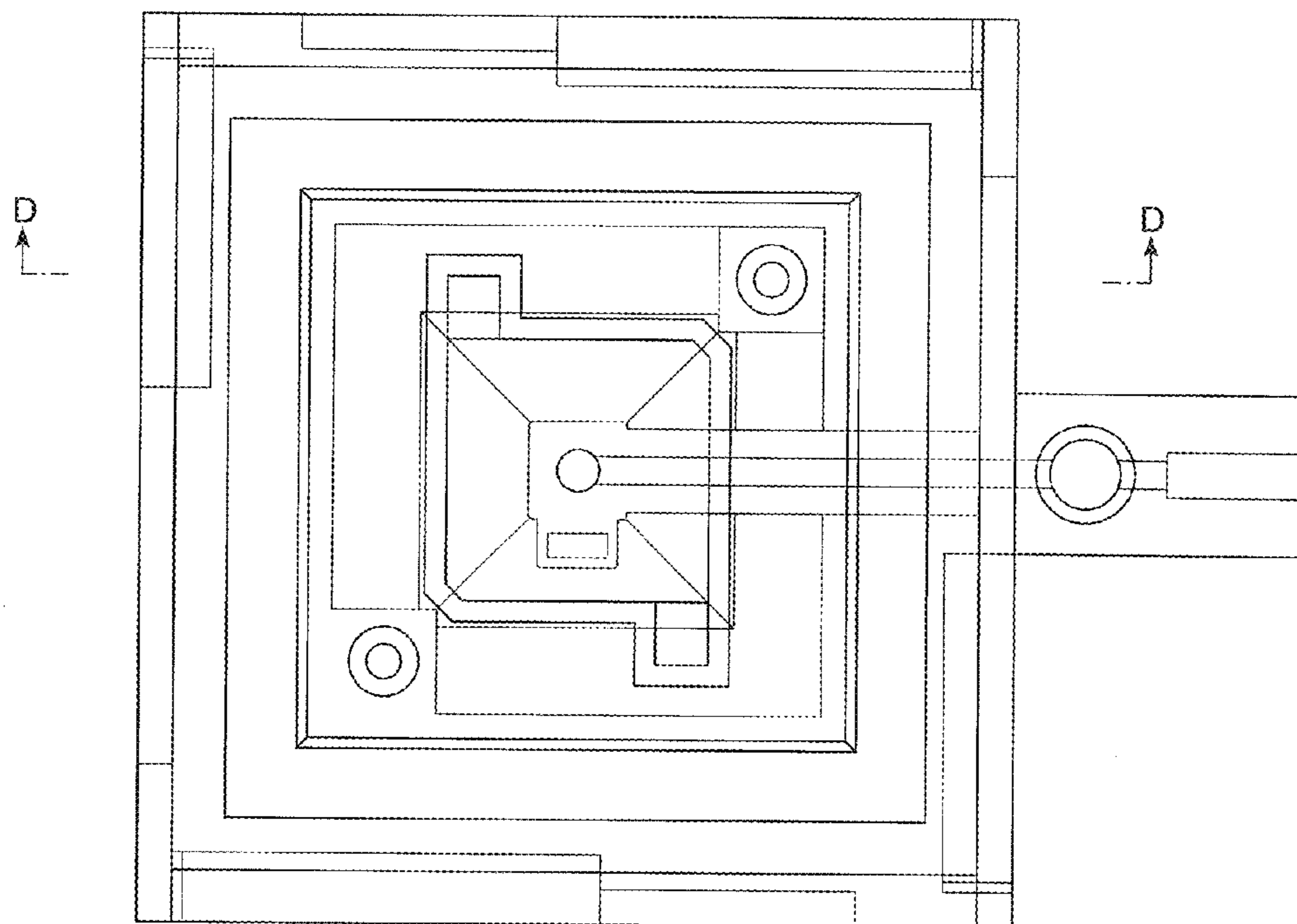


FIG. 23

【BOTTOM VIEW OF RECEIVER 2】

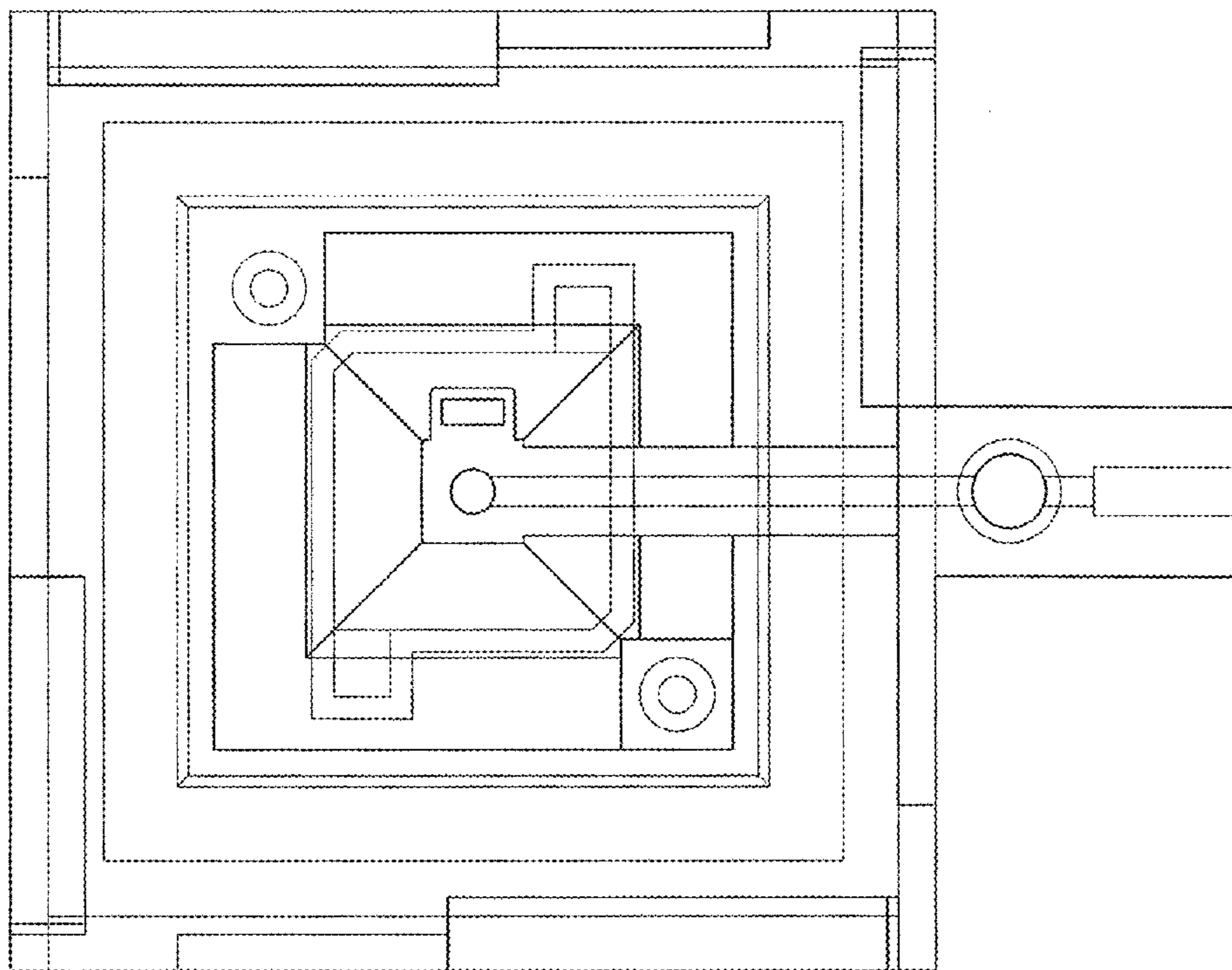


FIG. 24

[RIGHT SIDE VIEW OF RECEIVER 2]

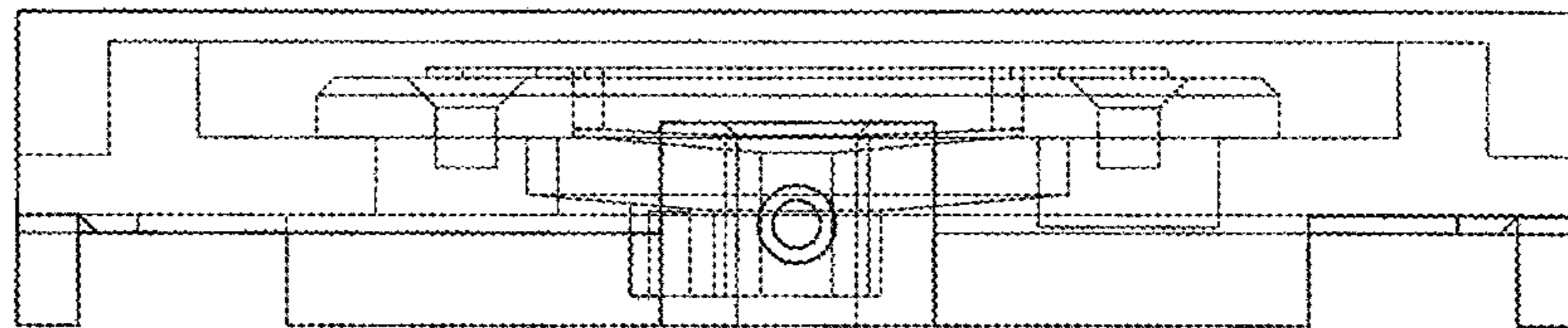


FIG. 25

[LEFT SIDE VIEW OF RECEIVER 2]

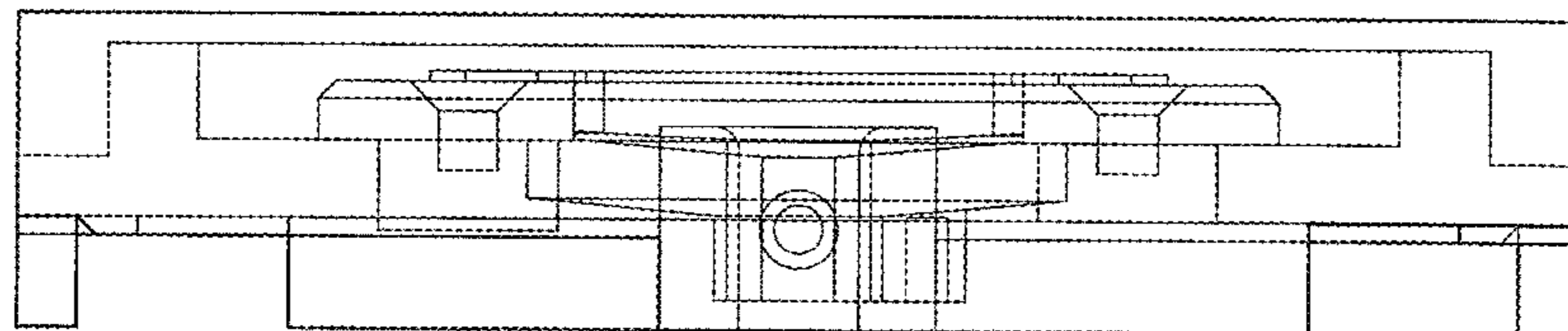


FIG. 26

【TOP PERSPECTIVE VIEW OF RECEIVER 2】

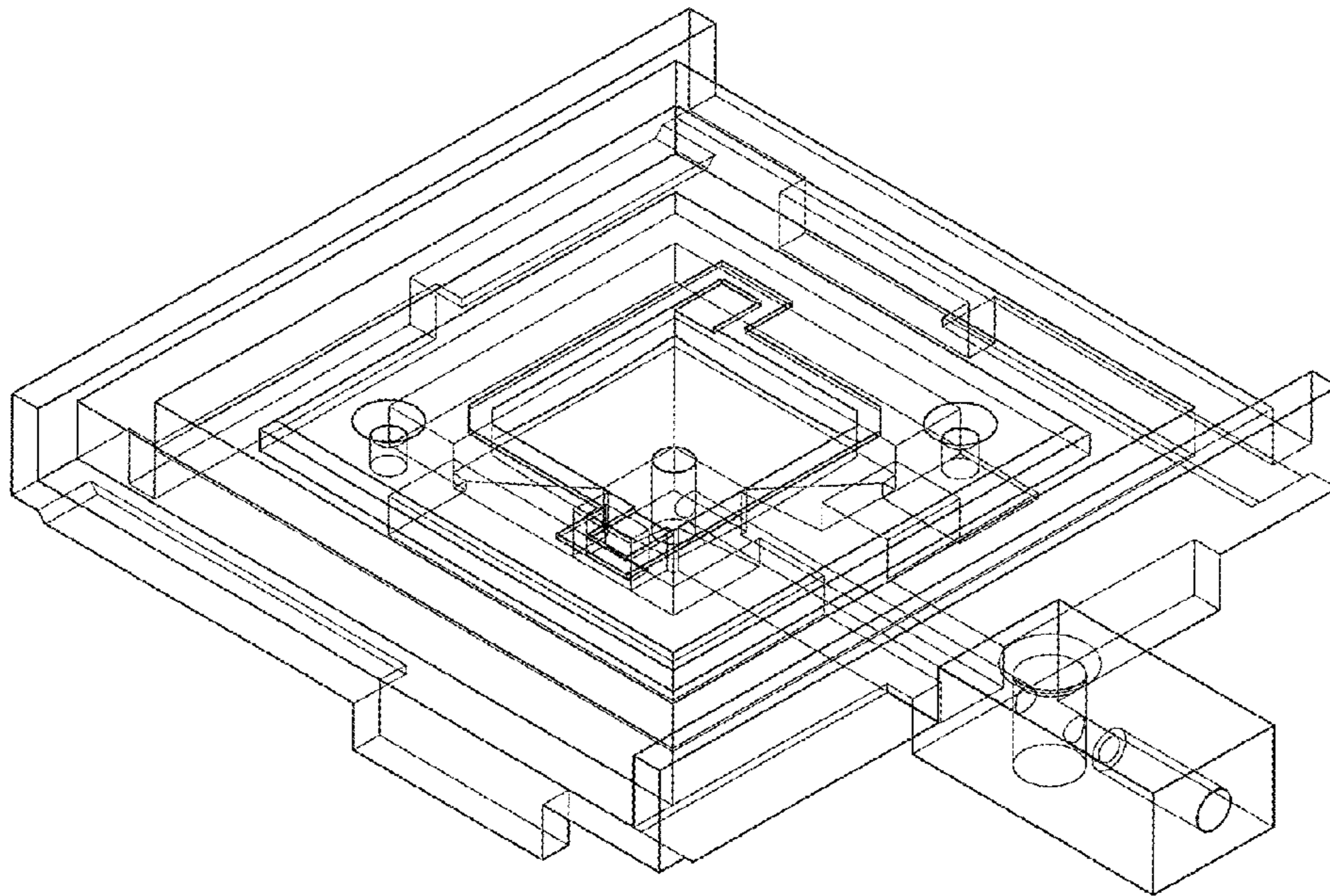


FIG. 27

【BOTTOM PERSPECTIVE VIEW OF RECEIVER 2】

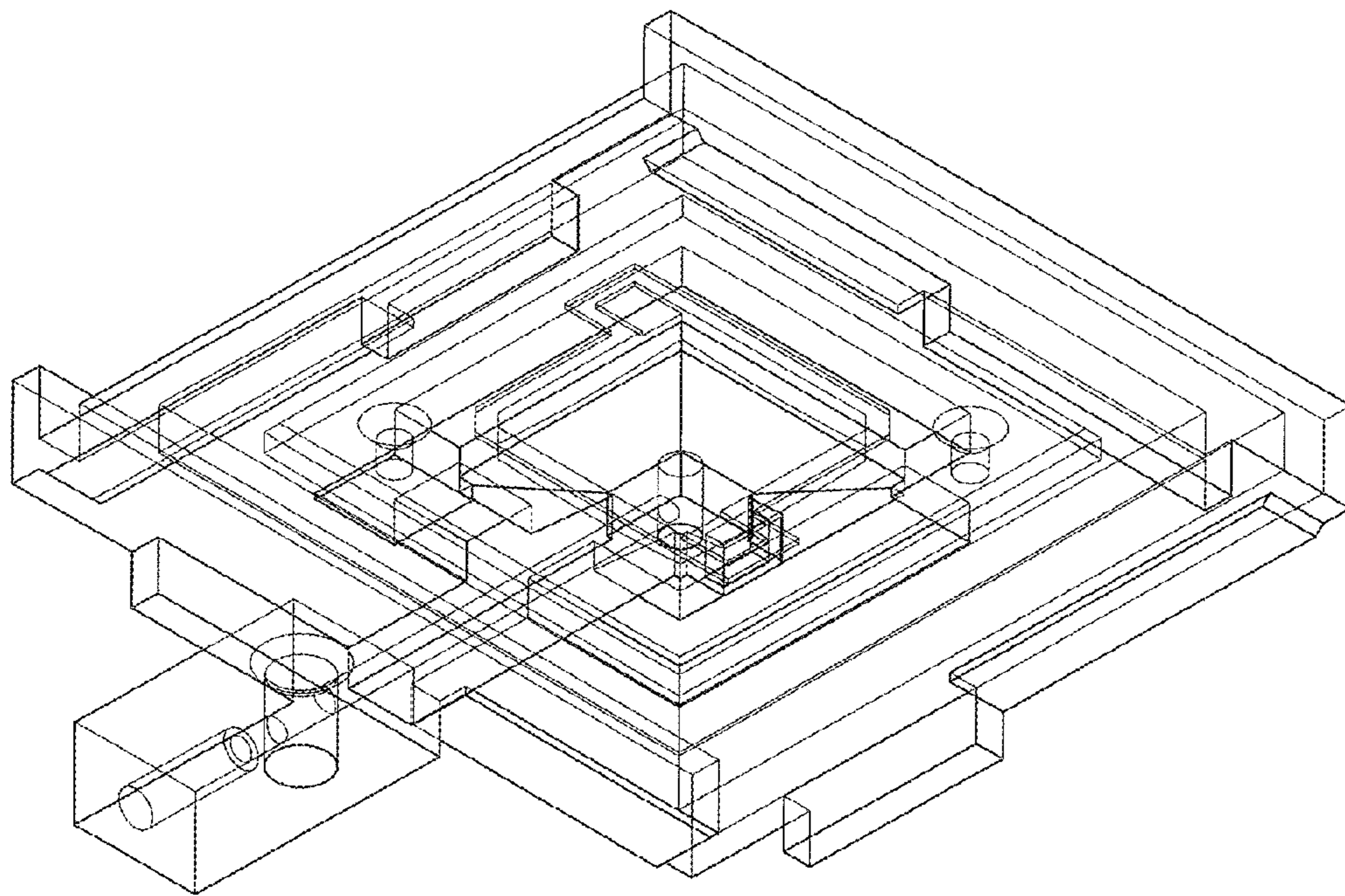


FIG. 28

【D-D SECTIONAL VIEW 2】

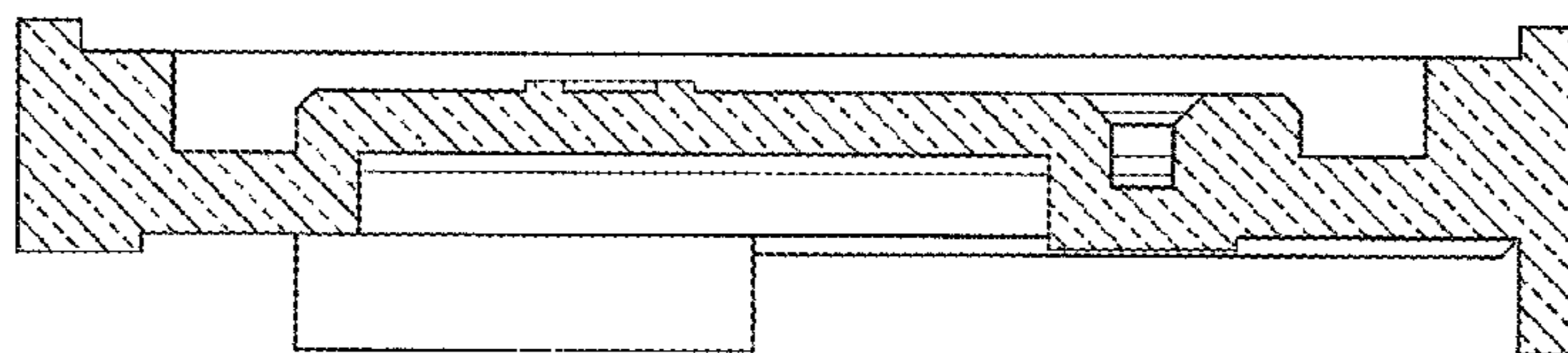


FIG. 29

[ENLARGED FRONT VIEW OF CLIP 2]

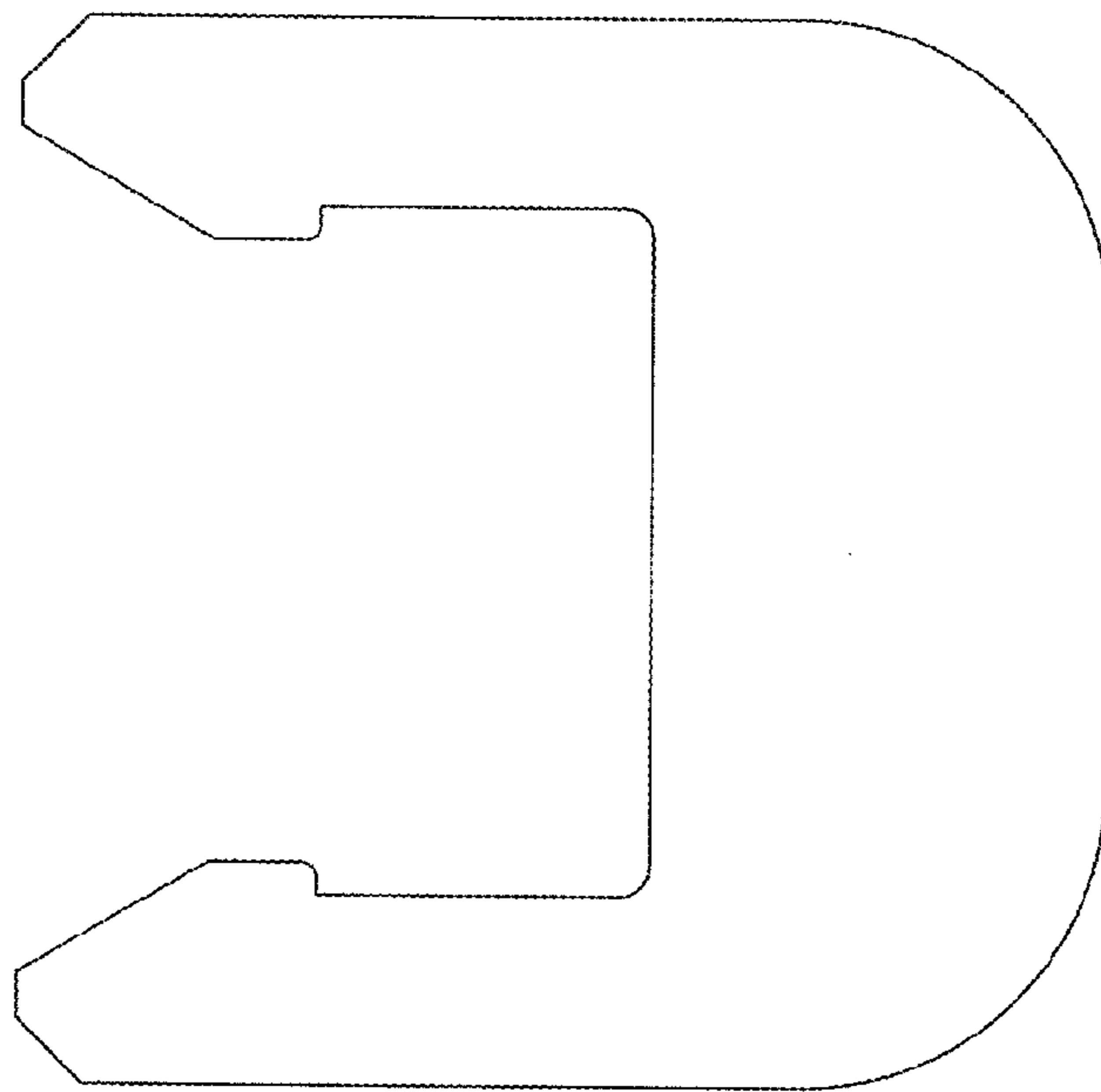


FIG. 30

[ENLARGED LEFT SIDE VIEW OF CLIP 2]

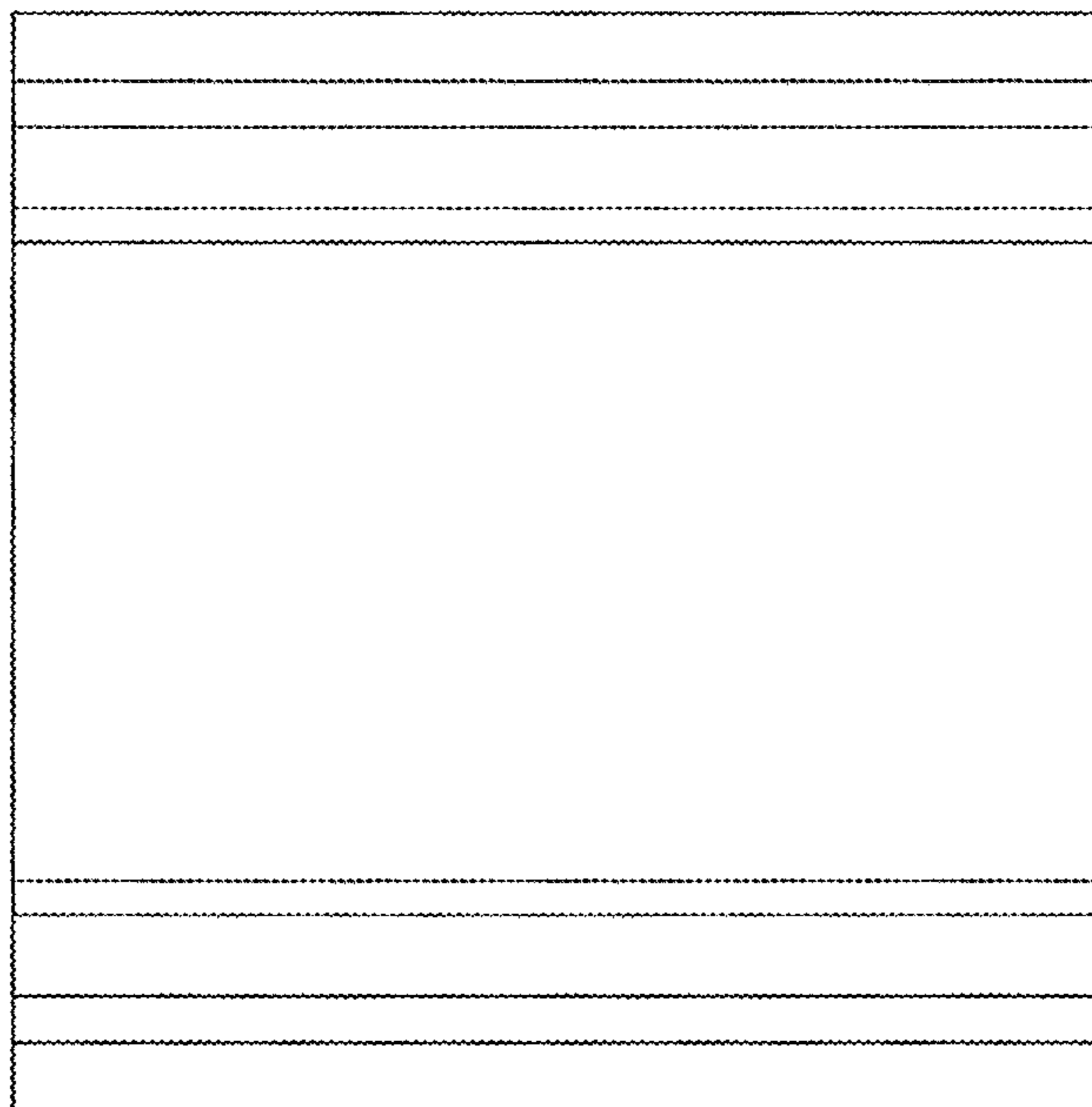


FIG. 31

[ENLARGED PERSPECTIVE VIEW OF CLIP 2]

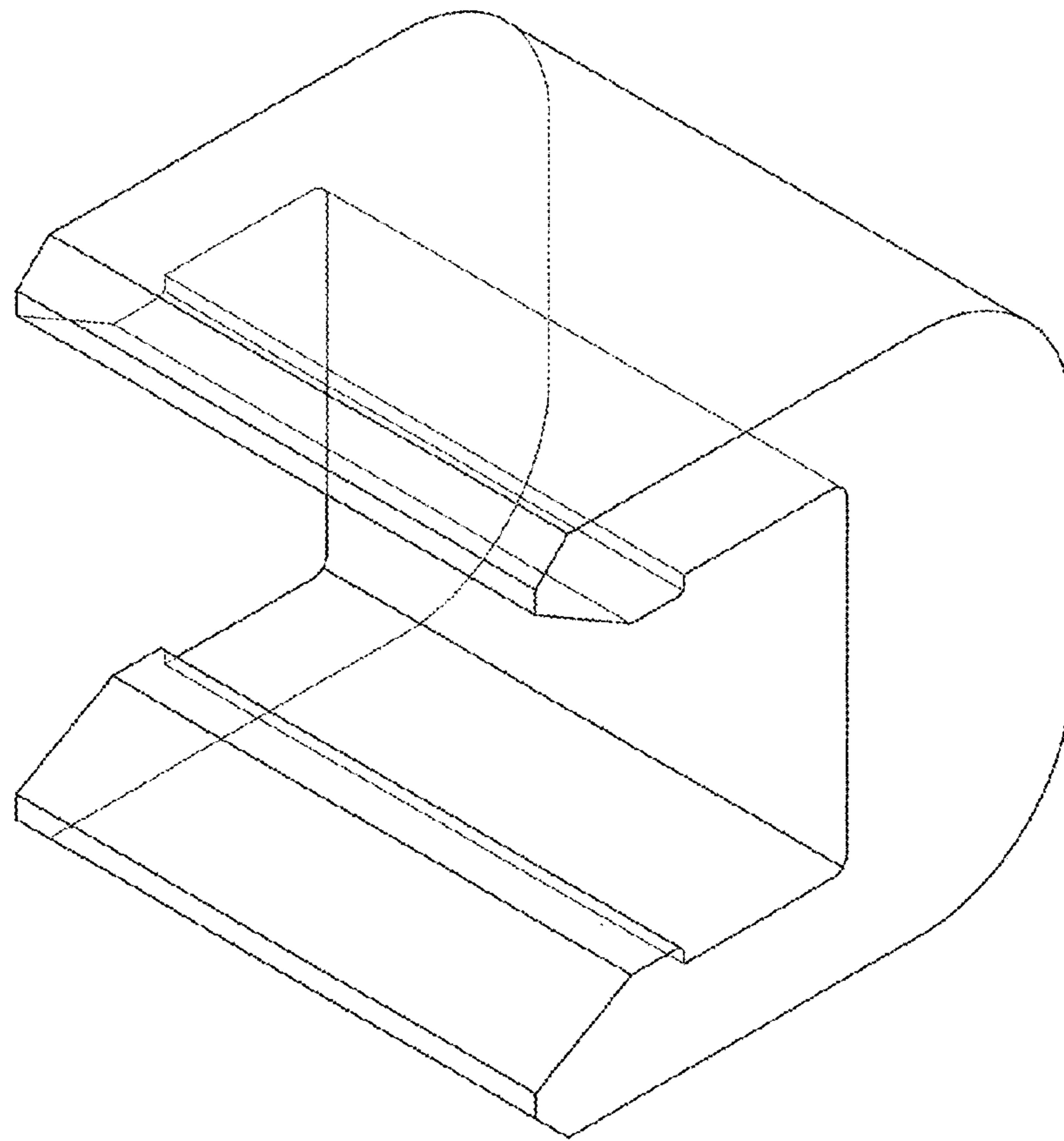


FIG. 32

[ENLARGED TOP PLAN VIEW OF SEAL 2]

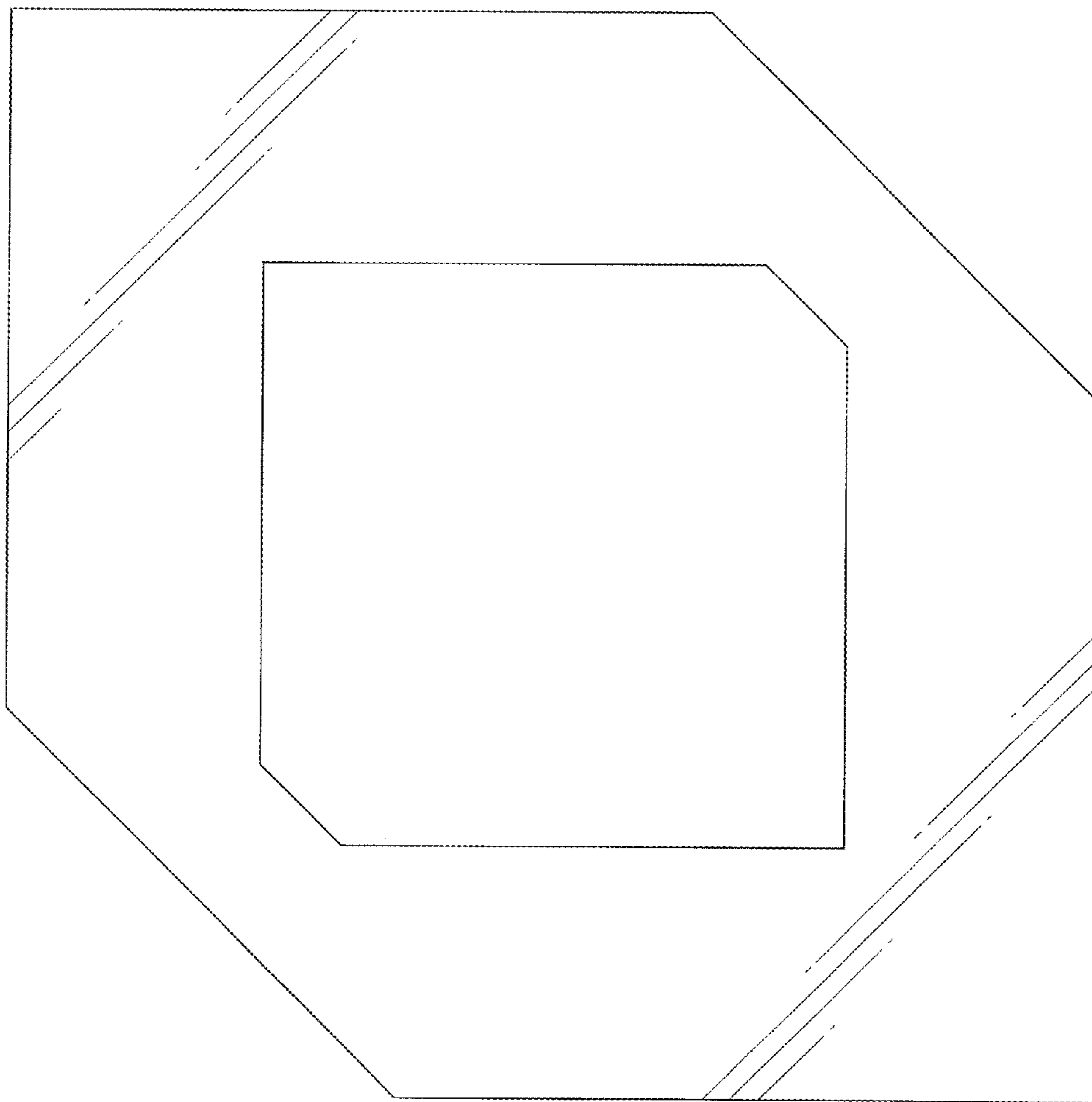


FIG. 33

[ENLARGED PERSPECTIVE VIEW OF SEAL 2]

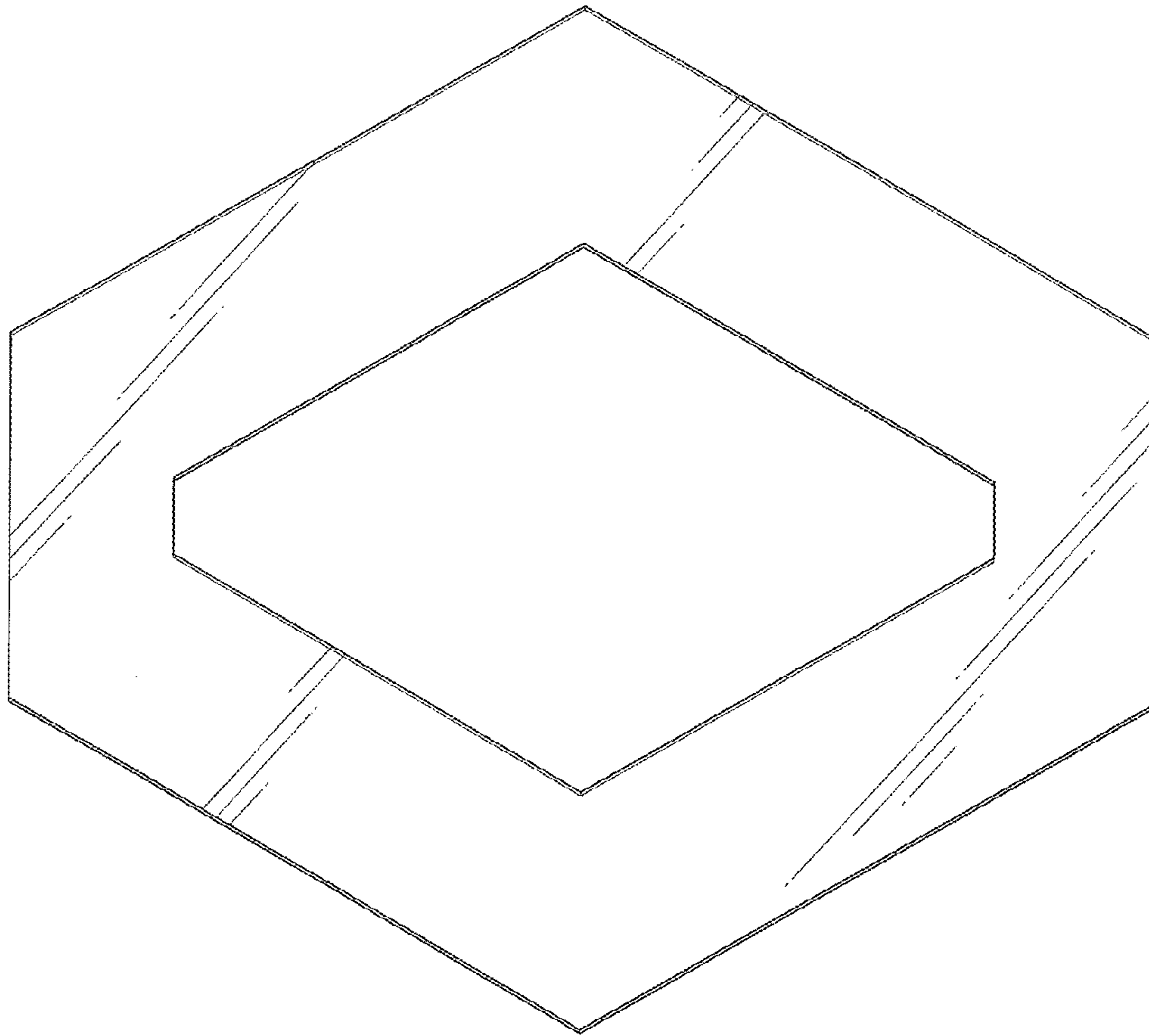


FIG. 34

[ENLARGED FRONT VIEW OF VALVE 2]

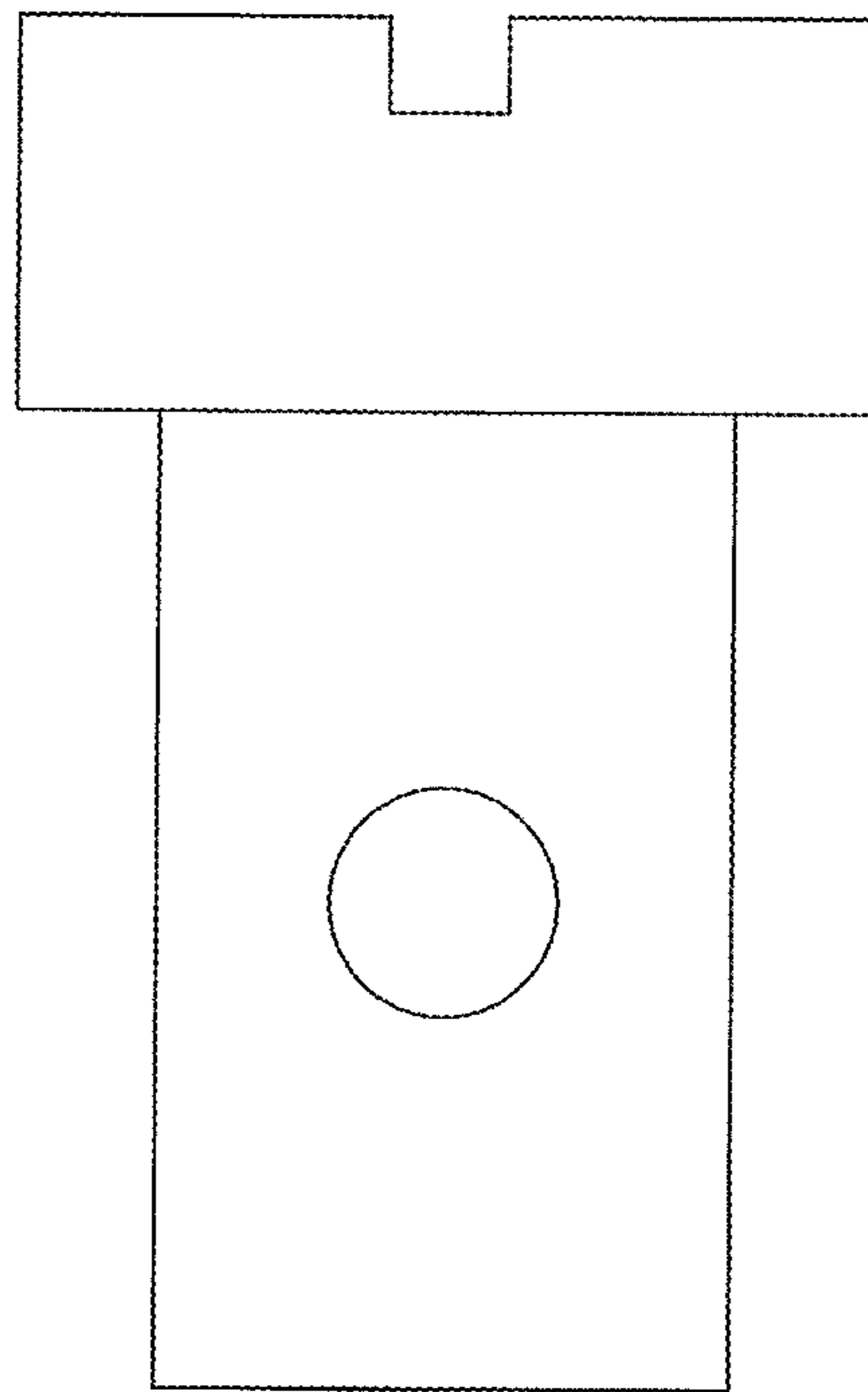


FIG. 35

[ENLARGED RIGHT SIDE VIEW OF VALVE 2]

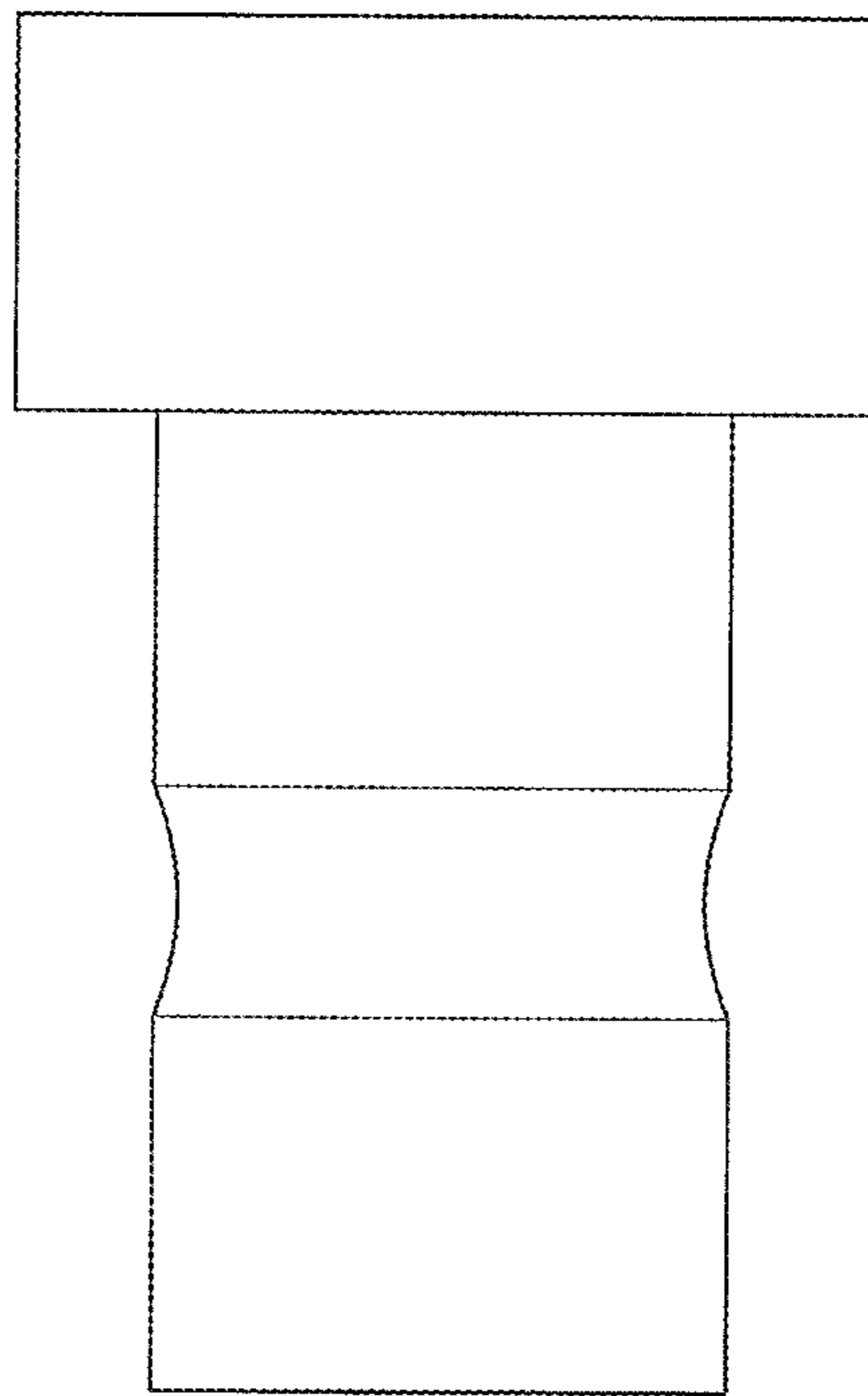


FIG. 36

【ENLARGED TOP PERSPECTIVE VIEW OF VALVE 2】

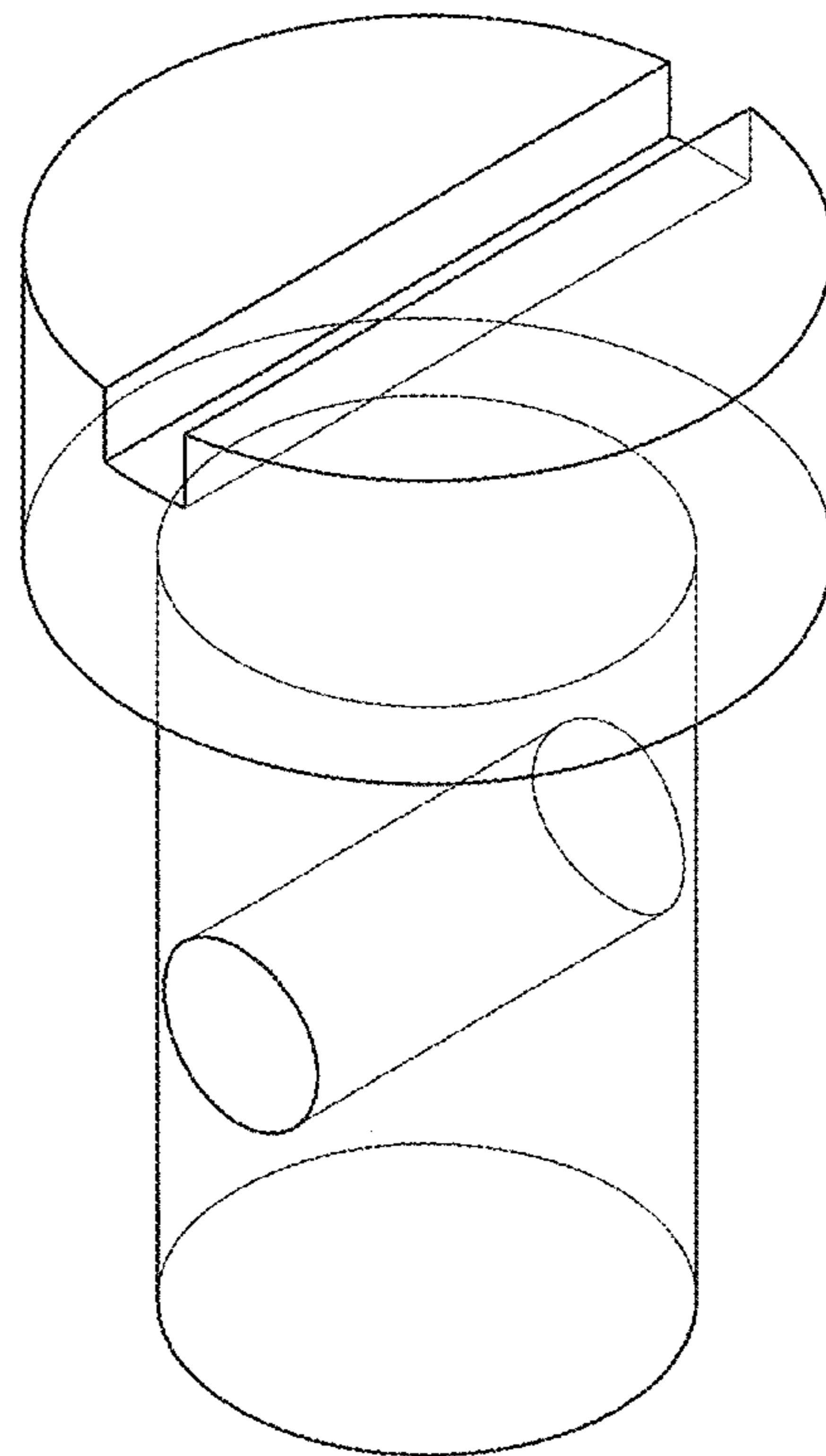


FIG. 37

[ENLARGED FRONT VIEW OF STOPPER 2]

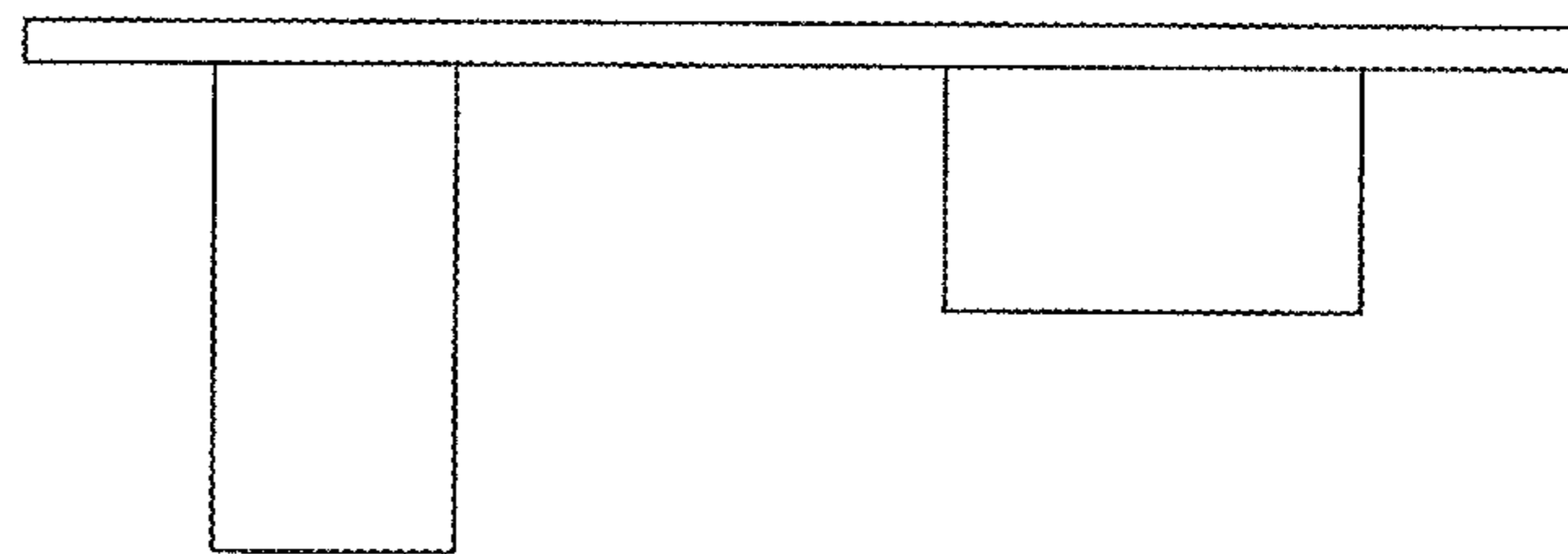


FIG. 38

[ENLARGED BOTTOM VIEW OF STOPPER 2]

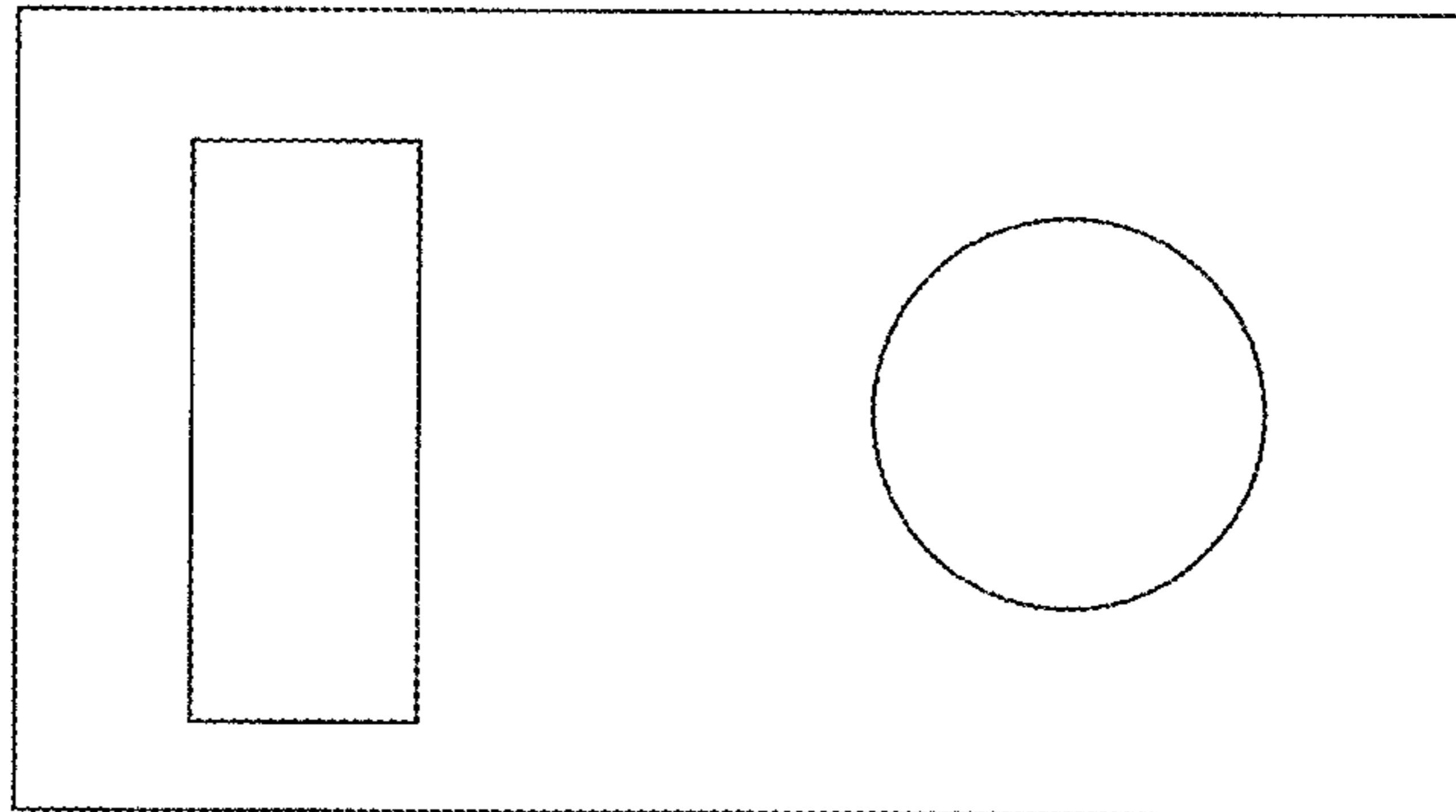


FIG. 39

[ENLARGED BOTTOM PERSPECTIVE VIEW OF STOPPER 2]

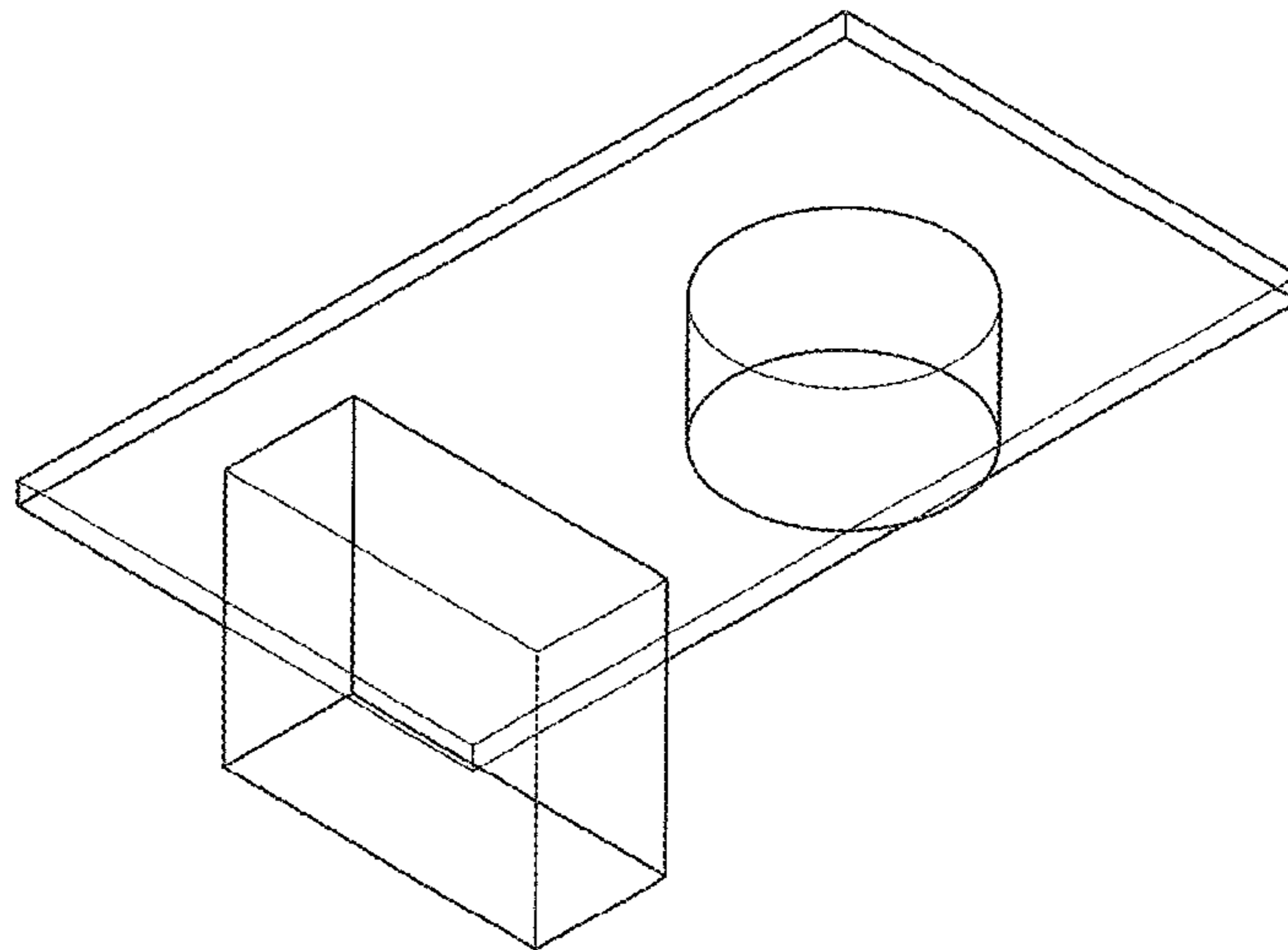


FIG. 40

[ENLARGED FRONT VIEW OF FILTER]

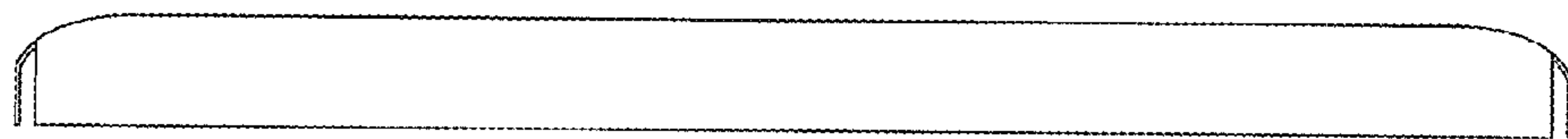


FIG. 41

【ENLARGED TOP PLAN VIEW OF FILTER】

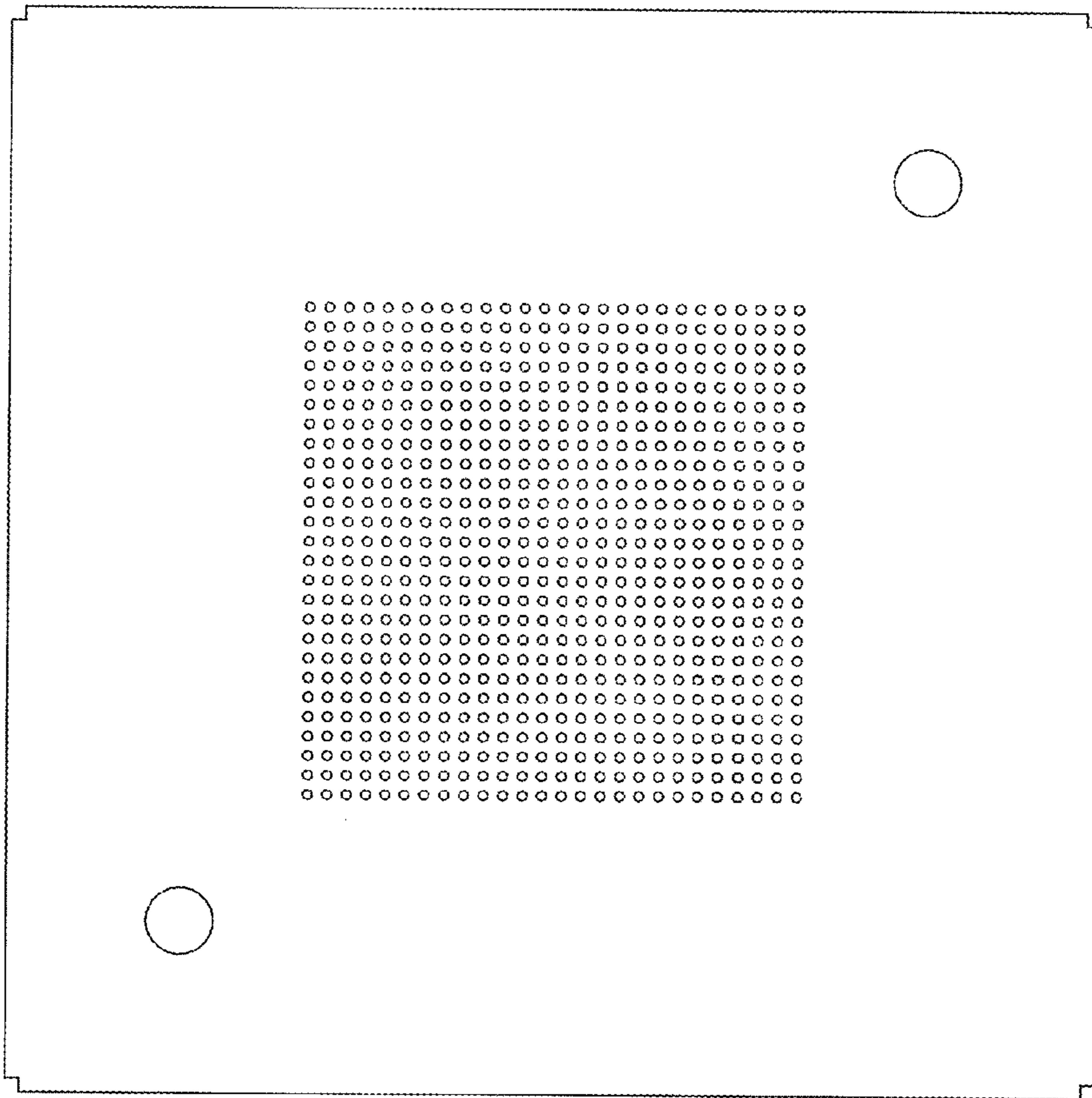


FIG. 42

[ENLARGED TOP PERSPECTIVE VIEW OF FILTER]

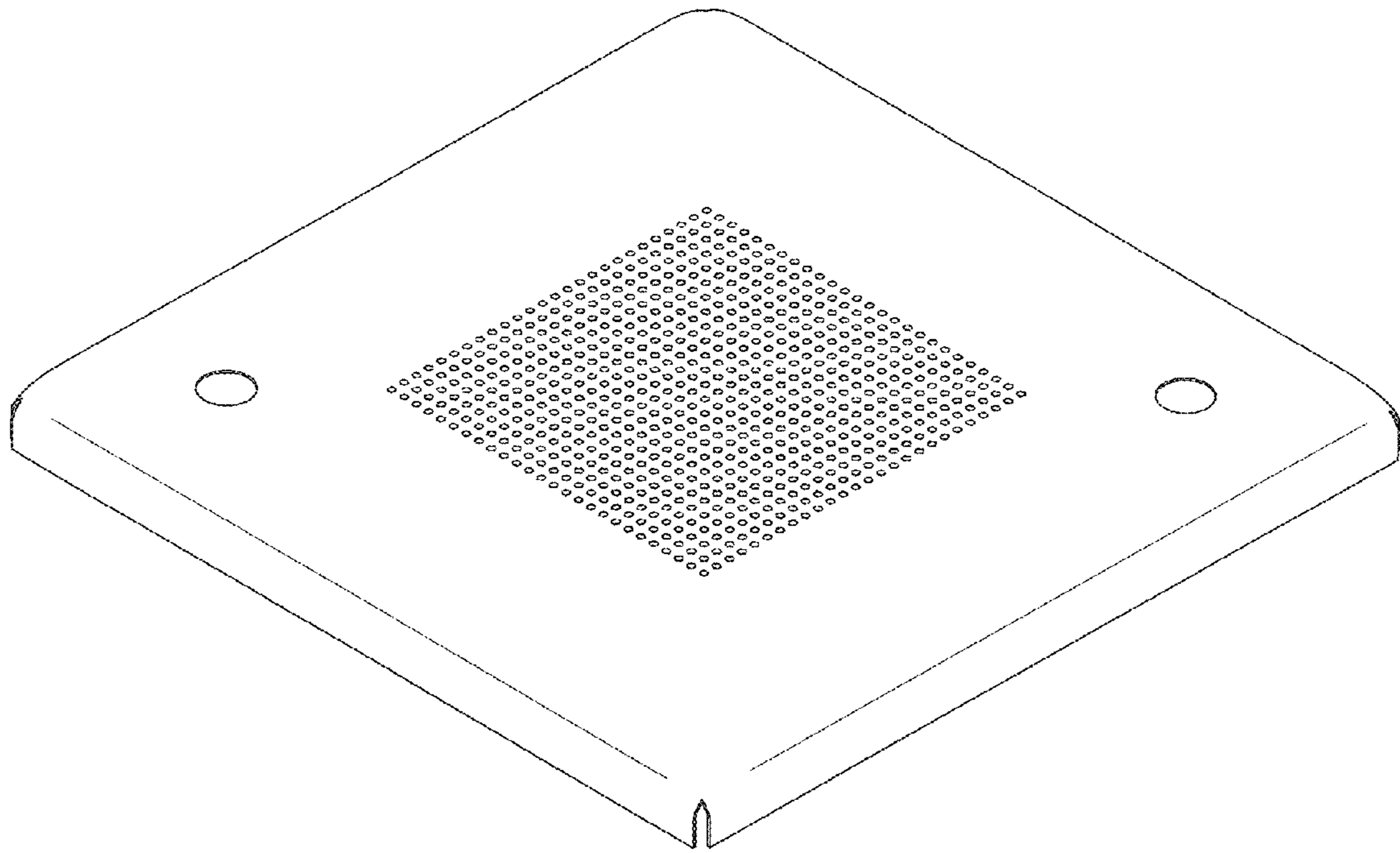


FIG. 43