



US00D756912S

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

(10) **Patent No.:** **US D756,912 S**  
(45) **Date of Patent:** **\*\* May 24, 2016**

(54) **REDOX FLOW BATTERY CELL STACK**

**DESCRIPTION**

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Osaka (JP); **Takashi Kanno**, Osaka (JP)
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- (\*\*) Term: **14 Years**
- (21) Appl. No.: **29/462,381**
- (22) Filed: **Aug. 2, 2013**
- (30) **Foreign Application Priority Data**

Feb. 4, 2013	(JP)	.....	2013-002136
Feb. 4, 2013	(JP)	.....	2013-002137
Feb. 4, 2013	(JP)	.....	2013-002138
Mar. 29, 2013	(JP)	.....	2013-007226
Mar. 29, 2013	(JP)	.....	2013-007227
Mar. 29, 2013	(JP)	.....	2013-007228

- (51) **LOC (10) Cl.** ..... **13-02**
- (52) **U.S. Cl.**  
USPC ..... **D13/104**
- (58) **Field of Classification Search**  
USPC ..... D13/103, 104, 184; 429/96, 97, 98, 99,  
429/100, 105, 163  
CPC ..... H01M 4/24; H01M 8/24  
See application file for complete search history.

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*Primary Examiner* — Paula Greene

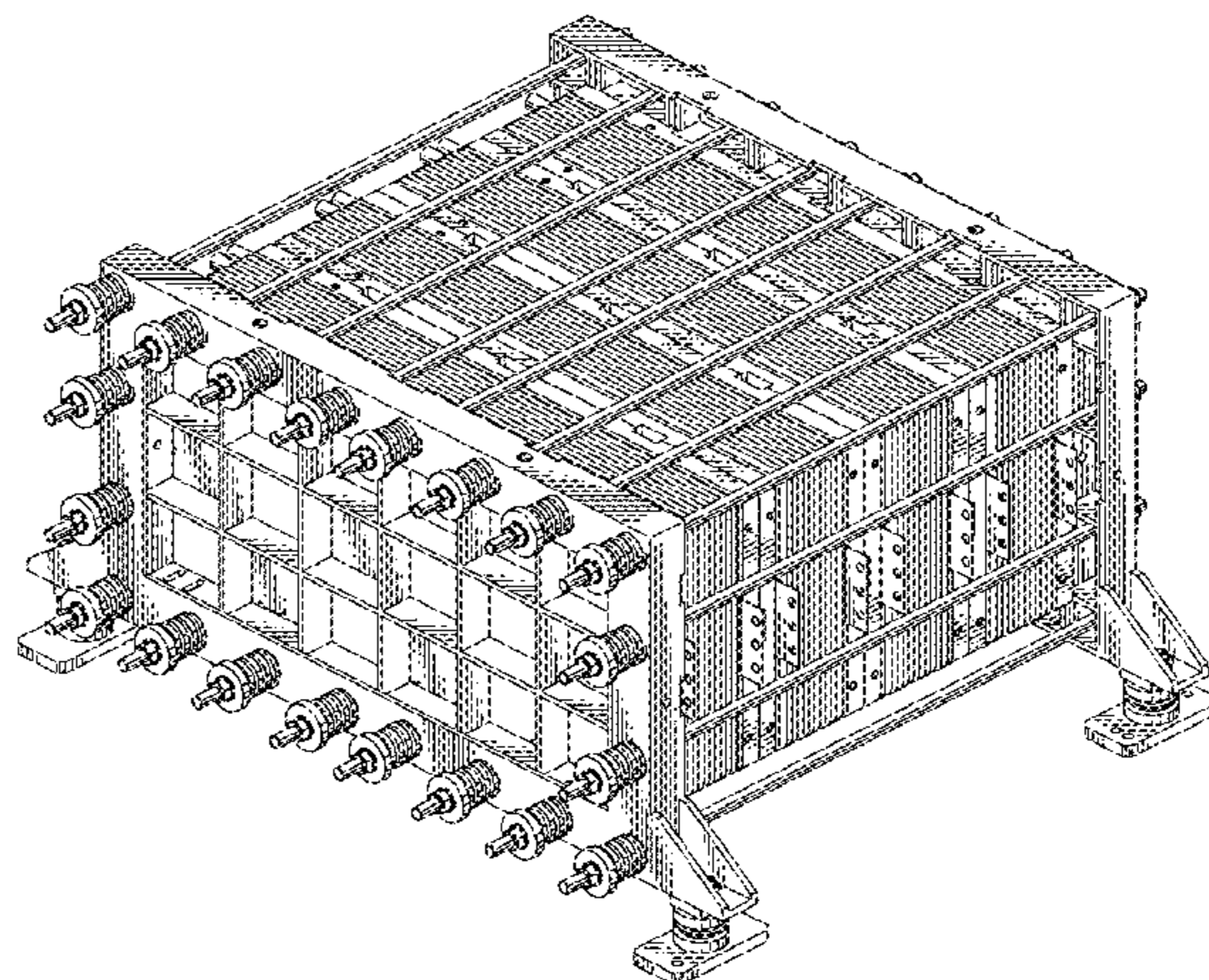
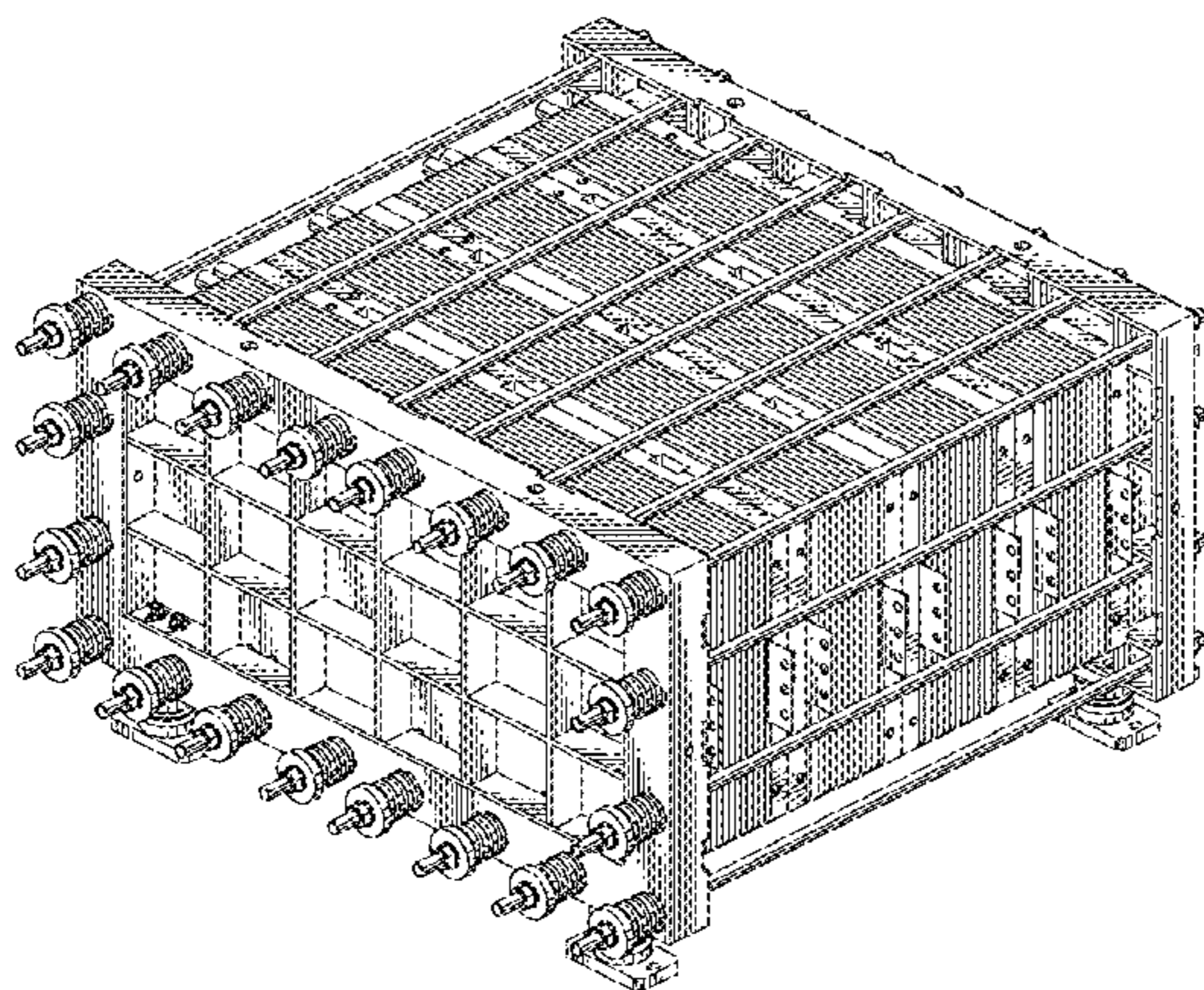
(74) *Attorney, Agent, or Firm* — Ditthavong & Steiner, P.C.

(57) **CLAIM**

The ornamental design for a redox flow battery cell stack, as shown and described.

FIG. 1 is a front view of a first embodiment of a redox flow battery cell stack showing our new design;  
 FIG. 2 is a rear view thereof;  
 FIG. 3 is a right side view thereof;  
 FIG. 4 is a left side view thereof;  
 FIG. 5 is a top plan view thereof;  
 FIG. 6 is a bottom plan view thereof;  
 FIG. 7 is a front, top, right side perspective view thereof;  
 FIG. 8 is a referential top plan view thereof;  
 FIG. 9 is a cross-sectional view taken along a combination of lines 9A-9B-9C-9D-9E-9F in FIG. 8 thereof;  
 FIG. 10 is a rear, bottom, left side perspective view thereof;  
 FIG. 11 is a front view of a second embodiment of a redox flow battery cell stack showing our new design;  
 FIG. 12 is a rear view thereof;  
 FIG. 13 is a right side view thereof;  
 FIG. 14 is a left side view thereof;  
 FIG. 15 is a top plan view thereof;  
 FIG. 16 is a bottom plan view thereof;  
 FIG. 17 is a front, top, right side perspective view thereof;  
 FIG. 18 is a referential top plan view thereof;  
 FIG. 19 is a cross-sectional view taken along a combination of lines 19A-19B-19C-19D-19E-19F in FIG. 18 thereof;  
 FIG. 20 is a rear, bottom, left side perspective view thereof;  
 FIG. 21 is a front view of a third embodiment of a redox flow battery cell stack showing our new design;  
 FIG. 22 is a rear view thereof;  
 FIG. 23 is a right side view thereof;  
 FIG. 24 is a left side view thereof;  
 FIG. 25 is a top plan view thereof;  
 FIG. 26 is a bottom plan view thereof;  
 FIG. 27 is a front, top, right side perspective view thereof;  
 FIG. 28 is a referential top plan view thereof;  
 FIG. 29 is a cross-sectional view taken along a combination of lines 29A-29B-29C-29D-29E-29F in FIG. 28 thereof;  
 FIG. 30 is a rear, bottom, left side perspective view thereof;  
 FIG. 31 is a front view of a fourth embodiment of a redox flow battery cell stack showing our new design;  
 FIG. 32 is a rear view thereof;  
 FIG. 33 is a right side view thereof;  
 FIG. 34 is a left side view thereof;  
 FIG. 35 is a top plan view thereof;  
 FIG. 36 is a bottom plan view thereof;  
 FIG. 37 is a front, top, right side perspective view thereof;  
 FIG. 38 is a referential top plan view thereof;  
 FIG. 39 is a cross-sectional view taken along a combination of lines 39A-39B-39C-39D-39E-39F in FIG. 38 thereof; and,  
 FIG. 40 is a rear, bottom, left side perspective view thereof.

**1 Claim, 32 Drawing Sheets**



(56)

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FIG.1

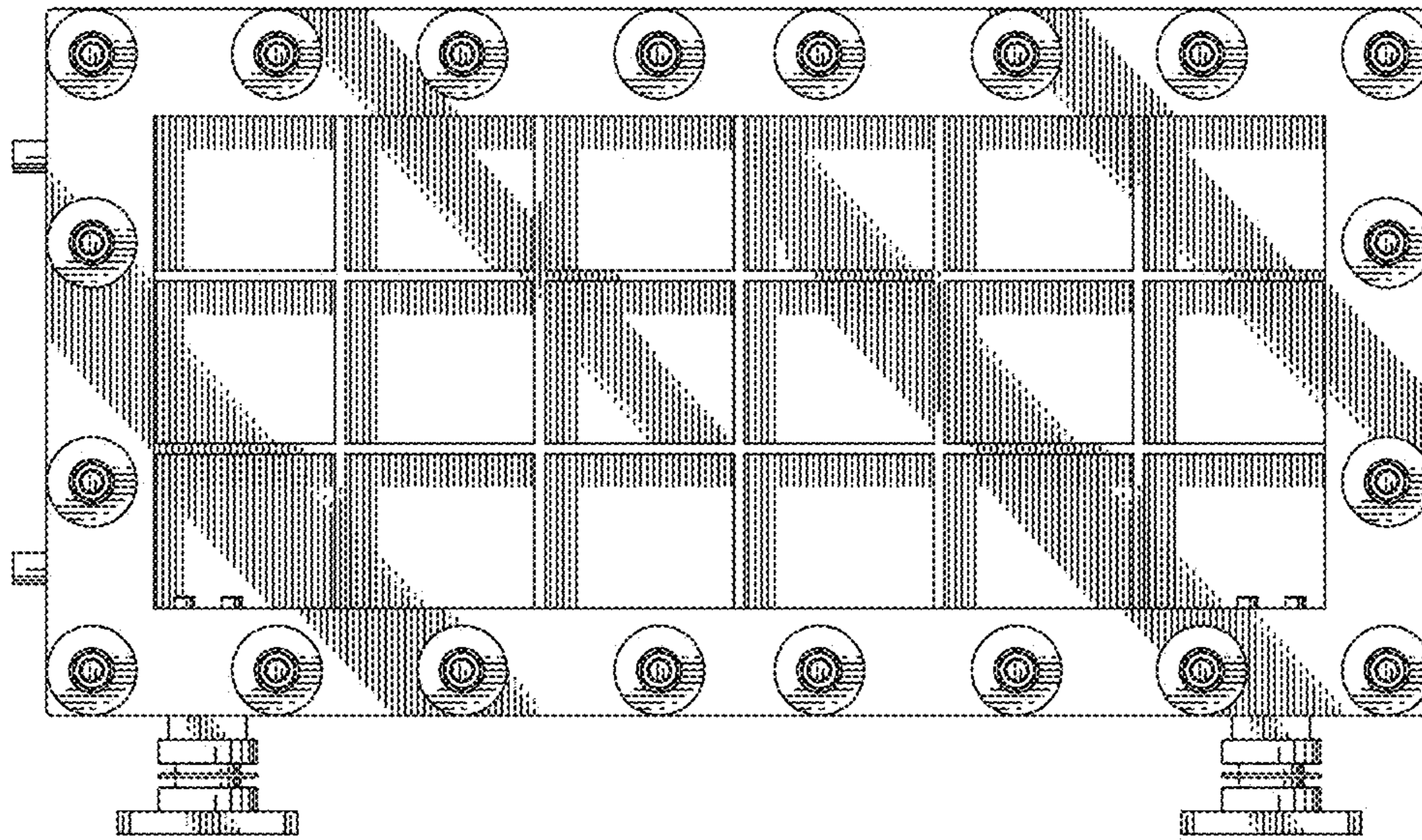


FIG.2

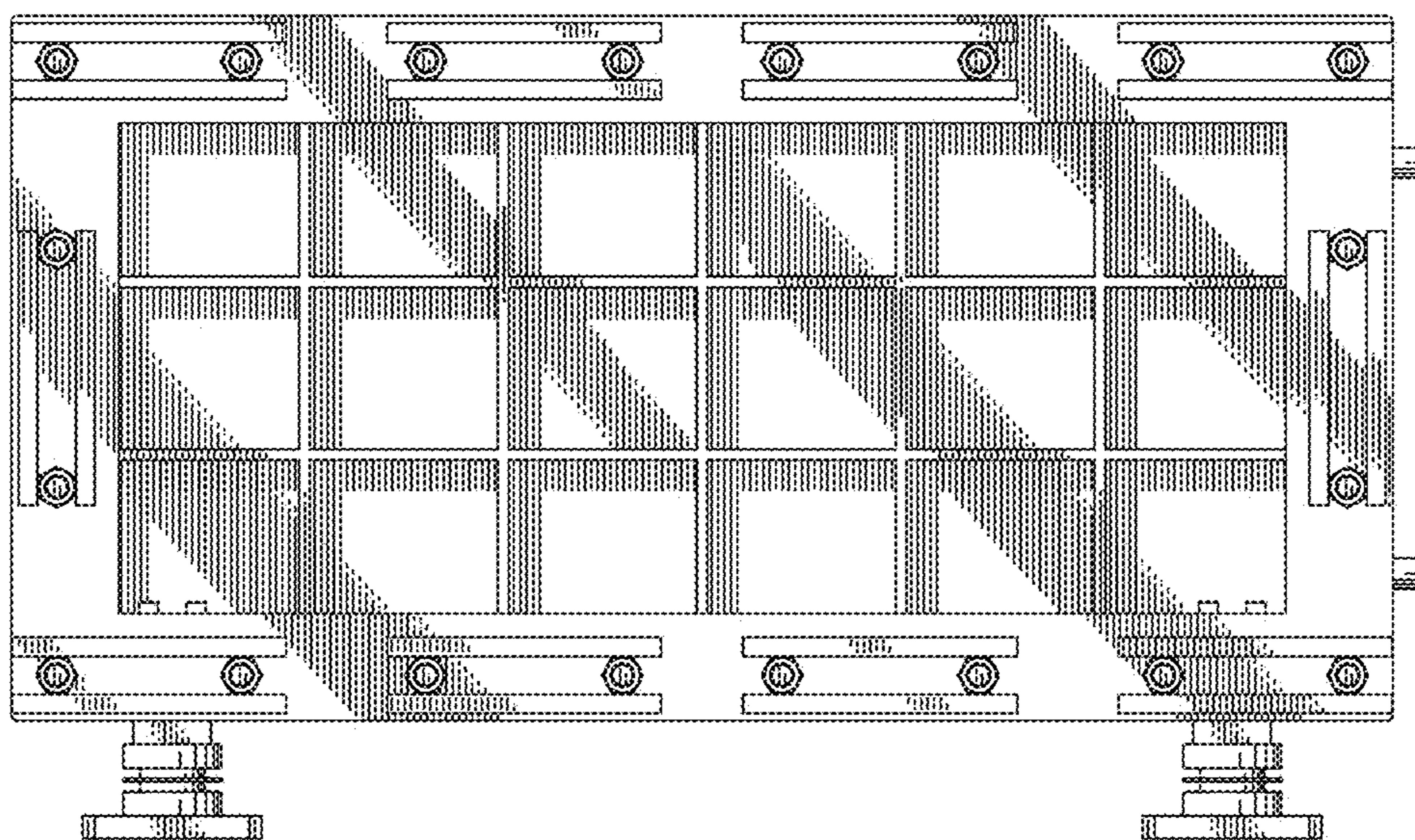


FIG.3

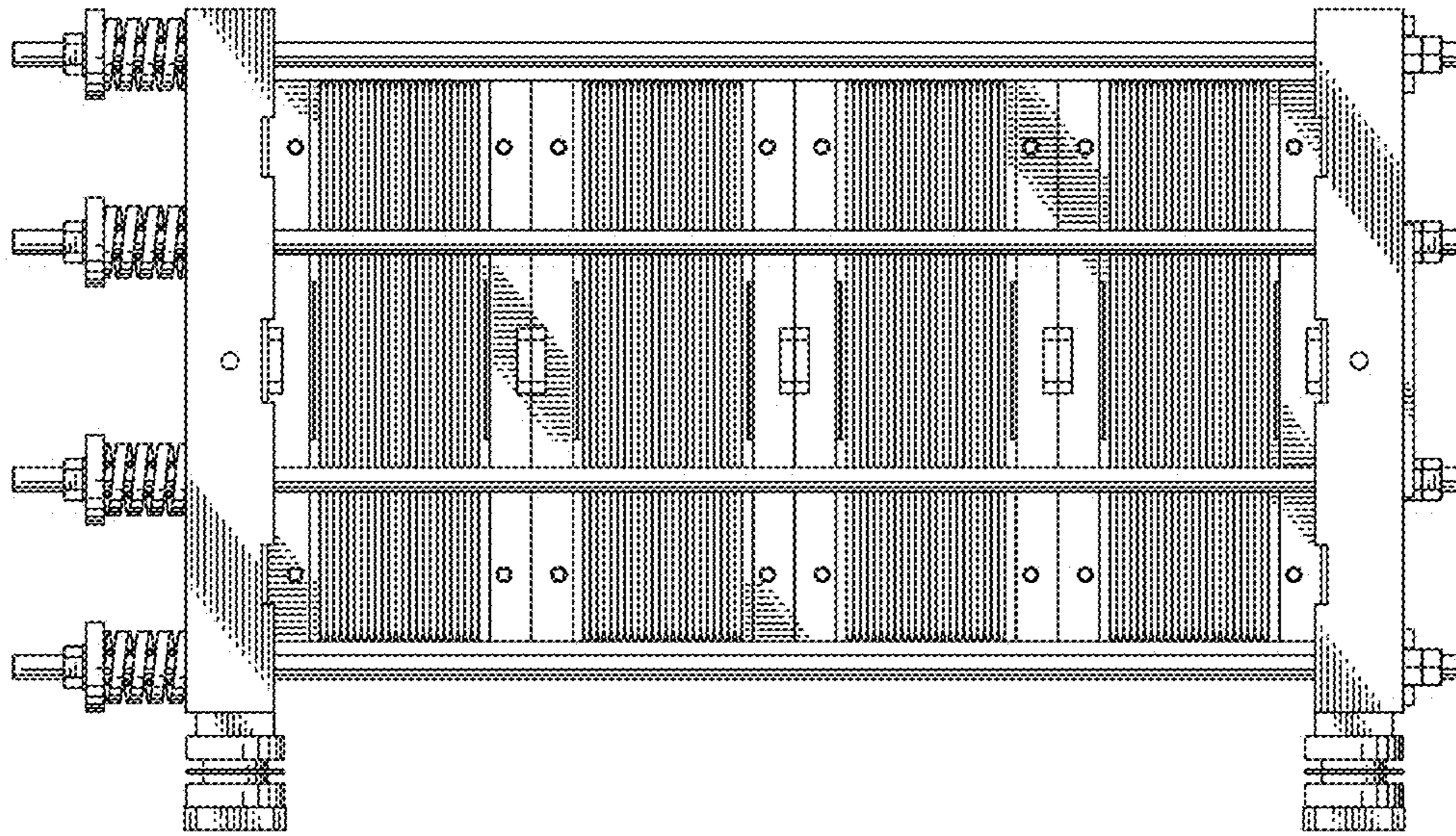


FIG.4

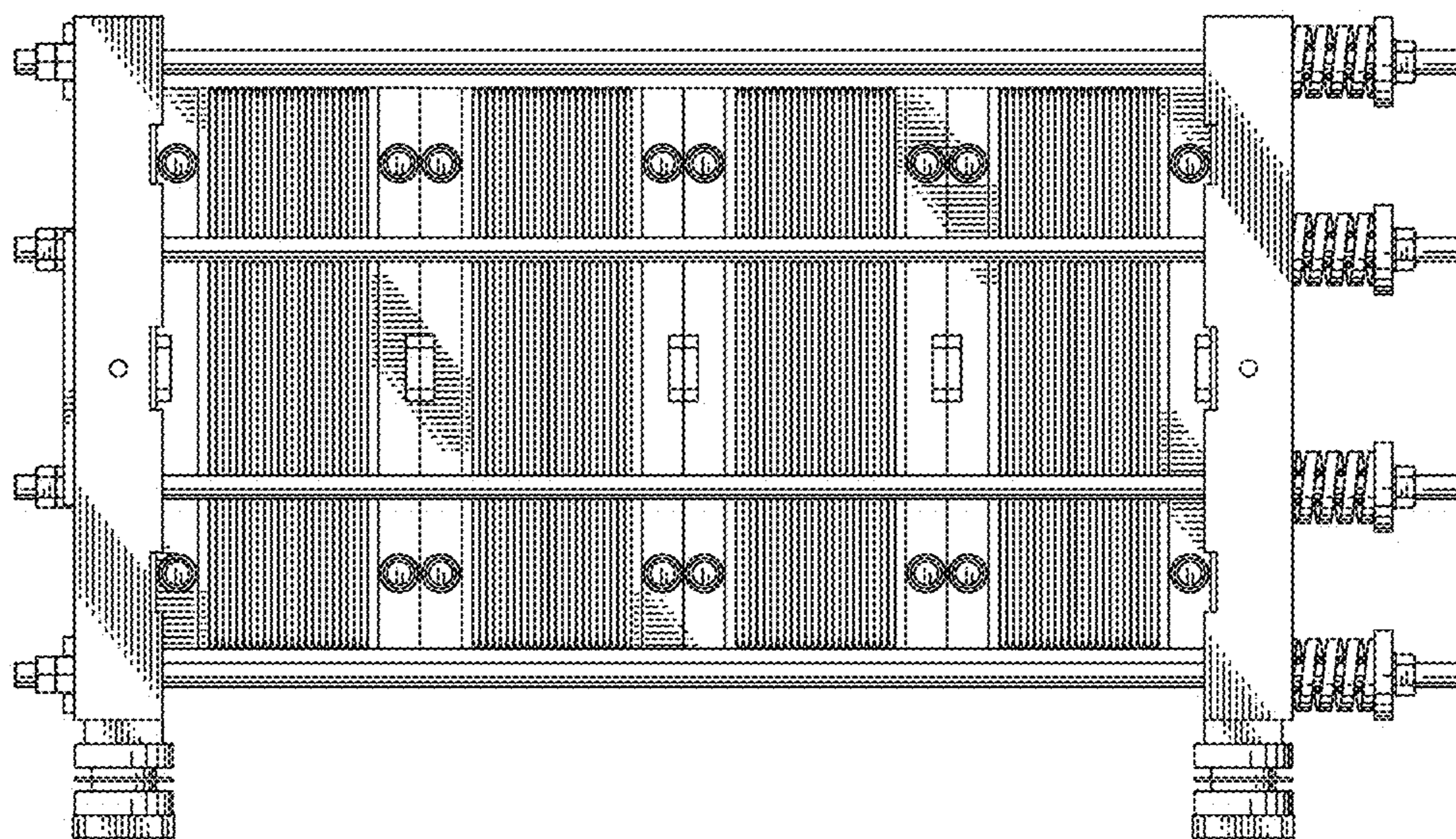


FIG.5

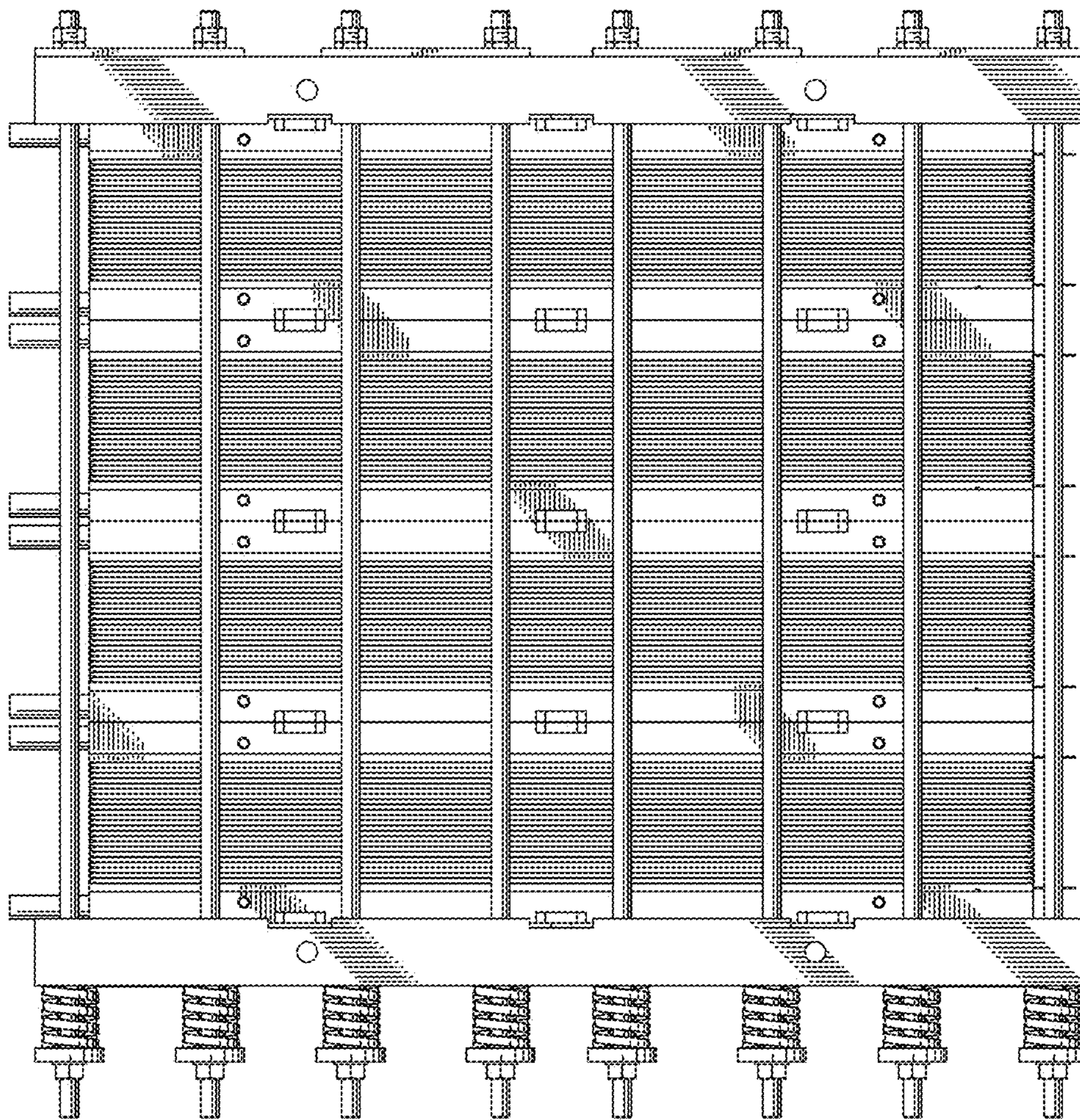


FIG.6

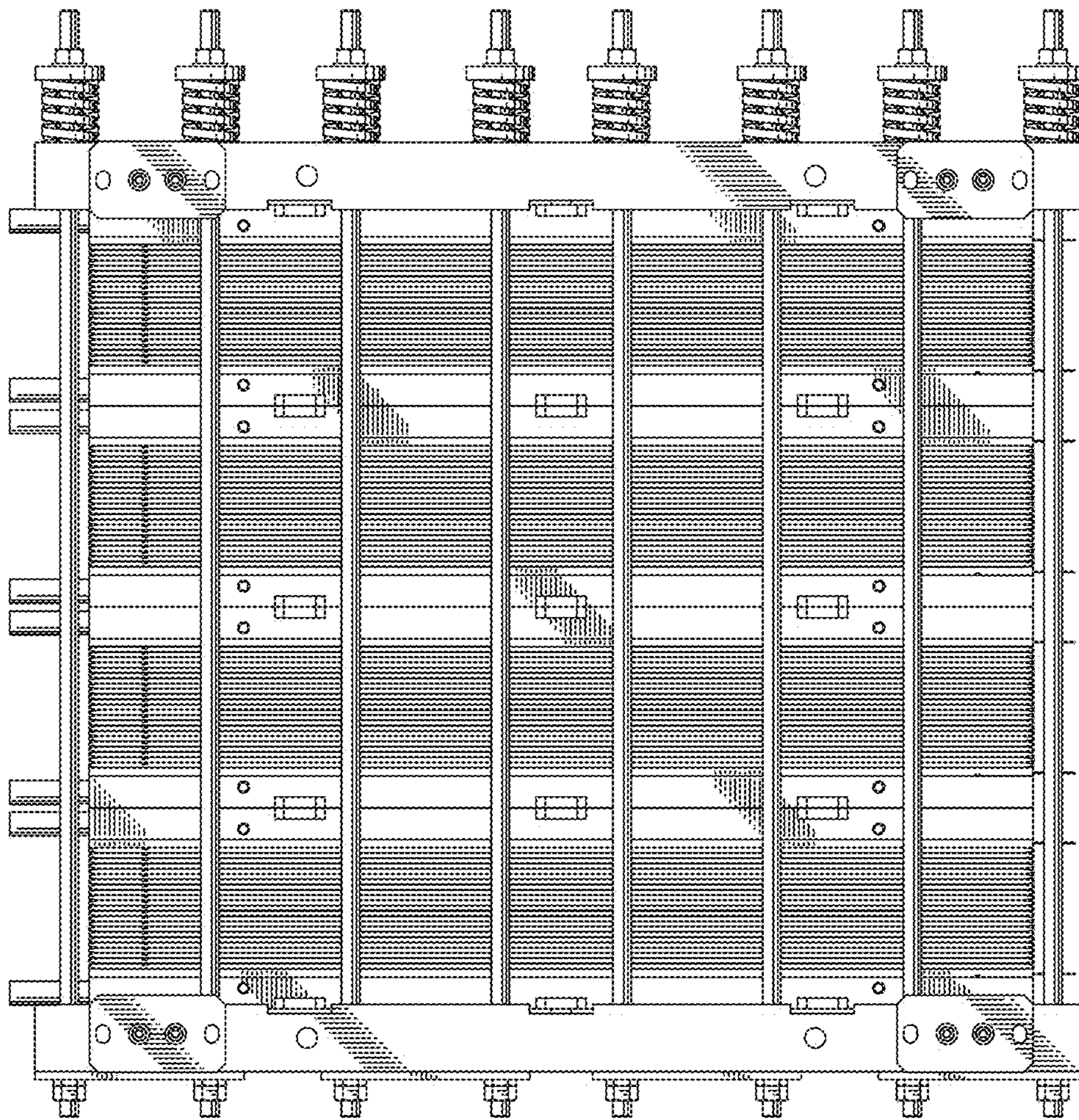


FIG.7

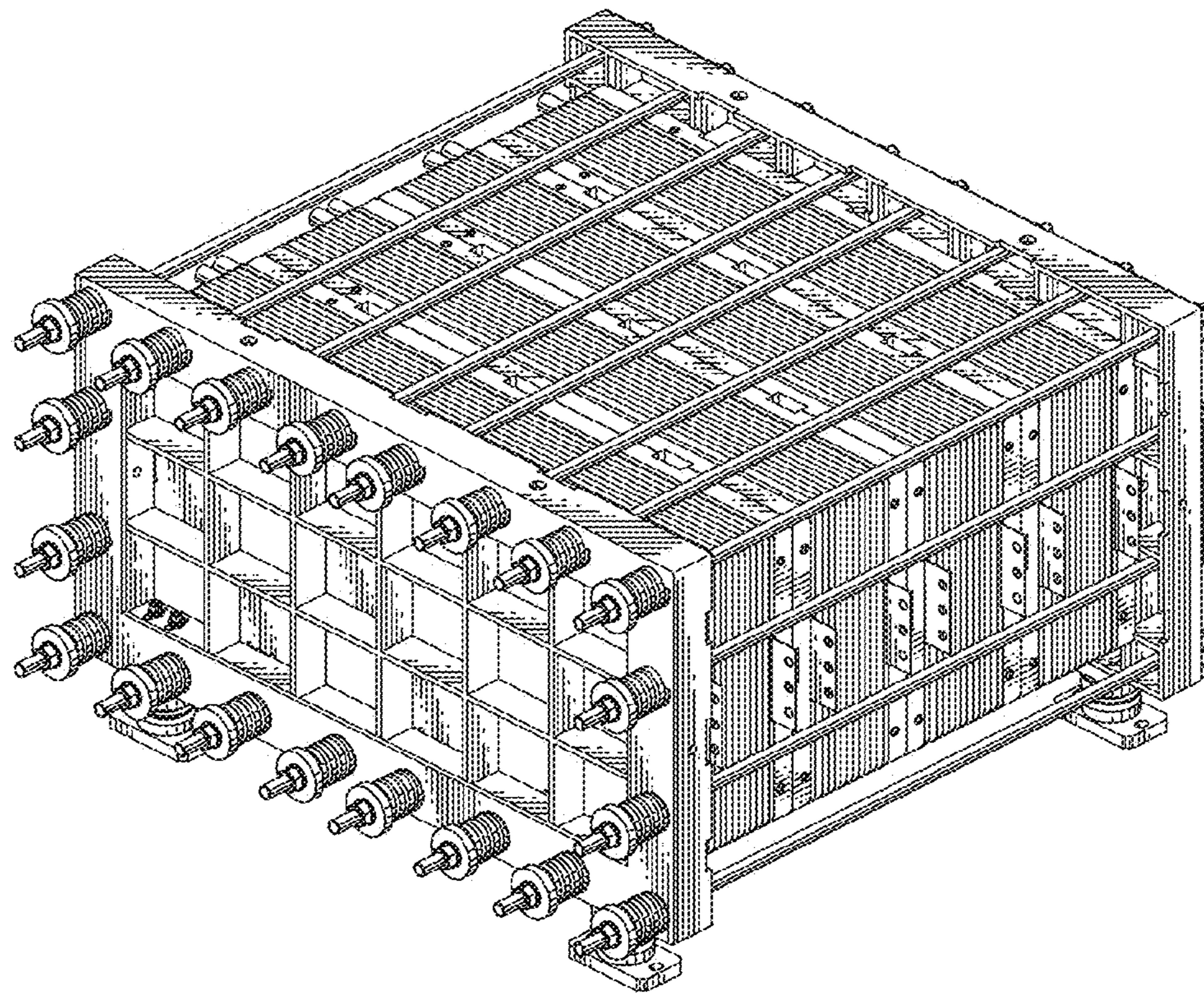


FIG.8

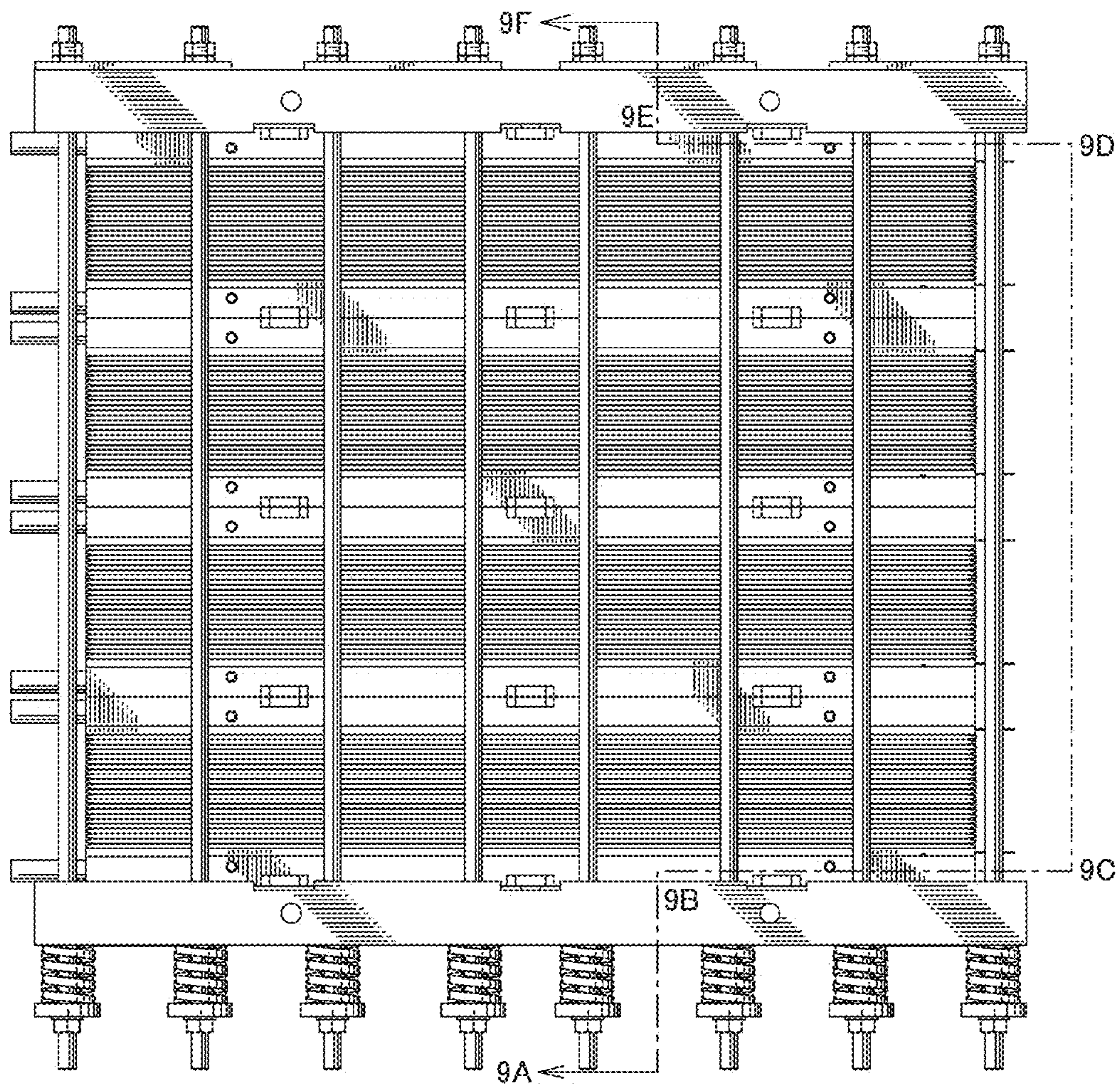




FIG. 9

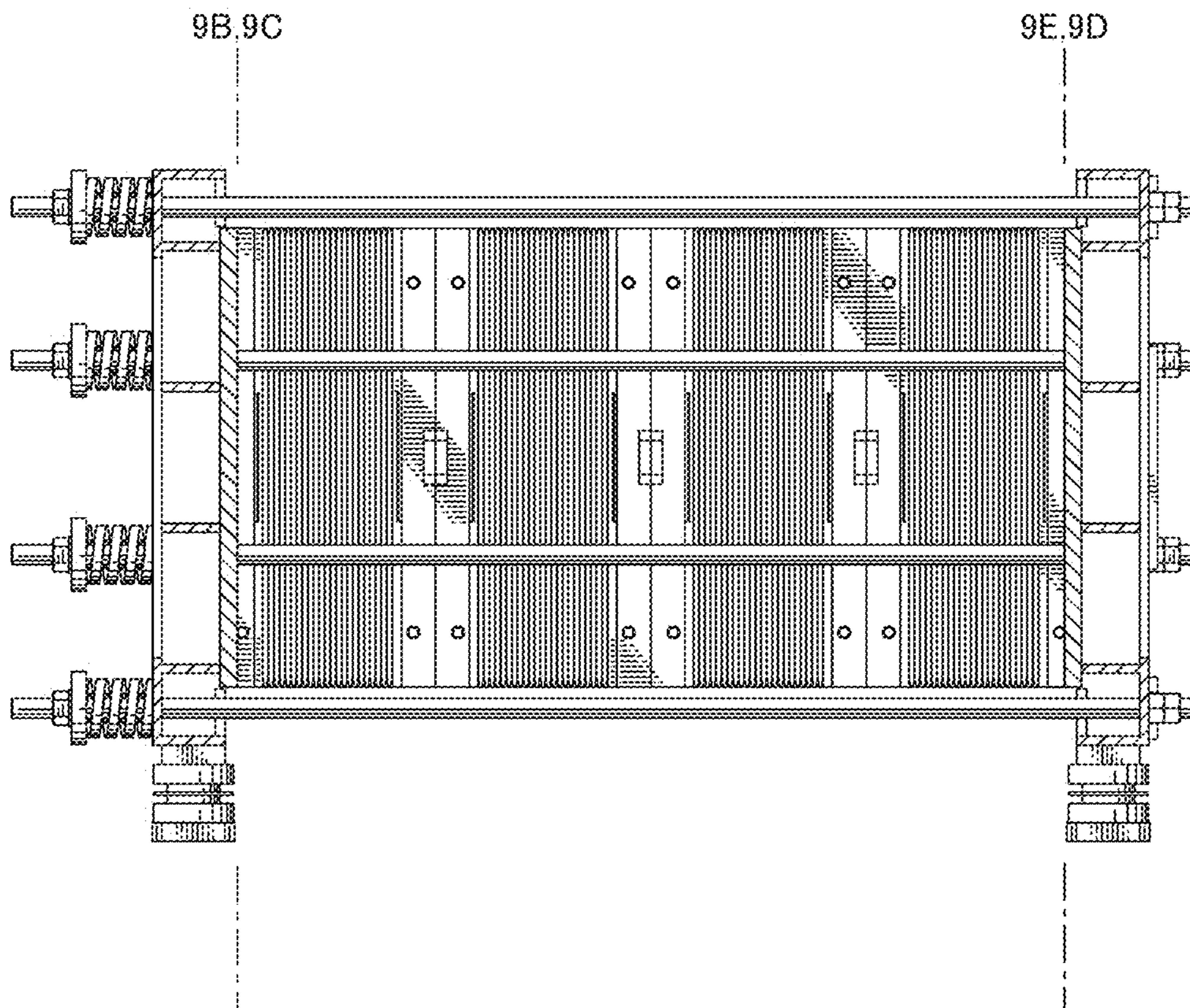


FIG.10

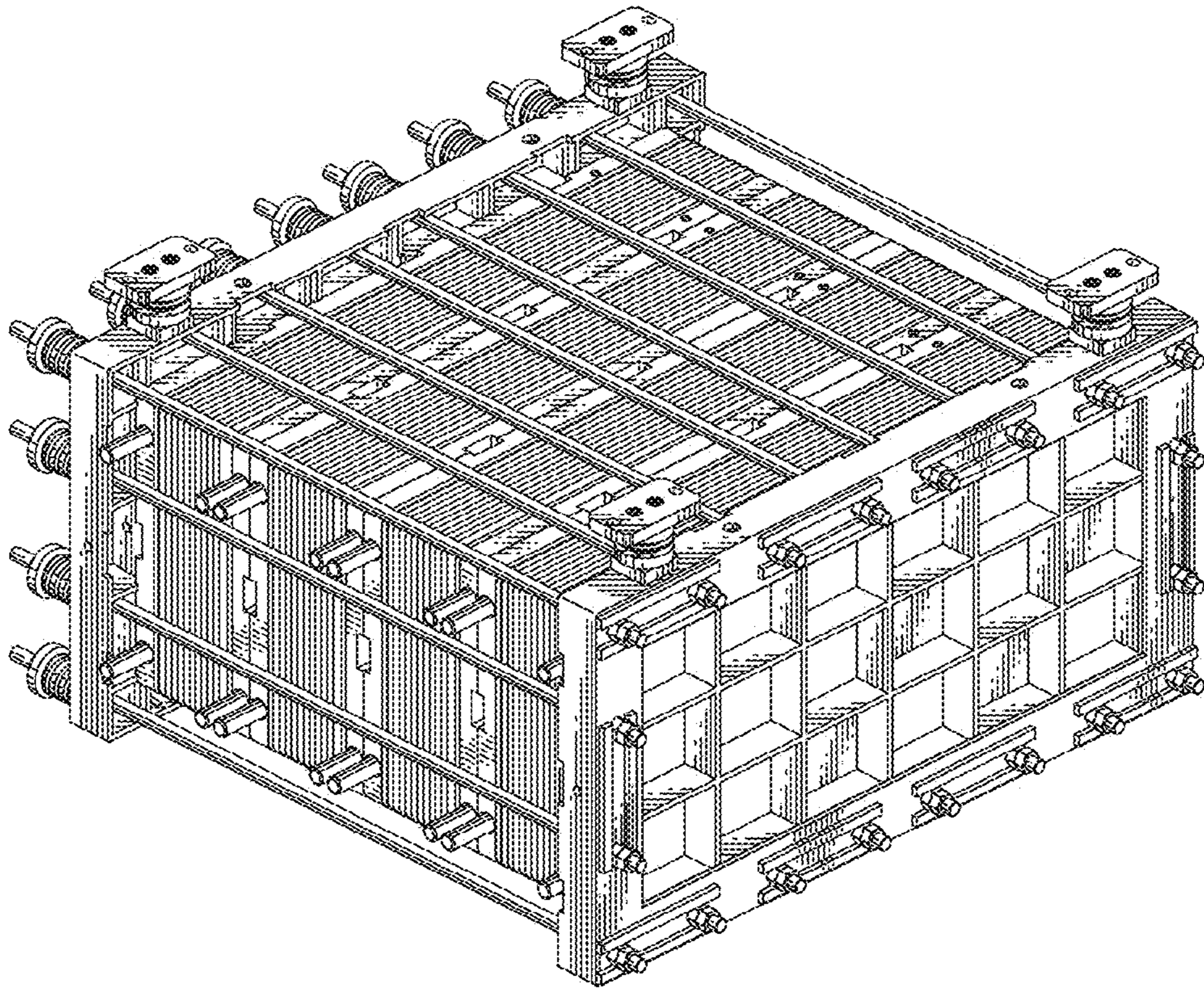


FIG. 11

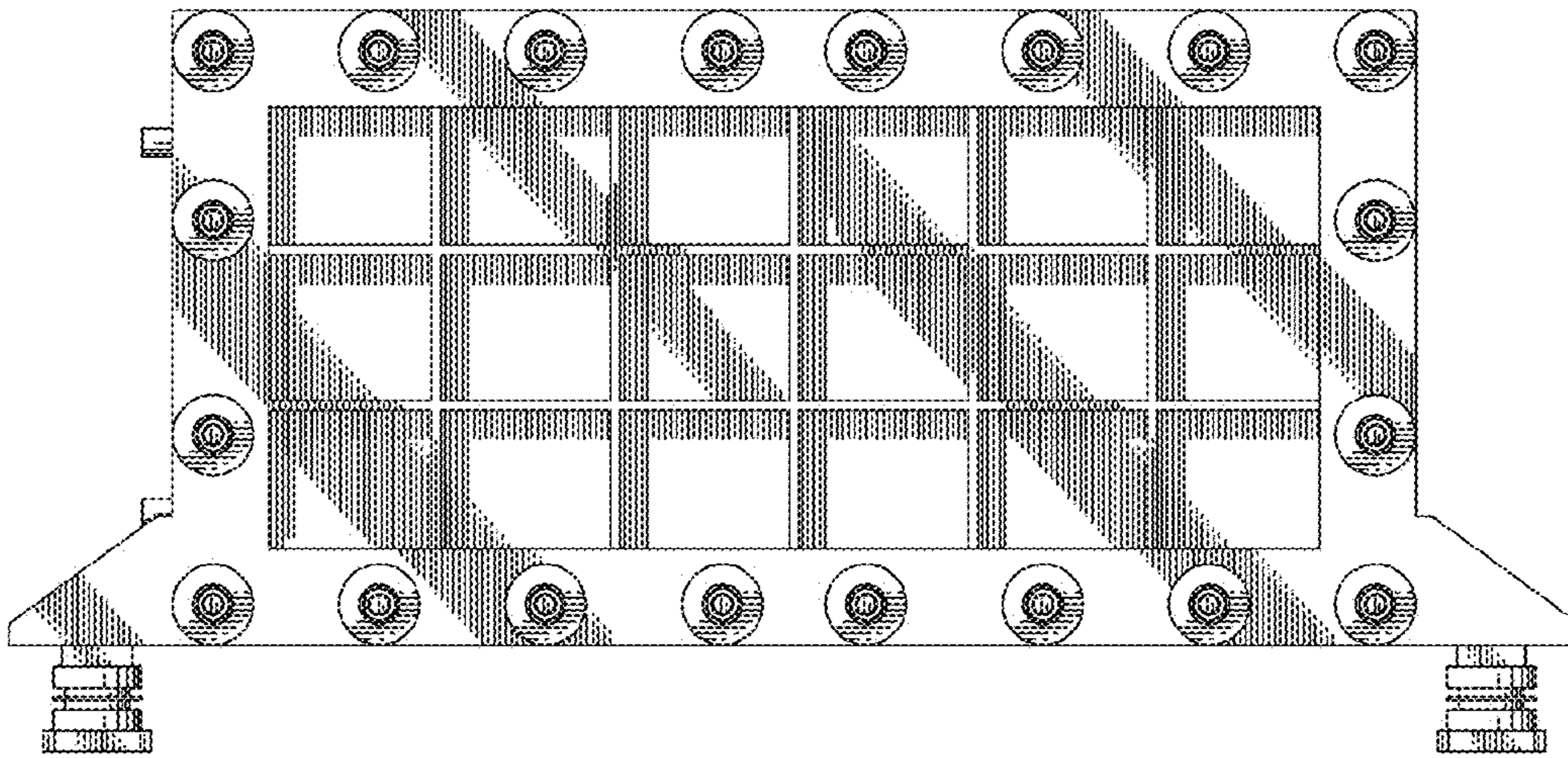


FIG. 12

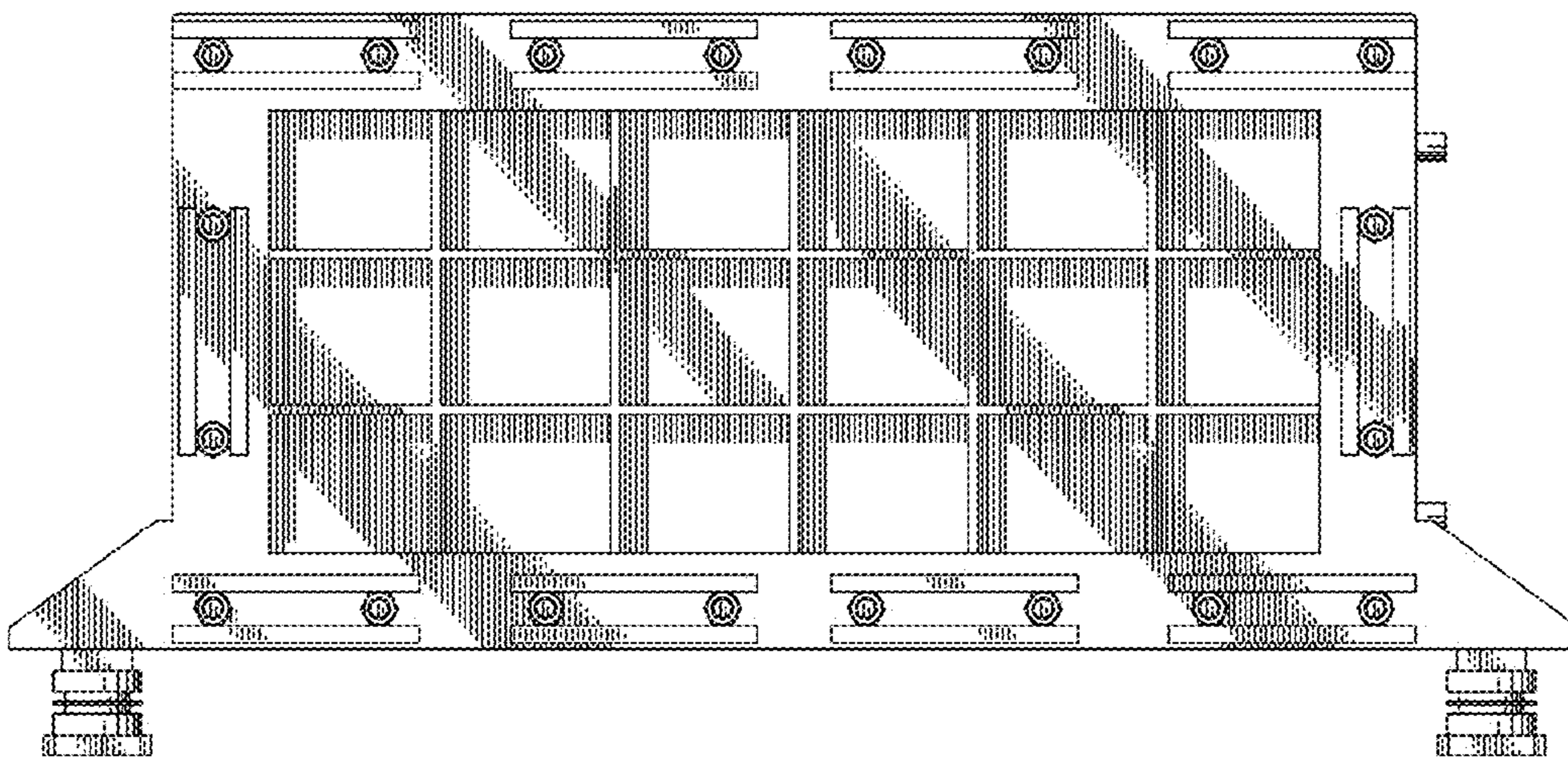


FIG. 13

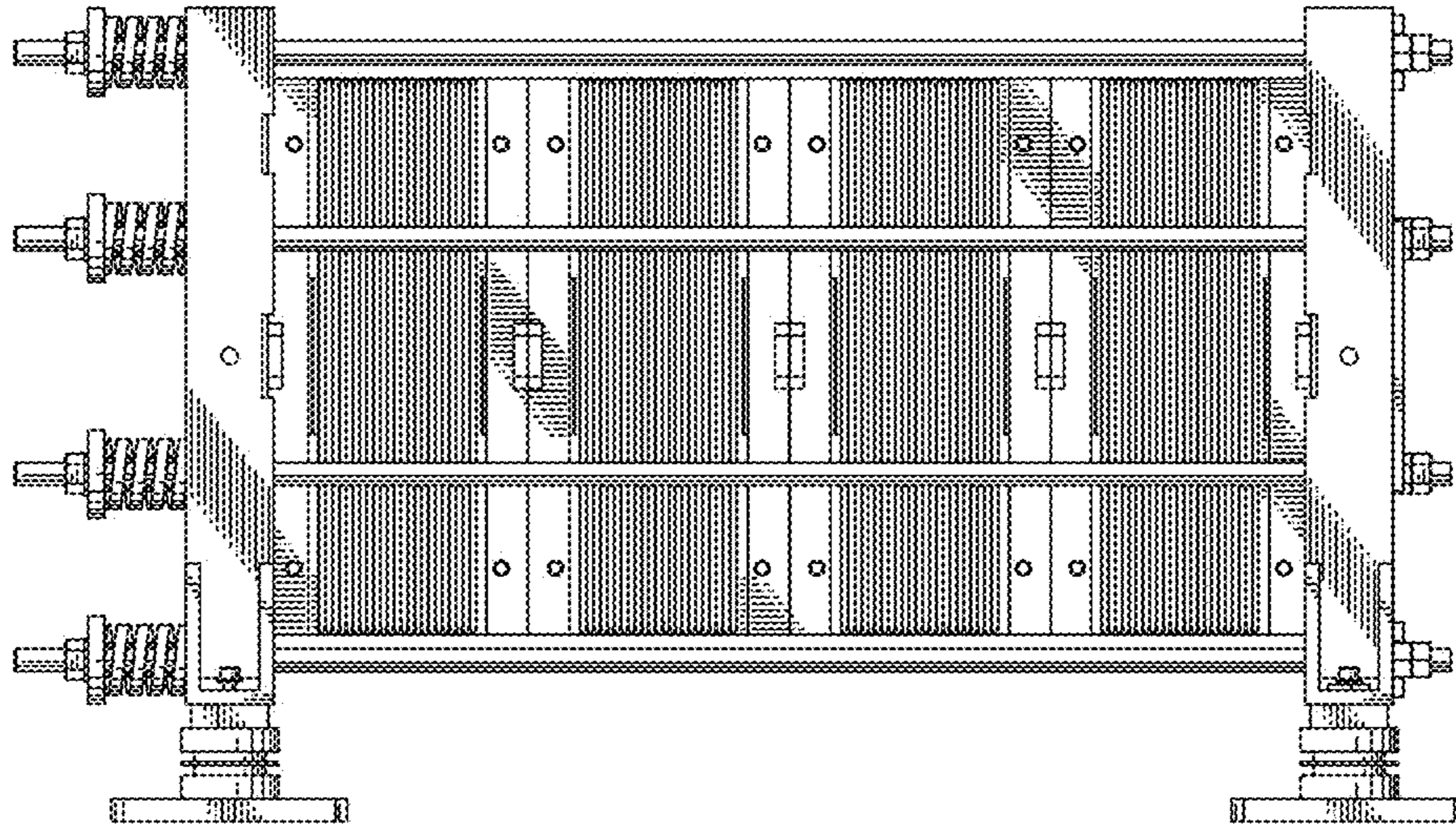


FIG. 14

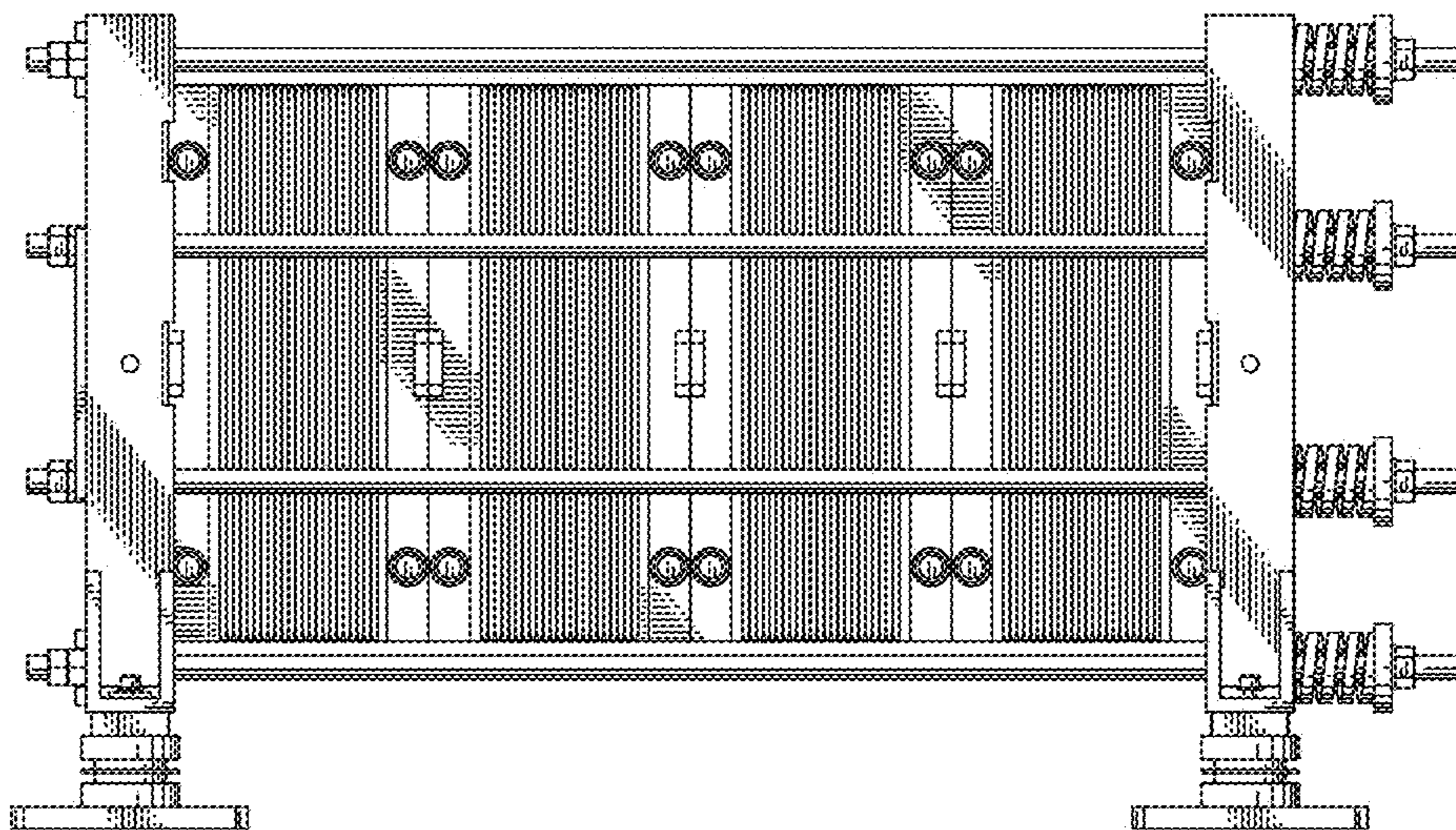


FIG.15

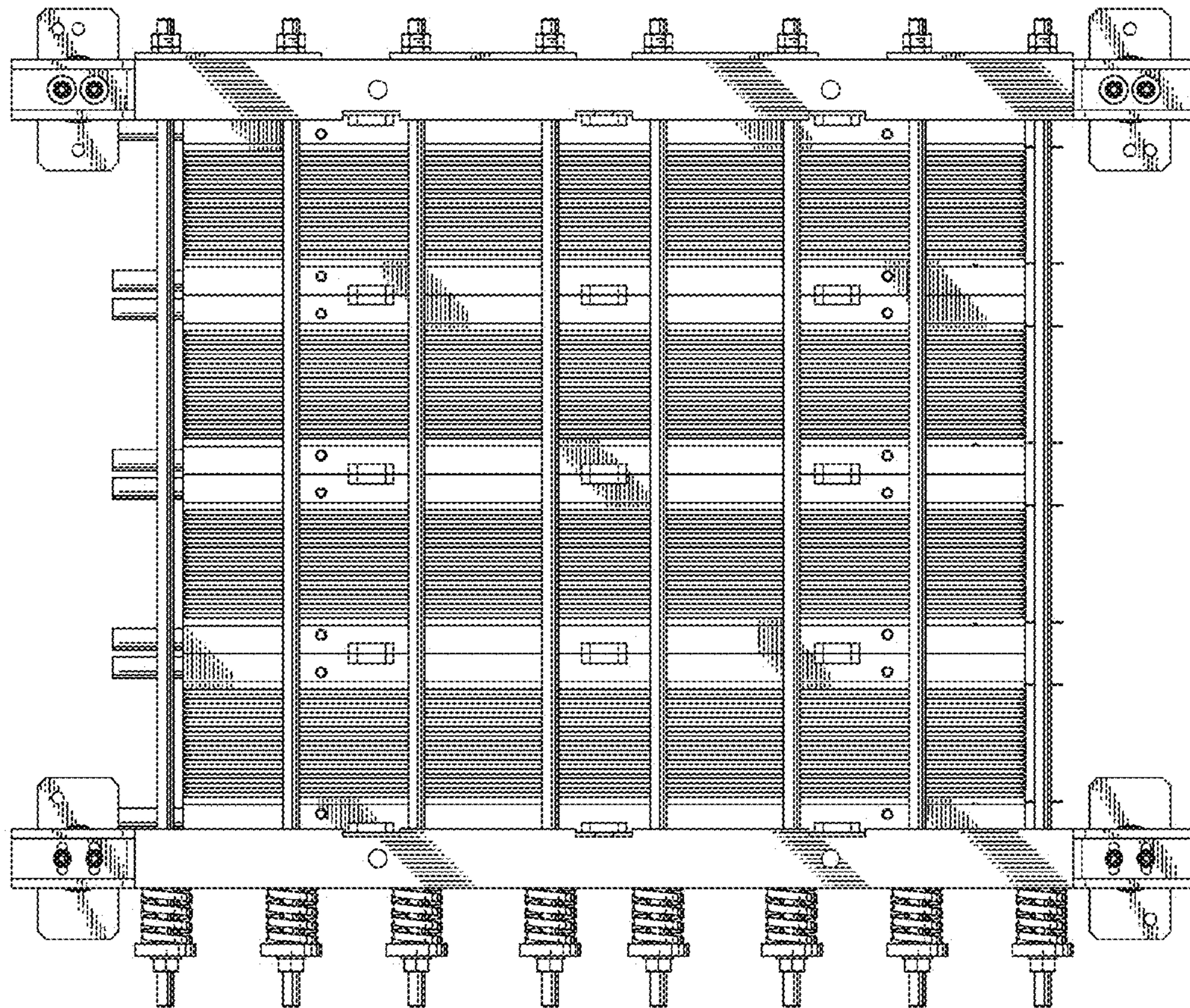


FIG.16

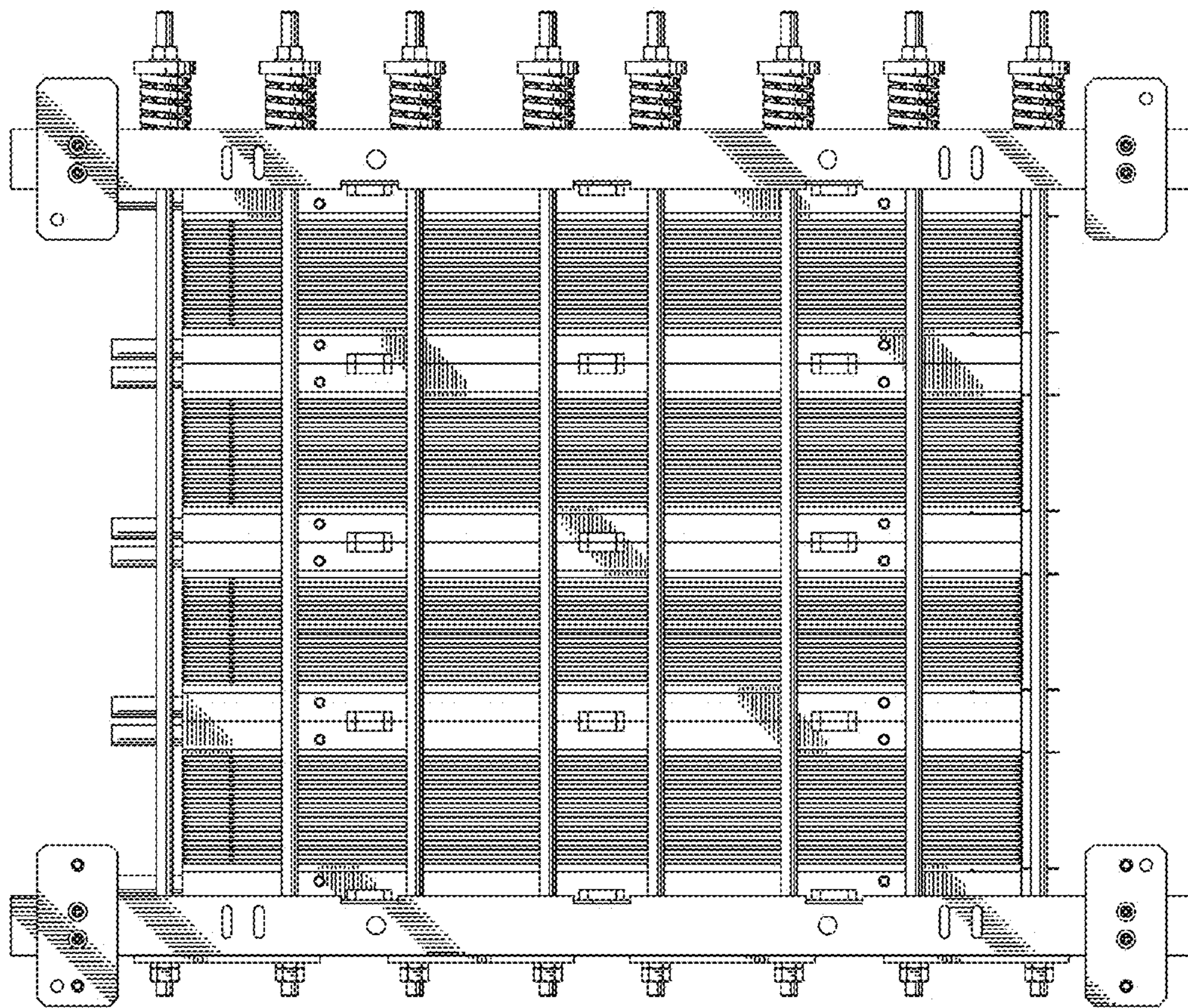


FIG.17

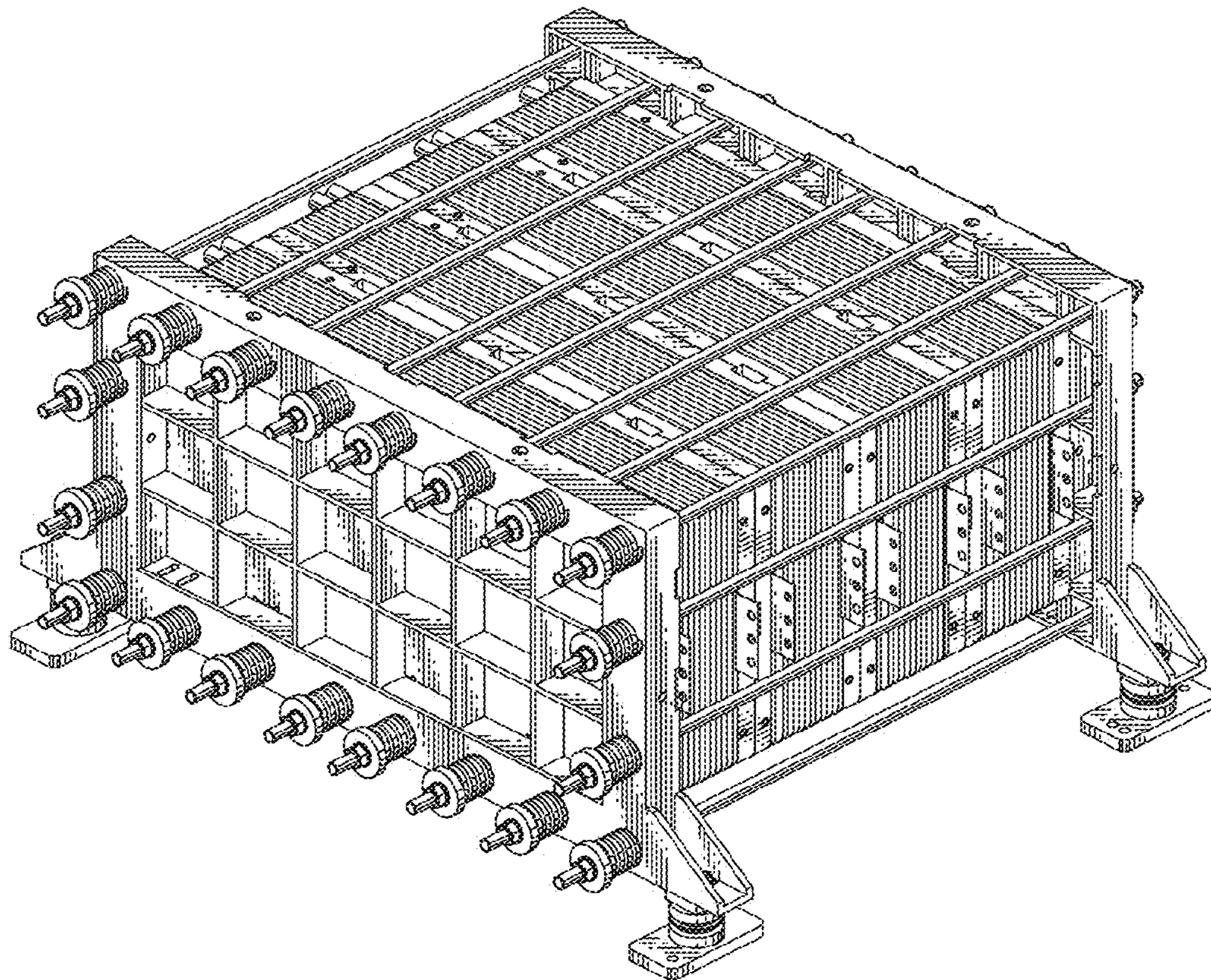


FIG.18

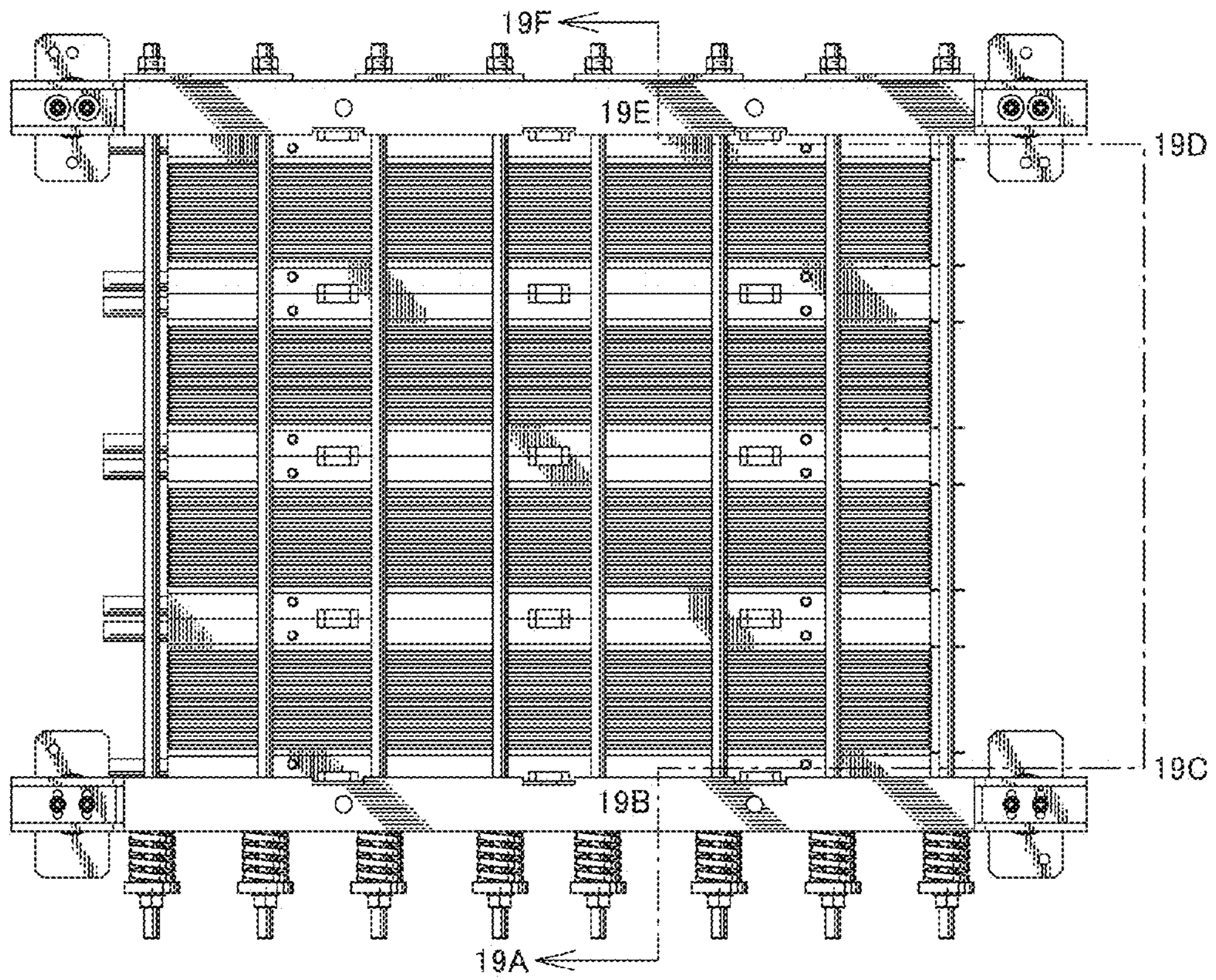




FIG. 19

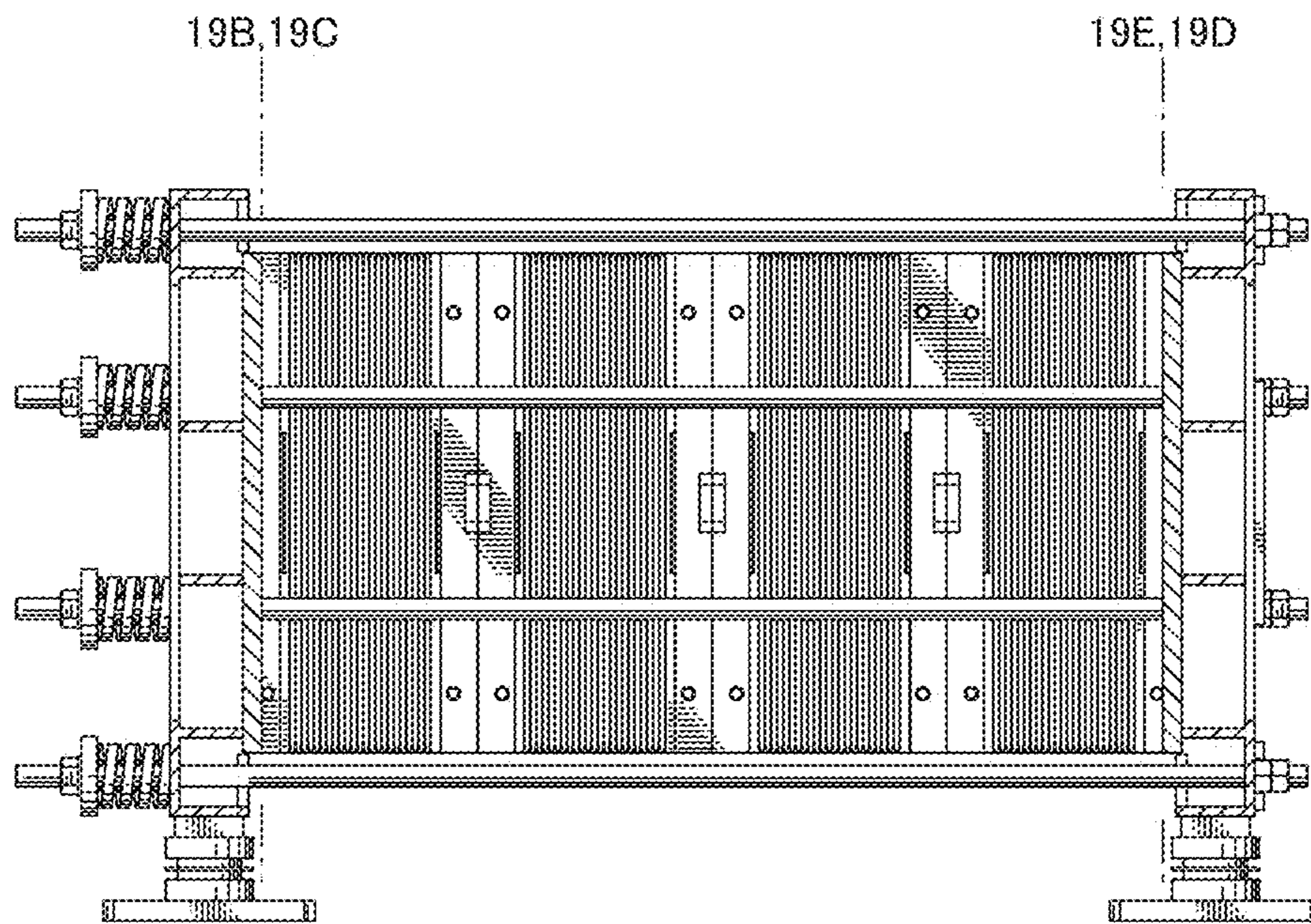


FIG.20

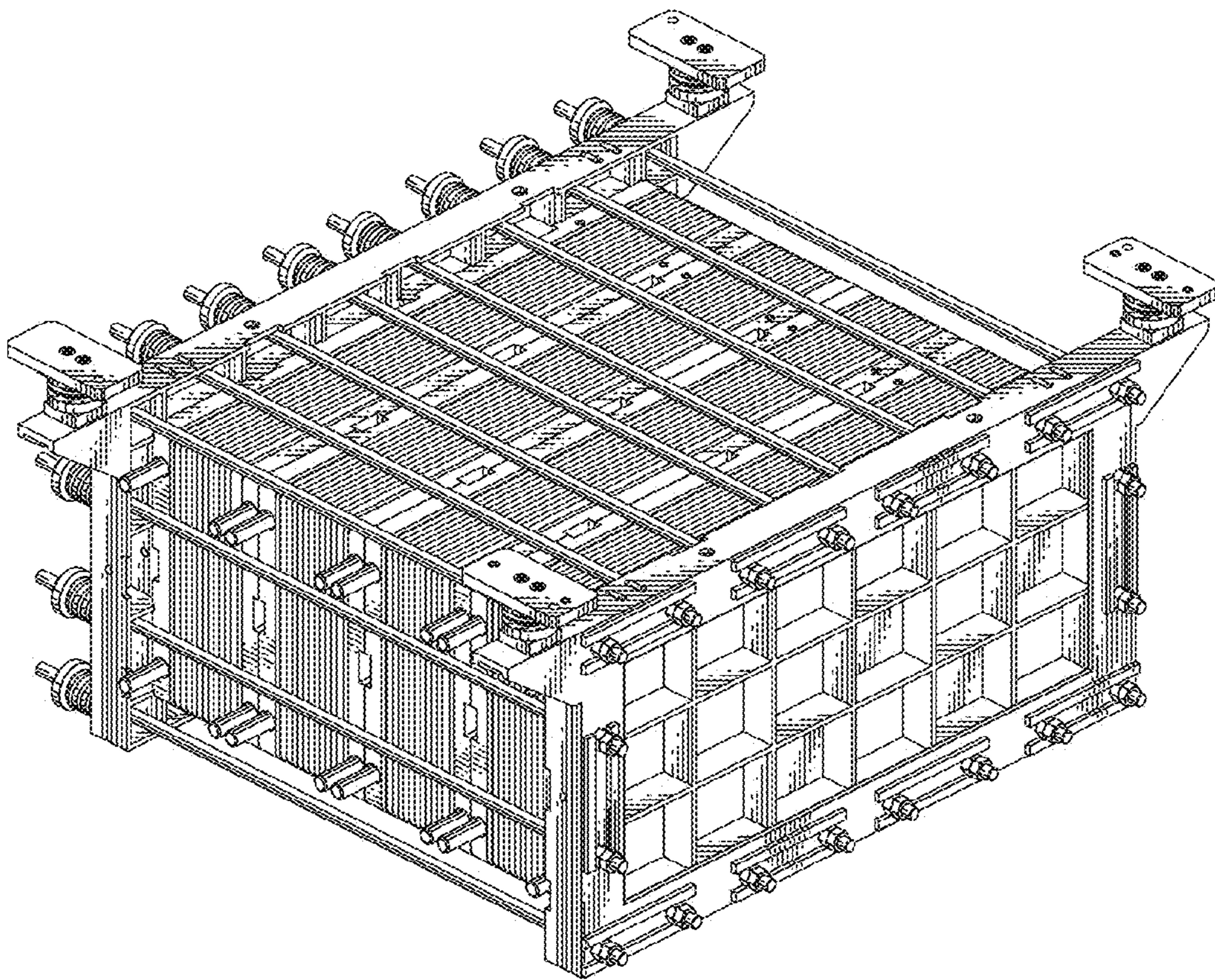


FIG.21

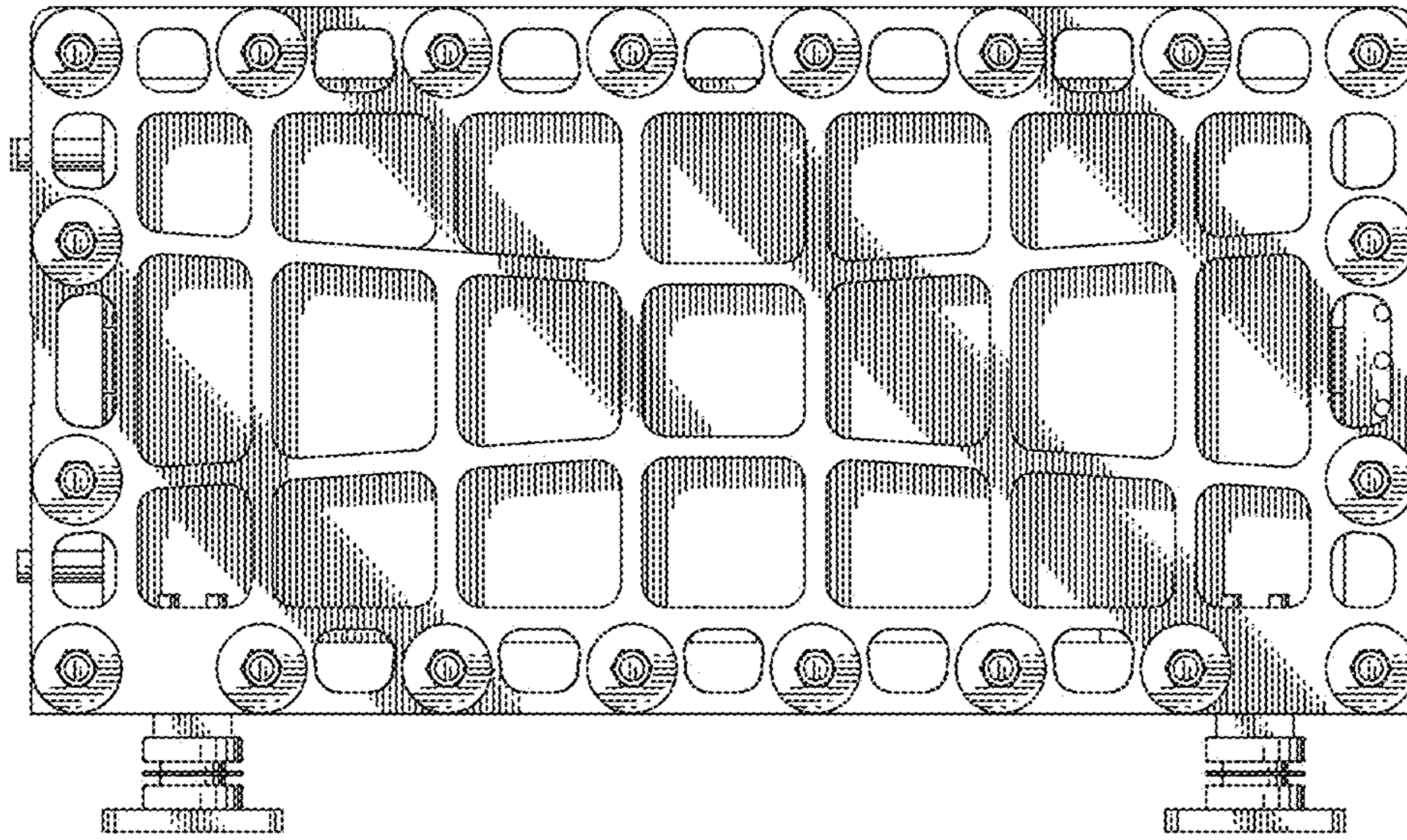


FIG.22

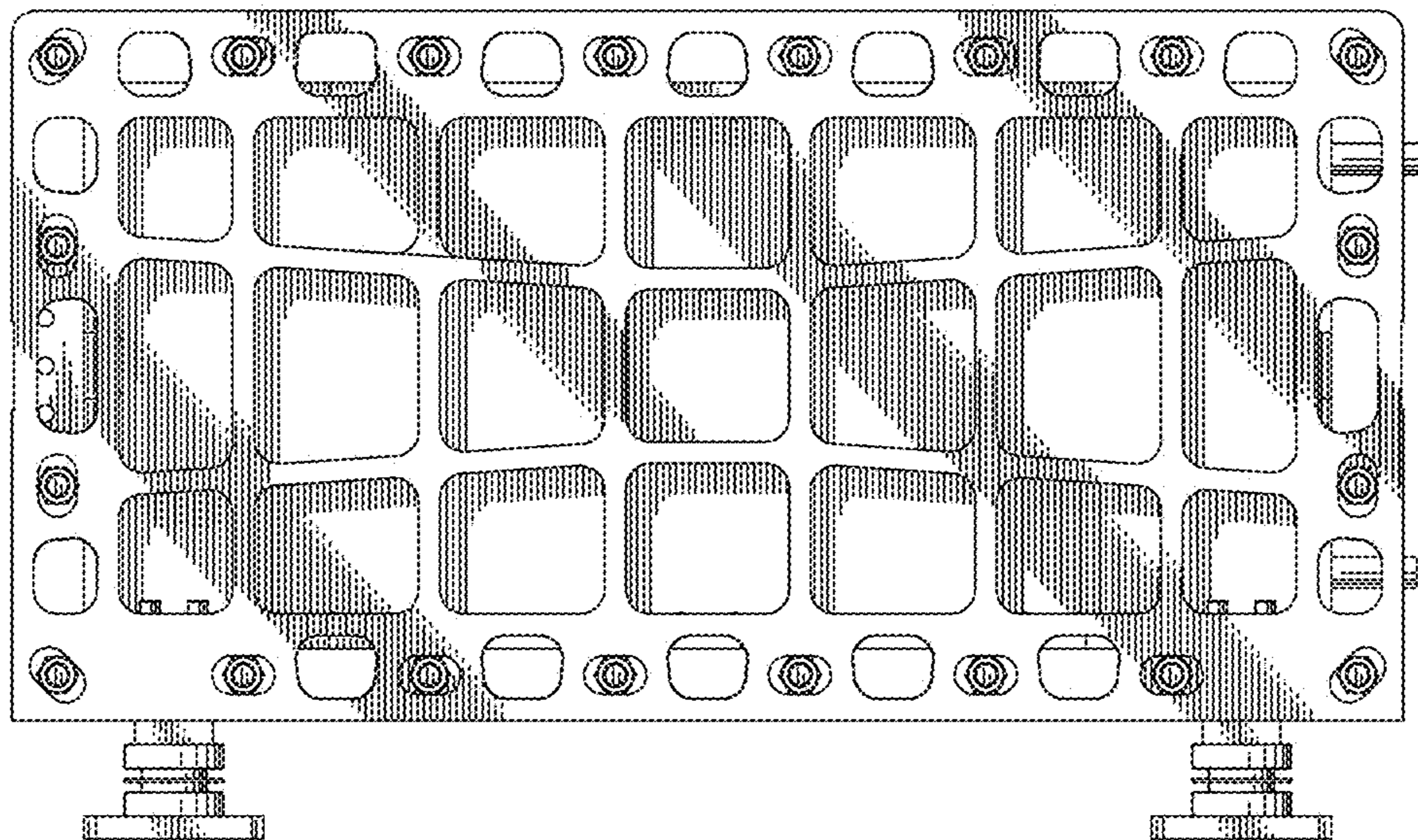


FIG.23

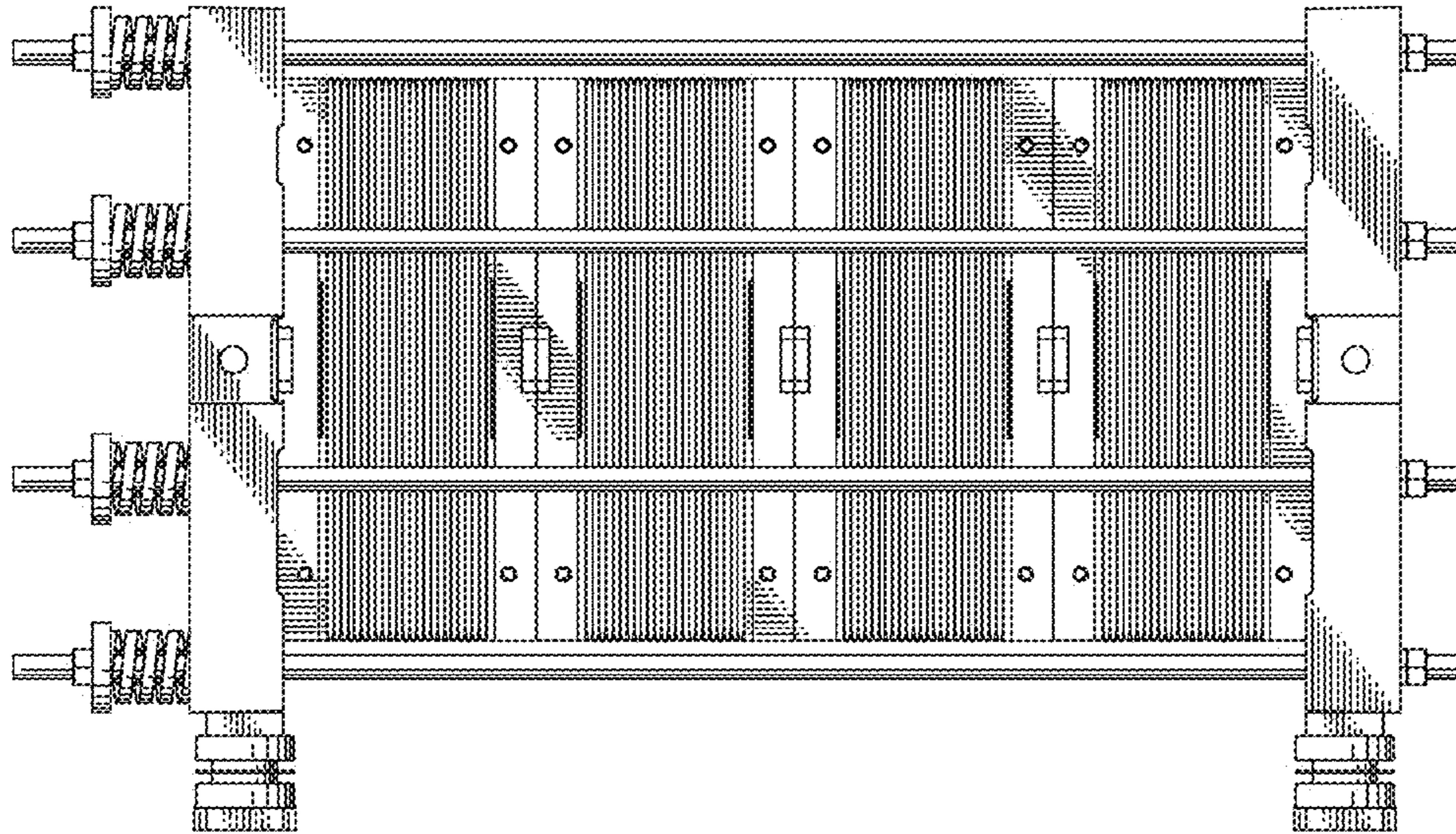


FIG.24

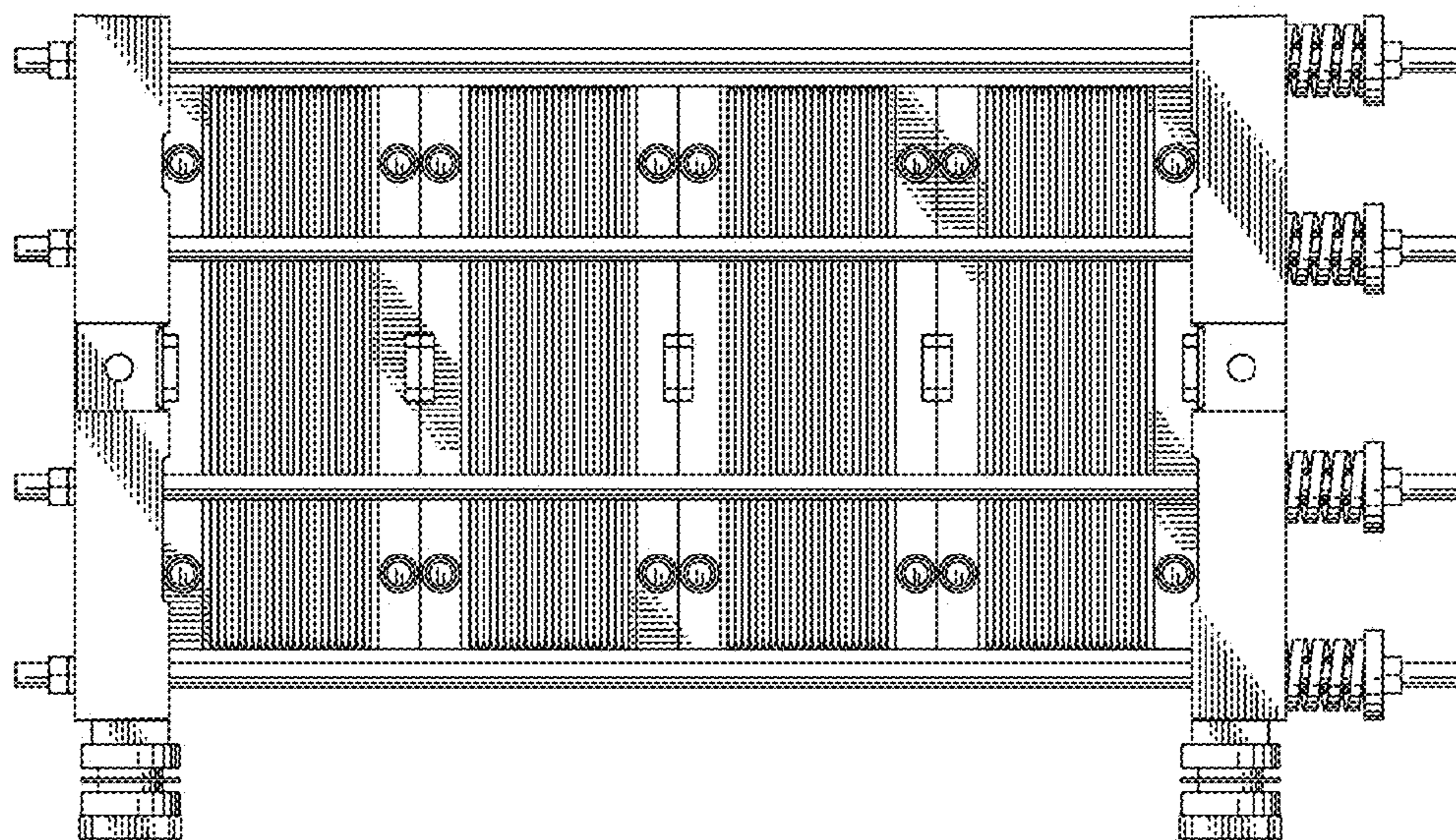


FIG.25

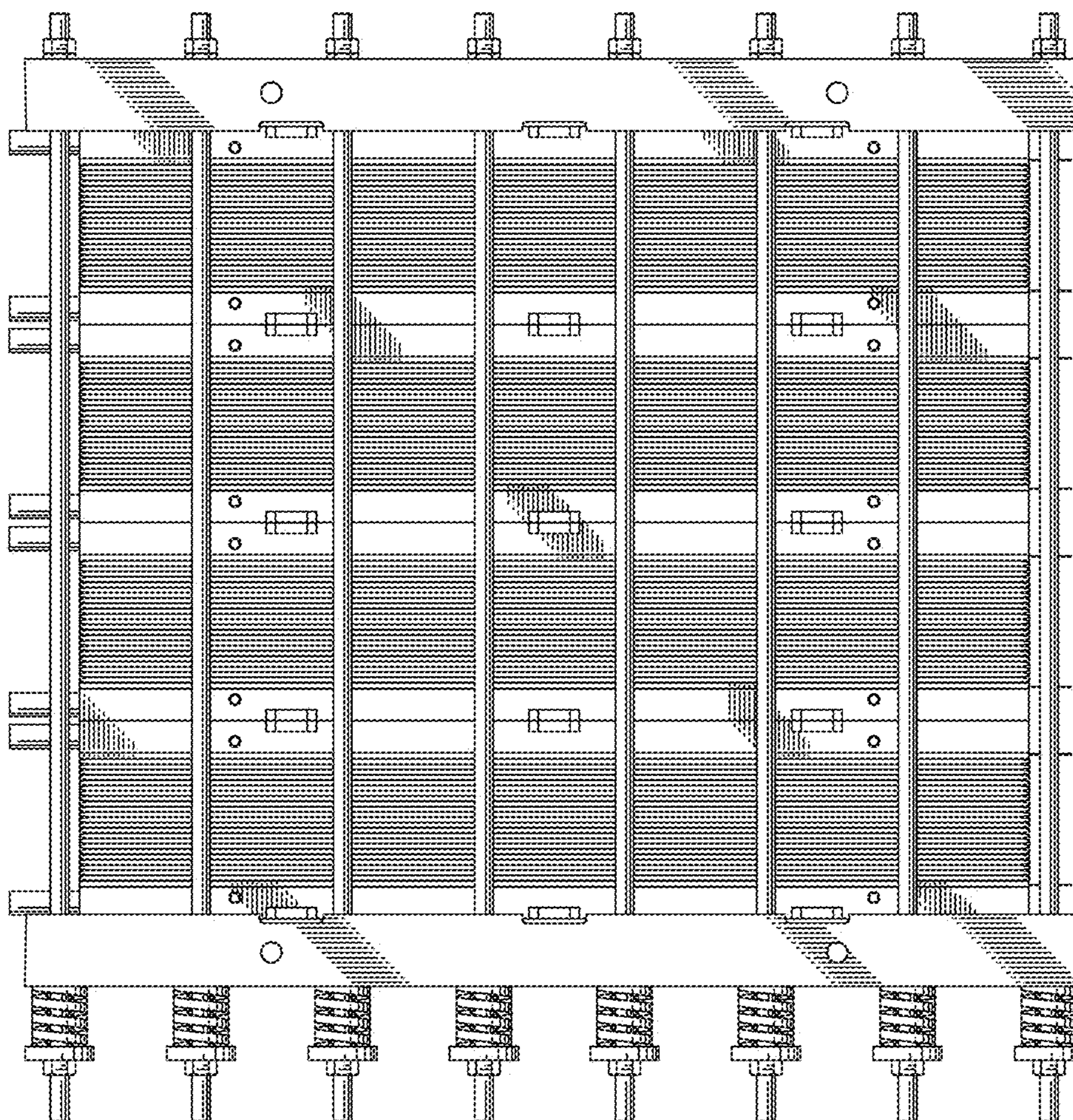


FIG.26

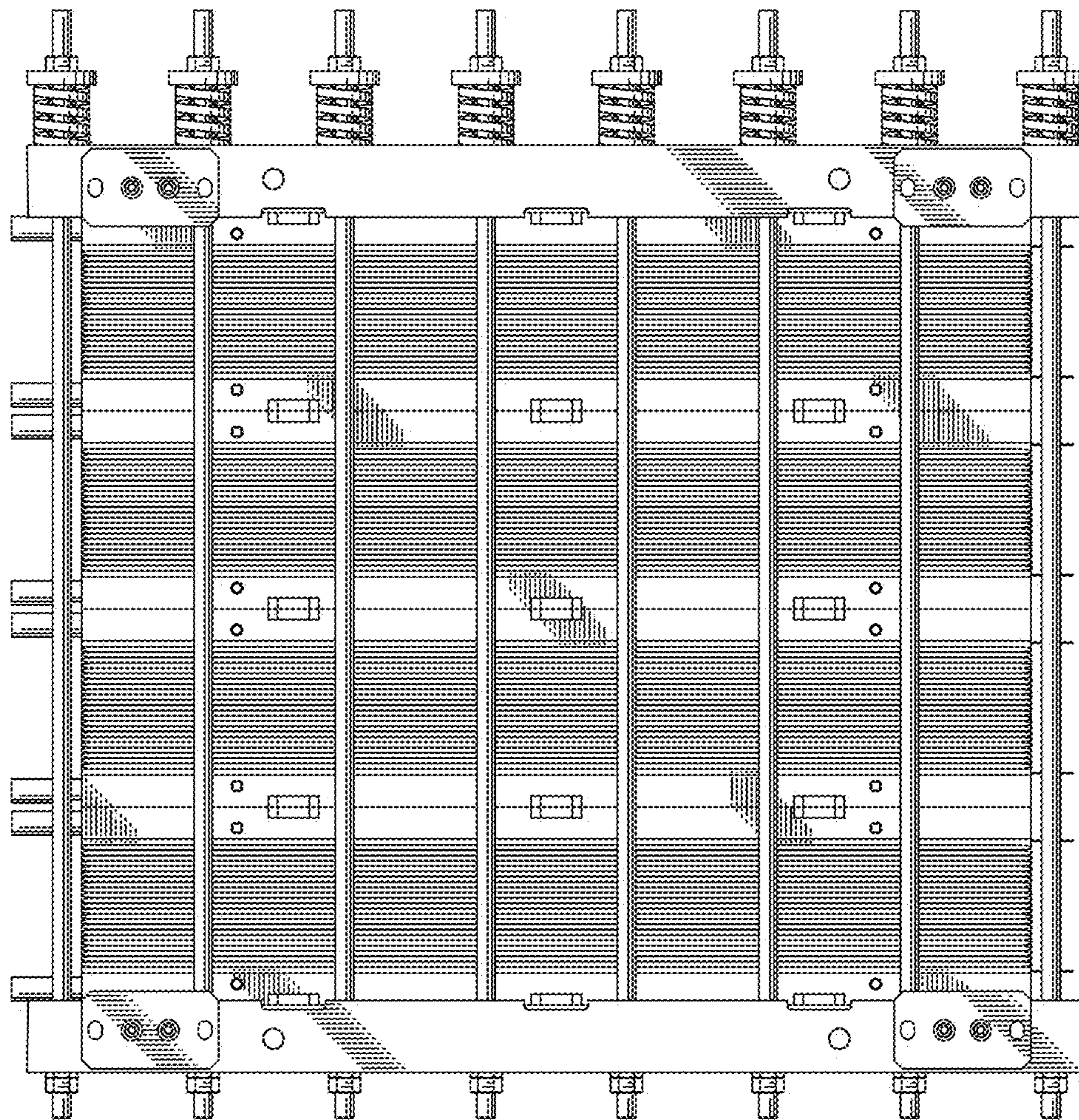


FIG.27

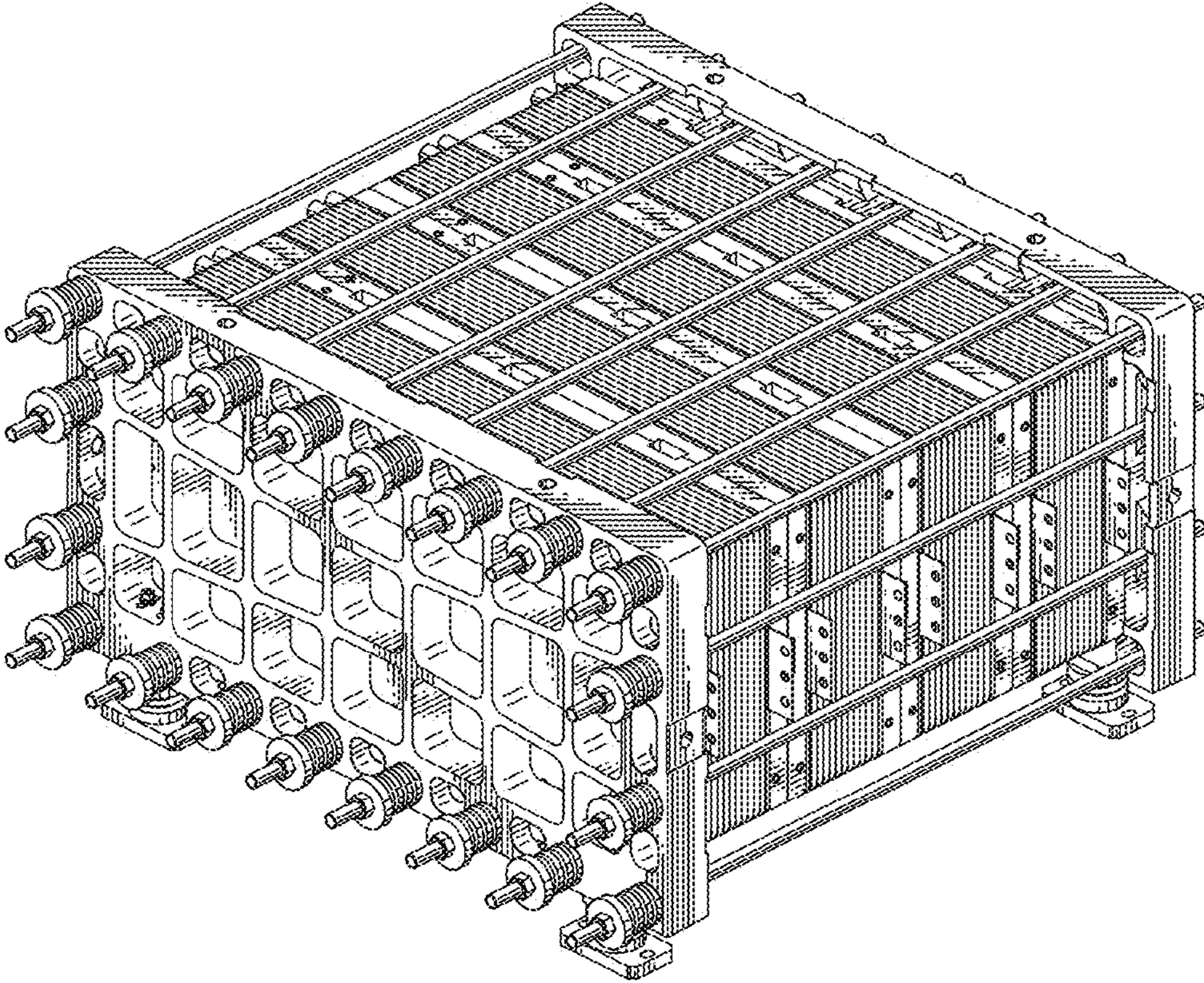


FIG.28

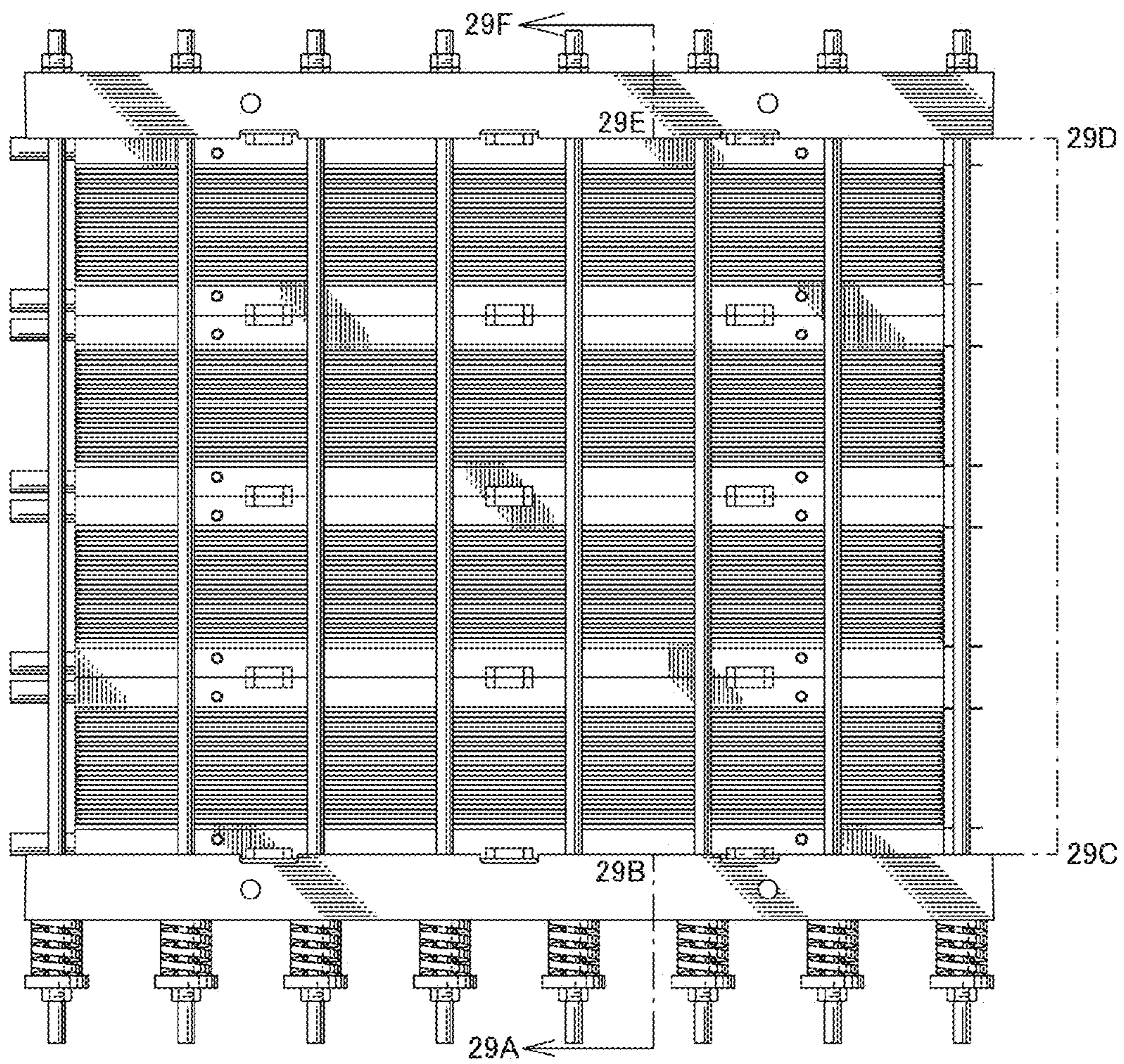




FIG.29

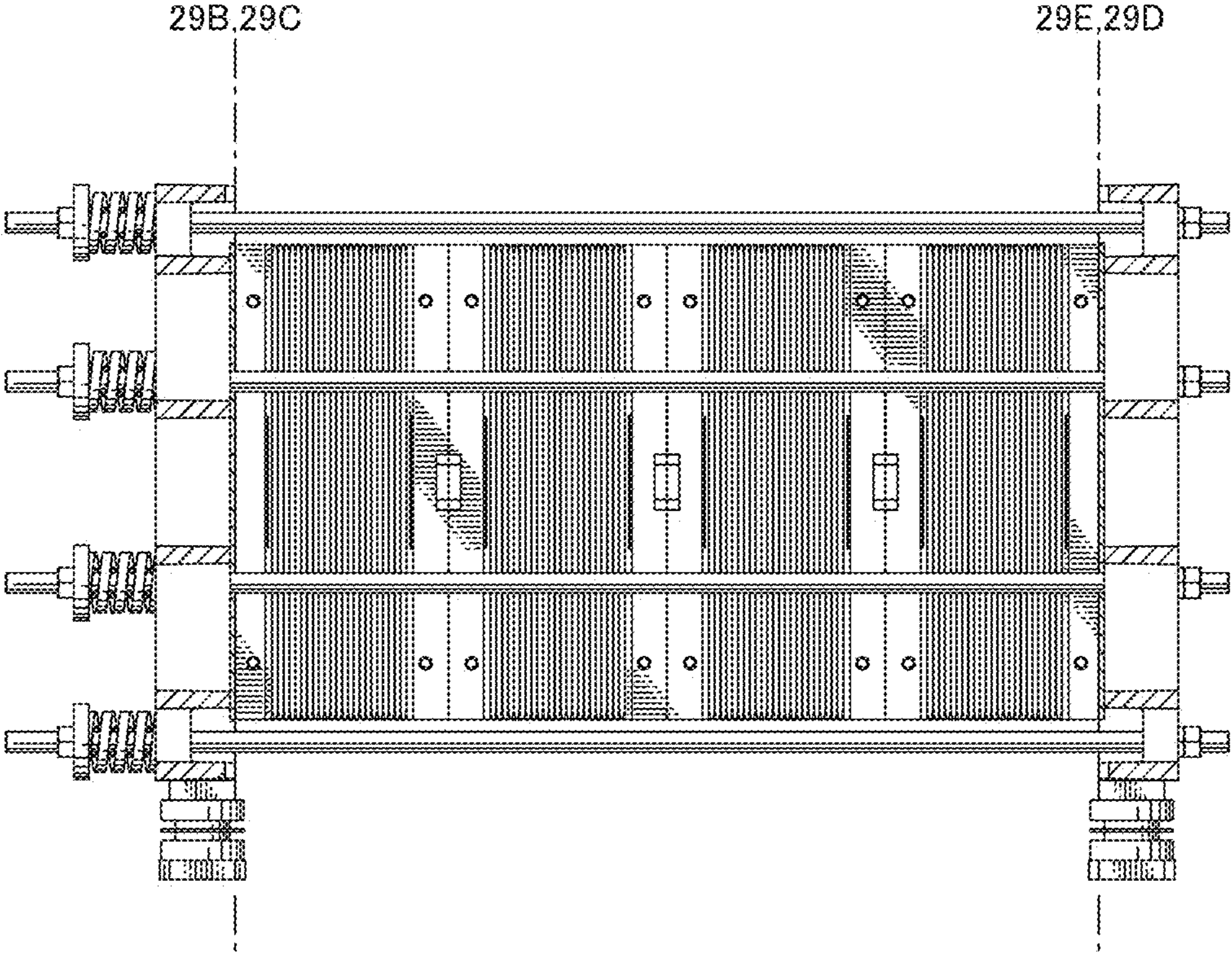


FIG.30

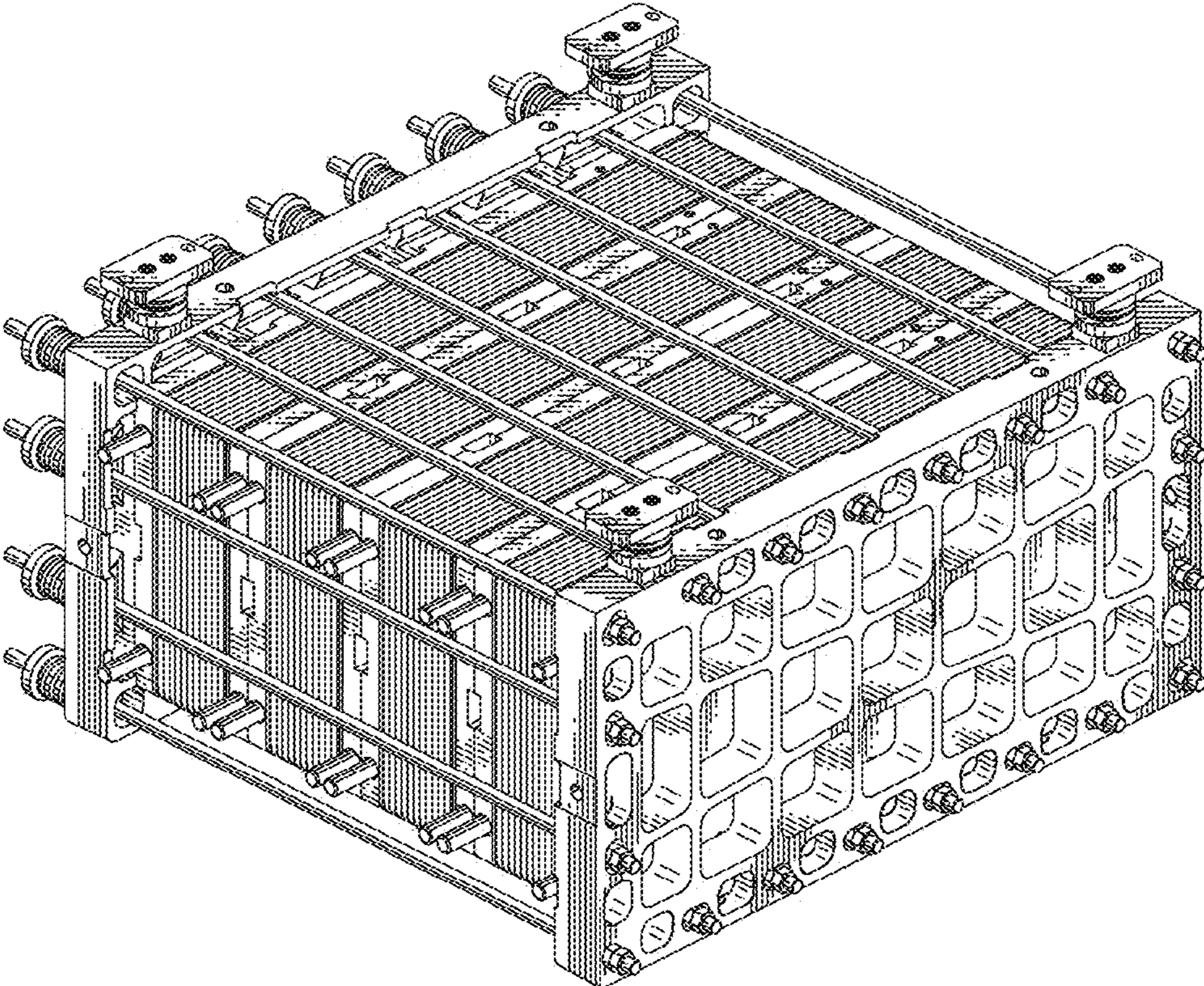


FIG.31

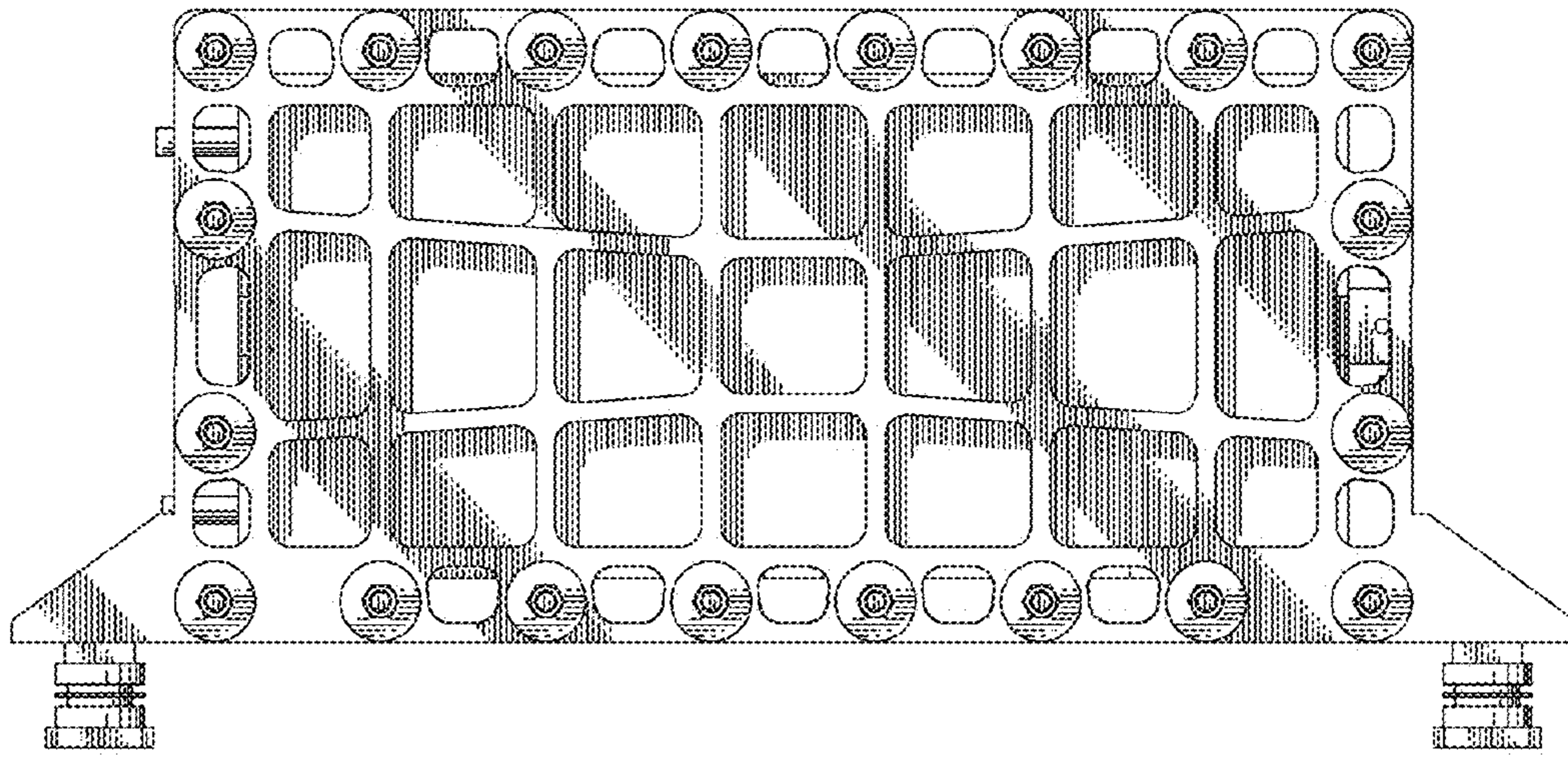


FIG.32

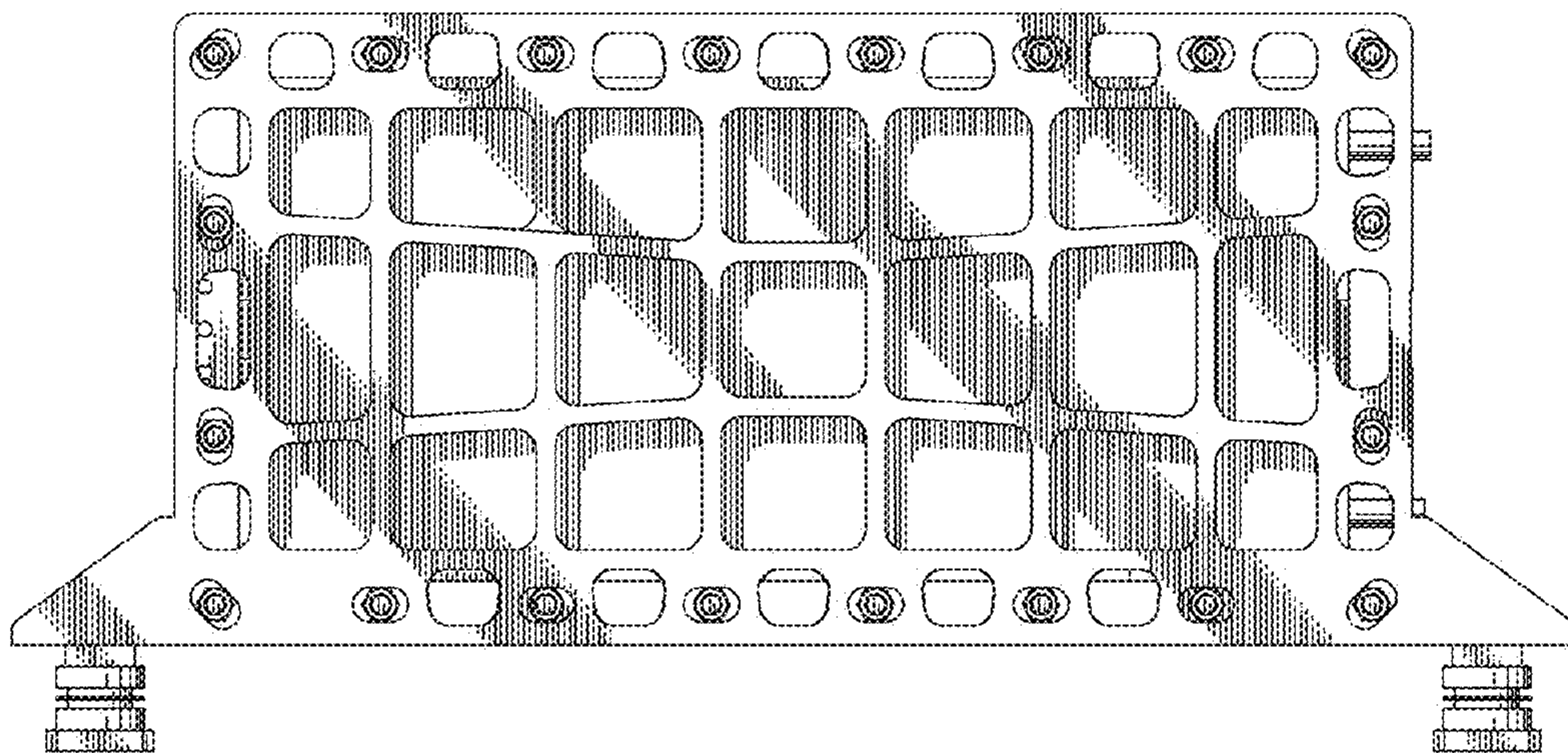


FIG.33

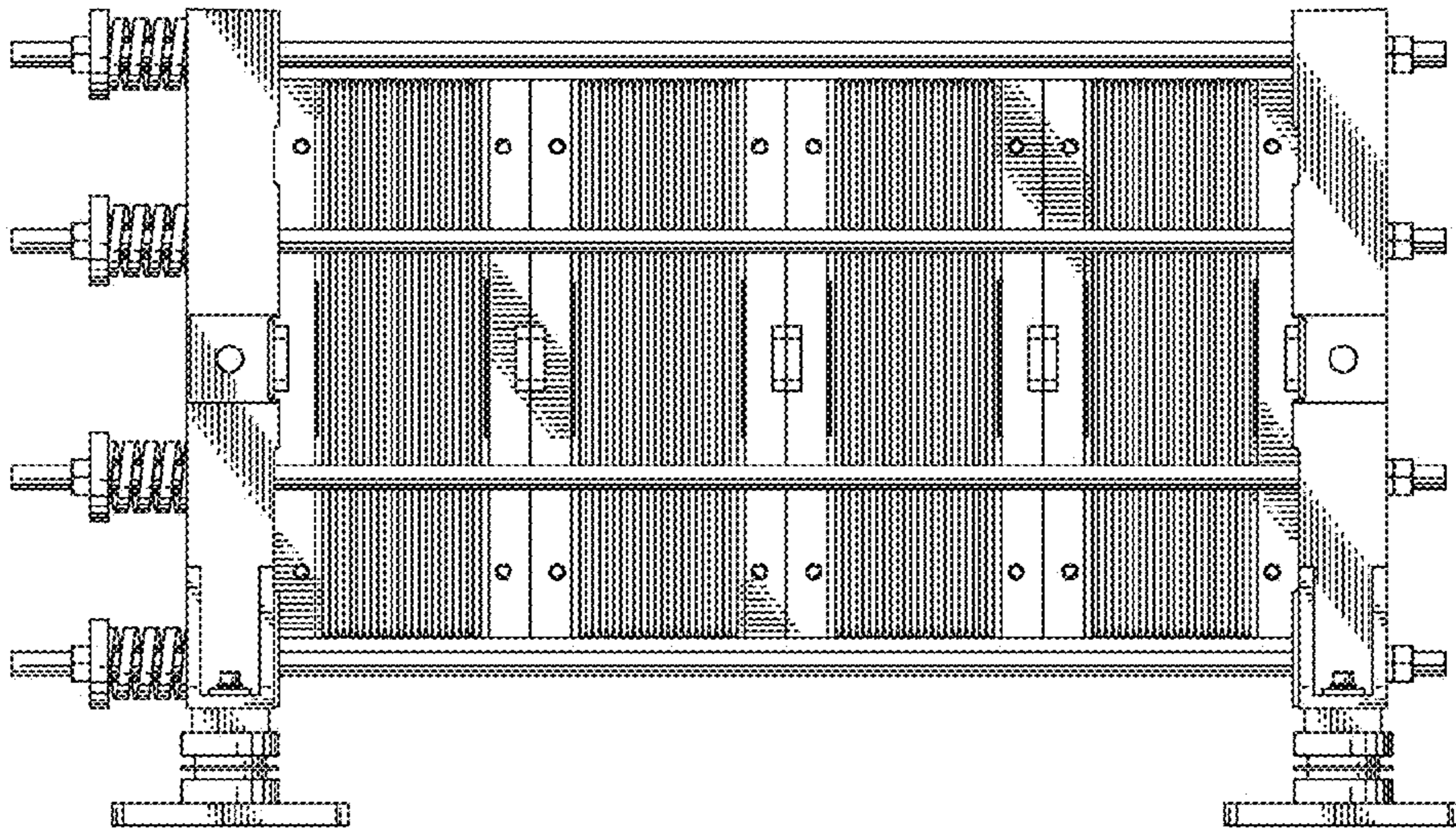


FIG.34

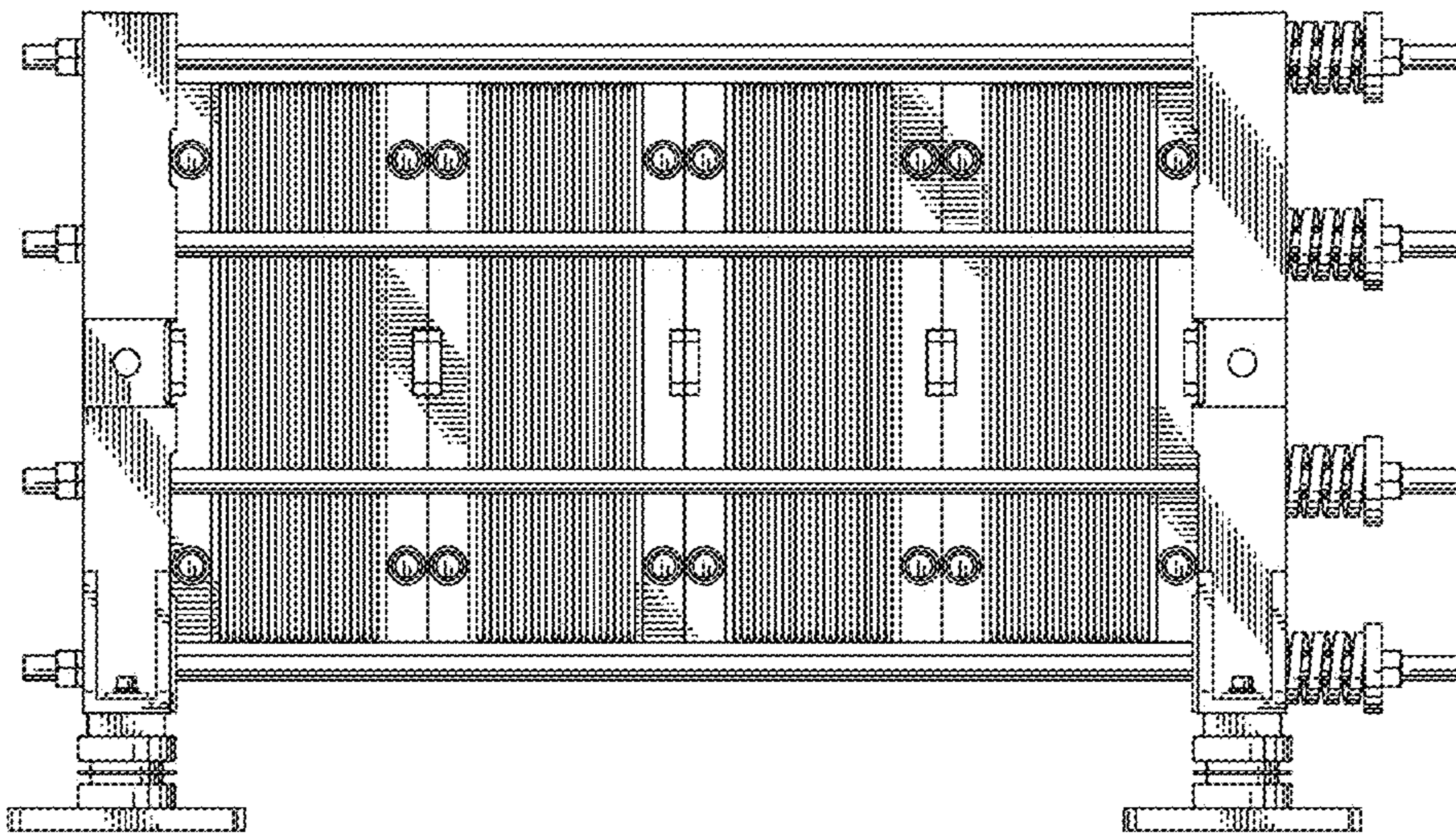


FIG.35

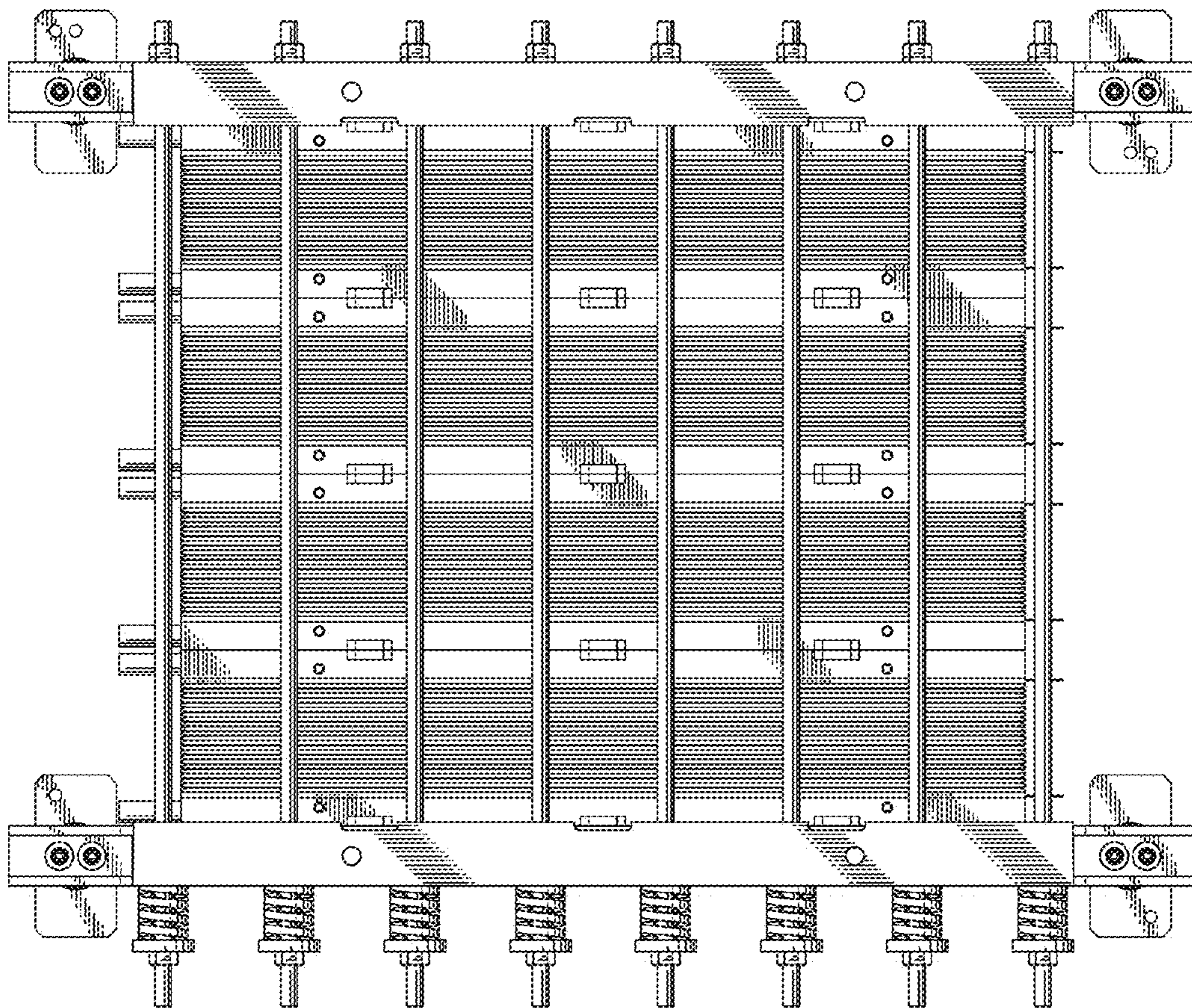


FIG.36

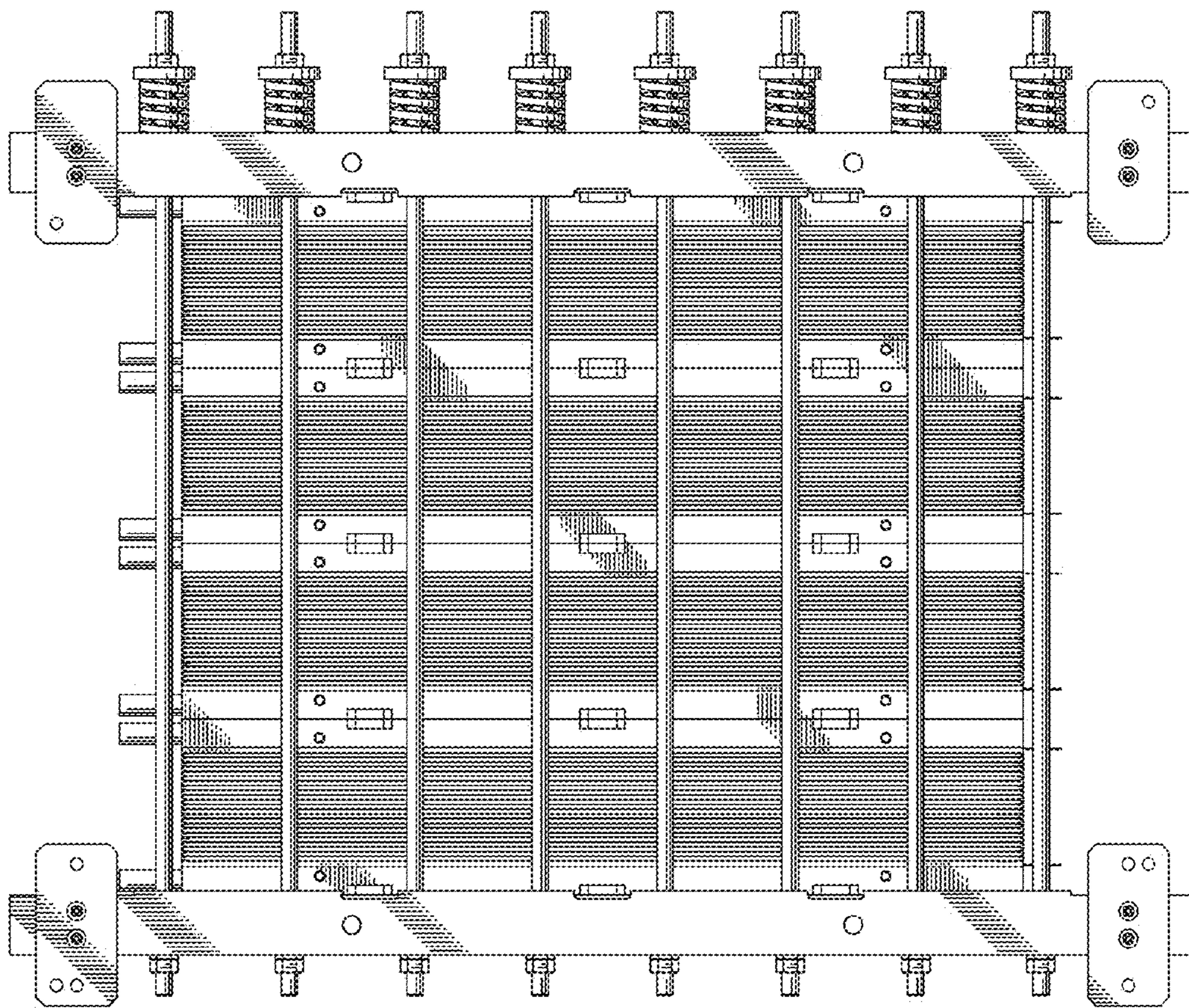


FIG.37

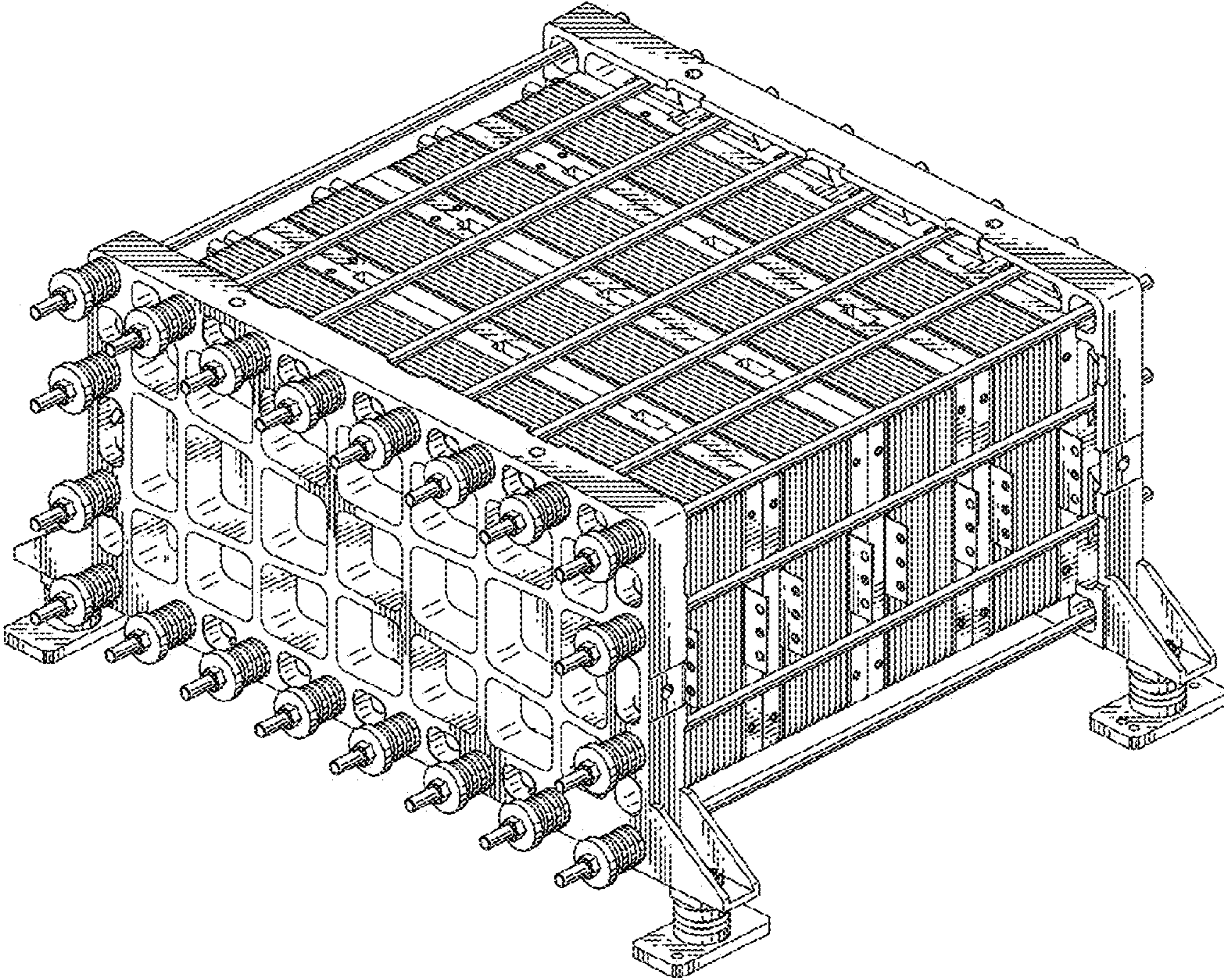


FIG.38

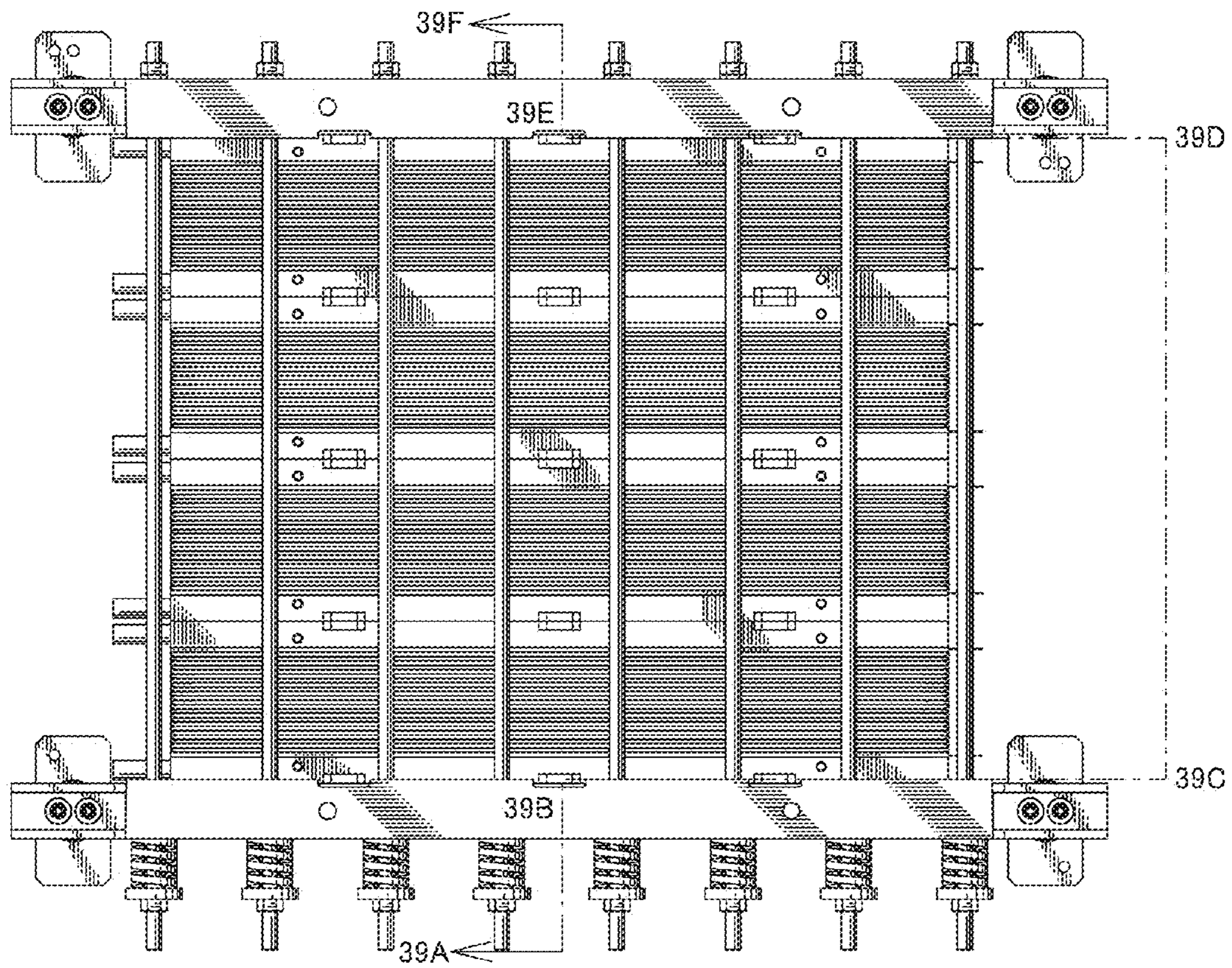




FIG.39

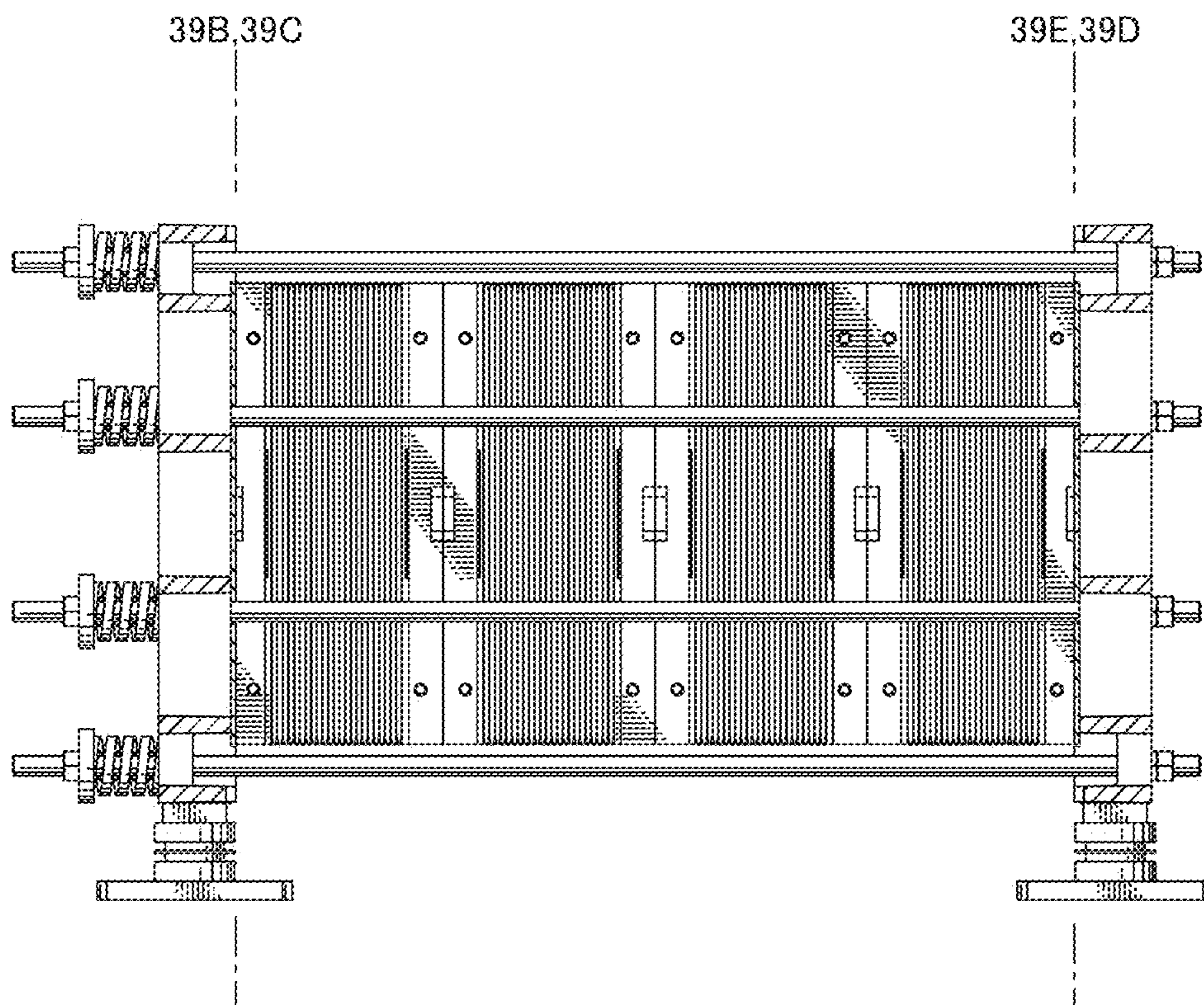


FIG.40

