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(12) **United States Design Patent**
Doba

(10) **Patent No.:** **US D494,551 S**
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(54) **EXHAUST RING FOR MANUFACTURING SEMICONDUCTORS**

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(73) Assignee: **Tokyo Electron Limited**, Tokyo (JP)

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

(21) Appl. No.: **29/183,528**

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(30) **Foreign Application Priority Data**

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(51) **LOC (7) Cl.** **13-03**

(52) **U.S. Cl.** **D13/182**

(58) **Field of Search** D13/182; D8/399;
D15/144; 118/666, 715, 733; 219/444.1;
414/147, 217, 247, 935-941; 438/482, 706,
716, 758; 451/285

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,310,453 A * 5/1994 Fukasawa et al. 438/716
- D404,370 S * 1/1999 Kimura D13/182
- D404,372 S * 1/1999 Ishii D13/182
- 6,068,441 A * 5/2000 Raaijmakers et al. 414/609
- 6,155,915 A * 12/2000 Raeder 451/285
- 2003/0017714 A1 * 1/2003 Taniyama 438/758
- 2003/0124820 A1 * 7/2003 Johnsgard et al. 438/482

- 2004/0025788 A1 * 2/2004 Ogasawara et al. 118/715
- 2004/0056017 A1 * 3/2004 Renken 219/444.1

* cited by examiner

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(57) **CLAIM**

I claim the ornamental design for exhaust ring for manufacturing semiconductors, as shown and described.

DESCRIPTION

FIG. 1 is a front/top perspective view of an exhaust ring for manufacturing semiconductors showing my new design;

FIG. 2 is a top plan view thereof, the bottom plan view being a mirror image and, therefore, not shown;

FIG. 3 is a front elevational view thereof, the left-side elevational view being a mirror image and, therefore, not shown;

FIG. 4 is a right-side elevational view thereof;

FIG. 5 is a rear elevational view thereof;

FIG. 6 is a reference front elevational view thereof;

FIG. 7 is a right-side cross-sectional view taken along line 7—7 in FIG. 6; and,

FIG. 8 is an enlarged, partial, cross-sectional view taken along line 8—8 in FIG. 7.

The exhaust ring for manufacturing semiconductors is used in a vacuum vessel for manufacturing semiconductors.

1 Claim, 2 Drawing Sheets

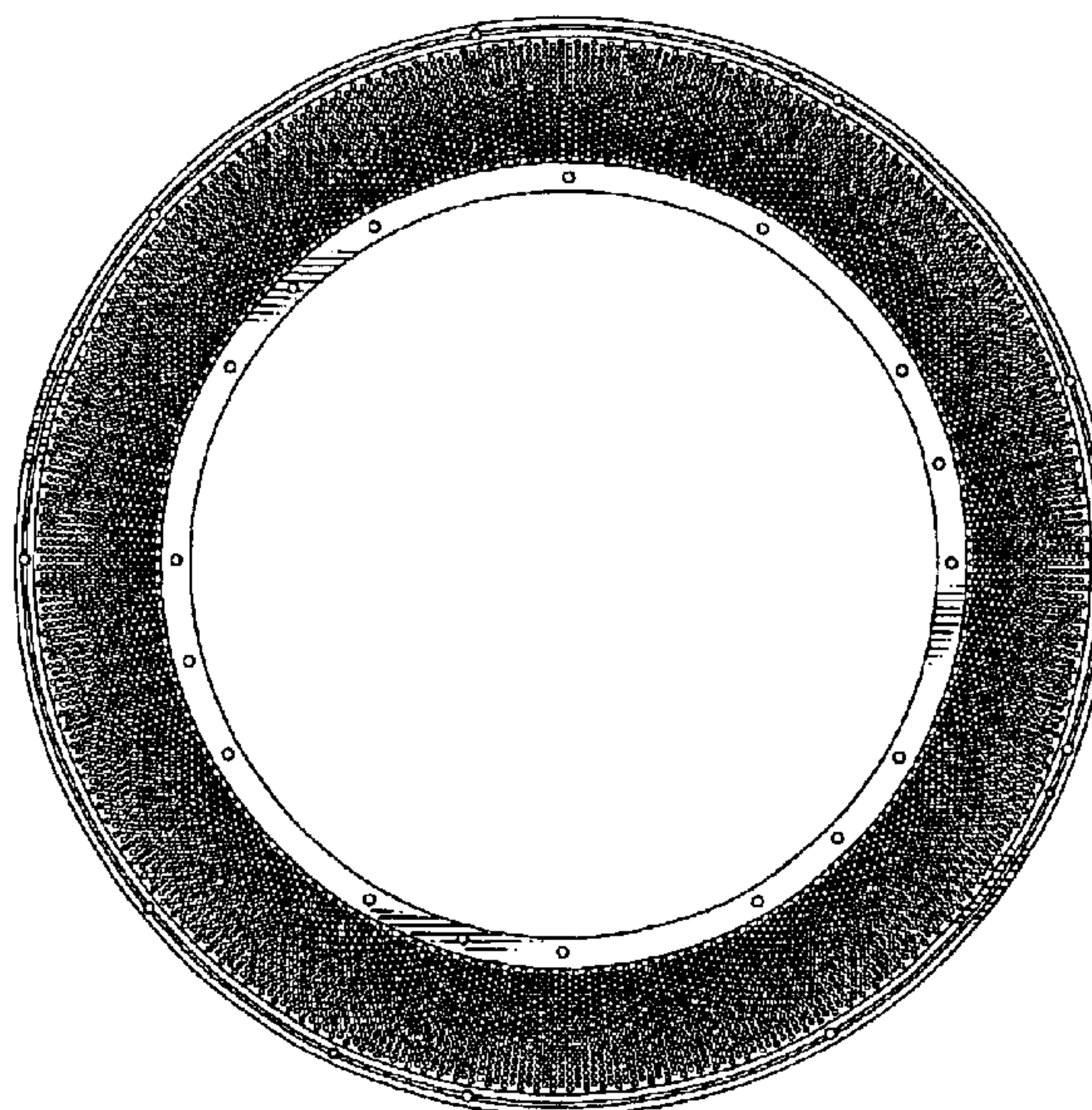
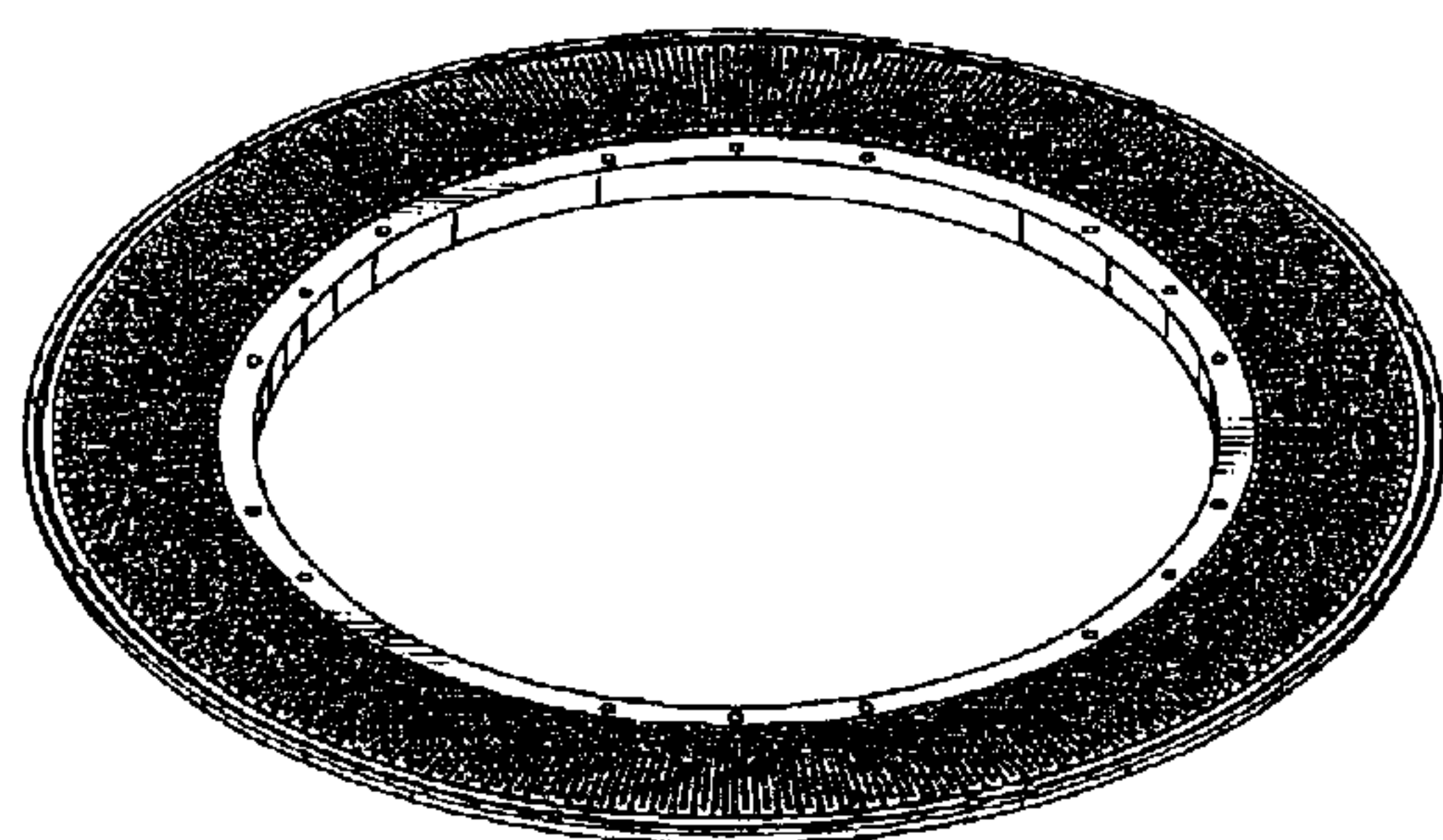


FIG. 1

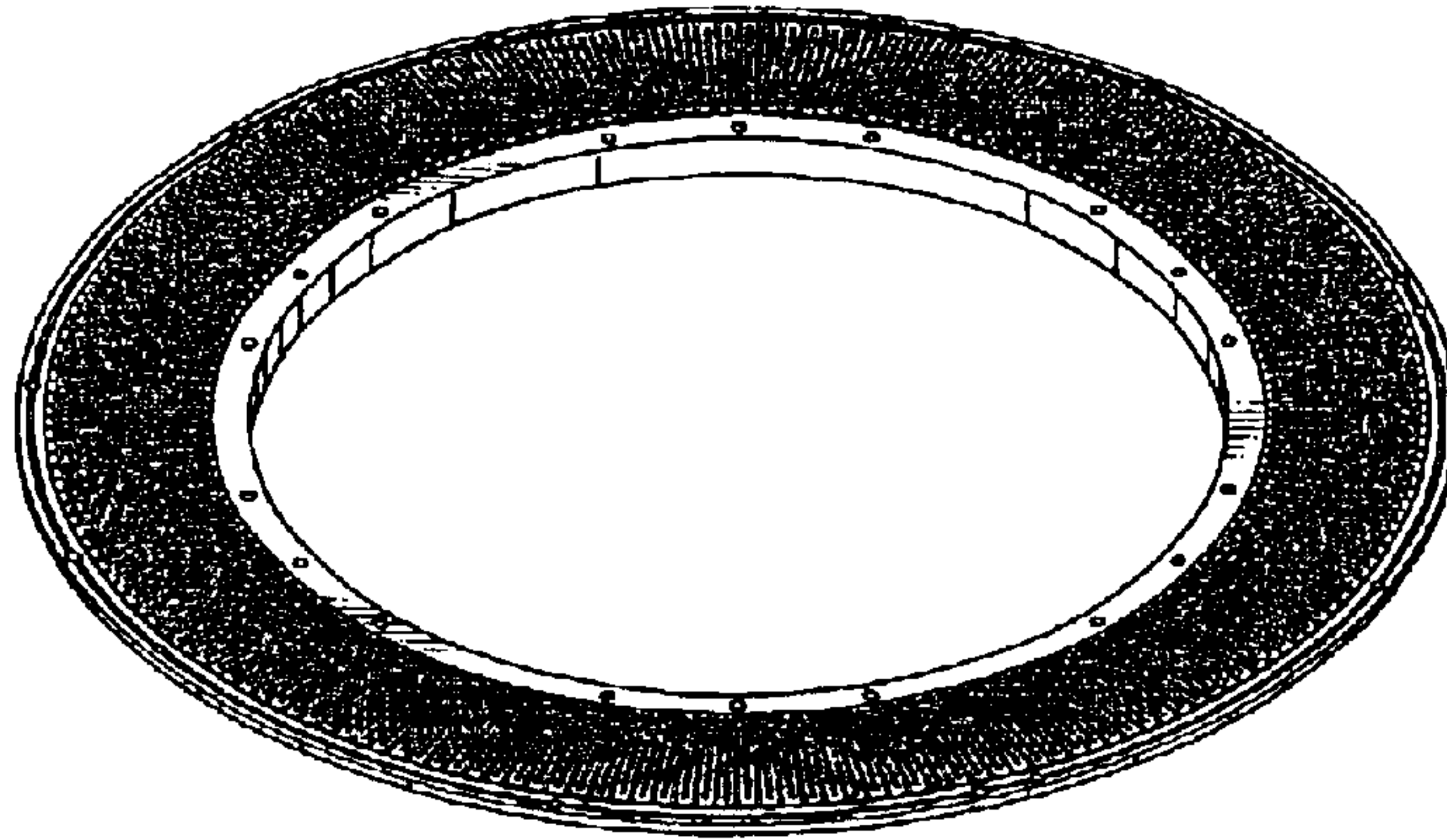


FIG. 2

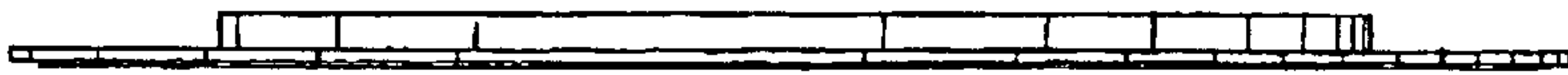


FIG. 3

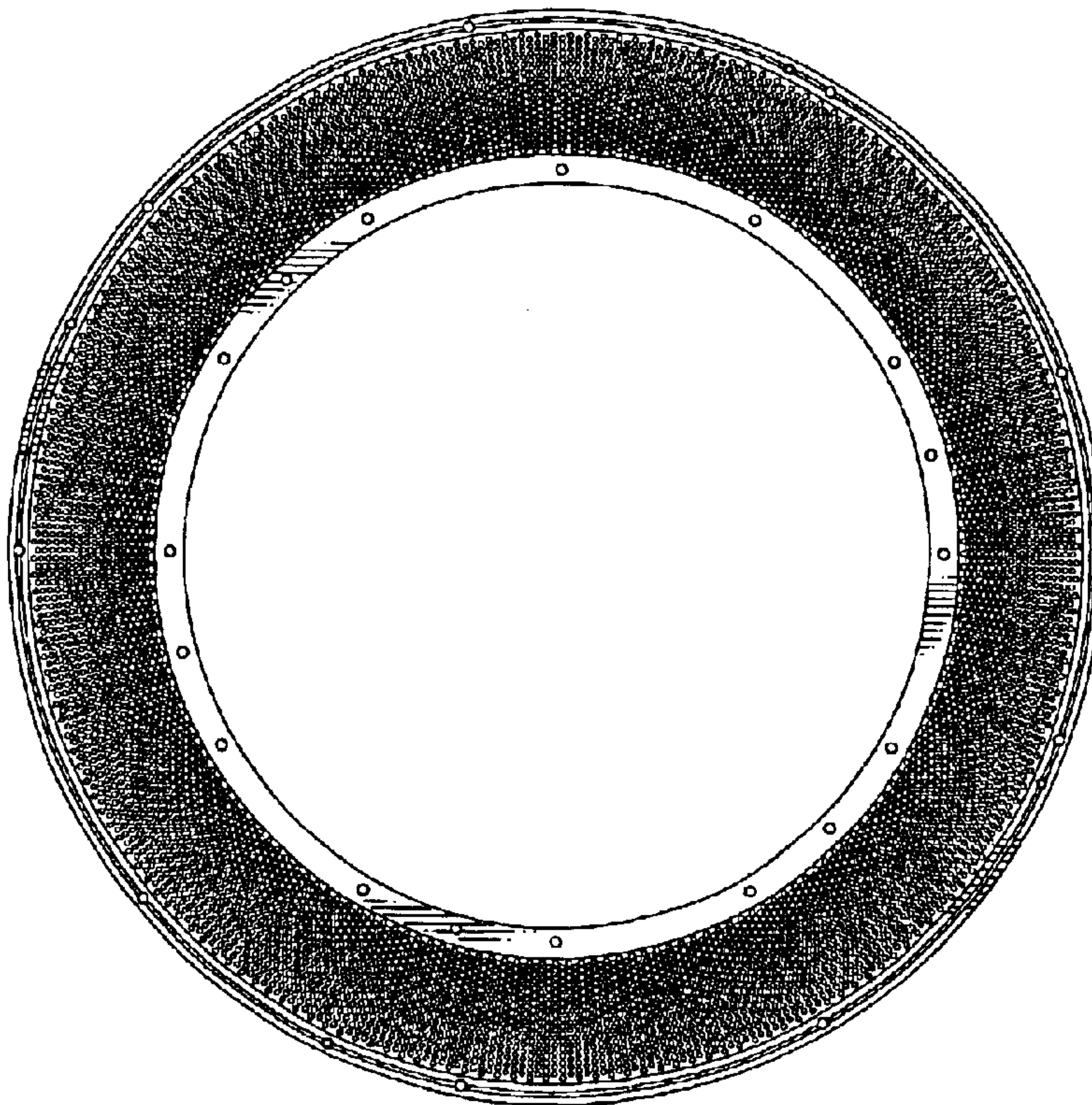


FIG. 4



FIG. 5

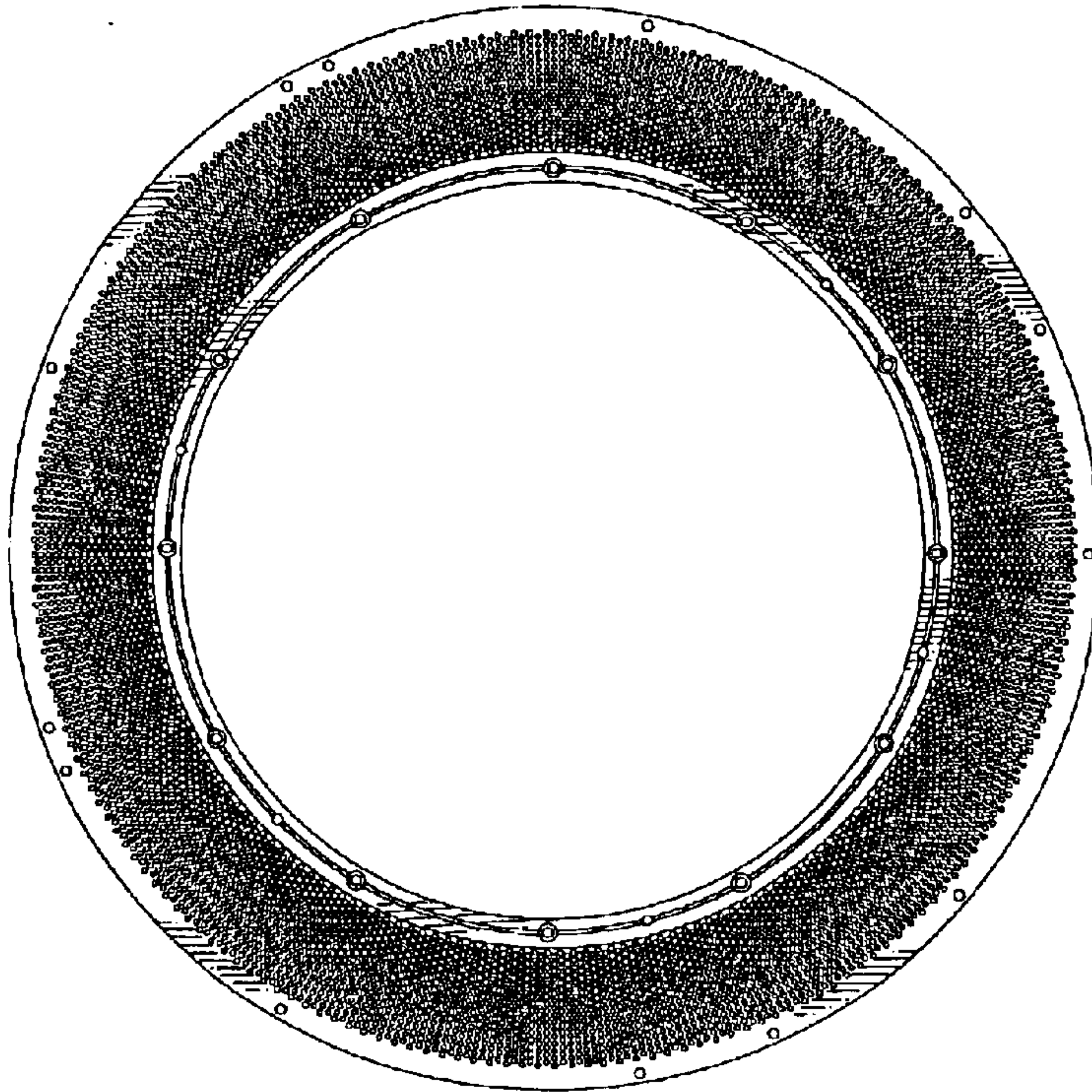


FIG. 8

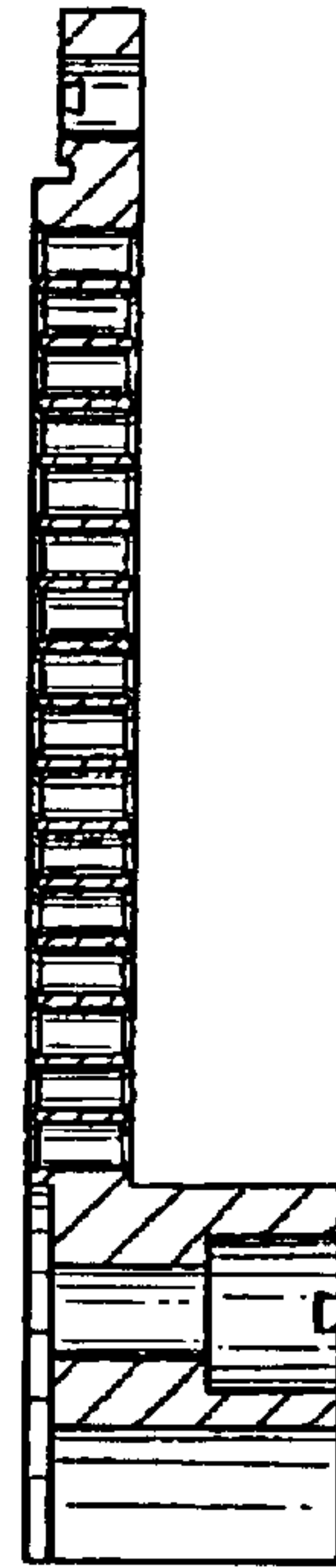


FIG. 6

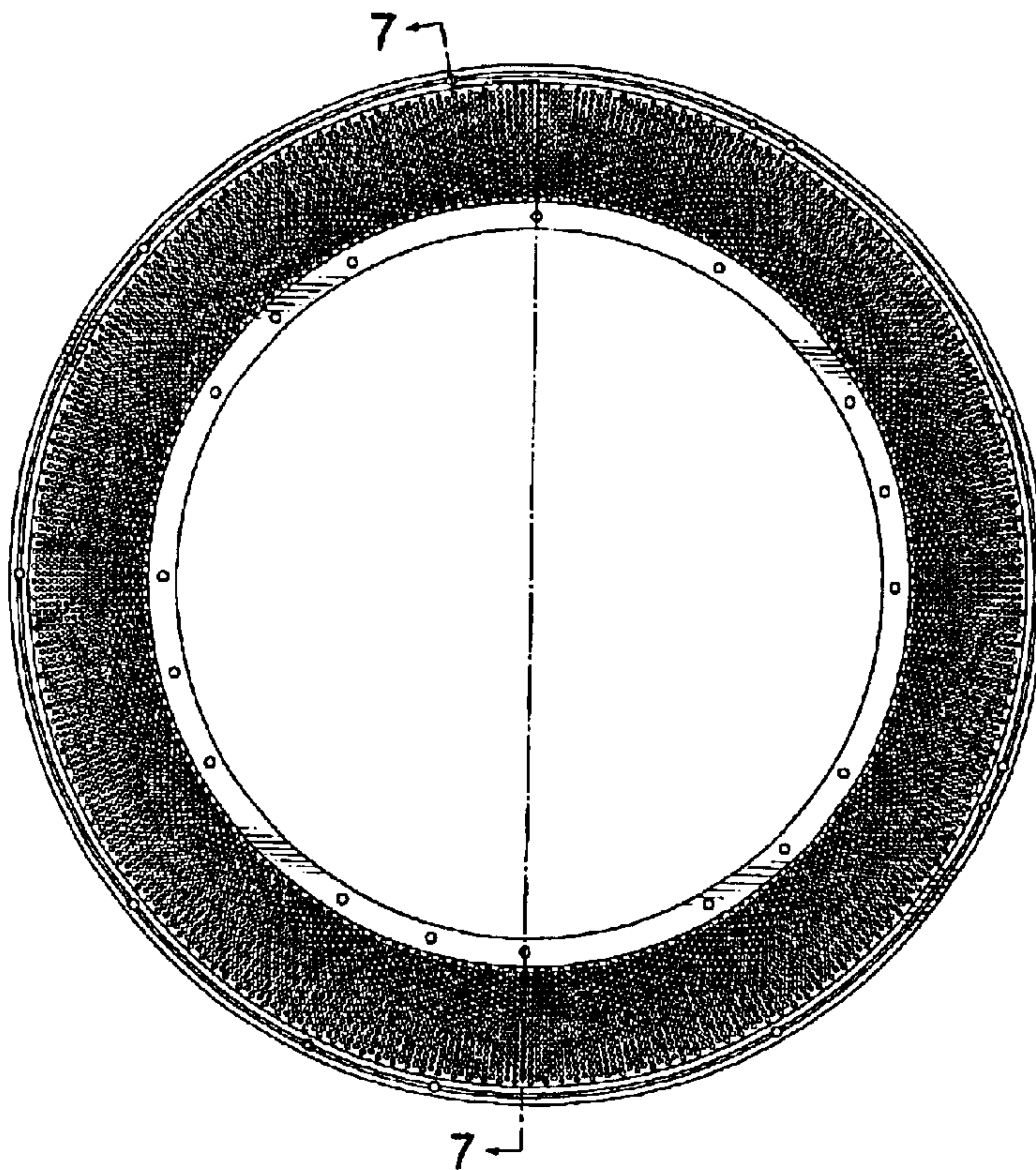


FIG. 7

