



US00D921431S

(12) **United States Design Patent** (10) **Patent No.:** **US D921,431 S**  
**Krishnan et al.** (45) **Date of Patent:** **\*\* Jun. 8, 2021**

(54) **MULTI-FILAMENT HEATER ASSEMBLY**  
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(72) Inventors: **Sandeep Krishnan**, Jersey City, NJ (US); **Bojan Mitrovic**, Somerset, NJ (US); **Aniruddha Bagchi**, Belle Mead, NJ (US); **Alexander Gurary**, Bridgewater, NJ (US); **Chenghung Paul Chang**, Sayreville, NJ (US); **Ian Kunsch**, Somerset, NJ (US); **Matthew J. Van Doren**, Plainview, NY (US)

Intellectual Property Administration, Beijing, People's Republic of China.

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(57) **CLAIM**

The ornamental design for a multi-filament heater assembly, as shown and described.

(\*\*) Term: **15 Years**  
(21) Appl. No.: **29/685,939**  
(22) Filed: **Apr. 1, 2019**  
(51) **LOC (13) Cl.** ..... **07-02**  
(52) **U.S. Cl.**  
USPC ..... **D7/409**  
(58) **Field of Classification Search**  
USPC ..... D7/323, 332, 335-337, 354-355,  
D7/359-364, 387-388, 402, 407-409;  
(Continued)

**DESCRIPTION**

FIG. 1 is a top perspective view of a first embodiment of an ornamental design for a multi-filament heater assembly; FIG. 2 is a bottom perspective view of the first embodiment thereof; FIG. 3 is a front view of the first embodiment thereof; FIG. 4 is a rear view of the first embodiment thereof; FIG. 5 is a left view of the first embodiment thereof; FIG. 6 is a right view of the first embodiment thereof; FIG. 7 is a top view of the first embodiment thereof; and FIG. 8 is a bottom view of the first embodiment thereof. FIG. 9 is a top perspective view of a second embodiment of an ornamental design for a multi-filament heater assembly; FIG. 10 is a bottom perspective view of the second embodiment thereof; FIG. 11 is a front view of the second embodiment thereof; FIG. 12 is a rear view of the second embodiment thereof; FIG. 13 is a left view of the second embodiment thereof; FIG. 14 is a right view of the second embodiment thereof; FIG. 15 is a top view of the second embodiment thereof; and FIG. 16 is a bottom view of the second embodiment thereof. FIG. 17 is a top perspective view of the outermost filament of the first embodiment of an ornamental design for a multi-filament heater assembly; FIG. 18 is a bottom perspective view thereof; FIG. 19 is a front view thereof; FIG. 20 is a rear view thereof; FIG. 21 is a left view thereof;

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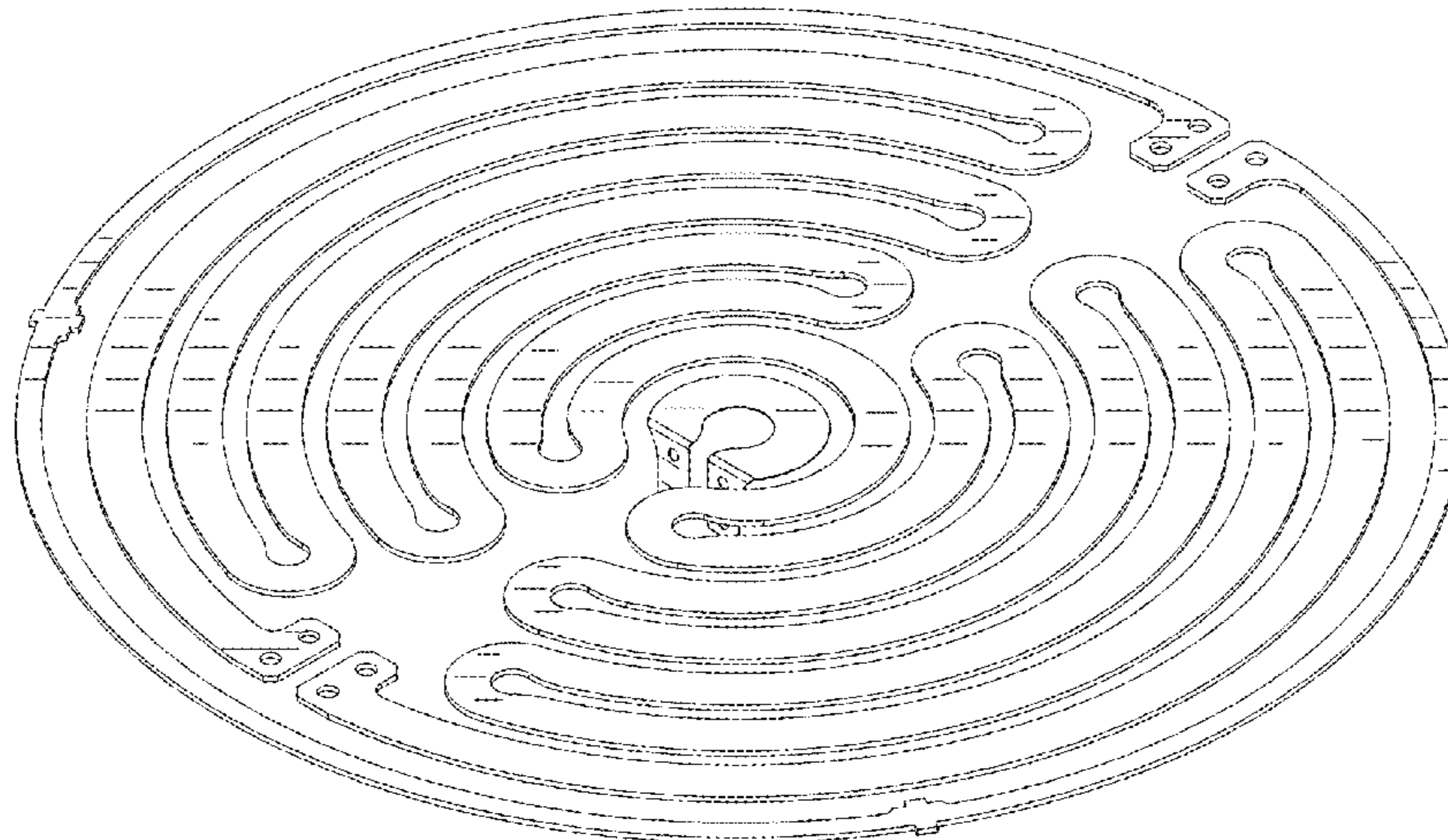


FIG. 22 is a right view thereof;  
 FIG. 23 is a top view thereof;  
 FIG. 24 is a bottom view thereof.  
 FIG. 25 is a top perspective view of the outermost filament of the second embodiment of an ornamental design for a multi-filament heater assembly;  
 FIG. 26 is a bottom perspective view thereof;  
 FIG. 27 is a front view thereof;  
 FIG. 28 is a rear view thereof;  
 FIG. 29 is a left view thereof;  
 FIG. 30 is a right view thereof;  
 FIG. 31 is a top view thereof;  
 FIG. 32 is a bottom view thereof.  
 FIG. 33 is a top perspective view of the innermost filament of the ornamental design for a multi-filament heater assembly;  
 FIG. 34 is a bottom perspective view thereof;  
 FIG. 35 is a front view thereof;  
 FIG. 36 is a rear view thereof;  
 FIG. 37 is a left view thereof;  
 FIG. 38 is a right view thereof;  
 FIG. 39 is a top view thereof;  
 FIG. 40 is a bottom view thereof.  
 FIG. 41 is a top perspective view of central filament clip of the ornamental design for a multi-filament heater assembly;  
 FIG. 42 is a bottom perspective view thereof;  
 FIG. 43 is a front view thereof;  
 FIG. 44 is a rear view thereof;  
 FIG. 45 is a left view thereof;  
 FIG. 46 is a right view thereof;  
 FIG. 47 is a top view thereof; and,  
 FIG. 48 is a bottom view thereof.

**1 Claim, 27 Drawing Sheets**

(58) **Field of Classification Search**

USPC ..... D13/112; D21/343; D23/417, 419;  
 D29/119  
 CPC .... A21B 1/52; A21B 3/00; A21B 3/13; A21B  
 3/15; A21B 5/00; A21B 5/02; A23N  
 12/06; A23N 12/08; A23N 12/10; A47J  
 37/00; A47J 37/04; A47J 37/041; A47J

37/042; A47J 37/06; A47J 37/0688; A47J  
 37/0694; A47J 37/07; A47J 37/0704;  
 A47J 37/10; A47J 37/067; A47J 47/16;  
 A47J 47/20; A47J 2037/00; A47J  
 2037/06; A47J 2037/0611; A47J 2037/07;  
 A47J 2037/0786; A47J 2037/0795; F24C  
 15/10; F24C 15/12; F24C 15/14; F24C  
 15/16; F24C 15/18; F24C 15/102; F24C  
 15/164; H05B 3/748; H05B 6/08

See application file for complete search history.

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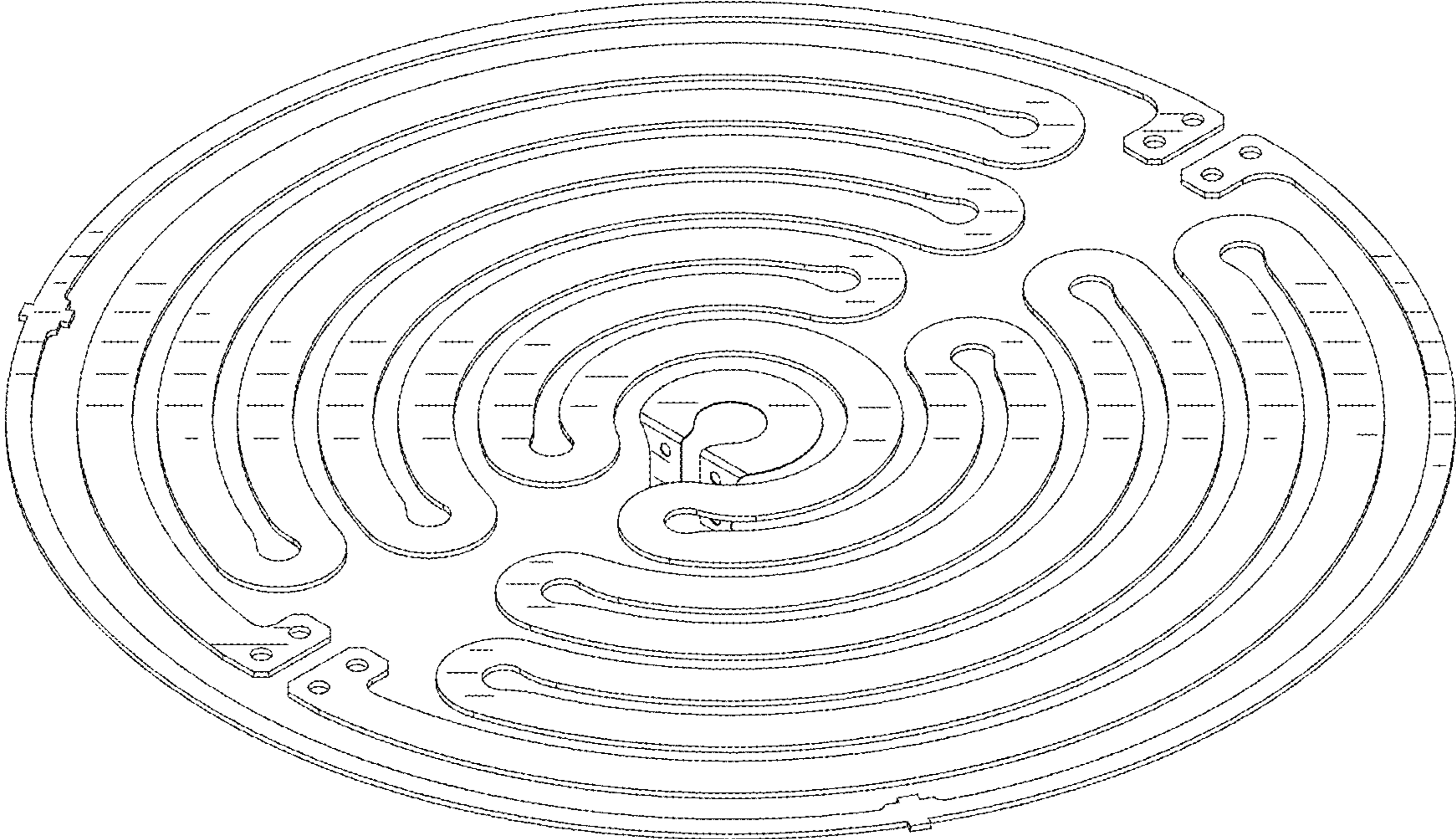


FIG. 1

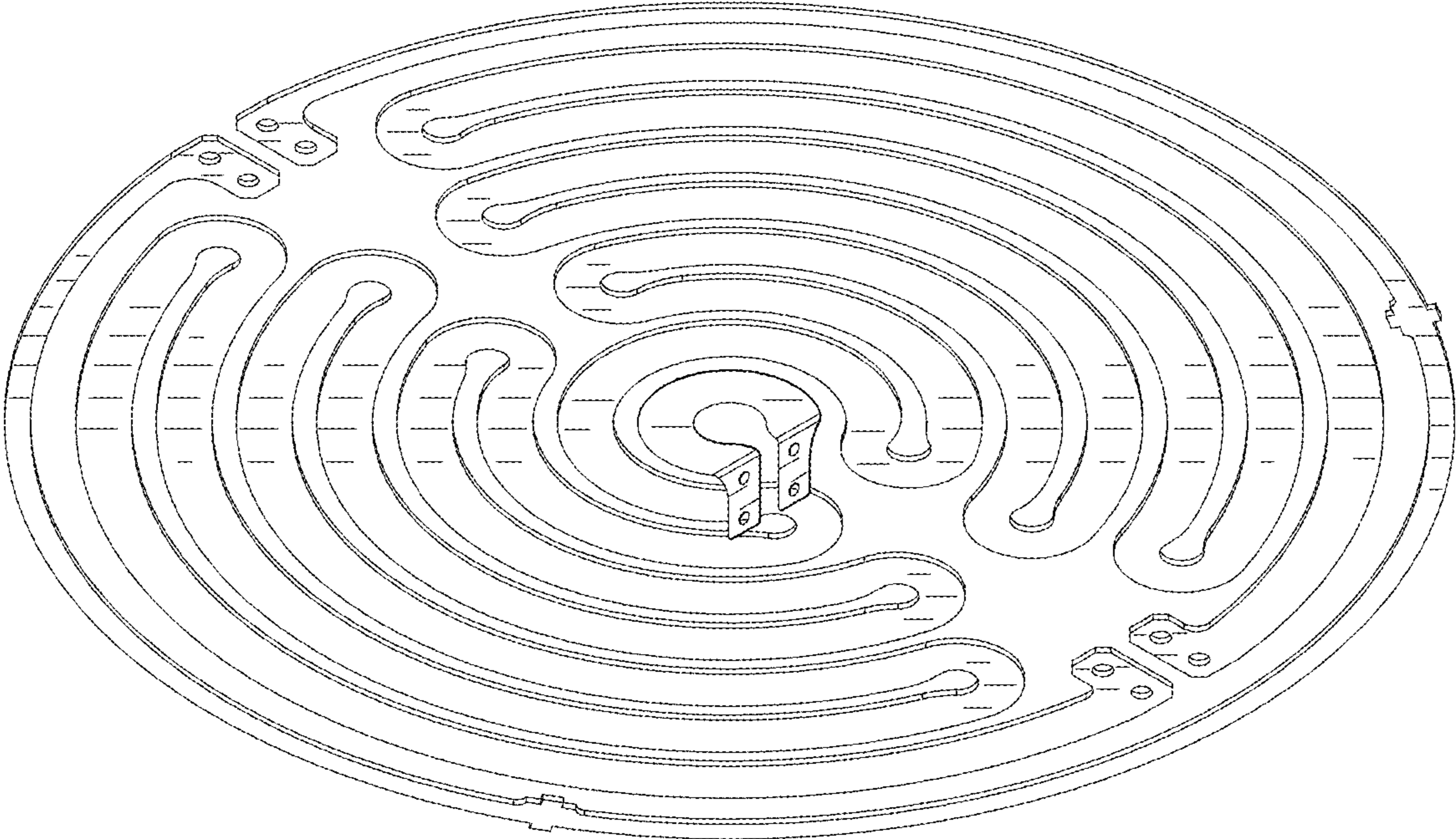


FIG. 2

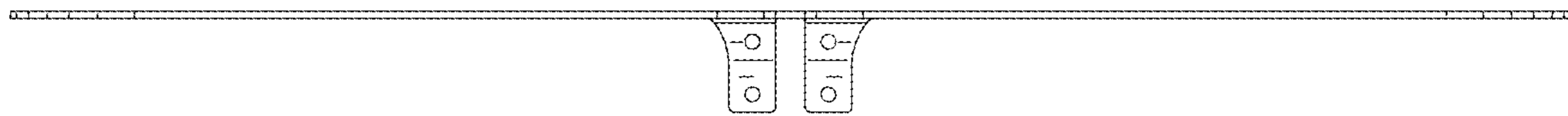


FIG. 3

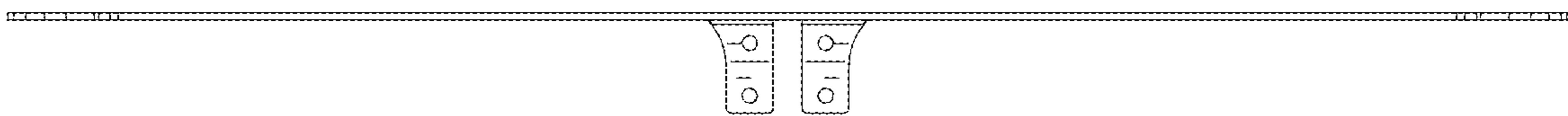


FIG. 4

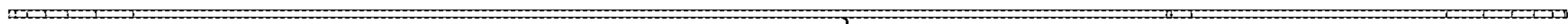


FIG. 5

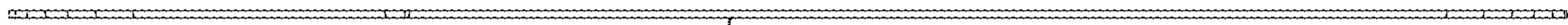


FIG. 6

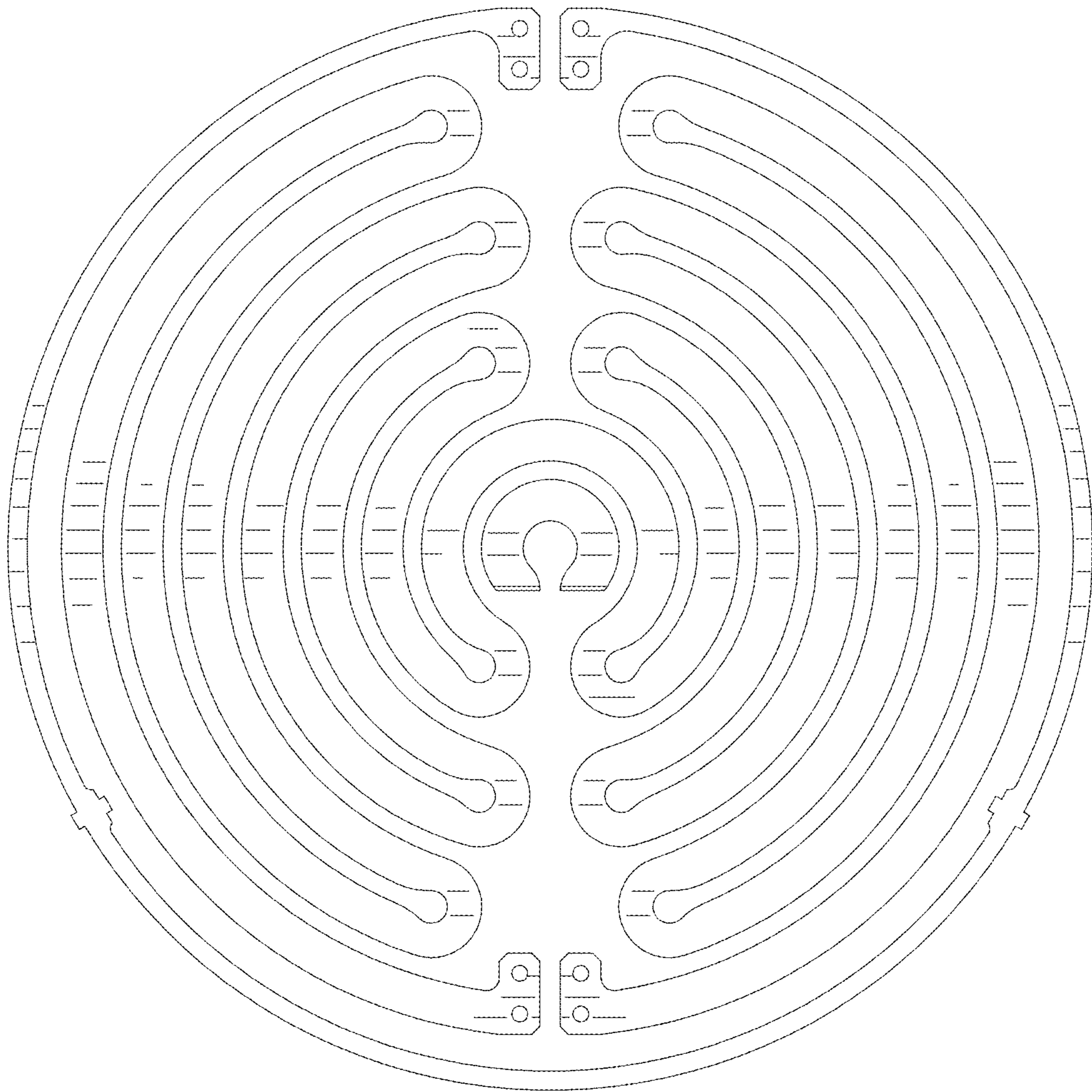


FIG. 7



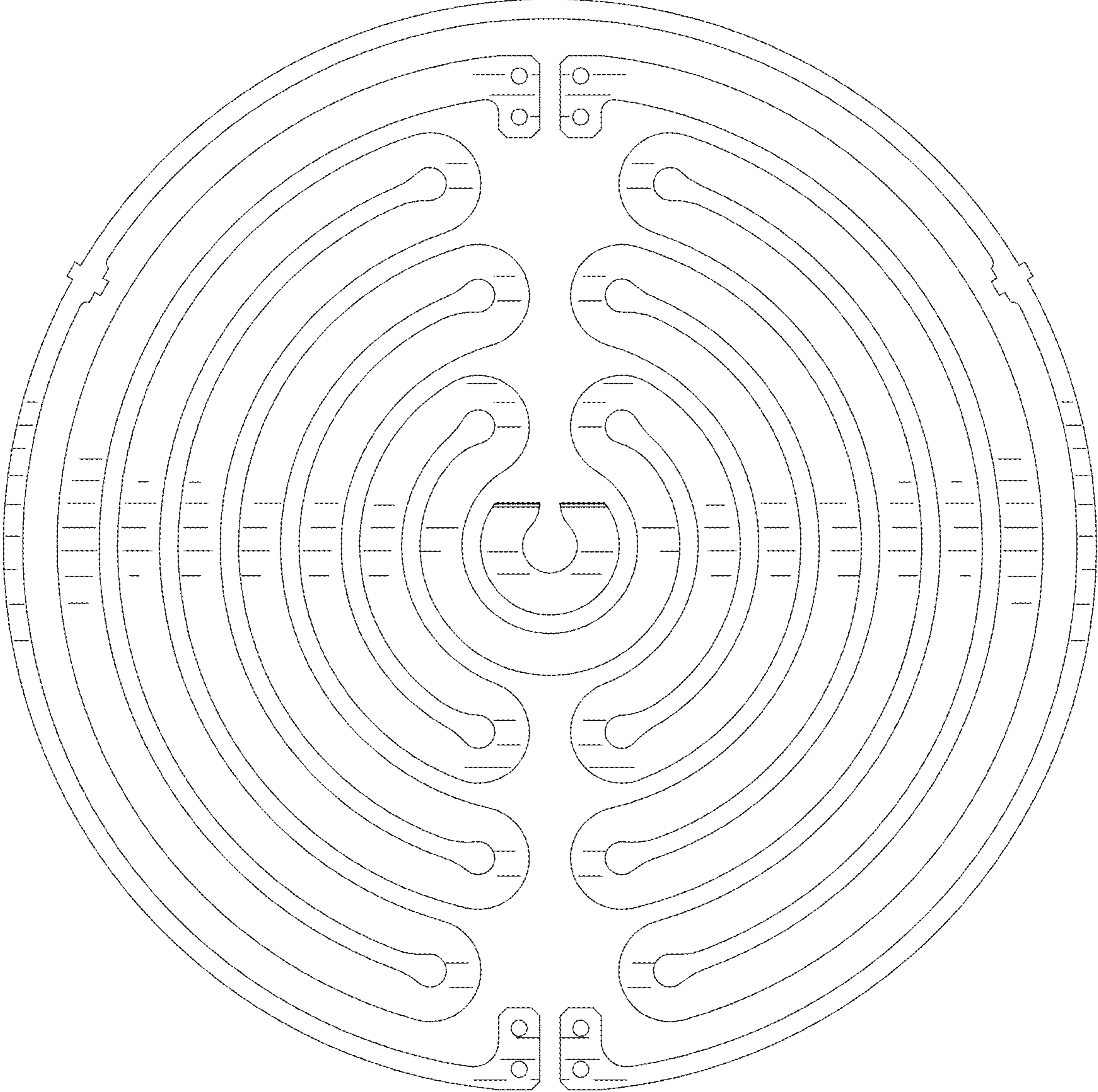


FIG. 8

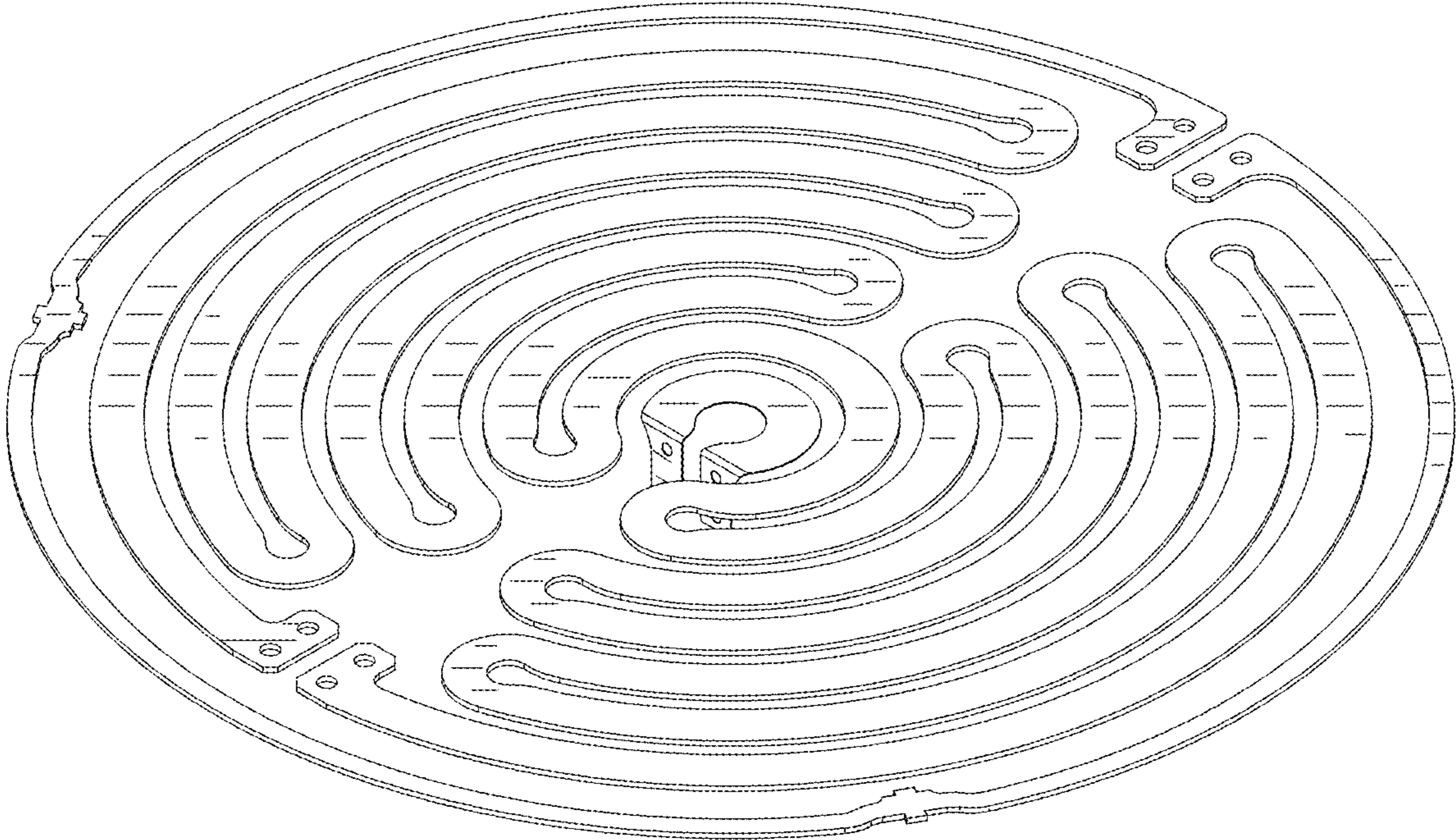


FIG. 9

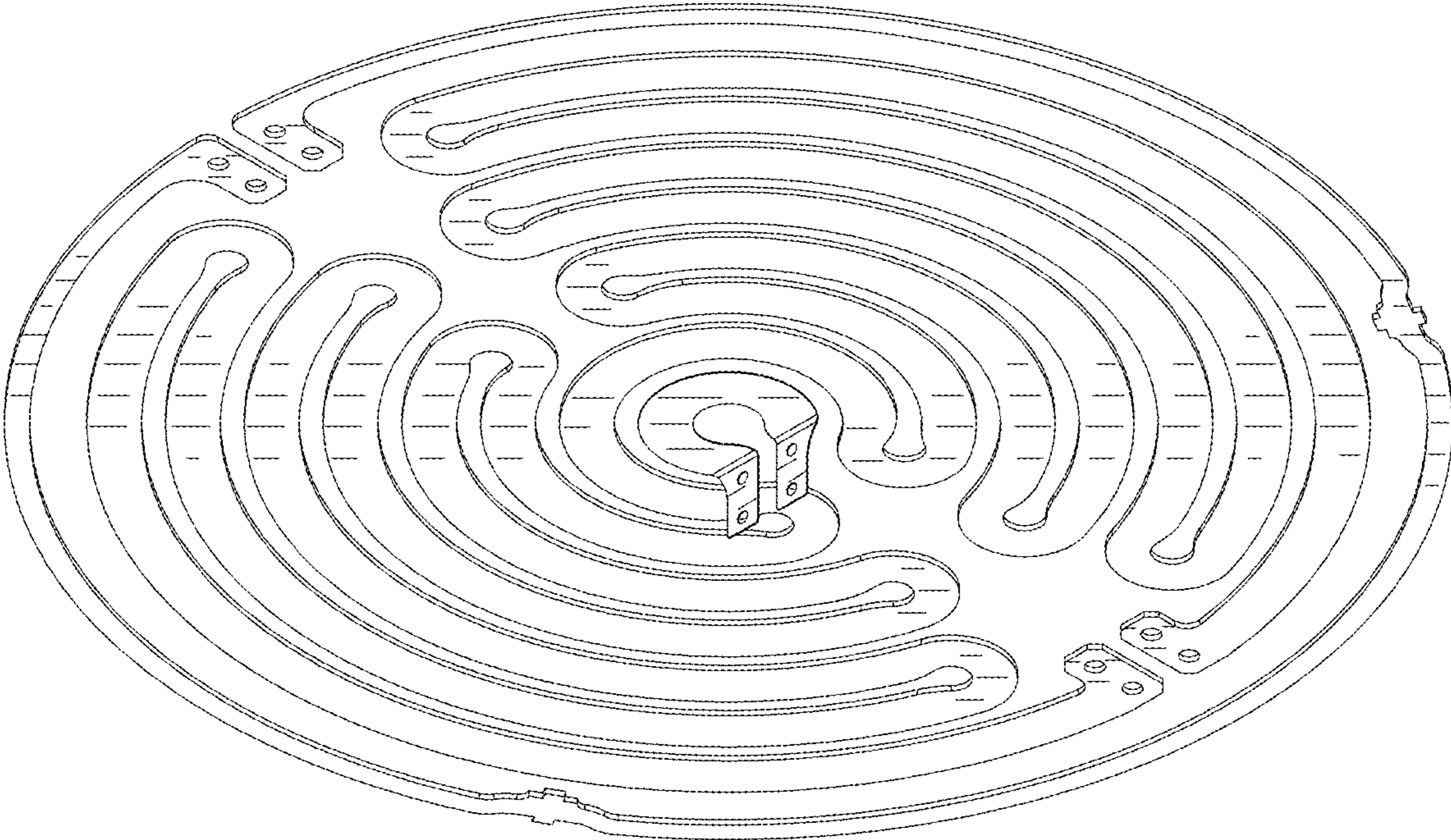


FIG. 10



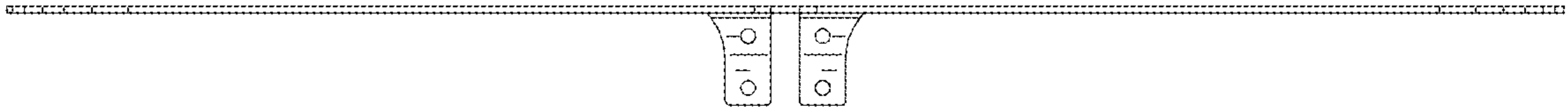


FIG. 11

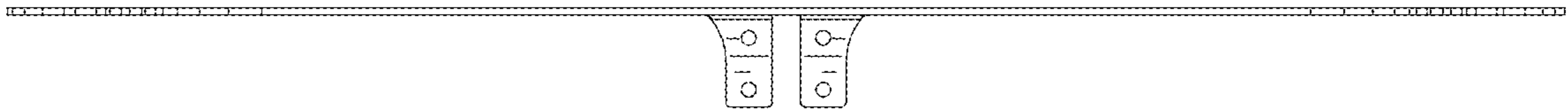


FIG. 12

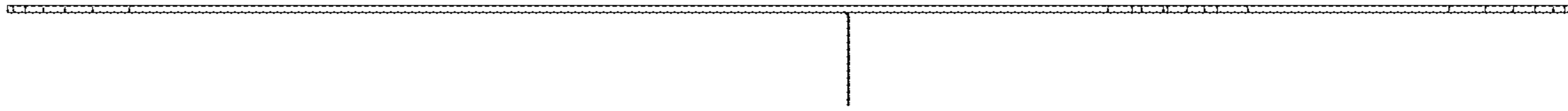


FIG. 13

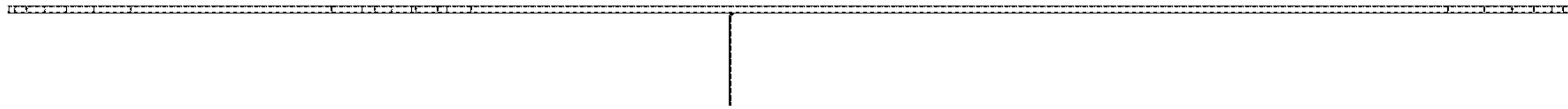


FIG. 14

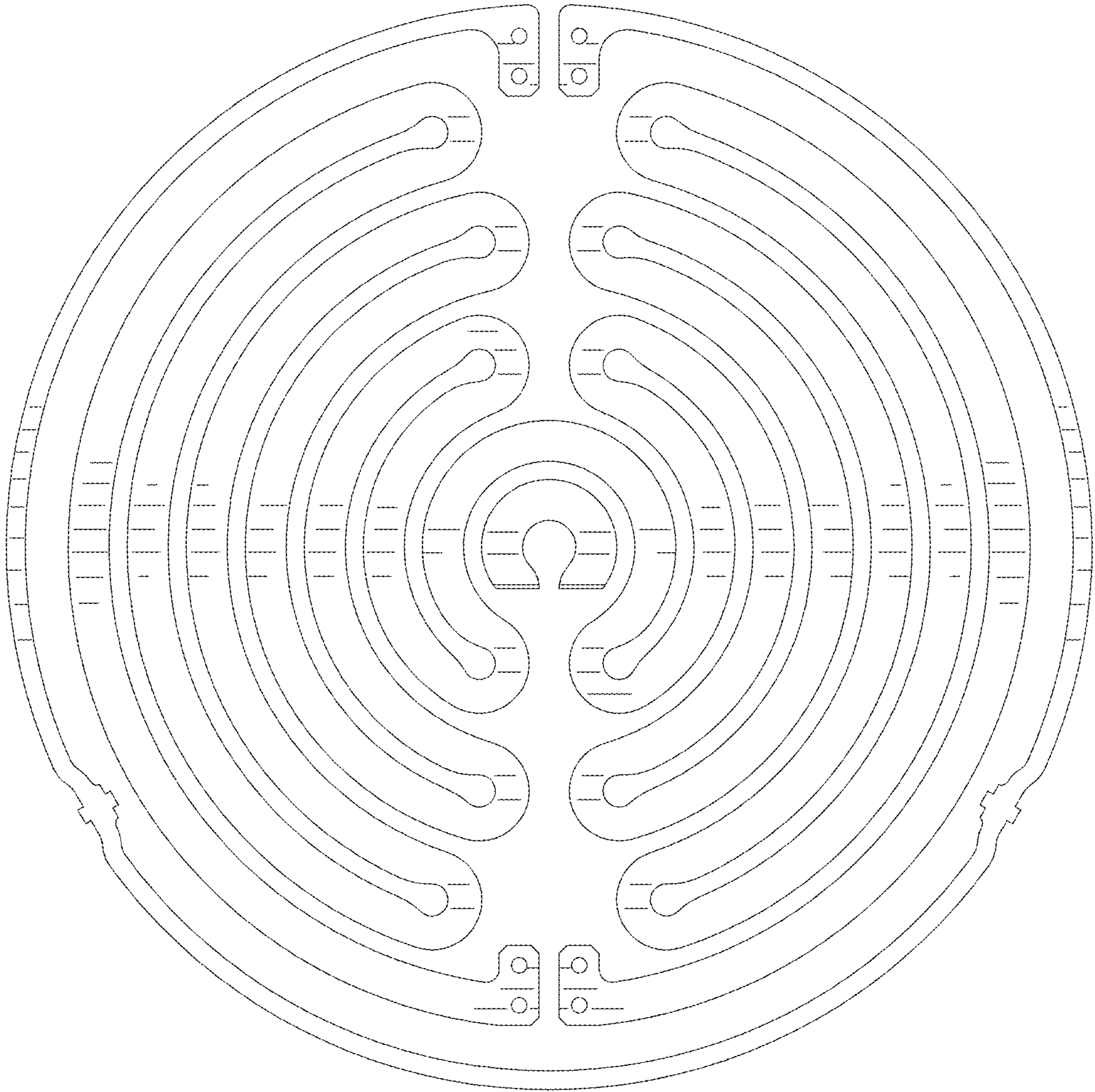


FIG. 15



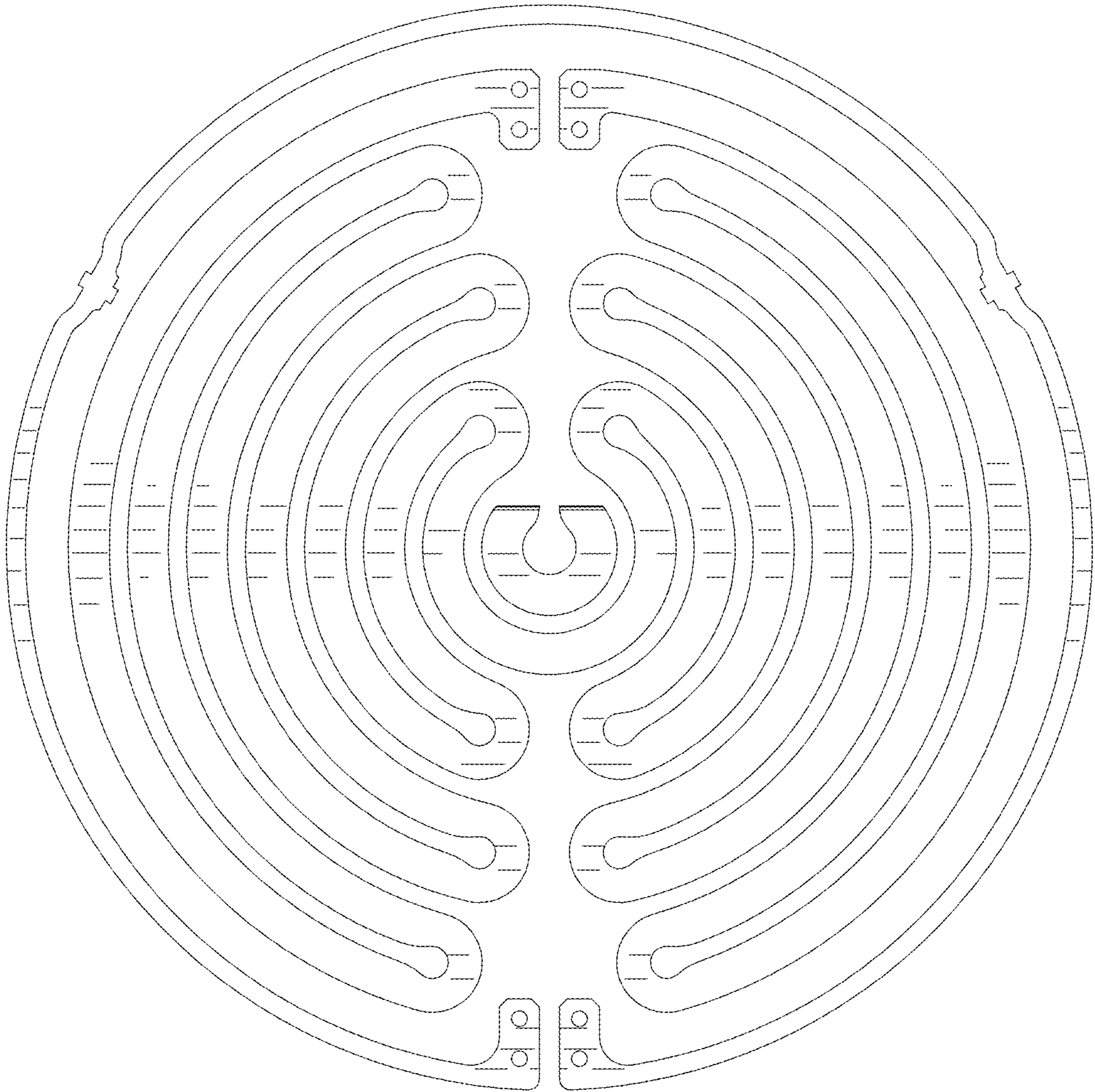


FIG. 16

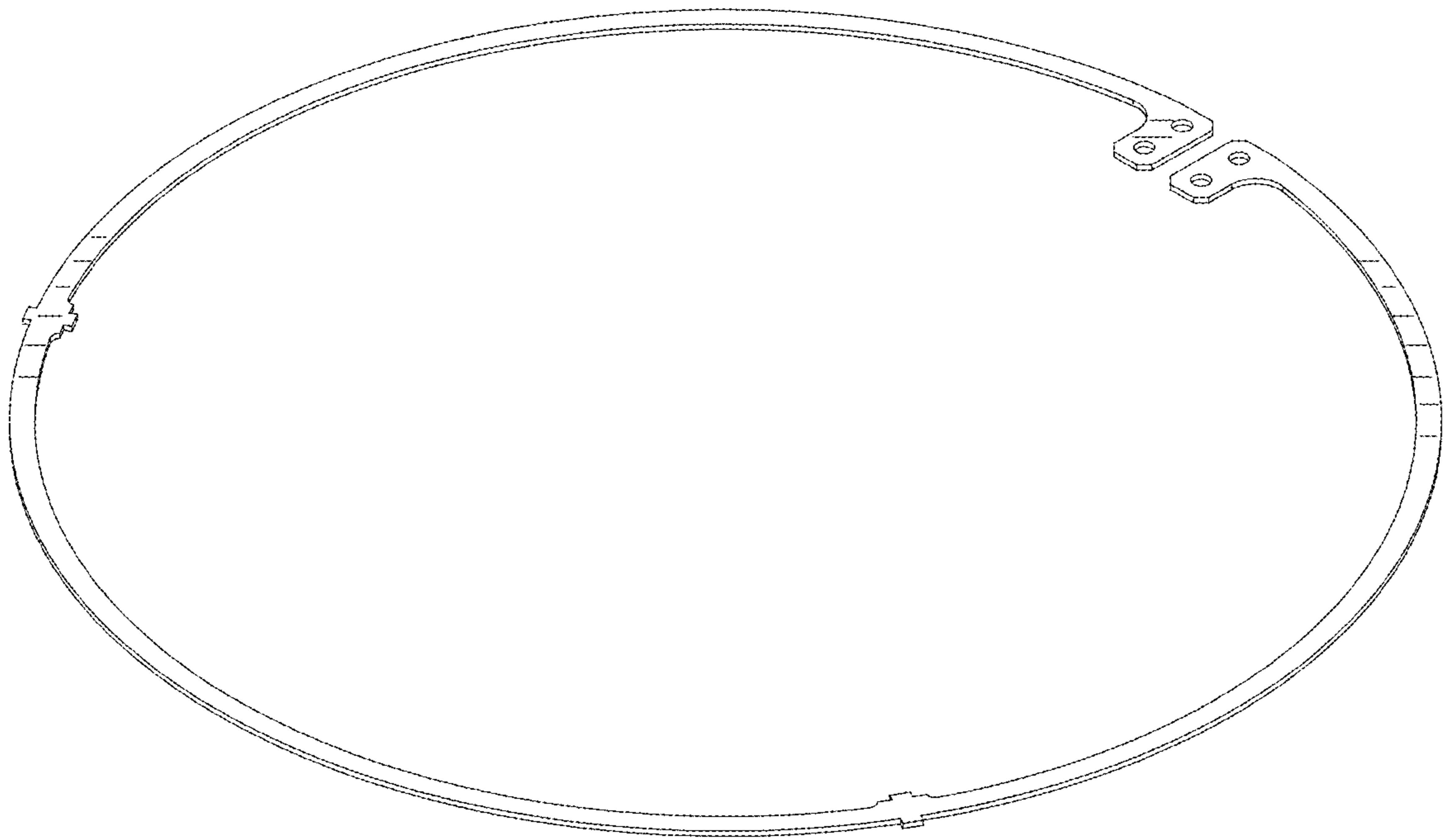


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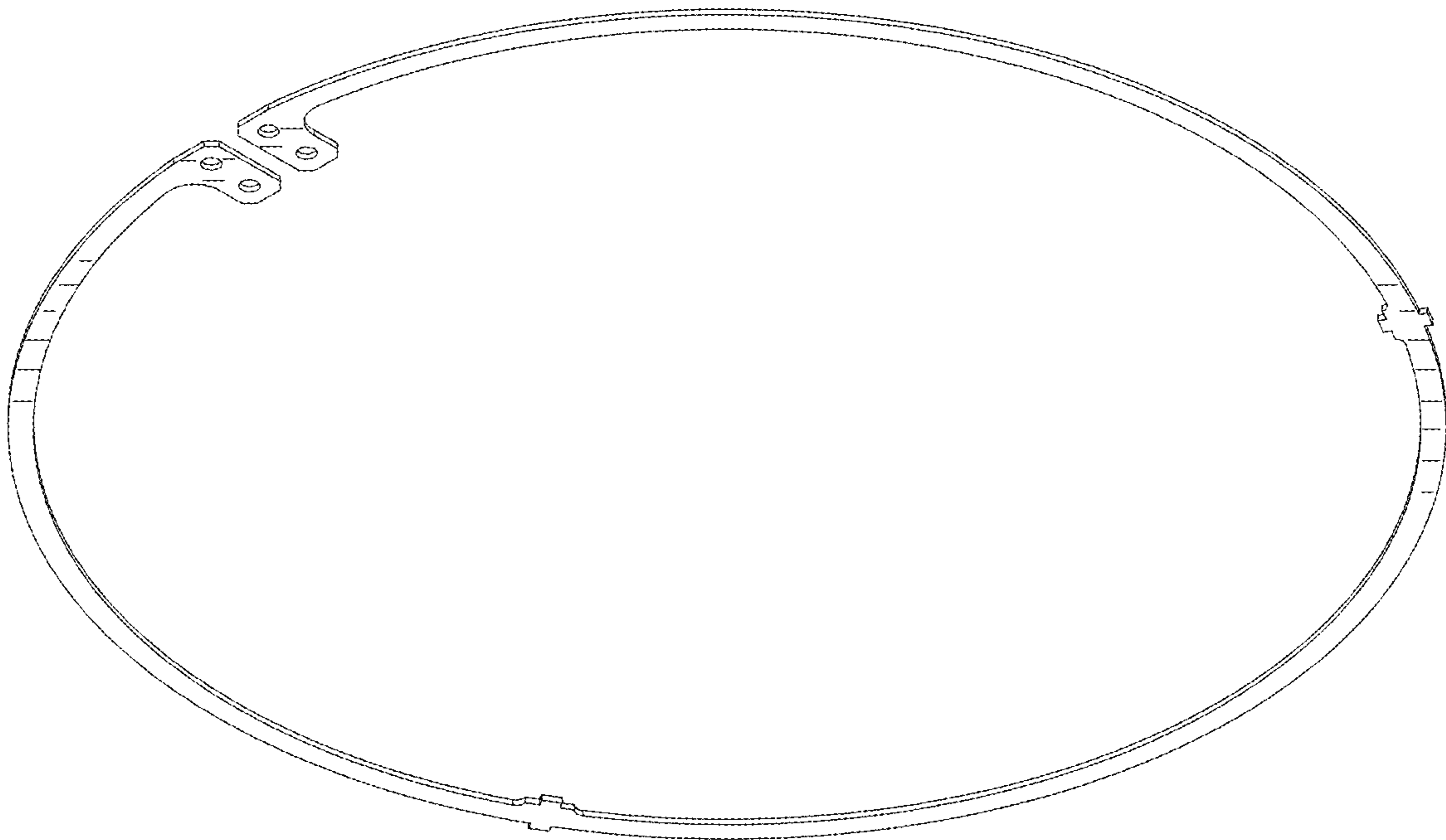


FIG. 18

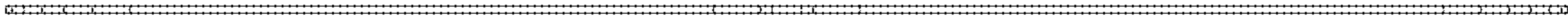


FIG. 19

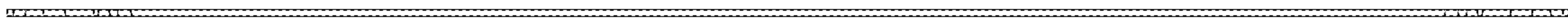


FIG. 20



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FIG. 21

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FIG. 22



FIG. 23

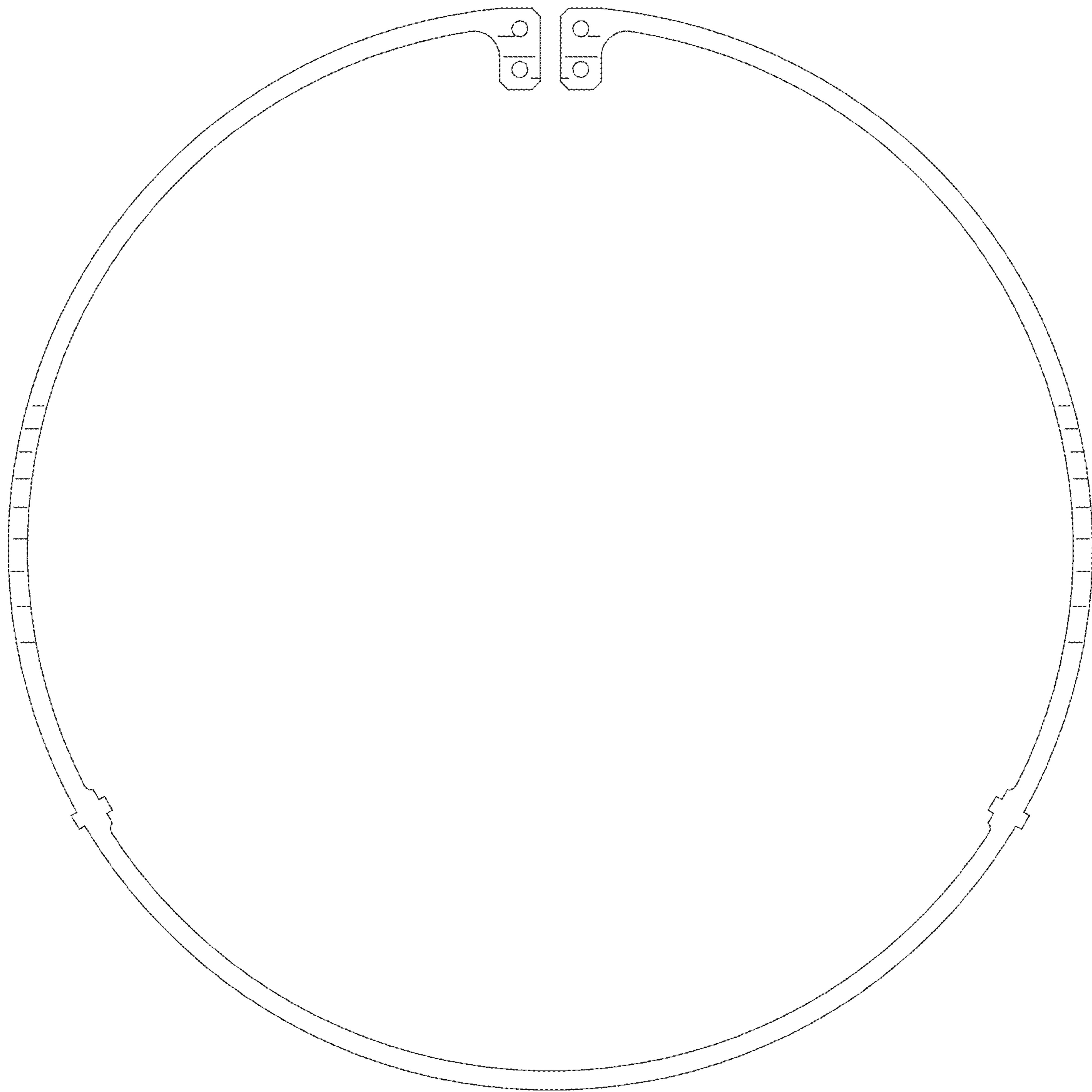


FIG. 24



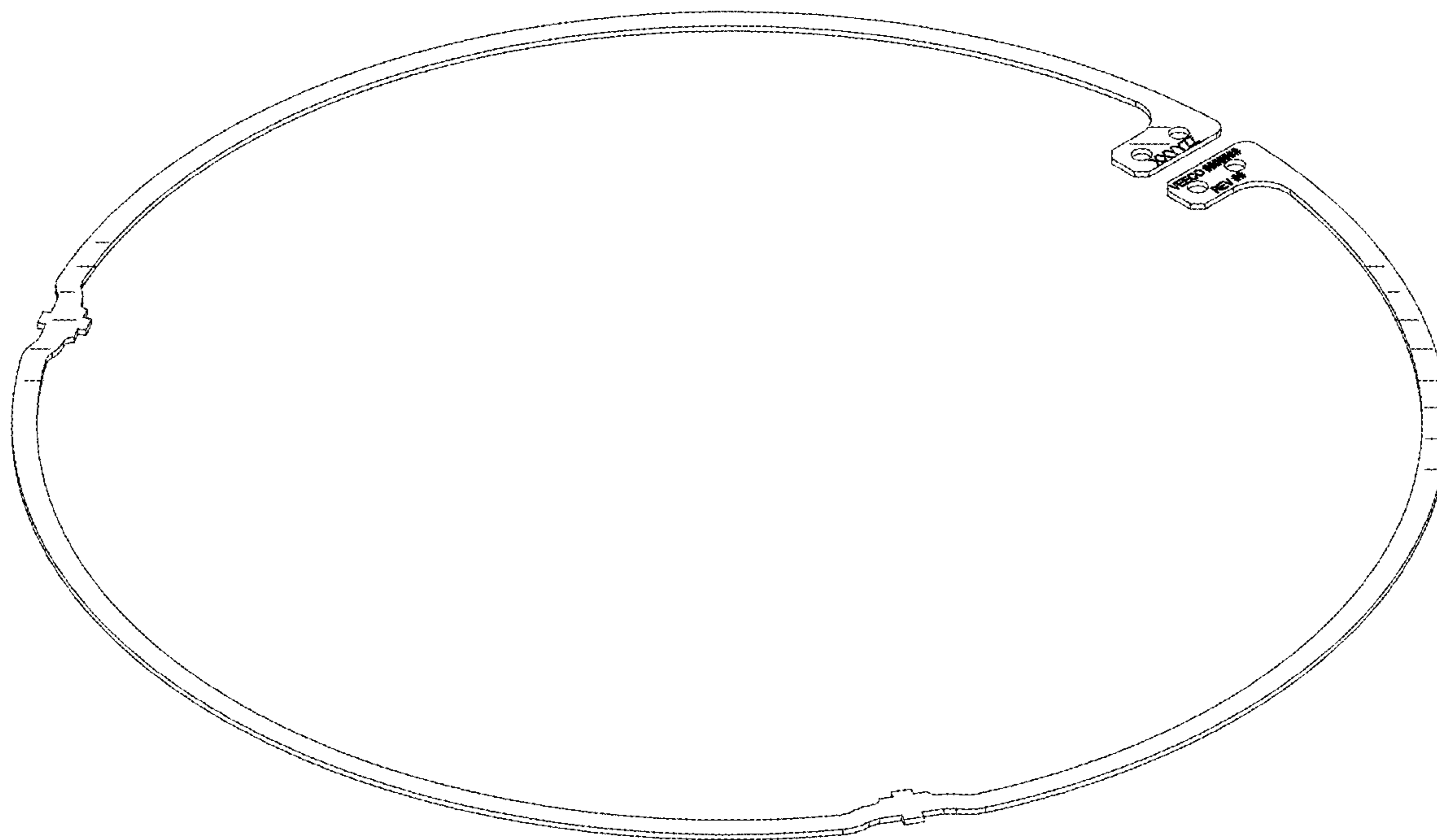


FIG. 25

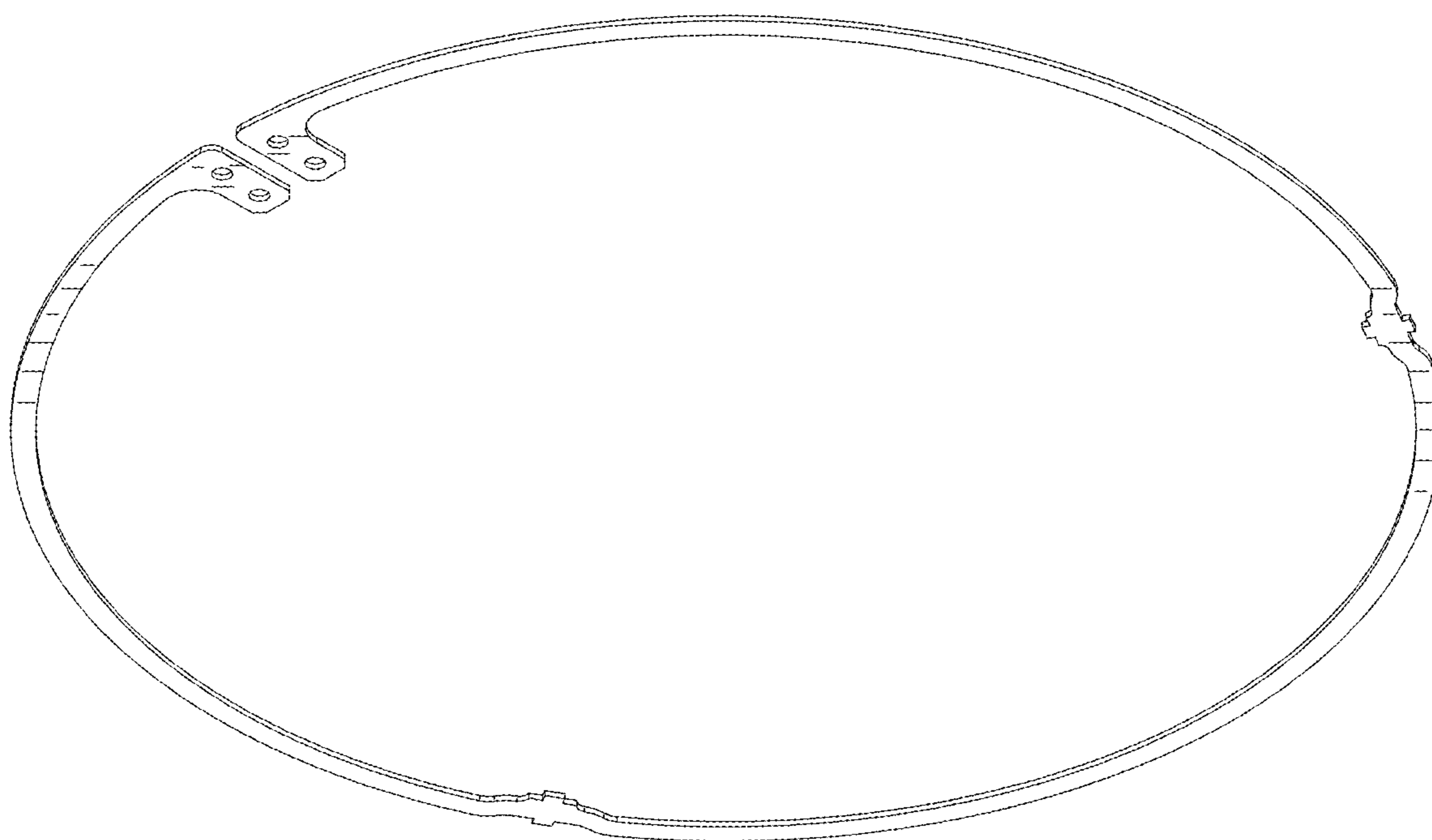


FIG. 26

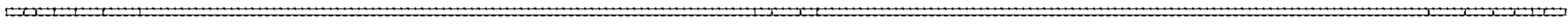


FIG. 27

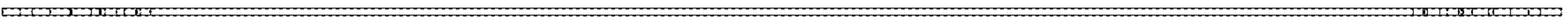


FIG. 28

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FIG. 29

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FIG. 30

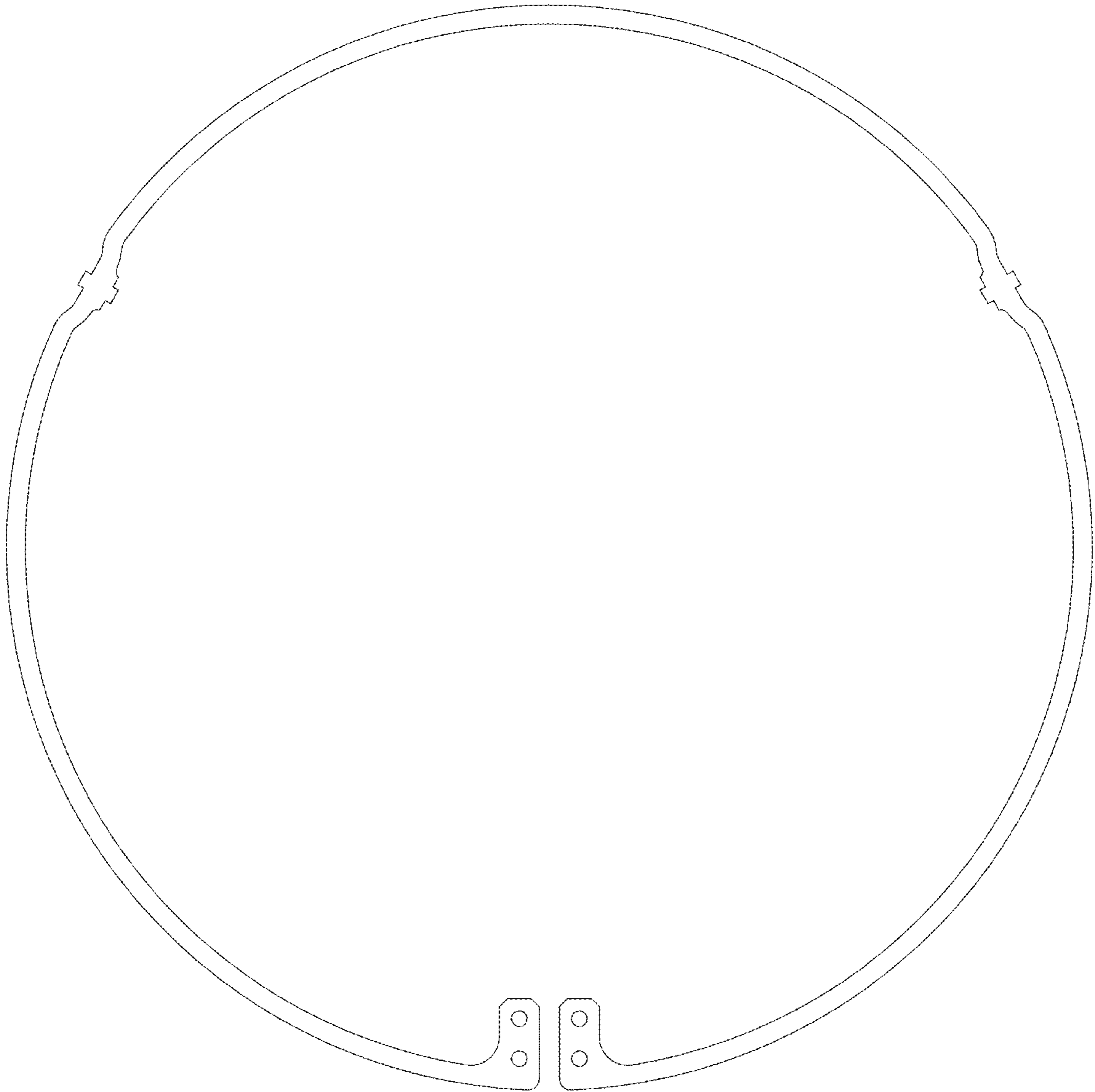


FIG. 31



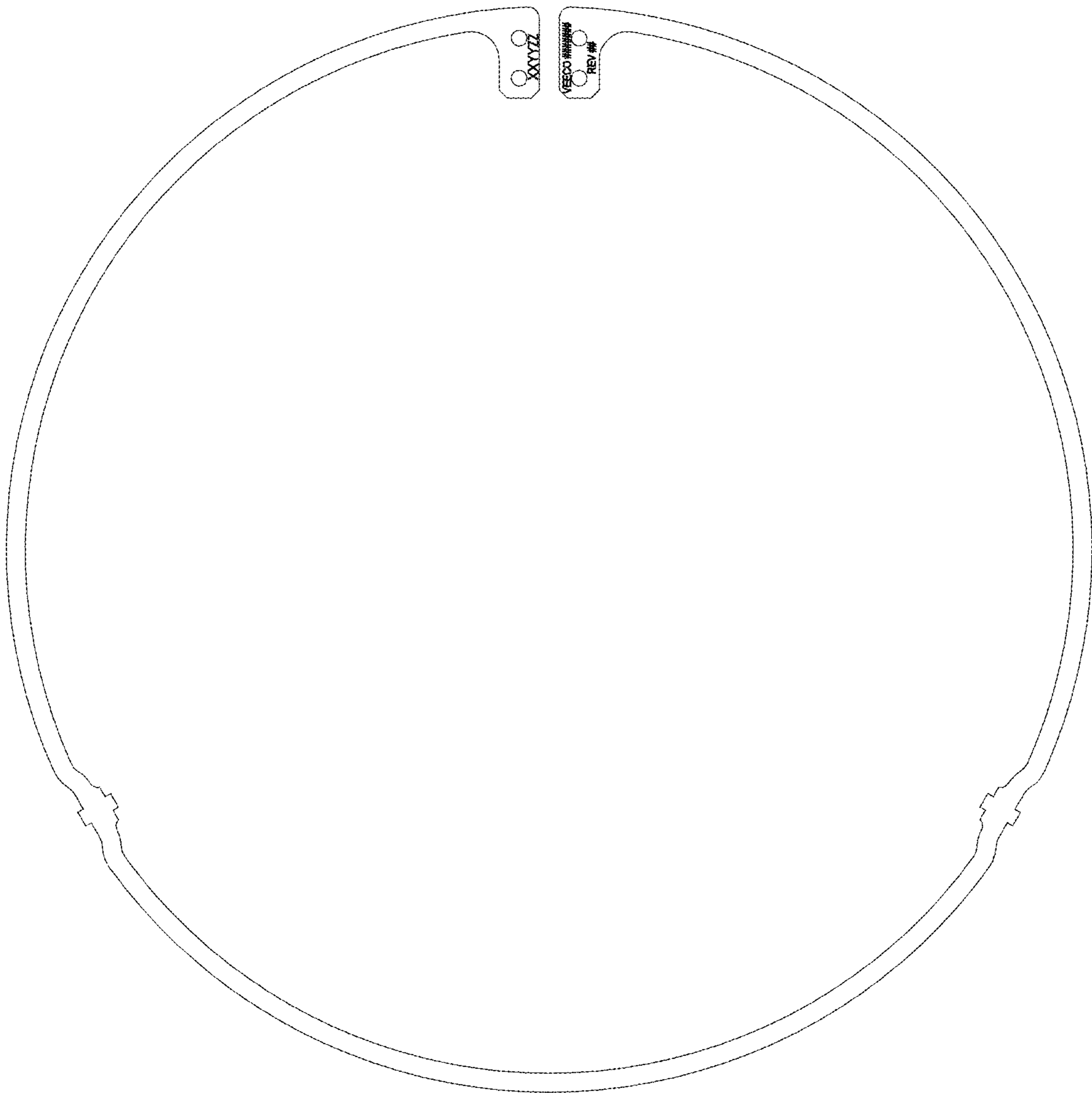


FIG. 32

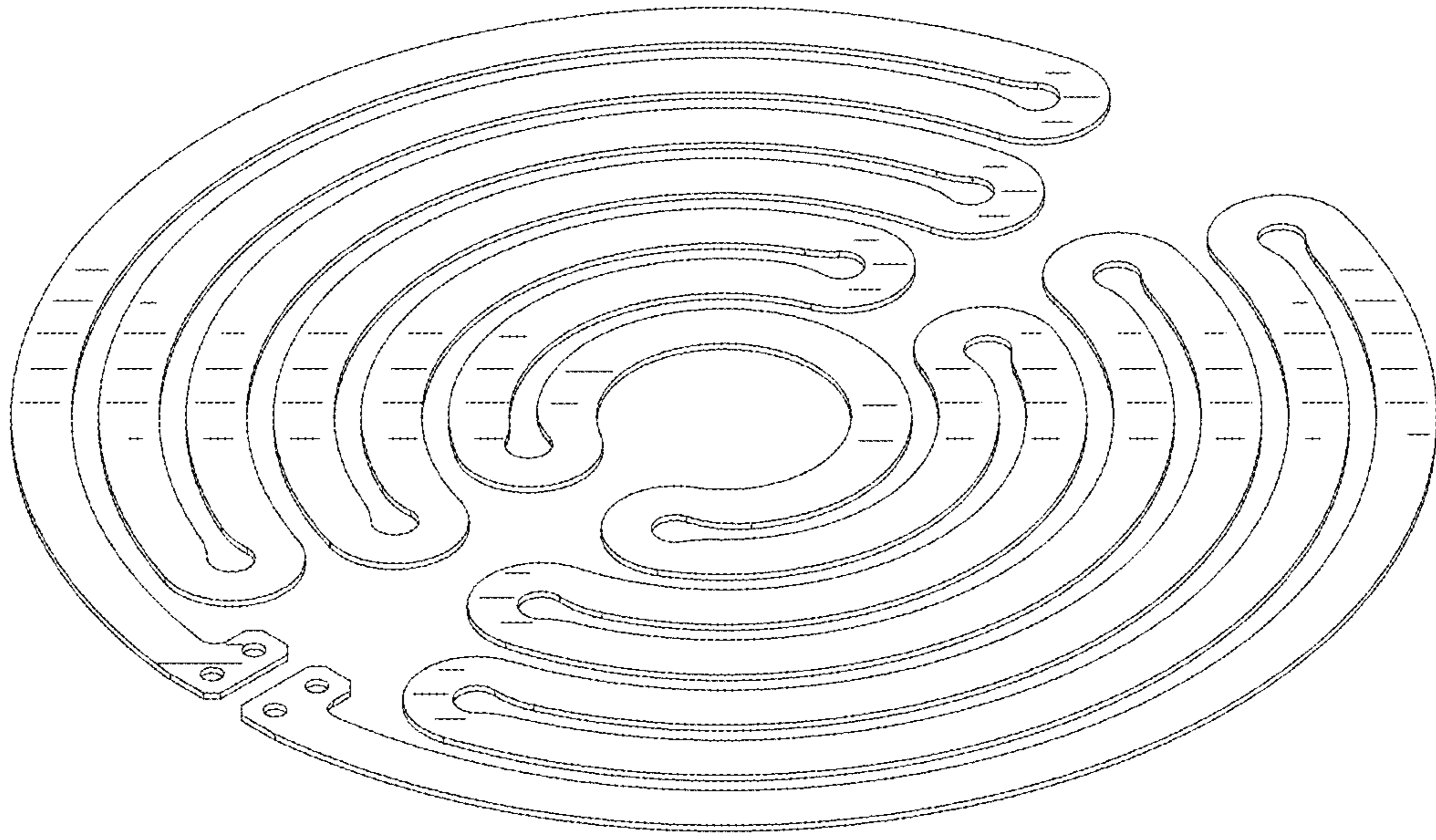


FIG. 33

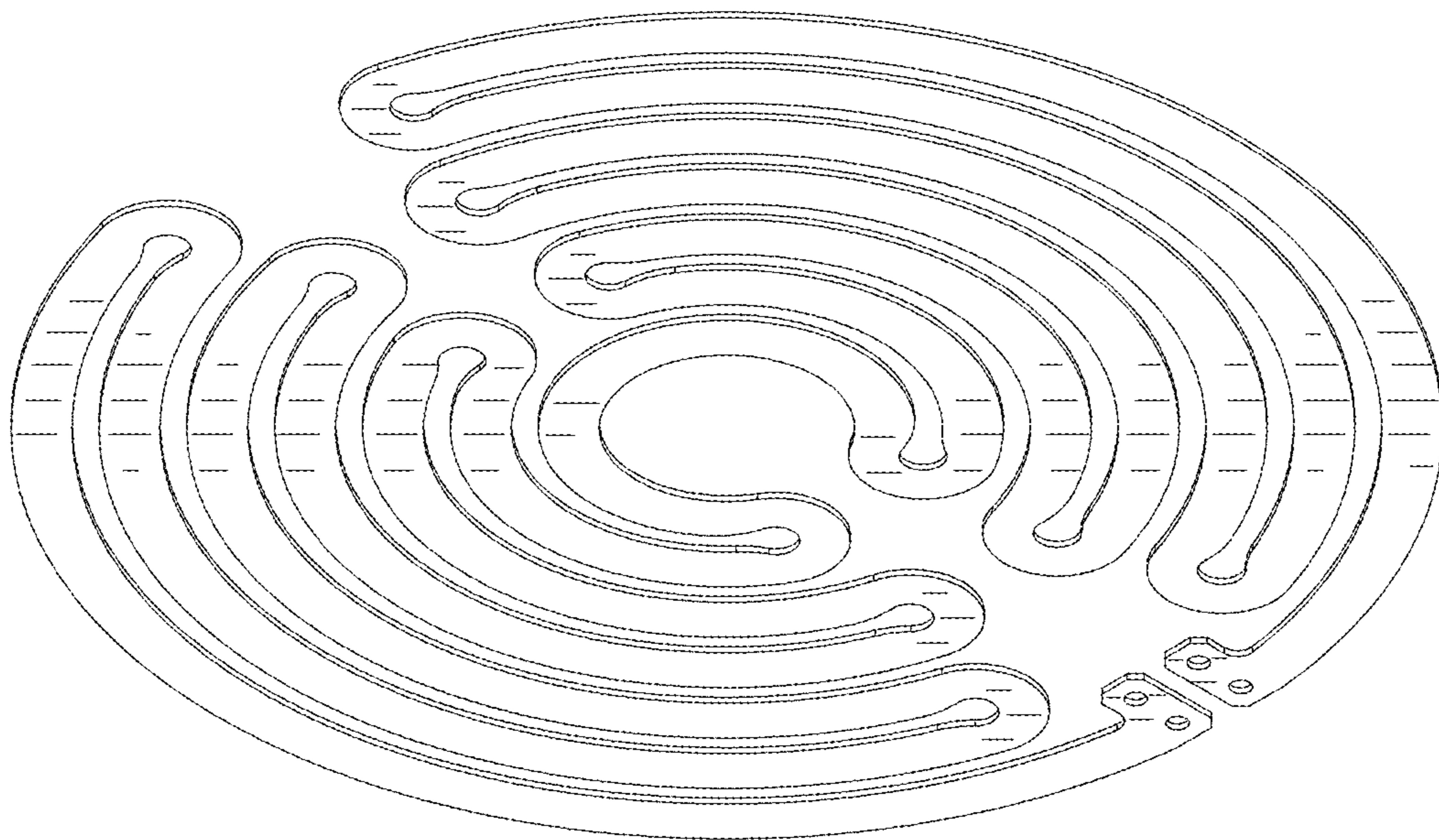


FIG. 34

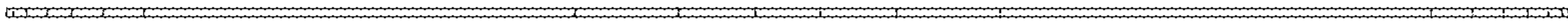


FIG. 35

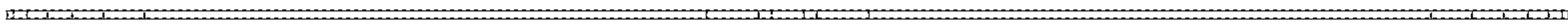


FIG. 36

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FIG. 37

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FIG. 38



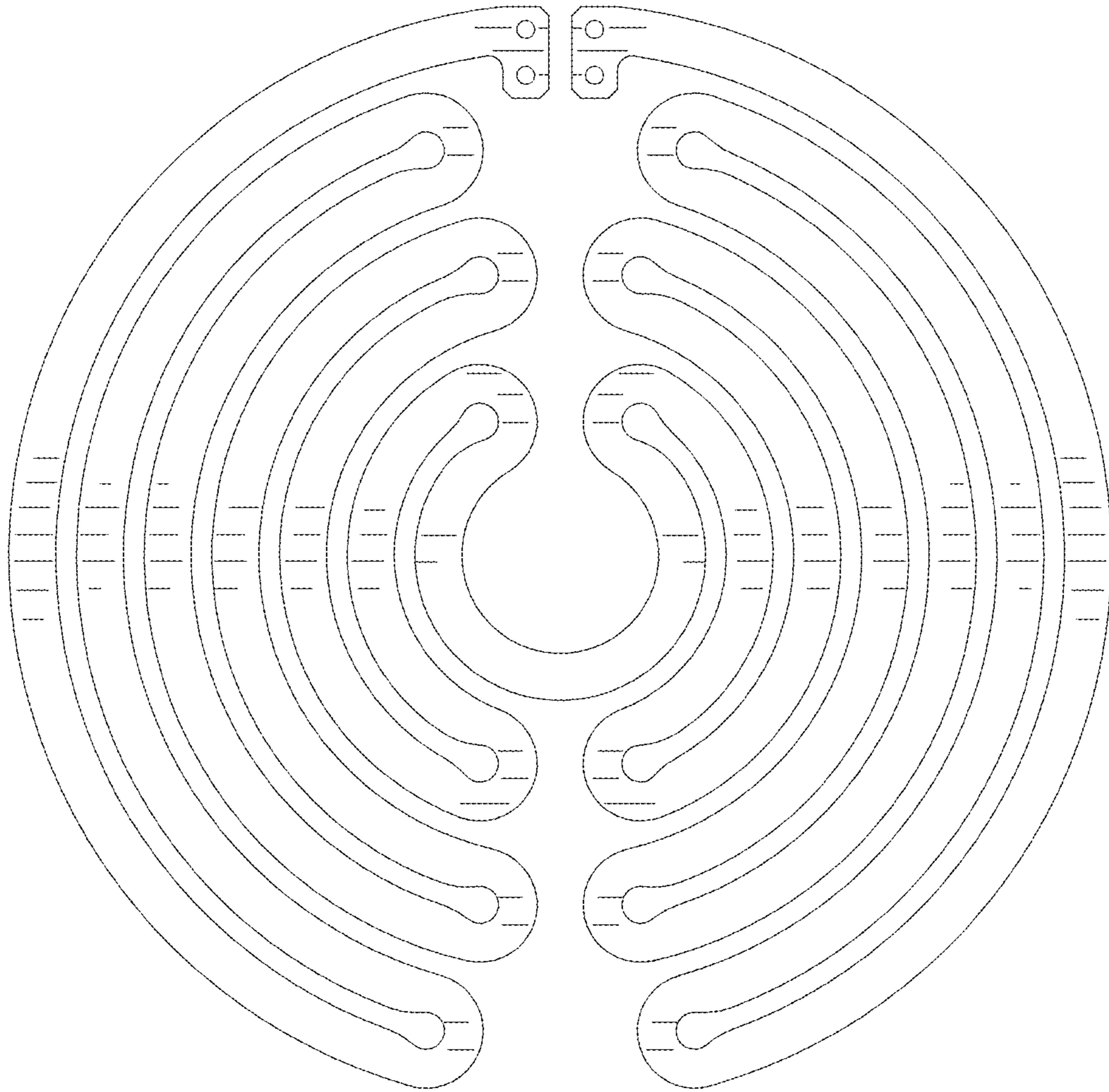


FIG. 39

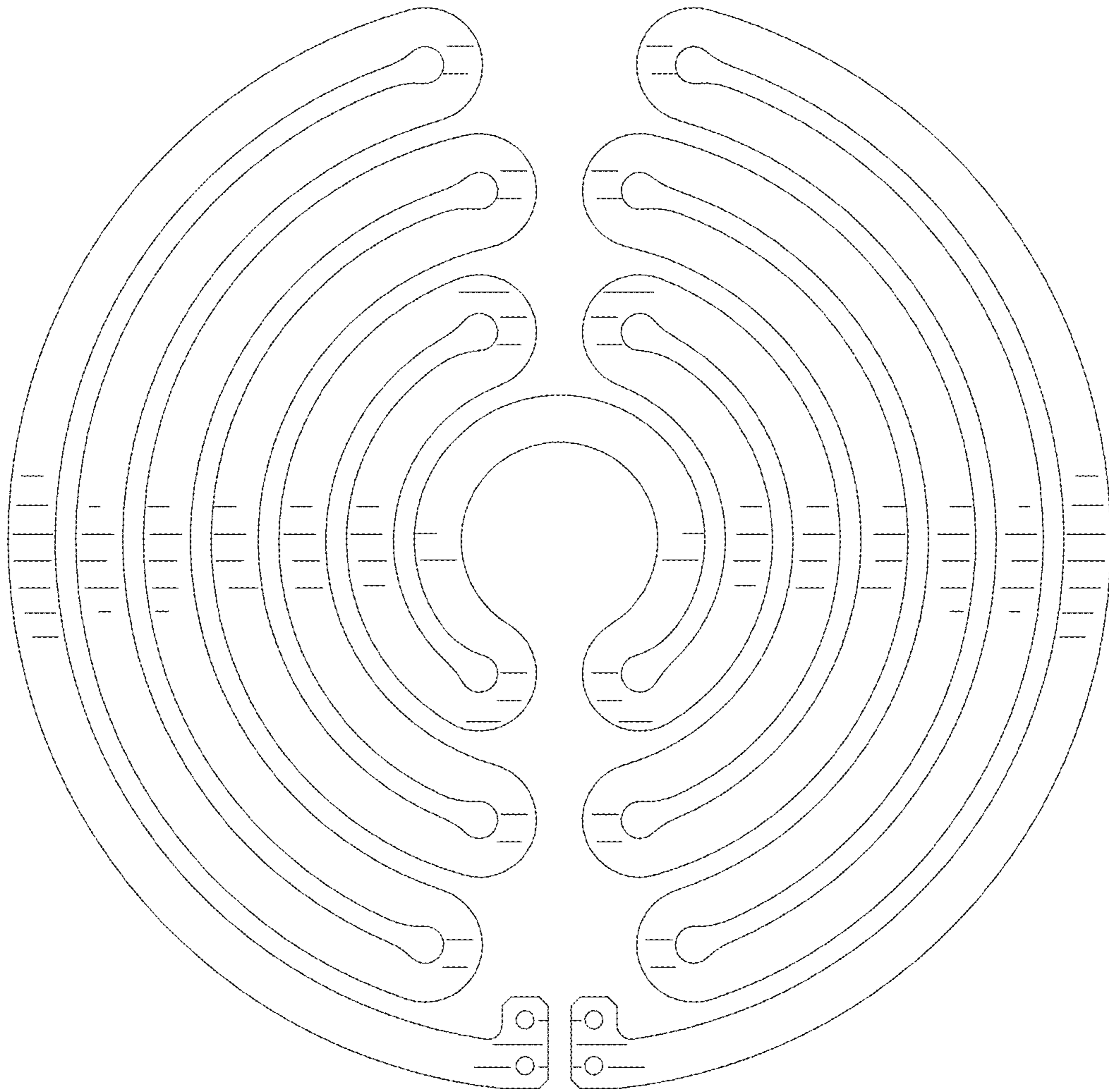


FIG. 40

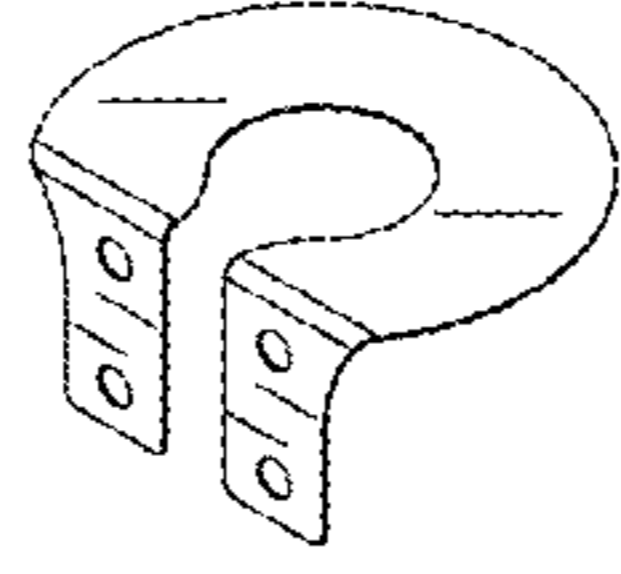


FIG. 41

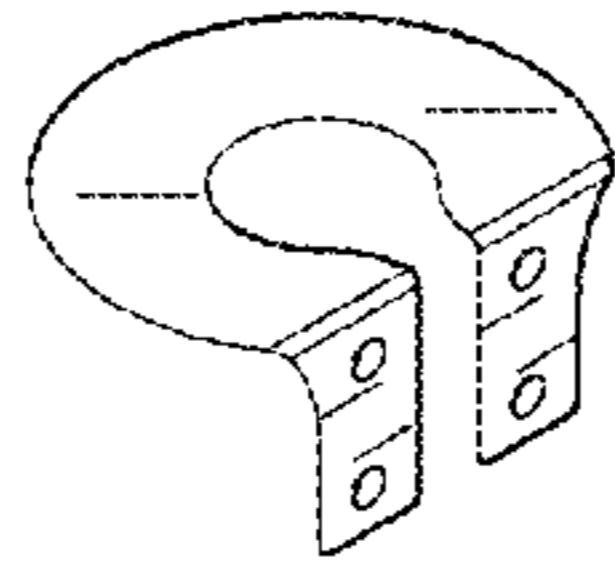


FIG. 42

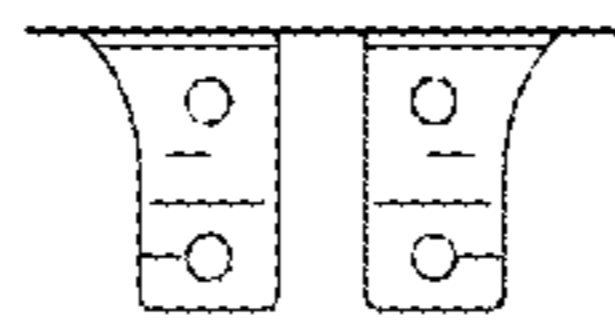


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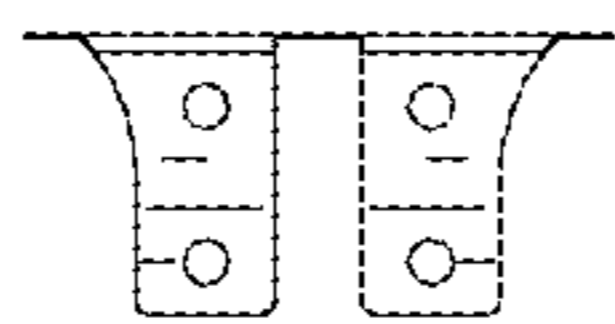


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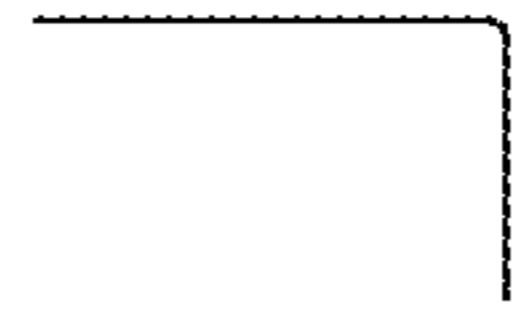


FIG. 45



FIG. 46

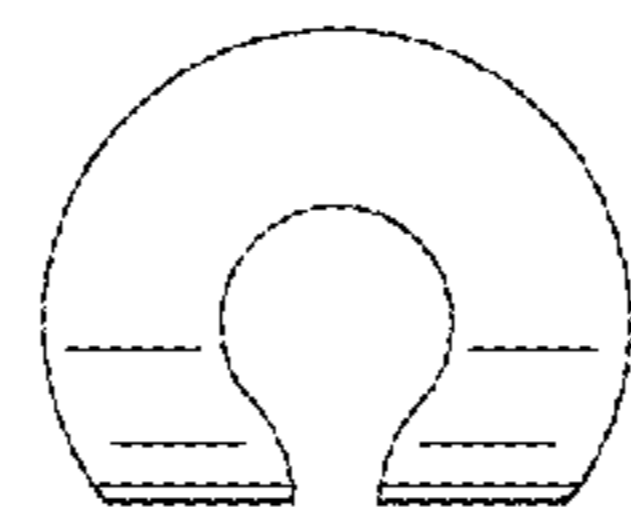


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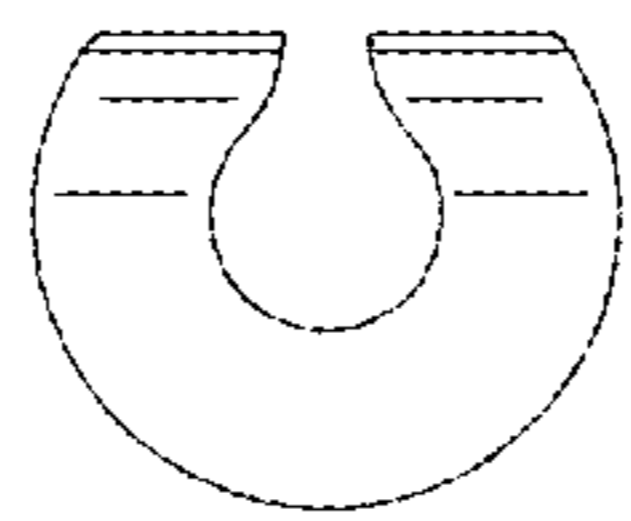


FIG. 48