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**Yamamoto et al.**

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(54) **VACUUM CONTACT PAD**

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

(58) **Field of Classification Search**  
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29/559; 438/106, 584; 451/388; 257/48  
CPC ..... H05K 1/111-114  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,374,829 A \* 12/1994 Sakamoto ..... C30B 25/12  
250/453.11  
6,164,633 A \* 12/2000 Mulligan ..... B25B 11/005  
269/21  
6,196,532 B1 \* 3/2001 Otwell ..... B25B 11/005  
269/21  
6,257,564 B1 \* 7/2001 Avneri ..... B25B 11/005  
269/21  
6,729,947 B1 \* 5/2004 Schutte ..... B24B 37/345  
451/388

D609,655 S \* 2/2010 Sugimoto ..... D13/182  
D616,389 S \* 5/2010 Takahashi ..... D13/182  
D633,452 S \* 3/2011 Namiki ..... D13/182  
D649,126 S \* 11/2011 Takahashi ..... D13/182  
D650,344 S \* 12/2011 Takahashi ..... D13/182  
D716,742 S \* 11/2014 Jang ..... D13/182  
D723,077 S \* 2/2015 Sakata ..... D13/182  
D769,200 S \* 10/2016 Fukushima ..... D13/182  
D790,489 S \* 6/2017 Toyomura ..... D13/182  
D825,504 S \* 8/2018 Zhang ..... D13/182  
D837,755 S \* 1/2019 Riker ..... D13/182  
D839,224 S \* 1/2019 Yamaki ..... D13/182  
2004/0179323 A1 \* 9/2004 Litman ..... H01L 21/6831  
361/234  
2005/0035514 A1 \* 2/2005 Hillman ..... B25B 11/005  
269/21

(Continued)

**FOREIGN PATENT DOCUMENTS**

JP D1362932 S 6/2009

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(57) **CLAIM**

The ornamental design for a vacuum contact pad, as shown and described.

**DESCRIPTION**

FIG. 1 is a top plan view of a vacuum contact pad showing our new design;

FIG. 2 is a bottom plan view thereof;

FIG. 3 is a front view thereof;

FIG. 4 is a rear view thereof;

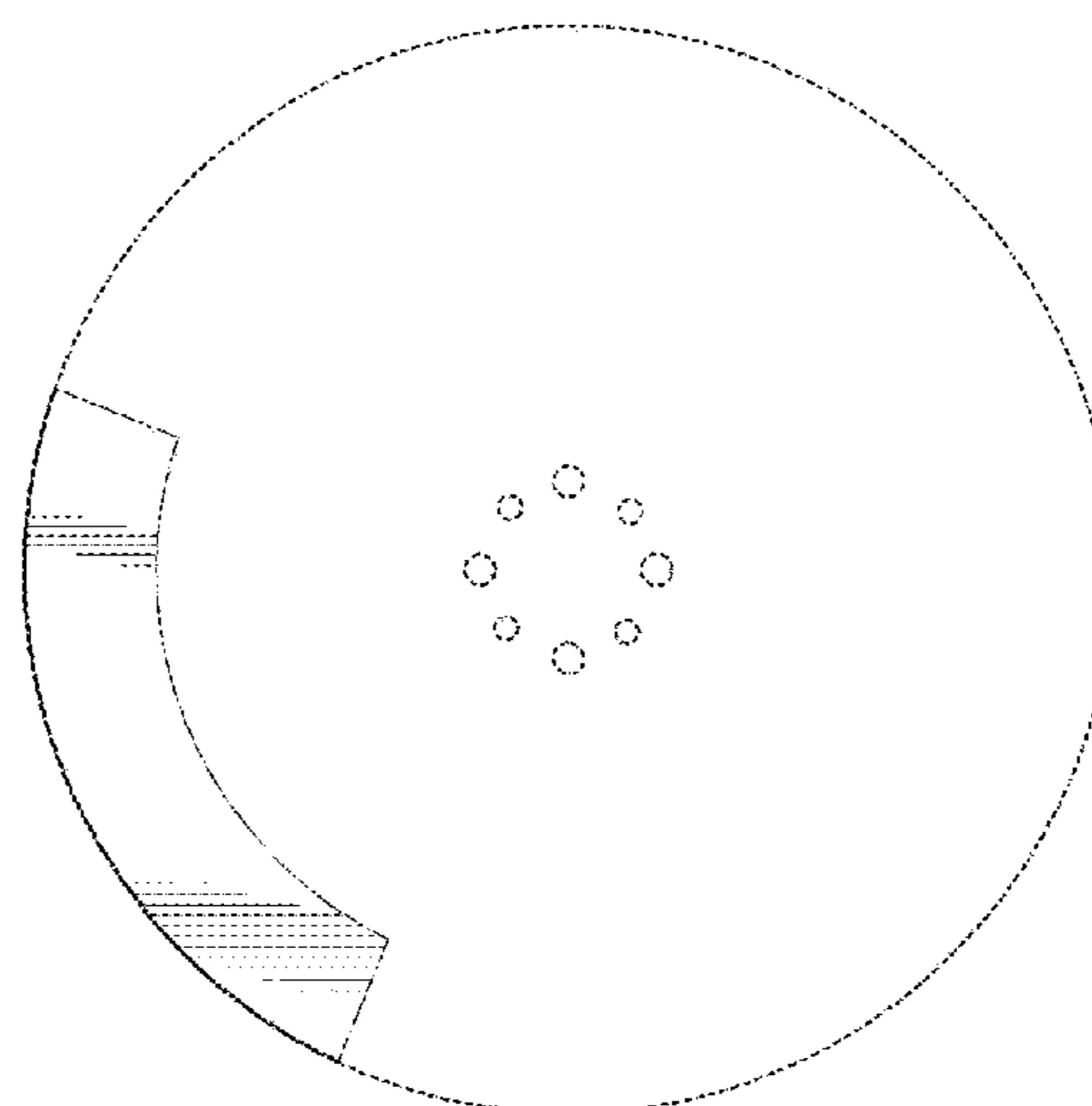
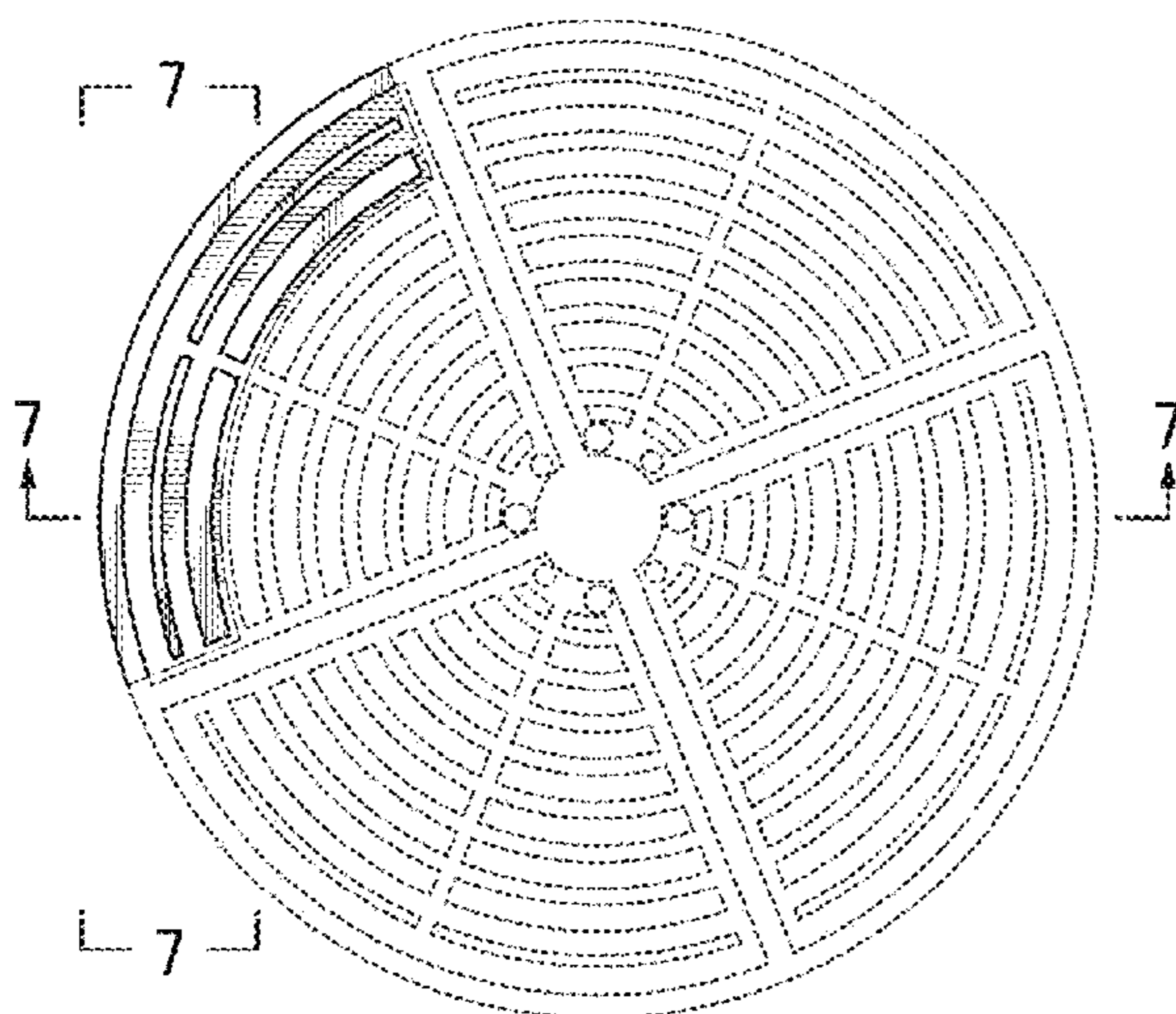
FIG. 5 is a right side view thereof;

FIG. 6 is a left side view thereof; and,

FIG. 7 is an enlarged cross sectional view taken along line 7-7 in FIG. 1.

The broken line showing of the environment forms no part of the claimed design.

**1 Claim, 4 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

2007/0063453 A1\* 3/2007 Ishikawa ..... B24B 37/30  
279/3  
2008/0051018 A1\* 2/2008 Schutte ..... B24B 37/345  
451/388  
2009/0179365 A1\* 7/2009 Lerner ..... B25B 11/005  
269/21  
2010/0117279 A1\* 5/2010 Vekstein ..... H01L 21/67748  
269/21

\* cited by examiner

FIG.1

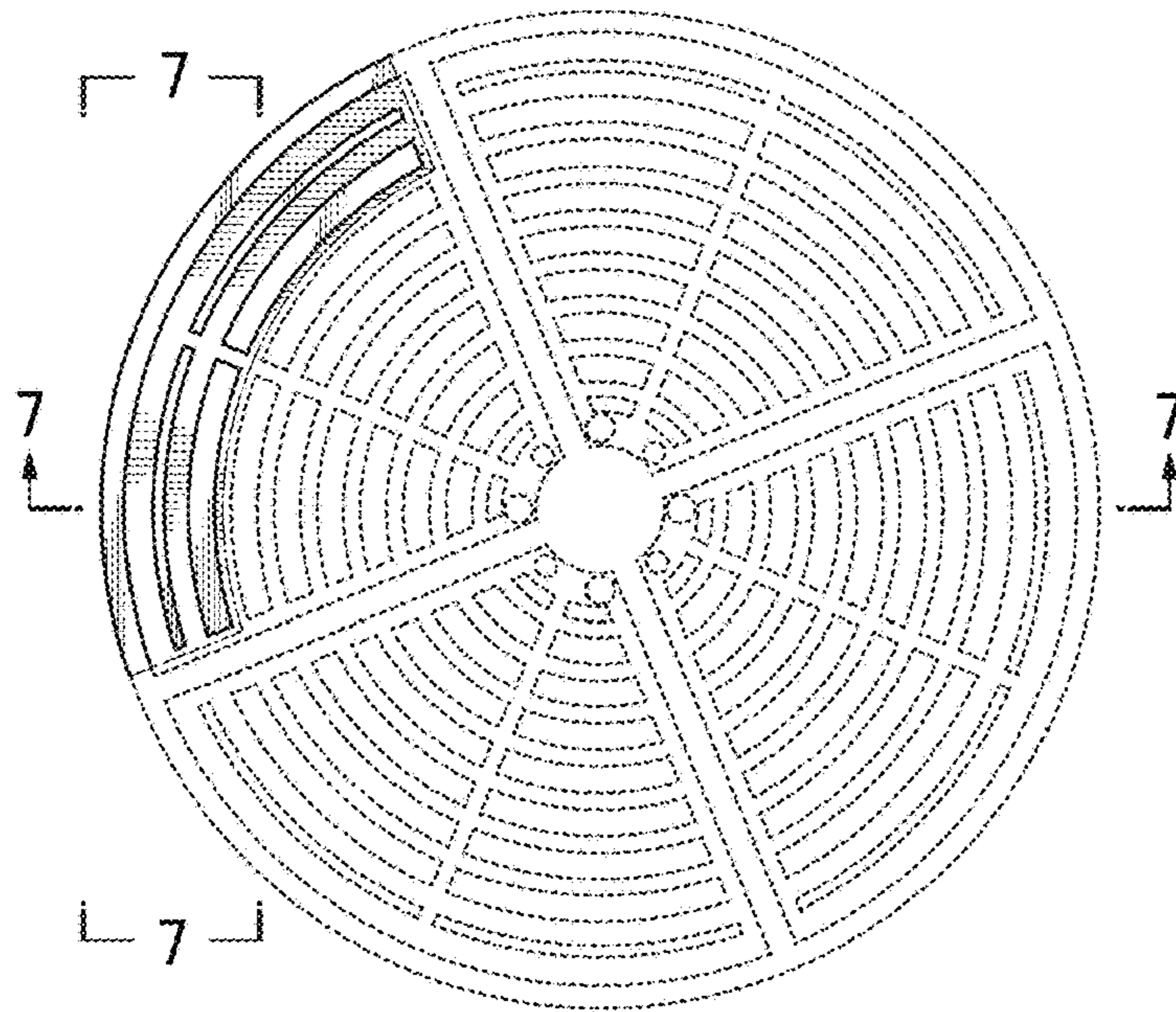


FIG.2

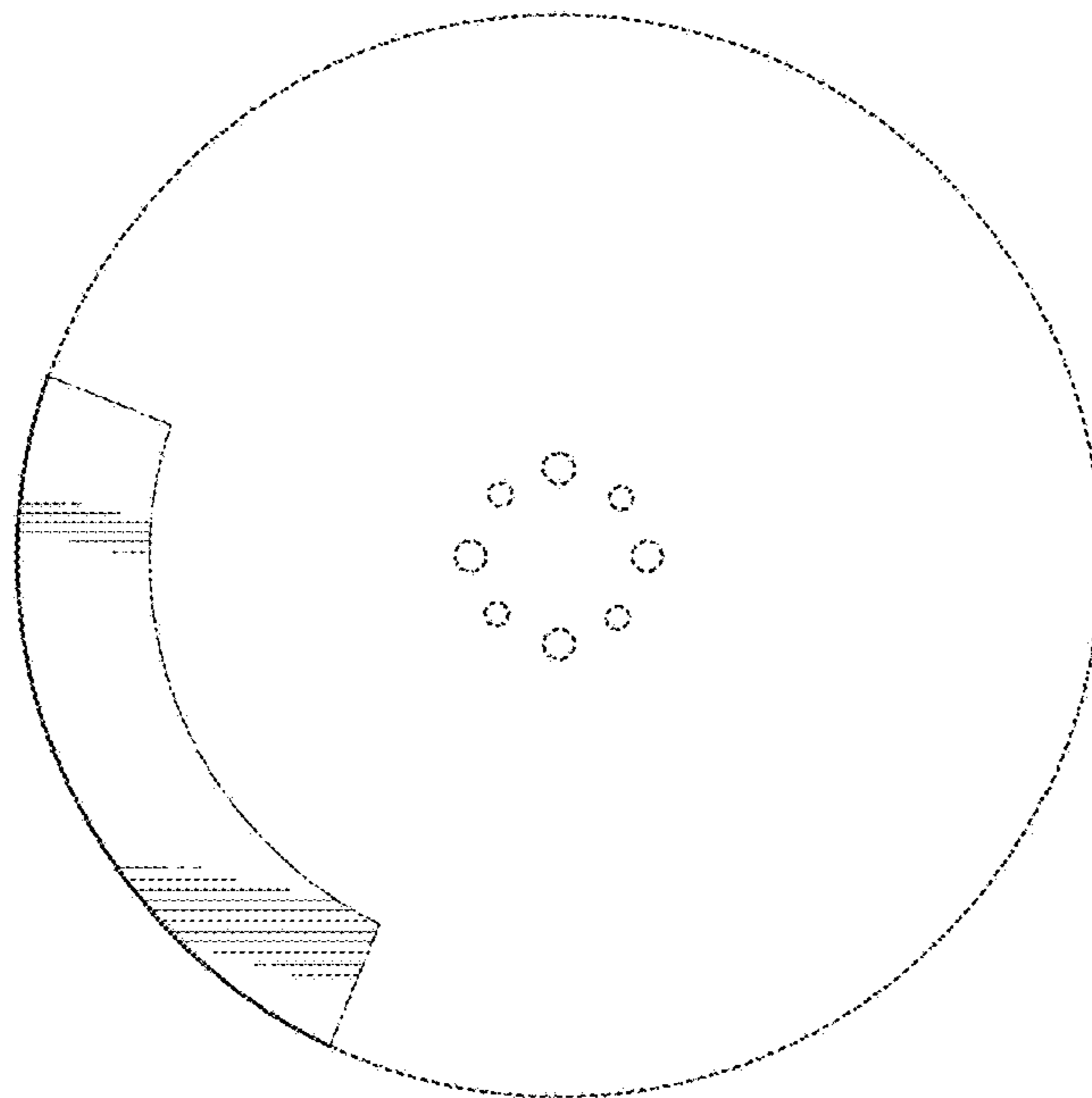


FIG. 3

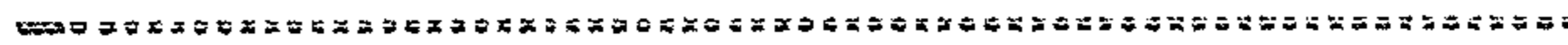


FIG. 4



FIG. 5

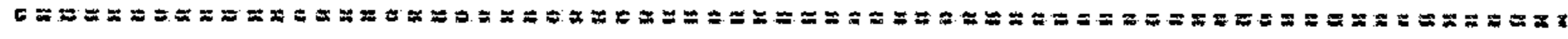


FIG. 6

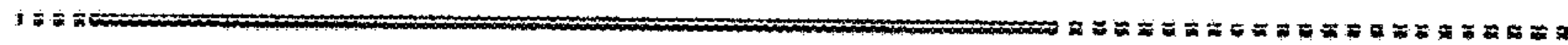


FIG. 7

