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Nishiguchi et al.

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(54) **SEMICONDUCTOR SUBSTRATE**

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

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(30) **Foreign Application Priority Data**

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(51) **LOC (9) Cl.** **13-03**

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

(58) **Field of Classification Search** D13/182;
D6/300, 309; D7/541; D9/428, 433, 456;
D25/103, 109, 138-140, 155-157; 117/95;
257/77, 255, 627, 628; 438/149, 150, 689-692,
438/697

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | |
|-------------------|---------|-------------------|-------|----------|
| D217,594 S * | 5/1970 | Bardell | ..... | D9/456 |
| D262,962 S * | 2/1982 | Strumpell | ..... | D13/182 |
| 4,630,093 A * | 12/1986 | Yamaguchi et al. | ..... | 428/66.7 |
| 5,182,233 A * | 1/1993 | Inoue | ..... | 83/35 |
| 6,927,416 B2 * | 8/2005 | Arai et al. | ..... | 257/48 |
| 7,112,952 B2 * | 9/2006 | Arai et al. | ..... | 438/17 |
| 7,205,639 B2 * | 4/2007 | Hierlemann et al. | ..... | 257/628 |
| 7,476,575 B2 * | 1/2009 | Tsurume et al. | ..... | 438/149 |
| D589,473 S * | 3/2009 | Takamoto et al. | ..... | D13/182 |
| D614,593 S * | 4/2010 | Lee et al. | ..... | D13/182 |
| 7,705,430 B2 * | 4/2010 | Sekiya | ..... | 257/619 |
| D638,382 S * | 5/2011 | Kuzuoka | ..... | D13/180 |
| 2005/0106839 A1 * | 5/2005 | Shimoda et al. | ..... | 438/458 |
| 2005/0287846 A1 * | 12/2005 | Dozen et al. | ..... | 439/85 |
| 2006/0038182 A1 * | 2/2006 | Rogers et al. | ..... | 257/77 |

(Continued)

FOREIGN PATENT DOCUMENTS

| | | |
|----|-------------|--------|
| JP | 8-32038 | 2/1996 |
| JP | 2003-68592 | 3/2003 |
| JP | 2005-260154 | 9/2005 |

OTHER PUBLICATIONS

U.S. Appl. No. 29/379,485, filed Nov. 19, 2010, Taro Nishiguchi et al.

(Continued)

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(57) **CLAIM**

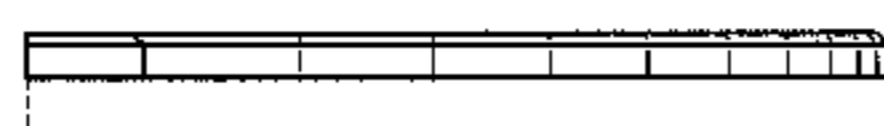
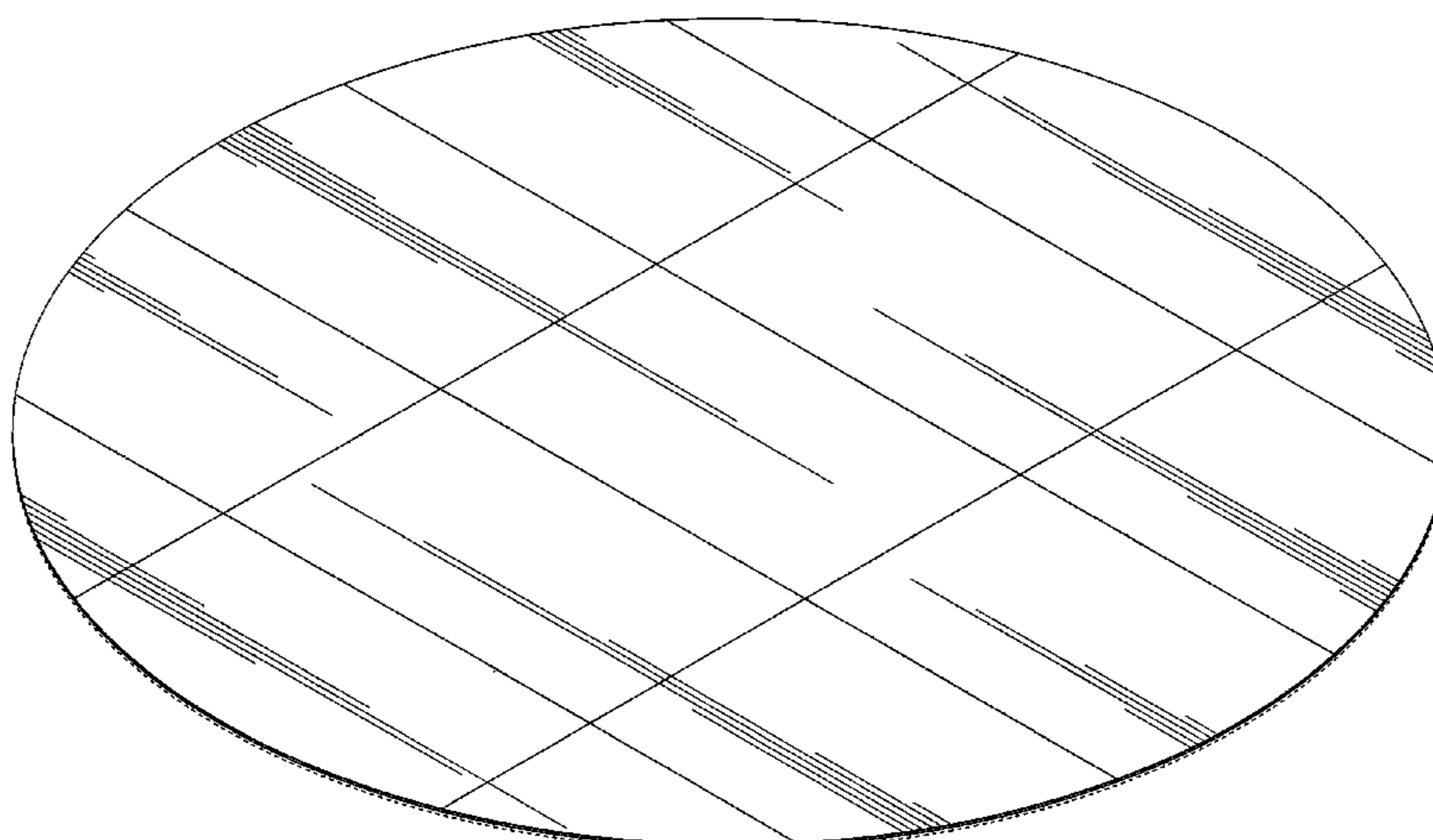
The ornamental design for a semiconductor substrate, as shown and described.

DESCRIPTION

FIG. 1 is a front, right, and top perspective view of a semiconductor substrate showing our new design;
 FIG. 2 is a front view thereof, a rear view being a mirror image thereof;
 FIG. 3 is a top plan view thereof;
 FIG. 4 is a bottom plan view thereof;
 FIG. 5 is a right-side view thereof, a left side view being a mirror image thereof;
 FIG. 6 is a partially enlarged view at 6 shown in FIG. 2 thereof;
 FIG. 7 is a partially enlarged view at 7 shown in FIG. 2 thereof;
 FIG. 8 is an enlarged cross sectional view at 8-8 shown in FIG. 3 thereof; and,
 FIG. 9 is a partially enlarged sectional view at 9 shown in FIG. 8 thereof.

The broken line showing of the semiconductor substrate is for the purpose of illustrating environmental structure and forms no part of the claimed design.

1 Claim, 5 Drawing Sheets



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U.S. PATENT DOCUMENTS

2006/0091402 A1* 5/2006 Shiomi et al. 257/77
2007/0082508 A1* 4/2007 Chiang et al. 438/800
2009/0011598 A1* 1/2009 Nagaya et al. 438/692
2010/0176403 A1* 7/2010 Sasaki et al. 257/77
2011/0111593 A1* 5/2011 Kanno 438/689

OTHER PUBLICATIONS

U.S. Appl. No. 29/379,488, filed Nov. 19, 2010, Taro Nishiguchi et al.
U.S. Appl. No. 29/379,471, filed Nov. 19, 2010, Taro Nishiguchi et al.

U.S. Notice of Allowance dated Jul. 18, 2011, issued in U.S. Appl. No. 29/379,471.
U.S. Office Action dated Jul. 22, 2011, issued in U.S. Appl. No. 29/379,488.
U.S. Notice of Allowance dated Aug. 3, 2011, issued in U.S. Appl. No. 29/379,485.
U.S. Notice of Allowance dated Aug. 30, 2011, issued in U.S. Appl. No. 29/379,471.
U.S. Notice of Allowance dated Aug. 30, 2011, issued in U.S. Appl. No. 29/379,485.

* cited by examiner

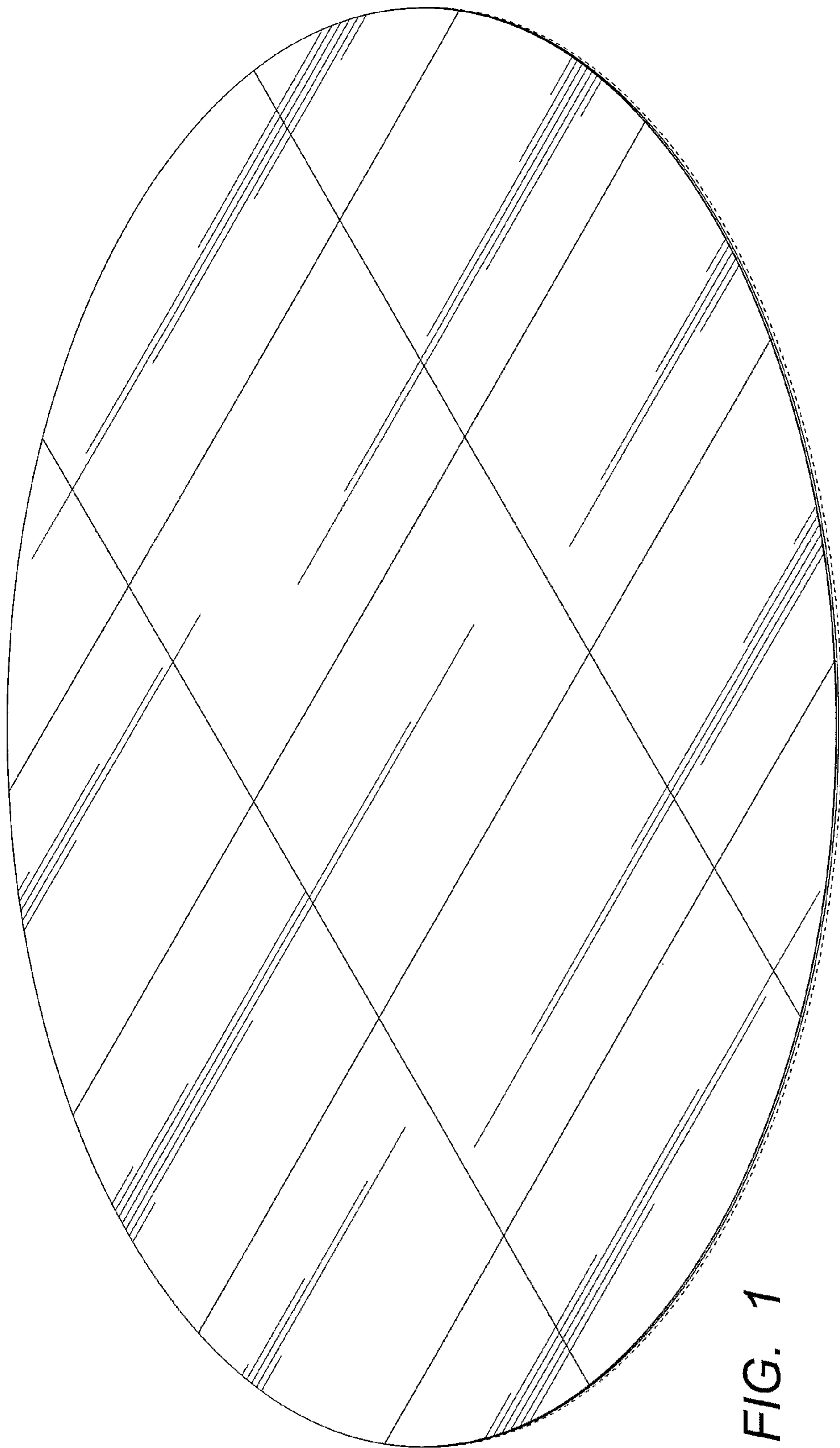


FIG. 1

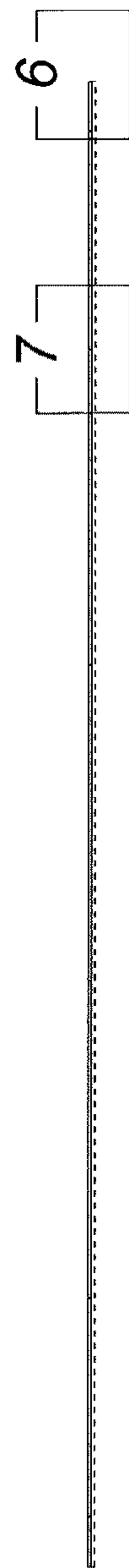


FIG. 2

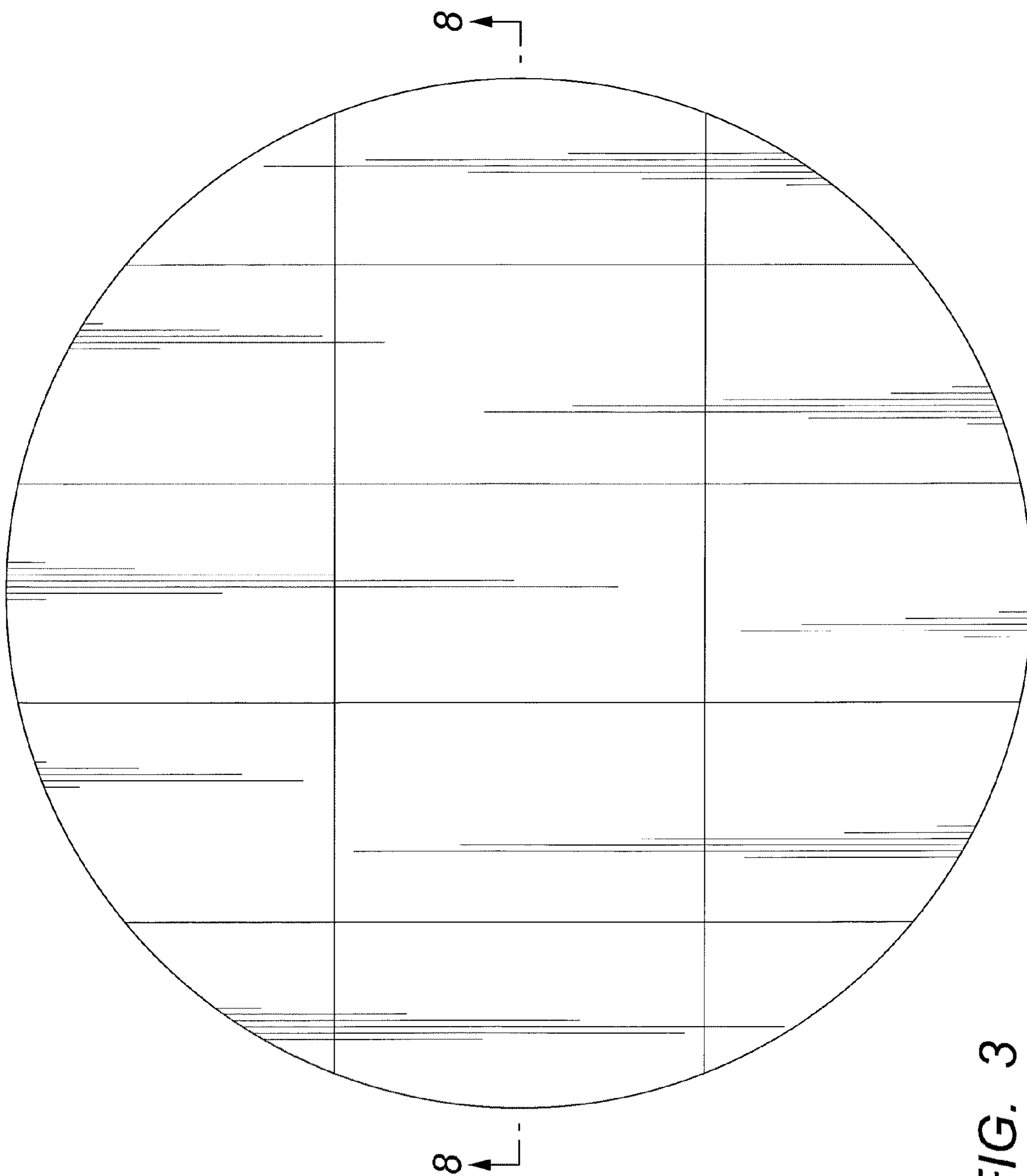


FIG. 3

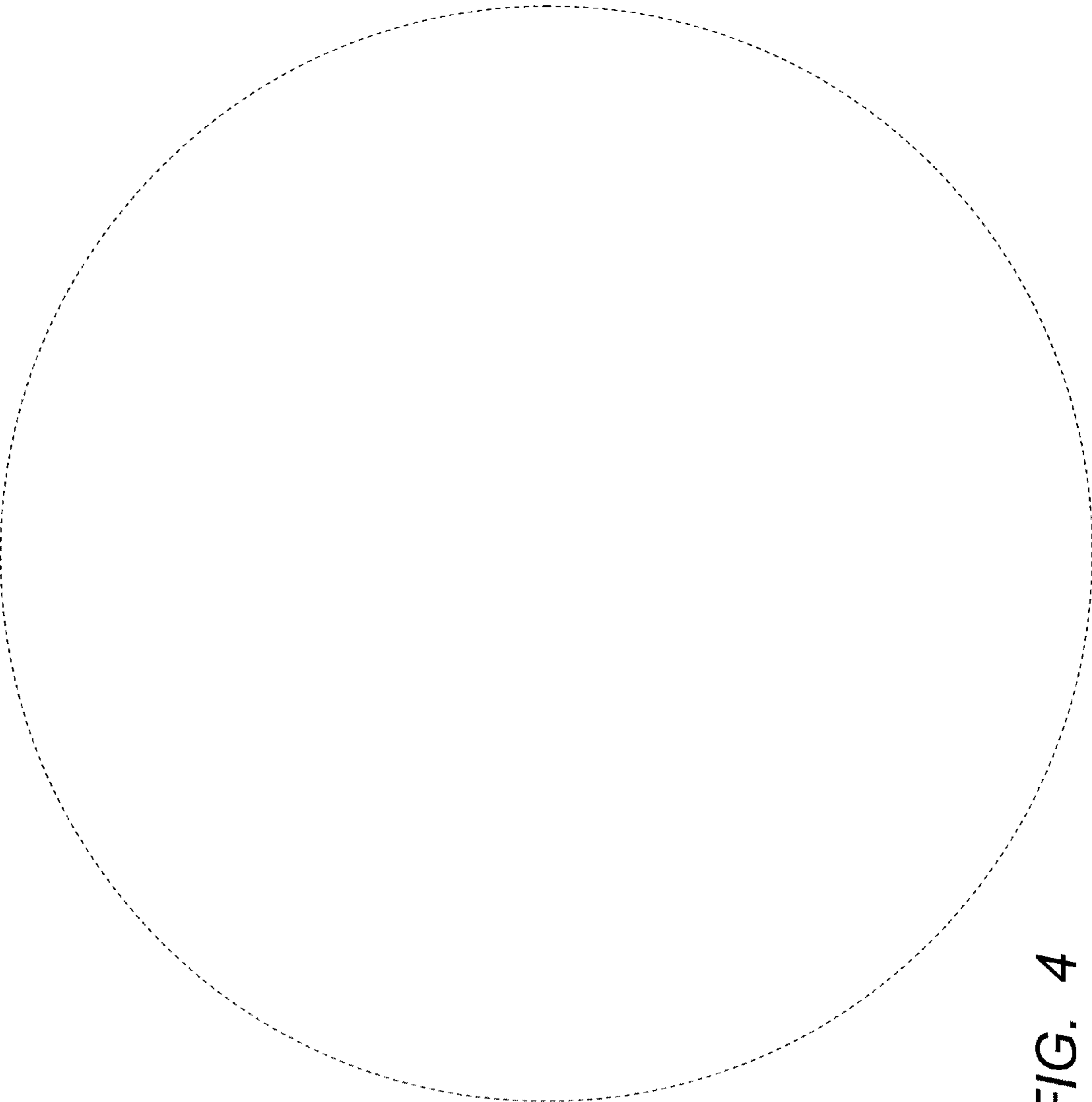


FIG. 4



FIG. 5



FIG. 6



FIG. 7

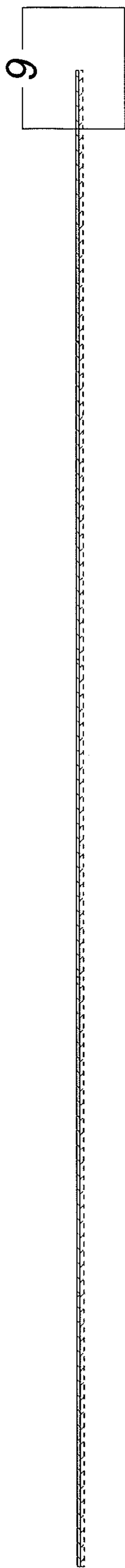


FIG. 8

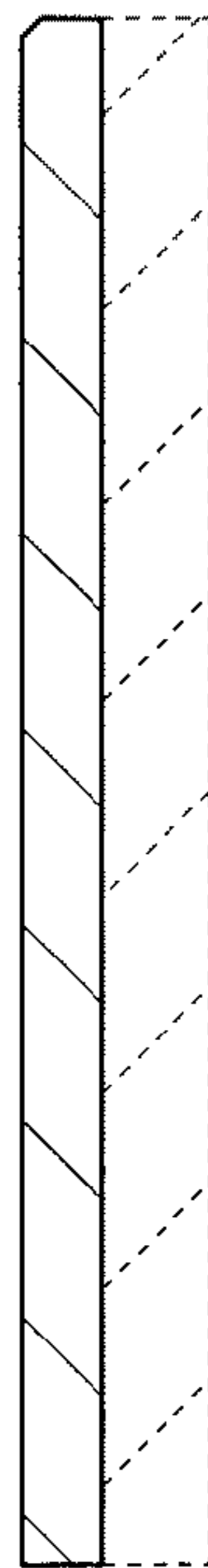


FIG. 9