



US00D559063S

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

(10) **Patent No.:** **US D559,063 S**  
(45) **Date of Patent:** **\*\* Jan. 8, 2008**

(54) **POLISHING PAD**

FOREIGN PATENT DOCUMENTS

(75) Inventors: **Takahiro Okamoto**, Tokyo (JP);  
**Hiroshi Shiho**, Tokyo (JP)

JP 1155897 8/2002

(Continued)

(73) Assignee: **JSR Corporation**, Tokyo (JP)

*Primary Examiner*—T. Chase Nelson

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

(74) *Attorney, Agent, or Firm*—Oblon, Spivak, McClelland,  
Maier & Neustadt, P.C.

(21) Appl. No.: **29/213,405**

(57) **CLAIM**

(22) Filed: **Sep. 17, 2004**

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

(30) **Foreign Application Priority Data**

Mar. 17, 2004 (JP) ..... 2004-008159  
Mar. 17, 2004 (JP) ..... 2004-008160

**DESCRIPTION**

(51) **LOC (8) Cl.** ..... **08-05**

FIG. 1 is a top plan view of the polishing pad;

(52) **U.S. Cl.** ..... **D8/70**

FIG. 2 is a bottom plan view thereof;

(58) **Field of Classification Search** ..... D8/61,  
D8/62, 63, 70; D15/124, 126, 138, 139,  
D15/140; 15/230; 83/835; 451/6, 60, 287,  
451/288, 359, 526, 527, 533, 541, 548, 446,  
451/550

FIG. 3 is a front elevational view thereof, the left side elevational view, the right side elevational view, and the rear elevational view being a mirror image of the front view shown;

See application file for complete search history.

FIG. 4 is an enlarged, partial view thereof taken at coordinates 4—4 in FIG. 1;

(56) **References Cited**

U.S. PATENT DOCUMENTS

88,649 A \* 4/1869 Machamer ..... 83/835  
494,471 A \* 3/1893 Gardner ..... 451/528  
1,092,588 A \* 4/1914 Monkiawicz ..... 451/533  
1,569,403 A \* 1/1926 Slye ..... 451/548  
3,046,708 A \* 7/1962 Prunier ..... 451/548  
5,007,207 A \* 4/1991 Phaal ..... 451/548  
5,131,190 A \* 7/1992 Gougouyan ..... 451/548  
5,507,740 A \* 4/1996 O'Donnell, Jr. .... 33/511  
5,733,178 A \* 3/1998 Ohishi ..... 451/533  
5,778,481 A \* 7/1998 Amsden et al. .... 15/230  
5,899,799 A \* 5/1999 Tjaden et al. .... 15/230  
5,921,855 A \* 7/1999 Osterheld et al. .... 451/527  
5,984,769 A \* 11/1999 Bennett et al. .... 451/527

FIG. 5 is a greatly enlarged, partial view thereof taken at coordinates 5—5 in FIG. 1;

FIG. 6 is a cross-sectional view thereof taken along line 6—6 in FIG. 5;

FIG. 7 is a further enlargement of the cross-sectional view of part 7 shown in FIG. 6;

FIG. 8 is a greatly enlarged, partial view taken at coordinates 8—5 in FIG. 1;

FIG. 9 is a cross-sectional view taken along line 9—9 in FIG. 8;

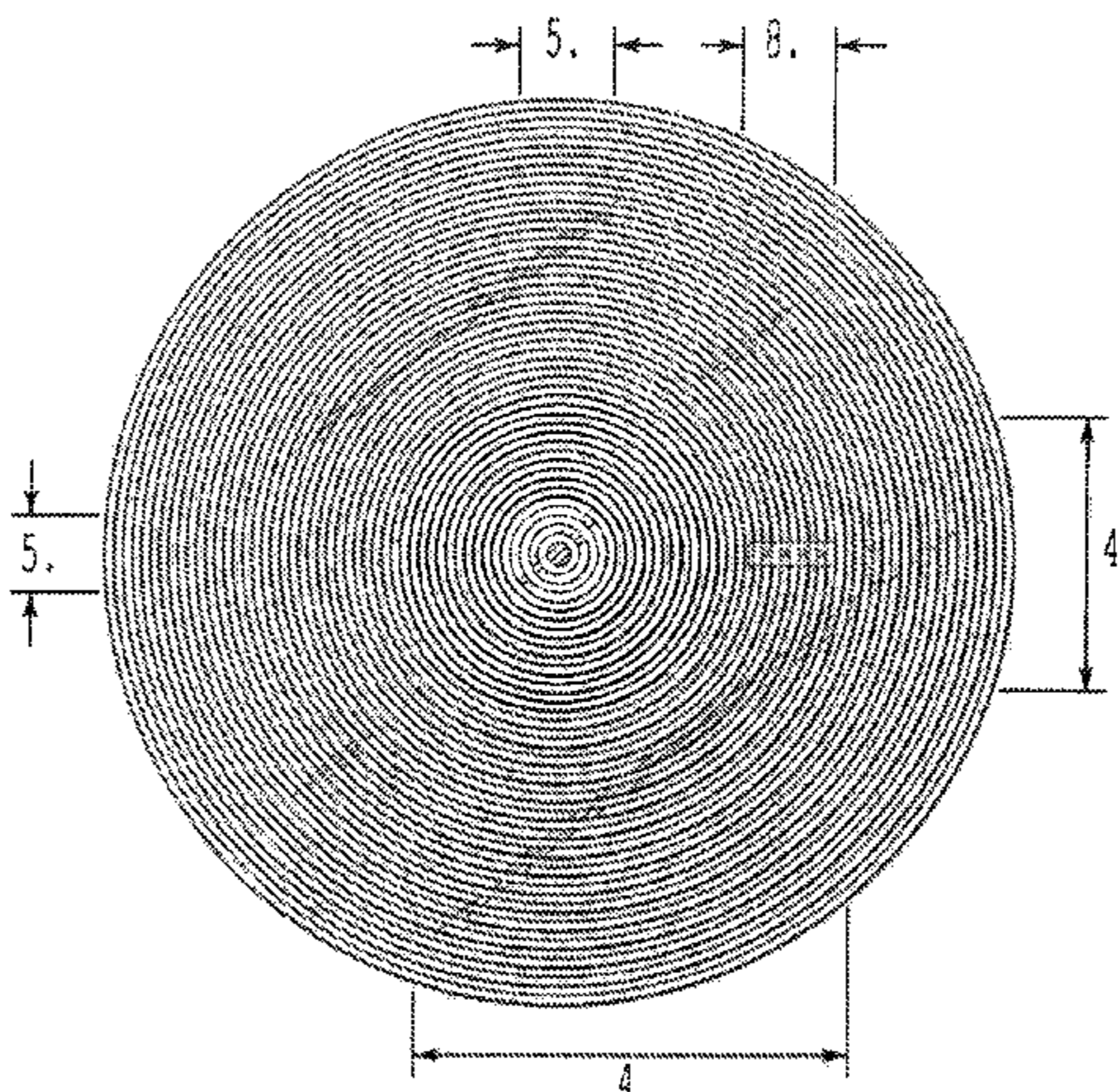
FIG. 10 is a further enlargement of the cross-sectional view of part 10 of FIG. 9;

FIG. 11 is a further enlargement of the cross-sectional view of part 11 in FIG. 10; and,

FIG. 12 is a further enlargement of the cross-sectional view of part 12 in FIG. 11.

(Continued)

**1 Claim, 7 Drawing Sheets**



# US D559,063 S

Page 2

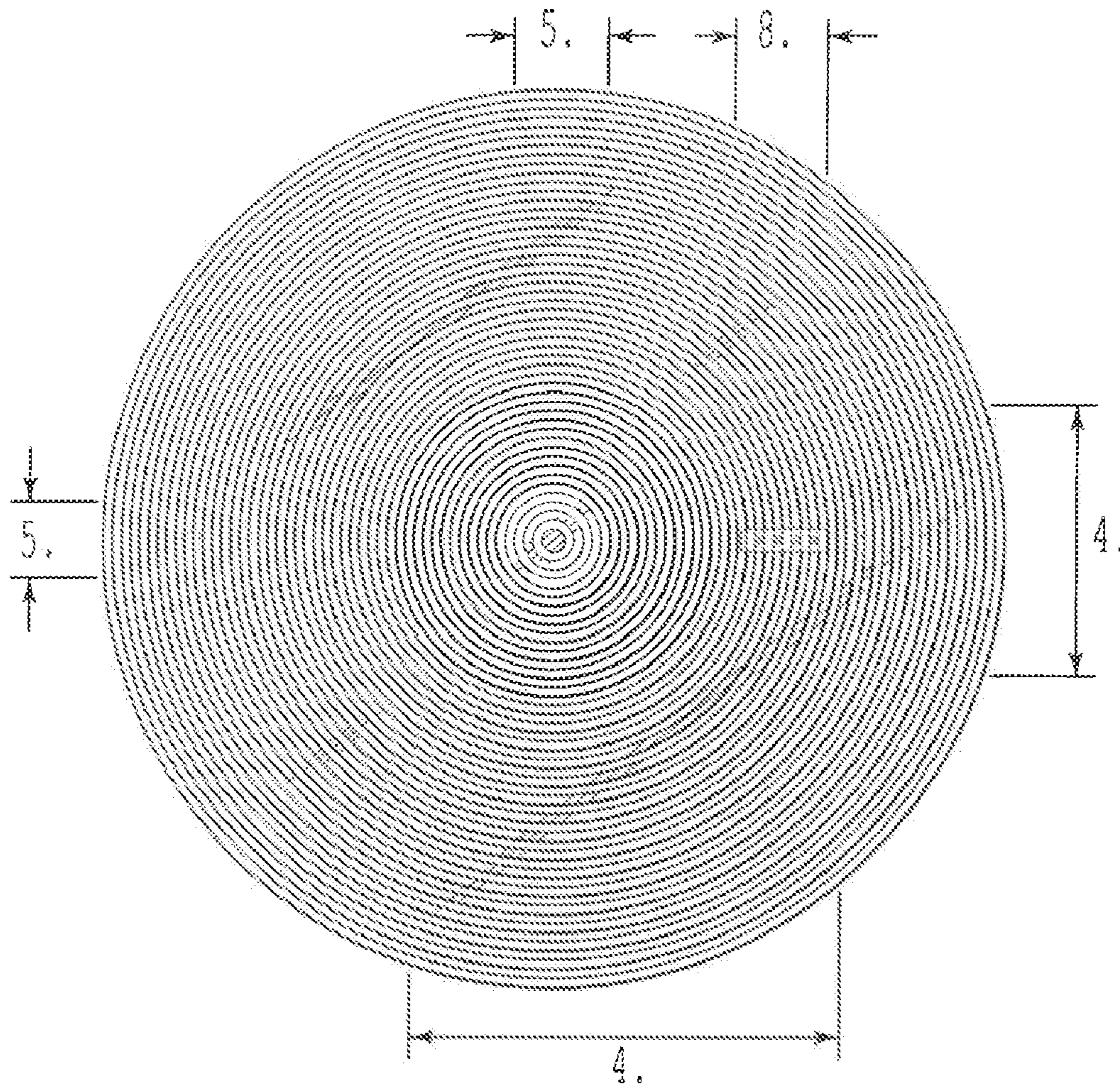
## U.S. PATENT DOCUMENTS

|              |      |         |                       |         |  |  |  |  |
|--------------|------|---------|-----------------------|---------|--|--|--|--|
| 6,066,266    | A *  | 5/2000  | Osugi et al. ....     | 216/85  |  |  |  |  |
| 6,217,426    | B1 * | 4/2001  | Tolles et al. ....    | 451/288 |  |  |  |  |
| 6,248,000    | B1 * | 6/2001  | Aiyer .....           | 451/41  |  |  |  |  |
| 6,267,643    | B1 * | 7/2001  | Teng et al. ....      | 451/287 |  |  |  |  |
| 6,273,806    | B1 * | 8/2001  | Bennett et al. ....   | 451/527 |  |  |  |  |
| 6,332,830    | B1 * | 12/2001 | Okamura et al. ....   | 451/288 |  |  |  |  |
| 6,375,550    | B1 * | 4/2002  | Berman .....          | 451/288 |  |  |  |  |
| 6,387,312    | B1   | 5/2002  | Roberts et al.        |         |  |  |  |  |
| 6,402,594    | B1 * | 6/2002  | Kobayashi et al. .... | 451/287 |  |  |  |  |
| 6,443,810    | B1 * | 9/2002  | Shih .....            | 451/446 |  |  |  |  |
| 6,517,417    | B2 * | 2/2003  | Budinger et al. ....  | 451/6   |  |  |  |  |
| 6,520,847    | B2 * | 2/2003  | Osterheld et al. .... | 451/527 |  |  |  |  |
| 6,544,111    | B1 * | 4/2003  | Kimura et al. ....    | 451/288 |  |  |  |  |
| 6,544,373    | B2 * | 4/2003  | Chen et al. ....      | 451/533 |  |  |  |  |
| 6,561,890    | B2 * | 5/2003  | Tominaga .....        | 451/527 |  |  |  |  |
| 6,645,061    | B1 * | 11/2003 | Bennett et al. ....   | 451/527 |  |  |  |  |
| 6,659,850    | B2 * | 12/2003 | Korovin et al. ....   | 451/288 |  |  |  |  |
| 6,685,548    | B2 * | 2/2004  | Chen et al. ....      | 451/527 |  |  |  |  |
| 6,699,115    | B2 * | 3/2004  | Osterheld et al. .... | 451/527 |  |  |  |  |
| 6,702,651    | B2 * | 3/2004  | Tolles .....          | 451/287 |  |  |  |  |
| 6,749,486    | B2 * | 6/2004  | Shibuki .....         | 451/533 |  |  |  |  |
| 6,824,447    | B2 * | 11/2004 | Takahashi et al. .... | 451/6   |  |  |  |  |
| 6,824,455    | B2 * | 11/2004 | Osterheld et al. .... | 451/287 |  |  |  |  |
| 6,875,096    | B2 * | 4/2005  | Park et al. ....      | 451/527 |  |  |  |  |
| 6,899,607    | B2 * | 5/2005  | Brown .....           | 451/288 |  |  |  |  |
| 6,899,611    | B2 * | 5/2005  | Reinhardt et al. .... | 451/527 |  |  |  |  |
| D510,850     | S *  | 10/2005 | Boler, Jr. ....       | D8/70   |  |  |  |  |
| 6,951,510    | B1 * | 10/2005 | Rodriguez et al. .... | 451/288 |  |  |  |  |
| 6,960,123    | B2 * | 11/2005 | Mitarai .....         | 451/533 |  |  |  |  |
| 7,029,747    | B2 * | 4/2006  | Huh et al. ....       | 451/533 |  |  |  |  |
| 7,059,937    | B2 * | 6/2006  | Brown .....           | 451/288 |  |  |  |  |
| 7,070,480    | B2 * | 7/2006  | Moon et al. ....      | 451/527 |  |  |  |  |
| 7,112,119    | B1 * | 9/2006  | Swedek et al. ....    | 451/6   |  |  |  |  |
| 2001/0031610 | A1 * | 10/2001 | Budinger et al. ....  | 451/41  |  |  |  |  |
| 2002/0137450 | A1 * | 9/2002  | Osterheld et al. .... | 451/527 |  |  |  |  |
| 2002/0173231 | A1   | 11/2002 | Hasegawa              |         |  |  |  |  |
| 2003/0068964 | A1 * | 4/2003  | Akagami et al. ....   | 451/287 |  |  |  |  |
| 2003/0092371 | A1 * | 5/2003  | Osterheld et al. .... | 451/527 |  |  |  |  |
| 2003/0194962 | A1 * | 10/2003 | Weber .....           | 451/526 |  |  |  |  |
| 2003/0199234 | A1 * | 10/2003 | Chen et al. ....      | 451/527 |  |  |  |  |
| 2003/0207651 | A1 * | 11/2003 | Kim et al. ....       | 451/6   |  |  |  |  |
| 2004/0014413 | A1 * | 1/2004  | Kawahashi et al. .... | 451/527 |  |  |  |  |
| 2004/0053570 | A1 * | 3/2004  | Naujok .....          | 451/527 |  |  |  |  |
| 2004/0058630 | A1 * | 3/2004  | Park et al. ....      | 451/288 |  |  |  |  |
| 2004/0072516 | A1 * | 4/2004  | Osterheld et al. .... | 451/287 |  |  |  |  |
| 2004/0082271 | A1 * | 4/2004  | Wiswesser et al. .... | 451/6   |  |  |  |  |
| 2004/0102144 | A1 * | 5/2004  | Brown .....           | 451/288 |  |  |  |  |
| 2004/0127145 | A1 * | 7/2004  | Takahashi et al. .... | 451/6   |  |  |  |  |
| 2004/0259476 | A1 * | 12/2004 | Korovin et al. ....   | 451/6   |  |  |  |  |
| 2005/0113011 | A1 * | 5/2005  | Miyauchi et al. ....  | 451/527 |  |  |  |  |
| 2005/0245171 | A1 * | 11/2005 | Hosaka et al. ....    | 451/6   |  |  |  |  |
| 2006/0063471 | A1 * | 3/2006  | Muldowney .....       | 451/6   |  |  |  |  |
| 2006/0194530 | A1 * | 8/2006  | Thomson et al. ....   | 451/527 |  |  |  |  |
| 2006/0199473 | A1 * | 9/2006  | Suzuki et al. ....    | 451/527 |  |  |  |  |

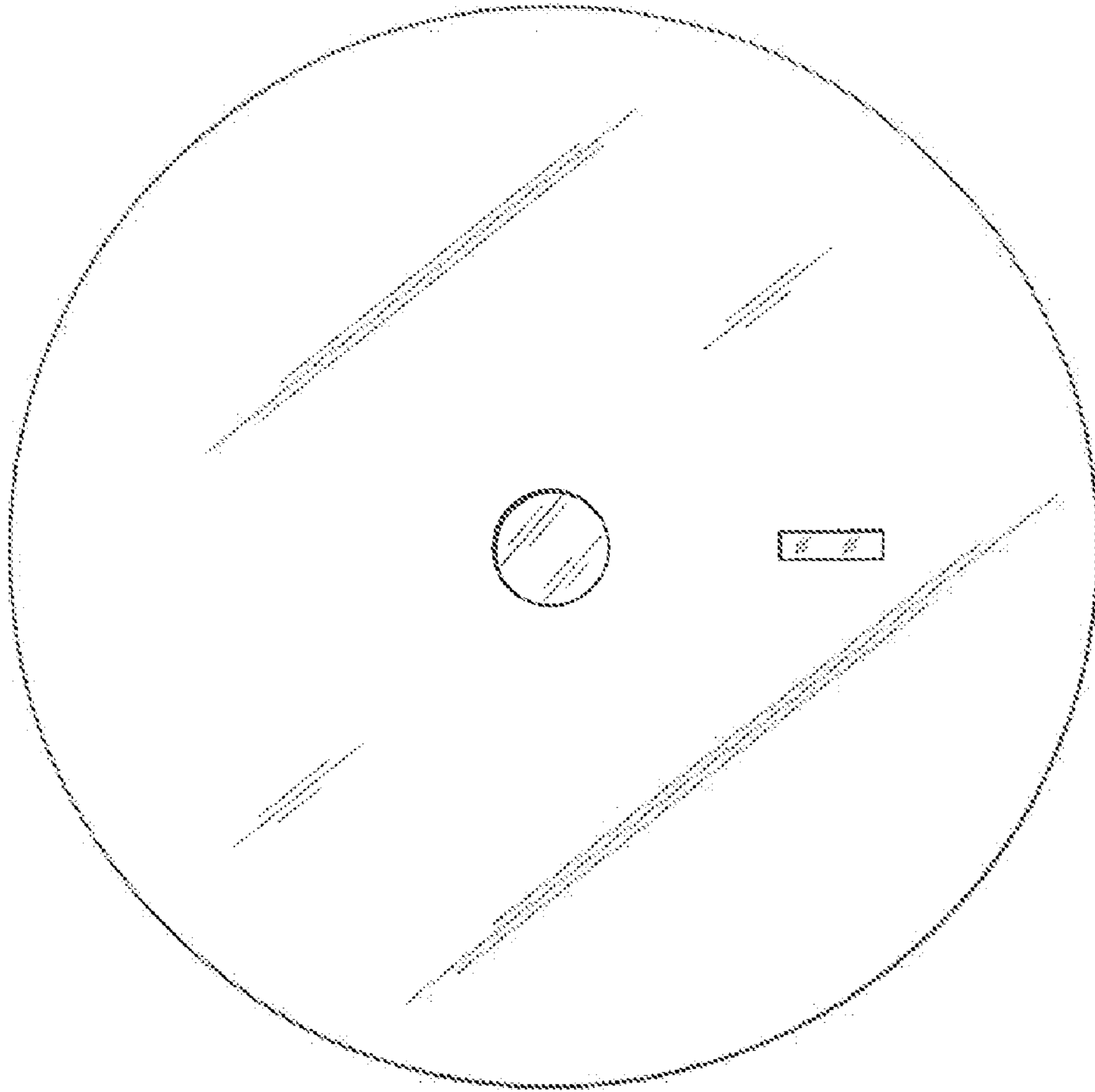
## FOREIGN PATENT DOCUMENTS

JP 1155898 8/2002

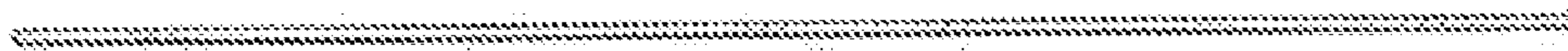
\* cited by examiner



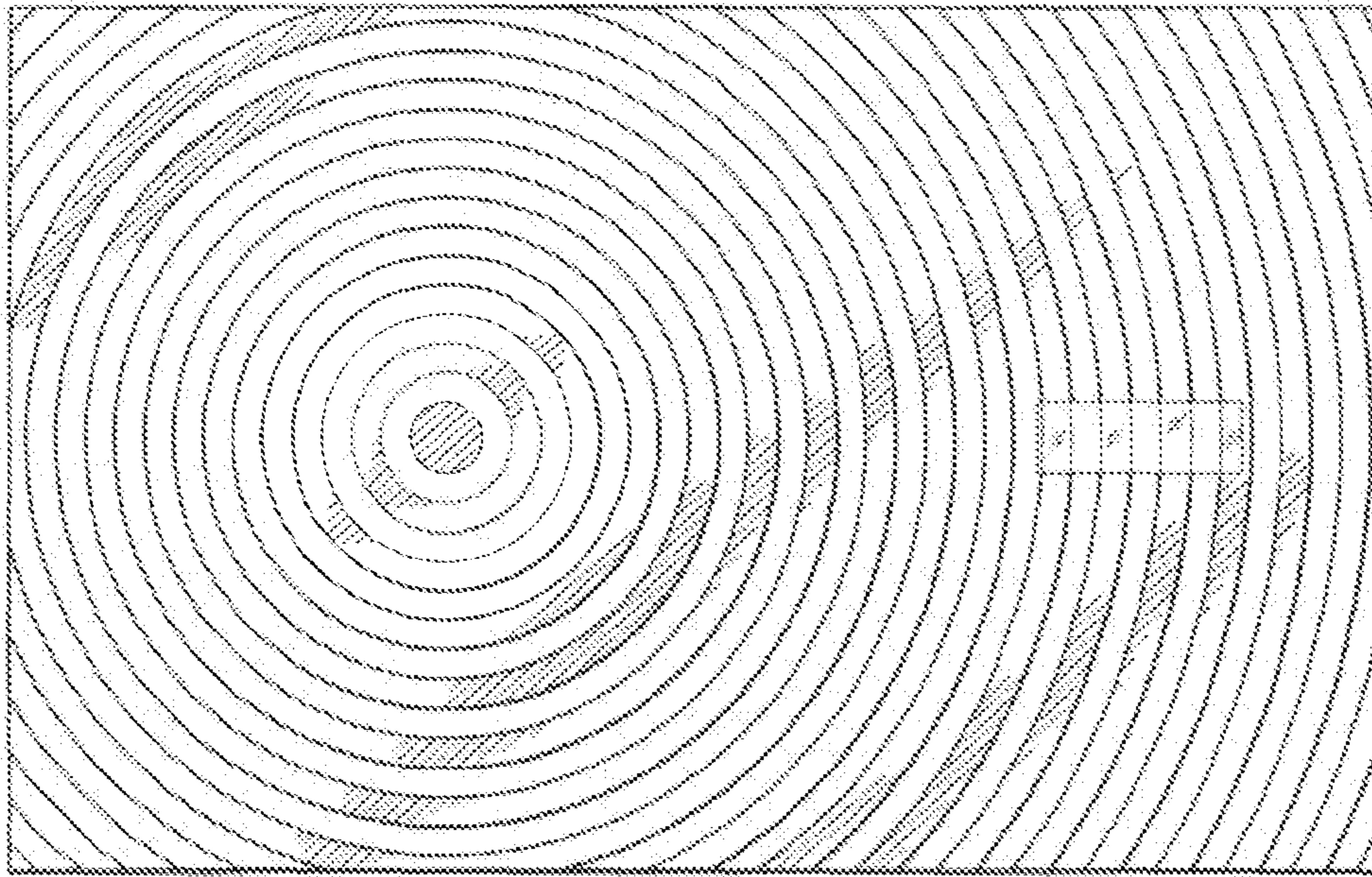
*Fig. 1*



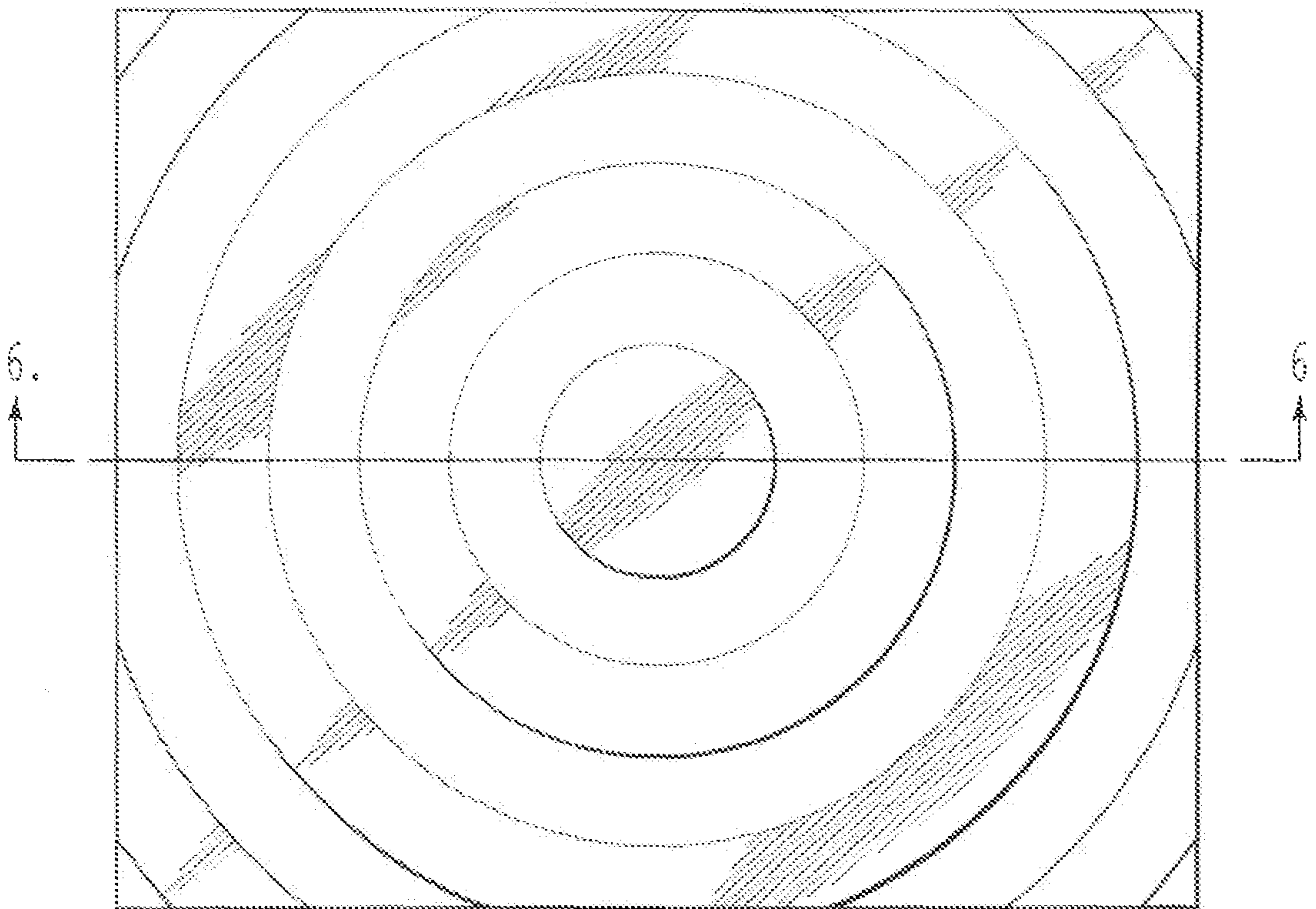
*Fig. 2*



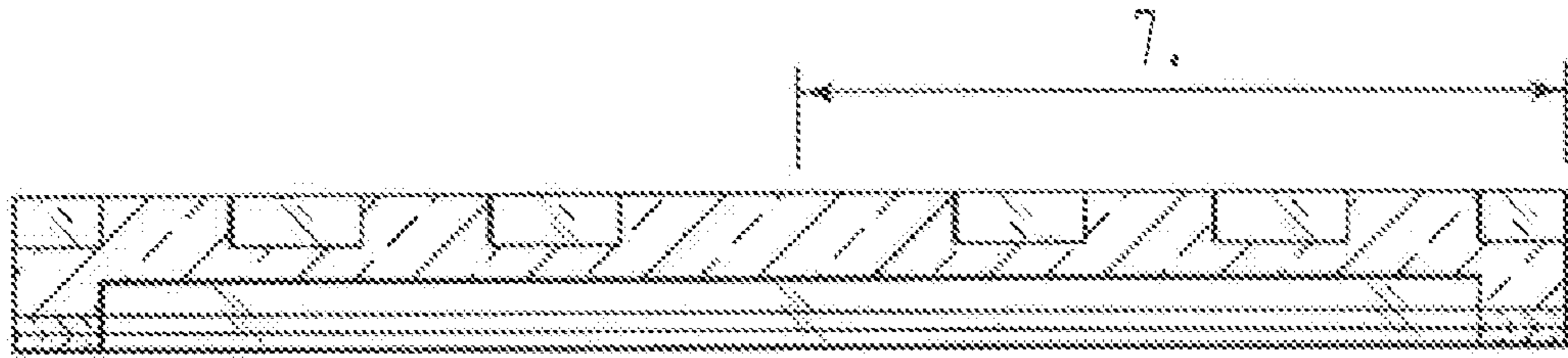
*Fig. 3*



*Fig. 4*



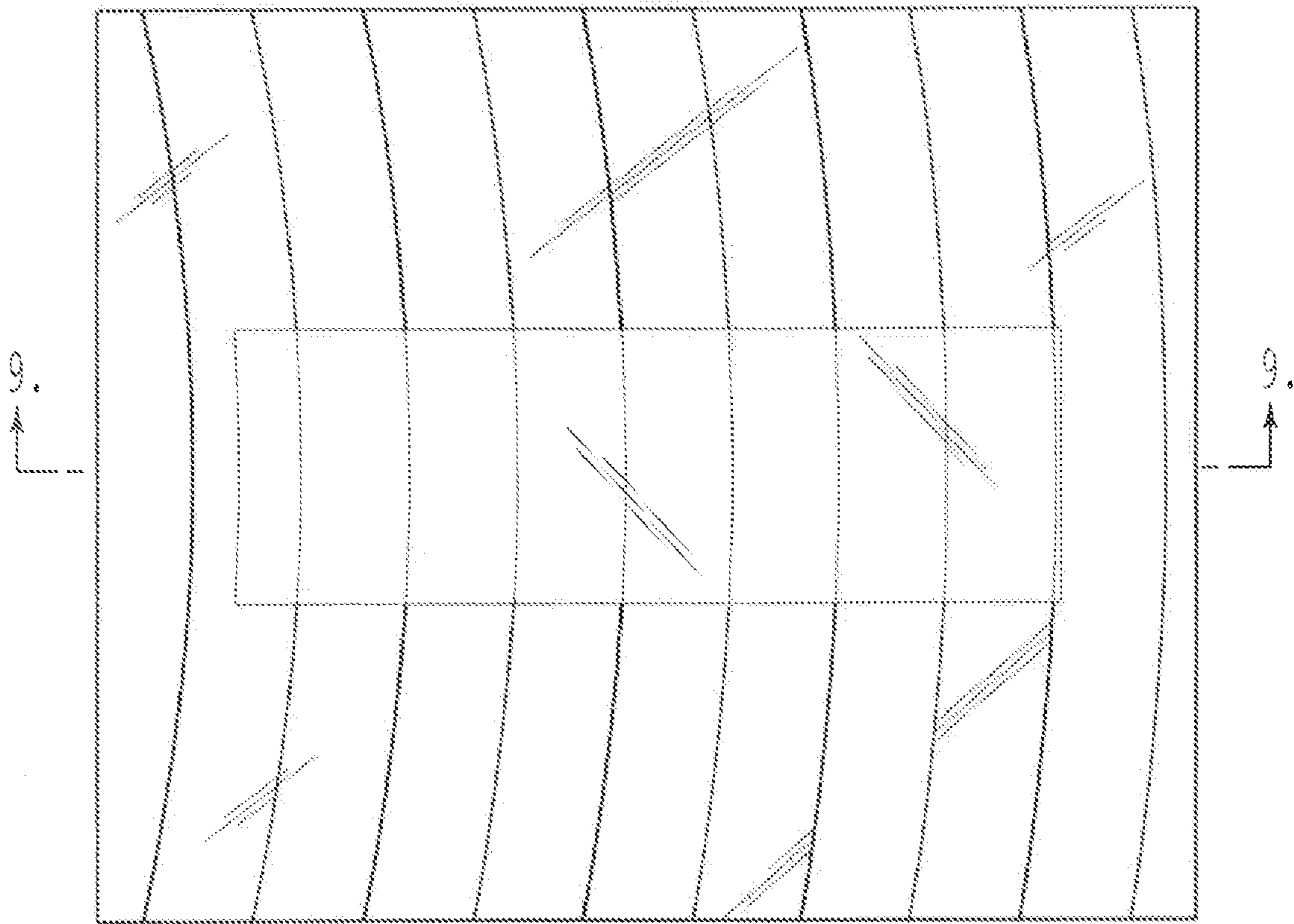
*Fig. 5*



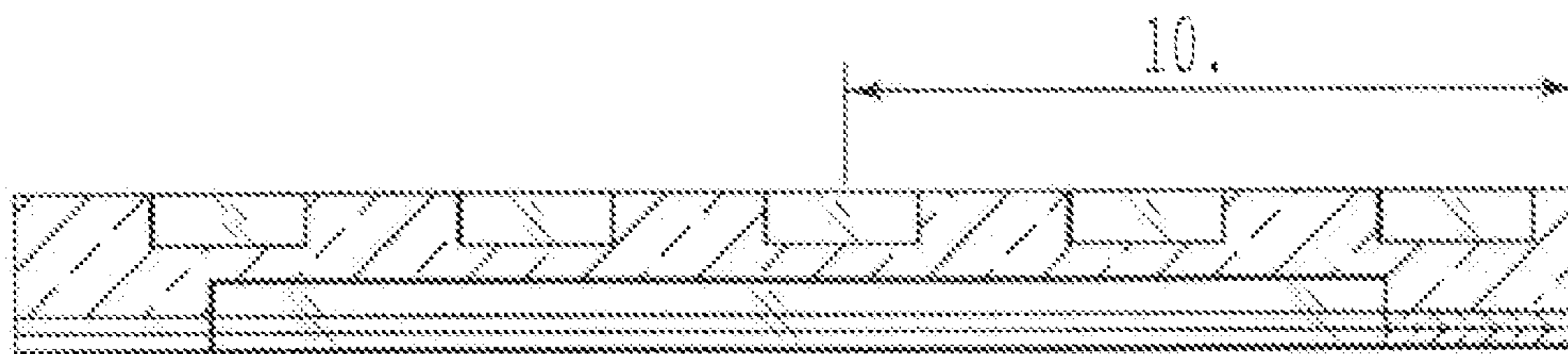
*Fig. 6*



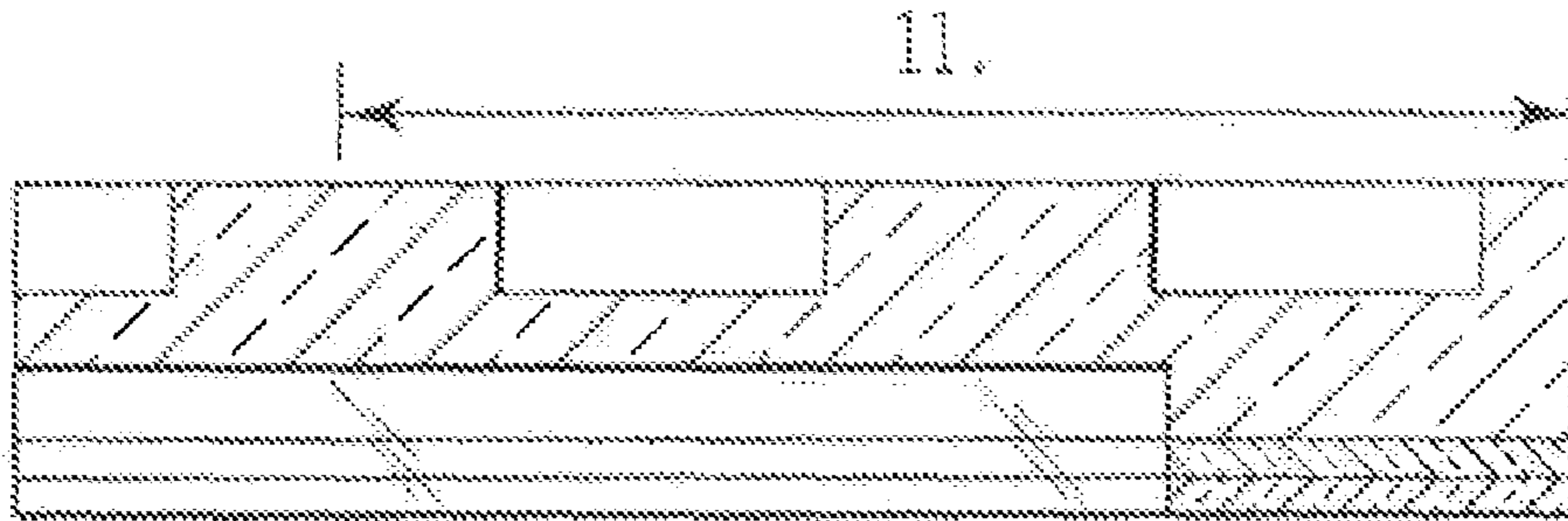
*Fig. 7*



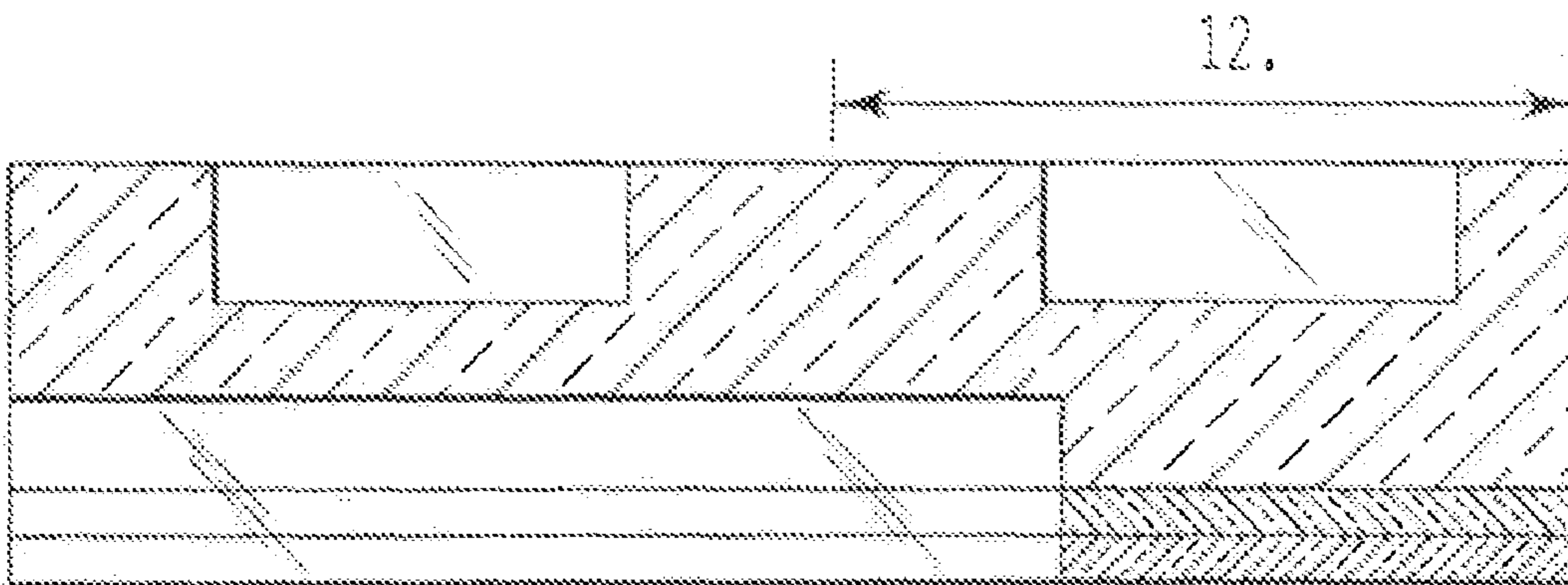
*Fig. 8*



*Fig. 9*

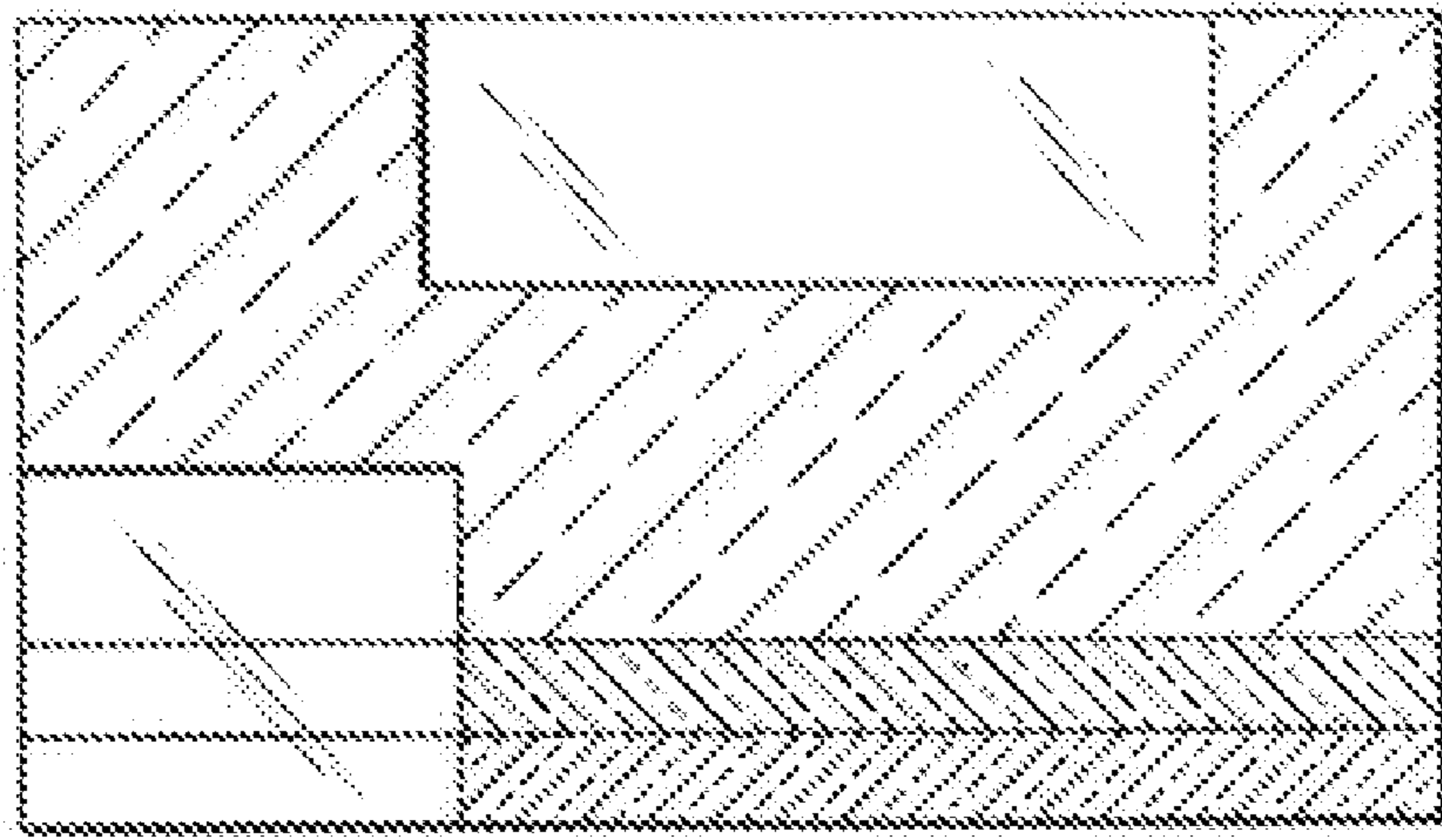


*Fig. 10*



*Fig. 11*





*Fig. 12*