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(12) **United States Design Patent** (10) **Patent No.:** **US D846,513 S**  
**Takebayashi et al.** (45) **Date of Patent:** **\*\* Apr. 23, 2019**

(54) **SHEET HEATER FOR ELECTROSTATIC CHUCK**

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(73) Assignee: **NGK Insulators, Ltd.**, Nagoya (JP)

(\*\*) Term: **15 Years**

(21) Appl. No.: **29/581,749**

(22) Filed: **Oct. 21, 2016**

(30) **Foreign Application Priority Data**

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Apr. 27, 2016 (JP) ..... 2016-009255  
Apr. 27, 2016 (JP) ..... 2016-009258

(51) **LOC (11) Cl.** ..... **13-03**

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

(58) **Field of Classification Search**  
USPC ..... D13/182; 219/443.1, 444.1; 118/724,  
118/725

(Continued)

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(57) **CLAIM**

The ornamental design for a sheet heater for electrostatic chuck, as shown and described.

**DESCRIPTION**

FIG. 1 is a front view of a first embodiment of a sheet heater for electrostatic chuck illustrating our new design;

FIG. 2 is a rear view thereof;

FIG. 3 is a top view thereof, the bottom view thereof being a mirror image;

FIG. 4 is a right view thereof, the left view thereof being a mirror image;

FIG. 5 is an enlarged view taken along line 5-5 in FIG. 1;

FIG. 6 is an enlarged view taken along line 6-6 in FIG. 5;

FIG. 7 is an enlarged view taken along line 7-7 in FIG. 6;

FIG. 8 is an enlarged view taken along line 8-8 in FIG. 7;

FIG. 9 is a front view of a second embodiment of a sheet heater for electrostatic chuck illustrating our new design;

FIG. 10 is a rear view thereof;

FIG. 11 is a top view thereof, the bottom view thereof being a mirror image;

FIG. 12 is a right view thereof, the left view thereof being a mirror image;

FIG. 13 is an enlarged view taken along line 13-13 in FIG. 9;

FIG. 14 is an enlarged view taken along line 14-14 in FIG. 13;

FIG. 15 is an enlarged view taken along line 15-15 in FIG. 14;

FIG. 16 is an enlarged view taken along line 16-16 in FIG. 15;

FIG. 17 is a front view of a third embodiment of a sheet heater for electrostatic chuck illustrating our new design;

FIG. 18 is a rear view thereof;

FIG. 19 is a top view thereof, the bottom view thereof being a mirror image;

FIG. 20 is a right view thereof, the left view thereof being a mirror image;

FIG. 21 is an enlarged view taken along line 21-21 in FIG. 17;

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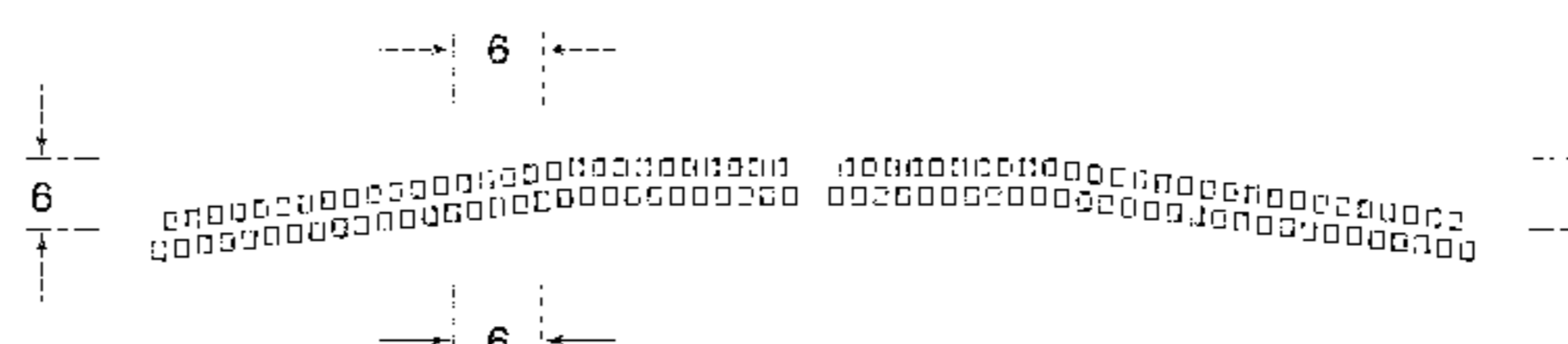
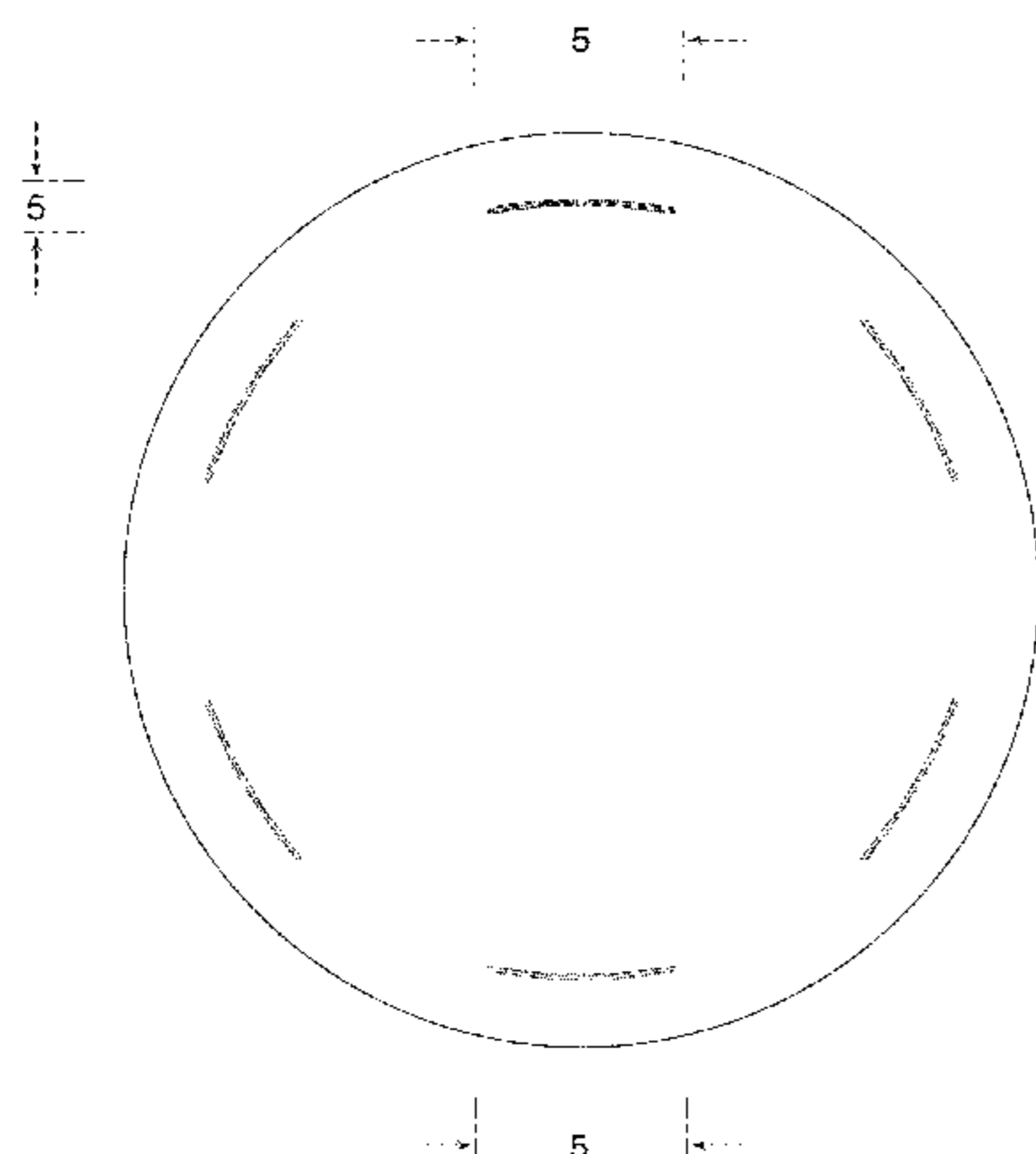


FIG. 22 is an enlarged view taken along line 22-22 in FIG. 21;  
 FIG. 23 is an enlarged view taken along line 23-23 in FIG. 22; and,  
 FIG. 24 is an enlarged view taken along line 24-24 in FIG. 23.

The broken lines in the drawings depict unclaimed subject matter only and form no part of the claimed design.

**1 Claim, 24 Drawing Sheets**

(58) **Field of Classification Search**

CPC ..... H01J 2237/332; H01J 2237/338; H01J 37/32642; H01L 21/67069; H01L 21/67103; H01L 21/67109; H01L 21/67248; H01L 21/683; H01L 21/6831; H01L 21/68714; H01L 21/68792

See application file for complete search history.

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Fig. 1

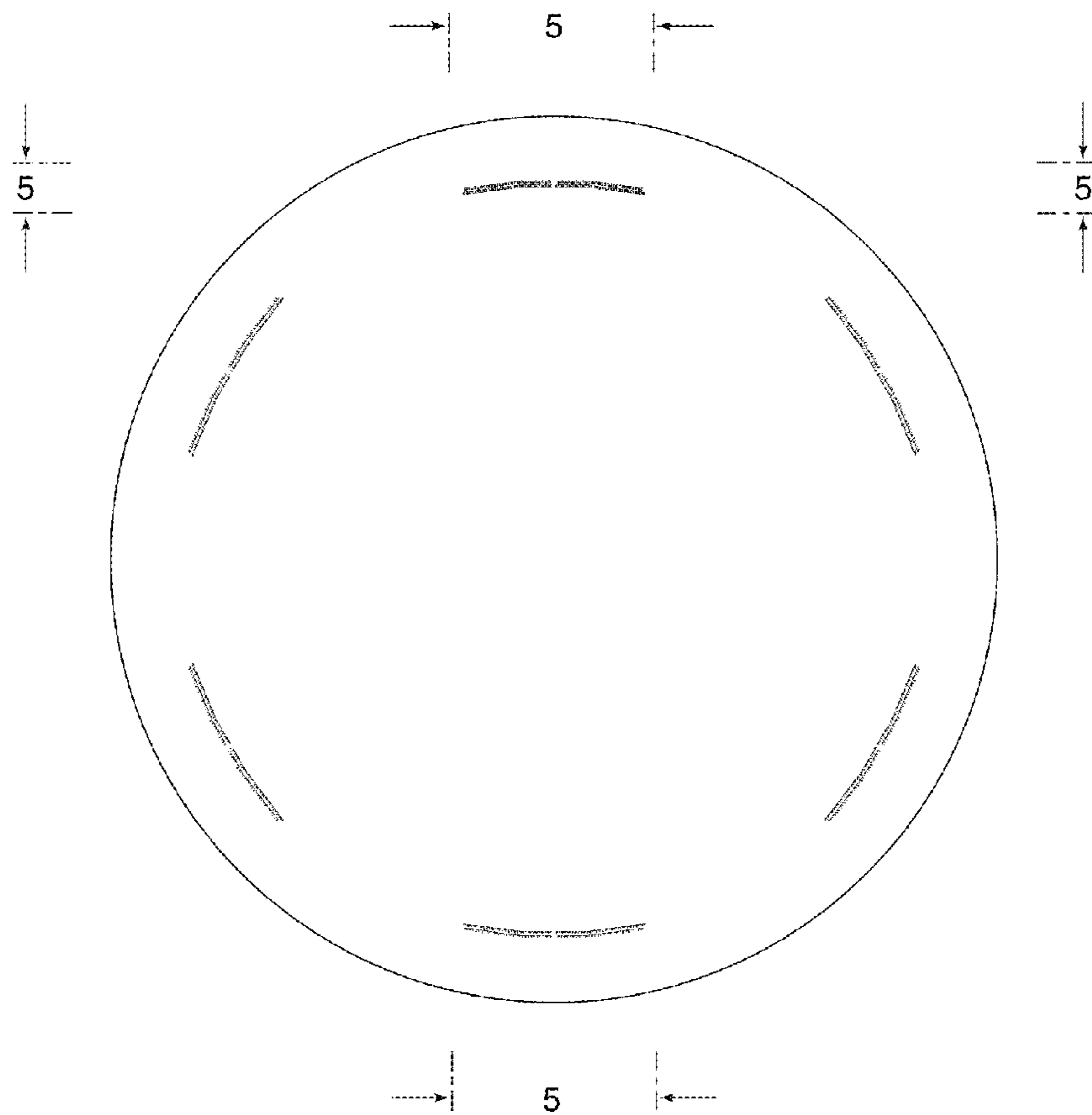


Fig.2

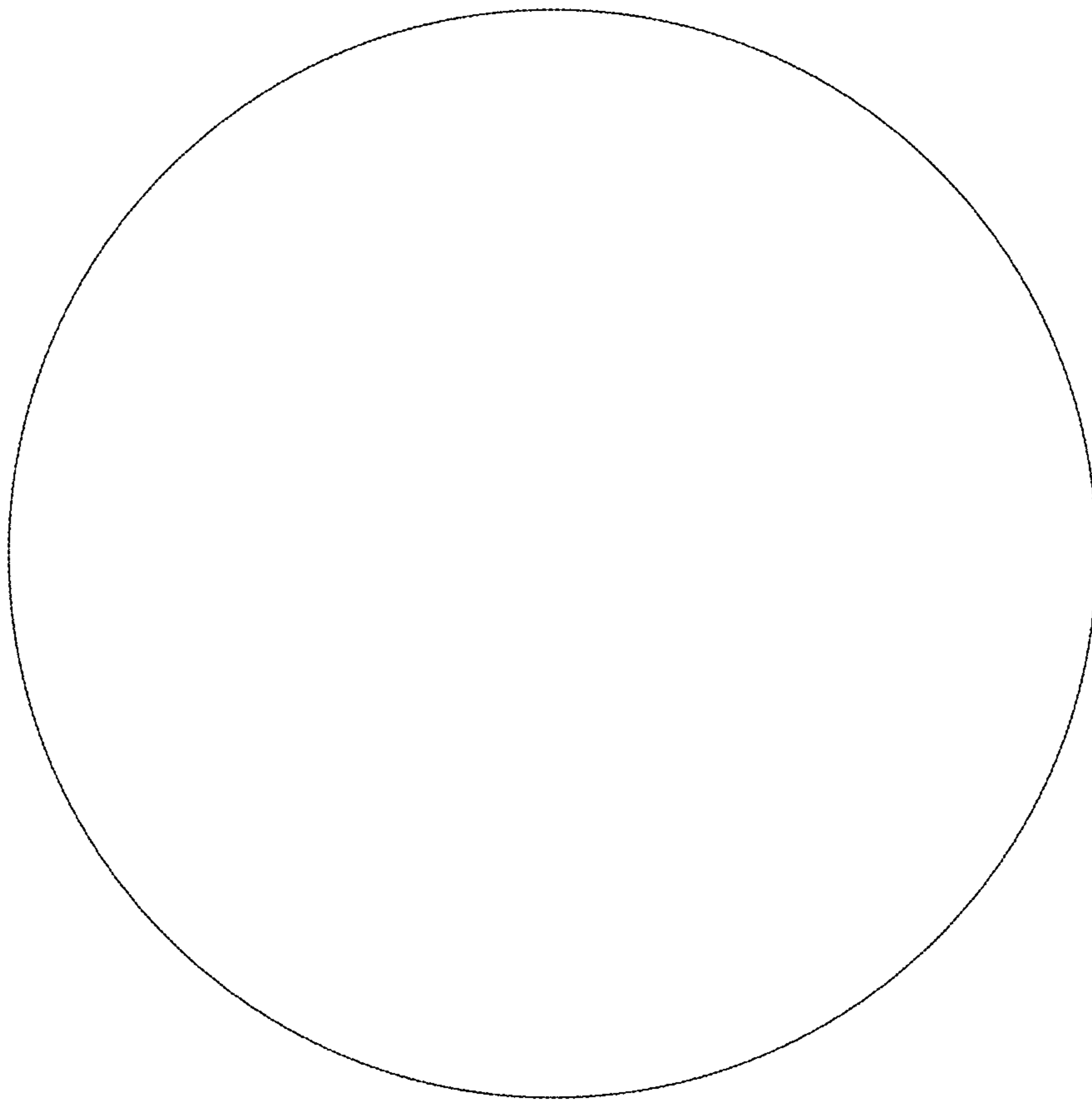


Fig. 3



Fig. 4

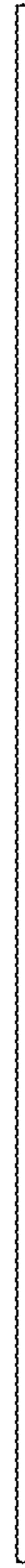


Fig.5

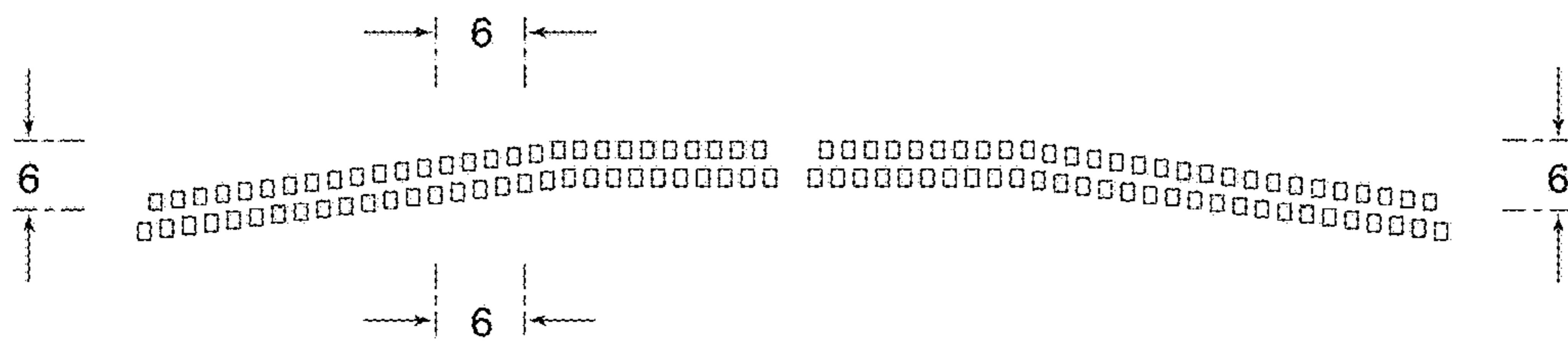


Fig.6

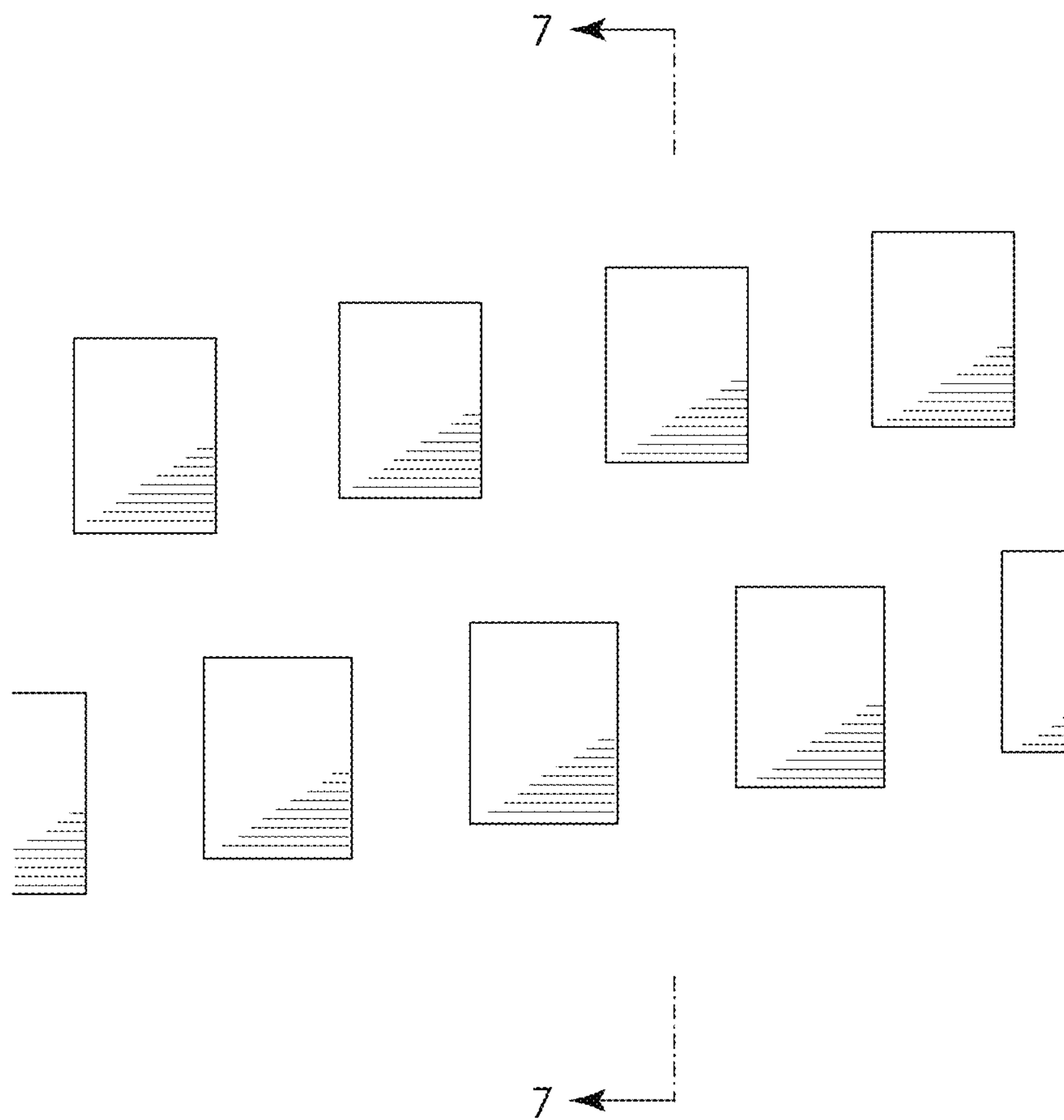




Fig. 7

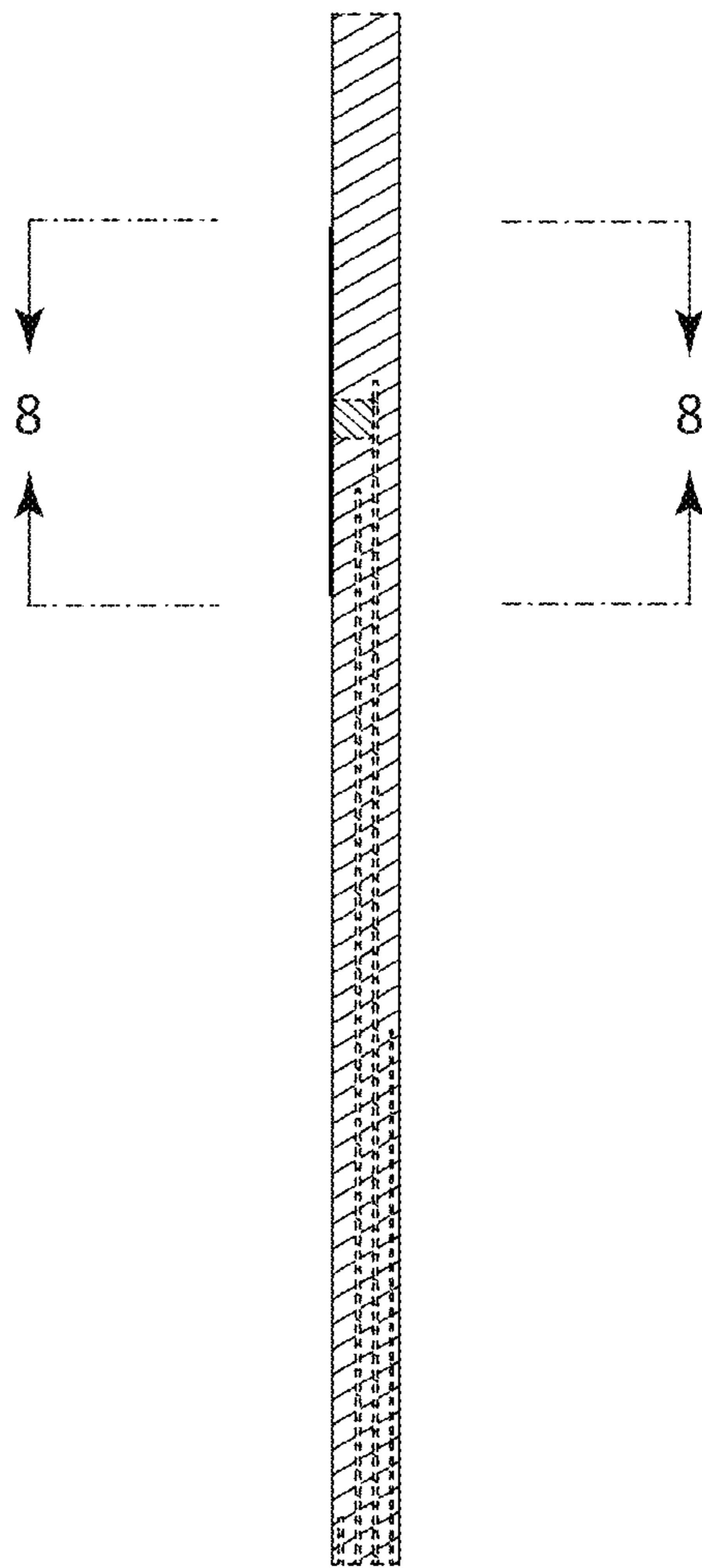


Fig. 8

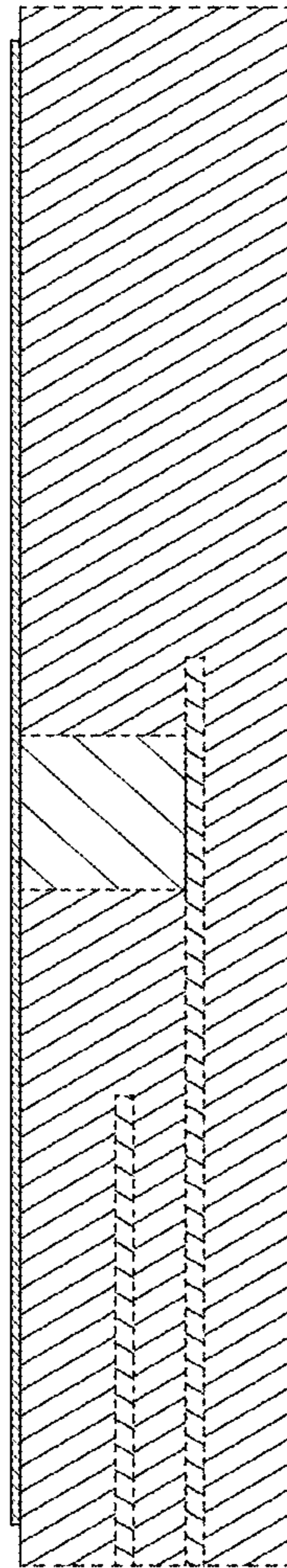


Fig.9

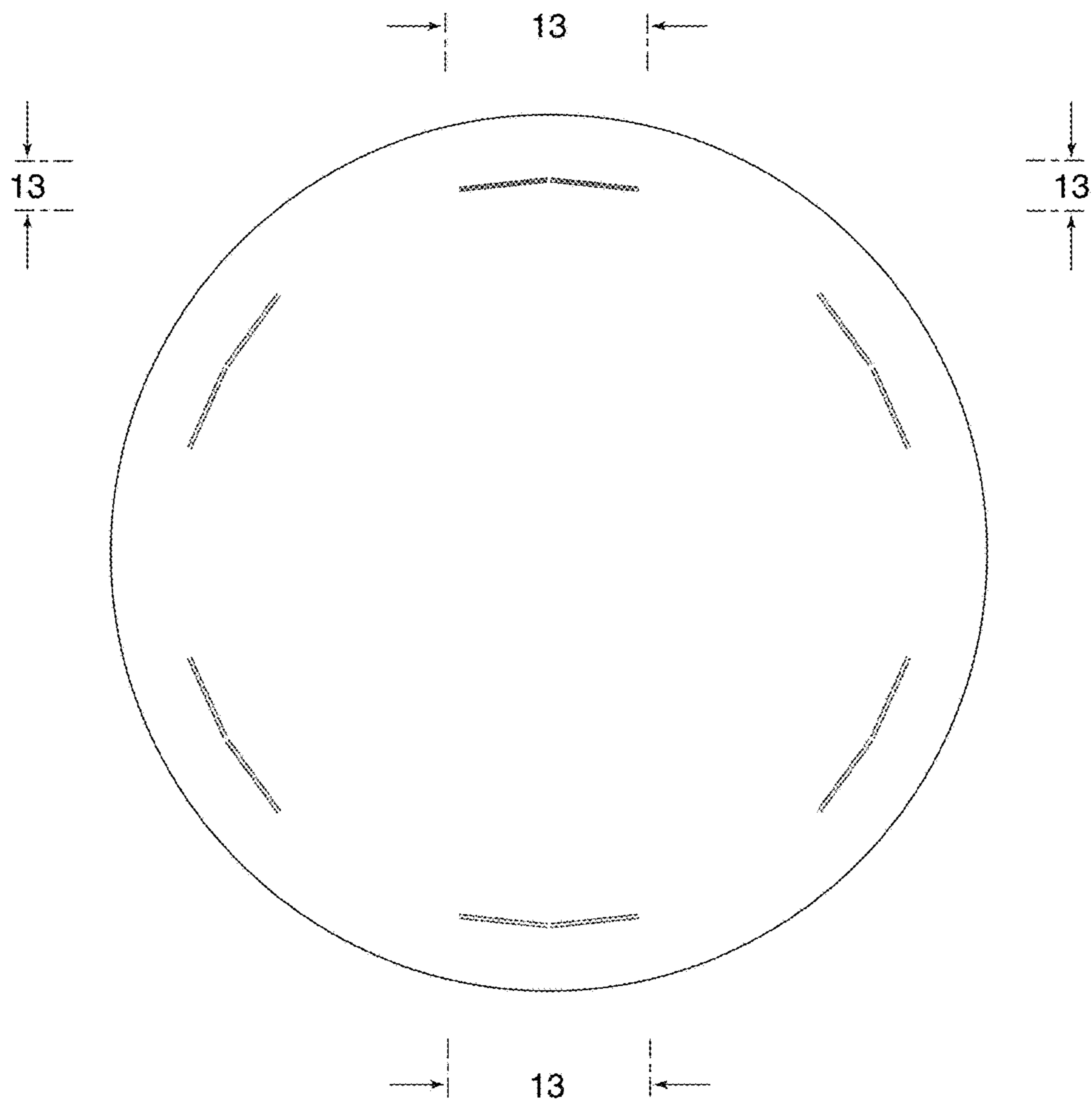


Fig. 10

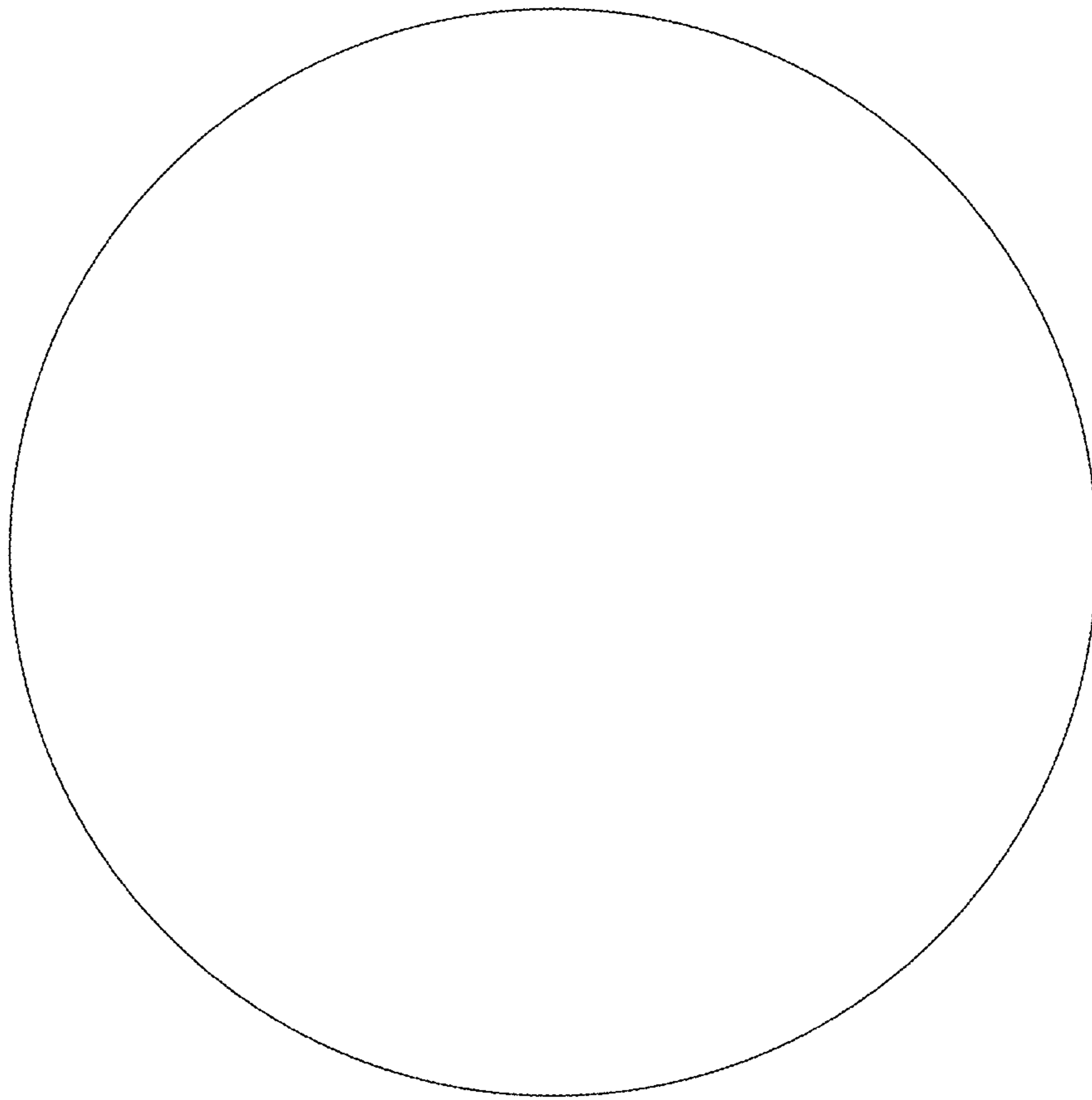


Fig. 11

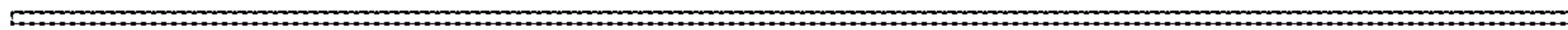


Fig. 12



Fig.13

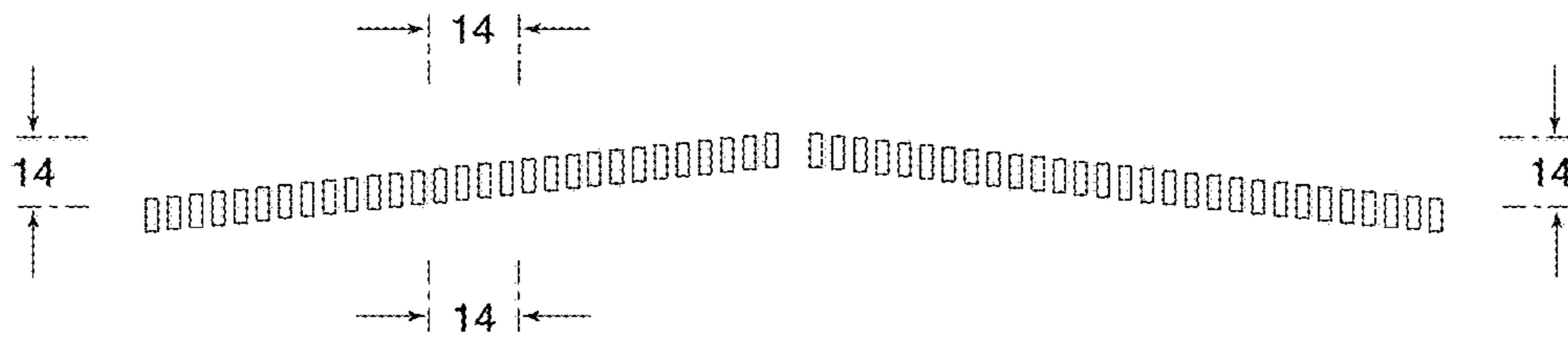


Fig. 14

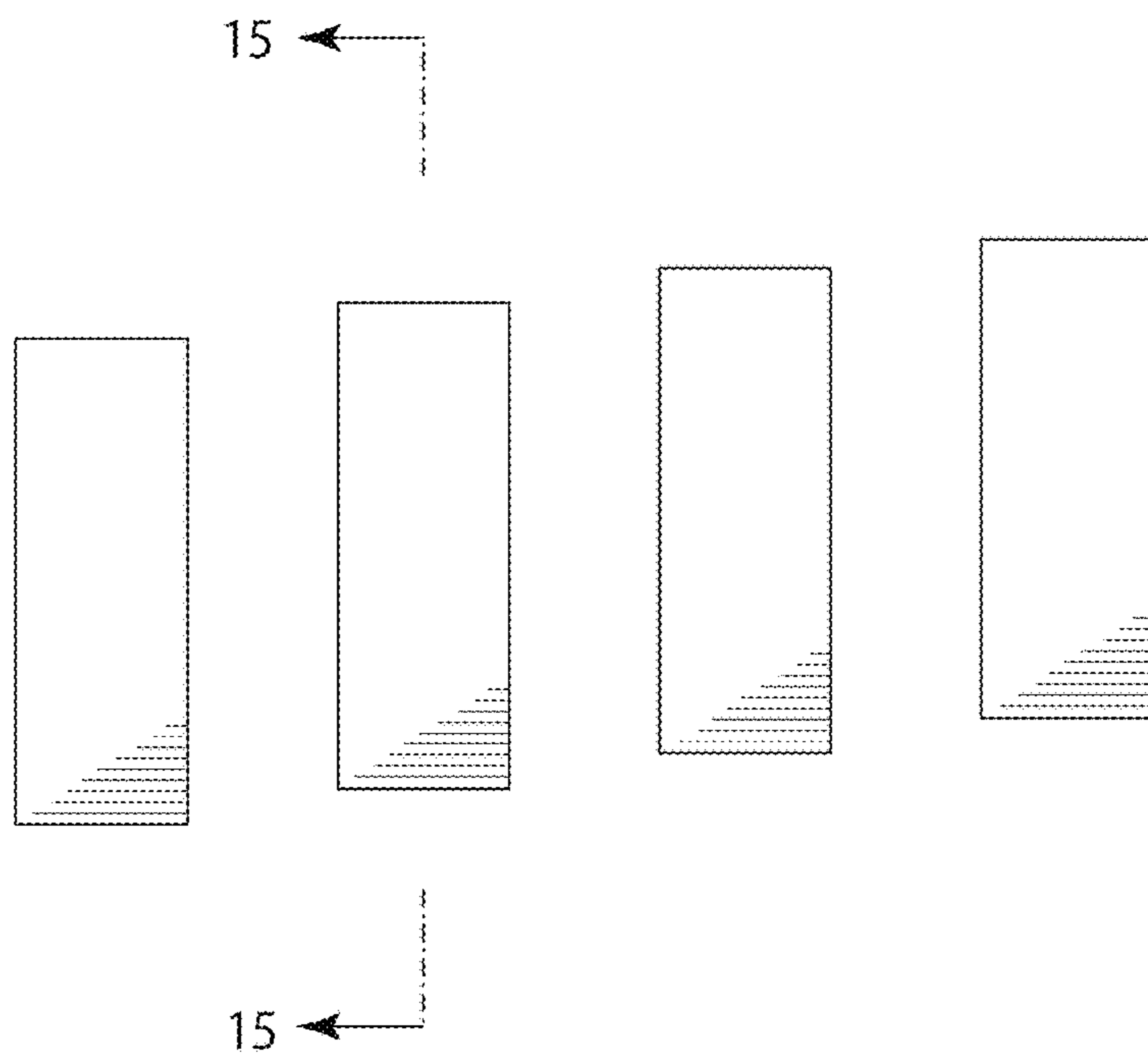




Fig. 15

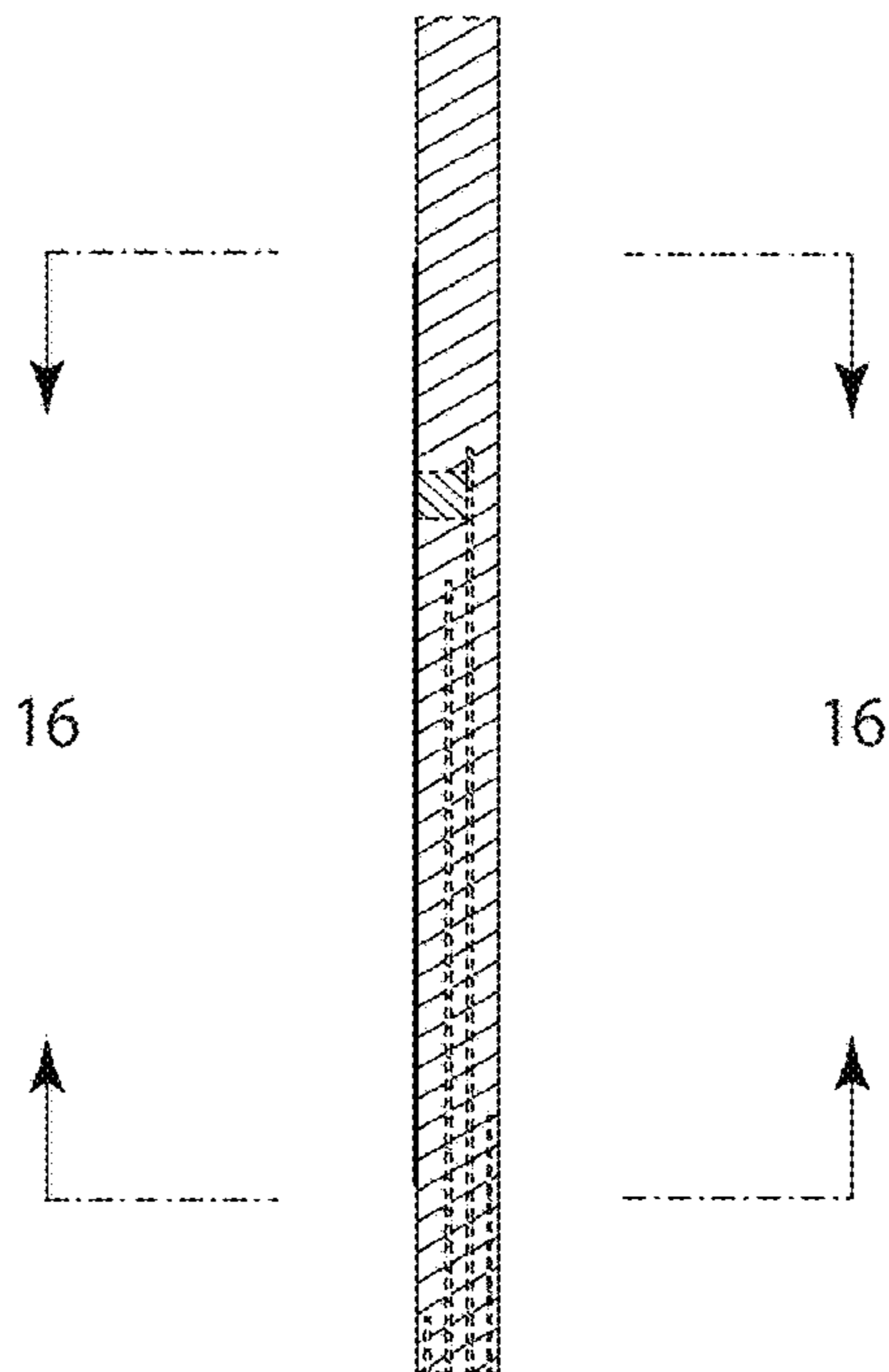


Fig. 16

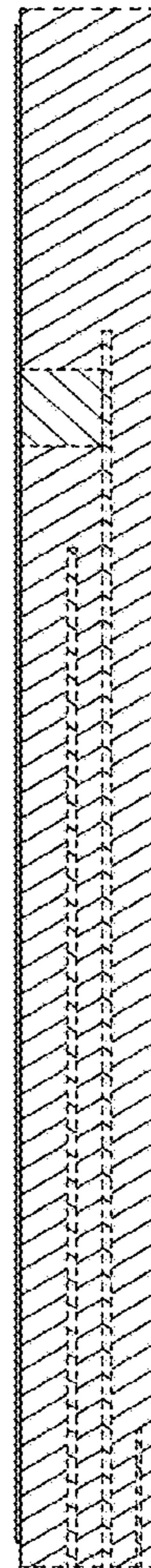


Fig. 17

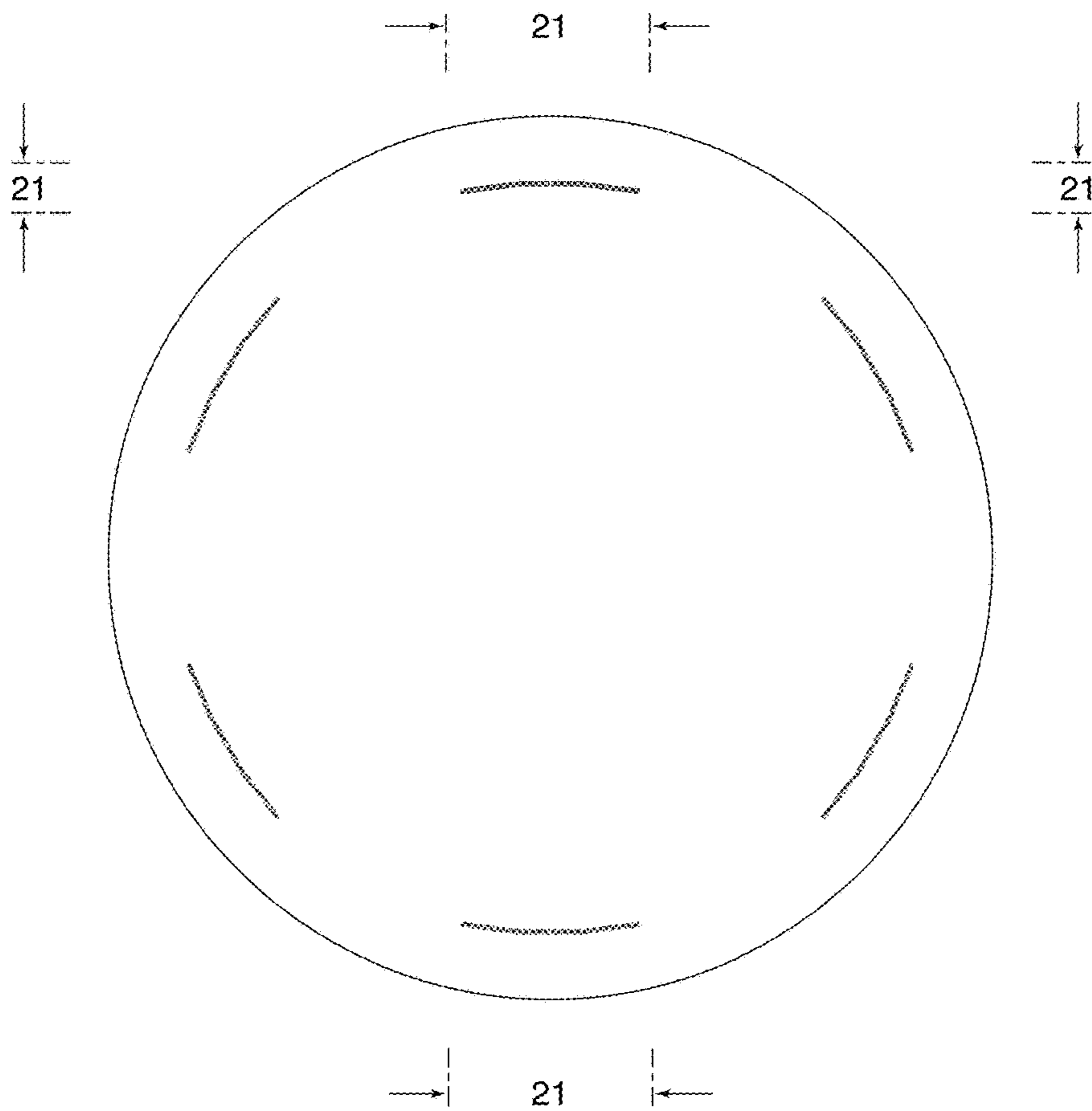


Fig. 18

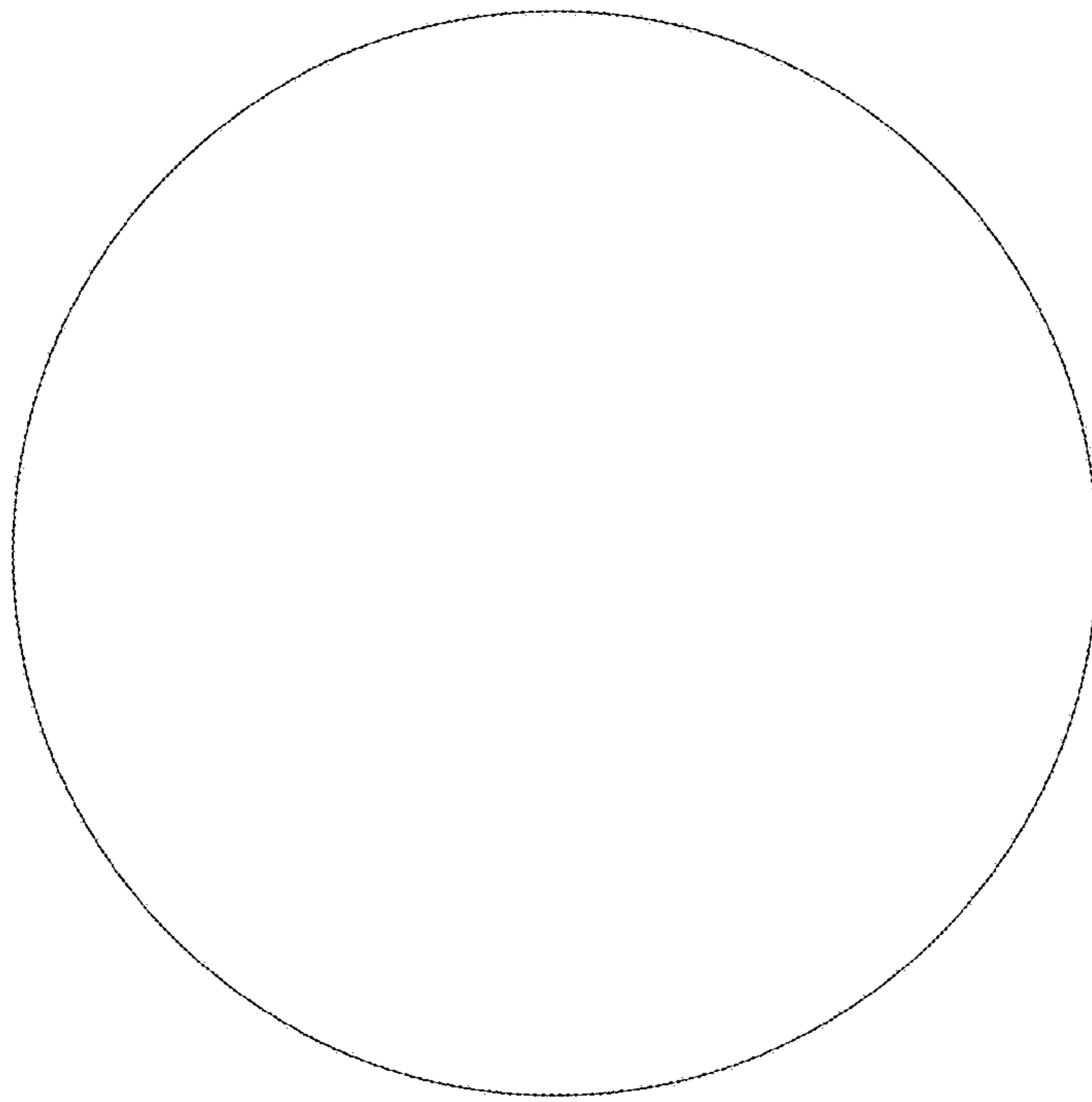


Fig. 19

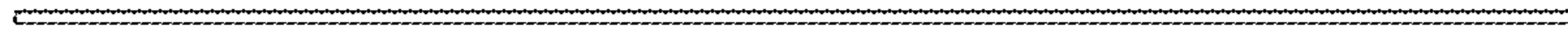


Fig. 20

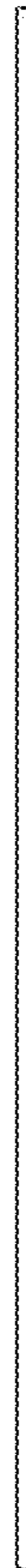


Fig.21

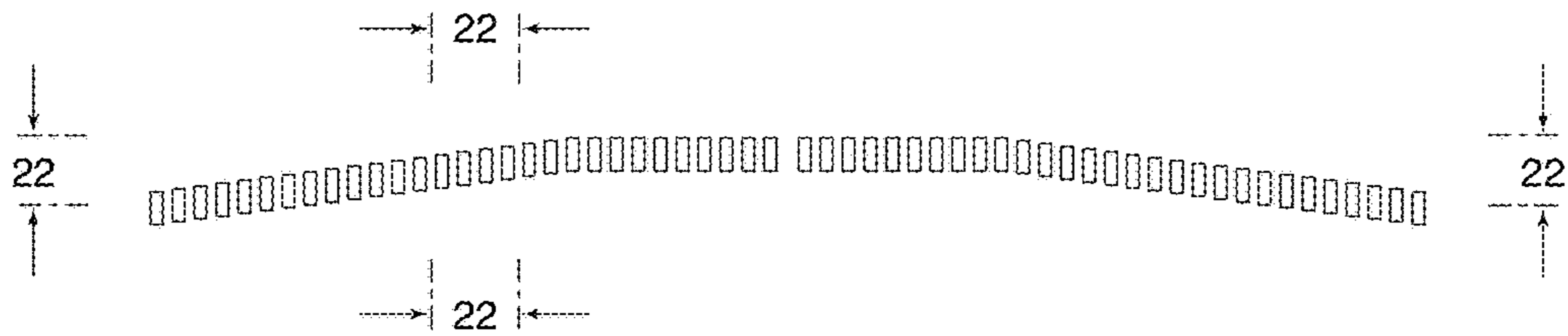


Fig.22

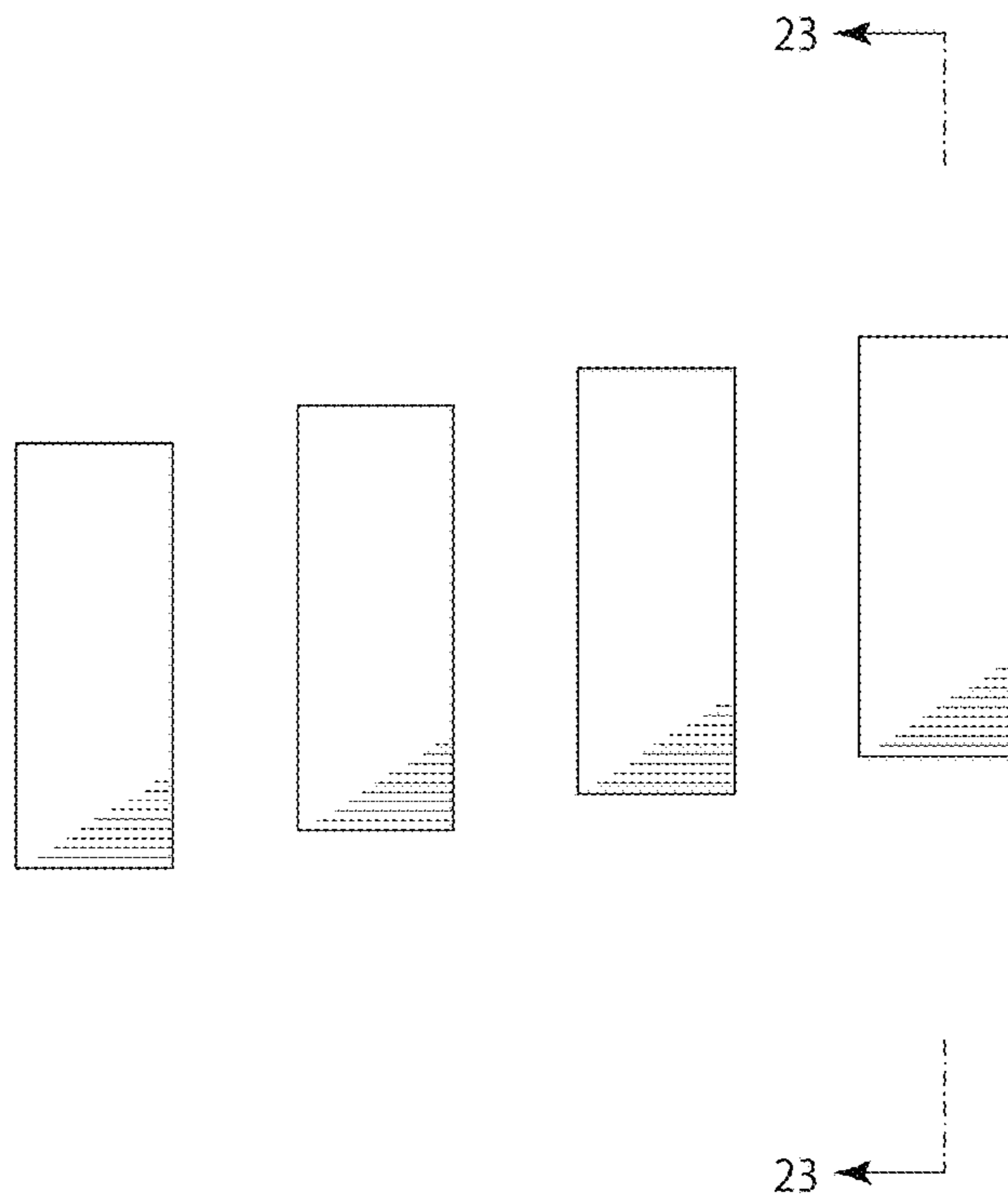




Fig.23

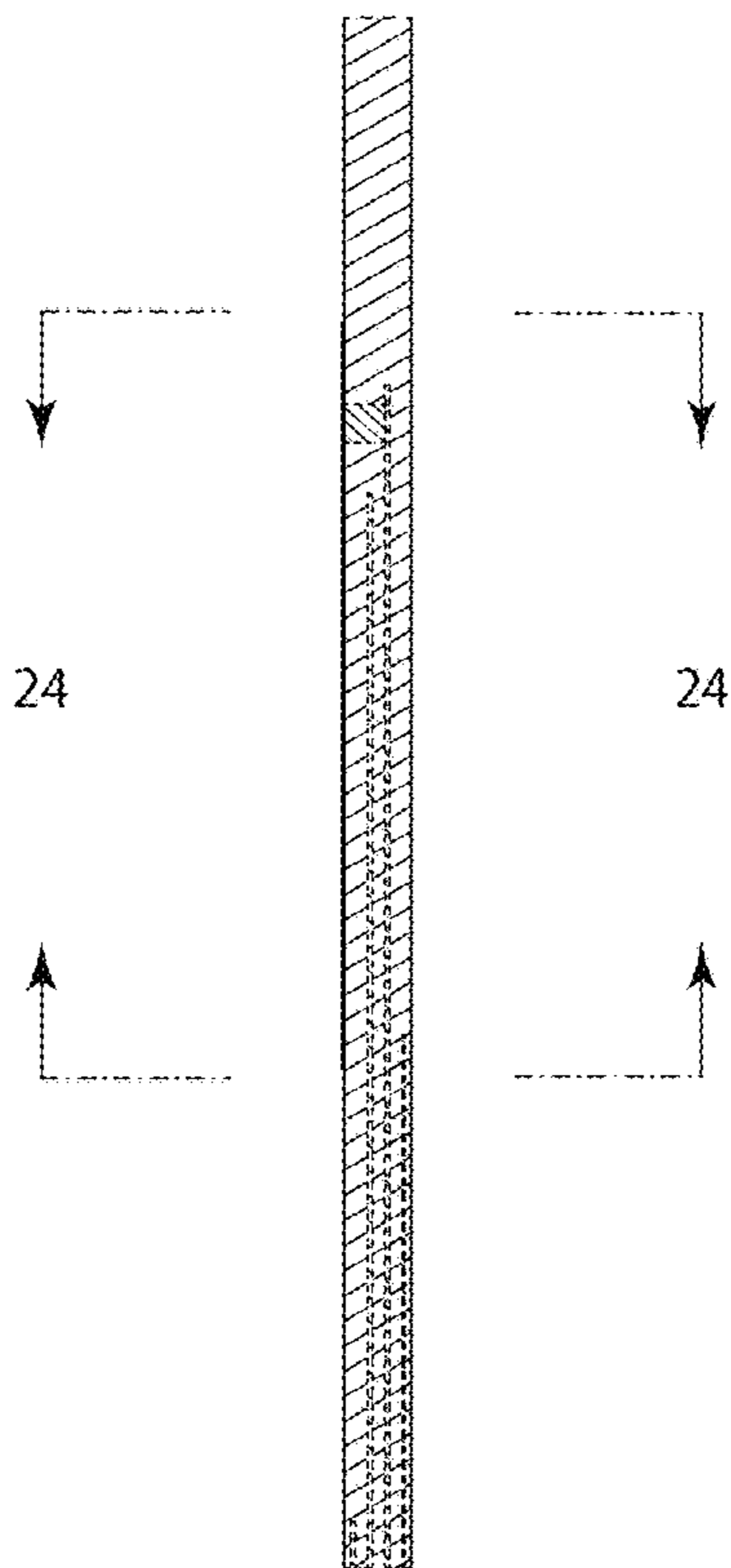


Fig.24

