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

(10) **Patent No.:** **US D553,169 S**

(45) **Date of Patent:** **** Oct. 16, 2007**

(54) **END MILL**

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(73) Assignee: **Sumitomo Electric Hardmetal Corp.**, Kyogo (JP)

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

(21) Appl. No.: **29/251,802**

(22) Filed: **Jan. 13, 2006**

(30) **Foreign Application Priority Data**

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|---------------|------|-------|-------------|
| Aug. 10, 2005 | (JP) | | 2005-023214 |
| Aug. 10, 2005 | (JP) | | 2005-023217 |
| Aug. 10, 2005 | (JP) | | 2005-023220 |
| Aug. 10, 2005 | (JP) | | 2005-023226 |
| Aug. 10, 2005 | (JP) | | 2005-023227 |

(51) **LOC (8) Cl.** **15-09**

(52) **U.S. Cl.** **D15/139**

(58) **Field of Classification Search** D15/139,
D15/140; 407/40, 42, 54; 408/239 A, 239 R,
408/187, 199, 223, 224, 227, 229, 233, 700,
408/713

See application file for complete search history.

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Assistant Examiner—Patricia Palasik

(74) *Attorney, Agent, or Firm*—McDermott Will & Emery LLP

(57) **CLAIM**

The ornamental design for an end mill, as shown and described.

DESCRIPTION

FIG. 1 is a front view of the end mill of the first design;

FIG. 2 is a rear view thereof;

FIG. 3 is a left-hand side view thereof;

FIG. 4 is a right-hand side view thereof;

FIG. 5 is a sectional view taken generally along line 5—5 of FIG. 1;

FIG. 6 is a sectional view taken generally along line 6—6 of FIG. 3;

FIG. 7 is a front view of the end mill of the first design;

FIG. 8 is a rear view thereof;

FIG. 9 is a left-hand side view thereof;

FIG. 10 is a right-hand side view thereof;

FIG. 11 is a sectional view taken generally along line 11—11 of FIG. 7;

FIG. 12 is a sectional view taken generally along line 12—12 of FIG. 9;

FIG. 13 is a front view of the end mill of the first design;

FIG. 14 is a rear view thereof;

FIG. 15 is a left-hand side view thereof;

FIG. 16 is a right-hand side view thereof;

FIG. 17 is a sectional view taken generally along line 17—17 of FIG. 13; and,

FIG. 18 is a sectional view taken generally along line 18—18 of FIG. 15.

The broken lines are included for the purpose of illustrating non-claimed subject matter and form no part of the claimed design.

1 Claim, 6 Drawing Sheets

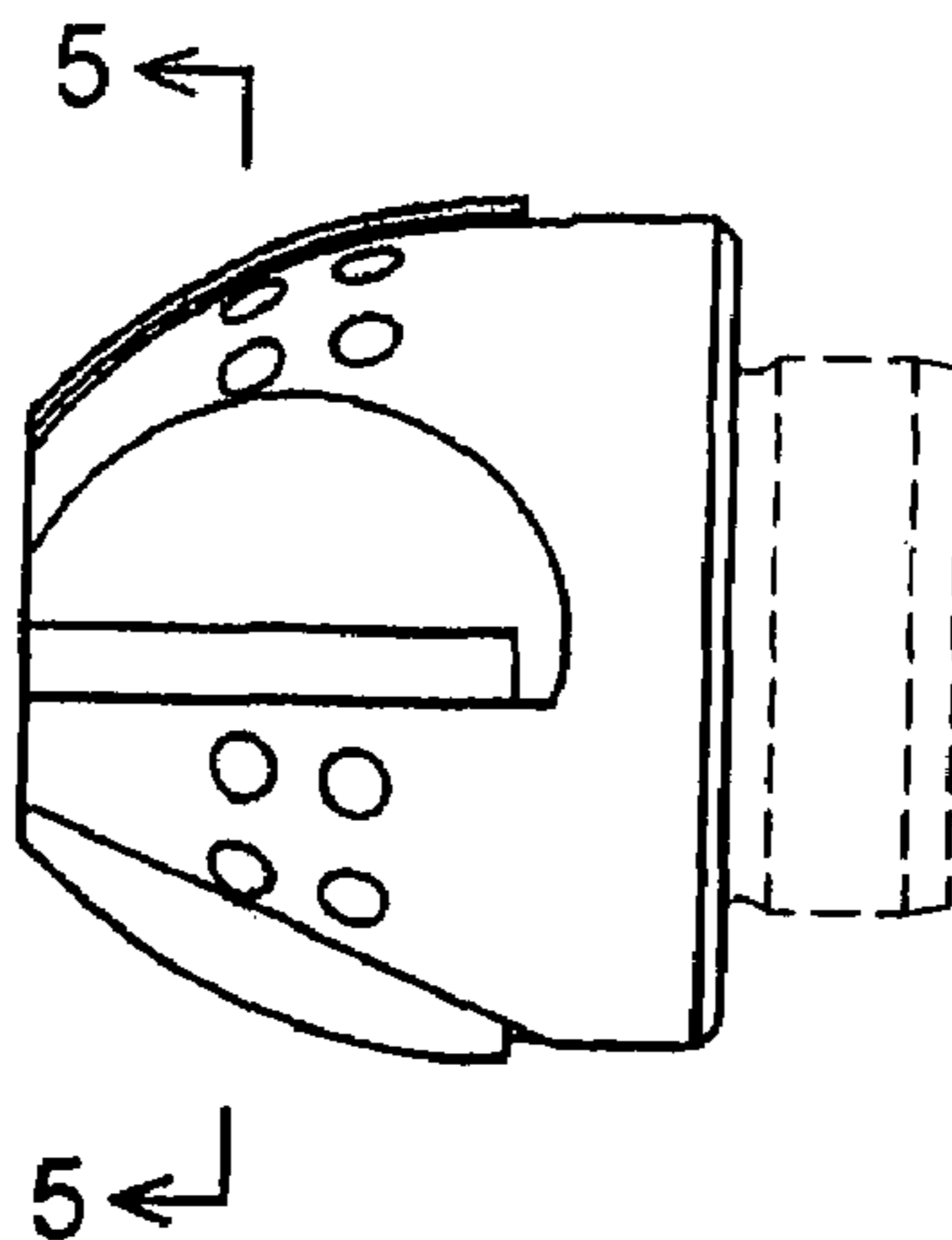


Fig. 1

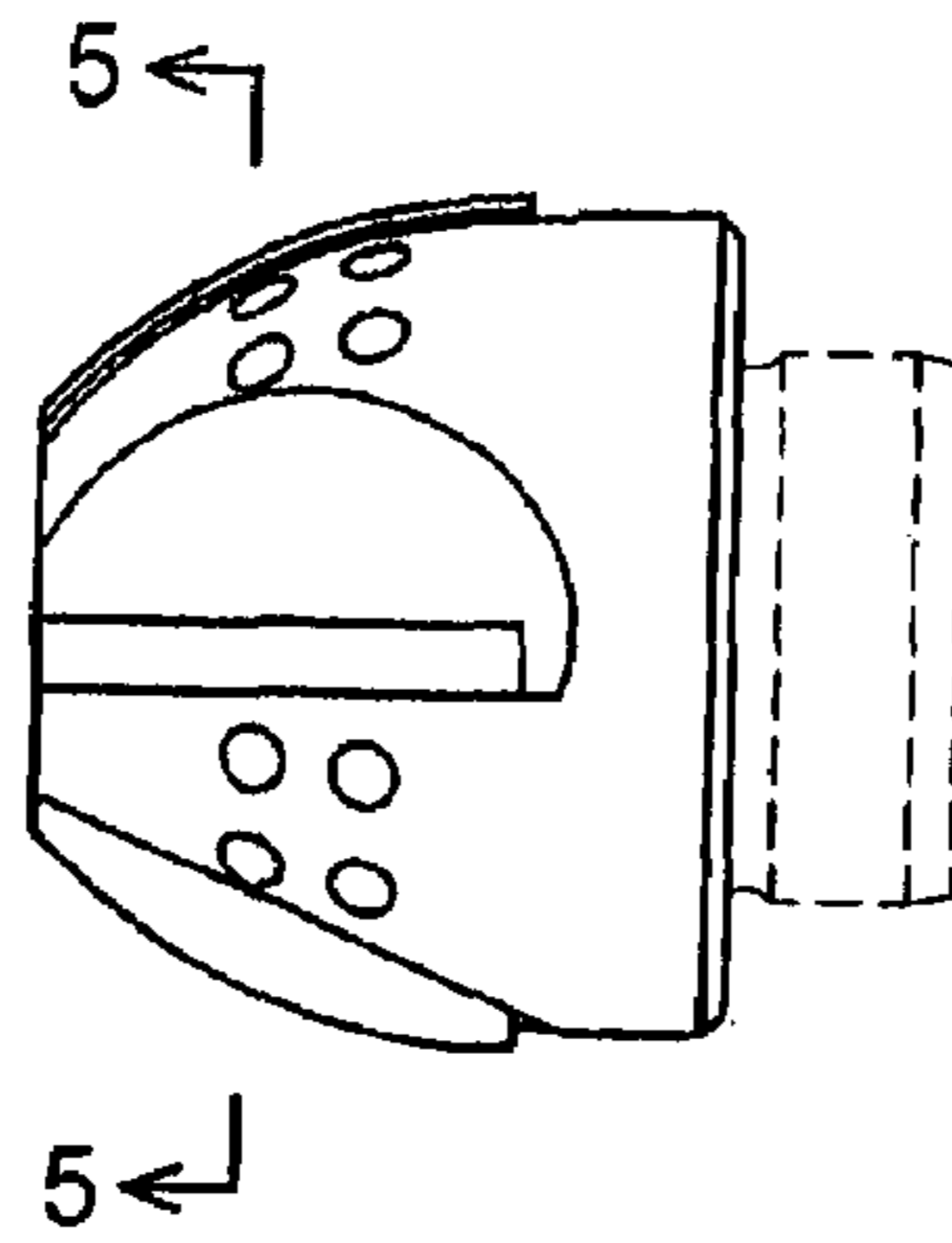


Fig. 2

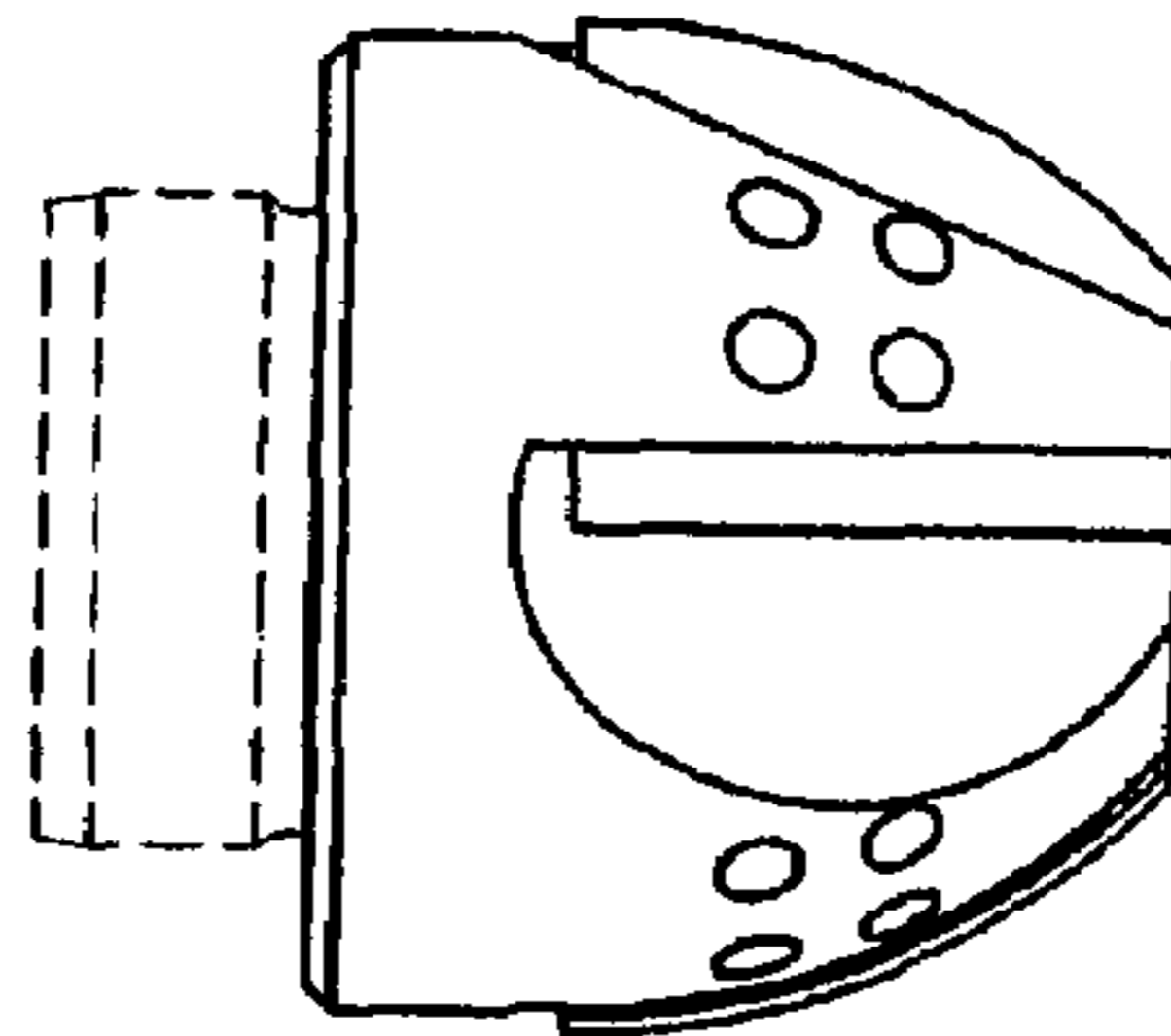


Fig. 3

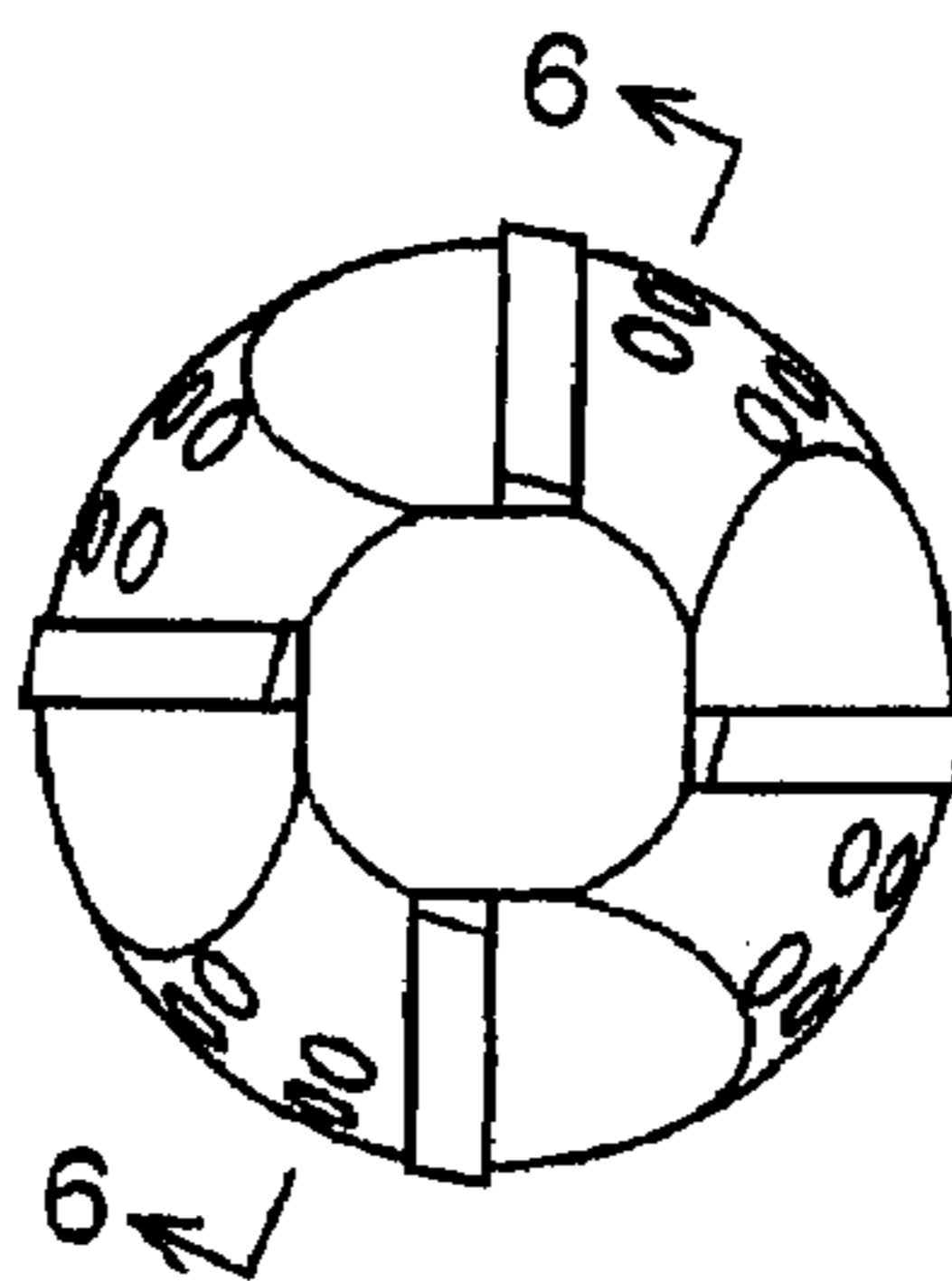


Fig. 4

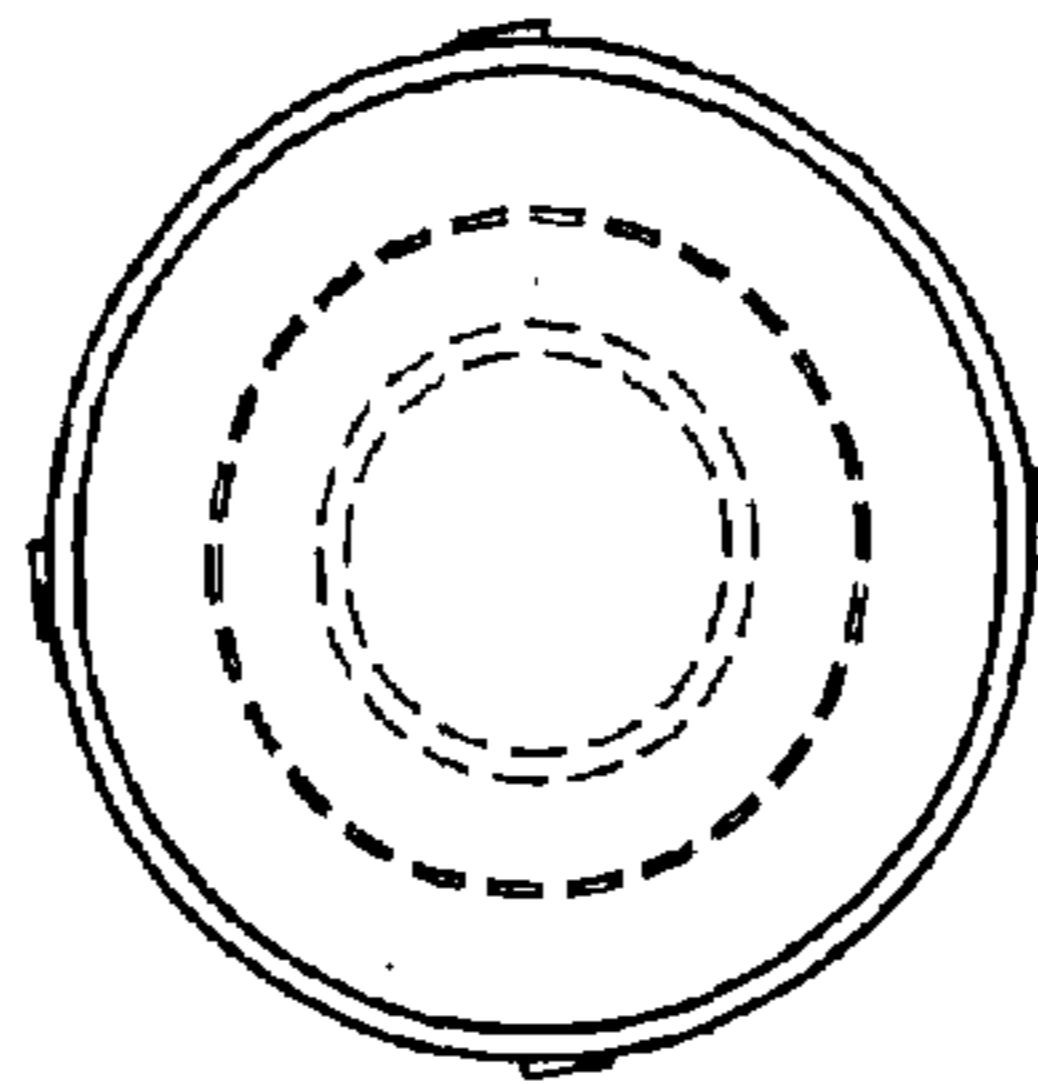


Fig. 5

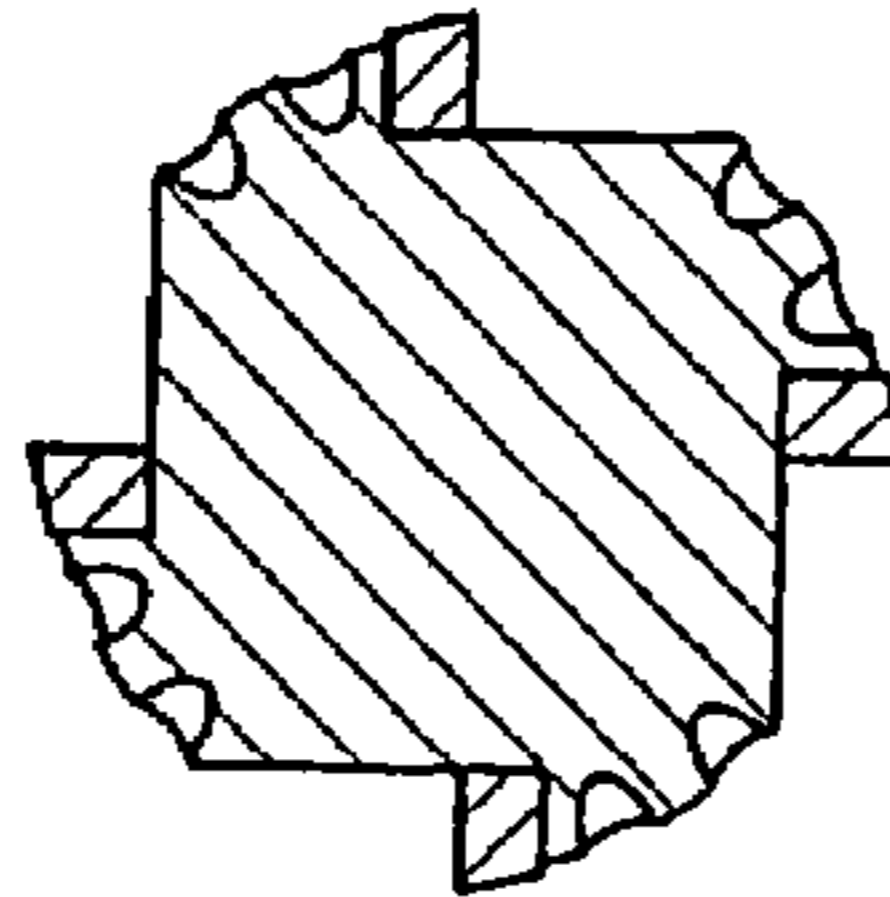


Fig. 6

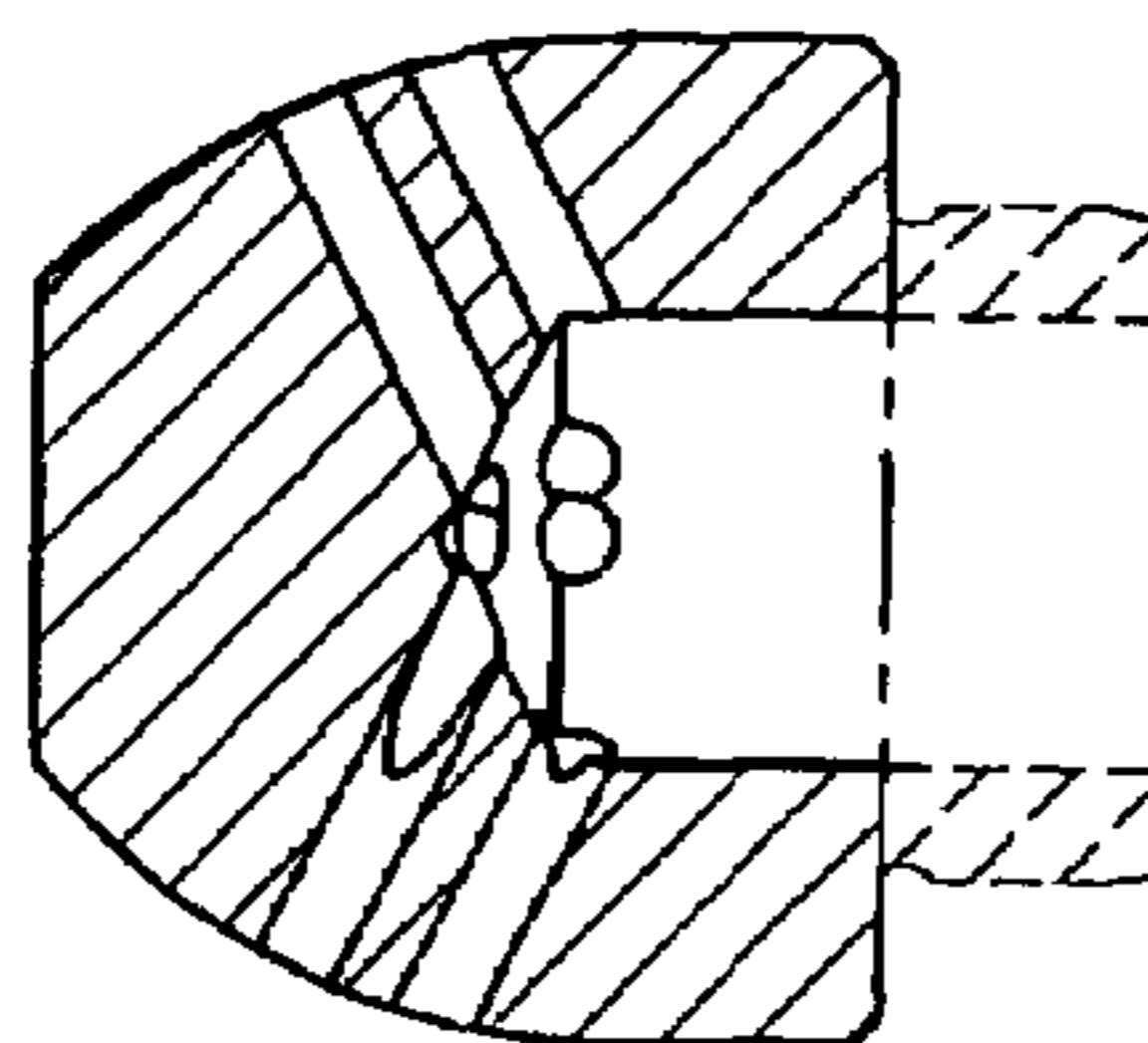


Fig. 7

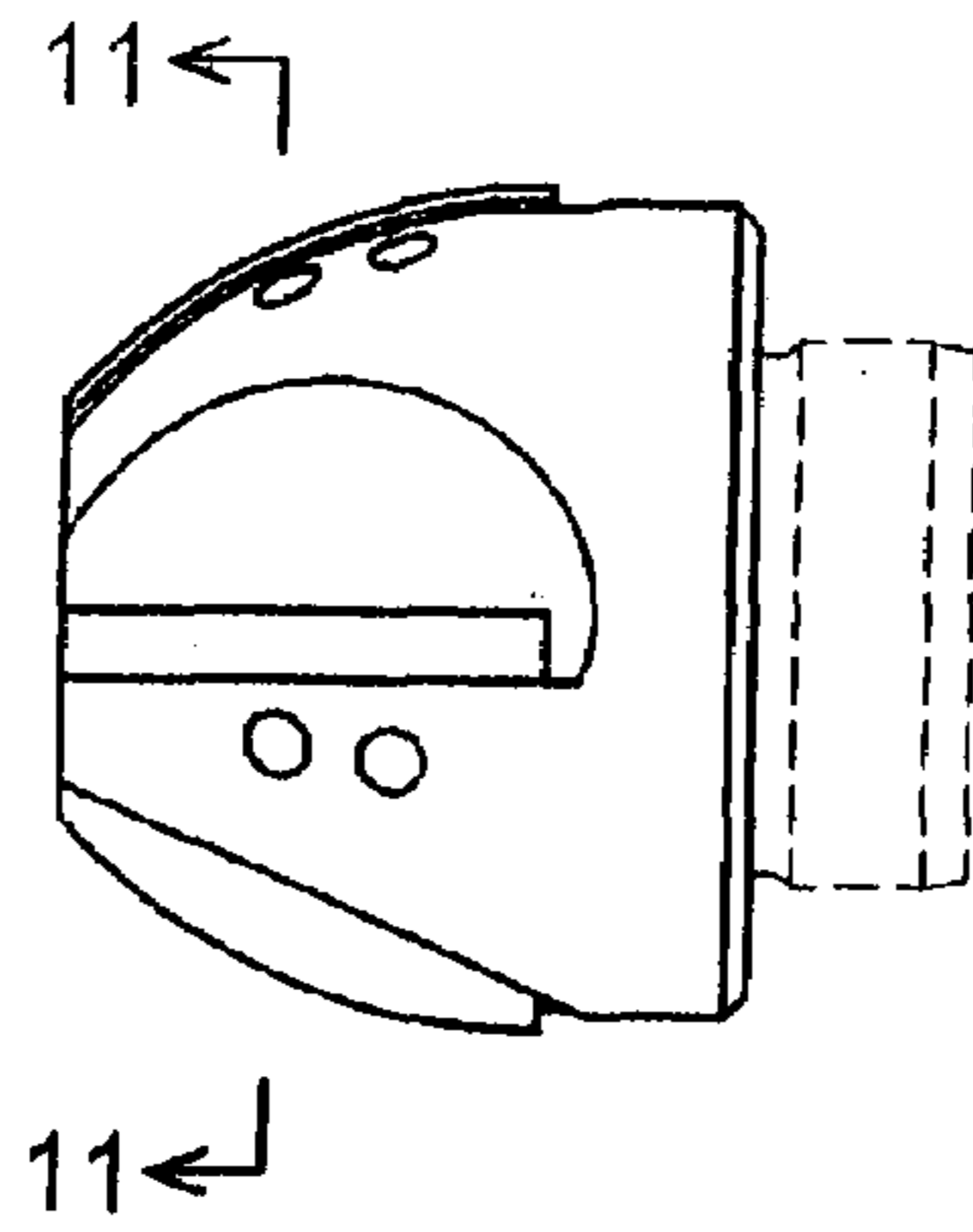


Fig. 8

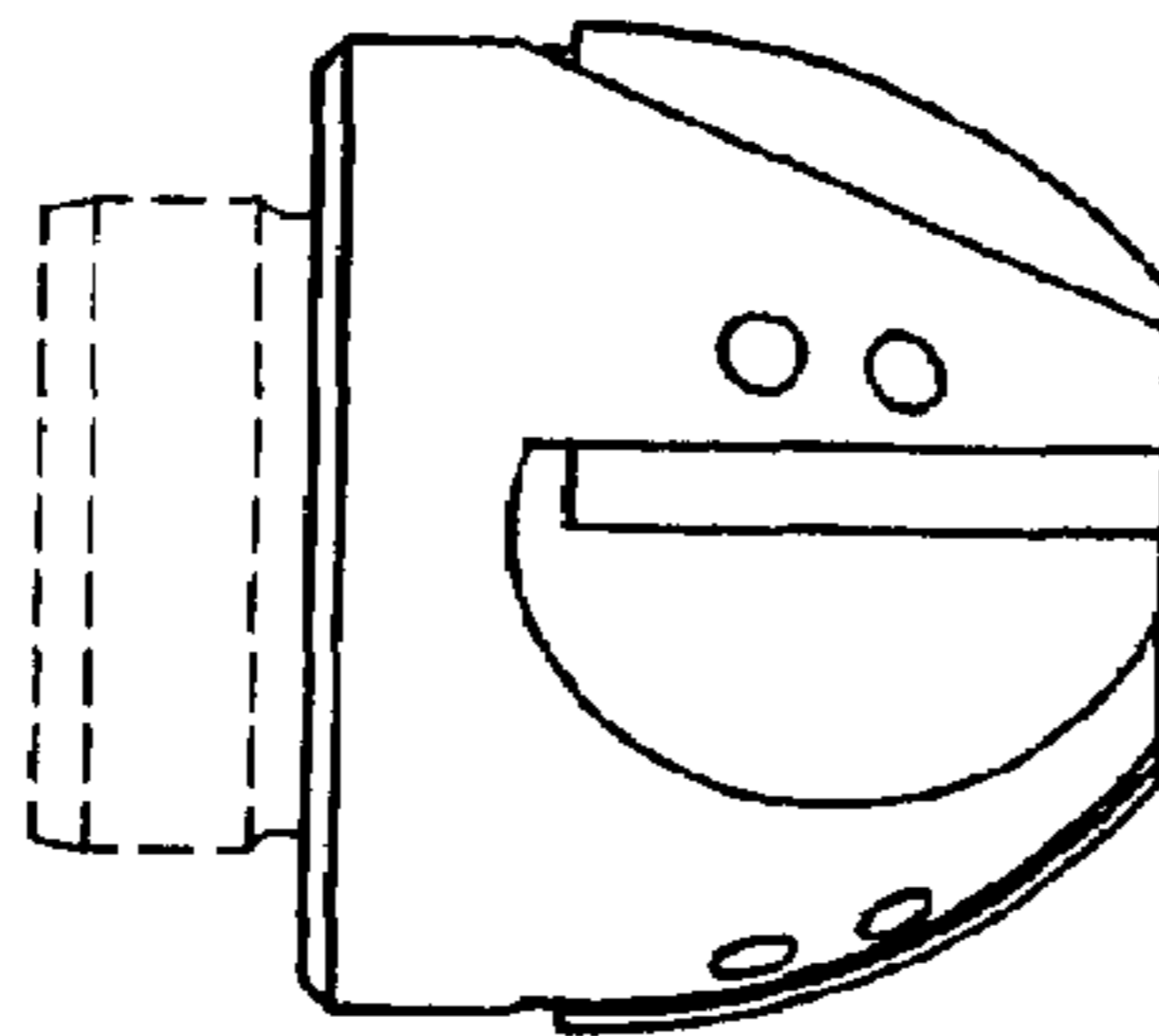


Fig. 9

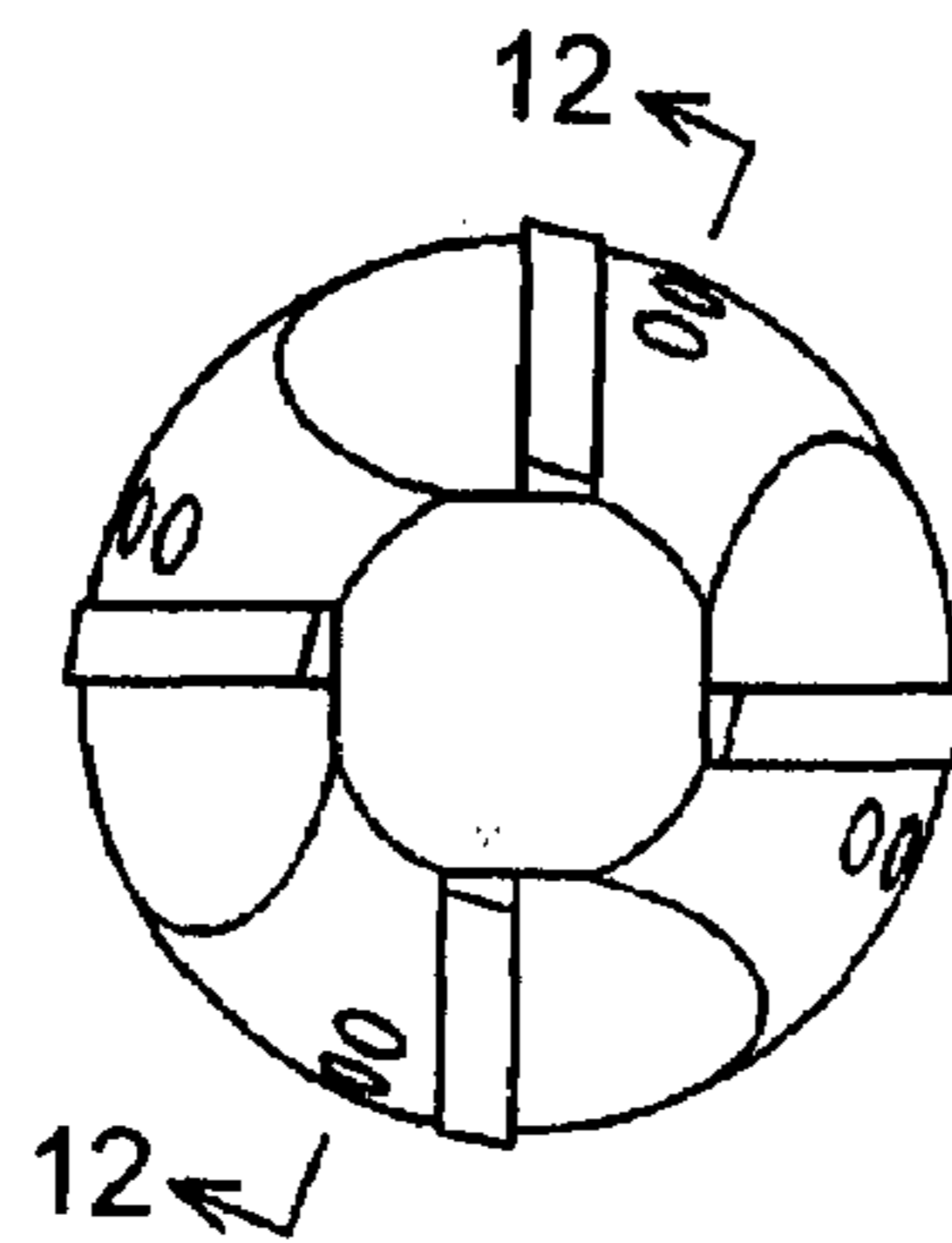


Fig. 10

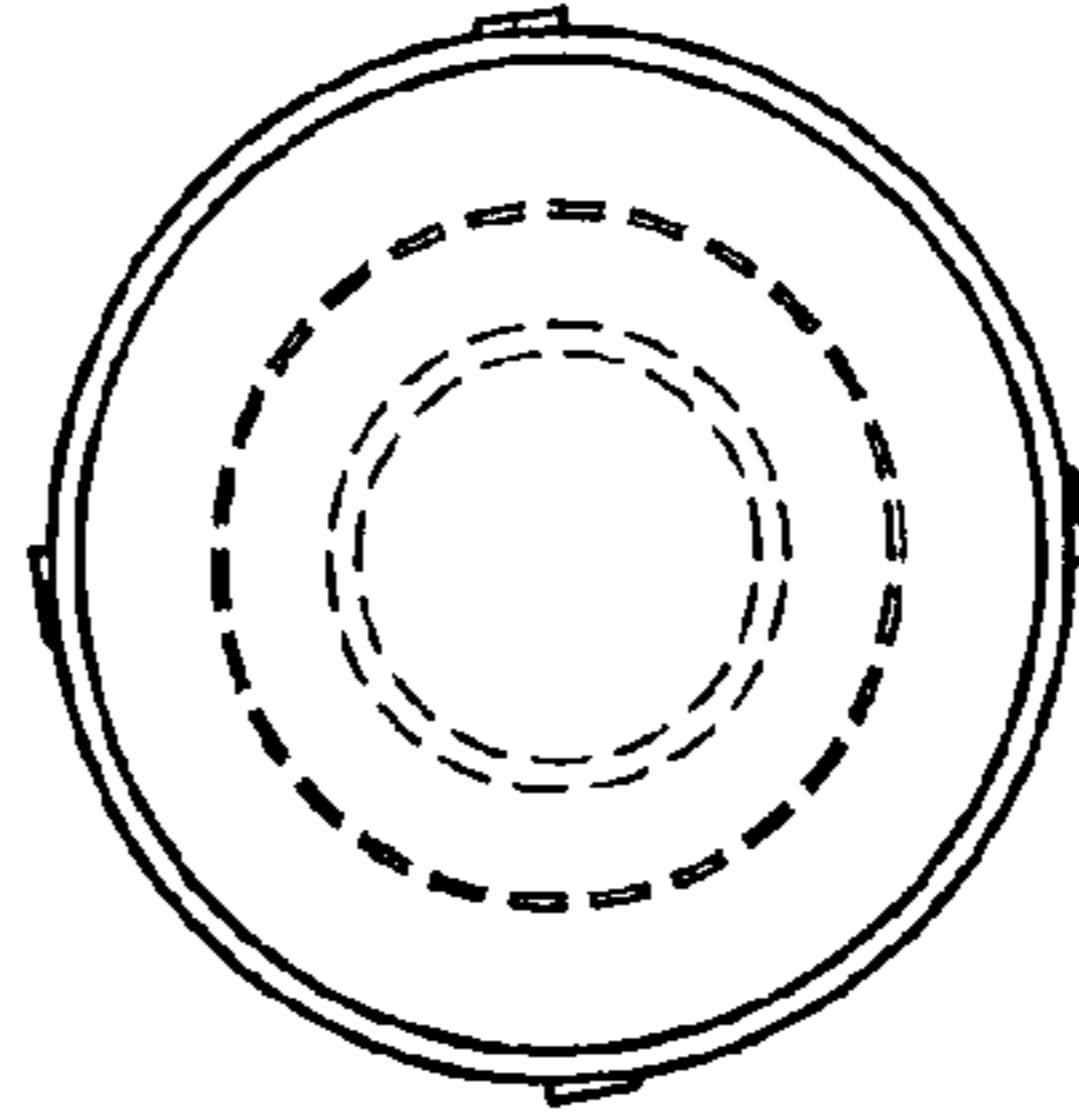


Fig. 11

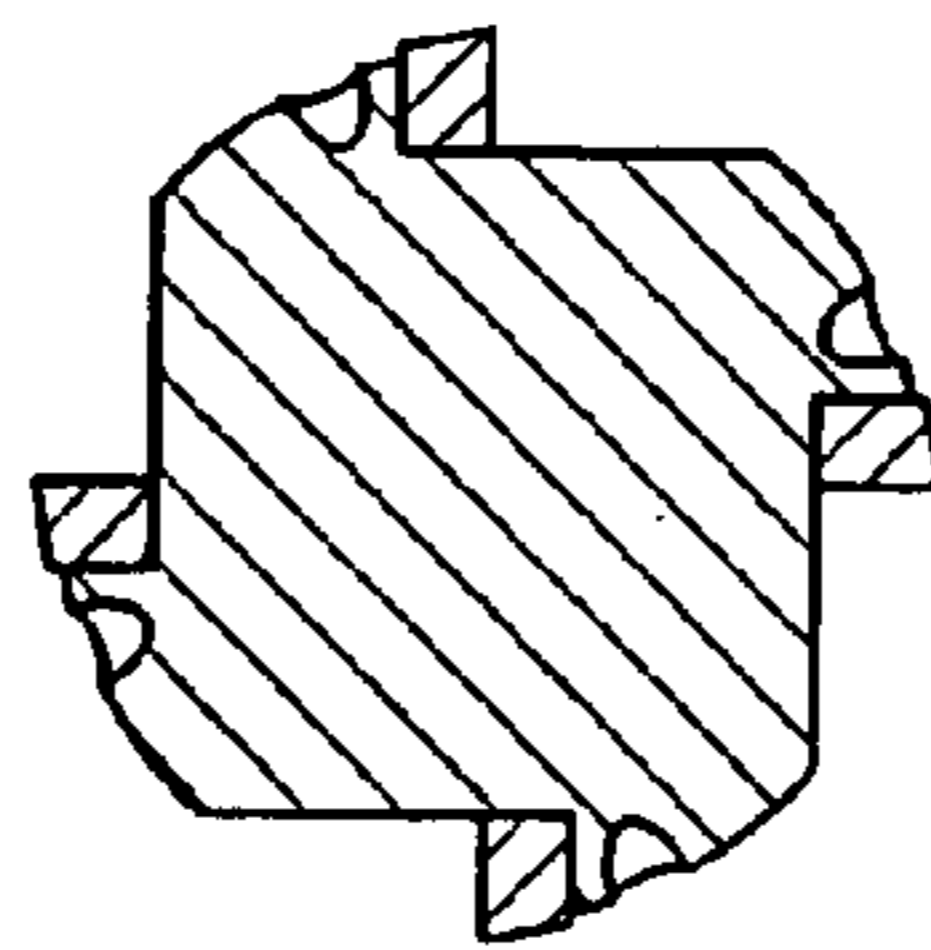


Fig. 12

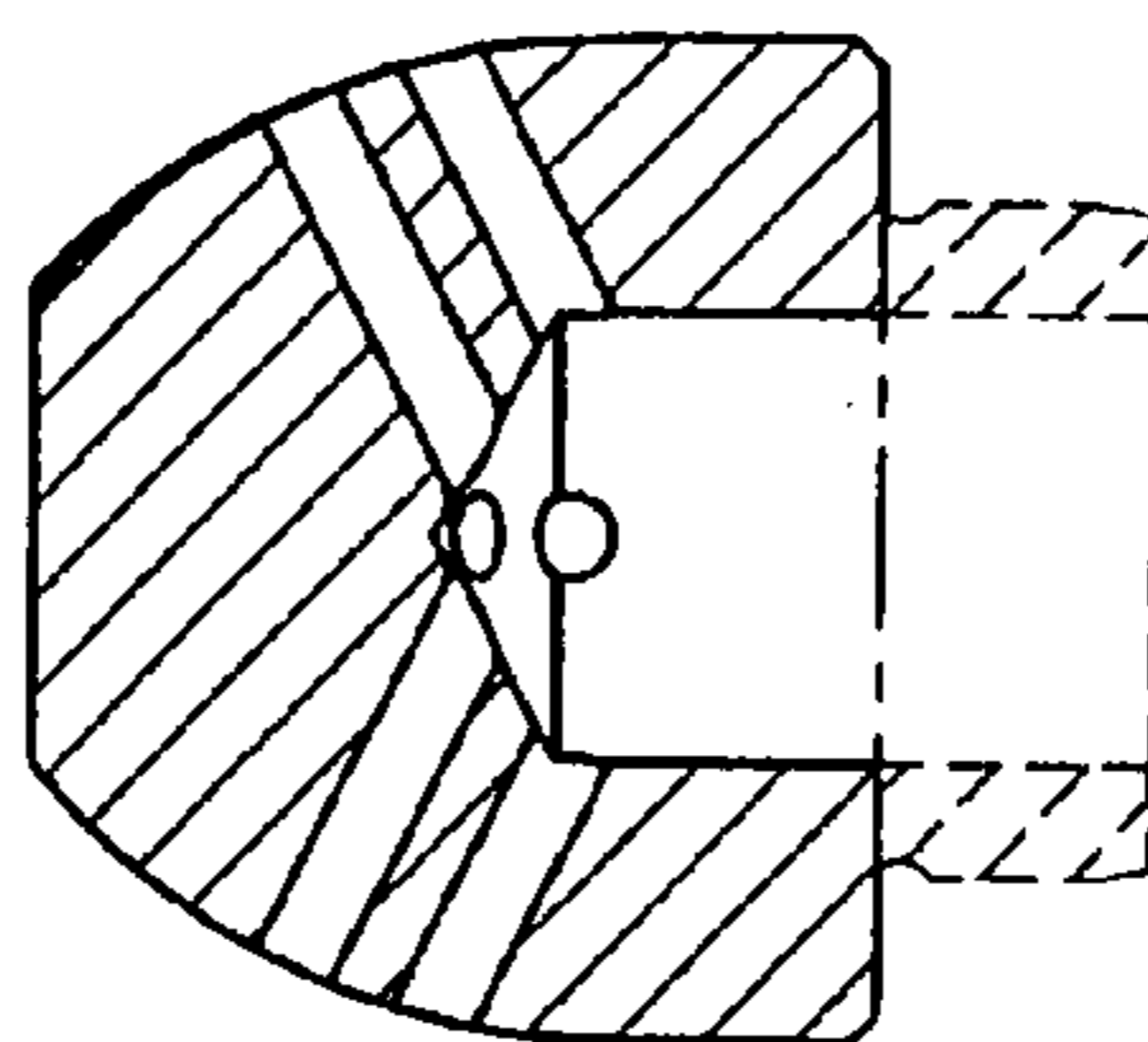


Fig. 13

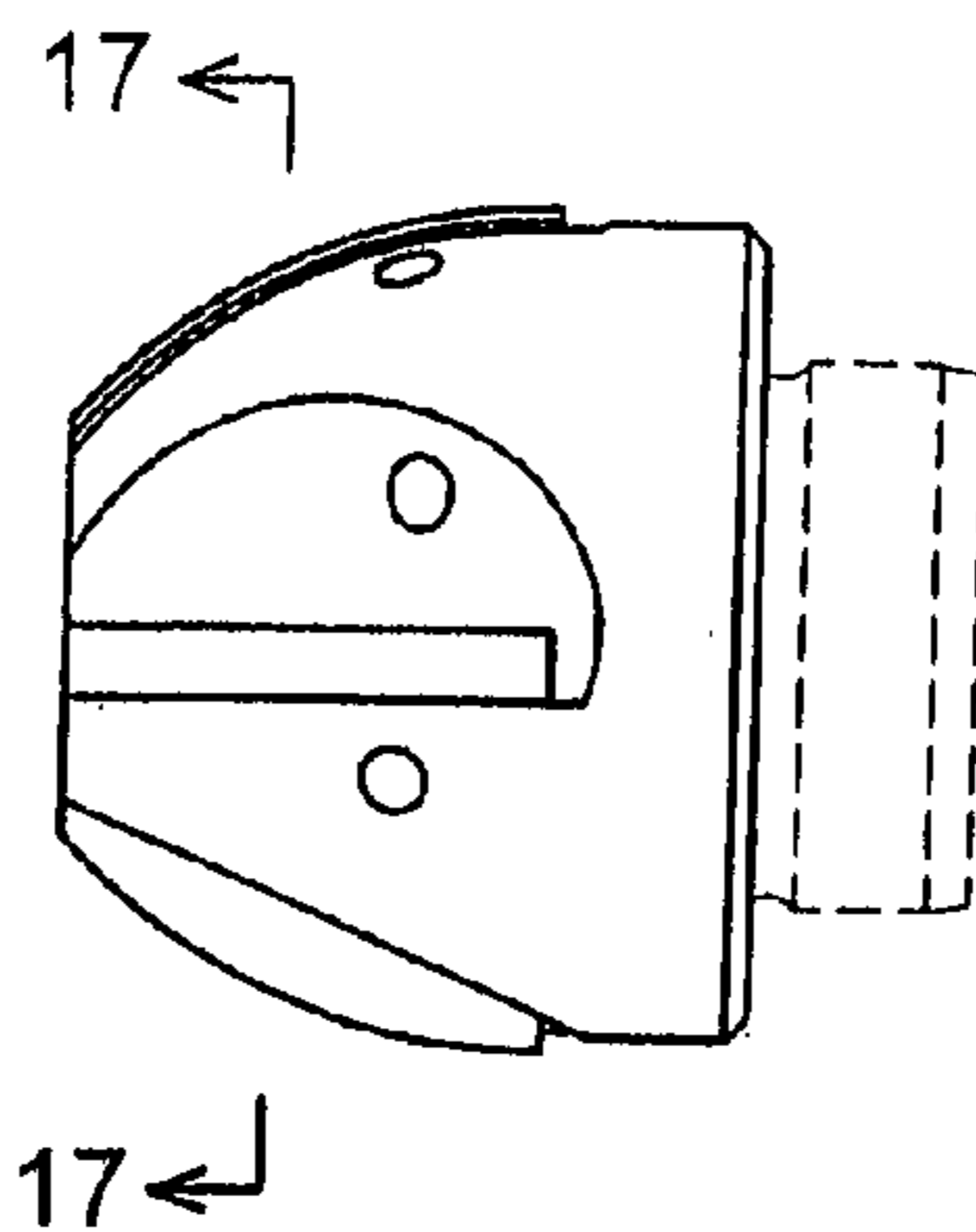


Fig. 14

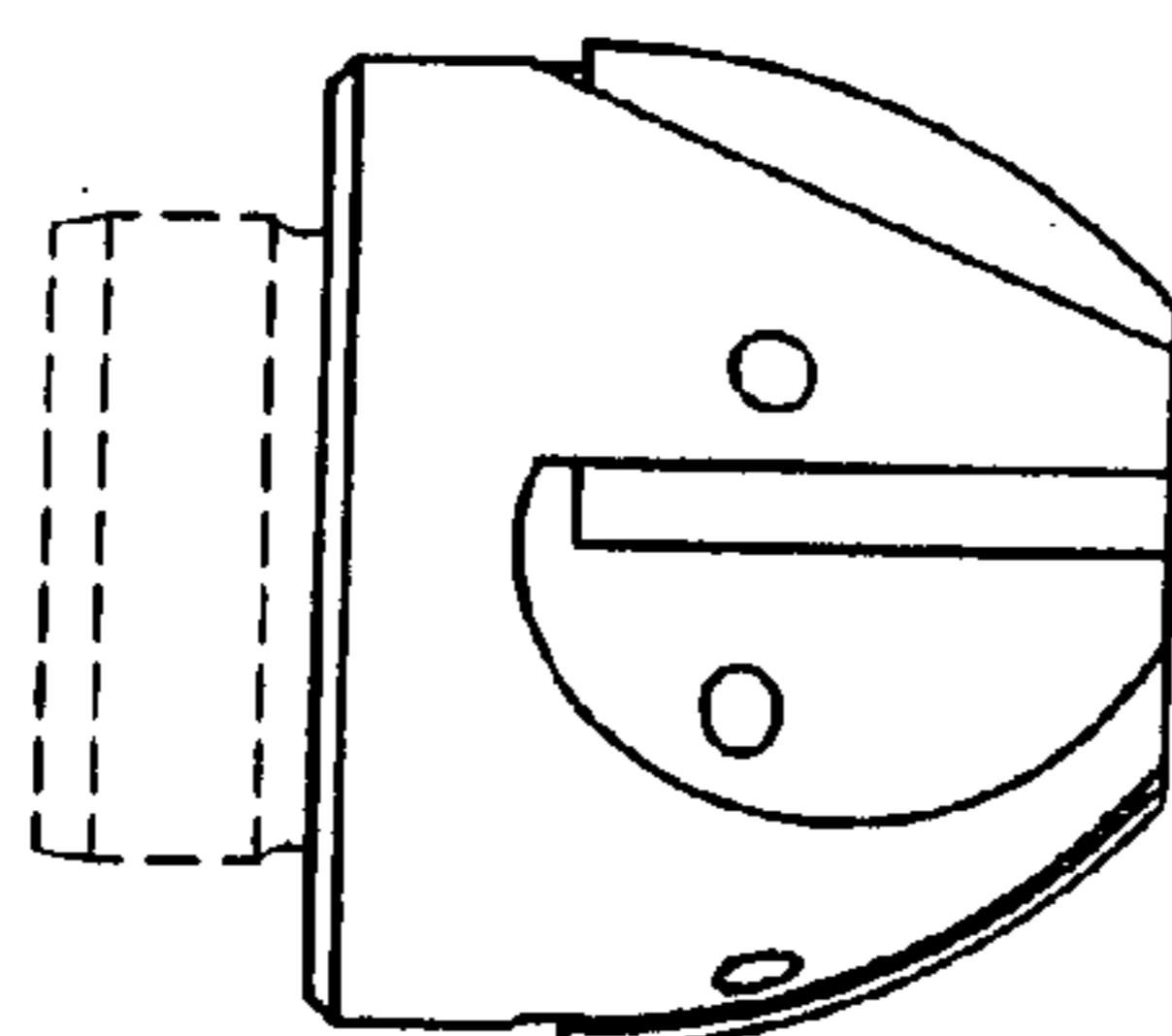


Fig. 15

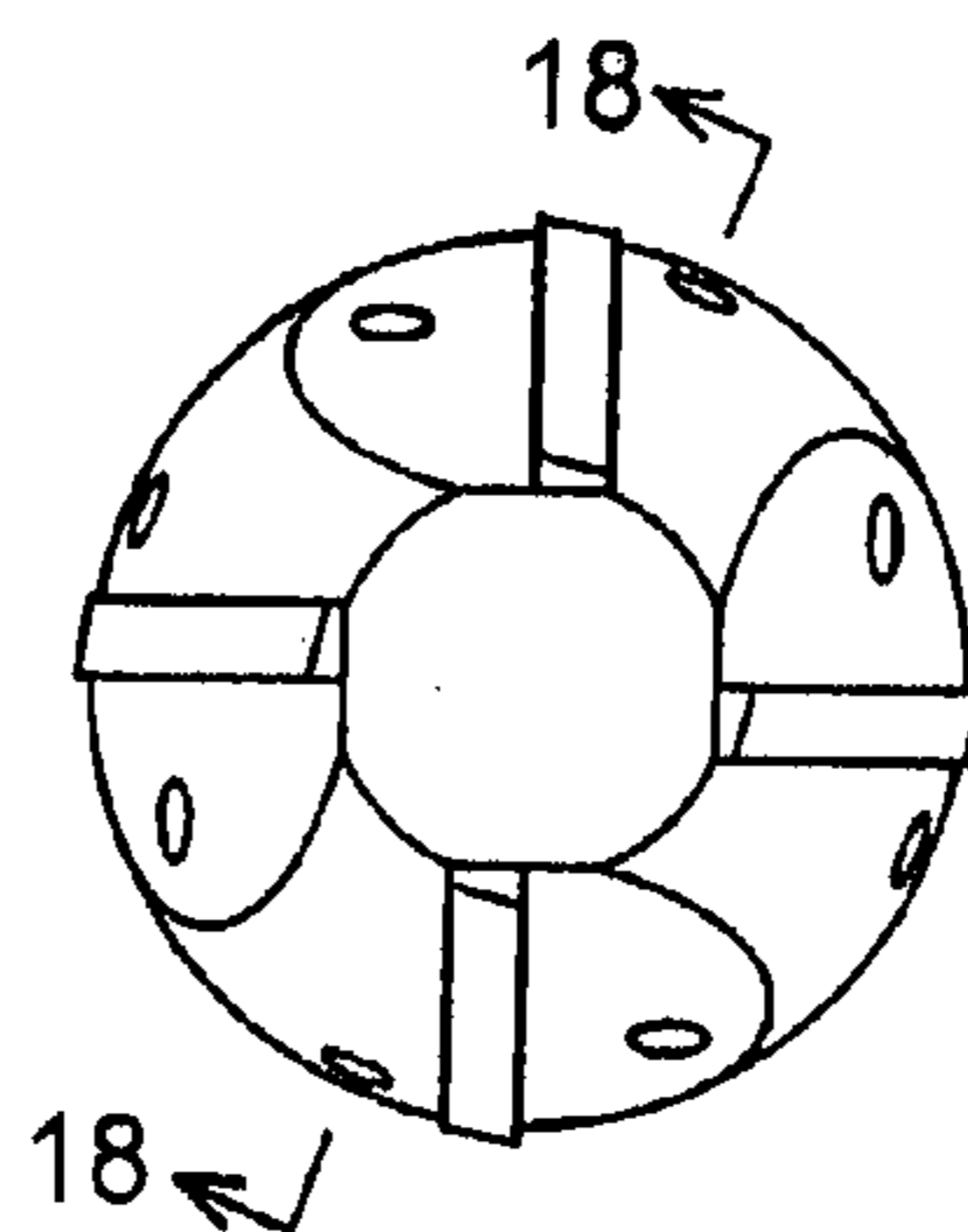


Fig. 16

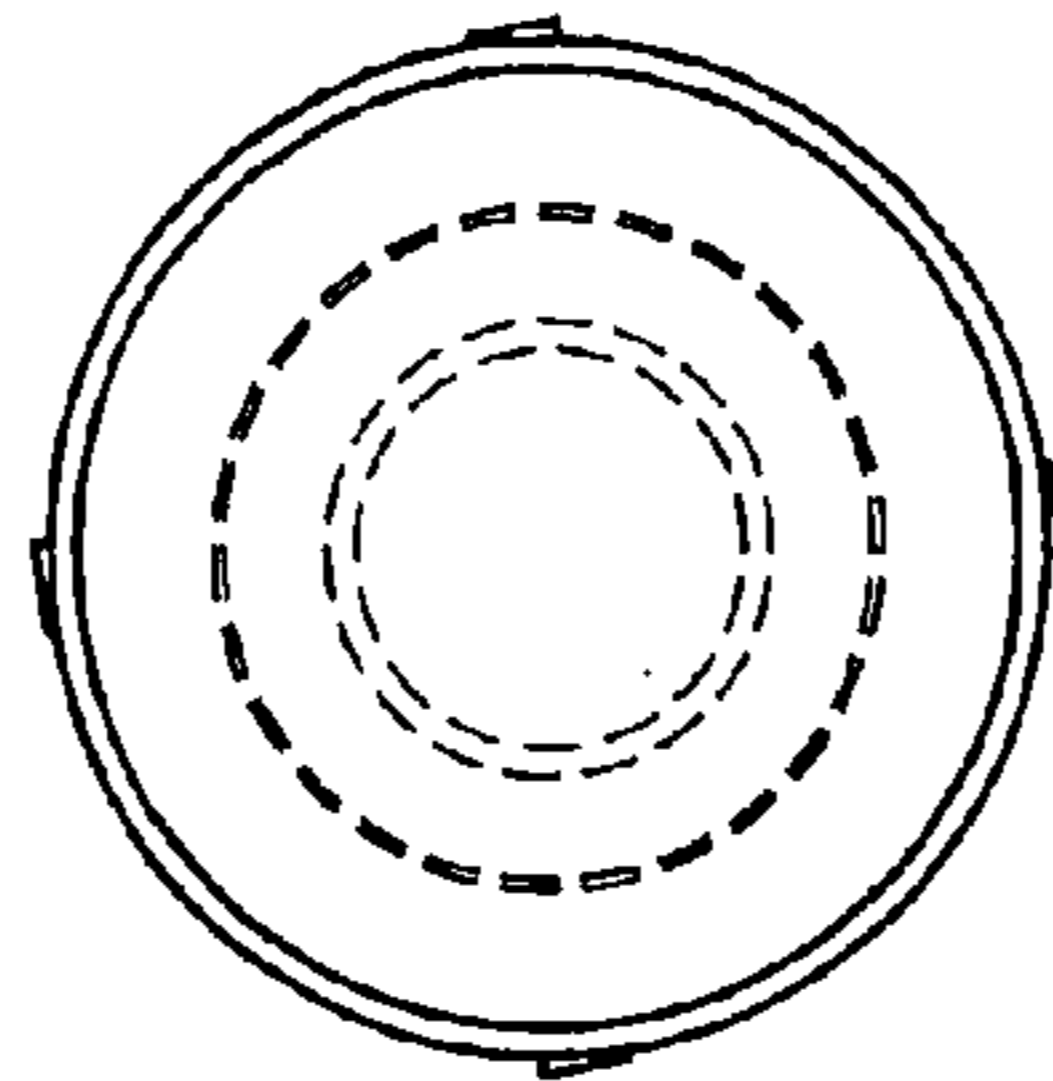


Fig. 17

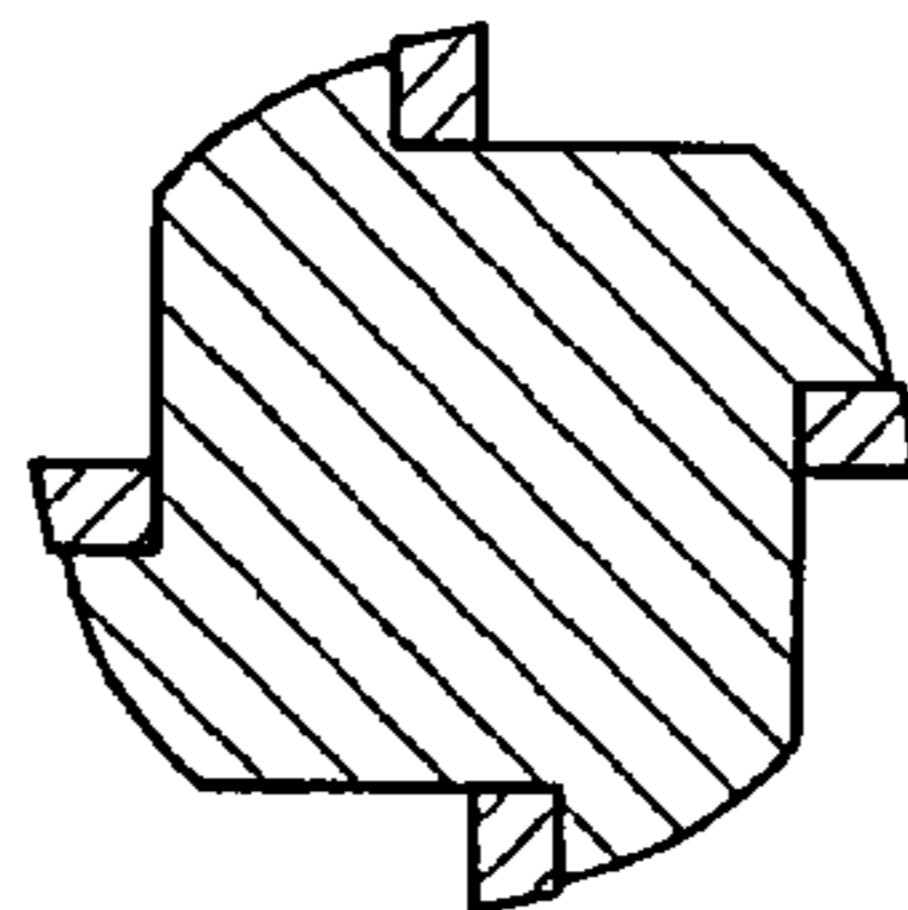


Fig. 18

