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

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(54) **GAS CONCENTRATION DETECTION
SENSOR**

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- (73) Assignee: **NGK Insulators, Ltd.**, Nagoya (JP)
- (**) Term: **15 Years**

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Related U.S. Application Data

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(30) **Foreign Application Priority Data**

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- Mar. 14, 2018 (JP) 2018-005338
- Mar. 14, 2018 (JP) 2018-005341

(51) **LOC (13) Cl.** **10-04**

(52) **U.S. Cl.**
USPC **D10/81**

(58) **Field of Classification Search**
USPC D10/81
CPC G01D 11/24; G01N 27/16; G01N 27/18;
G01N 27/1185; G01N 33/0006; G01N
33/0009-33/0075; G01N 1/24; G01N
1/2205; G01N 1/2273; G01N 2001/2276;
G01N 17/10-17/177; G01N 27/4077;
G01N 27/4078; G01M 15/102; Y10T
29/49826

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 8,464,573 B2 6/2013 Sekiya et al.
- 8,806,918 B2 * 8/2014 Yonezu G01N 27/4077
73/31.05
- 9,228,987 B2 * 1/2016 Shimazaki G01N 27/4077
- D755,655 S * 5/2016 Scott D10/81
- 9,335,312 B2 5/2016 Kato
- D787,903 S * 5/2017 Atwell D8/14
- 9,714,895 B2 * 7/2017 Landkammer G01N 15/0656
- 9,759,586 B2 * 9/2017 Mori G01N 27/4077

(Continued)

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(57) **CLAIM**

The ornamental design for a gas concentration detection sensor, as shown and described.

DESCRIPTION

FIG. 1 is an enlarged perspective view of a third embodiment of a gas concentration detection sensor showing our new design;

FIG. 2 is a front view thereof, the back view thereof being a right-and-left reversed image;

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

FIG. 4 is a right view thereof;

FIG. 5 is a left view thereof;

FIG. 6 is an enlarged view thereof indicated in FIG. 1;

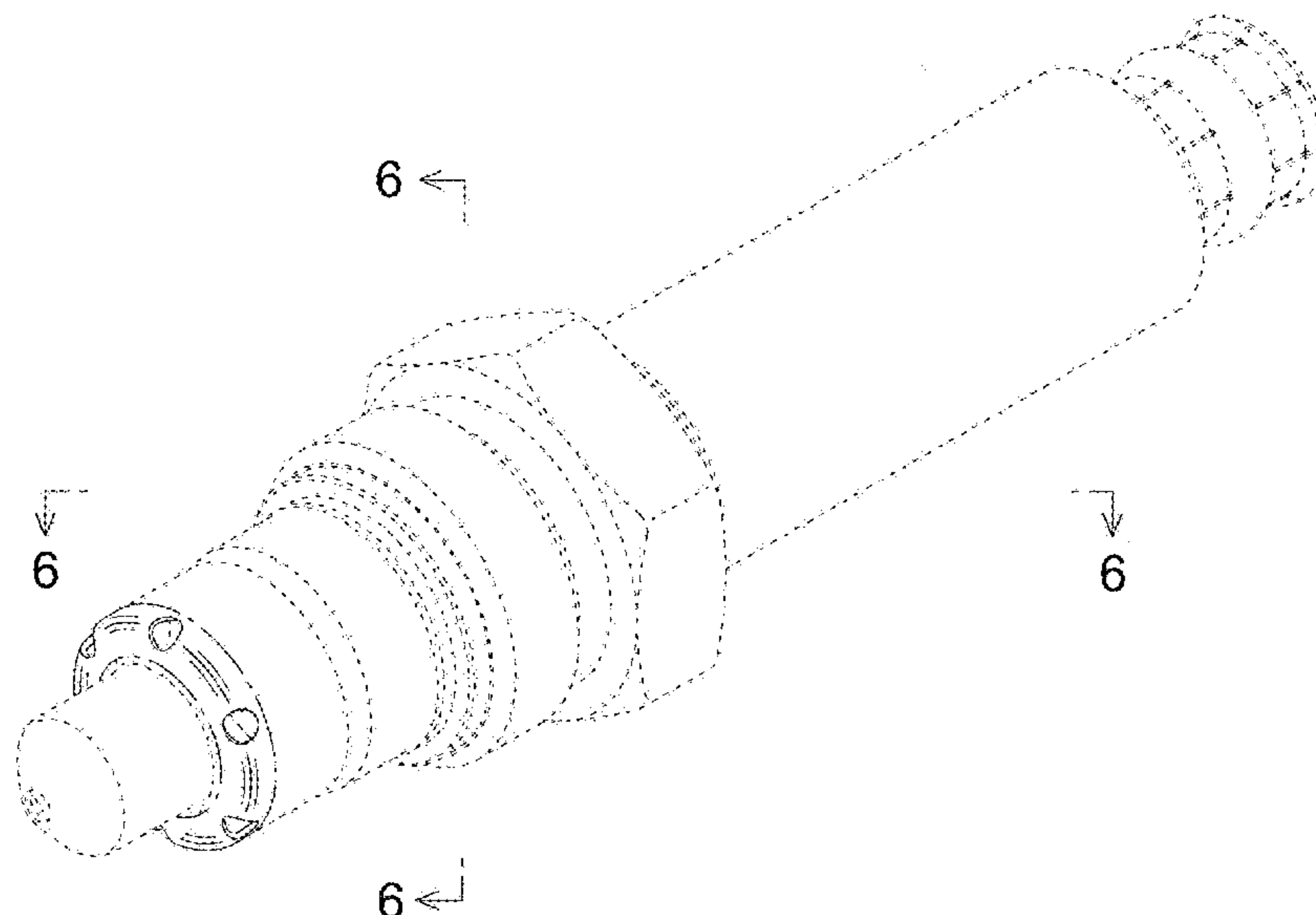
FIG. 7 is an enlarged internal-mechanism-omitted end view thereof; and,

FIG. 8 is an enlarged partial internal-mechanism-omitted end view thereof indicated in FIG. 2 and FIG. 5.

The broken lines shown in the figures are for illustrative purposes only and form no part of the claimed design.

The dot-dash broken lines shown in the figures are to indicate a boundary between a claimed design and disclaimed portion, and those are not a part of a claimed design or disclaimed portion.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

10,054,573 B2 * 8/2018 Isaka G01N 27/4077
D841,499 S * 2/2019 Drewes D10/81

* cited by examiner

FIG. 1

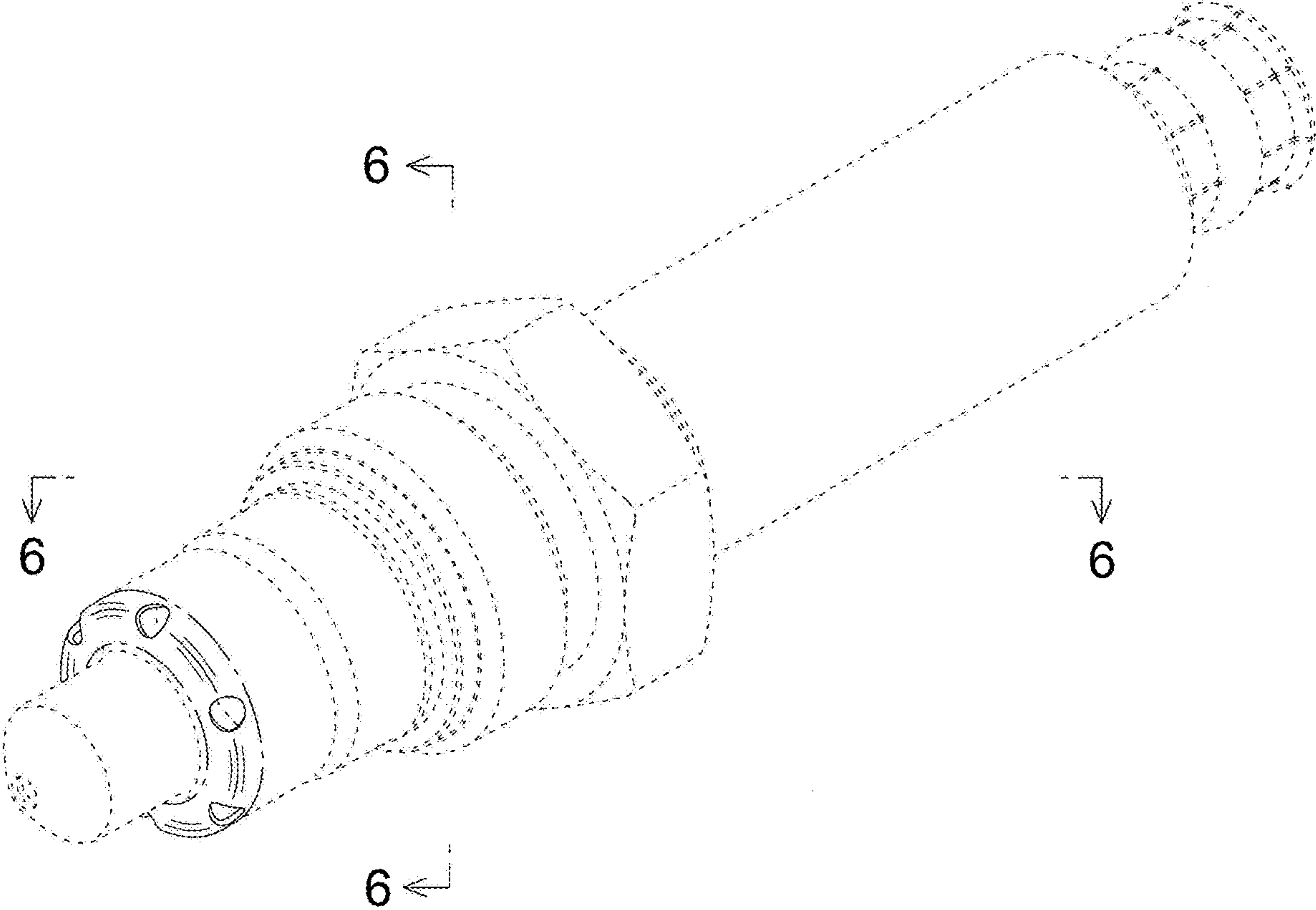


FIG. 2

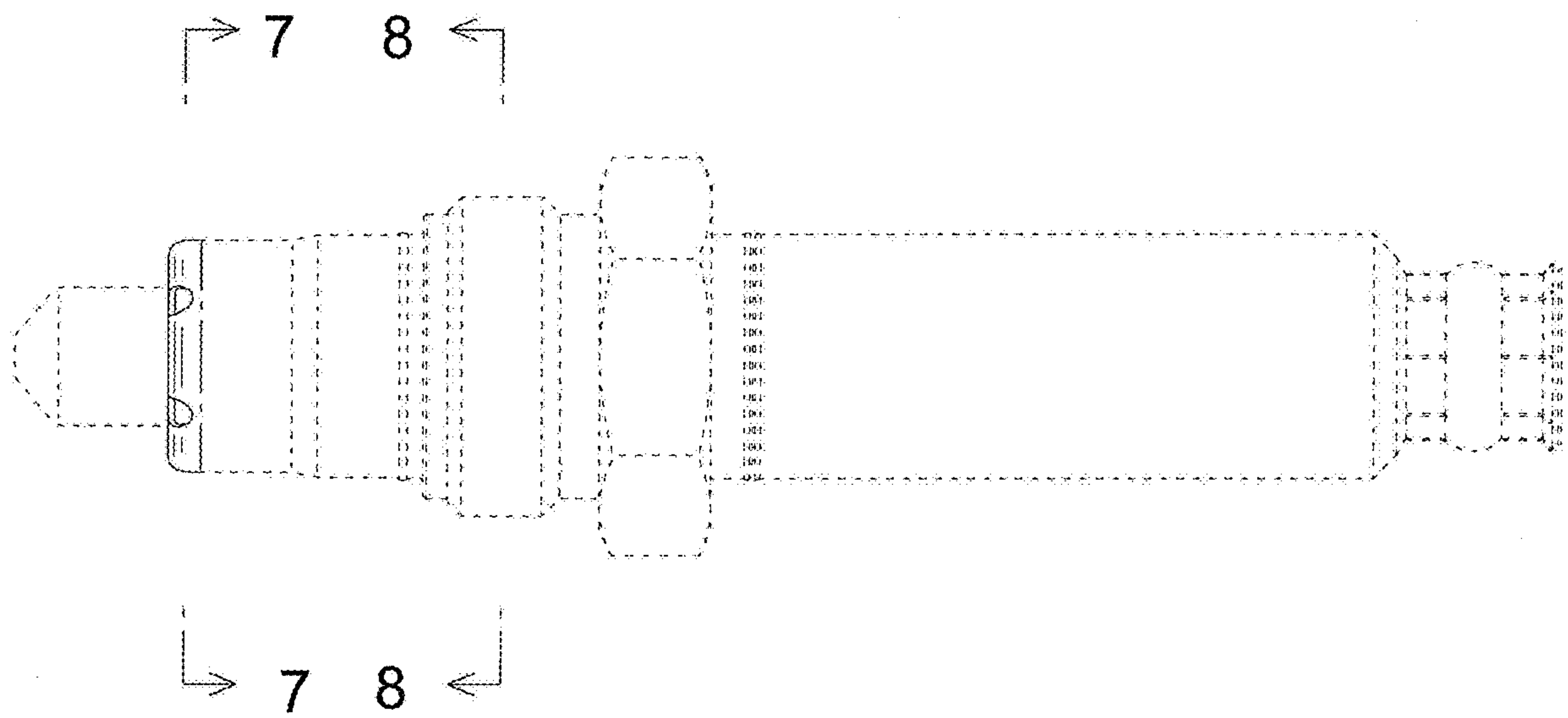


FIG. 3

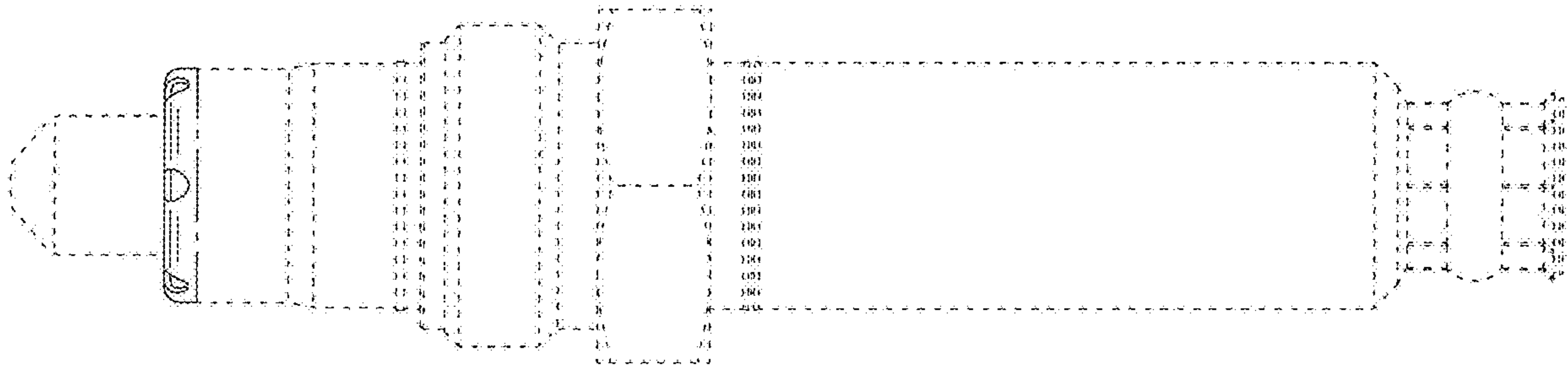


FIG. 4

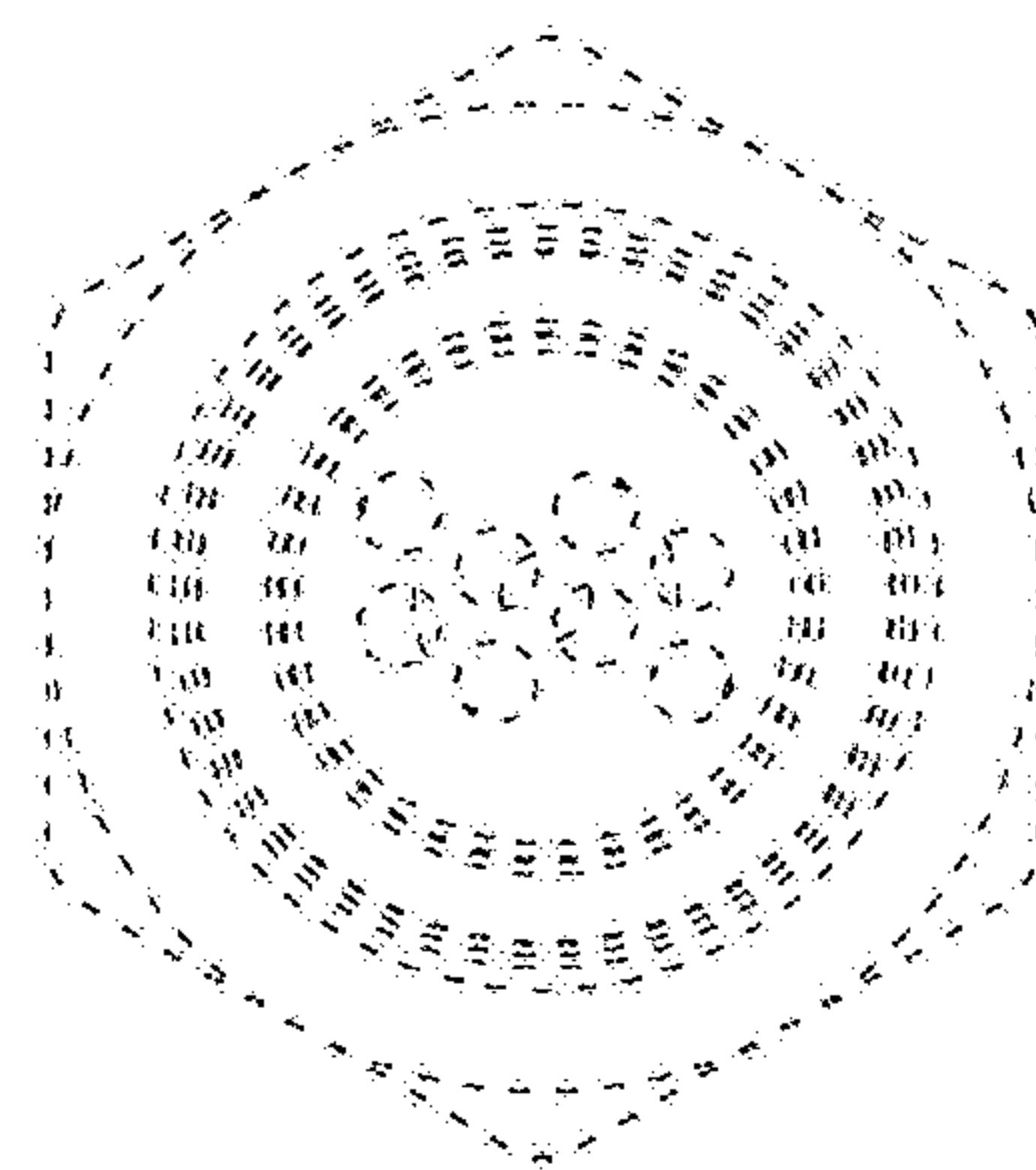


FIG. 5

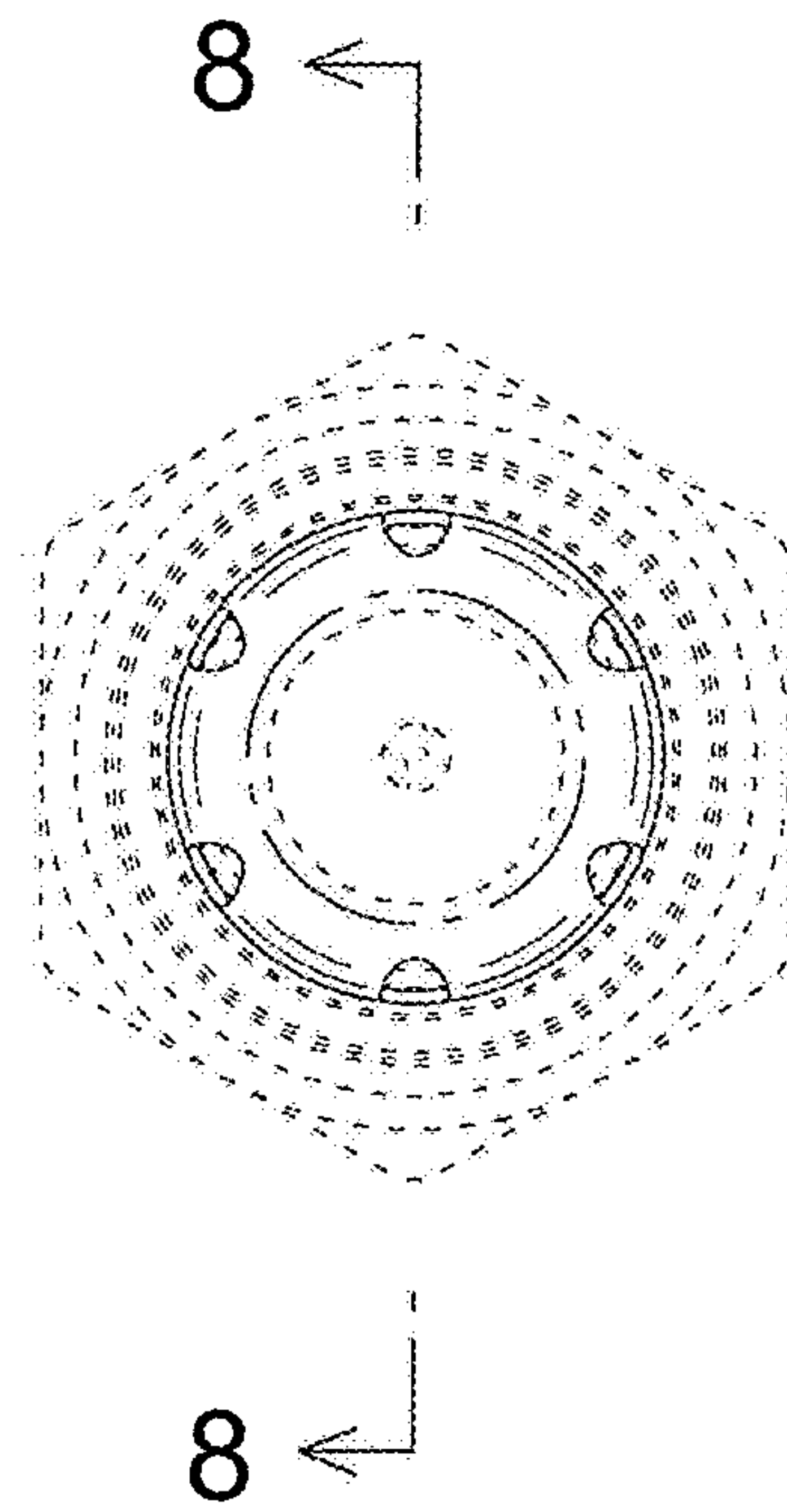


FIG. 6

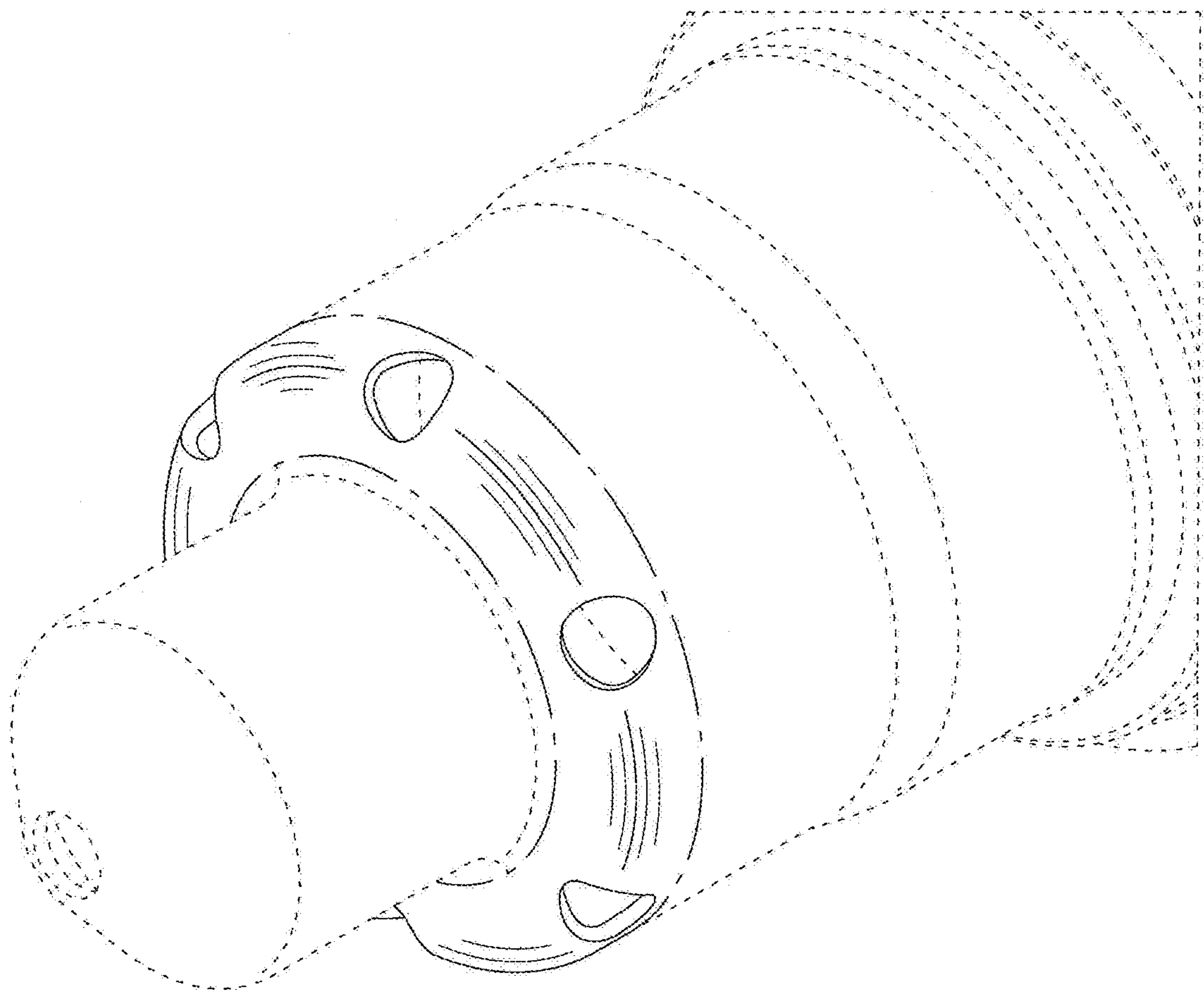


FIG. 7

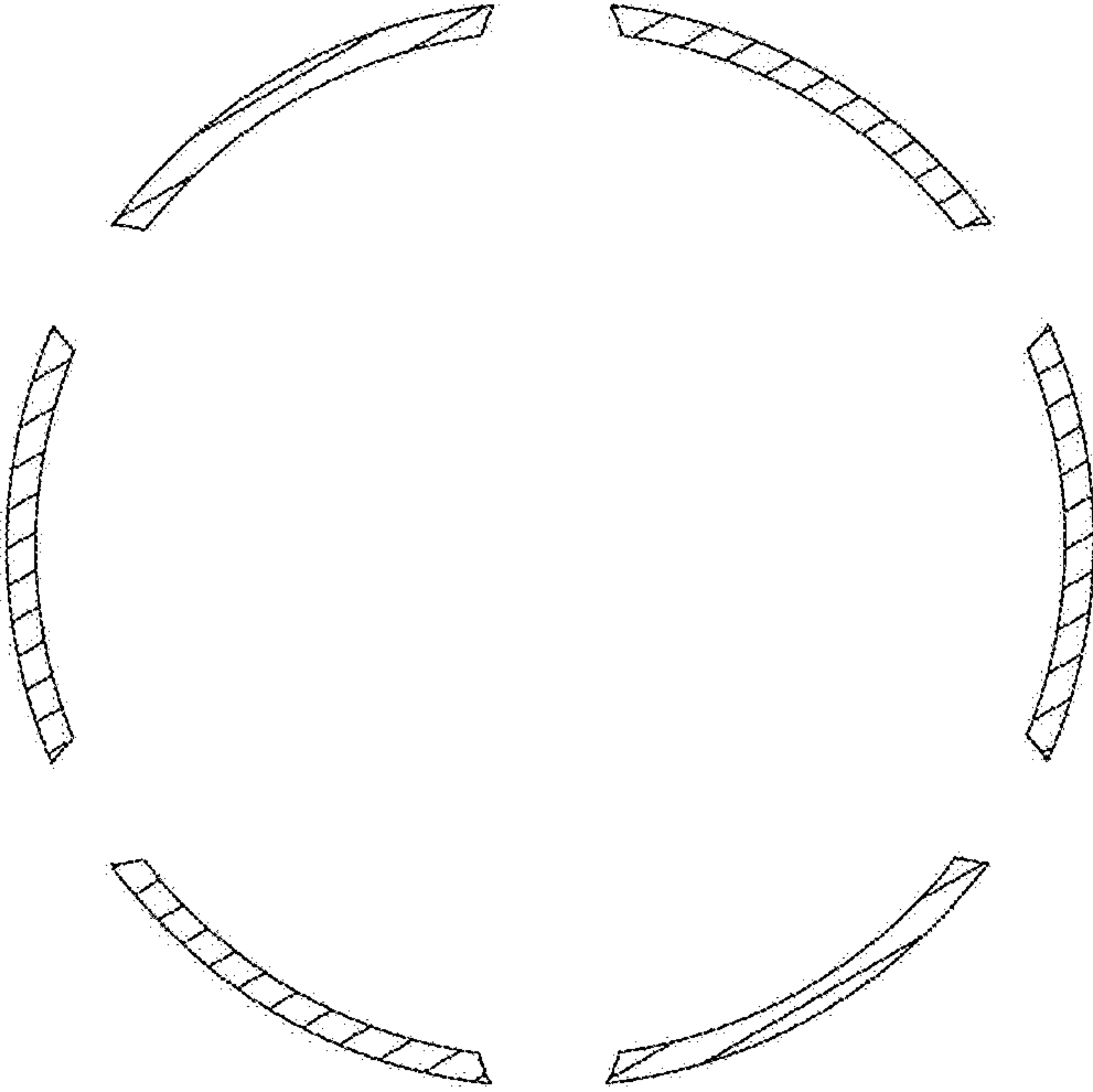


FIG. 8

