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(12) **United States Design Patent** (10) **Patent No.:** **US D875,560 S**
Grillotti et al. (45) **Date of Patent:** **** Feb. 18, 2020**

(54) **FLAME MONITORING AND IGNITION DEVICE**

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

(21) Appl. No.: **29/688,921**

(22) Filed: **Apr. 25, 2019**

Related U.S. Application Data

(63) Continuation of application No. 29/637,123, filed on Feb. 14, 2018, now Pat. No. Des. 851,505.

(30) **Foreign Application Priority Data**

Aug. 18, 2017 (EM) 004154151

(51) **LOC (12) Cl.** **10-04**

(52) **U.S. Cl.**
USPC **D10/46; D10/102**

(58) **Field of Classification Search**
USPC D10/46, 102
CPC . F23M 11/04; F23N 5/12; F23N 5/123; F23N 5/126; F23N 2037/00; F23N 2025/00; F23N 2025/02; F23N 2025/04; F23N 2025/06; F23N 2025/08; F23N 2025/10; F23N 2025/12; F23N 2025/13; F23N 2025/14; F23N 2025/16; F23N 2025/18; F23N 2025/19; F23N 2025/20; F23N 2025/21; F23N 2025/22; F23N 2025/24; F23N 2025/26; F23N 2025/30; F23N 2029/00; F23N 2029/02; F23N 2029/04; F23N 2029/06; F23N 2029/08; F23N

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,245,977 A 1/1981 Morese
4,525,138 A 6/1985 Snyder et al.

(Continued)

FOREIGN PATENT DOCUMENTS

DE 202004006644 U1 8/2004
GB 879482 A 10/1961

OTHER PUBLICATIONS

Platvoet et al., "Process Burners 101", American Institute of Chemical Engineers, Aug. 2013, pp. 35-39.

John Link Hamworthy, "LPMW Radiant Wall Burner", 2016, pp. 1-2.

Primary Examiner — Antoine Duval Davis

(57) **CLAIM**

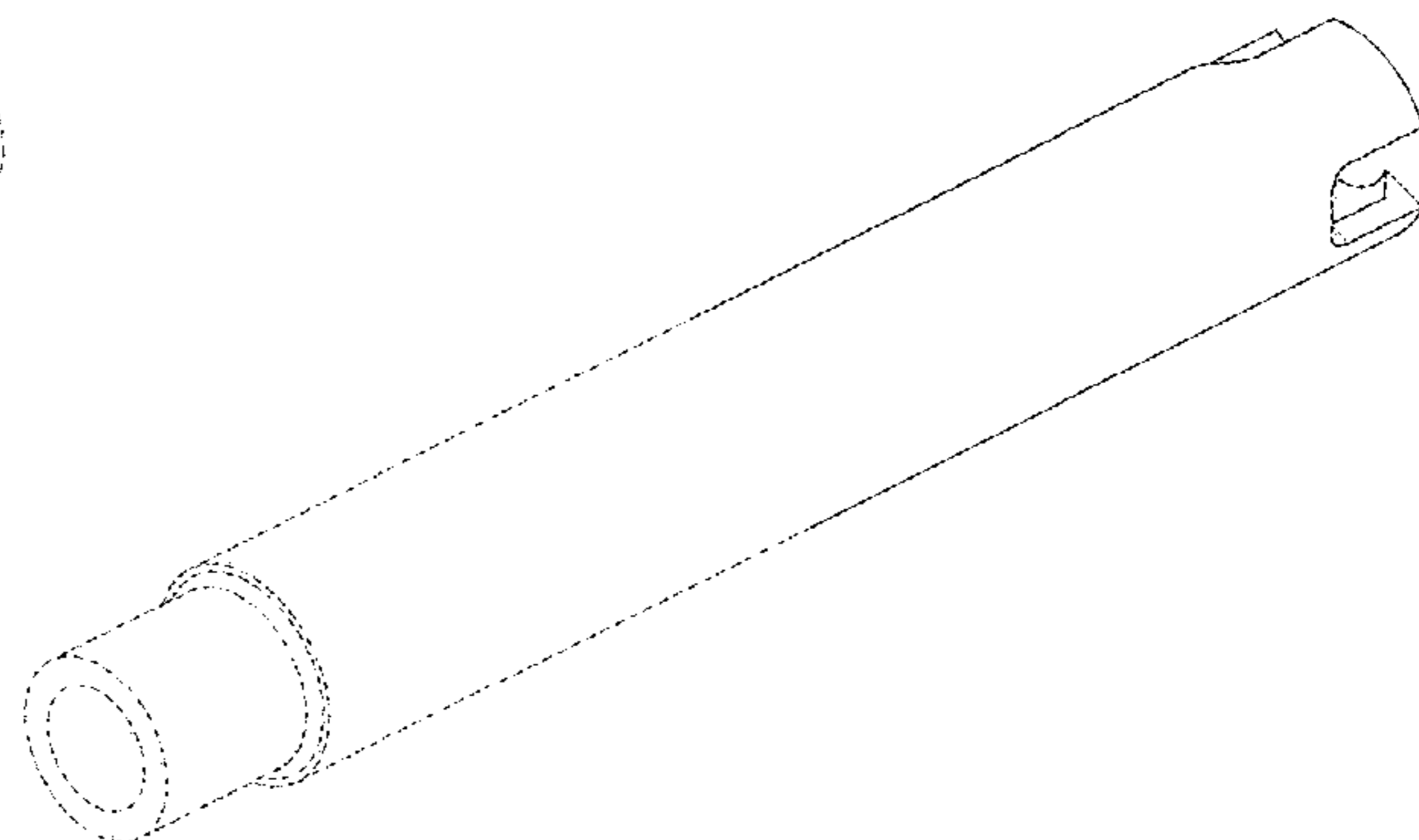
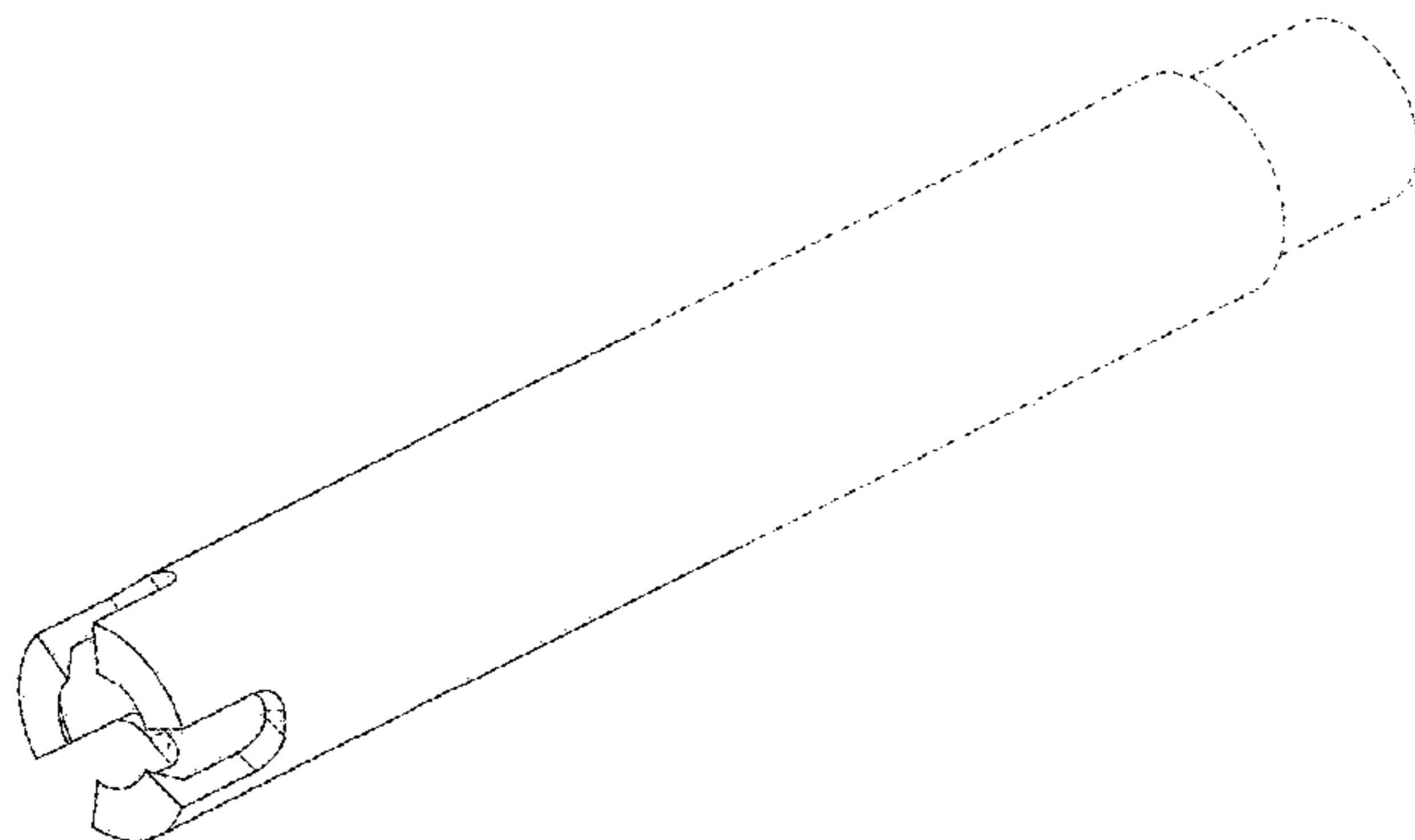
The ornamental design for a flame monitoring and ignition device, as shown and described.

DESCRIPTION

FIG. 1 is a front, left, top perspective view of a flame monitoring and ignition device showing the new design; FIG. 2 is a rear, right, bottom perspective view thereof; FIG. 3 is a front elevation view thereof; FIG. 4 is a rear elevation view thereof; FIG. 5 is a top plan view thereof; FIG. 6 is a bottom plan view thereof; FIG. 7 is a left side elevation thereof; and, FIG. 8 is a right side elevation thereof.

The broken lines of uneven length illustrate the boundary of the claimed design, and form no part thereof. The broken lines of even length illustrate portions of the flame monitoring and ignition device that form no part of the claimed design.

1 Claim, 8 Drawing Sheets



(58) **Field of Classification Search**

CPC 2029/10; F23N 2029/12; F23N 2029/14;
F23N 2029/16; F23N 2029/18; F23N
2029/20; F23N 2029/22

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

10,101,028 B2 * 10/2018 Loveless F23Q 9/00
D851,505 S 6/2019 Grillotti et al.

* cited by examiner

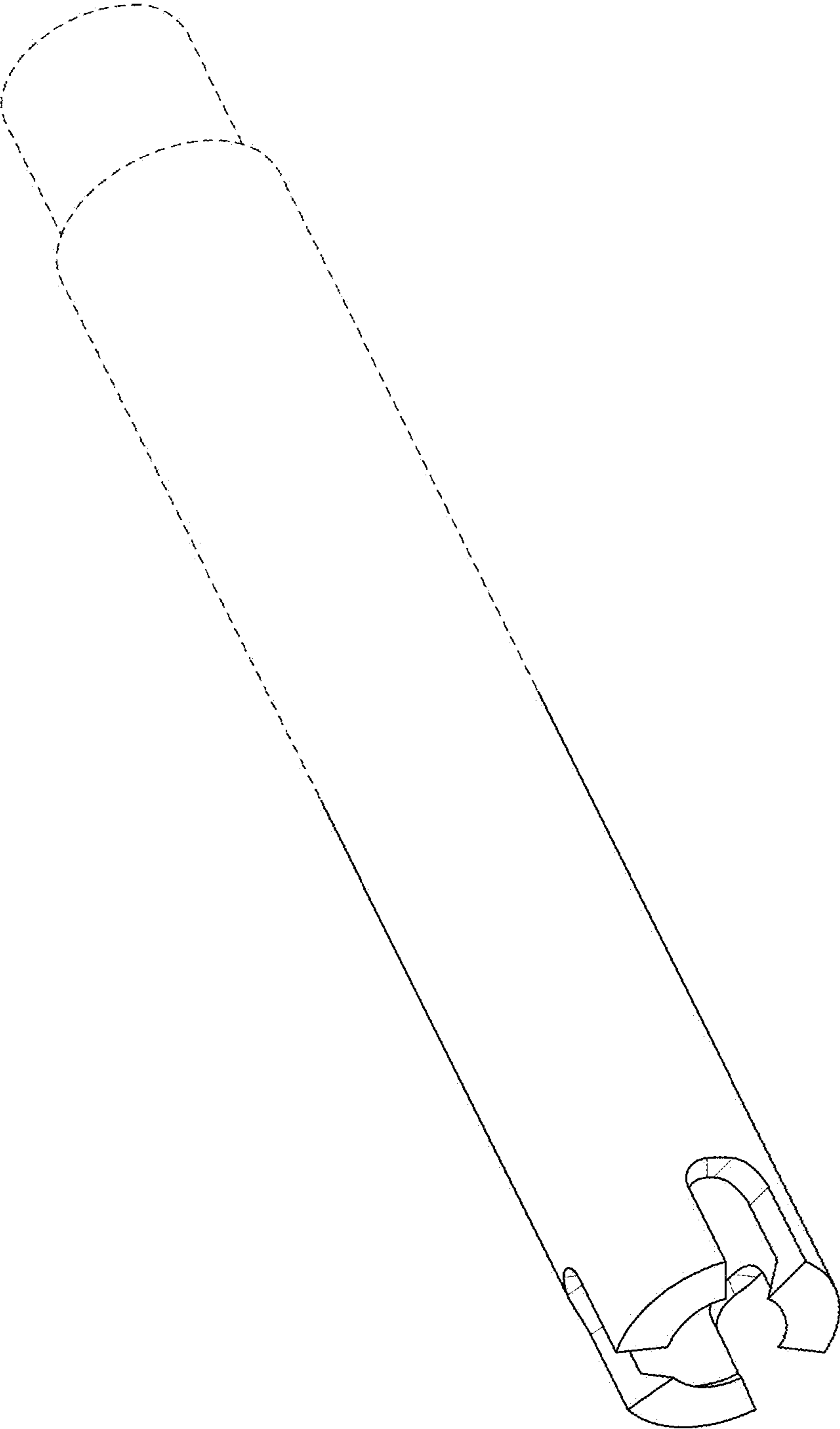


FIG. 1

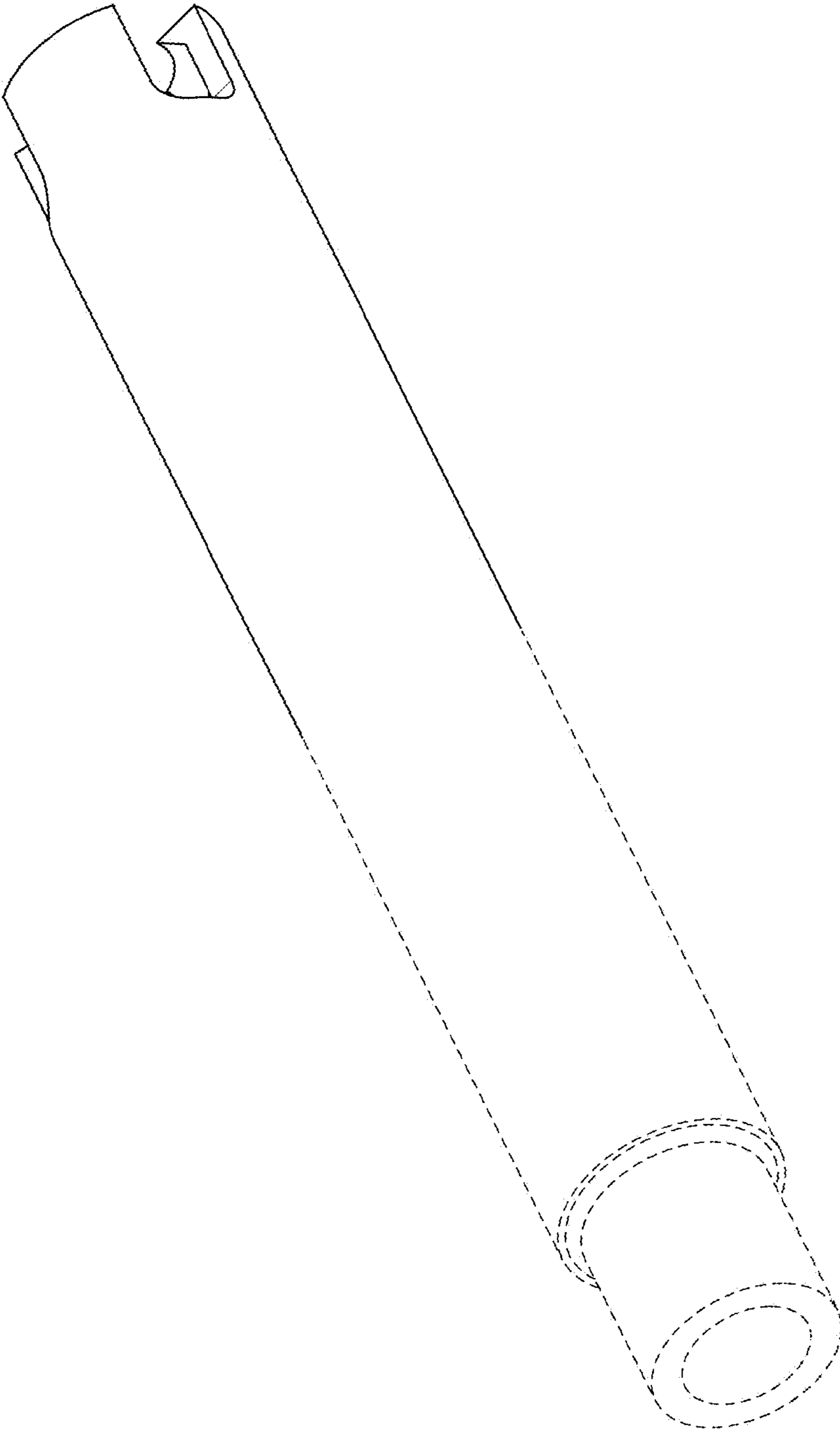


FIG. 2

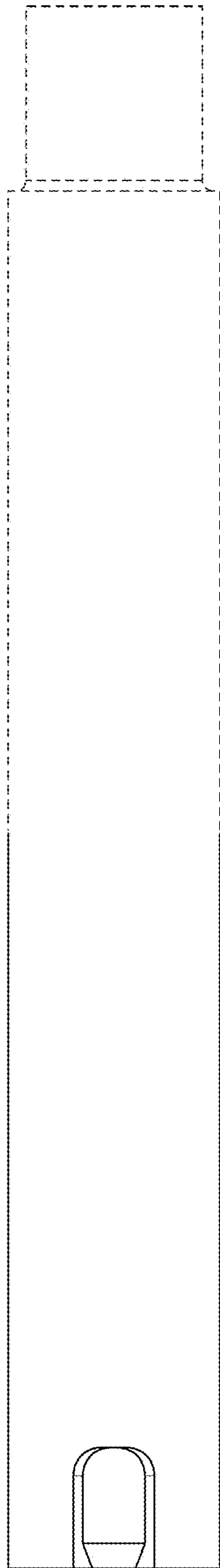


FIG. 3

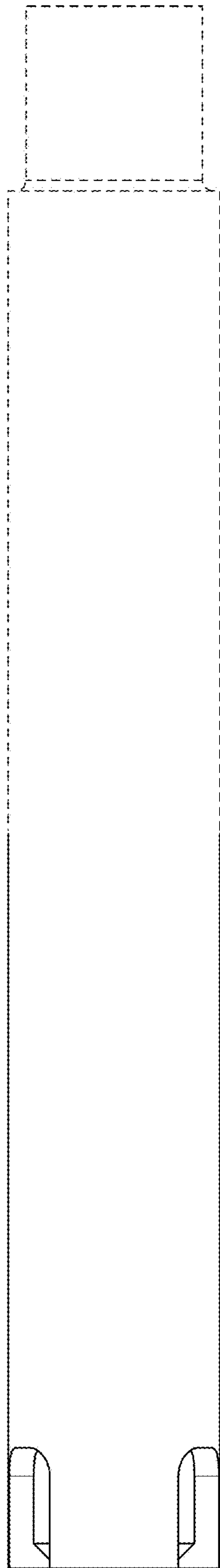


FIG. 4

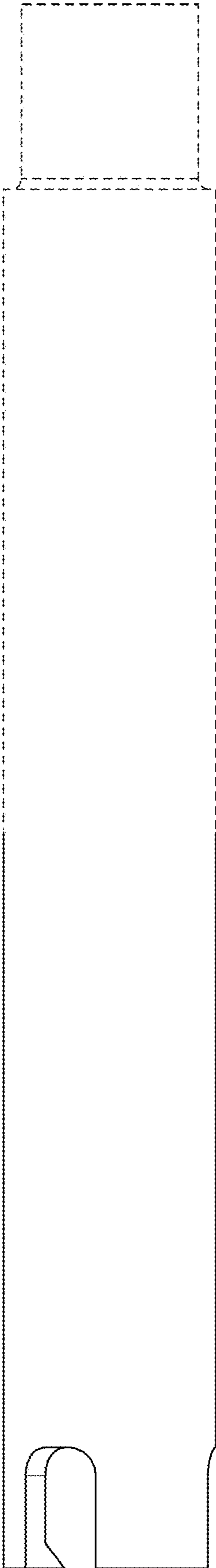


FIG. 5

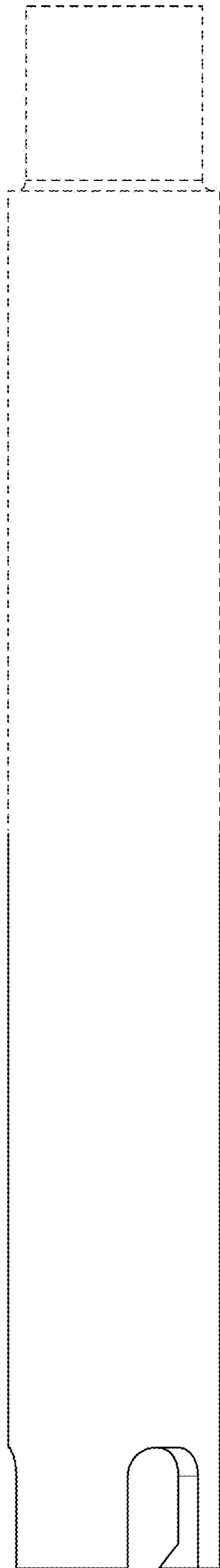


FIG. 6

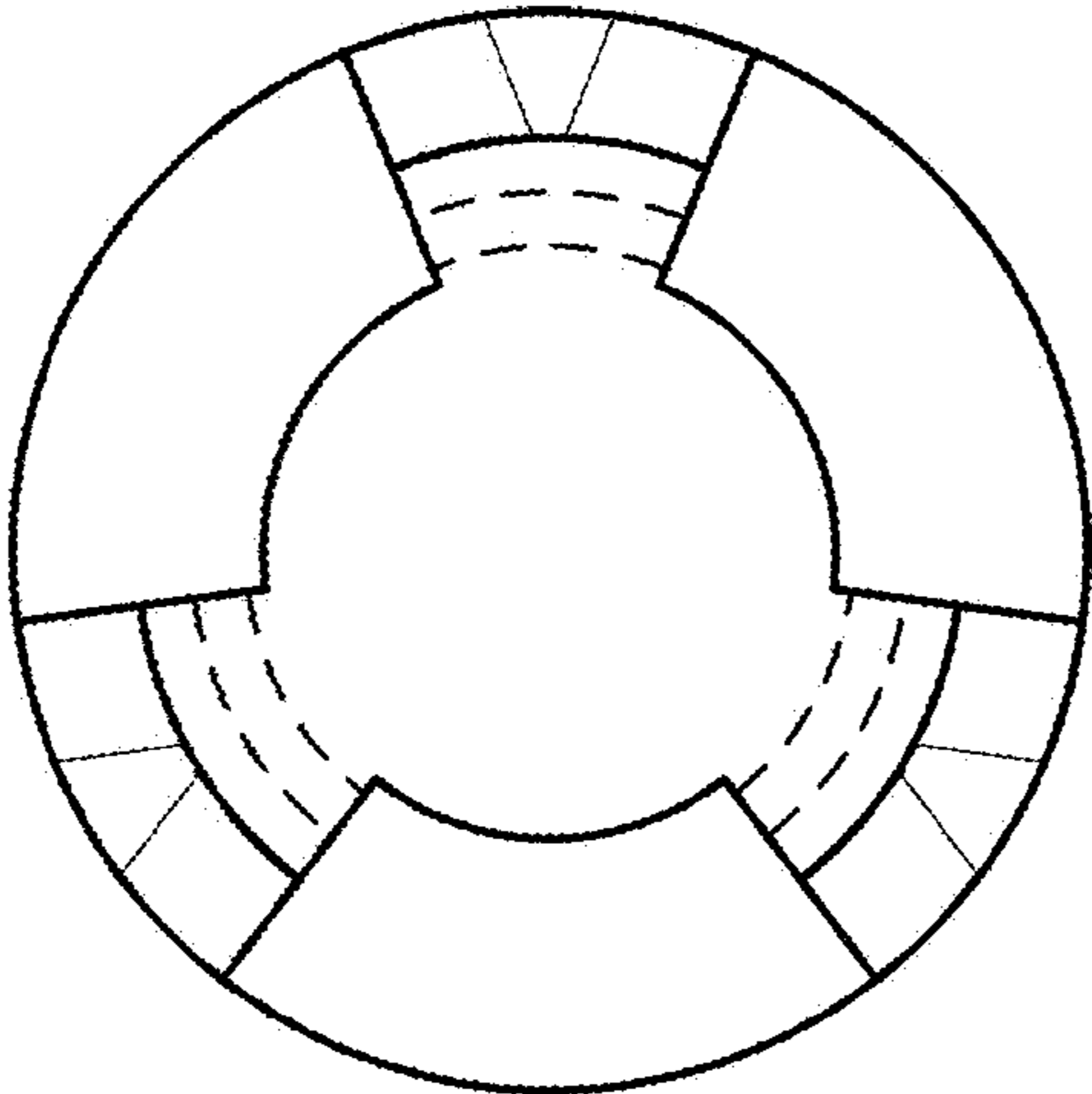


FIG. 7

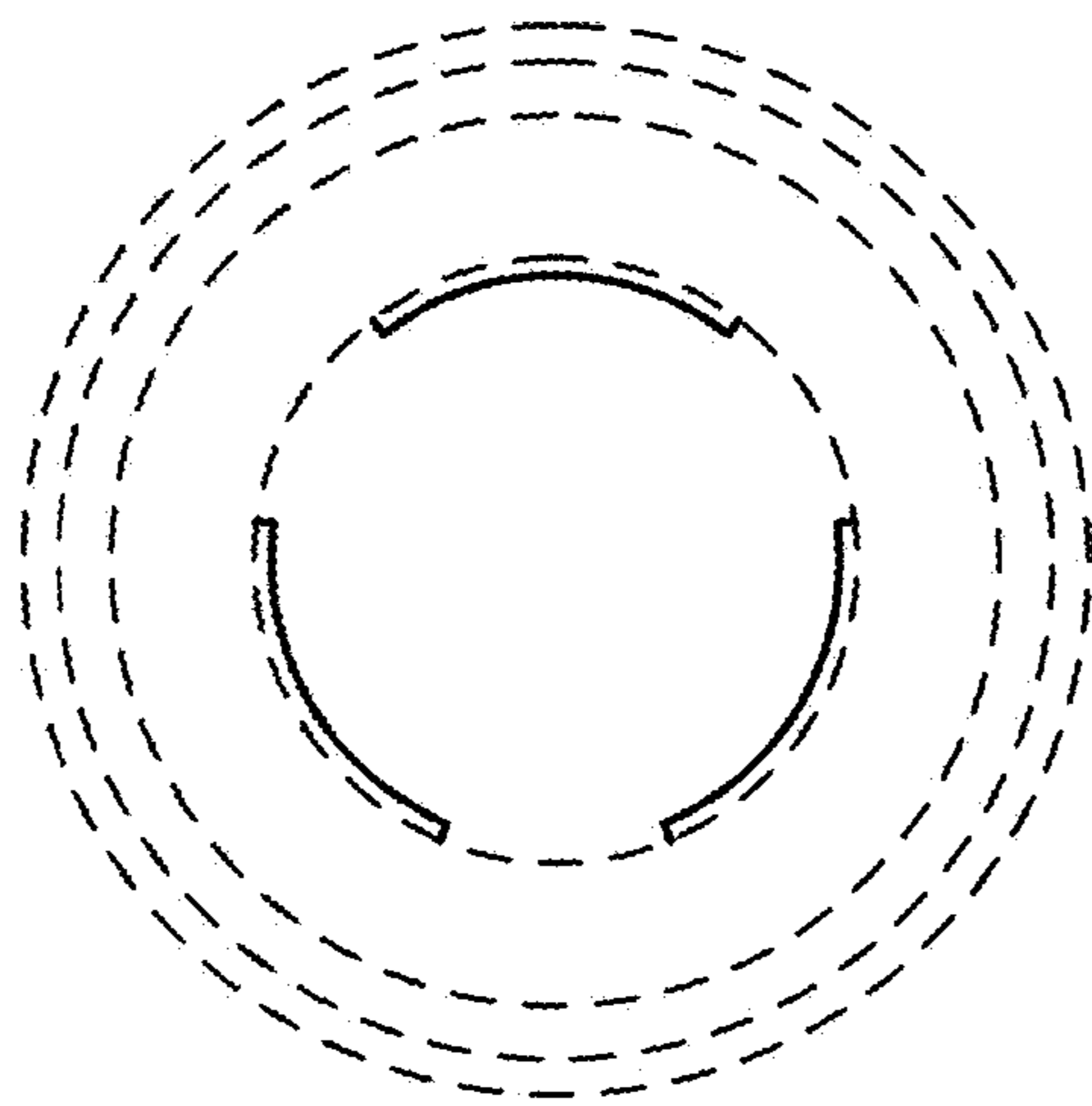


FIG. 8