



US00D976406S

(12) **United States Design Patent**  
**Johnson**

(10) **Patent No.:** **US D976,406 S**  
(45) **Date of Patent:** **\*\* Jan. 24, 2023**

- (54) **TOOTHBRUSH DRIVE TRAIN** 7,288,863 B2 † 10/2007 Kraus ..... H02K 33/14  
310/38
- (71) Applicant: **WATER PIK, INC.**, Fort Collins, CO 7,687,944 B2 † 3/2010 Benning ..... H02K 33/00  
(US) 310/20
- (72) Inventor: **Jeremy J. Johnson**, Fort Collins, CO 7,730,569 B2 † 6/2010 Grez ..... A61C 17/222  
(US) 15/22.1
- (73) Assignee: **WATER PIK, INC.**, Fort Collins, CO 7,852,182 B2 † 12/2010 Willhelmus ..... A61C 17/3472  
(US) 335/266
- (\*\*) Term: **15 Years** 8,264,105 B2 † 9/2012 Bax ..... H02K 33/18  
310/12.01
- 8,304,938 B2 † 11/2012 Jungnickel ..... A61C 17/3472  
310/36
- 8,418,302 B1 † 4/2013 Suen ..... A61C 17/3418  
310/36

(21) Appl. No.: **29/831,654**

(Continued)

(22) Filed: **Mar. 22, 2022**

**FOREIGN PATENT DOCUMENTS**

**Related U.S. Application Data**

CN 108667255 A † 10/2018  
CN 108667255 A 10/2018

(63) Continuation of application No. 29/707,734, filed on  
Sep. 30, 2019, now Pat. No. Des. 950,729.

(Continued)

*Primary Examiner* — Rebekah A Caruso

(51) **LOC (14) Cl.** ..... **24-02**

(52) **U.S. Cl.**  
USPC ..... **D24/152**

(57) **CLAIM**

(58) **Field of Classification Search**  
USPC ..... D4/100–102, 121, 123, 199; D24/152,  
D24/176; D13/112, 118, 122  
CPC ..... H02K 33/00; A61C 17/34  
See application file for complete search history.

I claim the ornamental design for a toothbrush drive train, as  
shown and described.

**DESCRIPTION**

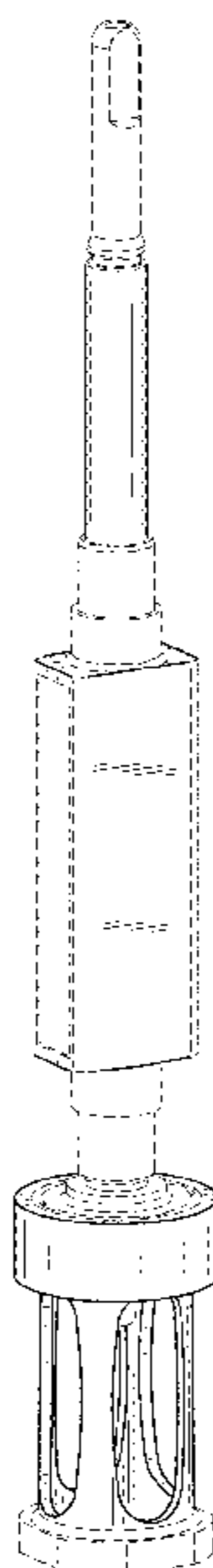
(56) **References Cited**

FIG. 1 is a front isometric view of a toothbrush drive train.  
FIG. 2 is a rear isometric view thereof.  
FIG. 3 is a front elevation view thereof.  
FIG. 4 is a rear elevation view thereof.  
FIG. 5 is a left side elevation view thereof.  
FIG. 6 is a right side elevation view thereof.  
FIG. 7 is a top plan view thereof; and,  
FIG. 8 is a bottom plan view thereof.  
The broken lines illustrate portions of the toothbrush drive  
train that form no part of the claimed design.

**U.S. PATENT DOCUMENTS**

- 2,819,892 A † 1/1958 Huff ..... F16C 11/04  
403/291
- D351,908 S \* 10/1994 Shaw ..... D24/176
- D380,047 S \* 6/1997 Gelb ..... D24/176
- D440,654 S \* 4/2001 Mark ..... D24/176
- 6,997,446 B2 † 2/2006 Hall ..... F16F 1/025  
433/118
- 7,067,945 B2 † 6/2006 Grez ..... B26B 19/282  
310/47

**1 Claim, 4 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

8,587,162 B2 ‡ 11/2013 Kagami ..... A61C 17/32  
310/38  
8,595,882 B2 ‡ 12/2013 Bax ..... A46B 15/0065  
15/22.1  
8,816,557 B2 ‡ 8/2014 Long ..... H02K 3/28  
310/194  
8,943,635 B2 ‡ 2/2015 Heil ..... A61C 17/3436  
15/22.4  
8,970,072 B2 ‡ 3/2015 Headstrom ..... A61C 17/3445  
310/15  
8,970,141 B2 ‡ 3/2015 Bax ..... A61C 17/3445  
318/128  
9,072,576 B2 ‡ 7/2015 Nishiura ..... H02K 33/12  
9,099,939 B2 ‡ 8/2015 Jungnickel ..... B26B 19/282  
9,301,822 B2 ‡ 4/2016 Grez ..... A61C 17/32  
D761,963 S ‡ 7/2016 Way ..... D24/152  
9,410,593 B2 ‡ 8/2016 Kloster ..... F16F 1/025  
D776,815 S ‡ 1/2017 Carron ..... D24/152  
D779,062 S ‡ 2/2017 Evans ..... D24/152  
9,743,750 B2 ‡ 8/2017 Boyke ..... A46B 11/001  
9,806,591 B2 ‡ 10/2017 Schober ..... A61C 17/3436  
D858,776 S ‡ 9/2019 Pieroni ..... D24/176

D896,963 S ‡ 9/2020 Buist, Sr. .... D24/152  
D950,729 S \* 5/2022 Johnson ..... D24/152  
2011/0119848 A1 ‡ 5/2011 Kloster ..... A61C 17/3418  
403/373  
2014/0259473 A1 ‡ 9/2014 Bax ..... A61C 17/22  
267/136  
2015/0265041 A1 ‡ 9/2015 Boyke ..... A46B 15/0095  
132/308  
2016/0000543 A1 ‡ 1/2016 Kobayashi ..... A61C 17/34  
15/22.1  
2017/0271935 A1 ‡ 9/2017 Luo ..... H02K 33/02  
2017/0273768 A1 ‡ 9/2017 Bax ..... A61C 17/34  
2018/0145576 A1 ‡ 5/2018 Kraus ..... A61C 1/07  
2019/0140533 A1 ‡ 5/2019 Hu ..... H02K 1/12  
2021/0093431 A1 ‡ 4/2021 Johnson ..... A61C 17/028

FOREIGN PATENT DOCUMENTS

WO 2017220355 A1 12/2017  
WO WO-2017220355 A1 ‡ 12/2017  
WO 2018046760 A1 3/2018  
WO WO-2018046760 A1 ‡ 3/2018  
WO 2018078848 A1 5/2018  
WO WO-2018078848 A1 ‡ 5/2018

\* cited by examiner  
‡ imported from a related application

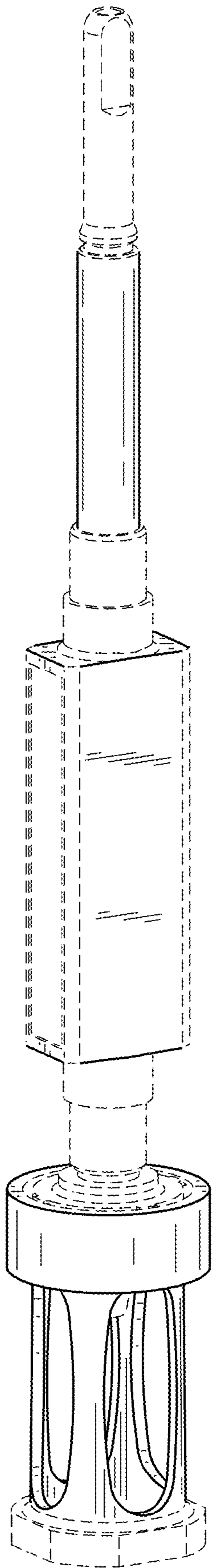


FIG. 1

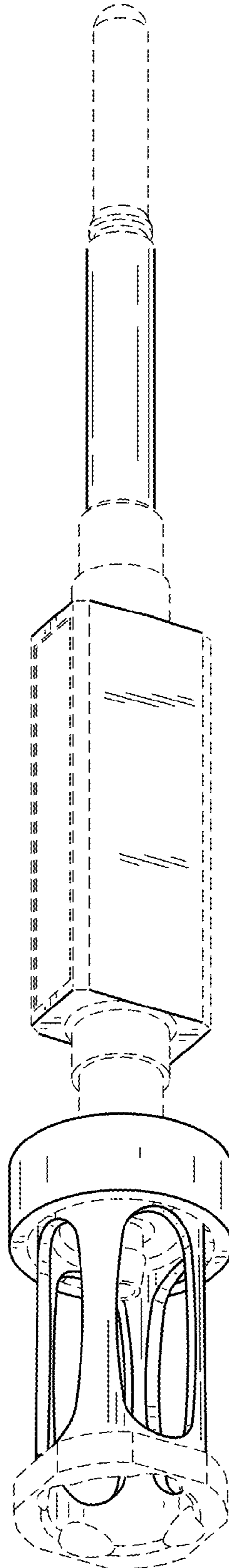


FIG. 2

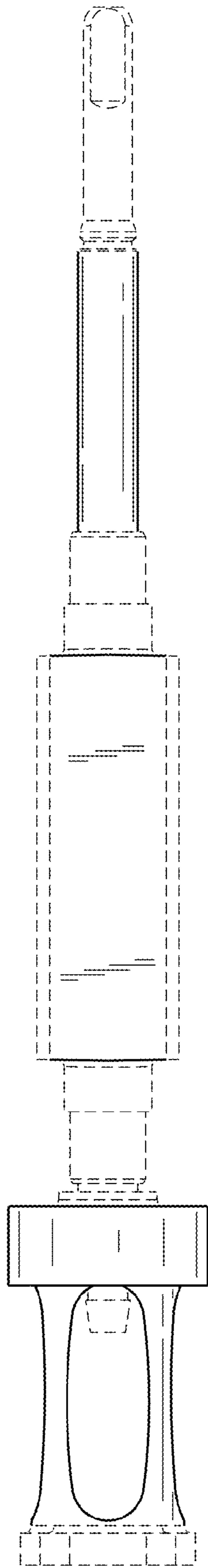


FIG. 3

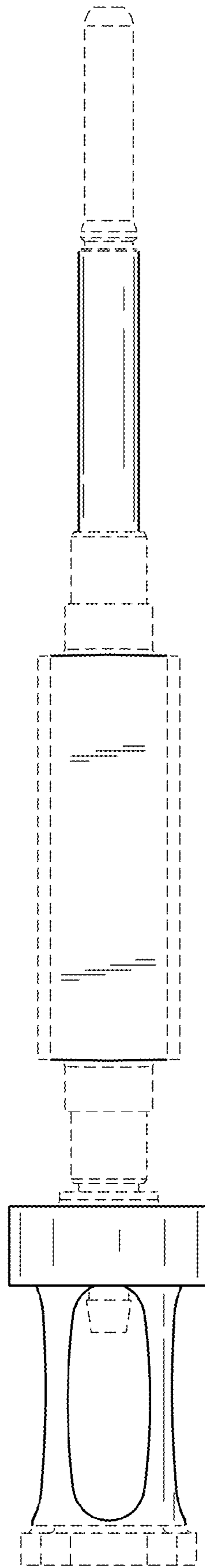


FIG. 4

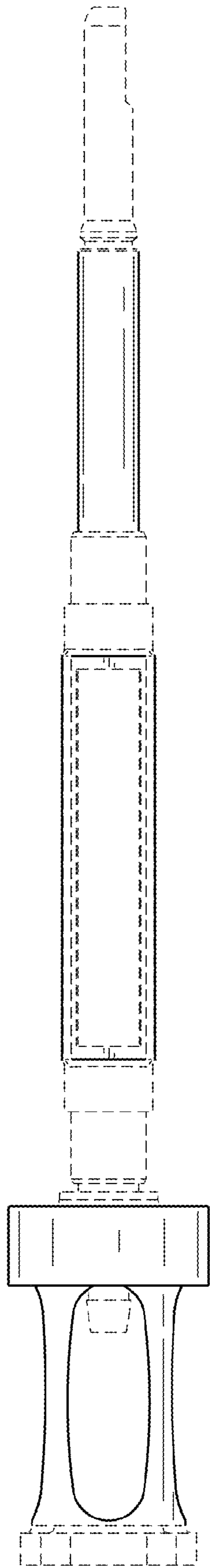


FIG. 5

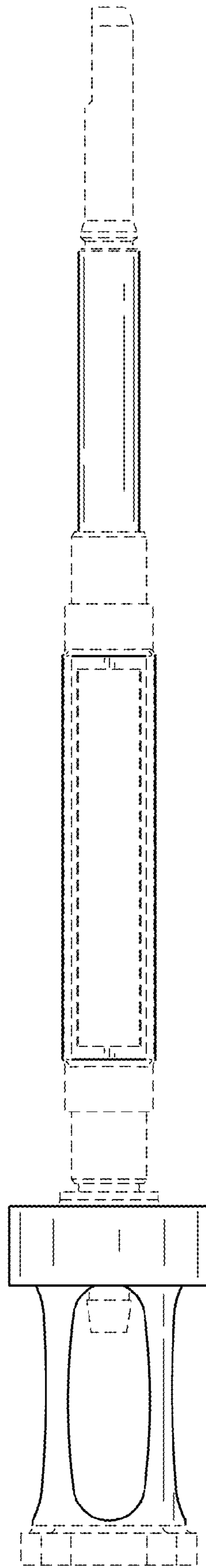


FIG. 6

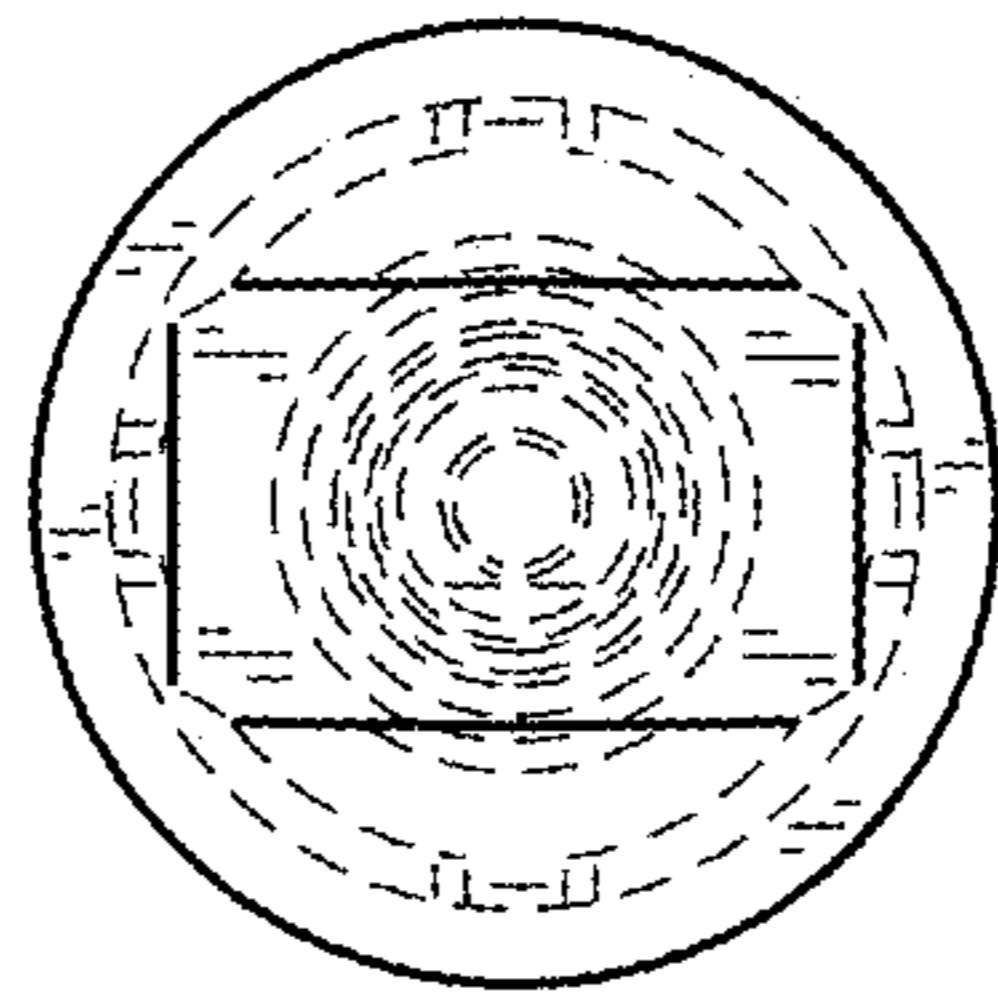


FIG. 7

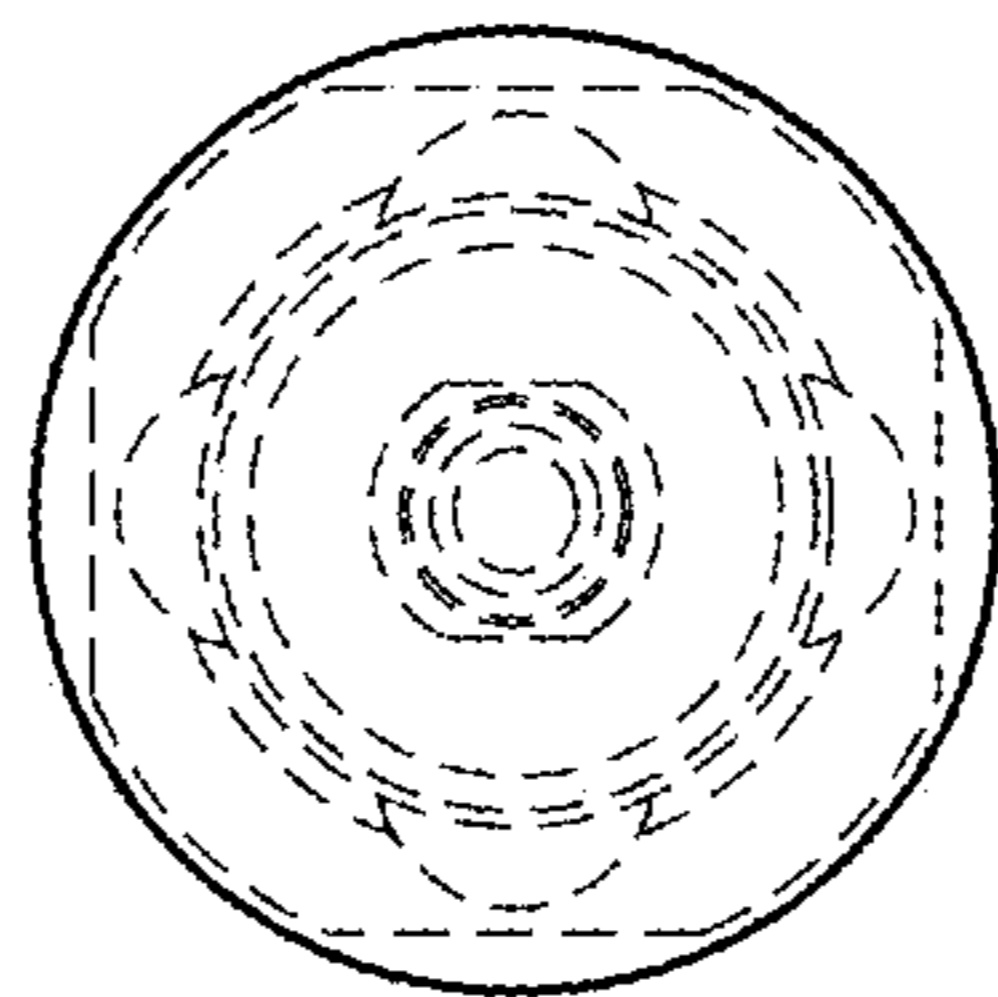


FIG. 8