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(12) **United States Design Patent** (10) **Patent No.:** **US D978,287 S**
Kominami et al. (45) **Date of Patent:** **** Feb. 14, 2023**

(54) **CHEMICAL SPRAYING DEVICE**
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(73) Assignee: **Toyo Seikan Co., Ltd.**, Tokyo (JP)
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7,905,428 B1 * 3/2011 Probasco A01M 7/0046
222/394
9,878,337 B1 * 1/2018 Hong B05B 7/0075
10,830,361 B1 * 11/2020 Wu A45F 3/14
D952,098 S * 5/2022 Tong D32/25
D963,795 S * 9/2022 Yang D23/225
D964,518 S * 9/2022 Qiao D23/225
2010/0230515 A1 * 9/2010 Wu A01M 7/00
239/373
2010/0327087 A1 * 12/2010 Harris A01C 15/02
239/653
2011/0079659 A1 * 4/2011 Wilken A01G 25/09
239/74

(Continued)

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(52) **U.S. Cl.**
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(58) **Field of Classification Search**
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D23/225, 226, 229, 230
CPC A61H 9/0021; A61H 33/00; B05B 1/00;
B05B 1/14; B05B 1/185; B05B 1/08;
B05B 1/02; B05B 1/26; B05B 12/002;
B05B 1/18; B05B 9/01
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
4,930,702 A * 6/1990 Vanderjagt A01M 7/0089
239/289
D317,314 S * 6/1991 Yanagi D15/13
5,383,603 A * 1/1995 Englhard B05B 7/2448
251/324
6,089,477 A * 7/2000 Dillon A01C 15/02
239/153
6,729,558 B1 * 5/2004 Seenauth B05B 7/1422
239/152

OTHER PUBLICATIONS

Hudson 13194 Commercial Bak-Pak Sprayer Jun. 4, 2017, Amazon.
com Mar. 27, 2021: URL: <https://www.amazon.com/dp/B000NONM6W/> (Year: 2017).*

(Continued)

Primary Examiner — Keith J Wilson

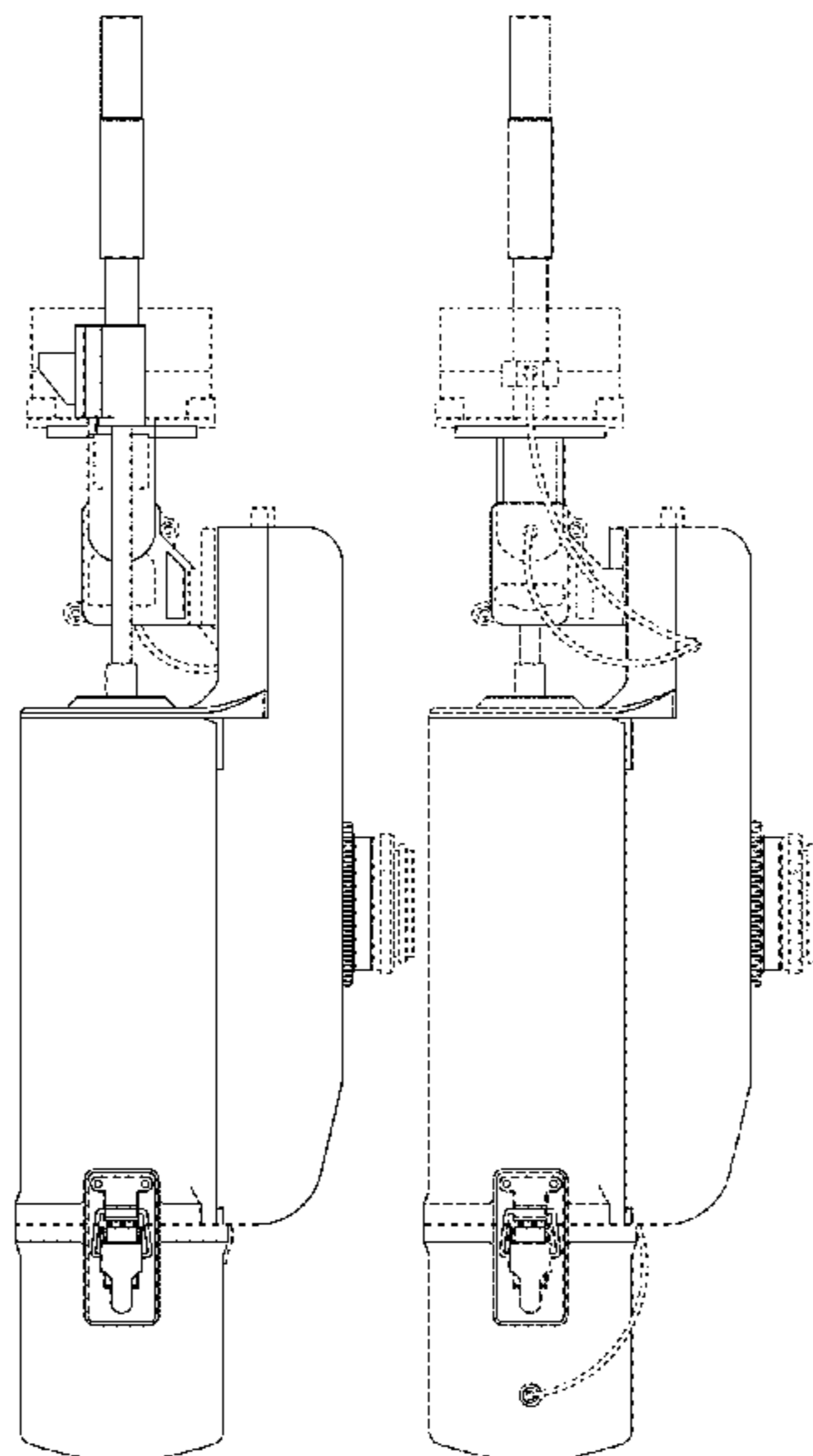
(57) **CLAIM**

The ornamental design for a chemical spraying device, as shown and described.

DESCRIPTION

FIG. 1 is a front elevation view of a chemical spraying device showing our new design; FIG. 2 is a rear elevation view thereof; FIG. 3 is a right side view thereof; FIG. 4 is a left side view hereof; FIG. 5 is a top plan view thereof; and, FIG. 6 is a bottom plan view thereof. The shadings in the figures show contour and not surface ornamentation. The broken lines represent portions of a chemical spraying device and form no part of the claimed design.

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2019/0200513 A1* 7/2019 Wu A01C 17/008

OTHER PUBLICATIONS

Chapin International Inc. 97661 Mixes on Exit-First-Ever Clean-Tank Tow Sprayer, Oct. 12, 2019, amazon.ca, Sep. 28, 2022, URL: https://www.amazon.ca/dp/B07WFHVCVR/ref=sbl_dpx_ca-outdoor-gardening-sprayers_B08T5Q168V_0 (Year: 2019).*

Brushless Water Pump, 5L 10A 14S Sprayer Diaphragm Pump for Drone, Dec. 10, 2021, amazon.ca, Sep. 28, 2022, URL: <https://www.amazon.ca/Brushless-Sprayer-Diaphragm-Agriculture-Accessories/dp/B09ND3SR8T/> (Year: 2021).*

<https://www.sunrise-inc.co.jp/work/detail.php?cid=193>; Sale Date of comic book: Jan. 25, 1998.

<http://stzip.web5.jp/sb.htm>; The design pictures are from comic book in Non-literature document No. 1 which its sale date is Jan. 25, 1998.

https://ja.wikipedia.org/wiki/H%26K_XM8; Published in the second half of 1990s.

[News-Wide SAKIDORI] <https://www.youtube.com/watch?v=rMWKnlx3BD8>; Publication Date: Nov. 6, 2018.

Shizuoka Newspaper; Publication Date: Dec. 7, 2018.

Asahi Newspaper; Publication Date: Oct. 25, 2018.

Fuji Business Report; Publication Date: Oct. 25, 2018.

Dempa Newspaper; Publication Date: Dec. 13, 2018.

FUJI TV https://www.youtube.com/watch?v=F2NW3dt_X18; Publication Date: Oct. 14, 2018.

SBS TV https://www.youtube.com/watch?time_continue=109&v=s8BkA3qNlhY; Publication Date: Oct. 25, 2018.

TV Shizuoka https://www.youtube.com/watch?time_continue=89&v=rZZxOqYpjJY; Publication Date: Oct. 25, 2018.

Daiichi-TV https://www.youtube.com/watch?time_continue=272&v=pCZnz57_LfE; Publication Date: Oct. 25, 2018.

Photo1, Publication Date: Aug. 17, 2019.

Photo2, Publication Date: Aug. 17, 2019.

Photo3, Publication Date: Aug. 17, 2019.

Photo4, SBS TV; Publication Date: Oct. 25, 2018.

Photo5, SBS TV; Publication Date: Oct. 25, 2018.

Photo6, SBS TV; Publication Date: Oct. 25, 2018.

Photo7, SBS TV; Publication Date: Oct. 25, 2018.

* cited by examiner

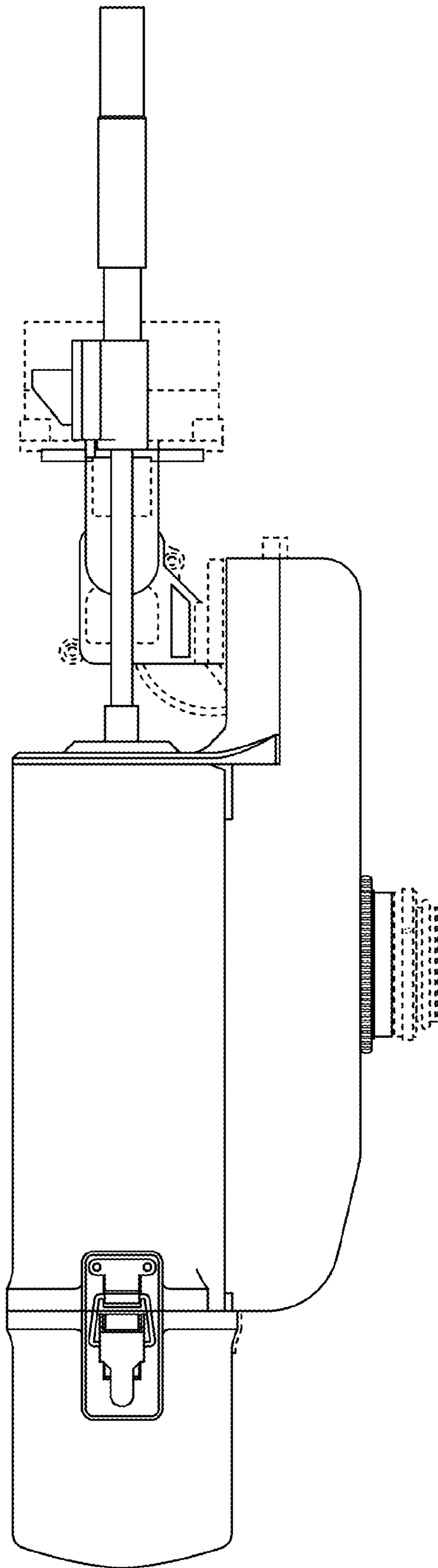


FIG. 1

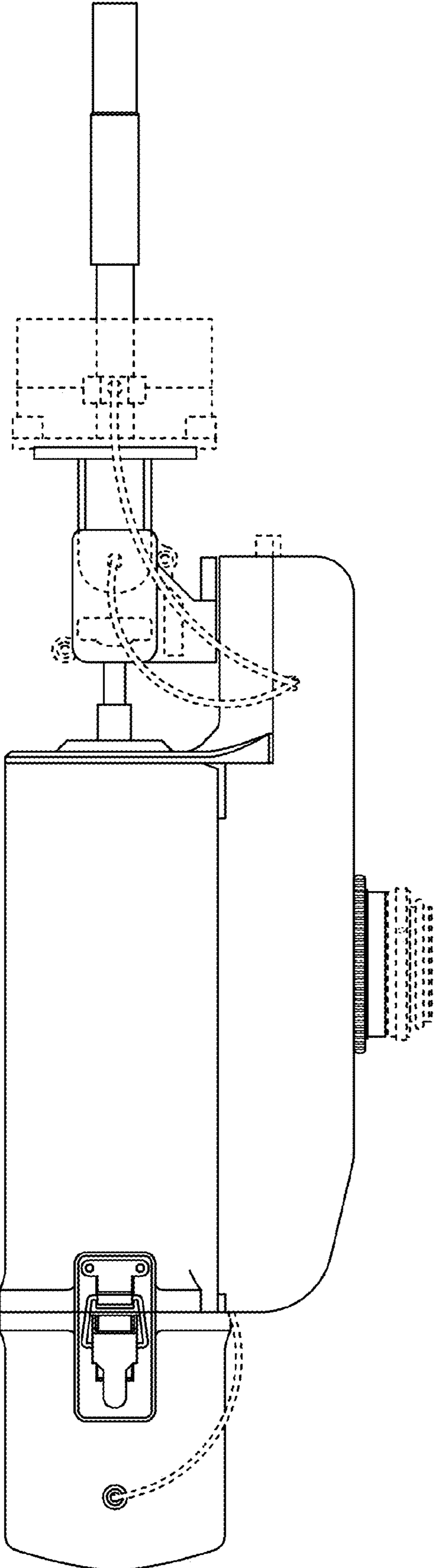


FIG. 2

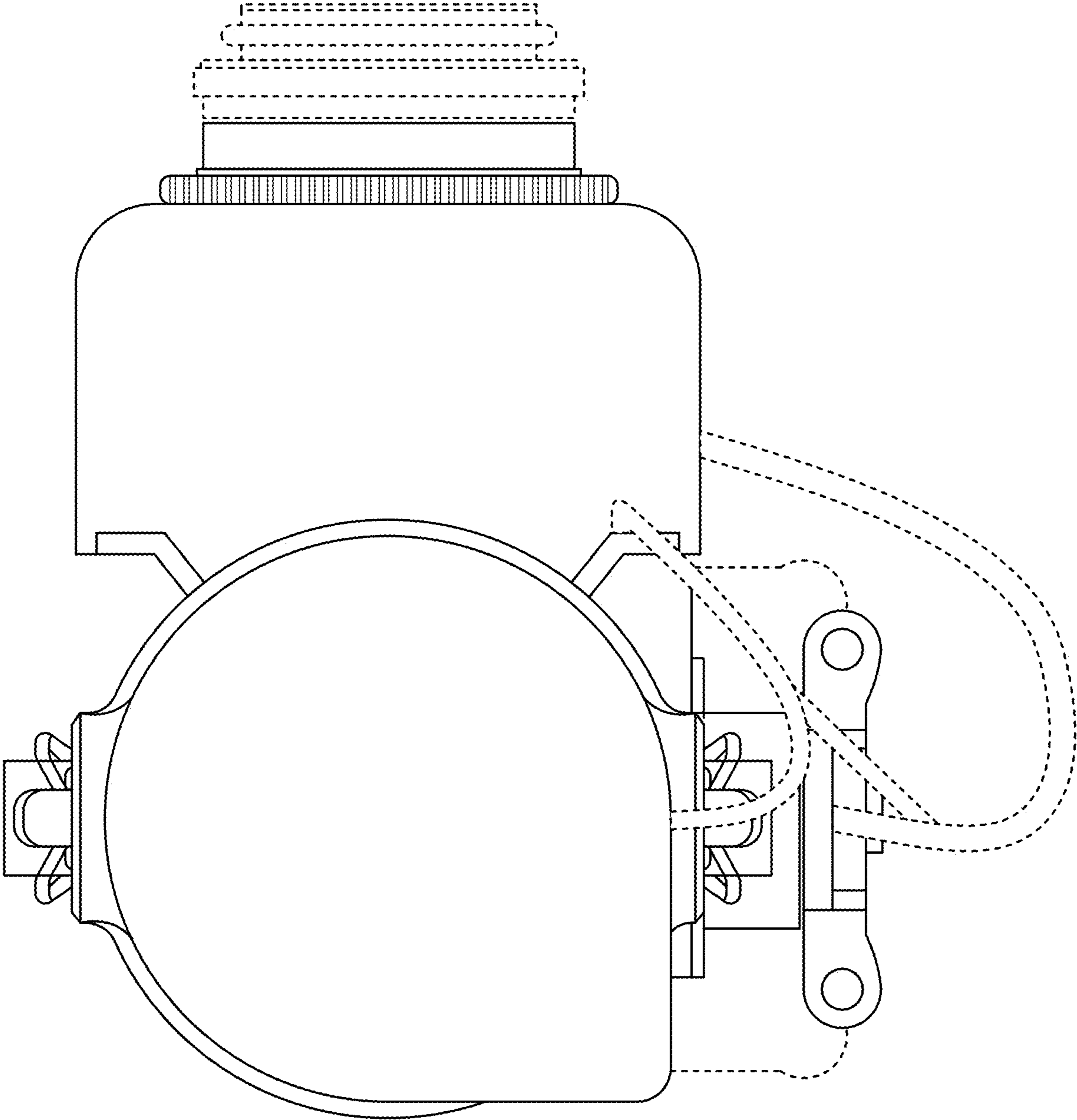


FIG. 3

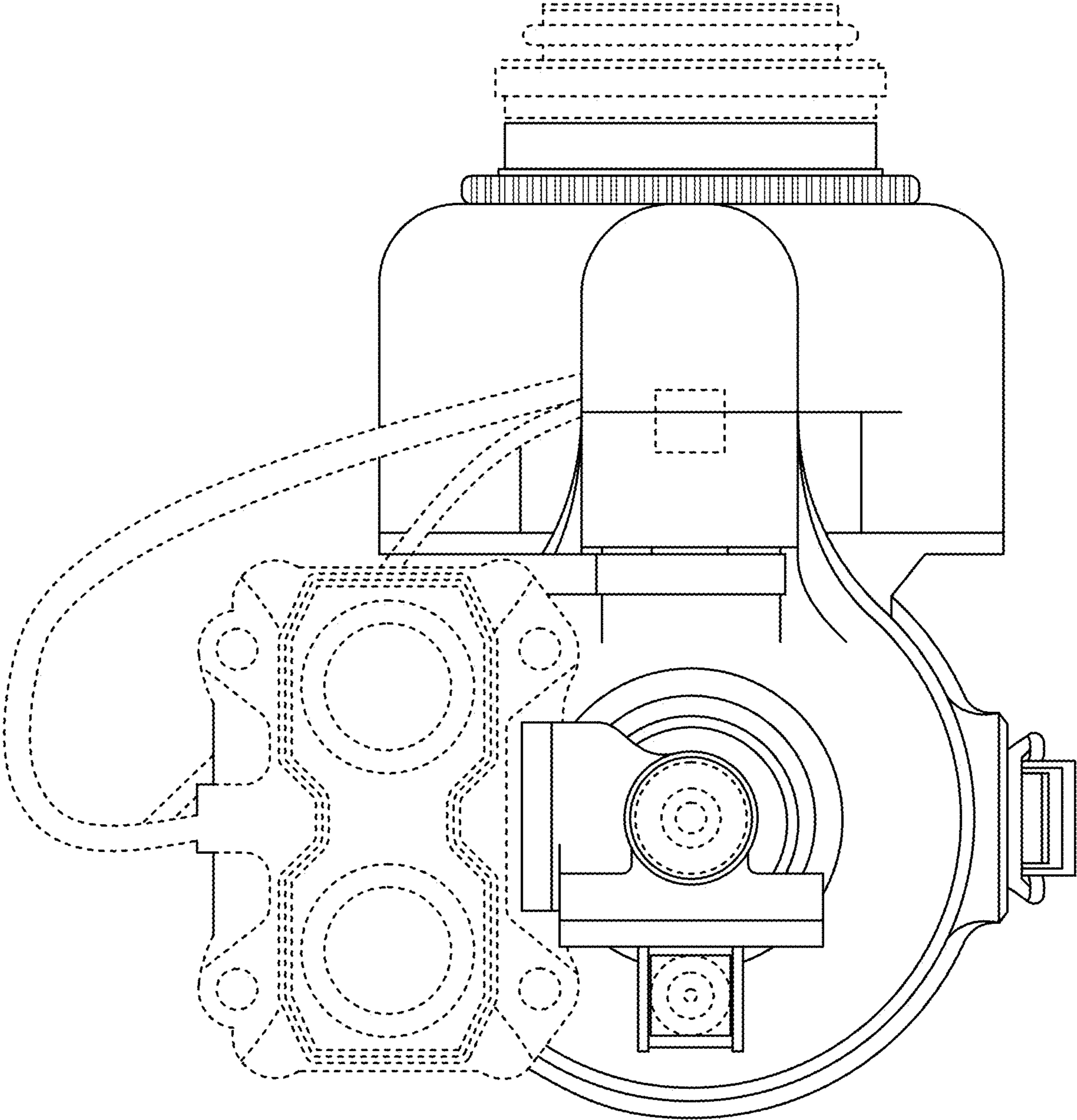


FIG. 4

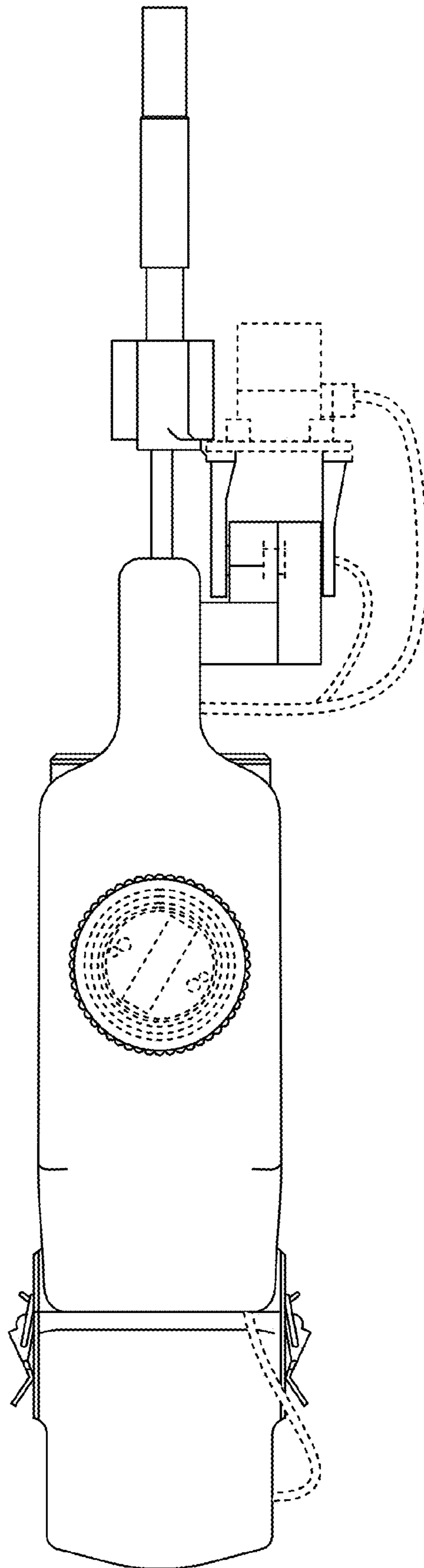


FIG. 5

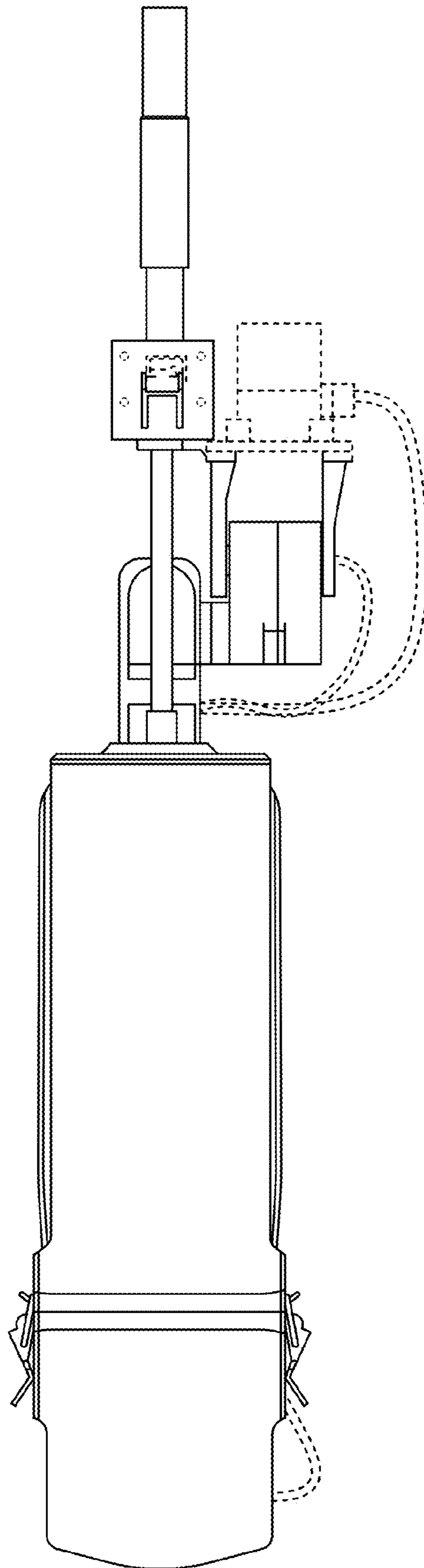


FIG. 6