



US00D770344S

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

(10) **Patent No.:** **US D770,344 S**

(45) **Date of Patent:** **\*\* Nov. 1, 2016**

(54) **BRAKE ADJUSTER**

(71) Applicant: **Haldex Brake Products AB**,  
Landskrona (SE)

(72) Inventors: **Bjorn Johan Niklas Hult**, Landskrona  
(SE); **Charles William Kleinhagen**,  
Grain Valley, MO (US)

(73) Assignee: **HALDEX BRAKE PRODUCTS AB**,  
Landskrona (SE)

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

(21) Appl. No.: **29/530,371**

(22) Filed: **Jun. 16, 2015**

(51) **LOC (10) Cl.** ..... **12-16**

(52) **U.S. Cl.**  
USPC ..... **D12/180**

(58) **Field of Classification Search**  
USPC ..... D12/160, 174, 177, 179, 180, 189, 223,  
D12/400, 408, 420  
CPC .. F16D 55/22; F16D 55/226; F16D 55/2262;  
F16D 65/14; F16D 65/16; F16D 65/18;  
F16D 65/22; F16D 65/38; F16D 65/56;  
F16D 65/567; F16D 66/02  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- 3,008,344 A \* 11/1961 Dracka ..... F16D 65/50  
74/522
- 3,661,233 A \* 5/1972 Margetts ..... F16D 51/20  
188/106 A
- 3,690,418 A \* 9/1972 Devitt ..... F16D 65/56  
188/196 BA
- 3,807,535 A \* 4/1974 Shimada ..... F16D 65/561  
188/325
- 3,949,840 A \* 4/1976 Cumming ..... F16D 65/22  
188/196 BA
- 4,170,926 A \* 10/1979 Emmett ..... F16D 65/14  
188/370
- 4,249,644 A \* 2/1981 Urban ..... F16D 65/60  
188/196 D

- 4,319,668 A \* 3/1982 Johnson ..... F16D 55/2262  
188/72.4
- D268,831 S \* 5/1983 Potter ..... D12/180
- 4,394,890 A \* 7/1983 Kleinhagen, Jr. .... F16D 65/567  
188/71.9
- 4,623,047 A \* 11/1986 Kleinhagen, Jr. .... F16D 65/22  
188/196 BA
- 4,632,229 A \* 12/1986 Kleinhagen, Jr. .... F16D 65/18  
188/196 D
- 4,809,820 A \* 3/1989 Smith ..... F16D 65/50  
188/196 M
- 4,880,085 A \* 11/1989 Taylor ..... F16D 65/22  
188/196 V
- 5,022,500 A \* 6/1991 Wang ..... F16D 55/226  
188/71.1

(Continued)

**OTHER PUBLICATIONS**

Truck slack adjusters, image post date Jul. 4, 2015, site visited Jun. 27, 2016, (online), <<http://web.archive.org/web/20150704065557/http://www.lulusoso.com/products/Truck-Slack-Adjuster.html>>.\*

(Continued)

*Primary Examiner* — Kevin Rudzinski  
*Assistant Examiner* — Sean D Lough  
(74) *Attorney, Agent, or Firm* — Foley & Lardner LLP

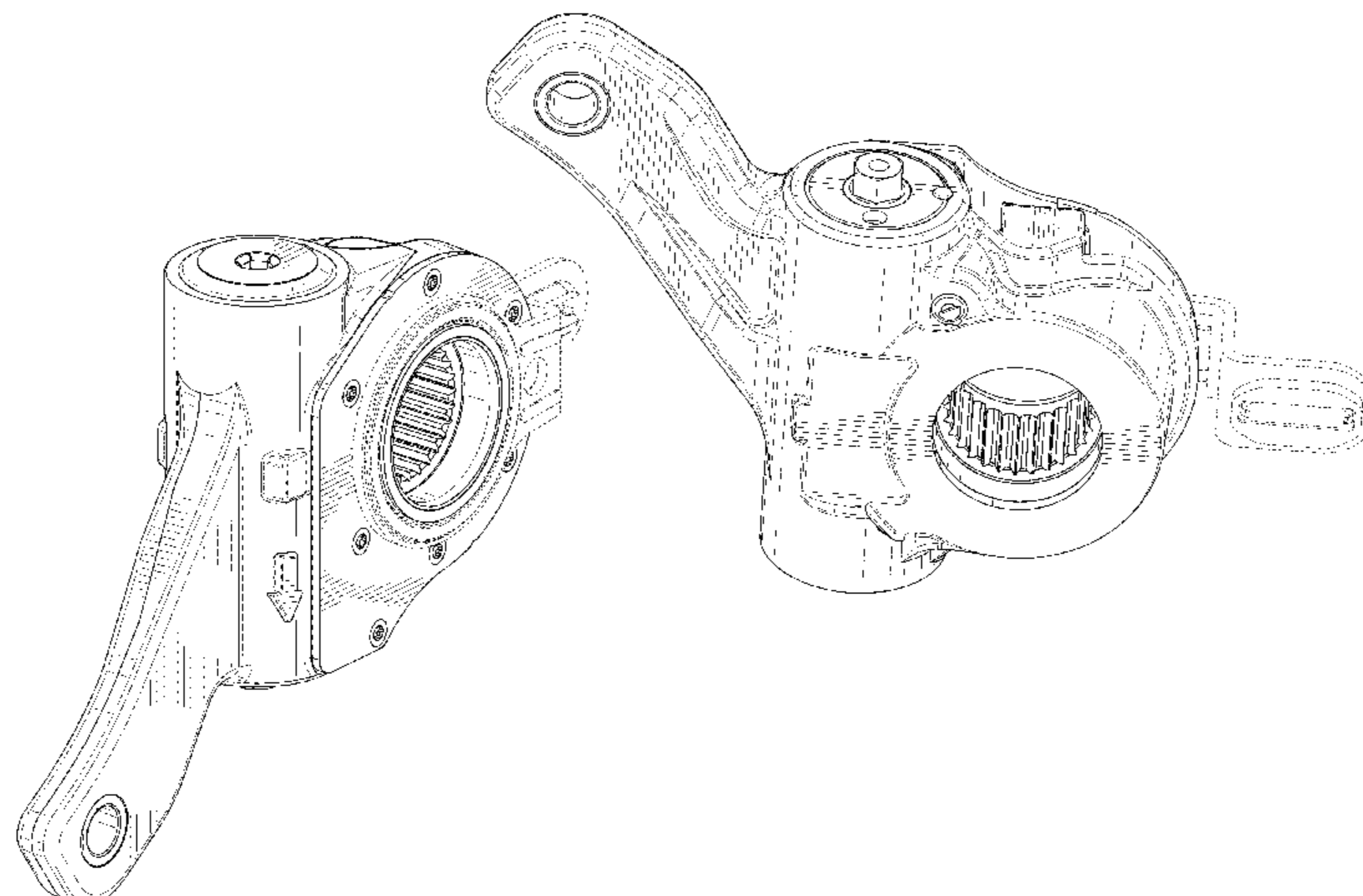
(57) **CLAIM**

We claim the ornamental design for a brake adjuster, as shown and described.

**DESCRIPTION**

FIG. 1 is a first perspective view of the claimed design;  
FIG. 2 is a second perspective view thereof;  
FIG. 3 is a bottom view thereof;  
FIG. 4 is a top view thereof;  
FIG. 5 is a front view thereof;  
FIG. 6 is a rear view thereof;  
FIG. 7 is a right side view thereof; and,  
FIG. 8 is a left side view thereof.  
The broken lines in the drawings illustrate portions of the brake adjuster that form no part of the claimed design.

**1 Claim, 6 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

D342,661 S \* 12/1993 Liao ..... D8/303  
 5,327,999 A \* 7/1994 Nelander ..... F16D 65/60  
 188/196 BA  
 5,358,076 A \* 10/1994 Lucas ..... F16D 66/02  
 116/208  
 D372,035 S \* 7/1996 Casey ..... D15/11  
 5,535,854 A \* 7/1996 Prince ..... F16D 66/02  
 188/1.11 R  
 5,626,210 A \* 5/1997 Nelander ..... F16D 65/22  
 188/79.55  
 5,689,231 A \* 11/1997 Olson ..... B60Q 1/441  
 116/208  
 D391,824 S \* 3/1998 Larson ..... D8/303  
 5,913,385 A \* 6/1999 Thibodeau ..... B60T 17/08  
 116/208  
 D418,224 S \* 12/1999 Preusse ..... D12/189  
 6,059,074 A \* 5/2000 Crewson ..... F16D 65/60  
 188/1.11 R  
 D428,370 S \* 7/2000 Hanamura ..... D12/178  
 6,105,730 A \* 8/2000 Ekeroth ..... F16D 65/60  
 188/1.11 L  
 D449,809 S \* 10/2001 Carlson ..... D12/179  
 6,390,244 B1 \* 5/2002 Sitter ..... F16D 66/02  
 188/1.11 W  
 6,408,993 B1 \* 6/2002 Truuvert ..... F16D 65/60  
 188/196 BA  
 D462,256 S \* 9/2002 Jaynes ..... D12/160  
 D467,534 S \* 12/2002 Tomlinson ..... D12/419  
 D469,723 S \* 2/2003 McCoy ..... D12/162  
 D473,830 S \* 4/2003 Ito ..... D12/179  
 6,585,086 B2 \* 7/2003 Ortegren ..... F16D 65/183  
 188/71.1  
 D486,434 S \* 2/2004 Solon ..... D12/179  
 D491,500 S \* 6/2004 Fujiwara ..... D12/180  
 D491,509 S \* 6/2004 Bundy ..... D12/203  
 D492,225 S \* 6/2004 Savage ..... D12/126  
 D512,364 S \* 12/2005 Rick ..... D12/317  
 7,032,717 B2 \* 4/2006 Gripemark ..... F16D 65/847  
 188/18 A  
 D526,950 S \* 8/2006 Bareket ..... D12/223  
 D537,759 S \* 3/2007 Tambornino ..... D12/162  
 D540,726 S \* 4/2007 Caiazzo ..... D12/179  
 D542,112 S \* 5/2007 Radle ..... D8/107  
 7,222,874 B1 \* 5/2007 Liu ..... B60T 7/102  
 188/19  
 D543,913 S \* 6/2007 Hanamura ..... D12/179  
 D544,419 S \* 6/2007 Caiazzo ..... D12/179  
 D545,736 S \* 7/2007 Caiazzo ..... D12/179  
 7,243,762 B2 \* 7/2007 Tsai ..... B60T 11/043  
 188/2 D  
 7,353,917 B2 \* 4/2008 Gripemark ..... F16D 55/24  
 188/18 A  
 7,445,093 B2 \* 11/2008 Kaell ..... F16D 55/00  
 188/72.3  
 D590,309 S \* 4/2009 Higashikawa ..... D12/174  
 D595,627 S \* 7/2009 Danielsson ..... D12/180  
 7,559,414 B2 \* 7/2009 Lumpkin ..... B60T 7/102  
 188/24.11  
 D602,411 S \* 10/2009 Nagase ..... D12/177  
 D605,985 S \* 12/2009 Pennala ..... D12/160  
 D607,794 S \* 1/2010 Bridge ..... D12/180  
 7,681,698 B2 \* 3/2010 Gripemark ..... F16D 65/12  
 188/18 A  
 D613,206 S \* 4/2010 Norman ..... D12/114  
 D617,176 S \* 6/2010 Confer ..... D34/35  
 D624,004 S \* 9/2010 Farber ..... D12/408  
 D658,480 S \* 5/2012 Pratt ..... D8/349  
 D659,164 S \* 5/2012 Tomlinson ..... D15/5  
 D662,863 S \* 7/2012 Scruggs ..... D12/162  
 8,220,681 B2 \* 7/2012 Farber ..... B60R 9/06  
 224/532  
 D668,191 S \* 10/2012 Yu ..... D12/178  
 D671,565 S \* 11/2012 Kinoshita ..... D15/28  
 D672,287 S \* 12/2012 Noble ..... D12/159

D685,253 S \* 7/2013 Hiebert ..... D8/349  
 D685,686 S \* 7/2013 Pirolo ..... D12/114  
 D687,353 S \* 8/2013 Dunn ..... D12/162  
 D688,171 S \* 8/2013 Cirino ..... D12/162  
 D688,601 S \* 8/2013 Cheng ..... D12/114  
 D688,844 S \* 8/2013 Sonnendorfer ..... D34/27  
 D690,246 S \* 9/2013 Giordano ..... D12/187  
 D691,459 S \* 10/2013 Waugh ..... D8/354  
 D693,370 S \* 11/2013 Randhawa ..... D15/5  
 D695,207 S \* 12/2013 Dams ..... D10/98  
 D696,098 S \* 12/2013 Wada ..... D8/354  
 D696,100 S \* 12/2013 Wada ..... D8/354  
 D696,170 S \* 12/2013 Ito ..... D12/187  
 D727,361 S \* 4/2015 Rabbitt ..... D15/5  
 9,097,305 B2 \* 8/2015 Onnestam ..... F16D 65/60  
 D738,184 S \* 9/2015 Harvey ..... D8/303  
 D743,239 S \* 11/2015 Jones, Jr. .... D8/308  
 D749,931 S \* 2/2016 Oshima ..... D8/323  
 D751,002 S \* 3/2016 Ford ..... D12/159  
 D752,109 S \* 3/2016 Harriton ..... D15/5  
 D754,042 S \* 4/2016 Pennington ..... D12/181  
 D755,683 S \* 5/2016 Goodlow ..... D12/114  
 9,353,814 B2 \* 5/2016 Seglo ..... F16D 66/025  
 2002/0153772 A1 \* 10/2002 Bunker ..... B60T 7/042  
 303/186  
 2003/0019696 A1 \* 1/2003 Mizuno ..... F16D 51/20  
 188/74  
 2004/0011603 A1 \* 1/2004 Yokoyama ..... B60T 13/741  
 188/72.7  
 2004/0040793 A1 \* 3/2004 Feng ..... B60T 11/046  
 188/2 D  
 2005/0211506 A1 \* 9/2005 Painchaud ..... F16D 65/28  
 184/104.1  
 2006/0076195 A1 \* 4/2006 Salazar ..... F16D 66/02  
 188/1.11 R  
 2007/0045060 A1 \* 3/2007 Pettersson ..... B60T 17/22  
 188/72.1  
 2008/0000732 A1 \* 1/2008 Chen ..... F16D 49/16  
 188/74  
 2010/0170757 A1 \* 7/2010 Dhawan ..... F16D 55/22  
 188/73.39  
 2014/0015214 A1 \* 1/2014 Galazin ..... B60G 9/003  
 280/124.128  
 2014/0216865 A1 \* 8/2014 Gripemark ..... F16D 65/60  
 188/79.55  
 2015/0061355 A1 \* 3/2015 Hoppe ..... B23K 20/12  
 301/124.1  
 2015/0260245 A1 \* 9/2015 Usui ..... F16D 65/22  
 188/78  
 2016/0017946 A1 \* 1/2016 Sandberg ..... F16D 65/18  
 188/71.8

OTHER PUBLICATIONS

Genuine Spicer Slack Adjuster, image post date Jan. 18, 2016, site visited Jun. 27, 2016, (online), <<http://www.ebay.ca/itm/GENUINE-SPICER-SLACK-ADJUSTER-975715-ETN0975715-4C4Z-2308-BA-7B09-10096-/191496383217>>.\*  
 Self-Setting Brake Adjuster, image post date Sep. 29, 2014, site visited Jun. 27, 2016, (online), <<http://web.archive.org/web/20140929200126/http://www.vehicleservicepros.com/company/10121485/haldex-brake-products>>.\*  
 Automatic Slack Adjusters, image post date 2016, site visited Jun. 27, 2016, (online), <<http://www.wsaslackadjuster.com/manufacturer-154151-automatic-slack-adjuster-for-truck>>.\*  
 Various Slack Adjusters, image post date 2011, site visited Jun. 27, 2016, (online), <<http://www.everychina.com/m-volvo-automatic-slack-adjuster-for-truck-parts>>.\*  
 Slack Adjusters, image post date 2008, site visited Jun. 27, 2016, (online), <<http://www.brakeadjusters.com/sell-2409163-haldex-automatic-slack-adjuster-for-kamaz-truck-parts-79258.html>>.\*  
 Haldex, "Automatic Brake Adjusters" brochure, copyright 2008, last revised Jan. 2009, 4 pages.

\* cited by examiner

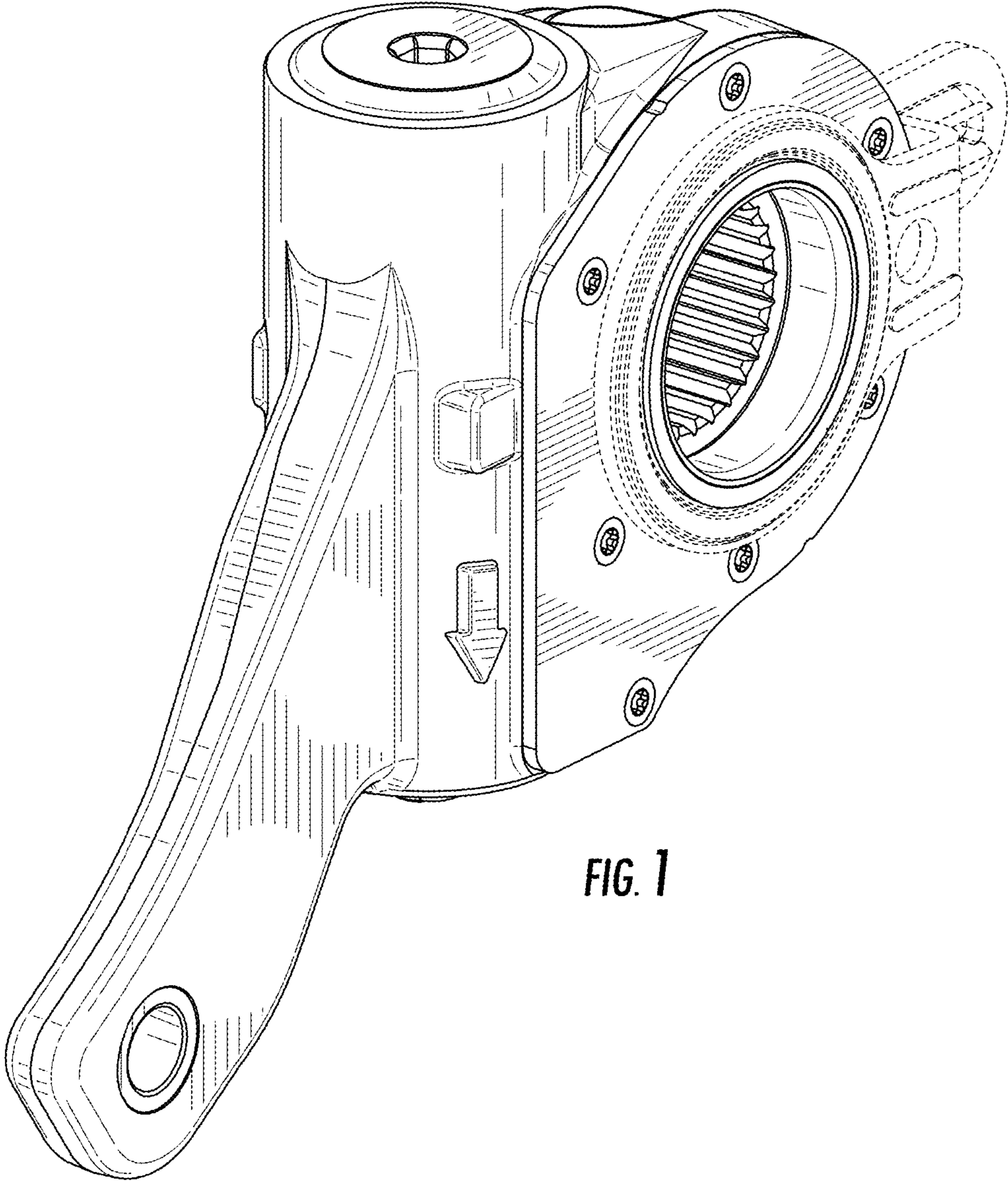


FIG. 1

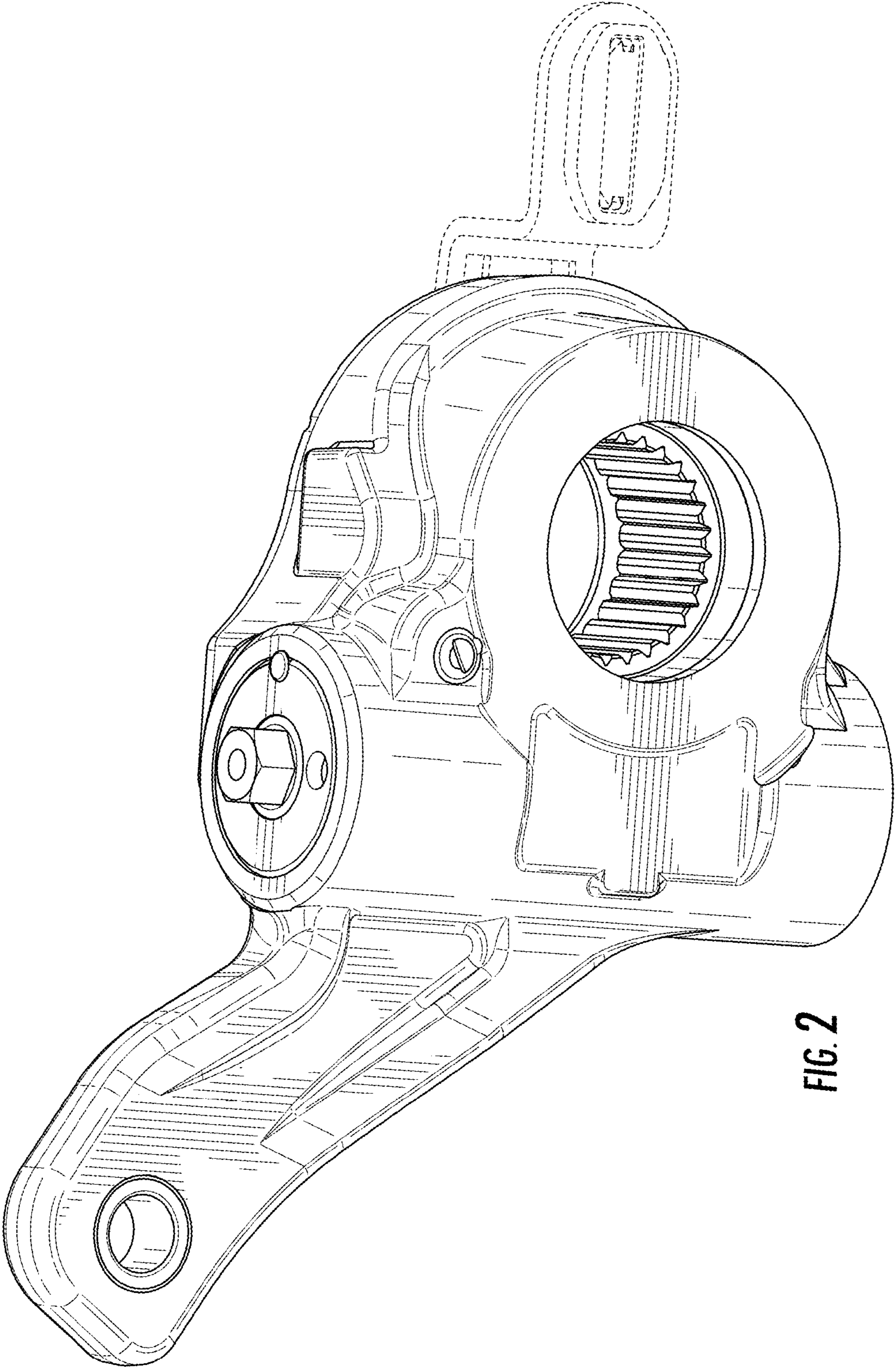
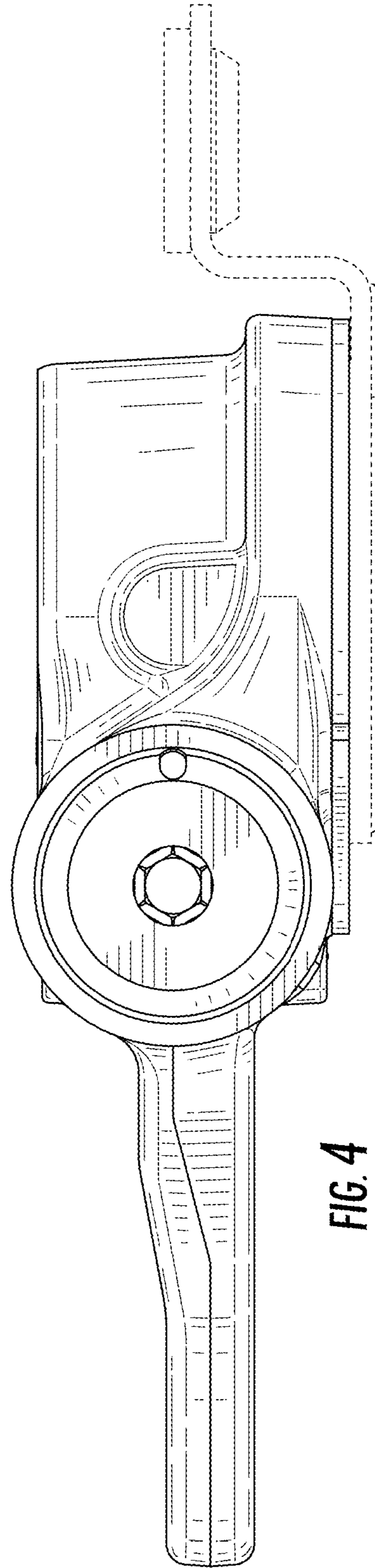
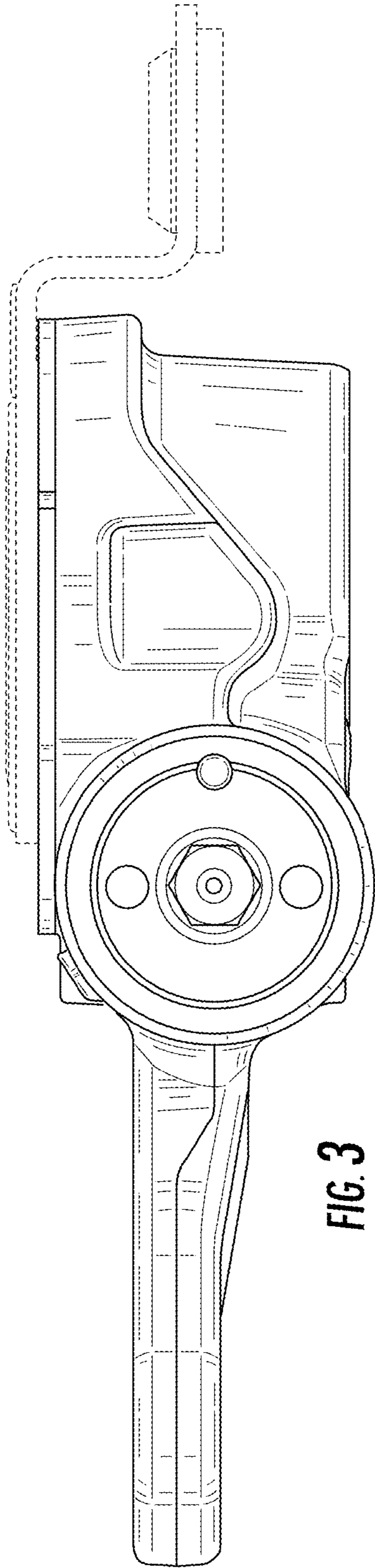


FIG. 2



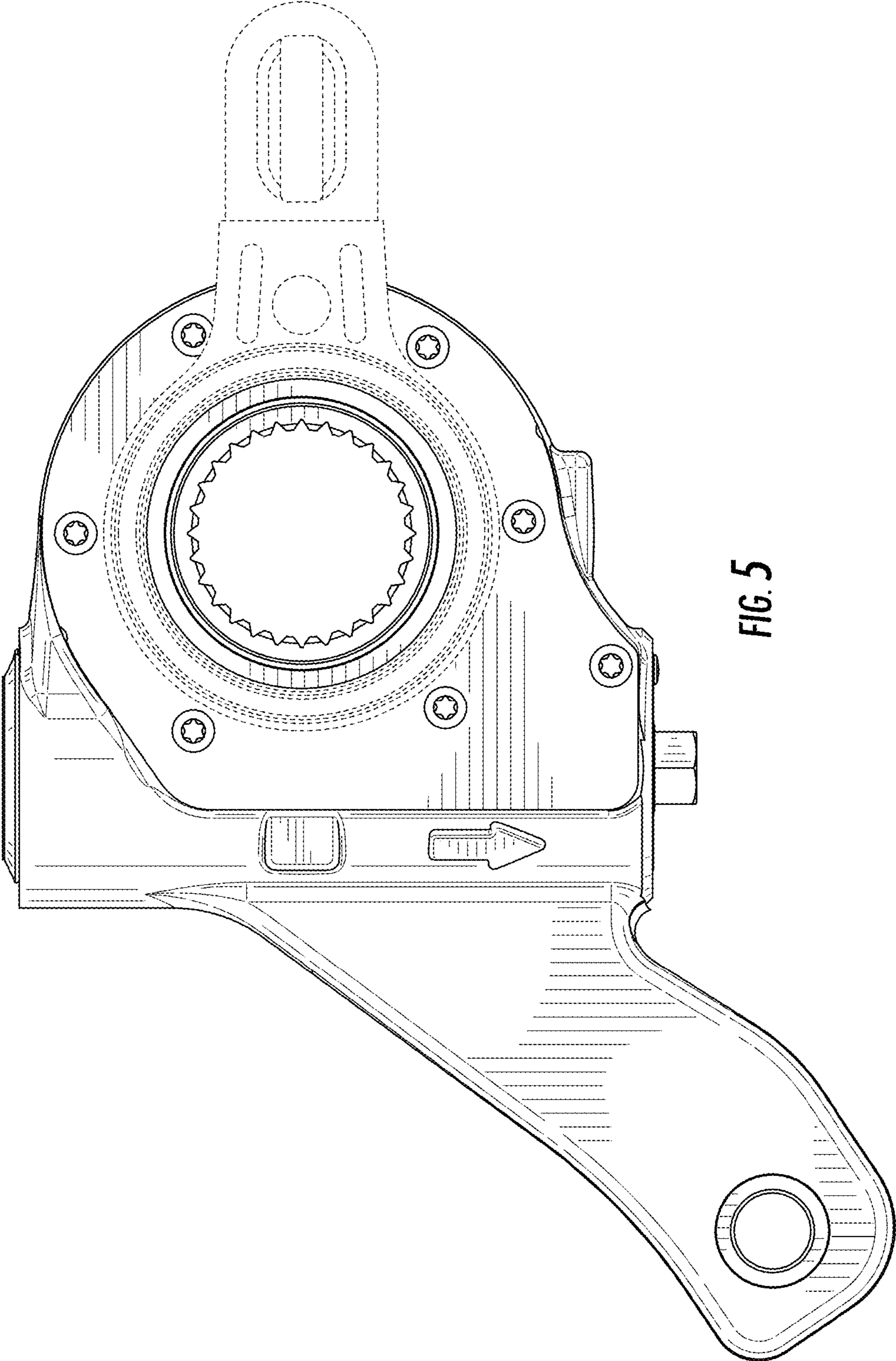


FIG. 5

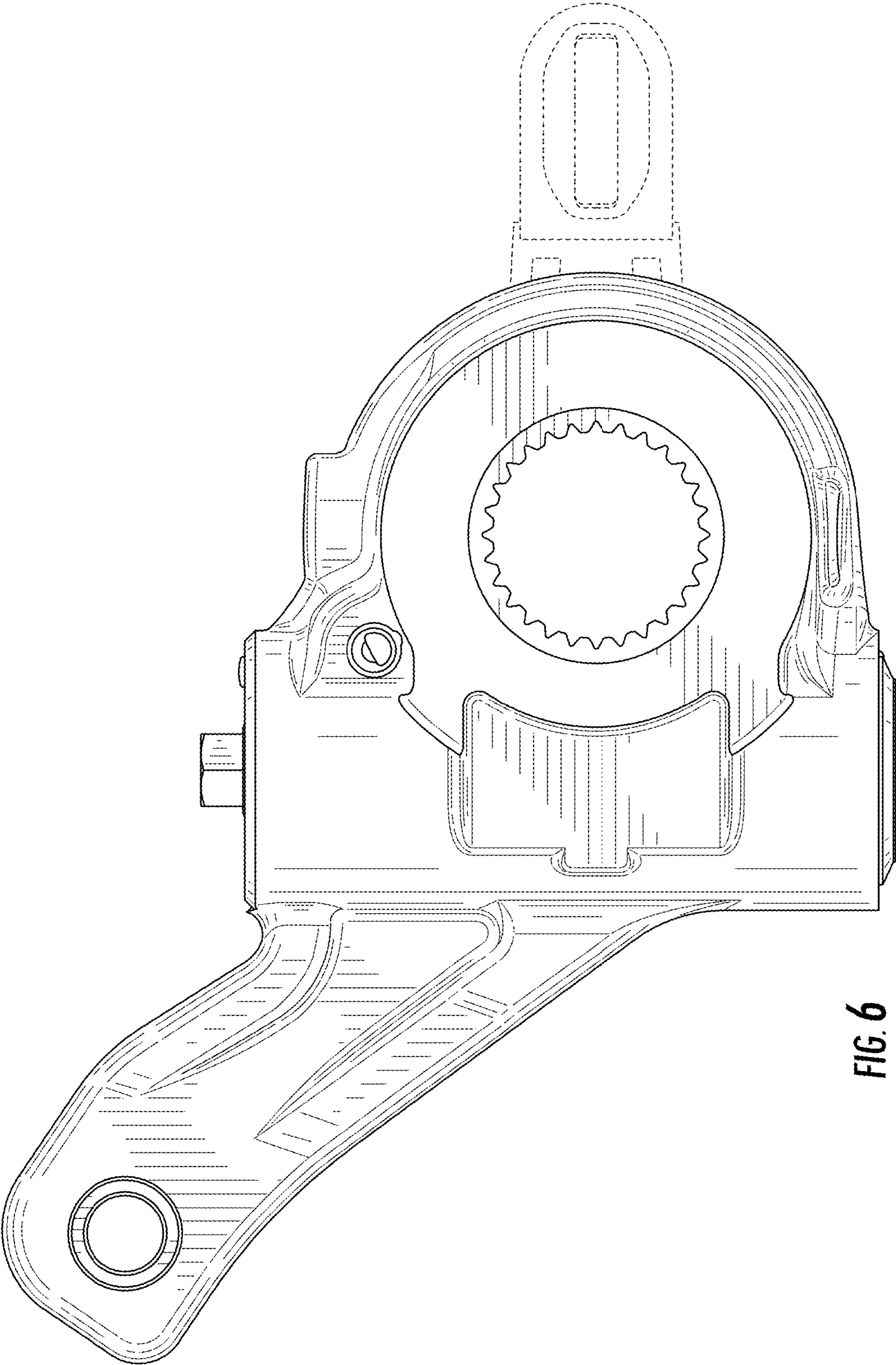


FIG. 6

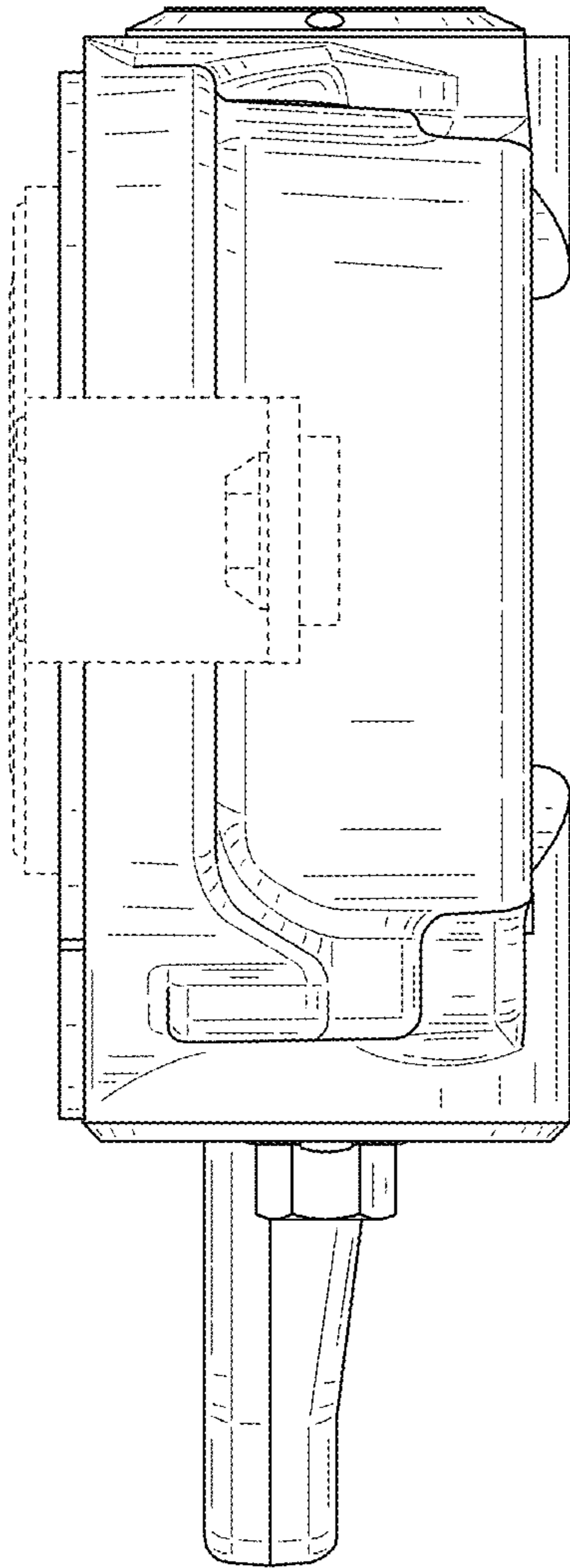


FIG. 7

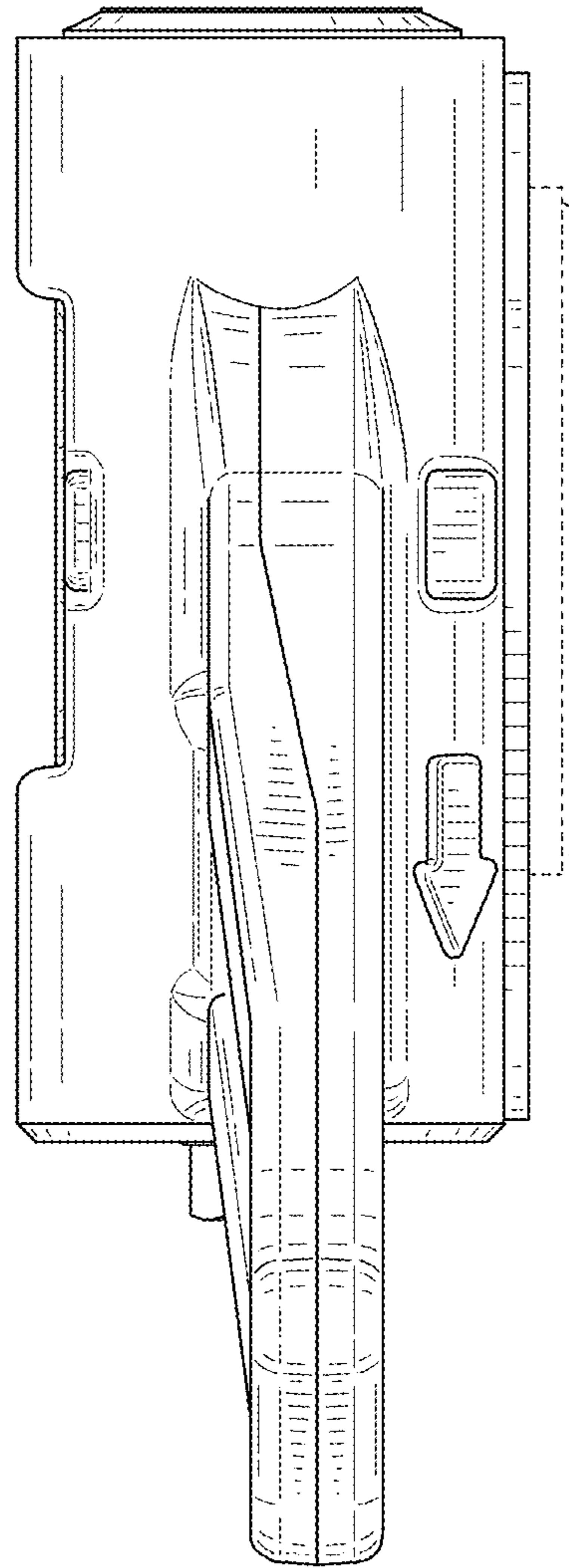


FIG. 8