



US00D915596S

(12) **United States Design Patent** (10) **Patent No.:** **US D915,596 S**
Gunnarsson et al. (45) **Date of Patent:** **** Apr. 6, 2021**

(54) **PROSTHETIC FOOT WITH TAPERED FASTENERS**

2,197,093 A 4/1940 Campbell
2,315,795 A 4/1943 Johnson et al.
2,357,893 A 9/1944 Harrington

(Continued)

(71) Applicant: **Össur Iceland ehf**, Reykjavik (IS)

FOREIGN PATENT DOCUMENTS

(72) Inventors: **Ragnar Örn Gunnarsson**, Reykjavik (IS); **Bjarni Andresson**, Seltjarnarnes (IS); **Gudni Ingimarsson**, Reykjavik (IS)

WO WO 2000/27317 5/2000
WO WO 2004/032809 4/2004
WO WO 2016/004090 1/2016

(73) Assignee: **Össur Iceland ehf**, Reykjavik (IS)

OTHER PUBLICATIONS

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

Apr. 25, 2011 International Search Report and Written Opinion for International Application No. PCT/US11/26124 filed Feb. 24, 2011.

(Continued)

(21) Appl. No.: **29/643,609**

(22) Filed: **Apr. 10, 2018**

Primary Examiner — Charles D Hanson

(51) **LOC (13) Cl.** **24-03**

(74) *Attorney, Agent, or Firm* — Knobbe, Martens, Olson & Bear, LLP

(52) **U.S. Cl.**
USPC **D24/155**

(57) **CLAIM**

(58) **Field of Classification Search**
USPC D24/155
CPC A61F 2/3859; A61F 2/38; A61F 2/389;
A61F 2/3886; A61F 2/60; A61F 2/06;
A61F 2/66; A61F 2/76; A61F 2310/00023
See application file for complete search history.

The ornamental design for a prosthetic foot with tapered fasteners, as shown and described.

DESCRIPTION

(56) **References Cited**

U.S. PATENT DOCUMENTS

25,238 A 8/1859 Bly
53,931 A 4/1866 Weston
56,983 A 8/1866 Nicholas
57,666 A 9/1866 Bly
368,580 A 8/1887 Frees
487,697 A 12/1892 Ehle
534,198 A 2/1895 Chapman
619,731 A 2/1899 Doerflinger et al.
808,296 A 12/1905 Merrick
809,876 A 1/1906 Wilkins
817,340 A 4/1906 Rosenkranz
2,183,076 A 12/1939 Kaiser

FIG. 1 is a front perspective view of a new design of a top surface of a plate for a prosthetic foot, according to one embodiment;

FIG. 2 is a front view thereof;

FIG. 3 is a rear view thereof;

FIG. 4 is a left view thereof;

FIG. 5 is a right view thereof;

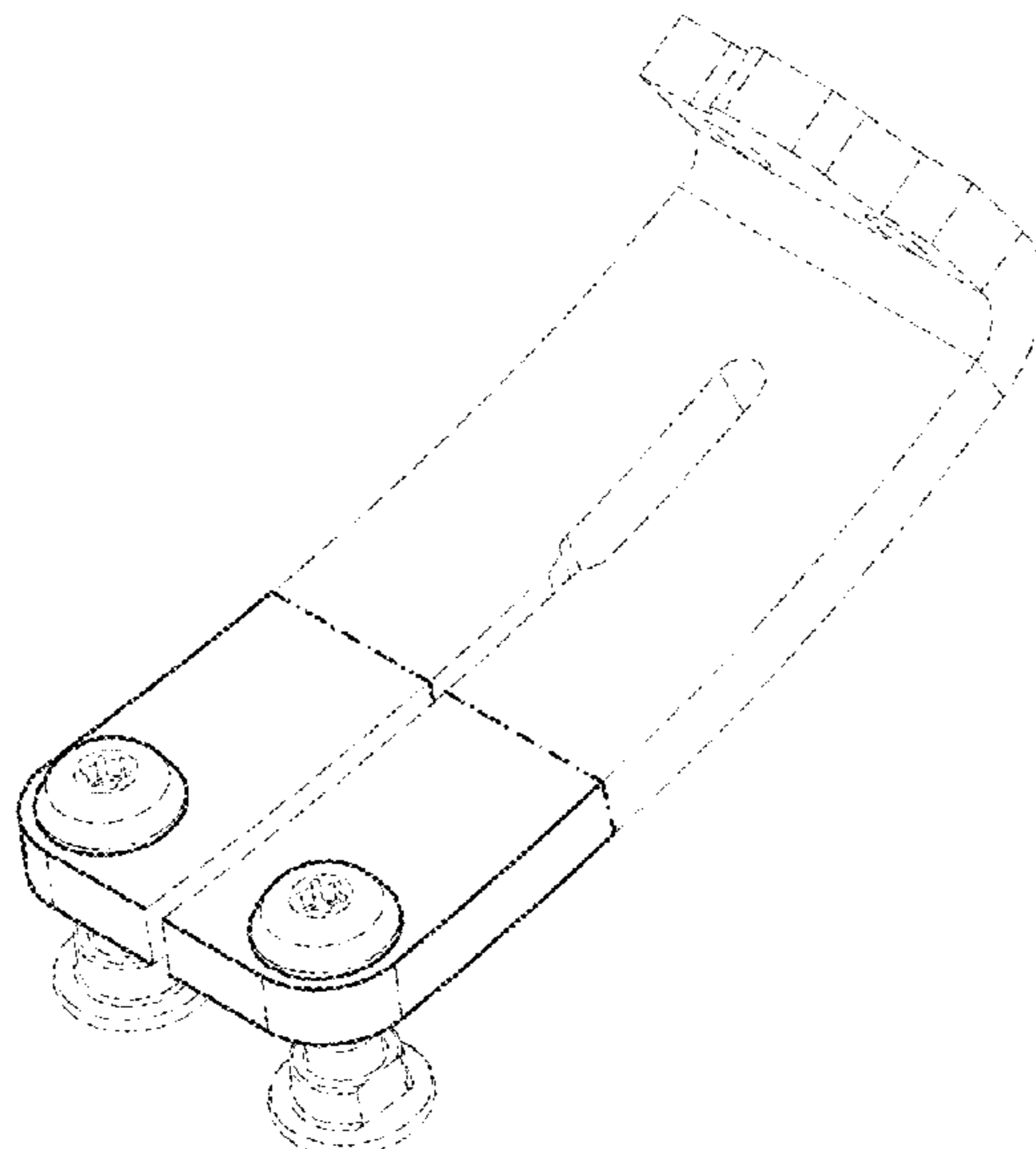
FIG. 6 is a top view thereof; and,

FIG. 7 is a bottom view thereof.

Broken lines are used to illustrate portions of the prosthetic foot with tapered fasteners that form no part of the claimed design.

The dot-dash lines are used to illustrate the boundary of the claims, which extends to the boundary, but does not include the boundary.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,440,075	A	4/1948	Campbell	5,944,760	A	8/1999	Christensen
2,594,945	A	4/1952	Lucas et al.	5,957,870	A	9/1999	Yamato et al.
2,692,392	A	10/1954	Bennington et al.	5,957,981	A	9/1999	Gramnas
2,731,645	A	1/1956	Woodall	5,976,191	A	11/1999	Phillips
3,551,914	A	1/1971	Woodall	5,993,488	A	11/1999	Phillips
3,784,988	A	1/1974	Trumpler	6,063,046	A	5/2000	Allum
3,874,004	A	4/1975	May	6,071,313	A	6/2000	Phillips
3,894,437	A	7/1975	Hagy et al.	6,077,301	A	6/2000	Pusch
4,007,497	A	2/1977	Haupt	6,099,572	A	8/2000	Mosler et al.
4,267,728	A	5/1981	Manley et al.	6,120,547	A	9/2000	Christensen
4,360,931	A	11/1982	Hampton	6,129,766	A	10/2000	Johnson et al.
4,387,472	A	6/1983	Wilson	6,165,227	A	12/2000	Phillips
4,416,293	A	11/1983	Anderson et al.	6,187,052	B1	2/2001	Molino et al.
4,547,913	A	10/1985	Phillips	6,197,067	B1	3/2001	Shorter et al.
4,631,676	A	12/1986	Pugh	6,197,068	B1	3/2001	Christensen
4,718,913	A	1/1988	Voisin	6,205,230	B1	3/2001	Sundman et al.
4,813,436	A	3/1989	Au	6,206,934	B1	3/2001	Phillips
4,814,661	A	3/1989	Ratzlaff et al.	6,216,545	B1	4/2001	Taylor
4,822,363	A	4/1989	Phillips	6,231,527	B1	5/2001	Sol
4,858,621	A	8/1989	Franks	6,241,776	B1	6/2001	Christensen
4,892,553	A	1/1990	Prahl	6,261,324	B1	7/2001	Merlette
4,892,554	A	1/1990	Robinson	6,280,479	B1	8/2001	Phillips
4,959,073	A	9/1990	Merlette	6,289,107	B1	9/2001	Borchers et al.
5,019,109	A	5/1991	Voisin	6,290,730	B1	9/2001	Pitkin et al.
5,037,444	A	8/1991	Phillips	6,331,893	B1	12/2001	Brown et al.
5,062,859	A	11/1991	Naeder	6,350,286	B1	2/2002	Atkinson et al.
5,112,356	A	5/1992	Harris et al.	6,387,134	B1	5/2002	Parker et al.
5,116,384	A	5/1992	Wilson et al.	6,398,818	B1	6/2002	Merlette et al.
5,128,880	A	7/1992	White	6,402,790	B1	6/2002	Celebi
5,139,525	A	8/1992	Kristinsson	6,406,500	B1	6/2002	Phillips
5,156,631	A	10/1992	Merlette	6,443,993	B1	9/2002	Koniuk
5,156,632	A	10/1992	Wellershaus	6,443,995	B1	9/2002	Townsend et al.
5,181,932	A	1/1993	Phillips	6,514,293	B1	2/2003	Seong et al.
5,181,933	A	1/1993	Phillips	6,527,811	B1	3/2003	Phillips
5,219,365	A	6/1993	Sabolich	6,546,356	B1	4/2003	Genest
5,237,520	A	8/1993	White	6,596,029	B1	7/2003	Gramnas
5,253,656	A	10/1993	Rincoe et al.	6,602,295	B1	8/2003	Doddroe et al.
5,258,038	A	11/1993	Robinson et al.	6,663,672	B1	12/2003	Laghi
5,258,039	A	11/1993	Goh et al.	6,663,673	B2	12/2003	Christensen
5,290,319	A	3/1994	Phillips	6,669,737	B2	12/2003	Mosler et al.
5,361,133	A	11/1994	Brown et al.	6,676,708	B1	1/2004	Laghi
5,376,133	A	12/1994	Gramnas	6,699,295	B2	3/2004	Lee et al.
5,376,141	A	12/1994	Phillips	6,702,859	B1	3/2004	Laghi
5,387,246	A	2/1995	Phillips	6,702,860	B1	3/2004	Laghi
5,388,591	A	2/1995	De Luca et al.	6,706,075	B1	3/2004	Laghi
5,408,873	A	4/1995	Schmidt et al.	6,712,860	B2	3/2004	Rubie et al.
5,425,781	A	6/1995	Allard et al.	6,718,656	B2	4/2004	Houser et al.
5,443,522	A	8/1995	Sabolich	6,719,807	B2	4/2004	Harris
5,443,527	A	8/1995	Wilson	6,743,260	B2	6/2004	Townsend et al.
5,443,529	A	8/1995	Phillips	6,764,521	B2	7/2004	Molino et al.
5,417,405	A	11/1995	Marsh	6,764,522	B1	7/2004	Cehn
5,471,405	A	11/1995	Marsh	6,767,370	B1	7/2004	Mosler et al.
5,474,087	A	12/1995	Nashner	6,793,683	B1	9/2004	Laghi
5,509,938	A	4/1996	Phillips	6,797,009	B1	9/2004	Laghi
5,514,185	A	5/1996	Phillips	6,805,717	B2	10/2004	Christensen
5,514,186	A	5/1996	Phillips	6,807,869	B2	10/2004	Farringdon et al.
5,545,230	A	8/1996	Phillips	6,827,744	B1	12/2004	Laghi
5,545,234	A	8/1996	Collier, Jr.	6,855,170	B2	2/2005	Gramnas
5,549,711	A	8/1996	Bryant	6,869,451	B1	2/2005	Laghi
5,623,944	A	4/1997	Nashner	6,875,240	B1	4/2005	Laghi
5,653,767	A	8/1997	Allen et al.	6,875,241	B2	4/2005	Christensen
5,695,526	A	12/1997	Wilson	6,875,242	B2	4/2005	Christensen
5,695,527	A	12/1997	Allen	6,899,737	B1	5/2005	Phillips
5,701,686	A	12/1997	Berr et al.	6,929,665	B2	8/2005	Christensen
5,728,177	A	3/1998	Phillips	6,931,938	B2	8/2005	Knirck et al.
5,753,931	A	5/1998	Borchers et al.	6,936,074	B2	8/2005	Townsend et al.
5,766,264	A	6/1998	Lundt	6,942,704	B2	9/2005	Sulprizio
5,790,256	A	8/1998	Brown et al.	6,966,933	B2	11/2005	Christensen
5,800,569	A	9/1998	Phillips	6,969,408	B2	11/2005	Lecomte et al.
5,800,570	A	9/1998	Collier	6,978,684	B2	12/2005	Nurse
5,824,112	A	10/1998	Phillips	7,052,519	B1	5/2006	Gramnas
5,885,229	A	3/1999	Yamato et al.	7,063,727	B2	6/2006	Phillips et al.
5,897,594	A	4/1999	Martin et al.	7,108,723	B2	9/2006	Townsend et al.
5,899,944	A	5/1999	Phillips	7,112,227	B2	9/2006	Doddroe et al.
5,941,913	A	8/1999	Woolnough et al.	7,169,190	B2	1/2007	Phillips et al.
				7,172,630	B2	2/2007	Christensen
				7,211,115	B2	5/2007	Townsend et al.
				7,219,449	B1	5/2007	Hoffberg et al.
				7,279,011	B2	10/2007	Phillips

(56)

References Cited

U.S. PATENT DOCUMENTS

7,318,504 B2	1/2008	Viltale et al.	D689,505 S	9/2013	Convay et al.
7,337,680 B2	3/2008	Kantro	8,544,347 B1	10/2013	Berme
7,341,603 B2	3/2008	Christensen	8,628,485 B2	1/2014	Wilson et al.
7,347,877 B2	3/2008	Clausen et al.	8,685,109 B2	4/2014	Clausen et al.
7,354,456 B2	4/2008	Phillips	8,771,372 B1	7/2014	Rubie et al.
7,364,593 B2	4/2008	Townsend et al.	8,828,095 B2	9/2014	Mosley et al.
7,371,262 B2	5/2008	Lecomte et al.	D714,939 S *	10/2014	Gunnsteinsson D24/155
7,374,578 B2	5/2008	Townsend et al.	8,864,846 B2	10/2014	Herr et al.
7,410,503 B2	8/2008	Townsend et al.	8,870,795 B2	10/2014	Kim et al.
7,419,509 B2	9/2008	Christensen	D718,861 S *	12/2014	Halldorsson D24/155
7,429,272 B2	9/2008	Townsend et al.	8,945,238 B2	2/2015	Mosler et al.
D579,115 S	10/2008	Rubie et al.	8,951,211 B2	2/2015	Sanders et al.
7,431,737 B2	10/2008	Ragnarsdottir et al.	9,011,554 B2	4/2015	Rubie et al.
7,462,201 B2	12/2008	Christensen	9,017,421 B2 *	4/2015	Lecomte A61F 2/66 623/53
7,507,259 B2	3/2009	Townsend et al.	D731,062 S *	6/2015	Meyer D24/155
7,520,904 B2	4/2009	Christensen	9,078,734 B2	7/2015	Thorsteinsson et al.
7,531,006 B2	5/2009	Clausen et al.	9,132,022 B2	9/2015	Lecomte et al.
7,563,288 B2	7/2009	Doddroe et al.	9,186,091 B2	11/2015	Mainini et al.
7,572,299 B2	8/2009	Christensen	9,486,331 B2	11/2016	Friesen et al.
7,578,852 B2	8/2009	Townsend et al.	9,498,352 B2	11/2016	Zarling et al.
7,581,454 B2	9/2009	Clausen et al.	9,668,887 B2	6/2017	Lecomte et al.
7,611,543 B2	11/2009	Townsend et al.	D797,292 S *	9/2017	Clausen A61F 2/66 D24/155
7,617,068 B2	11/2009	Tadin et al.	2002/0040249 A1	4/2002	Phillips
7,618,464 B2	11/2009	Christensen	2002/0077706 A1	6/2002	Phillips
7,637,659 B2	12/2009	Liu et al.	2002/0082713 A1	6/2002	Townsend et al.
7,637,957 B2	12/2009	Ragnarsdottir et al.	2002/0087216 A1	7/2002	Atkinson et al.
7,648,533 B2	1/2010	Phillips et al.	2002/0116072 A1	8/2002	Rubie et al.
7,686,848 B2	3/2010	Christensen	2002/0128727 A1	9/2002	Merlette et al.
7,708,784 B2	5/2010	Townsend et al.	2002/0138923 A1	10/2002	Shaffeeullah
7,723,394 B2	6/2010	Bedard et al.	2002/0143408 A1	10/2002	Townsend et al.
7,727,285 B2	6/2010	Christensen et al.	2002/0183860 A1	12/2002	Wilkinson et al.
7,766,974 B2	8/2010	Curtis	2003/0045944 A1	5/2003	Mosler et al.
7,771,488 B2	8/2010	Asgeirsson et al.	2003/0093158 A1	5/2003	Phillips et al.
7,815,688 B2	10/2010	Wilson	2003/0120353 A1	6/2003	Christensen
7,815,689 B2	10/2010	Bedard et al.	2003/0144745 A1	7/2003	Phillips
7,824,446 B2	11/2010	Christensen et al.	2003/0191540 A1	10/2003	Townsend et al.
7,833,287 B2	11/2010	Doddroe et al.	2004/0064195 A1	4/2004	Herr
7,846,213 B2	12/2010	Lecomte et al.	2004/0068327 A1	4/2004	Christensen
7,862,621 B2	1/2011	Kloos et al.	2004/0112138 A1	6/2004	Knirck et al.
7,862,622 B2	1/2011	Dunlap et al.	2004/0122529 A1	6/2004	Townsend et al.
7,867,285 B2	1/2011	Clausen et al.	2004/0181289 A1	9/2004	Bedard et al.
D632,392 S *	2/2011	Jacobs D24/155	2004/0225376 A1	11/2004	Townsend et al.
7,879,110 B2	2/2011	Phillips	2005/0033451 A1	2/2005	Aigner et al.
7,891,258 B2	2/2011	Clausen et al.	2005/0038524 A1	2/2005	Jonsson et al.
D633,618 S *	3/2011	Johnson D24/155	2005/0038525 A1	2/2005	Doddroe et al.
7,926,363 B2	4/2011	Miller et al.	2005/0060045 A1	3/2005	Smith et al.
7,951,100 B2	5/2011	Pusch	2005/0071018 A1	3/2005	Phillips
7,955,399 B2	6/2011	Townsend et al.	2005/0097970 A1	5/2005	Nurse
7,998,221 B2	8/2011	Lecomte et al.	2005/0107889 A1	5/2005	Bedard et al.
8,007,544 B2	8/2011	Jonsson et al.	2005/0137717 A1	5/2005	Bedard et al.
8,025,699 B2	9/2011	Lecomte et al.	2005/0171618 A1	6/2005	Gramnäs et al.
8,034,121 B2	10/2011	Christensen	2005/0203640 A1	8/2005	Christensen
8,048,173 B2	11/2011	Ochoa	2005/0216097 A1	9/2005	Christensen
8,057,550 B2	11/2011	Clausen	2005/02267603 A1	9/2005	Rifkin
8,070,829 B2	12/2011	Townsend et al.	2006/0030950 A1	12/2005	Lecomte et al.
8,075,501 B2	12/2011	Miller et al.	2006/0069450 A1	2/2006	Townsend et al.
8,092,550 B2	1/2012	McCarvill et al.	2006/0167563 A1	3/2006	McCarvill et al.
D653,759 S	2/2012	Smith et al.	2006/0173555 A1	7/2006	Johnson et al.
D655,009 S *	2/2012	L'Heureux D24/155	2006/0212131 A1	8/2006	Harn et al.
8,117,922 B2	2/2012	Xia et al.	2006/0247794 A1	9/2006	Curtis
8,118,879 B2	2/2012	Wilson	2007/0027557 A1	11/2006	Doddroe et al.
8,128,709 B2	3/2012	Thorhallsdottir et al.	2007/0039205 A1	2/2007	Jonsson et al.
8,167,956 B2	5/2012	Bonacini	2007/0106395 A9	2/2007	Peveto et al.
8,172,909 B2	5/2012	Miller	2007/0100465 A1 *	3/2007	Clausen et al.
D661,807 S *	6/2012	Sigurdsson D24/155	2007/0213840 A1	5/2007	Egan B32B 5/28 623/52
8,221,506 B2	7/2012	Bonacini	2007/0219643 A1	9/2007	Townsend et al.
8,236,062 B2	8/2012	Townsend et al.	2007/0250178 A1	9/2007	Townsend
8,261,611 B2	9/2012	Kim et al.	2007/0250178 A1	10/2007	Wilson
8,290,739 B2	10/2012	Tadin et al.	2008/0046096 A1	2/2008	Bedard et al.
8,315,823 B2	11/2012	Berme et al.	2008/0188950 A1	8/2008	Fleury et al.
8,317,877 B2	11/2012	Doddroe et al.	2008/0188951 A1	8/2008	Christensen et al.
8,376,607 B2	2/2013	Fleury et al.	2008/0228288 A1	9/2008	Nelson et al.
8,377,144 B2	2/2013	Jonsson et al.	2008/0281436 A1	9/2008	Townsend et al.
8,409,014 B2	4/2013	Gagner et al.	2008/0312752 A1	12/2008	Miller
8,486,156 B2	7/2013	Jonsson	2009/0012630 A1	1/2009	Mosler et al.
			2009/0076626 A1	3/2009	Ochoa
			2009/0105845 A1	4/2009	Curtis

(56)

References Cited

U.S. PATENT DOCUMENTS

2009/0157197	A1	6/2009	Bonacini	
2009/0204229	A1	8/2009	Mosley et al.	
2009/0204231	A1*	8/2009	Bonacini	A61F 2/76 623/55
2009/0222105	A1	9/2009	Clausen	
2009/0234463	A1	9/2009	Wilson	
2009/0293641	A1	12/2009	Clausen et al.	
2010/0004757	A1	1/2010	Clausen et al.	
2010/0023135	A1	1/2010	Rubie et al.	
2010/0042228	A1*	2/2010	Doddroe	A61F 2/6607 623/55
2010/0312360	A1	12/2010	Caspers	
2010/0324699	A1	12/2010	Herr et al.	
2011/0093089	A1	4/2011	Martin	
2011/0146396	A1	6/2011	Kim et al.	
2011/0213471	A1	9/2011	Jonsson	
2011/0230976	A1	9/2011	Zarling et al.	
2011/0251520	A1	10/2011	Shieh et al.	
2011/0288448	A1	11/2011	Sanders et al.	
2012/0023776	A1	2/2012	Skaja et al.	
2012/0035509	A1	2/2012	Wilson et al.	
2012/0151794	A1	6/2012	Hansen et al.	
2012/0166091	A1	6/2012	Kim et al.	
2012/0266648	A1	10/2012	Berne et al.	
2012/0271434	A1	10/2012	Friesen et al.	
2013/0018282	A1	1/2013	Mainini et al.	
2013/0060349	A1	3/2013	Thorsteinsson et al.	
2015/0374514	A1*	12/2015	Clausen	A61F 2/66 623/53

OTHER PUBLICATIONS

College Park Truper product, <http://www.college-park.com/prosthetics/truper>, believed to have been available more than one year before Jun. 30, 2014.

College Park Velocity™ brochure, <http://www.college-park.com/images/pdf/cpi-product-velocity.pdf>, believed to have been released in 2011.

Brochure for College Park Venture Prosthetic Foot; <http://www.college-park.com/assets/pdf/VentureInfoSheets.pdf>, © 2003, and www.college-park.com/CPStore/ProductInfoVenture.asp; available before Aug. 15, 2003.

Feb. 7, 2013 International Search Report and Written Opinion for International Application No. PCT/US2012/066888 filed on Nov. 28, 2012.

Freedom Innovations Runway product, <http://www.freedom-innovations.com/runway-2/>, believed to have been available more than one year before Jun. 30, 2014.

International Search Report dated Apr. 28, 2006 for PCT/US2005/017884 filed May 20, 2006.

Ohio Willow Wood Trailblazer™ product, <http://www.willowwoodco.com/products-and-services/feet/high-activity/trailblazer>, believed to have been released in 2006.

Ossur Axia product, Ossur Prosthetics Catalog, pp. 153-156, 2005.

Ossur Elation product; <http://www.ossur.com/template1.asp?pageid=263> and product catalog pp. 193/196; available before Aug. 15, 2003.

Otto Bock Aqua-foot product; http://professionals.ottobockus.com/cps/rde/xchg/ob_us_en/hs.xsl/41337.html, believed to have been available more than one year before Jun. 30, 2014.

Otto Bock Triton foot, http://professionals.ottobockus.com/cps/rde/xchg/ob_us_en/hs.xsl/38130.html?id=38132#38132, believed to have been available more than one year before Jun. 30, 2014.

Otto Bock Triton products, http://www.ottobock.com/cps/rde/xchg/ob_com_en/hs.xsl/38134.html, believed to have been released Jun. 2011.

Otto Bock, Axtion product; http://www.ottobockus.com/products/lower_limb_prosthetics/axtion.asp; believed to have been released May 2004.

Trulife Seattle Kinetic product, <http://trulife.com/all-products/prosthetics/feet/seattle-kinetic>, believed to have been available more than one year before Jun. 30, 2014.

Dec. 8, 2015 International Search Report and Written Opinion for International Application No. PCT/US2015/38641 Filed on Jun. 30, 2015.

Ossur, Prosthetics Product Catalog, Vari-Flex®, 2005, in 9 pages.

Ossur, Prosthetics Product Catalog, K2 Sensation®, 2005, in 3 pages.

Office Action in corresponding Chinese Patent Application No. 201580042739.1, dated Dec. 1, 2017, in 18 pages.

Extended Search Report in corresponding European Application No. 15814978, dated Feb. 5, 2018, in 7 pages.

Ossur, Junior Solutions, Cheetah® Xplore Junior, in 3 pages.

Ossur, Ossur Feet Catalog, Veri-Flex® Modular™, in 6 pages.

Ossur, Junior Solutions Catalog, Vari-Flex® Junior, in 3 pages.

Ossur, Ossur Feet Catalog, Vari-Flex®, in 10 pages.

Ossur, Ossur Feet Catalog, Re-Flex Shock™, in 9 pages.

Ossur, Ossur Feet Catalog, Re-Flex Rotate™, in 8 pages.

Ossur, Ossur Feet Catalog, Proprio Foot®, in 5 pages.

Ossur, Ossur Feet Catalog, Pro-Flex® XC, in 5 pages.

Ossur, Ossur Feet Catalog, Pro-Flex® LP Torsion, in 4 pages.

Ossur, Ossur Feet Catalog, Pro-Flex® LP, 4 pages.

Ossur, Ossur Feet Catalog, Pro-Flex® LP Align, in 4 pages.

Ossur, Ossur Feet Catalog, Pro-Flex®, 5 pages.

Ossur, Ossur Feet Catalog, Flex-Symes™, in 4 pages.

Ossur, Ossur Junior Solutions Catalog, Flex-Foot® Junior, in 2 pages.

Ossur, Ossur Feet Catalog, Flex-Foot Assure®, in 6 pages.

* cited by examiner

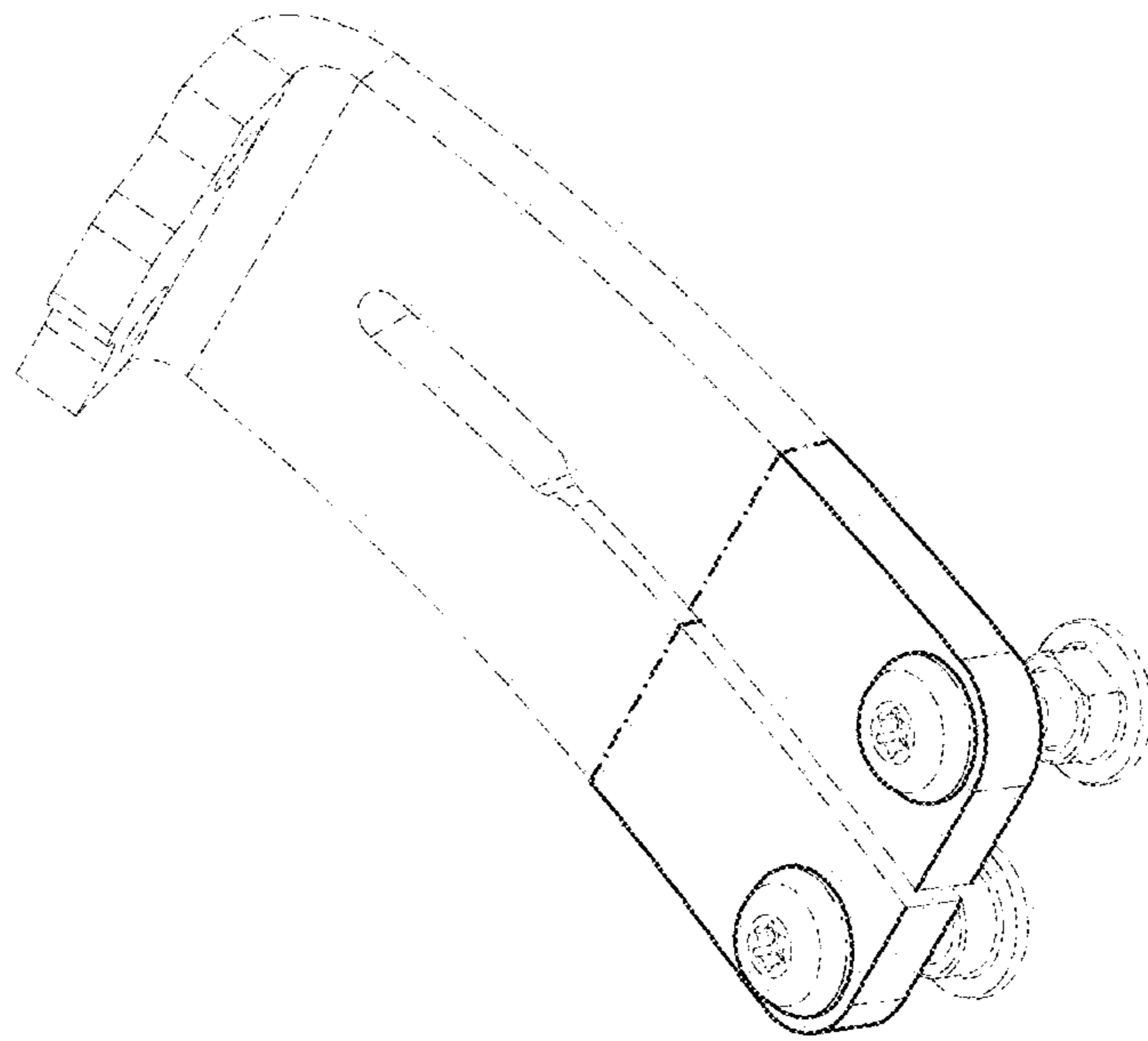


FIG. 1

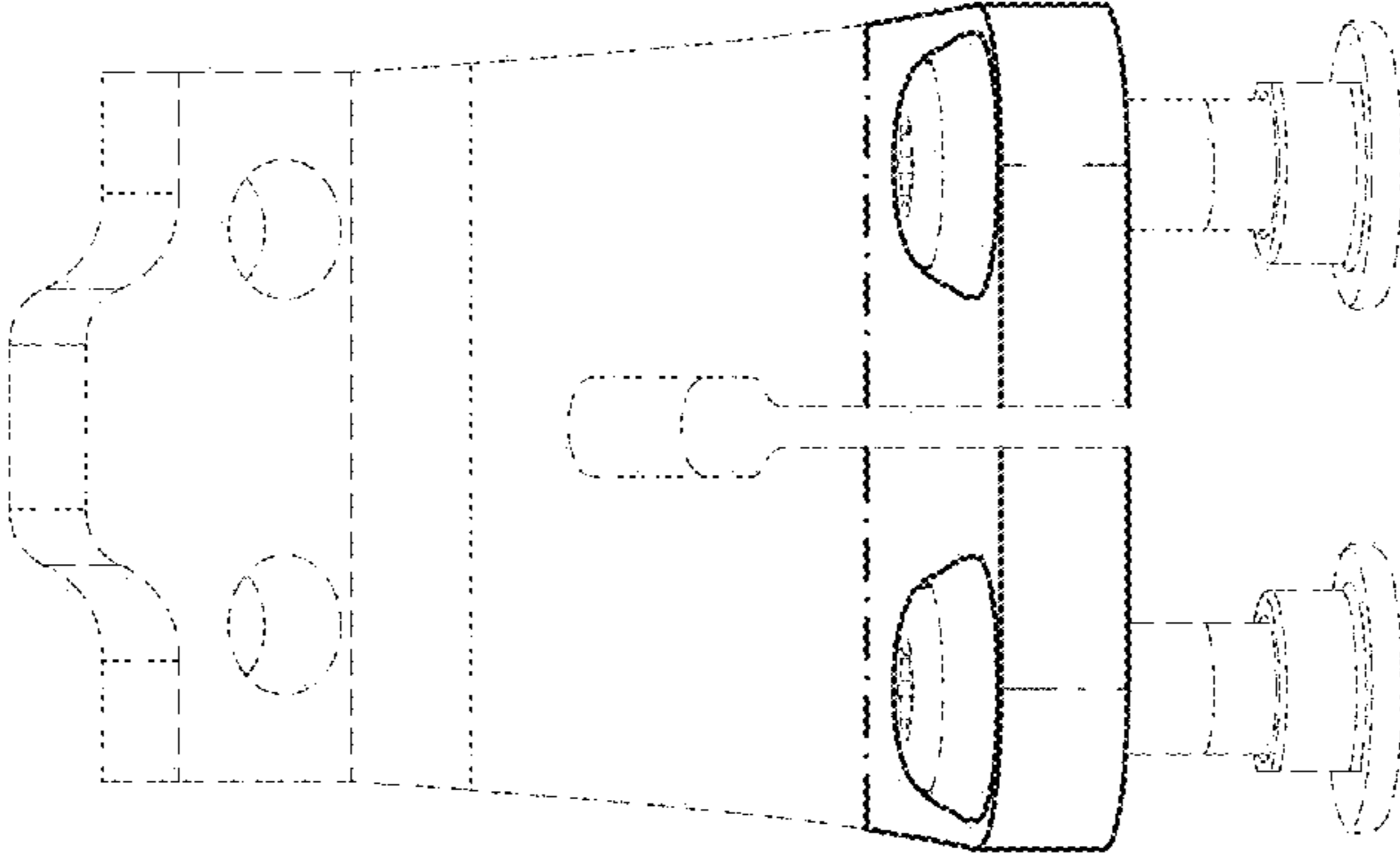


FIG. 2

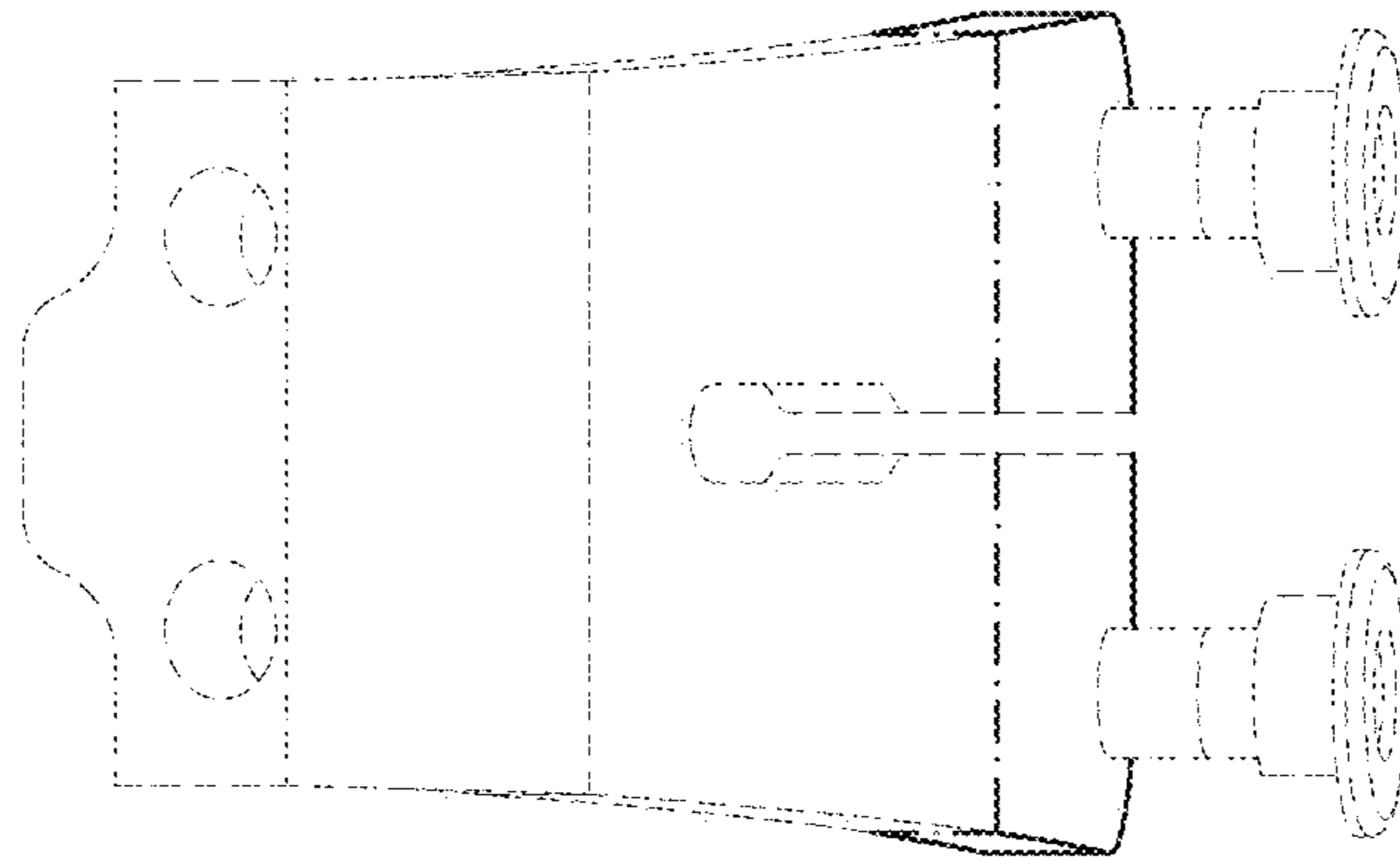


FIG. 3

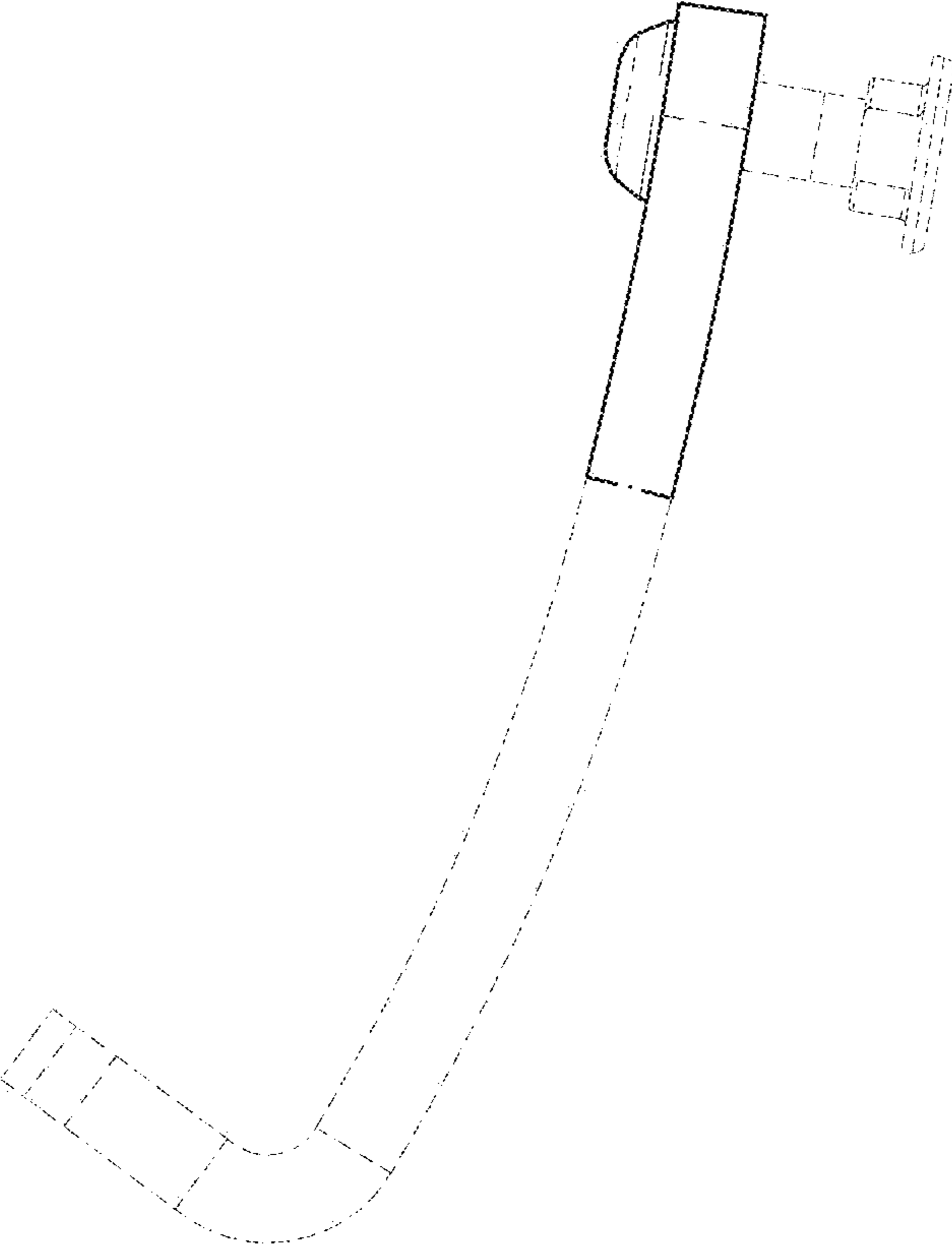


FIG. 4

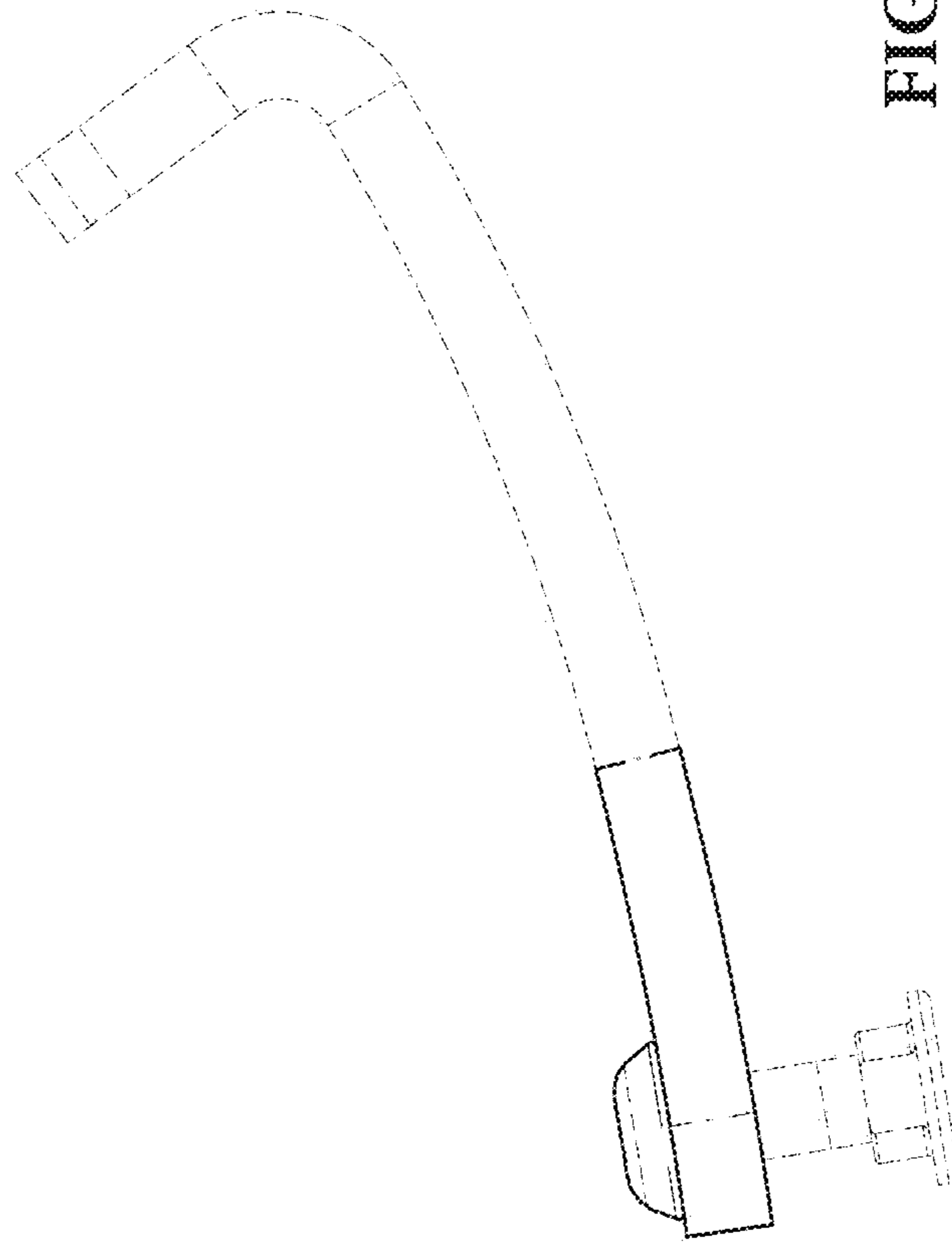


FIG. 5

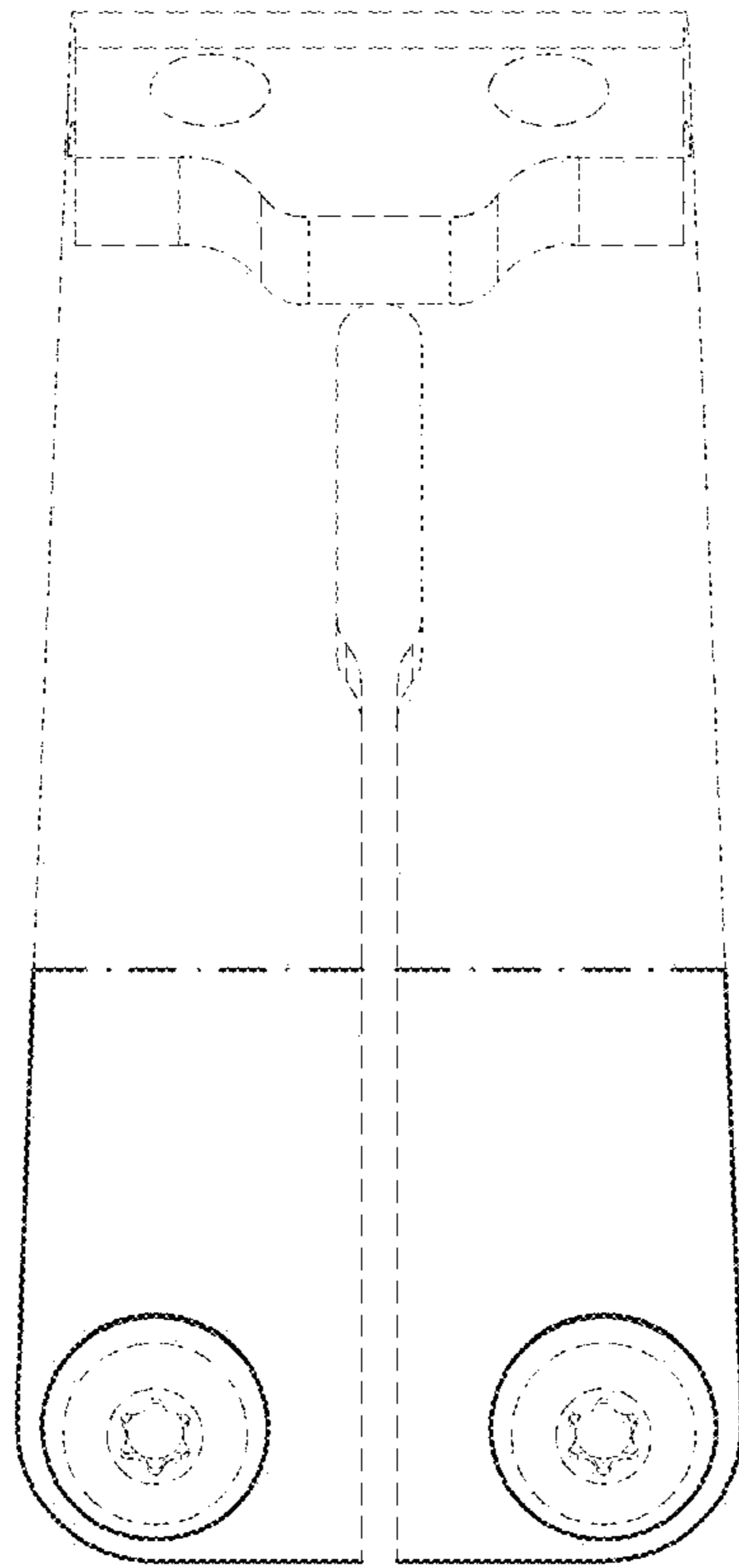


FIG. 6

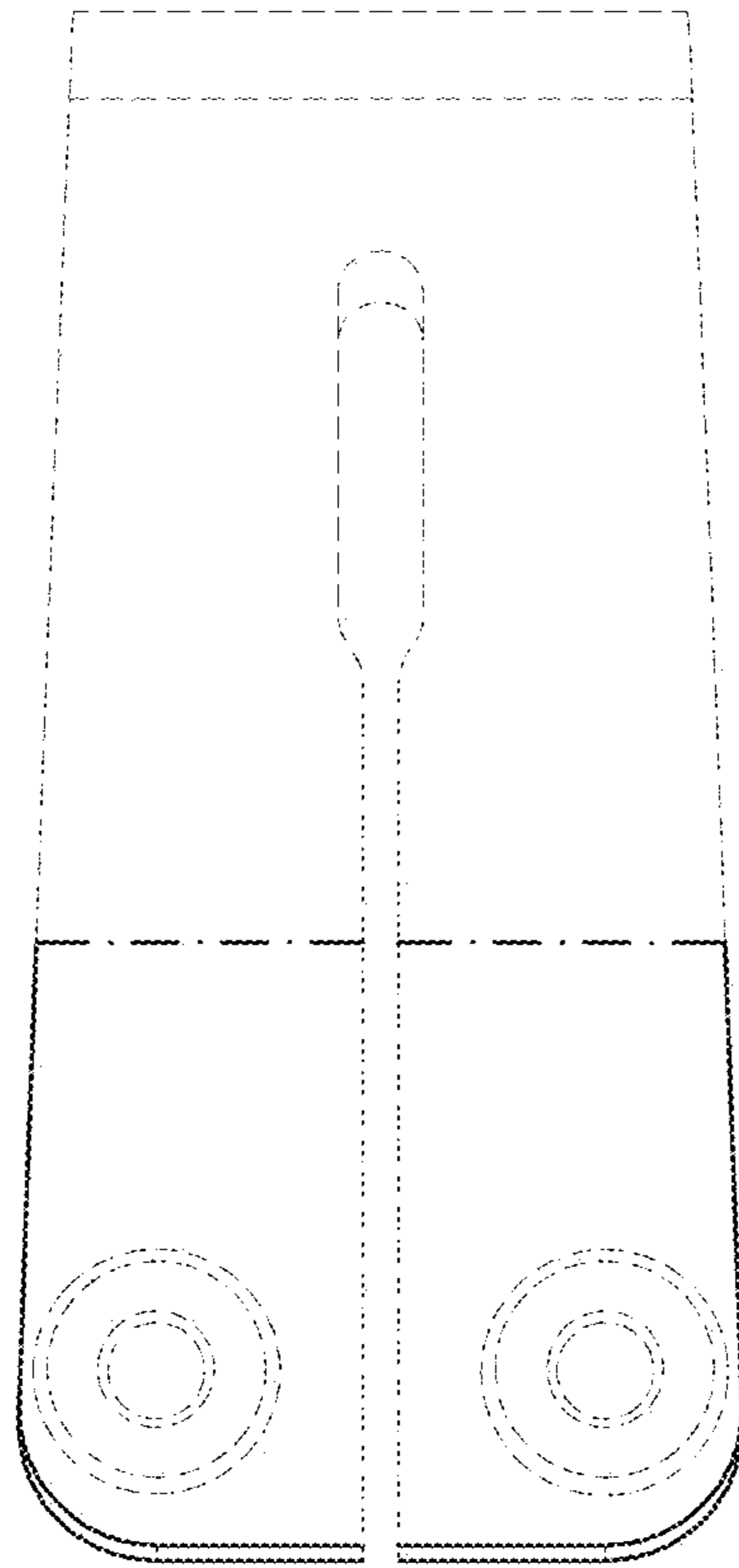


FIG. 7