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(12) **United States Design Patent** (10) **Patent No.:** **US D789,169 S**  
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(54) **RETAINING RING PLIERS**

OTHER PUBLICATIONS

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(Continued)

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

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(57) **CLAIM**

(22) Filed: **Mar. 16, 2016**

We claim the ornamental design for retaining ring pliers, as shown and described.

(51) **LOC (10) Cl.** ..... **08-05**

(52) **U.S. Cl.**  
USPC ..... **D8/51**

(58) **Field of Classification Search**  
USPC ..... D8/14, 51, 52  
CPC .... B25B 7/04; B25B 7/10; B25B 7/08; B25B 7/14; B25B 27/205; Y10T 403/598; Y10T 29/5363  
See application file for complete search history.

**DESCRIPTION**

This application is related to co-owned U.S. Nonprovisional application Ser. No. 15/071,584, filed Mar. 16, 2016, entitled Systems and Methods for Preloading a Bearing. FIG. 1 is a front perspective view of a retaining ring pliers showing our new design; FIG. 2 is another front perspective view thereof; FIG. 3 is a top and side perspective view thereof; FIG. 4 is a bottom and side perspective view thereof; FIG. 5 is a right side elevation view thereof; FIG. 6 is a left side elevation view thereof; FIG. 7 is a top plan view thereof; FIG. 8 is a bottom plan view thereof; FIG. 9 is a rear elevation view thereof; FIG. 10 is a front elevation view thereof; and, FIG. 11 is a side elevation view thereof, illustrating the upper arm being depressed into a cavity of a second arm. The broken lines depict portions of the retaining ring pliers in which the design is embodied that are not considered part of the claimed design.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

518,328 A	4/1894	Oakey
578,276 A	3/1897	Strauss
1,352,643 A	9/1920	Young
1,366,273 A	1/1921	Nettlefold
1,373,489 A	4/1921	Royal-Cochran
1,384,655 A	12/1921	Allmon
1,440,938 A	1/1923	Sieroslowski
1,755,807 A	4/1930	Boles

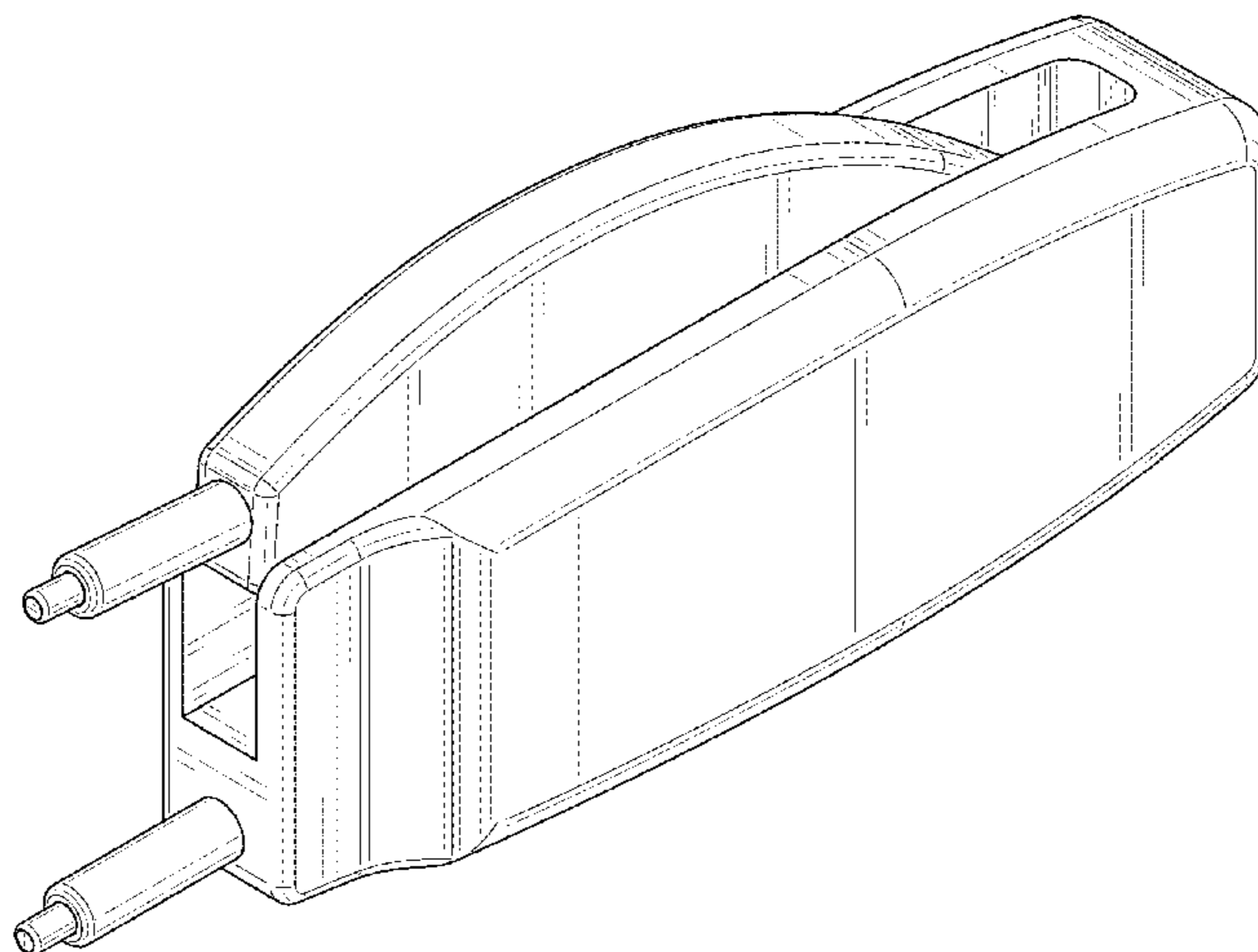
(Continued)

**FOREIGN PATENT DOCUMENTS**

DE	3908385 A1	8/1990
EP	1367299 A2	12/2003

(Continued)

**1 Claim, 11 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

1,758,515 A 5/1930 Heiermann  
 2,301,786 A 11/1942 Milleriviaster  
 2,426,219 A 8/1947 Jackson  
 2,769,360 A 6/1956 Woodford  
 2,755,698 A 7/1956 Wurzel  
 2,813,732 A 11/1957 Hird  
 3,144,909 A 8/1964 Hart et al.  
 3,241,409 A 3/1966 Raptis  
 3,316,952 A 5/1967 Hollinger  
 3,464,474 A 9/1969 Jansen  
 3,480,300 A 11/1969 Jeffrey et al.  
 3,522,830 A 8/1970 Blizzard  
 3,581,609 A 6/1971 Greenwood  
 3,664,226 A 5/1972 Gonzalez  
 3,678,981 A 7/1972 Heyworth  
 3,742,568 A 7/1973 Hahlbeck  
 3,762,455 A 10/1973 Anderson, Jr.  
 3,844,323 A 10/1974 Anderson, Jr.  
 3,986,750 A 10/1976 Trent et al.  
 4,048,897 A 9/1977 Price, Jr.  
 4,054,999 A 10/1977 Harbottle  
 4,210,372 A 7/1980 McGee et al.  
 4,305,438 A 12/1981 Spinosa et al.  
 4,436,468 A 3/1984 Ozaki et al.  
 4,476,750 A \* 10/1984 Murphy ..... B25B 27/205  
 29/229  
 4,593,924 A 6/1986 Cabeza  
 4,812,094 A 3/1989 Grube  
 4,958,941 A 9/1990 Imanari  
 4,971,501 A 11/1990 Chavez  
 5,007,313 A \* 4/1991 Jeromson, Jr. .... B25B 7/10  
 29/229  
 5,011,306 A 4/1991 Martinie  
 5,058,424 A 10/1991 O'Hara  
 5,070,621 A 12/1991 Butler et al.  
 5,129,156 A 7/1992 Walker  
 5,180,265 A 1/1993 Wiese  
 5,251,995 A 10/1993 Chi  
 5,348,349 A 9/1994 Sloane  
 5,349,736 A 9/1994 Rubino et al.  
 5,362,111 A 11/1994 Harbin  
 5,366,300 A 11/1994 Deane et al.  
 5,533,849 A 7/1996 Burdick  
 5,535,517 A 7/1996 Rode  
 5,542,167 A \* 8/1996 Nakamoto ..... B25B 7/04  
 29/229  
 5,573,311 A 11/1996 Clohessy  
 5,597,058 A 1/1997 Ewer  
 5,749,386 A 5/1998 Samuel, Jr.  
 5,877,433 A 3/1999 Matsuzaki et al.  
 5,882,044 A 3/1999 Sloane  
 5,934,853 A 8/1999 Junkers  
 6,042,273 A 3/2000 Thrasher  
 6,058,767 A 5/2000 Calvin  
 6,065,920 A 5/2000 Becker et al.  
 6,095,735 A 8/2000 Weinstein et al.  
 6,135,642 A 10/2000 Burch  
 6,145,417 A \* 11/2000 Bates ..... B25B 27/205  
 81/177.4  
 6,186,032 B1 2/2001 Raines  
 6,257,105 B1 \* 7/2001 Lin ..... B25B 27/205  
 29/229  
 6,286,374 B1 9/2001 Kudo et al.  
 D458,099 S \* 6/2002 Ruszczyk ..... D8/54  
 6,471,774 B1 \* 10/2002 Krueger ..... B05C 1/06  
 118/203  
 6,520,710 B2 2/2003 Wells  
 6,598,500 B1 7/2003 Chivington-Wells  
 6,601,503 B2 8/2003 Scholzig et al.  
 6,622,397 B1 9/2003 Knoble  
 6,637,297 B1 10/2003 Mlynarczyk  
 6,749,386 B2 6/2004 Harris  
 6,857,665 B2 2/2005 Vyse et al.  
 6,886,227 B1 5/2005 Hedrick

6,971,802 B2 12/2005 Vezina  
 6,976,817 B1 12/2005 Grainger  
 6,983,677 B1 \* 1/2006 Engel ..... B25B 27/205  
 29/229  
 6,988,832 B2 1/2006 DeWachter  
 6,993,852 B2 2/2006 Russell et al.  
 7,055,413 B1 \* 6/2006 Wang ..... B25B 7/04  
 29/229  
 7,194,936 B2 \* 3/2007 Engel ..... B25B 27/205  
 29/229  
 7,303,367 B2 12/2007 Rode  
 7,343,836 B1 3/2008 Ward  
 7,346,985 B1 3/2008 Strait  
 7,389,579 B2 6/2008 Rode  
 7,428,779 B2 9/2008 Smith et al.  
 7,448,301 B1 \* 11/2008 Cronin ..... B25B 27/205  
 29/229  
 7,559,135 B2 7/2009 Rode  
 7,625,164 B2 12/2009 Rode  
 7,927,052 B1 4/2011 Varden  
 8,006,573 B1 8/2011 Rode  
 8,316,530 B2 11/2012 Rode  
 8,328,486 B2 12/2012 Cox  
 8,347,471 B2 \* 1/2013 Wang ..... B25B 7/14  
 29/229  
 8,650,757 B2 2/2014 Rode  
 D706,104 S \* 6/2014 Mooney ..... D8/54  
 8,904,646 B2 12/2014 Rode  
 8,919,227 B2 \* 12/2014 Tseng ..... B25B 27/205  
 29/229  
 8,961,090 B2 2/2015 Rode  
 9,156,150 B2 \* 10/2015 Wang ..... B25B 7/08  
 9,217,461 B2 12/2015 Rode  
 2002/0110414 A1 8/2002 Wells  
 2003/0035699 A1 2/2003 Harris  
 2004/0086354 A1 5/2004 Harris  
 2004/0089113 A1 5/2004 Morgan  
 2005/0025604 A1 2/2005 Slesinski  
 2005/0207865 A1 9/2005 Disantis et al.  
 2006/0008340 A1 1/2006 Cox  
 2009/0003963 A1 1/2009 Winker et al.  
 2010/0326205 A1 12/2010 Rode  
 2011/0097174 A1 4/2011 Varden

FOREIGN PATENT DOCUMENTS

GB 990553 A 4/1965  
 GB 2286231 A 2/1995  
 GB 2435499 B 8/2007  
 GB 2434621 B 10/2008  
 WO 02/08618 A1 1/2002  
 WO 2015/147903 A1 10/2015

OTHER PUBLICATIONS

Search Report for related application GB0701360.0 received Mar. 22, 2007.  
 Examiner's Report for related application AU2007200331 received Mar. 19, 2007.  
 "STEMCO Pro-Torq® Advanced Axle Spindle Nuts 09-571-0006," Instruction guide, Copyright Aug. 2003, 2 pages.  
 "STEMCO Pro-Torq(R) 571-2970," Copyright 2005 STEMCO LP, 2 pages.  
 "Timkin Product-Bearings," vol. 1, Issue 6; 2 pages, [http://www.timken.com/products/bearings/techtips/tip6/asp].  
 Timkin Tech Tips: Promoting Safe, Proper Bearing Handling Practices for the Heavy-Duty Market; "Preload in Wheel Bearings" vol. 6, Issue 3, 2 pages, [http://www.Timkin.com/products/bearings/techtipsPDFs/Vol6No3.pdf#search='Bearing%20Preload'].  
 "Forming and Shaping Processes Compaction and Sintering (Pulvepresning)," Copyright Institut for Precesteknik Danmarks Tekniske Universitet 1996, (http://www.ipt.dtusdk/-ap/ingpro/forming/ppm/htm).  
 STEMCO, PRO-TORQ, An Axle Spindle Nut System for Today's Fleets. Mar. 2003; download from http://www.stemco.com, pp. 38-41.

(56)

**References Cited**

OTHER PUBLICATIONS

STEMCO, PRO-TORQ, An Axle Spindle Nut System for Today's Fleets. Mar. 2003; download from <http://www.stemco.com>, pp. 57-64.

GB Intellectual Property Office Search Report Under Section 17, dated Aug. 25, 2010, from corresponding GB Application No. 1008927.4.

What is Powder Metallurgy? Dec. 2004, 2 pages. (<http://www.mpif.org/technology/whatis.html>).

Stemco, Quick Reference Catalog 572-0011 Rev. Date 4/10.

Stemco—Pro-Torq, Axle Spindle Nuts, An Axle Spindle Nut System for Today's Commercial Fleets (<http://www.stemco.com/product/pro-torz-axle-spindle-nuts/>).

\* cited by examiner

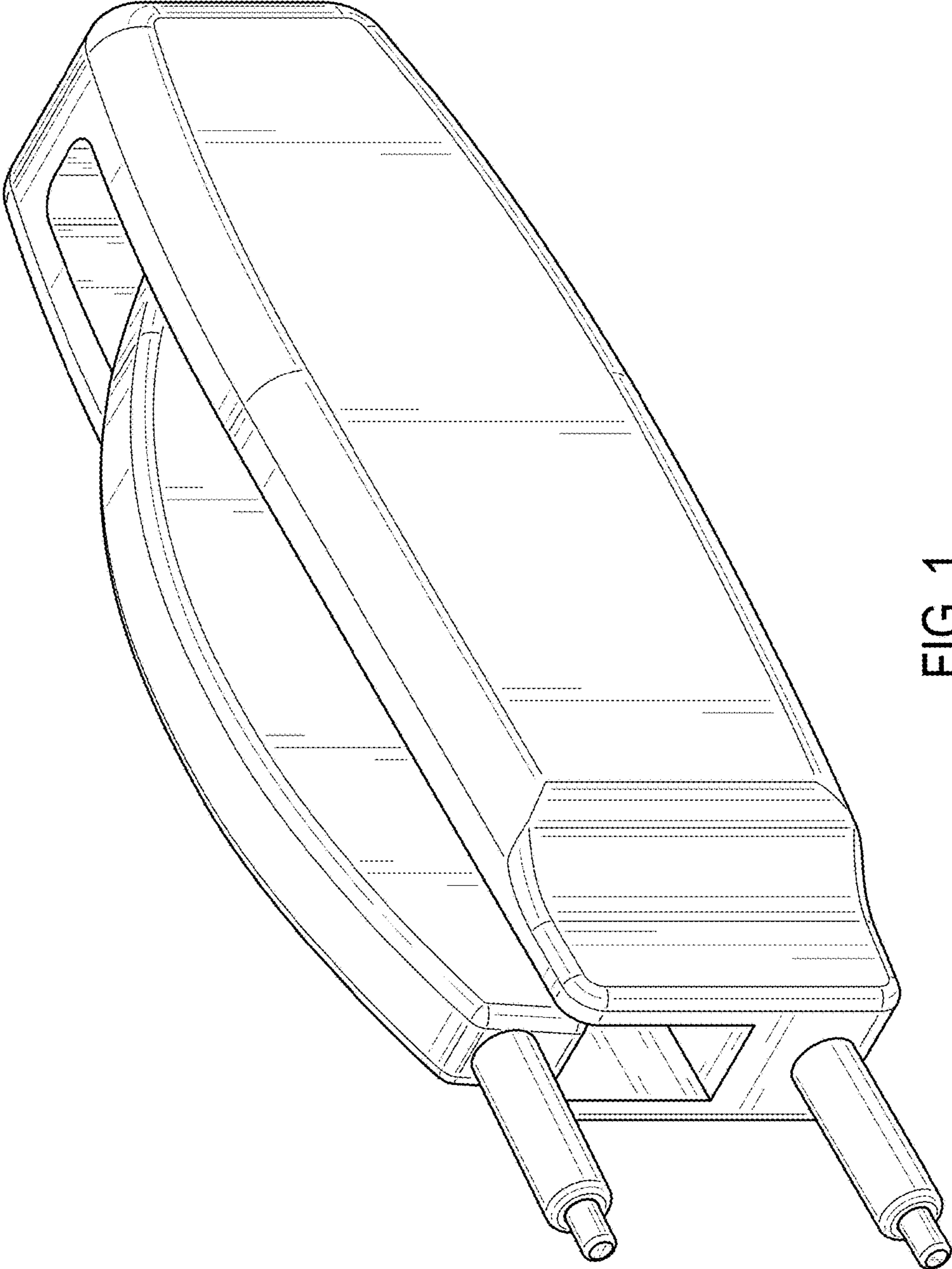


FIG. 1

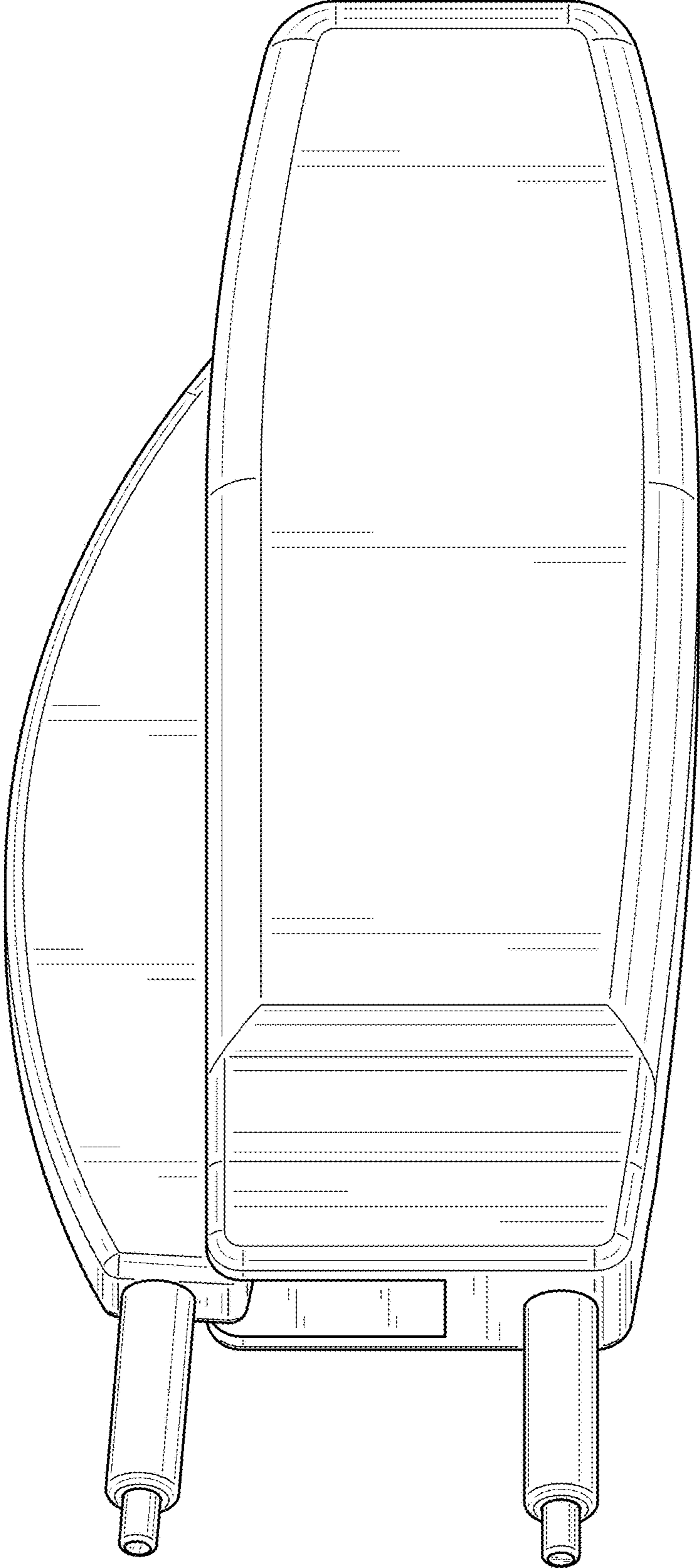


FIG. 2

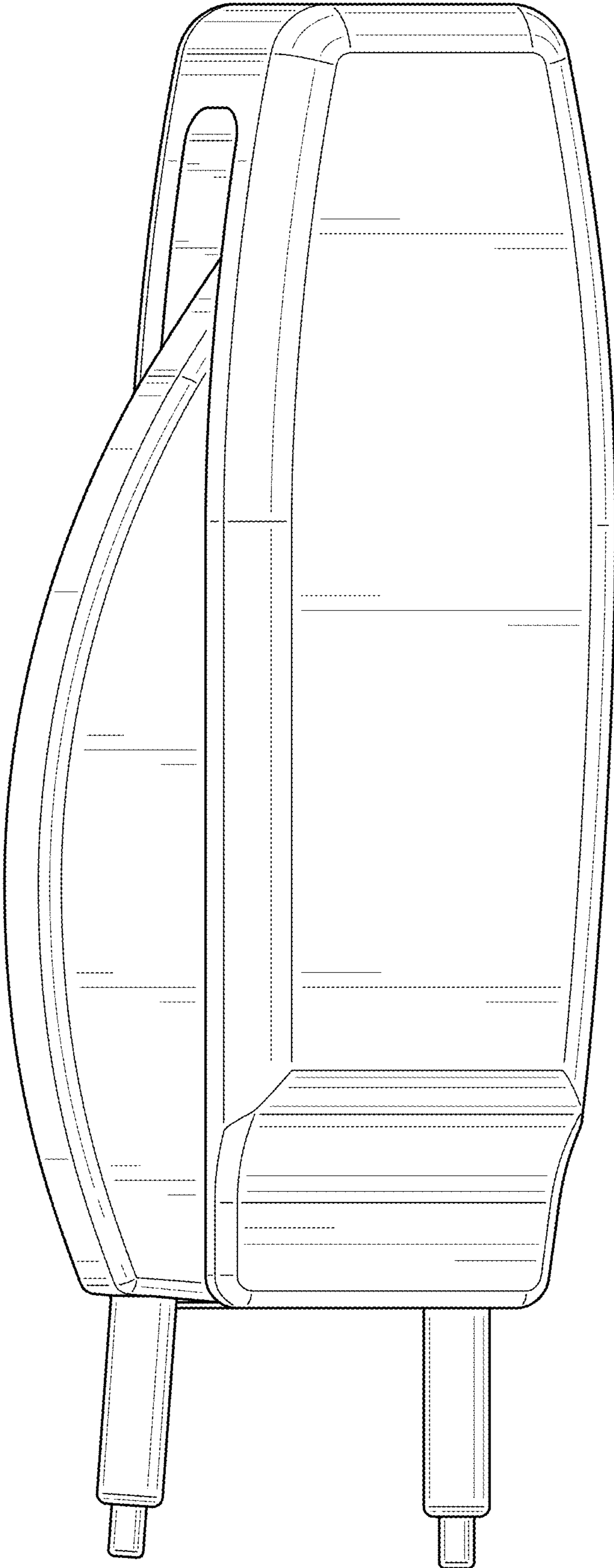


FIG. 3

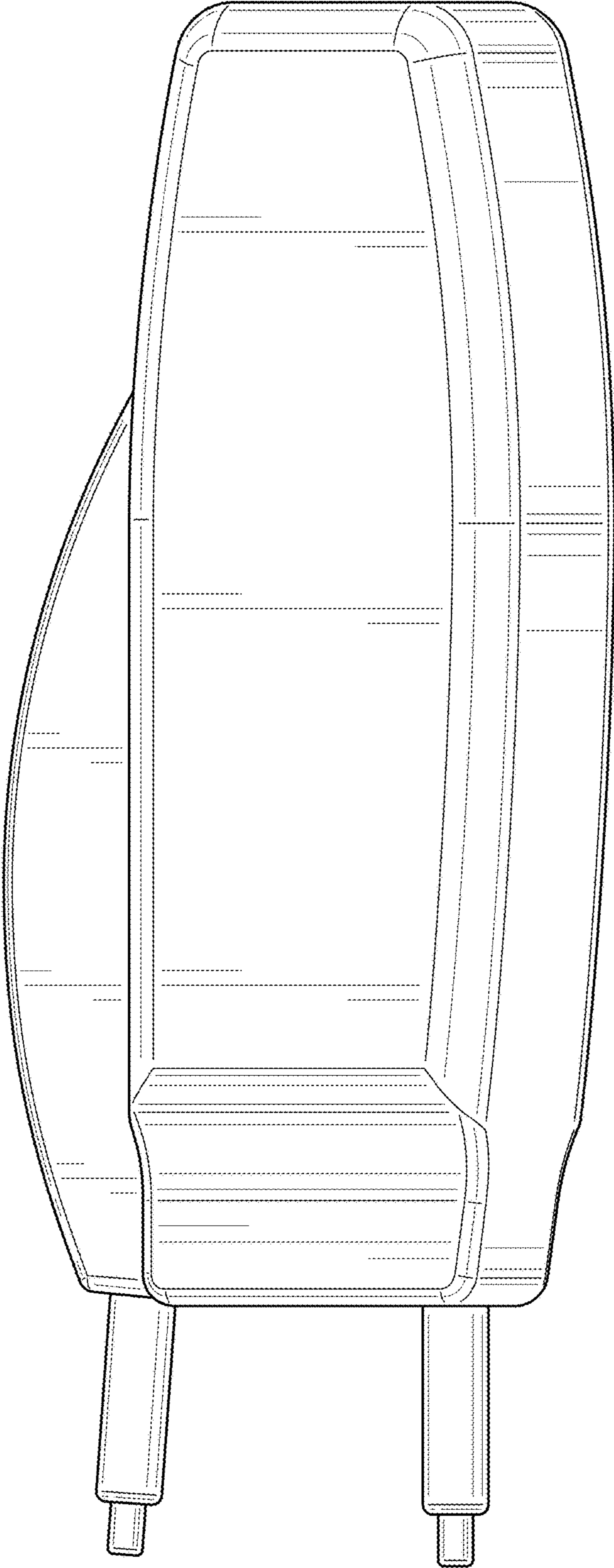


FIG. 4

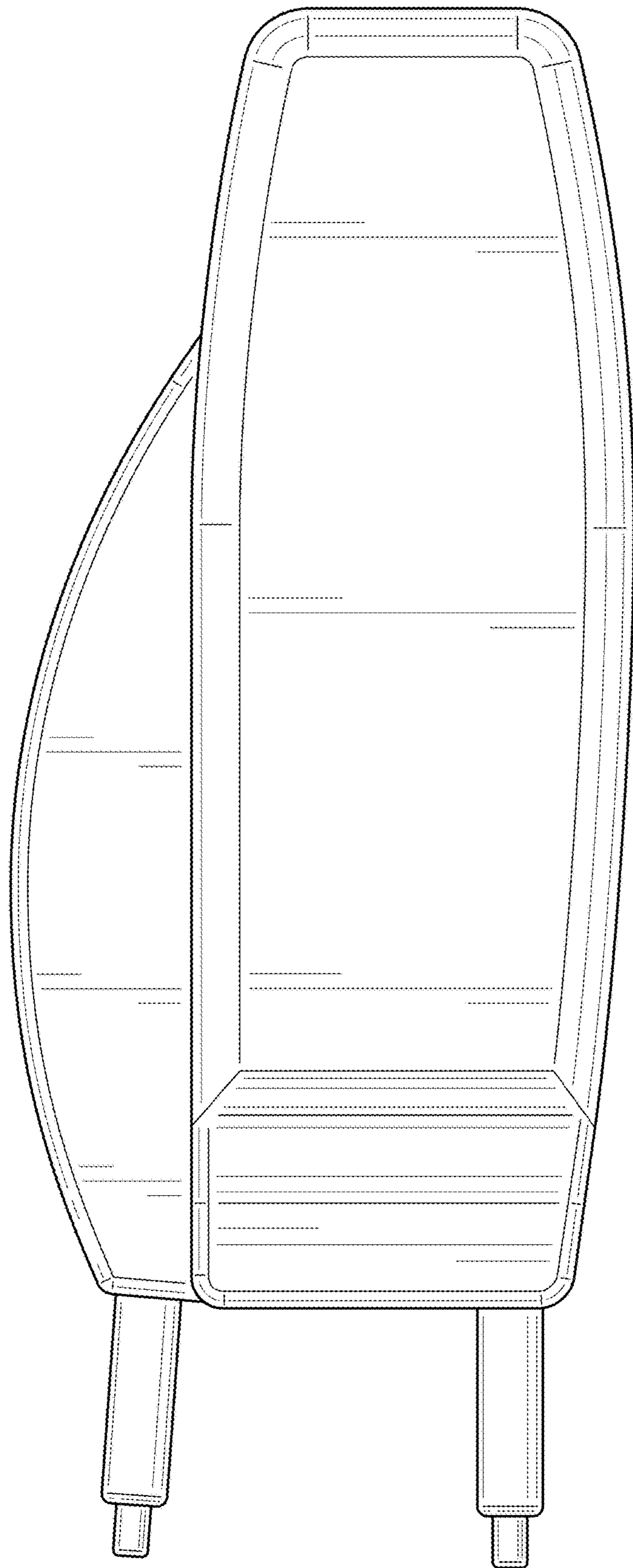


FIG. 5



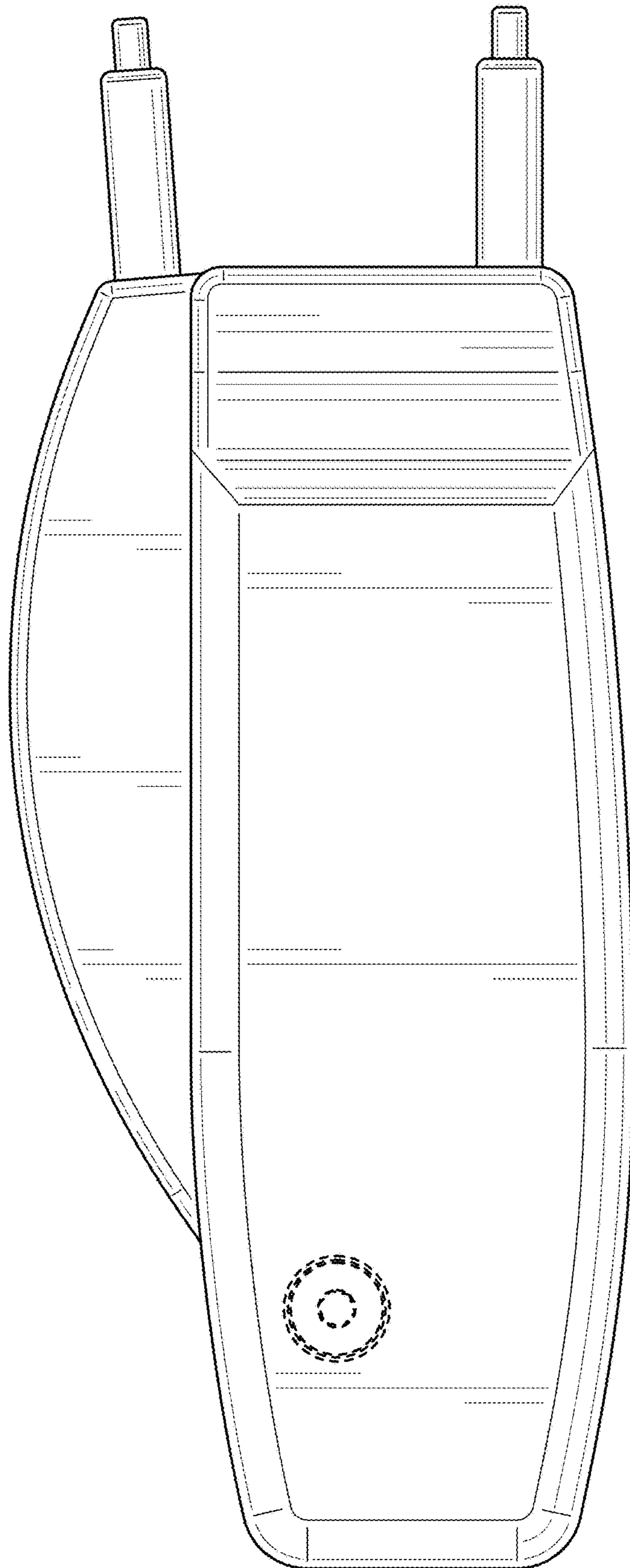


FIG. 6

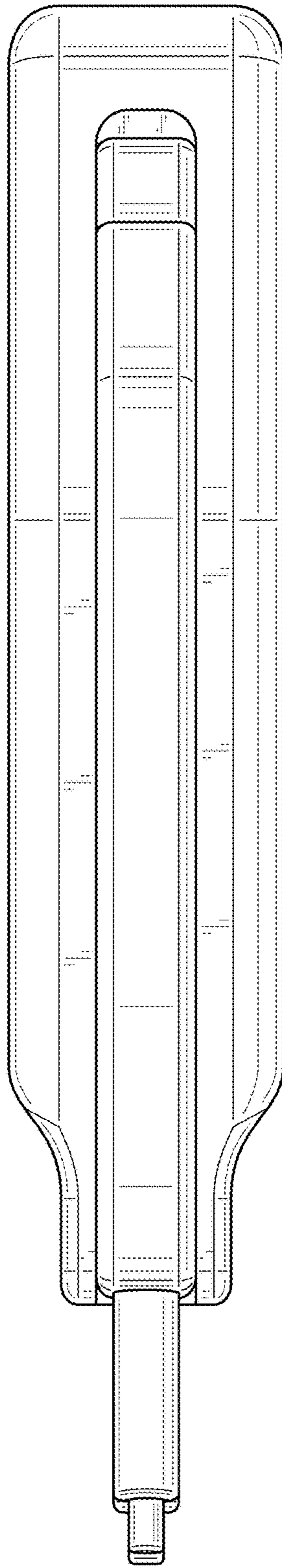


FIG. 7

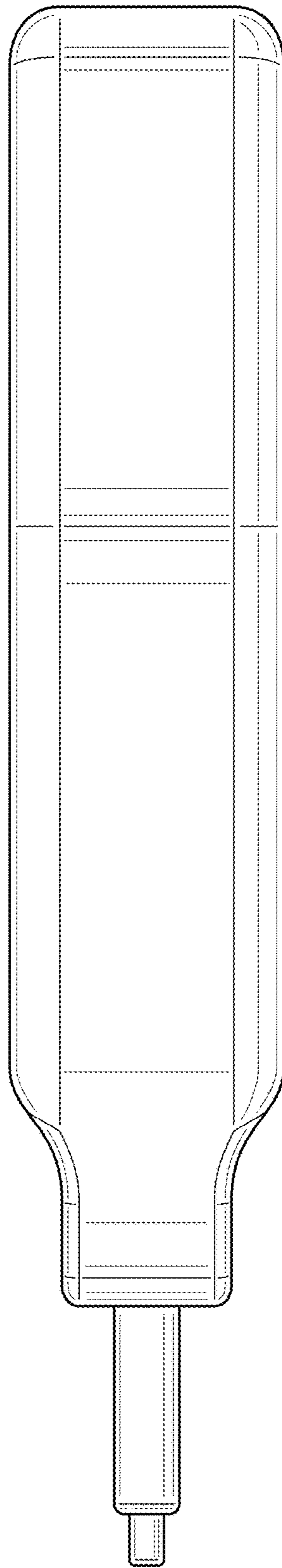


FIG. 8

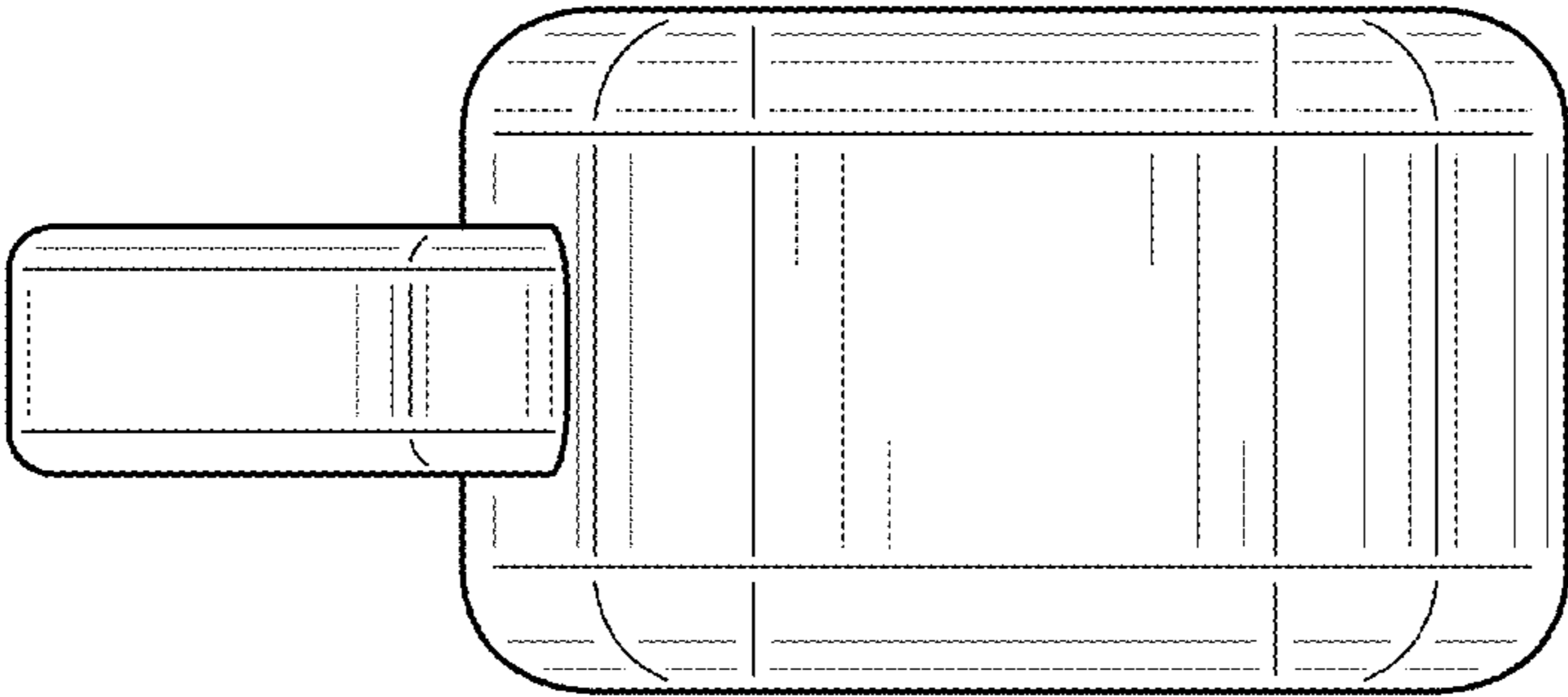


FIG. 9

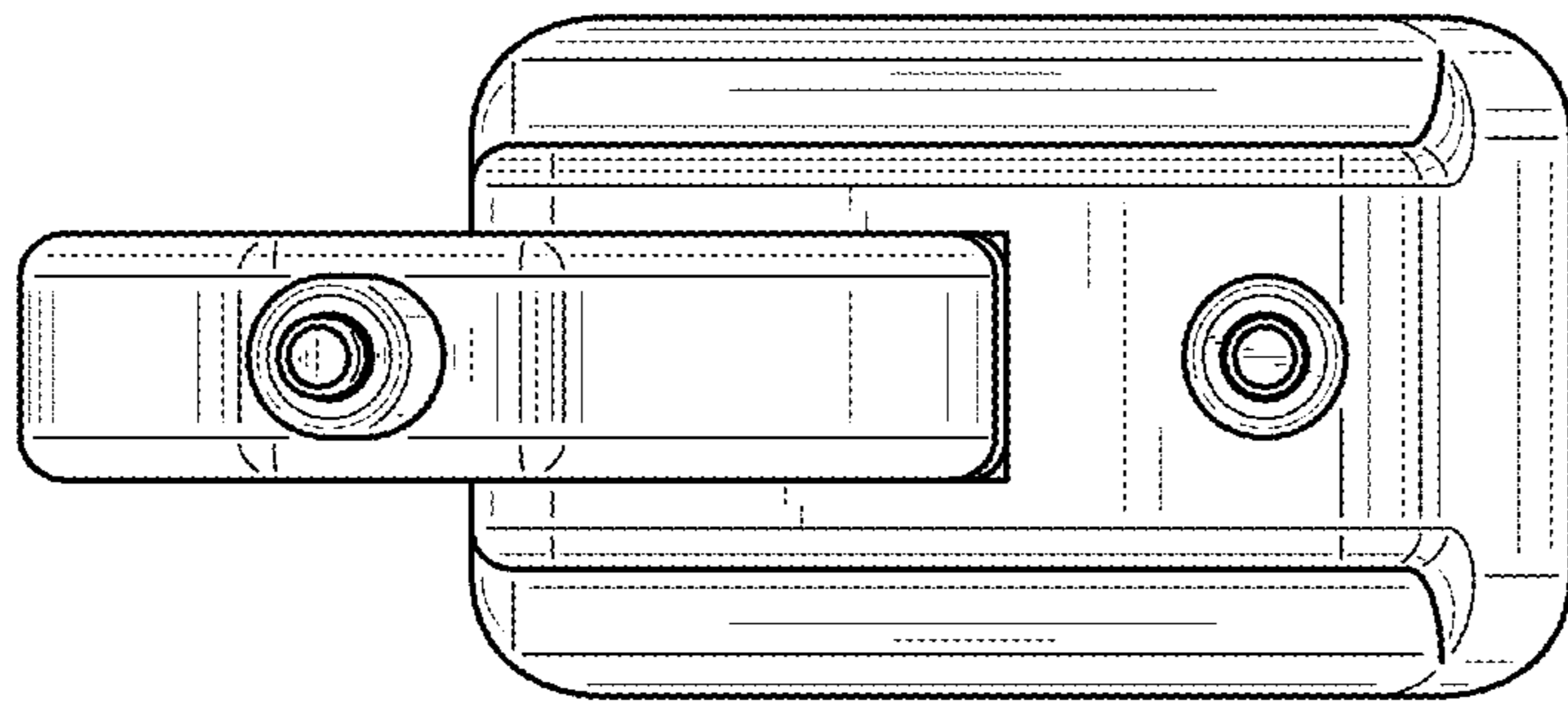


FIG. 10

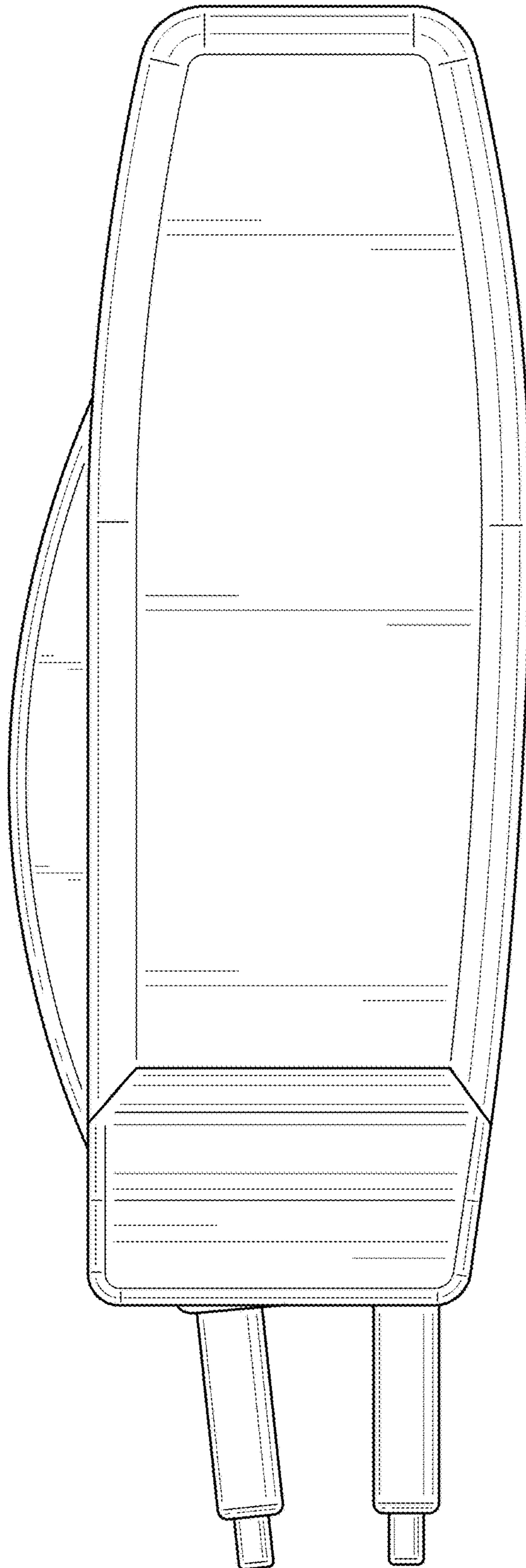


FIG. 11