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(12) **United States Design Patent**
Ben Nun

(10) **Patent No.:** **US D702,346 S**
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(54) **HAPTIC END PLATE FOR USE IN AN INTRAOCULAR ASSEMBLY**

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(73) Assignee: **Nulens Ltd., Herzliya Pituah (IL)**
(**) Term: **14 Years**

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(22) Filed: **Aug. 24, 2010**

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/529,705, filed as application No. PCT/IL2008/002840 on Mar. 5, 2008, now Pat. No. 8,273,123.

(30) **Foreign Application Priority Data**

Mar. 5, 2007 (IL) 181710
Apr. 17, 2007 (IL) 182604
Sep. 5, 2007 (IL) 185740

(51) **LOC (10) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/150**

(58) **Field of Classification Search**

USPC D24/157, 151; 623/6, 4, 6.49, 6.51, 623/6.54, 6.37, 6.45; 128/774, 898, 899; 33/512; 606/4-6; 351/160; 359/665; D10/73

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,950,082 A 4/1976 Volk
4,122,556 A 10/1978 Poler

(Continued)

FOREIGN PATENT DOCUMENTS

EP 0 156 472 A 10/1985
EP 0637503 B1 10/1998

(Continued)

OTHER PUBLICATIONS

Y. Ralph Cu et al, Accommodating IOLs, Cataract & Refractive Surgery Today, May 2004, at 16-17 and 20.

(Continued)

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(57) **CLAIM**

The ornamental design for a haptic end plate for use in an intraocular lens assembly, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of a haptic end plate for use in an intraocular lens assembly, in accordance with a first embodiment of my new design;

FIG. 2 is a close up front perspective view of an end plate of FIG. 1;

FIG. 3 is a close up front elevation view of the end plate of FIG. 2;

FIG. 4 is a top plan view of the end plate of FIG. 2;

FIG. 5 is a left elevation view of the end plate of FIG. 2;

FIG. 6 is right elevation view of the end plate of FIG. 2;

FIG. 7 is a rear elevation view of the end plate of FIG. 2;

FIG. 8 is a bottom plan view of the end plate of FIG. 2;

FIG. 9 is a front perspective view of a haptic end plate for use in an intraocular lens assembly, in accordance with a second embodiment of my new design;

FIG. 10 is a close up front perspective view of an end plate of FIG. 9;

FIG. 11 is a close up front elevation view of the end plate of FIG. 10;

FIG. 12 is a top plan view of the end plate of FIG. 10;

FIG. 13 is a left elevation view of the end plate of FIG. 10;

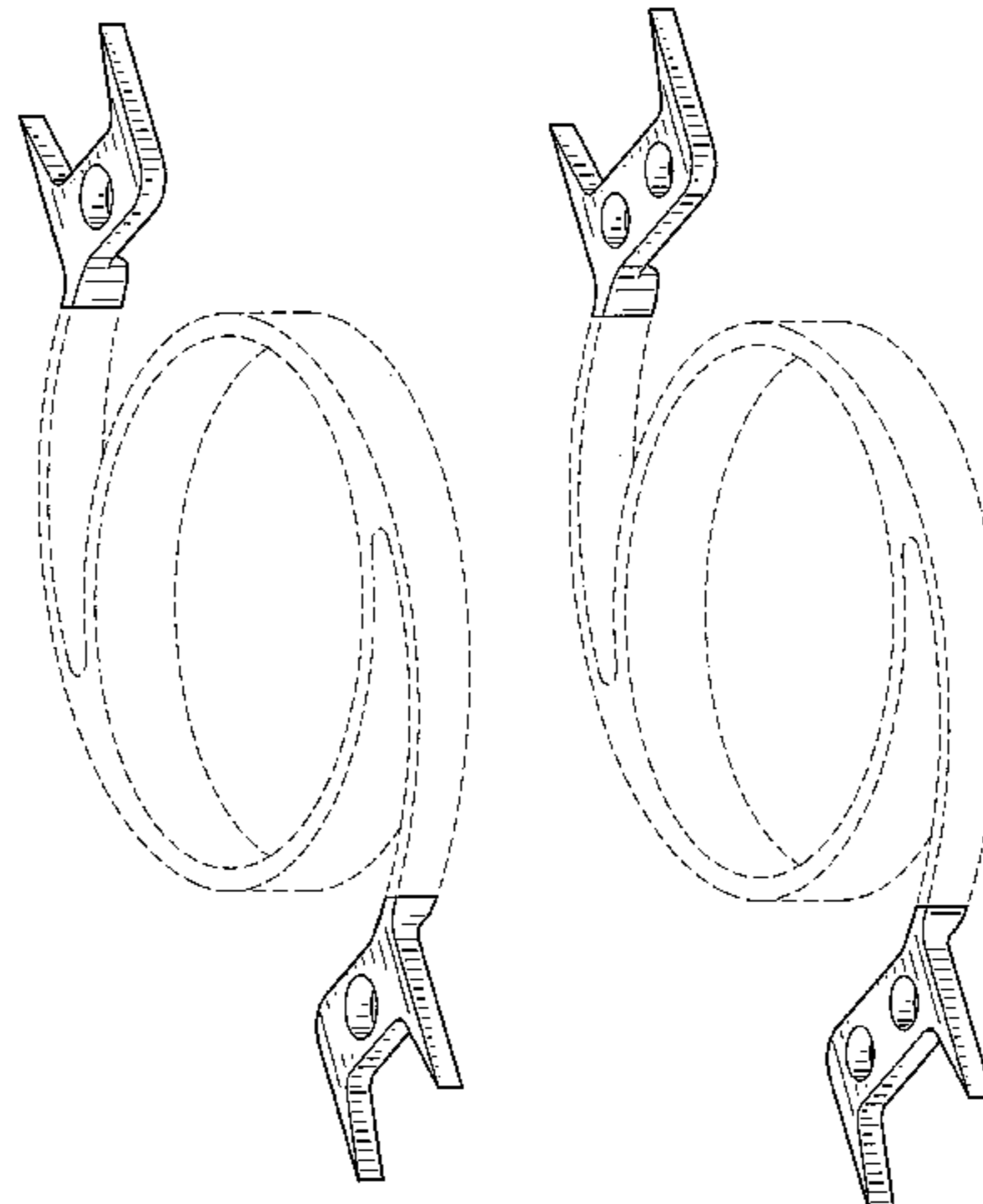
FIG. 14 is right elevation view of the end plate of FIG. 10;

FIG. 15 is a rear elevation view of the end plate of FIG. 10; and,

FIG. 16 is a bottom plan view of the end plate of FIG. 10.

The broken line showing is for environmental purposes only and forms no part of the claimed invention.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,254,509 A	3/1981	Tennant	6,051,024 A	4/2000	Cumming
4,298,994 A	11/1981	Clayman	6,110,202 A	8/2000	Barraquer et al.
4,340,979 A	7/1982	Kelman	6,117,171 A	9/2000	Skottun
D267,041 S *	11/1982	Hessburg D24/157	6,129,759 A	10/2000	Chambers
D267,197 S *	12/1982	Hessburg D24/157	6,164,282 A	12/2000	Gwon et al.
4,409,690 A	10/1983	Gess	6,193,750 B1	2/2001	Cumming
4,409,691 A	10/1983	Levy	6,197,057 B1	3/2001	Peyman et al.
4,435,855 A *	3/1984	Pannu 623/6.48	6,197,059 B1	3/2001	Cumming
4,445,998 A	5/1984	Kanda et al.	6,200,342 B1	3/2001	Tassignon
4,446,581 A	5/1984	Blake	6,280,469 B1	8/2001	Terry et al.
4,494,254 A	1/1985	Lopez	6,280,471 B1	8/2001	Peyman et al.
4,530,117 A	7/1985	Kelman	6,299,618 B1	10/2001	Sugiura
RE31,963 E	8/1985	Kelman	6,299,641 B1	10/2001	Woods
4,556,998 A	12/1985	Siepsner	6,342,073 B1	1/2002	Cumming et al.
4,575,374 A	3/1986	Anis	6,387,126 B1	5/2002	Cumming
4,581,033 A	4/1986	Callahan	6,406,494 B1	6/2002	Laguetta et al.
4,589,147 A	5/1986	Nevyas	6,423,094 B1	7/2002	Sarfarazi
4,591,358 A	5/1986	Kelman	6,443,984 B1	9/2002	Jahn et al.
D285,345 S *	8/1986	Shepard D24/157	6,443,985 B1	9/2002	Woods
4,615,701 A	10/1986	Woods	6,464,725 B2	10/2002	Skotton
4,671,283 A	6/1987	Hoskin et al.	6,488,708 B2	12/2002	Sarfarazi
4,676,794 A	6/1987	Kelman	6,494,910 B1	12/2002	Ganem et al.
RE32,525 E *	10/1987	Pannu 623/6.48	6,494,911 B2	12/2002	Cumming
4,750,904 A	6/1988	Price, Jr.	6,503,276 B2	1/2003	Lang et al.
4,759,762 A *	7/1988	Grendahl 623/6.27	6,506,212 B2	1/2003	Zhou et al.
4,808,181 A	2/1989	Kelman	6,520,691 B2	2/2003	Nomura et al.
4,842,601 A	6/1989	Smith	6,524,340 B2	2/2003	Israel
RE33,039 E	8/1989	Arnott	6,554,860 B2	4/2003	Hoffmann et al.
4,865,601 A	9/1989	Caldwell et al.	6,570,718 B2	5/2003	Nomura et al.
4,888,012 A	12/1989	Horn et al.	6,596,026 B1	7/2003	Gross et al.
4,892,543 A	1/1990	Turley	6,599,317 B1	7/2003	Weinschenk, III et al.
4,932,966 A	6/1990	Christie et al.	6,605,093 B1	8/2003	Blake
4,932,968 A	6/1990	Caldwell et al.	6,616,692 B1	9/2003	Glick et al.
4,957,505 A	9/1990	McDonald	6,638,305 B2	10/2003	Laguetta
4,969,897 A	11/1990	Kalb	6,638,306 B2	10/2003	Cumming
4,976,732 A	12/1990	Vorosmarthy	6,645,245 B1	11/2003	Preussner
4,990,159 A	2/1991	Kraff	6,739,722 B2	5/2004	Laguetta et al.
5,026,373 A	6/1991	Ray	6,749,634 B2	6/2004	Hanna
5,078,742 A	1/1992	Dahan	6,790,232 B1	9/2004	Lang
5,133,749 A *	7/1992	Nordan 623/6.49	6,849,091 B1	2/2005	Cumming
5,133,750 A *	7/1992	Momose et al. 623/6.11	6,960,231 B2	11/2005	Tran
5,171,268 A	12/1992	Ting et al.	6,972,033 B2	12/2005	McNicholas
5,176,701 A	1/1993	Dusek et al.	7,008,449 B2	3/2006	Willis et al.
5,275,623 A	1/1994	Sarfarazi	7,025,783 B2	4/2006	Brady et al.
5,282,851 A	2/1994	Jacob-LaBarre	7,037,338 B2	5/2006	Nagamoto
5,288,293 A	2/1994	O'Donnell, Jr.	7,097,660 B2	8/2006	Portney
5,336,262 A	8/1994	Chu	7,118,597 B2	10/2006	Miller et al.
5,346,502 A	9/1994	Estabrook et al.	7,122,053 B2	10/2006	Esch
5,476,512 A	12/1995	Sarfarazi	7,137,994 B2	11/2006	De Juan, Jr.
5,476,514 A	12/1995	Cumming	7,220,279 B2	5/2007	Nun
5,476,515 A	12/1995	Kelman et al.	7,261,737 B2	8/2007	Esch et al.
5,480,426 A	1/1996	Chu	7,278,739 B2	10/2007	Shaddock
5,484,447 A	1/1996	Waldock et al.	7,350,916 B2	4/2008	Hong et al.
5,489,302 A	2/1996	Skottun	7,815,678 B2	10/2010	Ben Nun
5,496,366 A	3/1996	Cumming	7,842,087 B2	11/2010	Ben Nun
5,522,891 A	6/1996	Klaas	7,854,764 B2	12/2010	Ben Nun
5,567,365 A	10/1996	Weinschenk et al.	7,976,520 B2	7/2011	Ben Nun
5,571,177 A	11/1996	Deacon et al.	7,998,199 B2	8/2011	Ben Nun
5,584,304 A	12/1996	Brady	8,048,156 B2	11/2011	Geraghty et al.
5,607,472 A	3/1997	Thompson	2002/0103535 A1	8/2002	Portney
5,628,795 A	5/1997	Langerman	2002/0103537 A1	8/2002	Willis et al.
5,674,282 A	10/1997	Cumming	2003/0060881 A1	3/2003	Glick et al.
5,684,637 A	11/1997	Floyd	2003/0097177 A1	5/2003	Tran
5,722,952 A	3/1998	Schachar	2003/0109926 A1	6/2003	Portney
5,752,960 A	5/1998	Nallakrishnan	2003/0149480 A1	8/2003	Shaddock
D395,512 S *	6/1998	Korenfeld D24/157	2004/0073304 A1	4/2004	Weinschenk, III et al.
5,766,244 A	6/1998	Binder	2004/0148022 A1	7/2004	Eggleston
5,843,188 A	12/1998	McDonald	2004/0169816 A1	9/2004	Esch
5,871,455 A	2/1999	Ueno	2004/0181279 A1	9/2004	Nun
5,895,610 A	4/1999	Chang	2005/0090896 A1	4/2005	Ben Nun
5,919,230 A	7/1999	Sambursky	2005/0177229 A1	8/2005	Boxer Wachler
5,968,094 A	10/1999	Werblin et al.	2006/0069431 A1	3/2006	Graney et al.
5,984,962 A	11/1999	Anello	2006/0069433 A1	3/2006	Nun
6,007,579 A	12/1999	Lipshitz et al.	2006/0074487 A1	4/2006	Gilg
6,027,531 A	2/2000	Tassignon	2007/0027538 A1	2/2007	Aharoni et al.
			2007/0027541 A1	2/2007	Aharoni et al.
			2007/0088433 A1	4/2007	Esch et al.
			2007/0093891 A1	4/2007	Taberbero
			2007/0123981 A1	5/2007	Tassignon

(56)

References Cited

U.S. PATENT DOCUMENTS

2007/0129799 A1 6/2007 Schedler
 2007/0129801 A1 6/2007 Cumming
 2007/0129803 A1 6/2007 Cumming
 2007/0185574 A1 8/2007 Ben Nun
 2007/0244561 A1 10/2007 Ben Nun
 2008/0004699 A1 1/2008 Ben Nun
 2008/0188930 A1 8/2008 Mentak et al.
 2008/0300680 A1 12/2008 Joshua
 2009/0198247 A1 8/2009 Ben Nun
 2009/0264998 A1 10/2009 Mentak et al.
 2010/0121444 A1 5/2010 Ben Nun

FOREIGN PATENT DOCUMENTS

EP 1 321 112 A 6/2003
 FR 2 794 965 6/1999
 JP 2005007029 1/2005
 TW 523408 3/2003
 WO WO 83/00998 3/1983
 WO WO 94/28825 12/1994
 WO WO 95/20367 8/1995
 WO WO 98/05273 2/1998
 WO WO 98/10717 3/1998

WO WO 99/62434 12/1999
 WO WO 00/30566 6/2000
 WO WO 00/61036 10/2000
 WO WO 00/66037 11/2000
 WO WO 01/08606 2/2001
 WO WO 01/60286 8/2001
 WO WO 02/065951 8/2002
 WO WO 03/000154 1/2003
 WO WO 03/015669 2/2003
 WO WO 2005/104994 11/2005
 WO WO 2006/040759 4/2006
 WO WO 2006/103674 10/2006
 WO WO 2007/048615 5/2007
 WO WO 2008/023379 2/2008
 WO WO 2008/083283 A2 7/2008
 WO WO 2008/097915 8/2008
 WO WO 2008/107882 9/2008
 WO WO 2009/122409 10/2009
 WO WO 2010/010565 1/2010
 WO WO 2012/023133 2/2012

OTHER PUBLICATIONS

Notification of Transmittal of the International Preliminary Report on Patentability for PCT/IL2009/000728 filed Jul. 26, 2009 (having a priority date of Jul. 24, 2008).

* cited by examiner

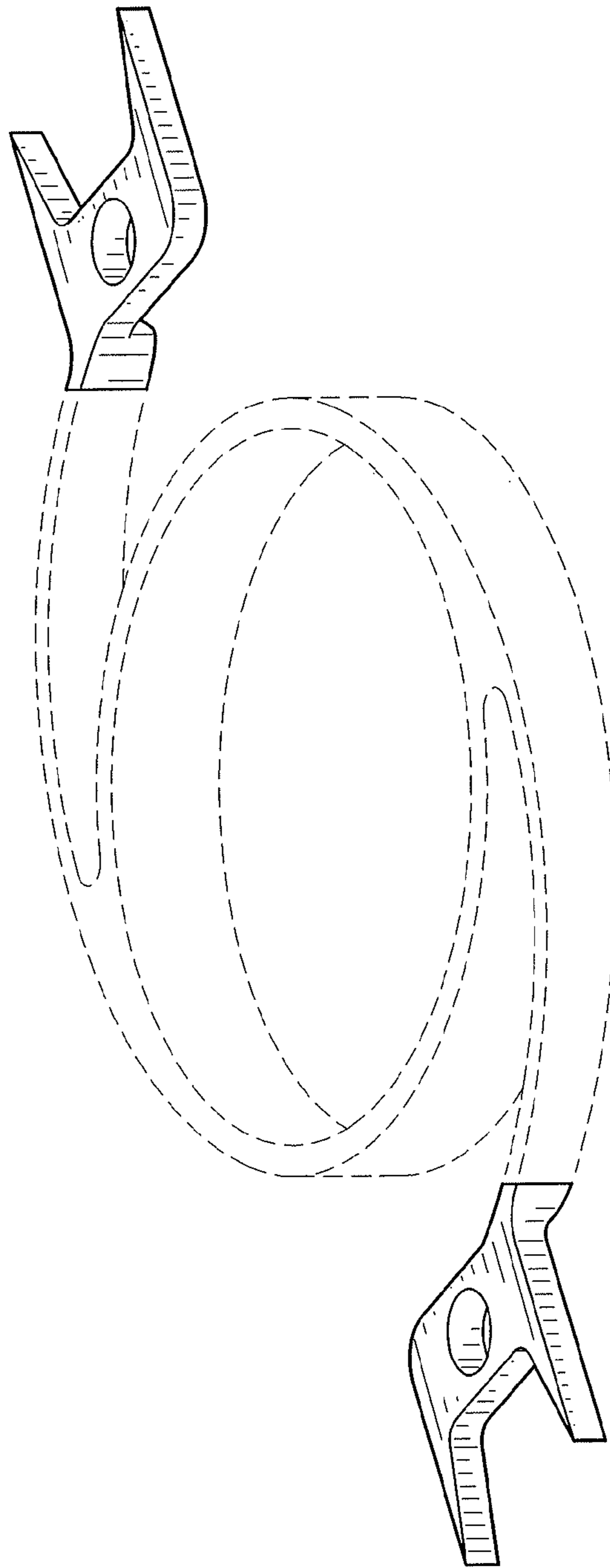


FIG. 1

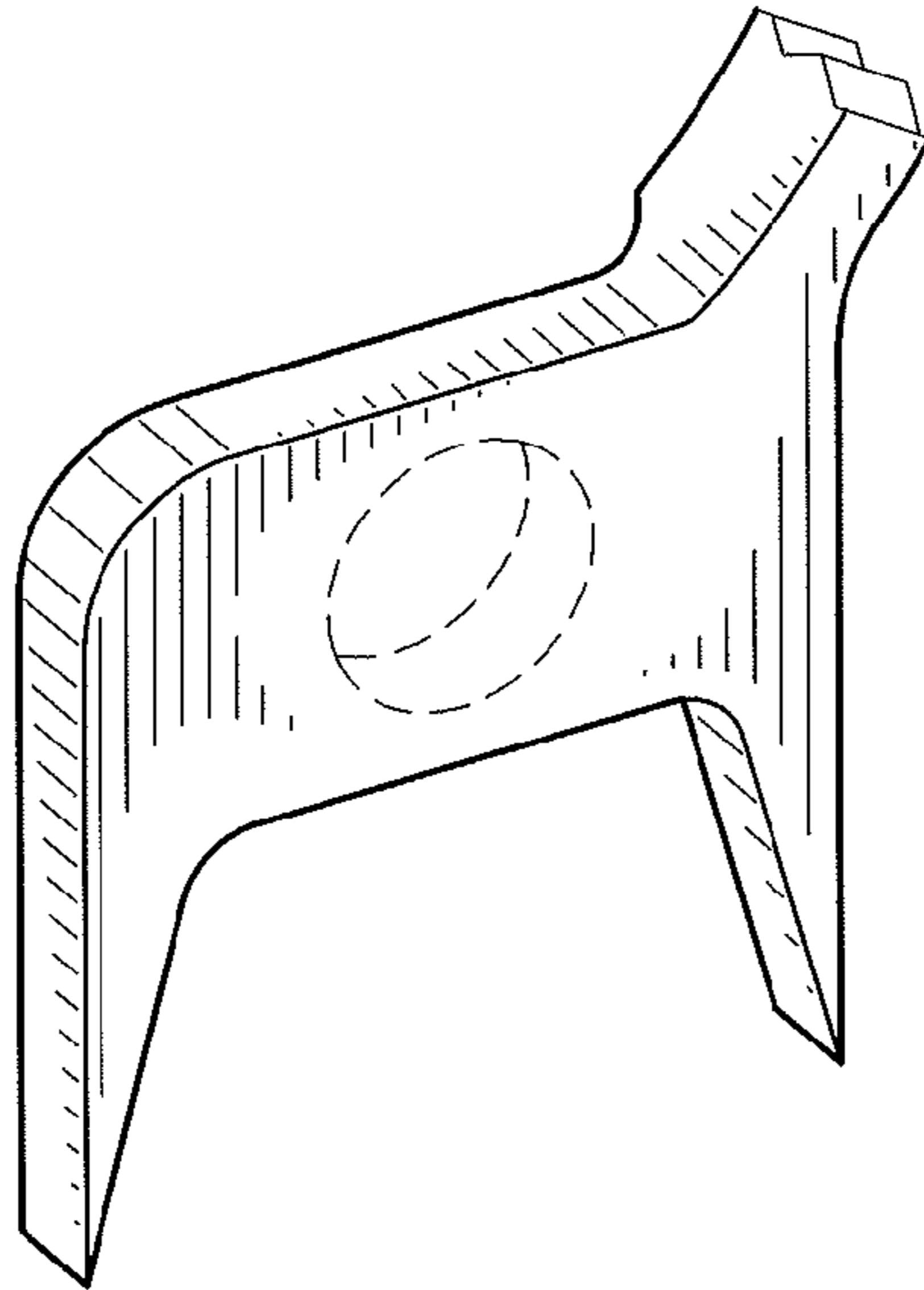


FIG. 2

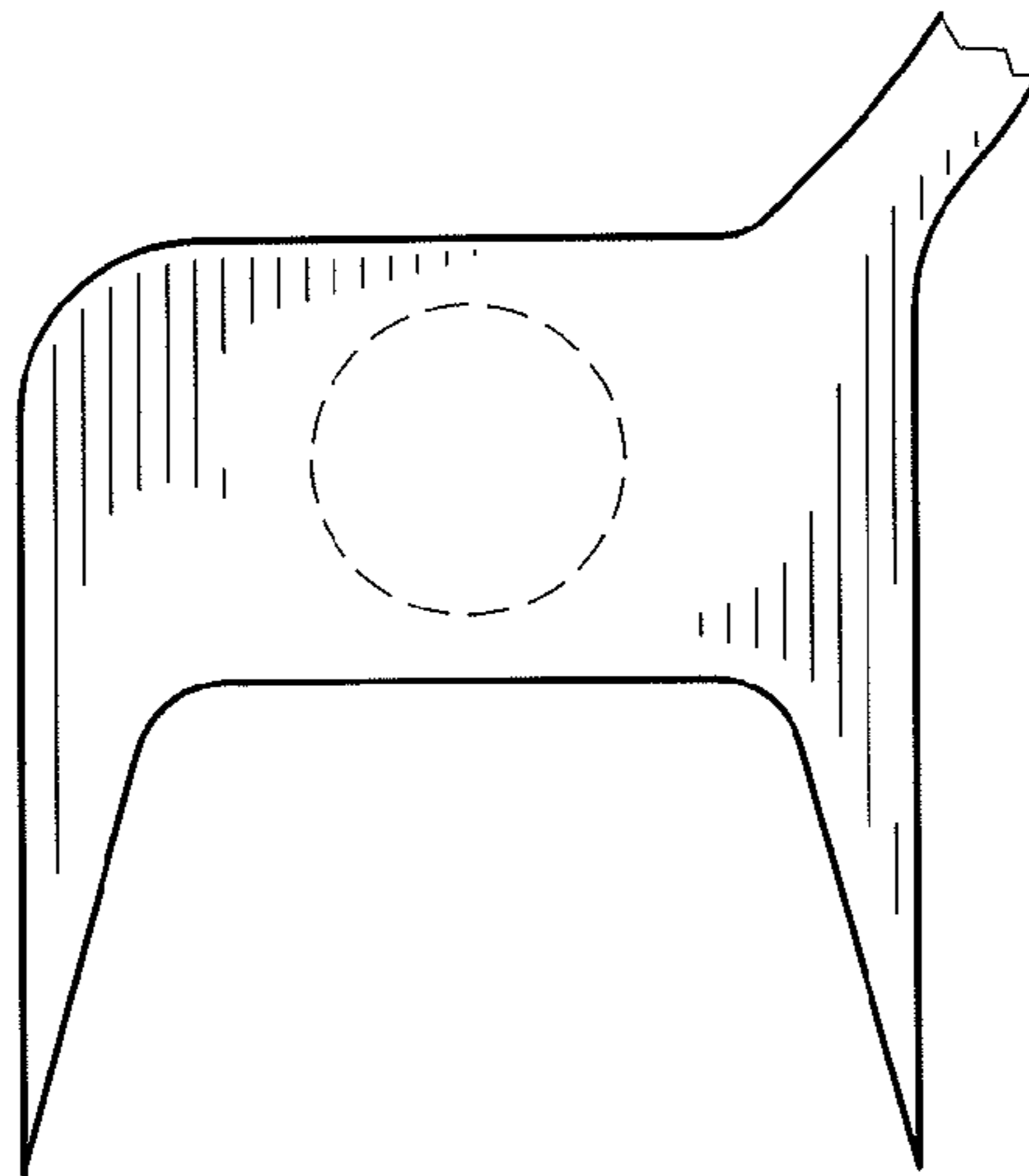


FIG. 3

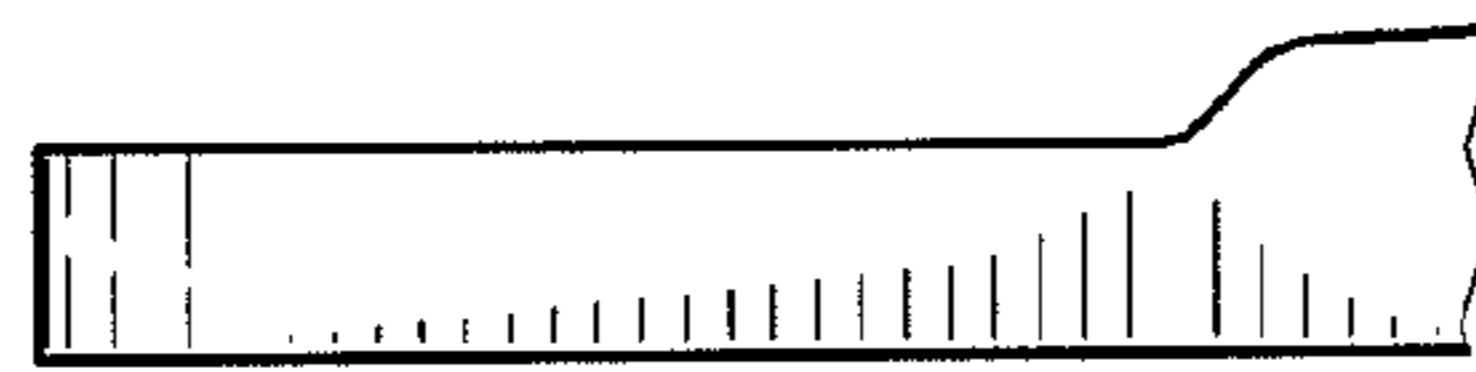


FIG. 4

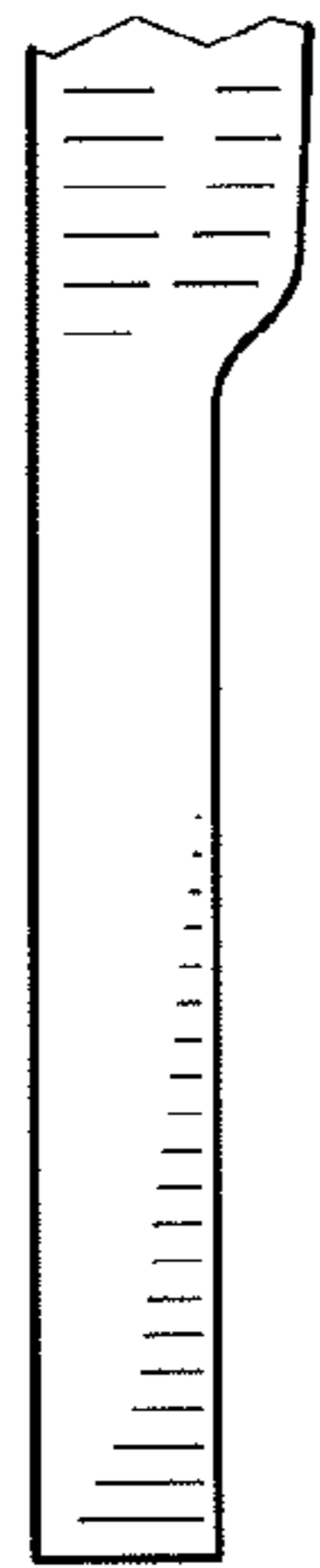


FIG. 5

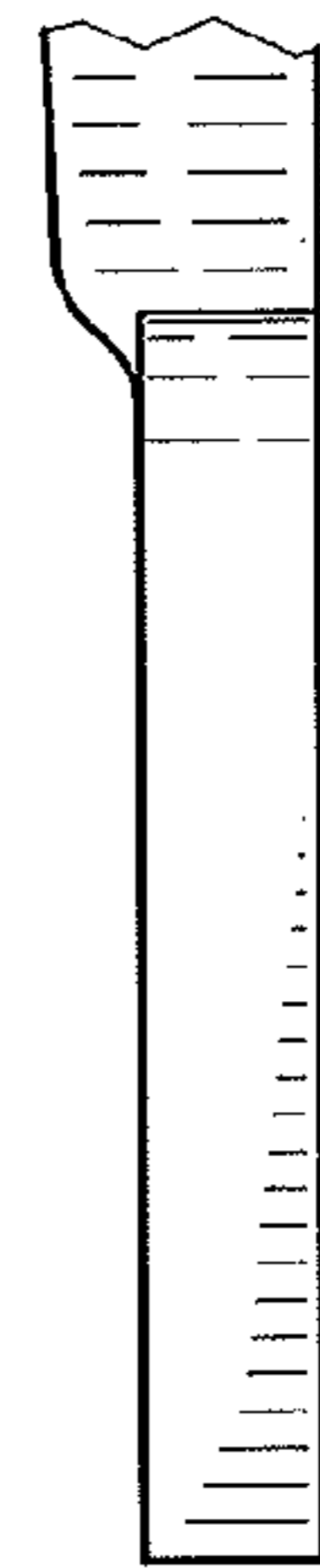


FIG. 6

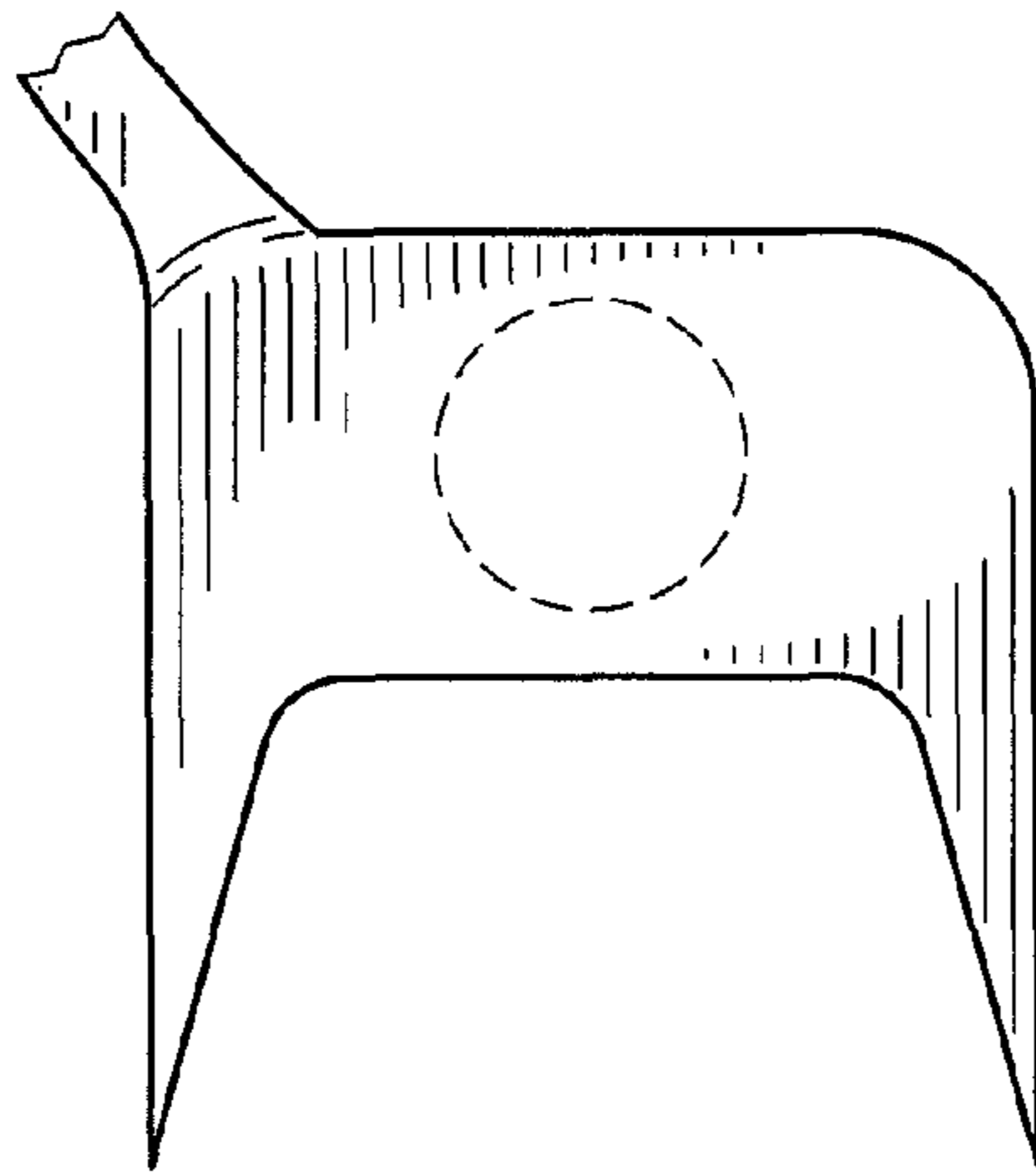


FIG. 7

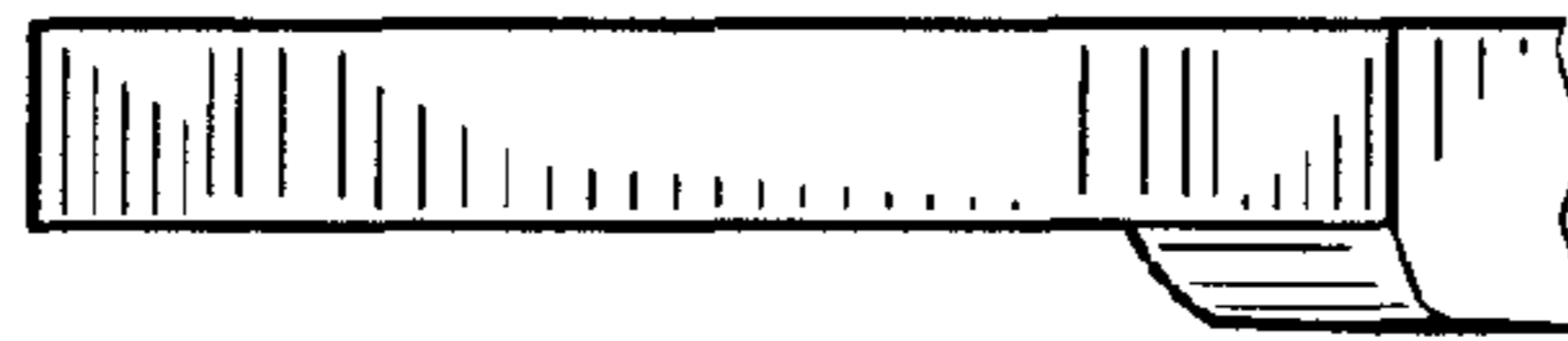


FIG. 8

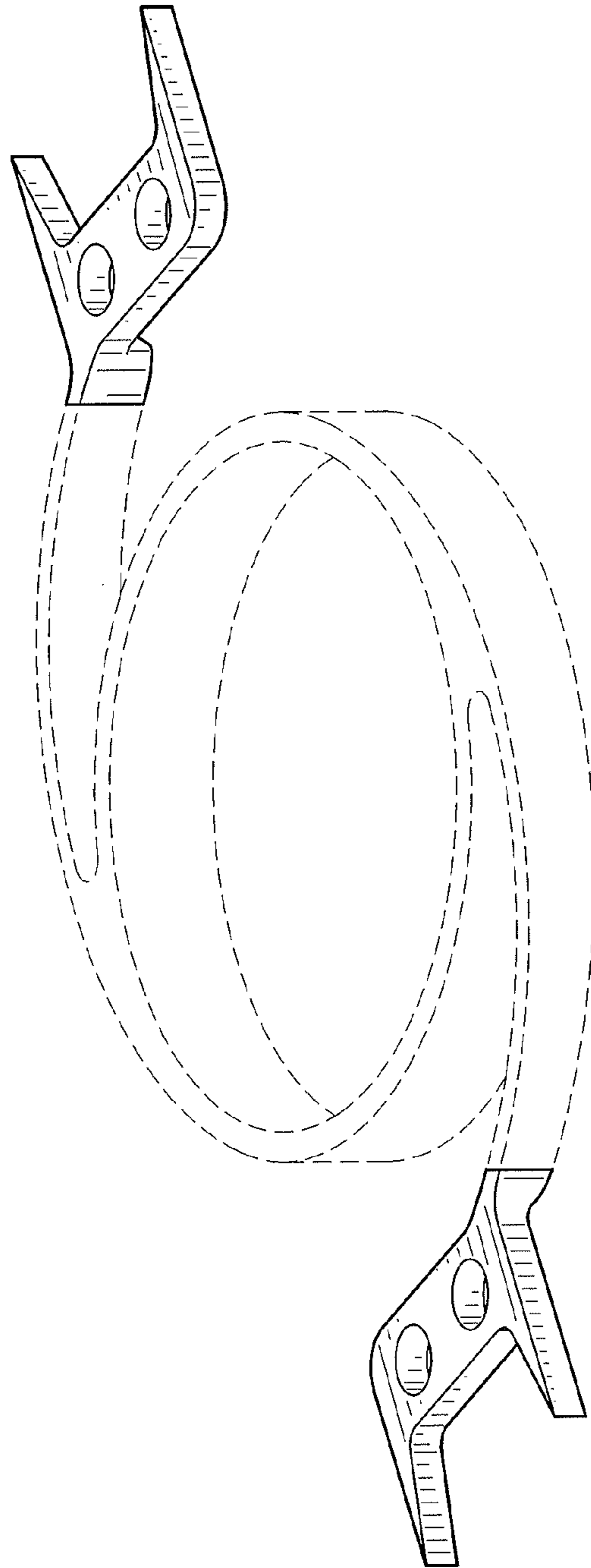


FIG. 9

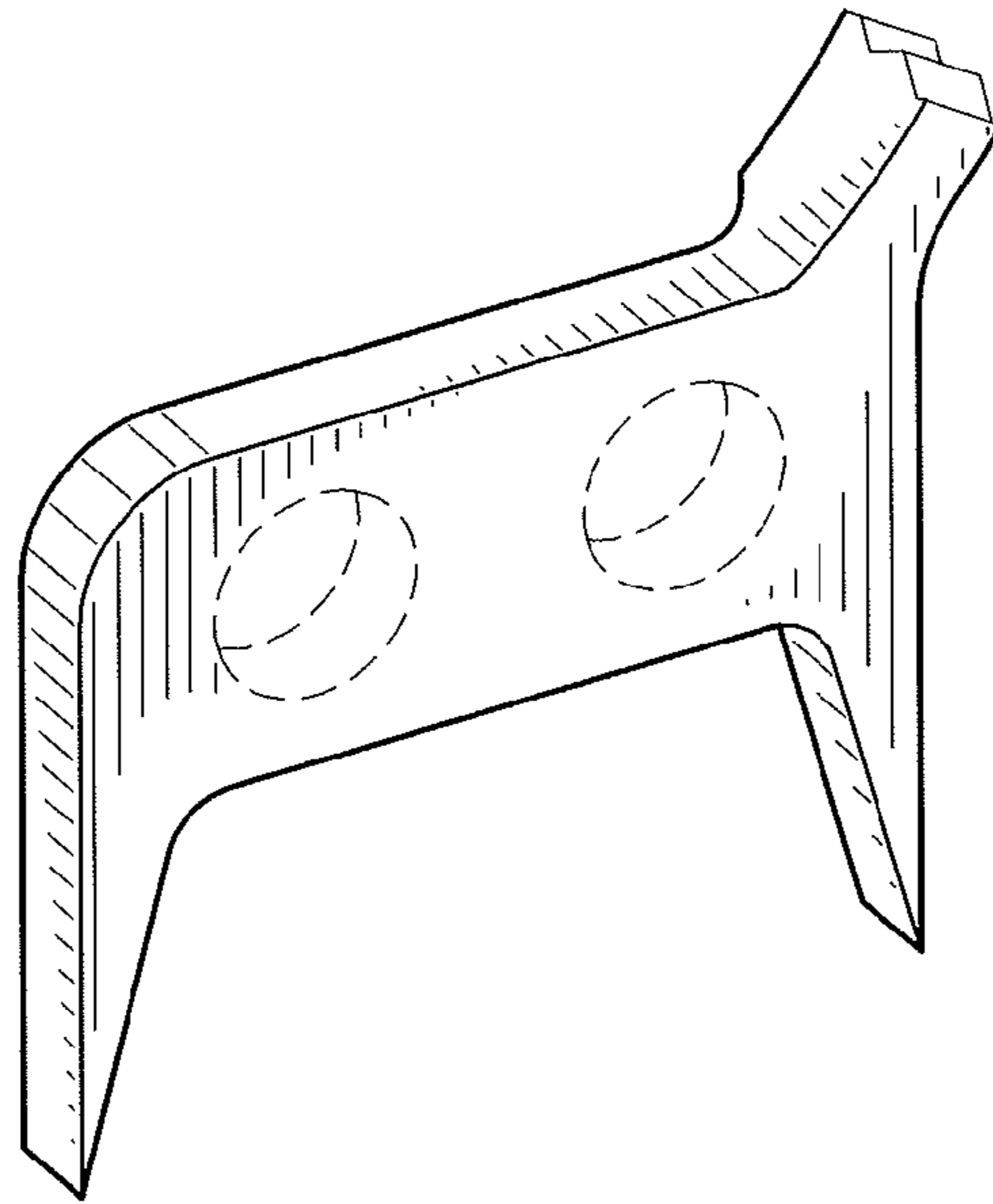


FIG. 10

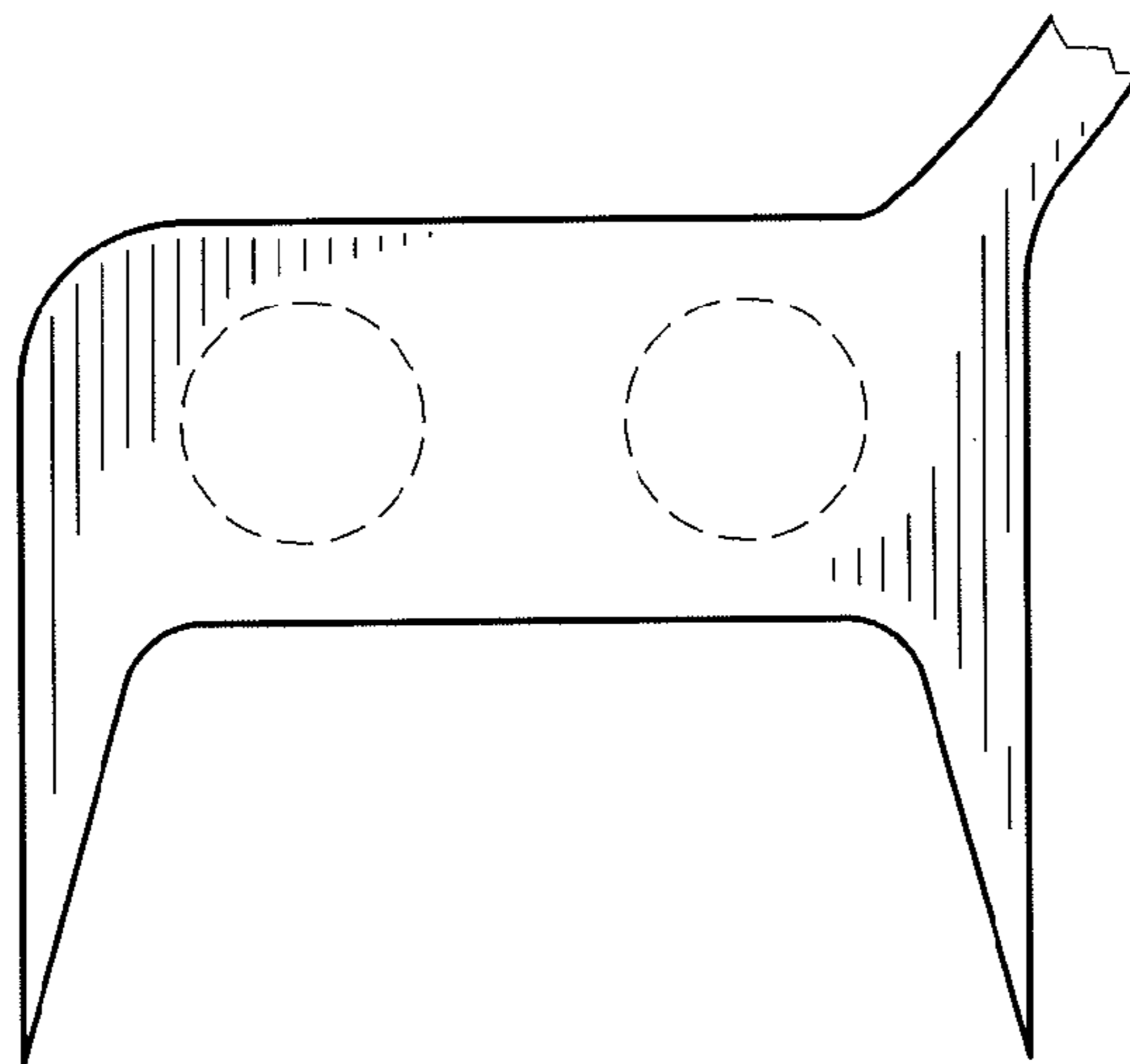


FIG. 11

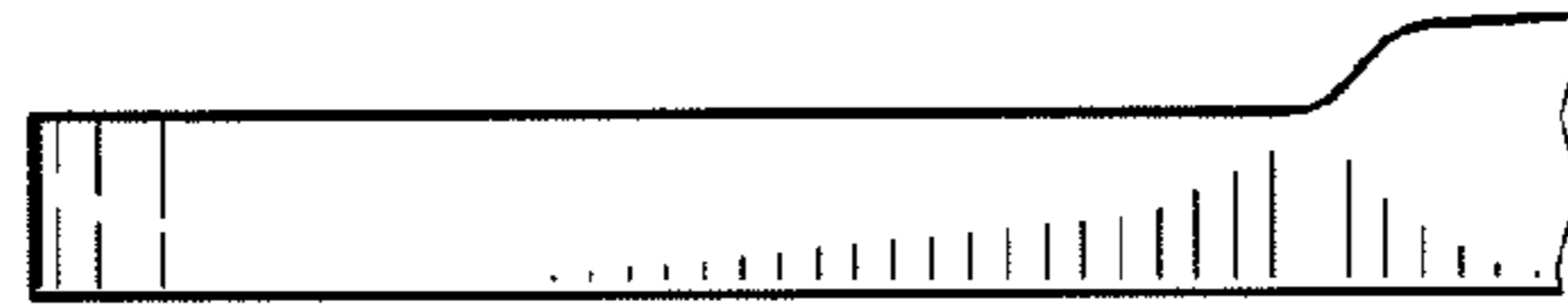


FIG.12

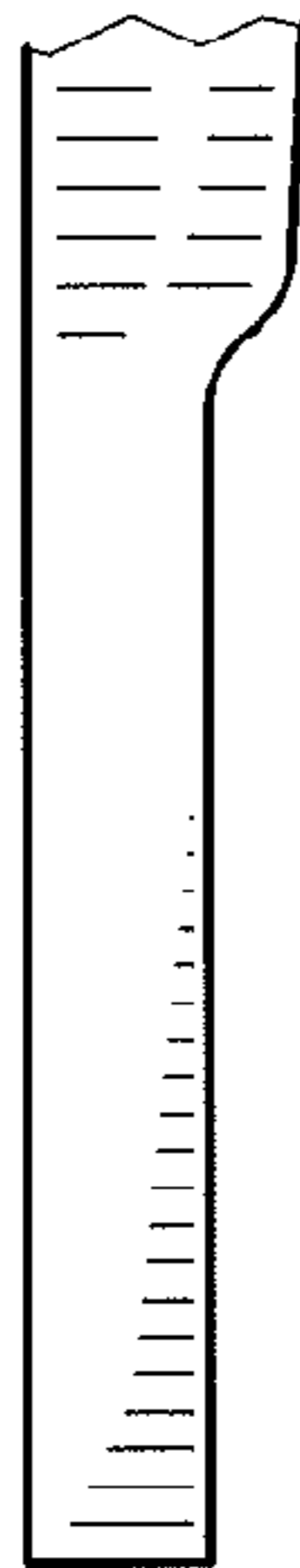


FIG.13

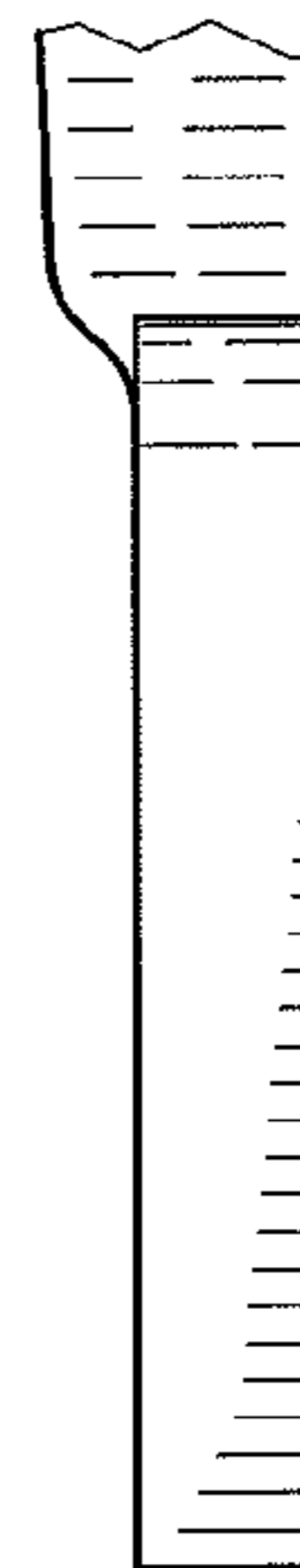


FIG.14

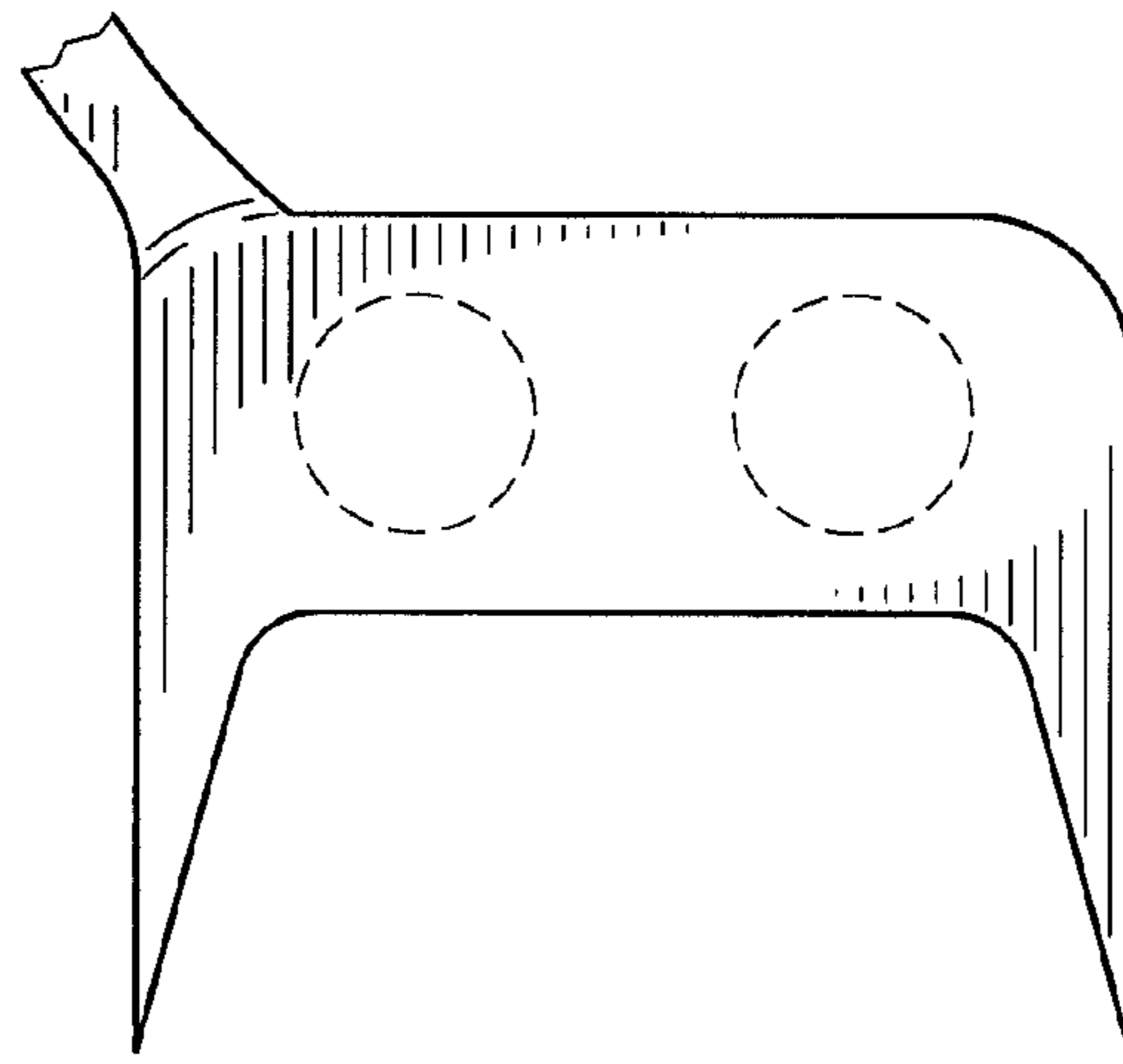


FIG.15

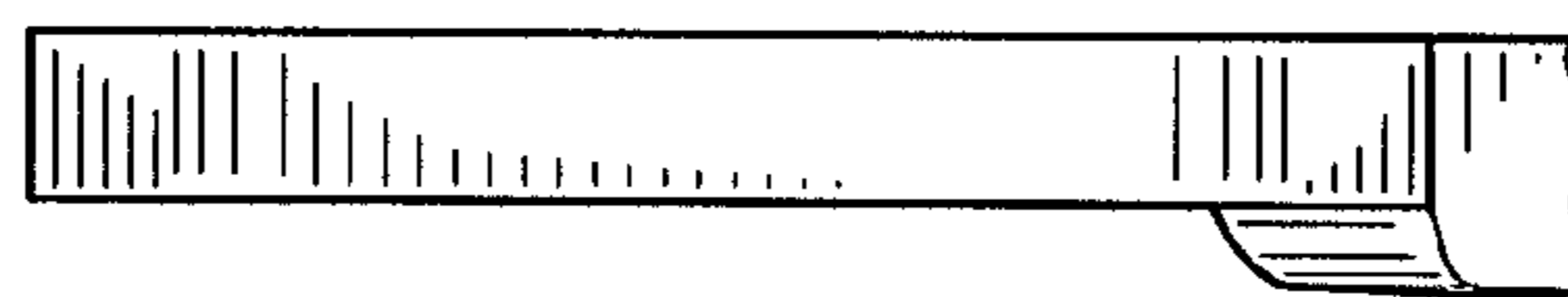


FIG.16