



US00D759248S

(12) **United States Design Patent**
Oi

(10) **Patent No.:** **US D759,248 S**
(45) **Date of Patent:** **** Jun. 14, 2016**

(54) **INTERVERTEBRAL IMPLANT**
(71) Applicant: **NuVasive, Inc.**, San Diego, CA (US)
(72) Inventor: **Nelson Oi**, San Diego, CA (US)

4,743,256 A 5/1988 Brantigan
4,781,591 A 11/1988 Allen
4,834,757 A 5/1989 Brantigan
4,877,020 A 10/1989 Vich

(Continued)

(73) Assignee: **NuVasive, Inc.**, San Diego, CA (US)

FOREIGN PATENT DOCUMENTS

(**) Term: **14 Years**

CA 2015507 1/1999
EP 369603 5/1990

(21) Appl. No.: **29/515,792**

(Continued)

(22) Filed: **Jan. 27, 2015**

OTHER PUBLICATIONS

Related U.S. Application Data

(63) Continuation of application No. 29/405,584, filed on Nov. 3, 2011, now Pat. No. Des. 721,808.

Alleyne, Cargill H. et al., "Current and future approaches to lumbar disc surgery: A literature review", *Medscape Orthopedics & Sports Medicine*, 1 [www.medscape.com/Medscape/OrthoSportsMed/1997/v01.n11/.../mos3057] 1997.

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

(Continued)

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

(58) **Field of Classification Search**
USPC D24/155, 133
CPC A61F 2/4611; A61F 2/442; A61F 2/447;
A61F 2220/0025; A61F 2310/00023; A61F
2310/00017; A61F 2002/4475; A61F
2002/30841; A61F 2002/2835; A61F
2002/30904; A61F 2002/30785; A61F
2002/443; A61F 2002/30578

Primary Examiner — Susan Bennett Hattan

Assistant Examiner — Charles Hanson

(74) *Attorney, Agent, or Firm* — Jennifer Russell

See application file for complete search history.

(57) **CLAIM**

The ornamental design for an intervertebral implant, substantially as shown and described.

DESCRIPTION

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,486,505 A 12/1969 Morrison
3,518,993 A 7/1970 Blake
3,604,487 A 9/1971 Gilbert
3,745,995 A 7/1973 Kraus
3,848,601 A 11/1974 Ma et al.
4,026,304 A 5/1977 Levy
4,026,305 A 5/1977 Brownlee et al.
4,646,738 A 3/1987 Trott
4,657,550 A 4/1987 Daher

FIG. 1 is a perspective view of an intervertebral implant showing my new design;

FIG. 2 is a first side view thereof;

FIG. 3 is a second side view thereof;

FIG. 4 is a first end view thereof;

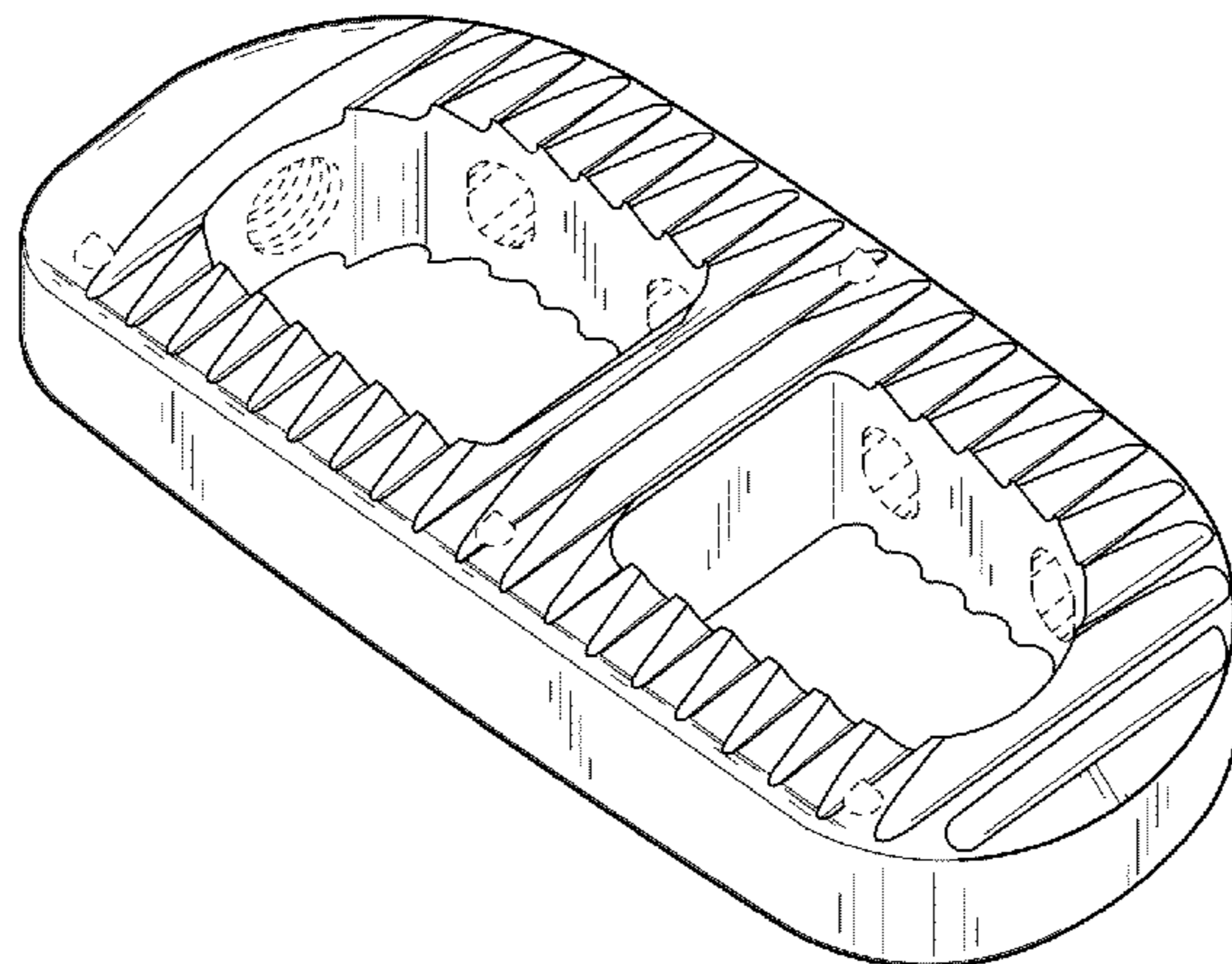
FIG. 5 is a second end view thereof;

FIG. 6 is a top view thereof; and,

FIG. 7 is a bottom view thereof.

The broken line showing is included for the purpose of illustrating environment and forms no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

4,878,915 A	11/1989	Brantigan	5,702,454 A	12/1997	Baumgartner
4,932,975 A	6/1990	Main et al.	5,702,455 A	12/1997	Saggar
4,961,740 A	10/1990	Ray et al.	5,703,451 A	12/1997	Yamamichi et al.
4,962,766 A	10/1990	Herzon	5,707,373 A	1/1998	Sevrain et al.
5,026,373 A	6/1991	Ray et al.	5,711,957 A	1/1998	Patat et al.
5,055,104 A	10/1991	Ray	5,716,415 A	2/1998	Steffee
5,062,845 A	11/1991	Kuslich et al.	5,720,748 A	2/1998	Kuslich et al.
5,092,572 A	3/1992	Litwak et al.	5,720,751 A	2/1998	Jackson
5,133,717 A	7/1992	Chopin	5,728,159 A	3/1998	Stroeve et al.
5,133,755 A	7/1992	Brekke	5,741,253 A	4/1998	Michelson
5,171,278 A	12/1992	Pisharodi	5,741,261 A	4/1998	Moskovitz et al.
5,192,327 A	3/1993	Brantigan	5,755,797 A	5/1998	Baumgartner
5,217,497 A	6/1993	Mehdian	5,766,252 A	6/1998	Henry et al.
5,269,785 A	12/1993	Bonutti	5,772,661 A	6/1998	Michelson
5,284,153 A	2/1994	Raymond et al.	5,775,331 A	7/1998	Raymond et al.
5,290,494 A	3/1994	Coombes et al.	5,779,642 A	7/1998	Nightengale
5,300,076 A	4/1994	Leriche	5,782,830 A	7/1998	Farris
5,304,210 A	4/1994	Crook	5,782,919 A	7/1998	Zdeblick et al.
5,306,307 A	4/1994	Senter et al.	5,785,710 A	7/1998	Michelson
5,306,309 A	4/1994	Wagner et al.	5,797,909 A	8/1998	Michelson
5,322,505 A	6/1994	Krause et al.	5,800,549 A	9/1998	Bao et al.
5,334,205 A	8/1994	Cain	5,800,550 A	9/1998	Sertich
5,336,223 A	8/1994	Rogers	5,814,084 A	9/1998	Grivas et al.
5,364,400 A	11/1994	Rego, Jr. et al.	5,851,208 A	12/1998	Trott
5,395,372 A	3/1995	Holt et al.	5,860,973 A	1/1999	Michelson
5,397,363 A	3/1995	Gelbard	5,865,845 A	2/1999	Thalgott
5,397,364 A	3/1995	Kozak et al.	5,865,848 A	2/1999	Baker
5,405,391 A	4/1995	Henderson et al.	5,885,299 A	3/1999	Winslow et al.
5,413,602 A	5/1995	Metz-Stavenhagen	5,888,219 A	3/1999	Bonutti
5,425,772 A	6/1995	Brantigan	5,888,224 A	3/1999	Beckers et al.
5,431,658 A	7/1995	Moskovich	5,893,890 A	4/1999	Pisharodi
5,443,514 A	8/1995	Steffee	5,904,719 A	5/1999	Errico et al.
5,443,515 A	8/1995	Cohen et al.	5,910,315 A	6/1999	Stevenson et al.
5,445,639 A	8/1995	Kuslich et al.	5,954,769 A	9/1999	Rosenlicht
5,454,811 A	10/1995	Huebner	5,968,098 A	10/1999	Winslow
5,458,638 A	10/1995	Kuslich et al.	5,993,474 A	11/1999	Ouchi
5,484,403 A	1/1996	Yoakum et al.	6,004,326 A	12/1999	Castro et al.
5,484,437 A	1/1996	Michelson	6,008,433 A	12/1999	Stone
5,489,308 A	2/1996	Kuslich et al.	6,015,436 A	1/2000	Schunhuffer
5,514,180 A	5/1996	Heggeness et al.	6,033,405 A	3/2000	Winslow et al.
5,522,879 A	6/1996	Scopelianos	6,039,761 A	3/2000	Li et al.
5,522,899 A	6/1996	Michelson	6,042,582 A	3/2000	Ray
5,524,624 A	6/1996	Tepper et al.	6,045,580 A	4/2000	Scarborough et al.
5,527,312 A	6/1996	Ray	6,048,342 A	4/2000	Zucherman et al.
5,534,030 A	7/1996	Navarro et al.	6,059,829 A	5/2000	Schlapfer et al.
5,540,688 A	7/1996	Navas	6,063,088 A	5/2000	Winslow
5,545,222 A	8/1996	Bonutti	6,083,225 A	7/2000	Winslow et al.
5,562,736 A	10/1996	Ray et al.	6,096,080 A	8/2000	Nicholson et al.
5,565,005 A	10/1996	Erickson et al.	6,102,948 A	8/2000	Brosnahan, III
5,571,190 A	11/1996	Ulrich	6,120,503 A	9/2000	Michelson
5,571,192 A	11/1996	Schonhoffer	6,120,506 A	9/2000	Kohrs et al.
5,593,409 A	1/1997	Michelson	6,132,472 A	10/2000	Bonutti
5,609,636 A	3/1997	Kohrs et al.	6,143,033 A	11/2000	Paul et al.
5,611,800 A	3/1997	Davis et al.	6,159,211 A	12/2000	Boriani et al.
5,611,810 A	3/1997	Arnold et al.	6,159,215 A	12/2000	Urbahns et al.
5,632,747 A	5/1997	Scarborough et al.	6,193,756 B1	2/2001	Studer et al.
5,645,598 A	7/1997	Brosnahan et al.	6,200,347 B1	3/2001	Anderson et al.
5,653,761 A	8/1997	Pisharodi	6,224,607 B1	5/2001	Michelson
5,653,762 A	8/1997	Pisharodi	6,224,631 B1	5/2001	Kohrs
5,658,336 A	8/1997	Pisharodi	6,241,769 B1	6/2001	Nicholson et al.
5,658,337 A	8/1997	Kohrs et al.	6,241,771 B1	6/2001	Gresser et al.
5,662,710 A	9/1997	Bonutti	6,251,140 B1	6/2001	Marino et al.
5,665,122 A	9/1997	Kambin	6,258,125 B1	7/2001	Paul et al.
5,669,909 A	9/1997	Zdeblick et al.	6,277,149 B1	8/2001	Boyle et al.
5,676,703 A	10/1997	Gelbard	6,319,257 B1	11/2001	Carignan et al.
5,683,394 A	11/1997	Rinner	6,371,989 B1	4/2002	Chauvin et al.
5,683,400 A	11/1997	McGuire	6,383,221 B1	5/2002	Scarborough et al.
5,683,464 A	11/1997	Wagner et al.	6,409,766 B1	6/2002	Brett
5,690,629 A	11/1997	Asher et al.	6,432,140 B1	8/2002	Lin
5,700,264 A	12/1997	Zucherman et al.	6,440,142 B1	8/2002	Ralph et al.
5,700,291 A	12/1997	Kuslich et al.	6,442,814 B1	9/2002	Landry et al.
5,700,292 A	12/1997	Margulies	6,447,547 B1	9/2002	Michelson
5,702,449 A	12/1997	McKay	6,454,806 B1	9/2002	Cohen et al.
5,702,451 A	12/1997	Biedermann et al.	6,468,311 B2	10/2002	Boyd et al.
5,702,453 A	12/1997	Rabbe et al.	6,491,724 B1	12/2002	Ferree
			6,527,773 B1	3/2003	Lin et al.
			D472,634 S	4/2003	Anderson
			D473,650 S	4/2003	Anderson
			6,547,823 B2	4/2003	Scarborough et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

6,595,998	B2	7/2003	Johnson et al.	
6,626,905	B1	9/2003	Schmiel et al.	
6,635,086	B2	10/2003	Lin	
6,648,895	B2	11/2003	Burkus et al.	
6,672,019	B1	1/2004	Wenz	
6,676,703	B2	1/2004	Biscup	
6,743,255	B2	6/2004	Ferree	
6,746,484	B1	6/2004	Liu et al.	
6,755,841	B2	6/2004	Fraser et al.	
6,824,564	B2	11/2004	Crozet	
D503,801	S	4/2005	Jackson	
6,942,698	B1	9/2005	Jackson	
6,964,687	B1	11/2005	Bernard et al.	
6,979,353	B2	12/2005	Bresina	
6,984,245	B2	1/2006	McGahan et al.	
6,986,788	B2	1/2006	Paul et al.	
6,989,031	B2	1/2006	Michelson	
D530,423	S	10/2006	Miles et al.	
D594,986	S *	6/2009	Miles et al.	D24/155
D599,019	S *	8/2009	Pimenta et al.	D24/155
D621,509	S *	8/2010	Lovell	D24/155
D625,820	S *	10/2010	Calverley et al.	D24/155
D629,104	S *	12/2010	Calverley et al.	D24/155
D671,645	S *	11/2012	Curran et al.	D24/155
D674,092	S *	1/2013	Lovell	D24/155
D675,320	S *	1/2013	Oi	D24/155
D696,402	S *	12/2013	Oi	D24/155
2002/0058950	A1	5/2002	Winterbottom et al.	
2003/0105528	A1	6/2003	Shimp et al.	
2003/0139812	A1	7/2003	Garcia et al.	

FOREIGN PATENT DOCUMENTS

EP	517030	5/1992
EP	667127	8/1995
EP	706876	4/1996
EP	716840	6/1996
EP	737448	10/1996
EP	796593	9/1997
EP	880938	2/1998
EP	809974	4/1998
EP	809975	4/1998
EP	811356	4/1998
WO	WO-91/06261	5/1991
WO	WO-94/04100	3/1994
WO	WO-94/10928	5/1994
WO	WO-95/01810	1/1995

WO	WO-96/08205	3/1996
WO	WO-96/17564	3/1996
WO	WO-96/41582	12/1996
WO	WO-97/20513	6/1997
WO	WO-97/33525	9/1997
WO	WO-97/37620	10/1997
WO	WO-98/09586	3/1998
WO	WO-98/14142	4/1998
WO	WO-98/17208	4/1998
WO	WO-98/25539	6/1998
WO	WO-99/08627	2/1999
WO	WO-99/38461	8/1999
WO	WO-00/45712	8/2000
WO	WO-00/45713	8/2000
WO	WO-01/41681	6/2001
WO	WO-01/49333	7/2001

OTHER PUBLICATIONS

Benini, et al., "Undercutting decompression and posterior fusion with translaminar facet screw fixation in degenerative lumbar spinal stenosis: Technique and results", *Neuro-Orthopedics*, 1995, 159-172.

Kambin, et al., "History and current status of percutaneous arthroscopic disc surgery", *Spine*, 21, 1996, 57S-61S.

Stein, et al., "Percutaneous facet joint fusion: Preliminary experience", *Journal of Vascular and Interventional Radiology*, 4, 1993, 69-74.

Vamvanij, et al., "Surgical treatment of internal disc disruption: An outcome study of four fusion techniques", *Journal of Spinal Disorders*, 4, 1998, 375-382.

Baulot et al. "Complementary anterior spondylodesis by thoracoscopy. Technical note regarding an observation," *Technical Designs and Experimental Research*, 90(5):347-351 (1994).

Berry et al. "A morphometric study of human lumbar and selected thoracic vertebrae, study of selected vertebrae" (1986).

Crock, H.V., "Anterior Lumbar Interbody Fusion" *Clinical Orthopaedics & Related Research* (1982).

Crock, H.V., "A short practice of spinal surgery," Published 1993 by Springer-Verlag/Wien, New York.

Edeland, H.G. "Some additional suggestions for a intervertebral disk prosthesis" *Journal of Biomedical Engineering* 57 (1985).

Kemp, H.B.S. "Anterior fusion of the spine for infective lesions in adults" *Journal of Bone & Joint Surgery* 715 (1973).

* cited by examiner

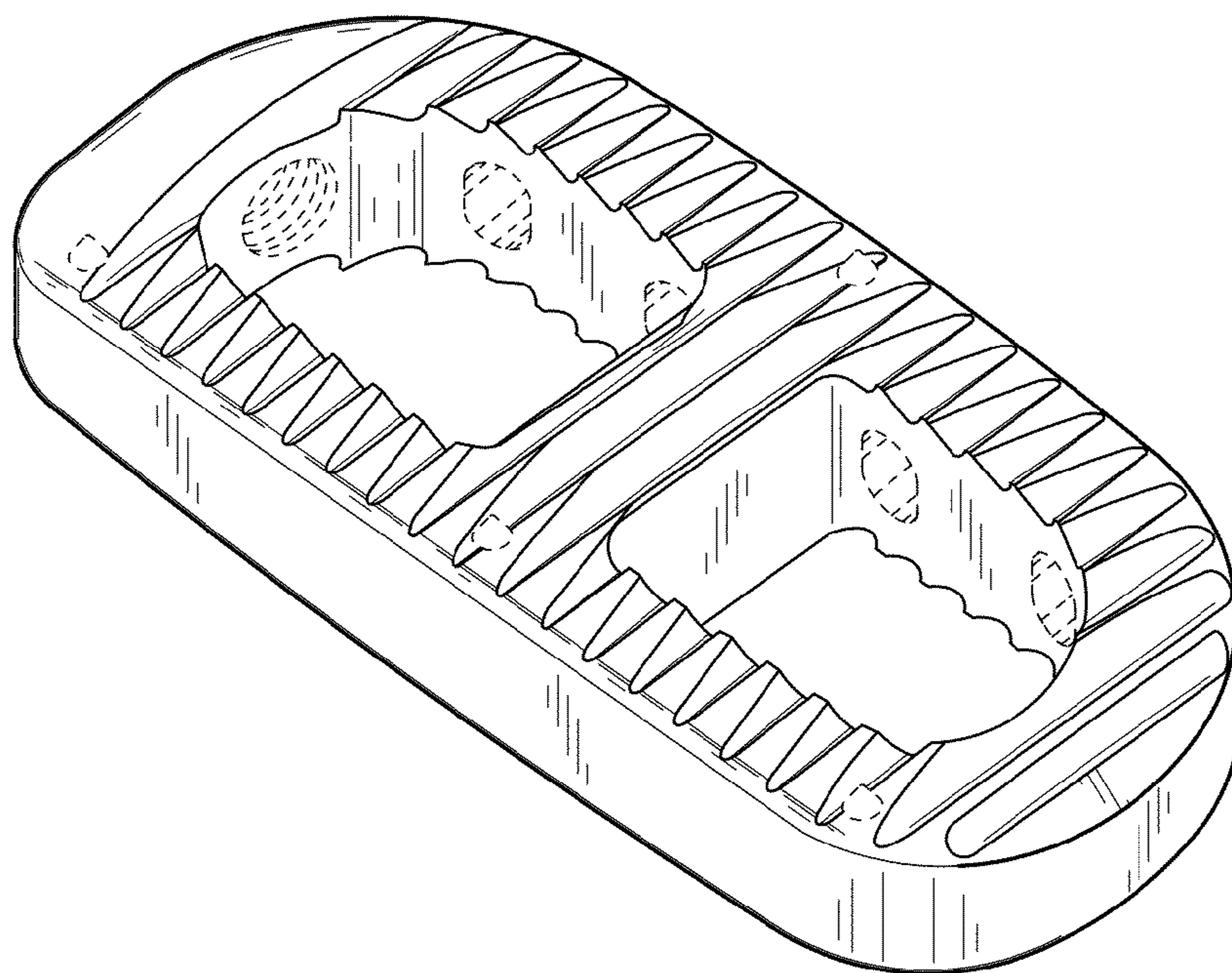


FIG. 1

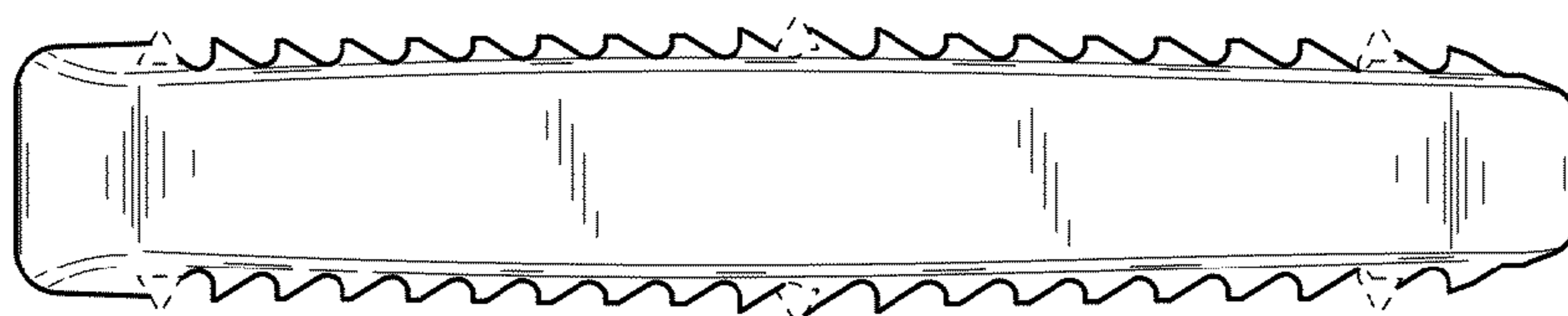


FIG. 2

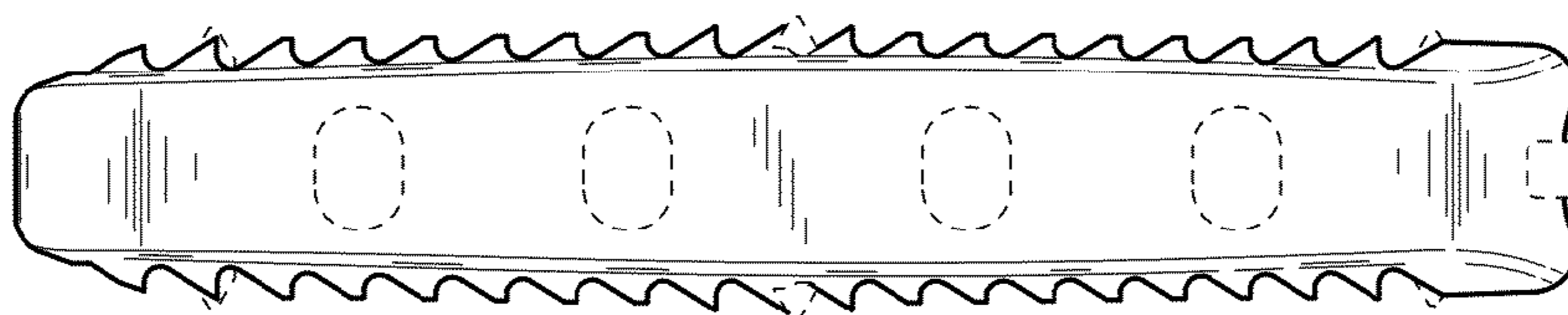


FIG. 3

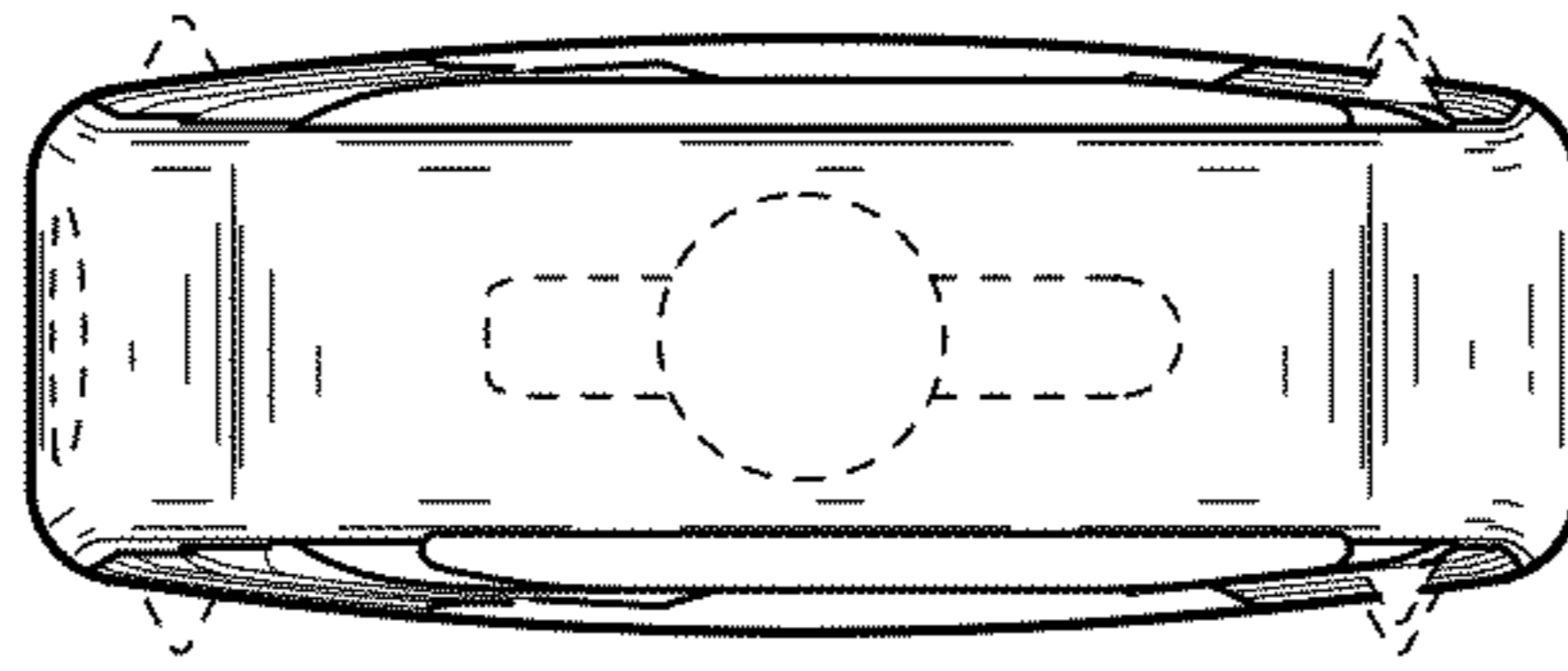


FIG. 4

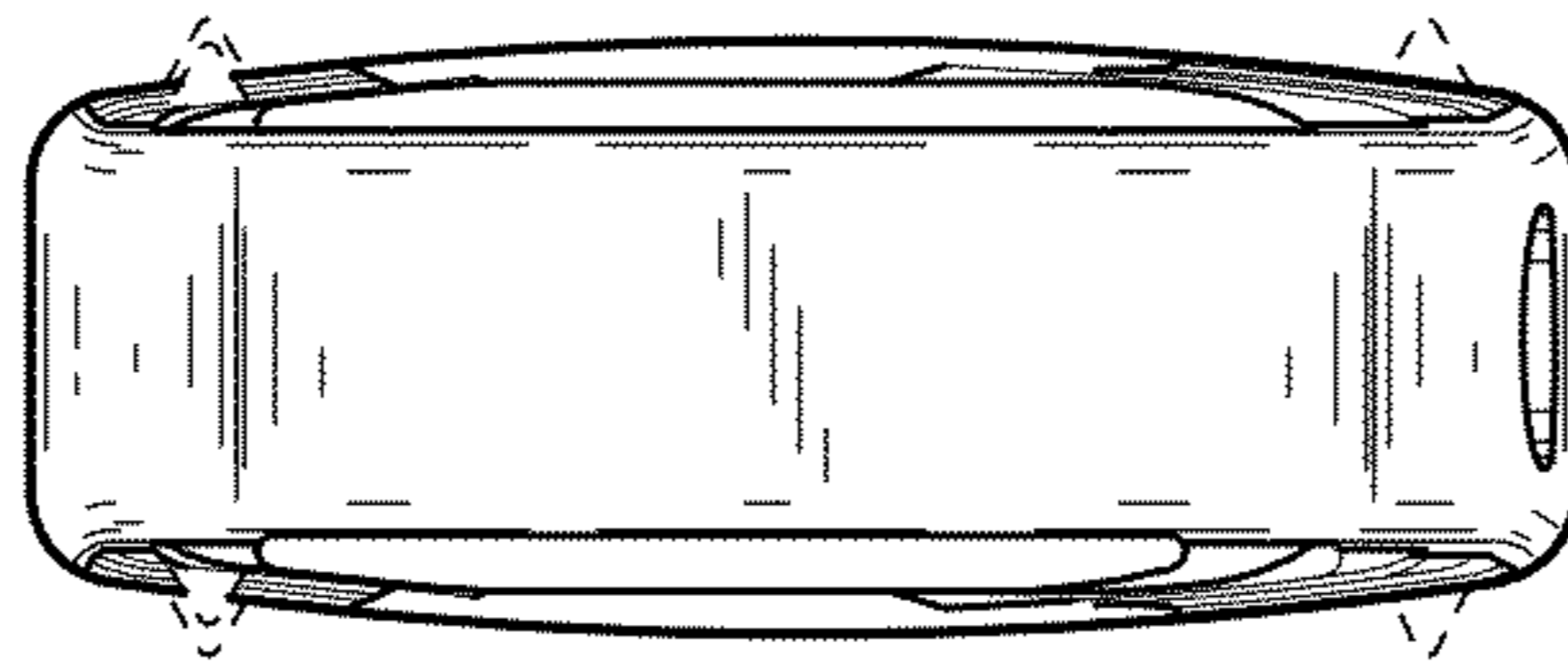


FIG. 5

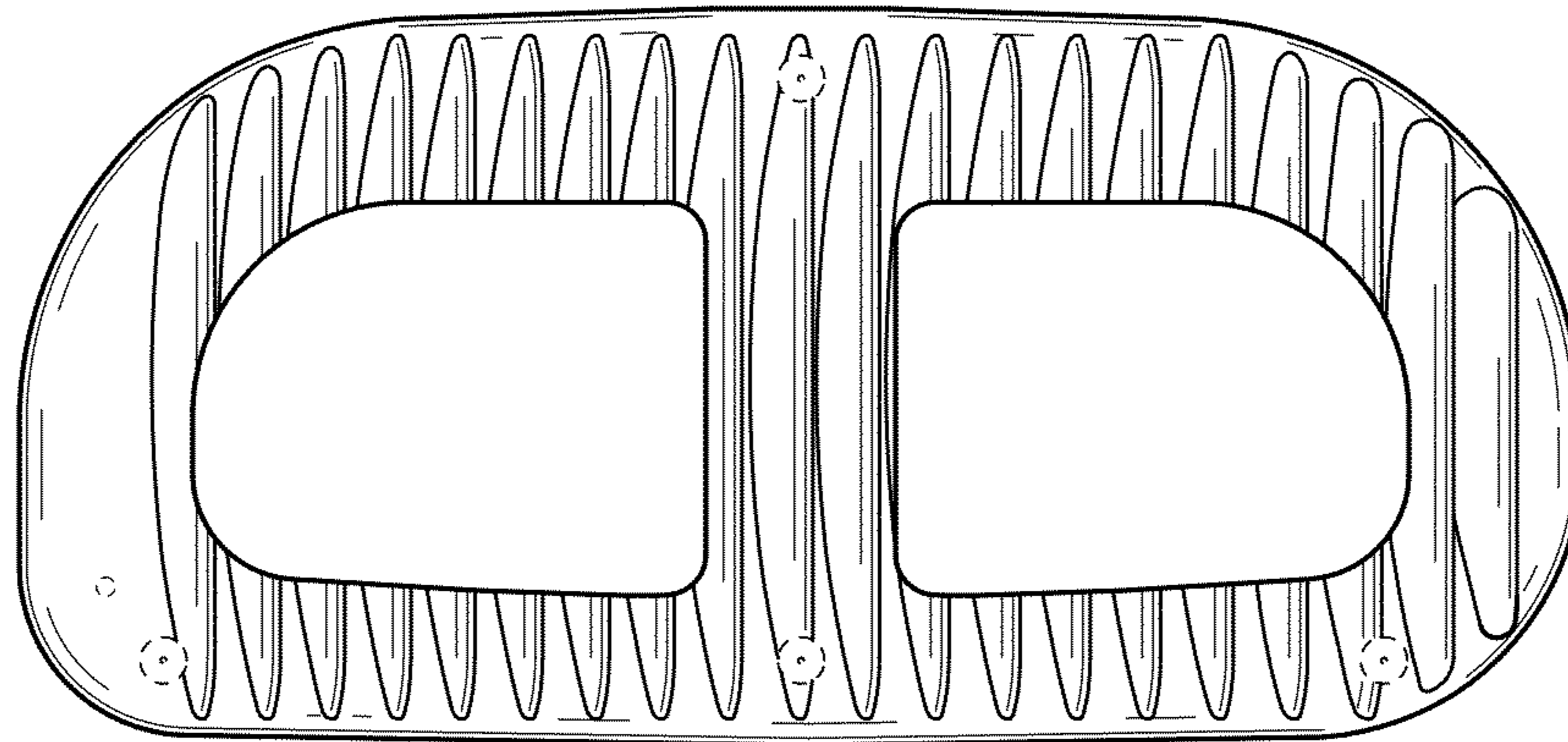


FIG. 6

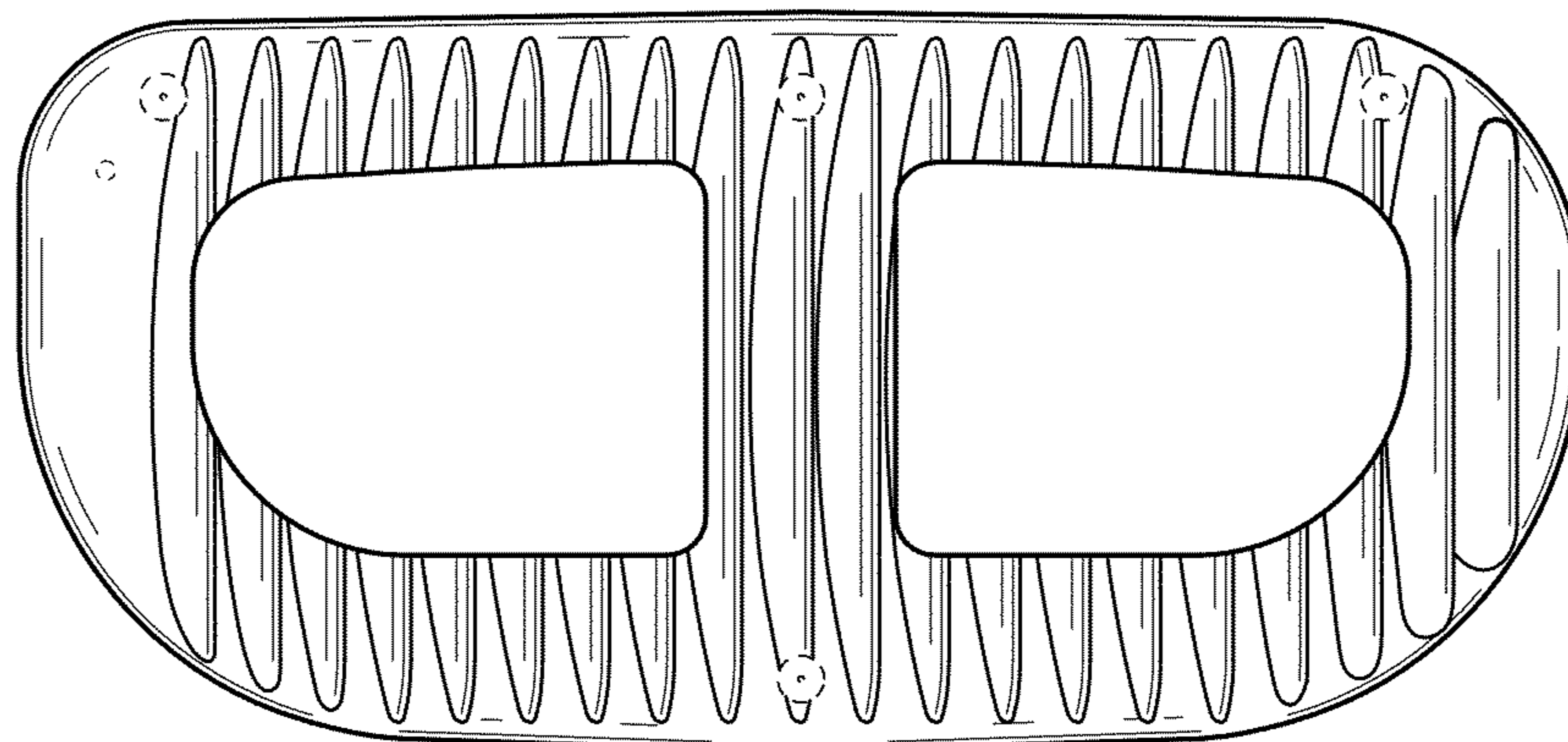


FIG. 7