



US00D630732S

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

(10) **Patent No.:** **US D630,732 S**  
(45) **Date of Patent:** **\*\* Jan. 11, 2011**

(54) **VIAL ADAPTER WITH FEMALE CONNECTOR**

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(73) Assignee: **Medimop Medical Projects Ltd.**, Ra'anana (IL)

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

(21) Appl. No.: **29/344,390**

(22) Filed: **Sep. 29, 2009**

(51) **LOC (9) Cl.** ..... **24-02**

(52) **U.S. Cl.** ..... **D24/129; D9/447; D9/452**

(58) **Field of Classification Search** ..... D9/724,  
D9/454, 453, 449, 448, 447, 435, 434, 418;  
D28/7; D24/129, 115; 604/414, 411, 403;  
422/103; 239/327; 222/522, 211, 209, 109;  
221/63; 220/254.1–254.4; 215/247; 206/824;  
141/329

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

62,333 A	2/1867	Holl
2,931,668 A	4/1960	Baley
2,968,497 A	1/1961	Treleman
3,059,643 A	10/1962	Barton
3,484,849 A	12/1969	Huebner et al.
3,618,637 A	11/1971	Santomieri
3,757,981 A	9/1973	Harris, Sr. et al.
3,826,261 A	7/1974	Killinger
3,885,607 A	5/1975	Peltier
3,957,052 A	5/1976	Topham
3,977,555 A	8/1976	Larson
3,993,063 A	11/1976	Larrabee
4,020,839 A	5/1977	Klapp
4,051,852 A	10/1977	Villari
4,210,173 A	7/1980	Choksi et al.
4,253,501 A	3/1981	Ogle
D267,199 S	12/1982	Koenig
D271,421 S	11/1983	Fetterman

4,434,823 A	3/1984	Hudspith
4,475,915 A	10/1984	Sloane
4,493,348 A	1/1985	Lemmons
D280,018 S	8/1985	Scott
4,532,969 A	8/1985	Kwaan
4,564,054 A	1/1986	Gustavsson
4,576,211 A	3/1986	Valentini et al.
4,588,396 A	5/1986	Stroebel et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

DE 4122476 A1 1/1993

(Continued)

**OTHER PUBLICATIONS**

Grifols Vial Adapter Product Literature, 2 pages, Jan. 2002.

(Continued)

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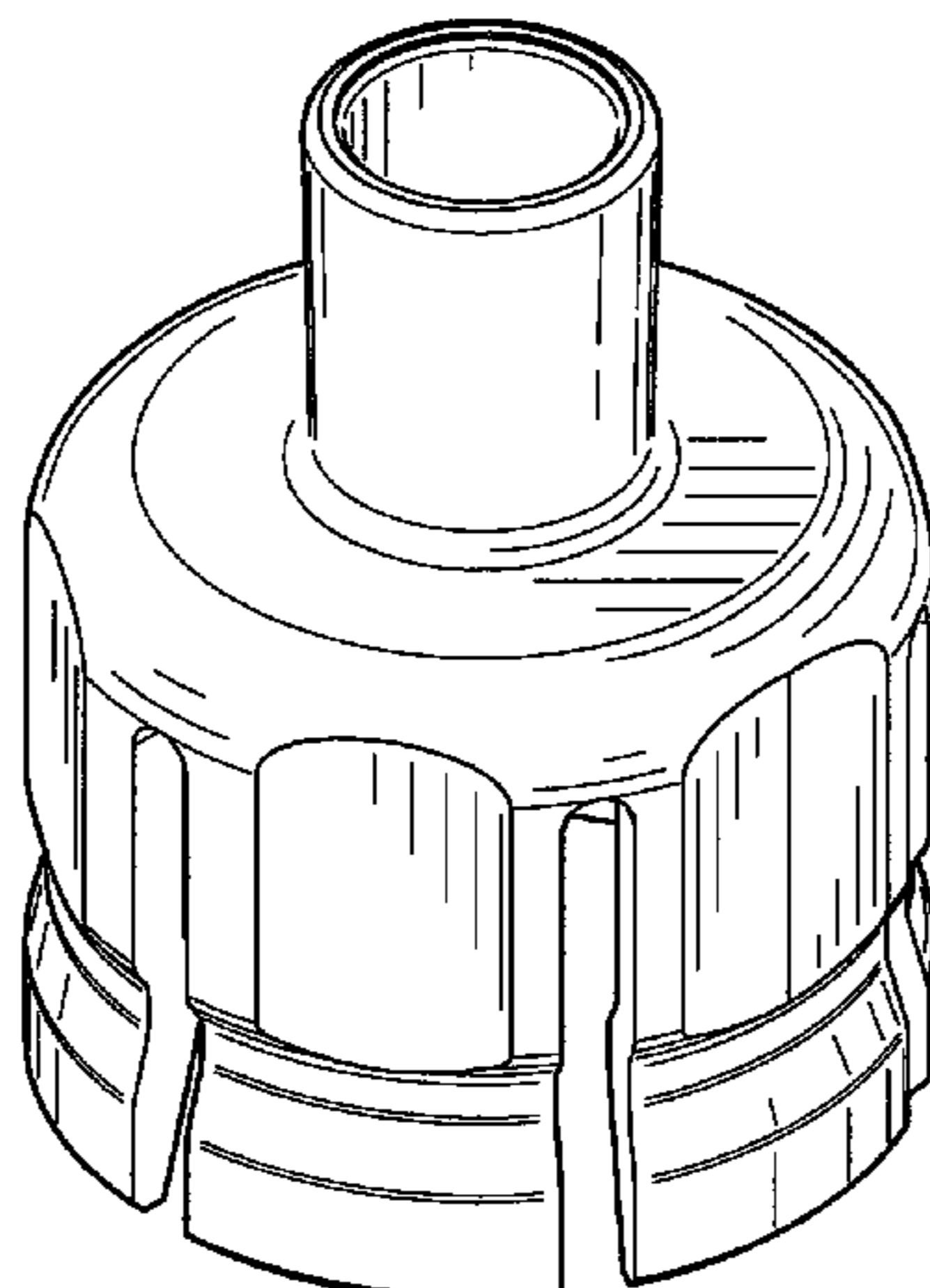
(57) **CLAIM**

The ornamental design for a vial adapter with female connector, as shown and described.

**DESCRIPTION**

FIG. 1 is a top perspective view of a vial adapter with female connector in accordance with our new design;  
FIG. 2 is a bottom perspective view thereof;  
FIG. 3 is a right elevation view thereof;  
FIG. 4 is a top plan view thereof;  
FIG. 5 is a front elevation view thereof;  
FIG. 6 is a rear elevation view thereof;  
FIG. 7 is a left elevation view thereof; and,  
FIG. 8 is a bottom plan view thereof.

**1 Claim, 4 Drawing Sheets**



# US D630,732 S

U.S. PATENT DOCUMENTS					
4,588,403	A	5/1986 Weiss et al.	5,887,633	A	3/1999 Yale et al.
4,604,093	A	8/1986 Brown et al.	5,893,397	A	4/1999 Peterson et al.
4,607,671	A	8/1986 Aalto et al.	5,919,182	A	7/1999 Avallone
4,614,437	A	9/1986 Buehler	5,971,965	A	10/1999 Mayer
4,638,975	A	1/1987 Iuchi et al.	5,989,237	A	11/1999 Fowles et al.
4,639,019	A	1/1987 Mittleman	6,003,566	A	12/1999 Thibault et al.
4,676,530	A	6/1987 Nordgren et al.	6,063,068	A	5/2000 Fowles et al.
4,697,622	A	10/1987 Swift et al.	D427,308	S	6/2000 Zinger
4,721,133	A	1/1988 Sundblom	6,080,132	A	6/2000 Cole et al.
4,743,229	A	5/1988 Chu	6,113,583	A	9/2000 Fowles et al.
4,758,235	A	7/1988 Tu	6,139,534	A	10/2000 Niedo spial, Jr. et al.
4,759,756	A	7/1988 Forman et al.	6,142,446	A	11/2000 Leinsing
4,778,447	A	10/1988 Velde et al.	6,156,025	A	12/2000 Niedo spial et al.
4,787,898	A	11/1988 Raines	6,159,192	A	12/2000 Fowles et al.
4,834,152	A	5/1989 Howson et al.	6,221,041	B1	4/2001 Russo
4,865,592	A	9/1989 Rycroft	6,238,372	B1	5/2001 Zinger et al.
4,909,290	A	3/1990 Coccia	6,245,044	B1	6/2001 Daw et al.
4,967,797	A	11/1990 Manska	D445,501	S	7/2001 Niedo spial, Jr.
4,997,430	A	3/1991 Van der Heiden et al.	6,280,430	B1	8/2001 Neftel et al.
5,049,129	A	9/1991 Zdeb et al.	D453,472	S *	2/2002 Kwong ..... D9/447
5,088,996	A	2/1992 Kopfer et al.	6,343,629	B1	2/2002 Wessman et al.
5,096,575	A	3/1992 Cosack	6,358,236	B1	3/2002 DeFoggi et al.
5,104,387	A	4/1992 Polorney et al.	6,379,340	B1	4/2002 Zinger et al.
5,113,904	A	5/1992 Askanian	6,408,897	B1	6/2002 Laurent et al.
5,125,908	A	6/1992 Cohen	6,474,375	B2	11/2002 Spero et al.
5,201,705	A	4/1993 Berglund et al.	6,478,788	B1	11/2002 Aneas
5,201,717	A	4/1993 Wyatt et al.	6,503,240	B1	1/2003 Niedo spial, Jr. et al.
5,203,771	A	4/1993 Melker et al.	6,524,278	B1	2/2003 Campbell et al.
5,211,638	A	5/1993 Dudar et al.	D472,316	S	3/2003 Douglas et al.
5,247,972	A	9/1993 Tetreault	D472,630	S	4/2003 Douglas et al.
5,269,768	A	12/1993 Cheung	6,544,246	B1	4/2003 Niedo spial, Jr.
5,270,219	A	12/1993 DeCastro et al.	6,551,299	B2	4/2003 Miyoshi et al.
5,279,576	A	1/1994 Loo et al.	6,558,365	B2	5/2003 Zinger et al.
5,288,290	A	2/1994 Brody	6,666,852	B2	12/2003 Niedo spial, Jr.
5,334,163	A	8/1994 Sinnett	6,681,946	B1	1/2004 Jansen et al.
5,342,346	A	8/1994 Honda et al.	6,699,229	B2	3/2004 Zinger et al.
5,344,417	A	9/1994 Wadsworth, Jr.	6,715,520	B2	4/2004 Andreasson et al.
5,350,372	A	9/1994 Ikeda et al.	D490,315	S *	5/2004 Kiser ..... D9/445
5,364,387	A	11/1994 Sweeney	6,729,370	B2	5/2004 Norton et al.
5,374,264	A	12/1994 Wadsworth, Jr.	6,745,998	B2	6/2004 Doyle
5,385,547	A	1/1995 Wong et al.	6,752,180	B2	6/2004 Delay
5,464,123	A	11/1995 Scarrow	D495,416	S	8/2004 Dimeo et al.
5,466,220	A	11/1995 Brenneman	6,832,994	B2	12/2004 Niedo spial, Jr. et al.
5,478,337	A	12/1995 Okamoto et al.	6,852,103	B2	2/2005 Fowles et al.
5,492,147	A	2/1996 Challenger et al.	6,875,203	B1	4/2005 Fowles et al.
5,505,714	A	4/1996 Dassa et al.	6,875,205	B2	4/2005 Leinsing
5,509,433	A	4/1996 Paradis	6,890,328	B2	5/2005 Fowles et al.
5,520,659	A	5/1996 Hedges	6,901,975	B2	6/2005 Aramata et al.
5,526,853	A	6/1996 McPhee	D508,202	S *	8/2005 Dobson et al. .... D9/447
5,531,695	A	7/1996 Swisher	D513,180	S *	12/2005 Lindsey et al. .... D9/447
5,566,729	A	10/1996 Grabenkort et al.	6,997,917	B2	2/2006 Niedo spial, Jr. et al.
5,573,281	A	11/1996 Keller	7,074,216	B2	7/2006 Fowles et al.
5,583,052	A	12/1996 Portnoff et al.	D561,348	S	2/2008 Zinger et al.
5,584,819	A	12/1996 Kopfer	7,326,194	B2	2/2008 Zinger et al.
5,616,203	A	4/1997 Stevens	7,350,764	B2	4/2008 Raybuck
5,636,660	A	6/1997 Pfeleiderer et al.	7,354,427	B2	4/2008 Fangrow
5,641,010	A	6/1997 Maier	7,425,209	B2	9/2008 Fowles et al.
5,647,845	A	7/1997 Haber et al.	7,435,246	B2	10/2008 Zihlmann
5,653,686	A	8/1997 Coulter et al.	7,452,348	B2	11/2008 Hasegawa
5,674,195	A	10/1997 Truthan	D582,767	S *	12/2008 Batton et al. .... D9/447
5,680,965	A *	10/1997 Beck ..... 222/153.06	7,491,197	B2	2/2009 Jansen et al.
5,738,144	A	4/1998 Rogers	D595,420	S	6/2009 Suzuki et al.
5,743,312	A	4/1998 Pfeifer et al.	D595,421	S	6/2009 Suzuki et al.
5,746,733	A	5/1998 Capaccio et al.	D595,862	S	7/2009 Suzuki et al.
5,755,696	A	5/1998 Caizza	D595,863	S	7/2009 Suzuki et al.
5,772,630	A	6/1998 Ljungquist	D596,487	S *	7/2009 Batton et al. .... D9/447
5,772,652	A	6/1998 Zielinski	D604,612	S *	11/2009 Germann ..... D9/453
5,820,621	A	10/1998 Yale et al.	7,611,502	B2	11/2009 Daly
5,827,262	A	10/1998 Neftel et al.	7,632,261	B2	12/2009 Zinger et al.
5,832,971	A	11/1998 Yale et al.	D616,984	S	6/2010 Gilboa
5,879,345	A	3/1999 Aneas	7,799,009	B2	9/2010 Niedo spial, Jr. et al.
			D624,820	S *	10/2010 Sato ..... D9/453
			2001/0029360	A1	10/2001 Miyoshi et al.

2001/0051793 A1 12/2001 Weston  
 2002/0087144 A1 7/2002 Zinger et al.  
 2002/0123736 A1 9/2002 Fowles et al.  
 2002/0127150 A1 9/2002 Sasso  
 2003/0153895 A1 8/2003 Leinsing  
 2003/0199846 A1 10/2003 Fowles et al.  
 2003/0199847 A1 10/2003 Akerlund et al.  
 2004/0044327 A1 3/2004 Hasegawa  
 2004/0073189 A1 4/2004 Wyatt et al.  
 2004/0217315 A1 11/2004 Doyle  
 2005/0148994 A1 7/2005 Leinsing  
 2006/0030832 A1 2/2006 Niedospial et al.  
 2006/0079834 A1 4/2006 Tennican et al.  
 2007/0060904 A1 3/2007 Vedrine et al.  
 2007/0083164 A1 4/2007 Barrelle et al.  
 2007/0088252 A1 4/2007 Pestotnik et al.  
 2007/0088313 A1 4/2007 Zinger et al.  
 2007/0167904 A1 7/2007 Zinger et al.  
 2007/0191764 A1 8/2007 Zihlmann  
 2007/0255202 A1 11/2007 Kitani et al.  
 2007/0270778 A9 11/2007 Zinger et al.  
 2008/0009789 A1 1/2008 Zinger et al.  
 2009/0012492 A1 1/2009 Zihlmann  
 2009/0054834 A1 2/2009 Zinger et al.  
 2009/0082750 A1 3/2009 Denenburg et al.

FOREIGN PATENT DOCUMENTS

DE 19504413 A1 8/1996  
 DE 202004012714 U1 11/2004  
 EP 0192661 B1 9/1986  
 EP 0258913 A2 3/1988  
 EP 0416454 A2 3/1991  
 EP 0195018 B1 6/1991  
 EP 0518397 A1 12/1992  
 EP 0521460 A1 1/1993  
 EP 0637443 A1 7/1994  
 EP 0637443 A1 2/1995  
 EP 0806597 A1 11/1997  
 EP 0814866 B1 1/1998  
 EP 0898951 A2 3/1999  
 EP 1051988 A2 11/2000  
 EP 1329210 A1 7/2003  
 EP 1454609 A1 9/2004  
 EP 1454650 A1 9/2004  
 EP 1498097 A2 1/2005  
 EP 1872824 A1 1/2008  
 JP 4329954 A 11/1992  
 JP 11503627 T 3/1999  
 WO 9507066 A1 3/1995  
 WO 0130425 A1 5/2001  
 WO 0191693 A2 12/2001  
 WO 200209797 A1 2/2002  
 WO 03051423 A2 6/2003  
 WO 2004041148 A1 5/2004  
 WO 2005105014 A1 11/2005  
 WO 9629113 A1 2/2007  
 WO 2007015233 A1 2/2007

WO 2009040804 A2 4/2009  
 WO 2009093249 A1 7/2009

OTHER PUBLICATIONS

Novel Transfer, Mixing and Drug Delivery Systems, MOP Medimop Medical Projects, Ltd. Catalog, 4 page, Rev. 4, 2004.  
 Smart Site® Alaris Medical Systems Product Brochure, 4 pages, Issue 1, Oct. 1999.  
 Smart Site® Needle-Free Systems, Alaris Medical Systems Webpage, 4 pages, Feb. 2006.  
 Photographs of Alaris Medical Systems SmartSite® device, 5 pages, 2002.  
 Non-Vented Vial Access Pin with Ultrasite® Valve, B. Braun Medical, Inc. website and product description, 3 pages, Feb. 2006.  
 Office Action Issued Oct. 6, 2003 in U.S. Appl. No. 10/062,796.  
 Office Action Issued Feb. 22, 2005 in U.S. Appl. No. 10/062,796.  
 Office Action Issued Oct. 5, 2005 in U.S. Appl. No. 10/062,796.  
 Office Action Issued Feb. 20, 2009 in U.S. Appl. No. 11/694,297.  
 Int'l Search Report Issued Dec. 6, 2006 in Int'l Application No. PCT/IL2006/000912.  
 Int'l Preliminary Report on Patentability Issued Dec. 4, 2007 in Int'l Application No. PCT/IL2006/000912.  
<http://www.westpharma.com/eu/en/products/Pages/Mixject.aspx>.  
<http://www.westpharma.com/eu/SiteCollectionDocuments/Recon/mixject%20product%20sheet.pfg>; Mixject product information sheet pp. 1.  
 Int'l Search Report Issued Jul. 27, 2007 in Int'l Application No. PCT/IL2007/000343.  
 Int'l Preliminary Report on Patentability Issued Jun. 19, 2008 in Int'l Application No. PCT/IL2007/000343.  
 Int'l Search Report Issued Mar. 27, 2009 in Int'l Application No. PCT/US2008/070024.  
 Int'l Search Report Issued Oct. 17, 2005 in Int'l Application No. PCT/IL2005/000376.  
 Int'l Preliminary Report on Patentability Issued Jun. 19, 2006 in Int'l Application No. PCT/IL2005/000376.  
 Written Opinion of IRS Issued in Int'l Application No. PCT/IL2005/000376.  
 Int'l Search Report Issued Aug. 25, 2008 in Int'l Application No. PCT/IL2008/000517.  
 Written Opinion of the ISR Issued in Int'l Application No. PCT/IL08/00517.  
 Int'l Preliminary Report on Patenability Issued Oct. 20, 2009 in Int'l Application No. PCT/IL2008/000517.  
 Written Opinion of the Int'l Searching Authority Issued Oct. 27, 2008 in Int'l Application No. PCT/US2008/070024.  
 Int'l Search Report Issued Mar. 12, 2009 in Int'l Application No. PCT/IL2008/001278.  
 Office Action Issued in JP Application No. 2007-510229.  
 Office Action Issued Apr. 20, 2010 in U.S. Appl. No. 11/997,569.  
 Int'l Search Report dated Nov. 20, 2006 in Int'l Application No. PCT/IL2006/000881.  
 Office Action Issued May 27, 2010 in U.S. Appl. No. 11/559,152.  
 Decision to Grant mailed Apr. 12, 2010 in EP Application No. 0873807.1.  
 Office Action issued Jun. 1, 2010 in U.S. Appl. No. 11/568,421.

\* cited by examiner

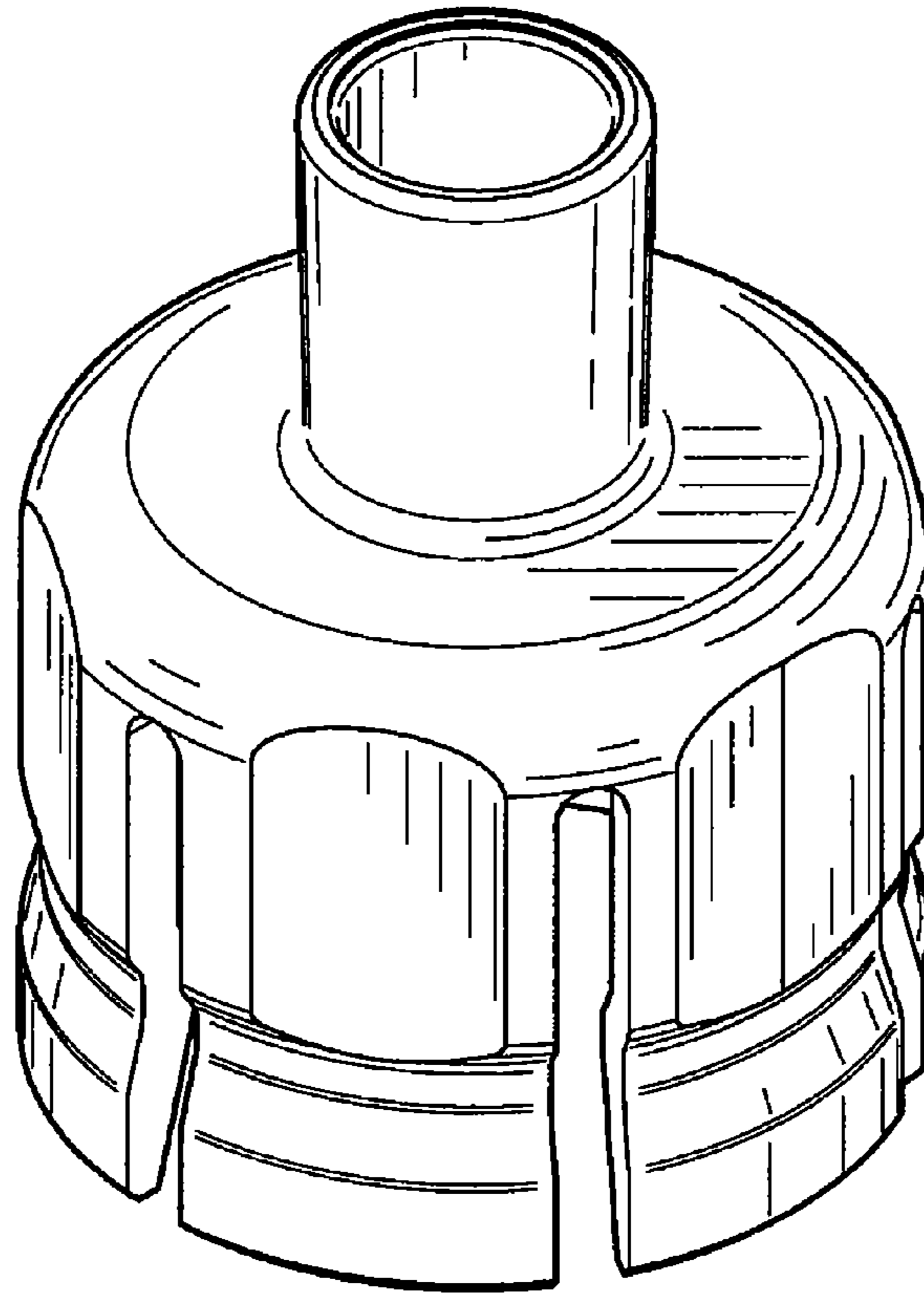


FIG.1

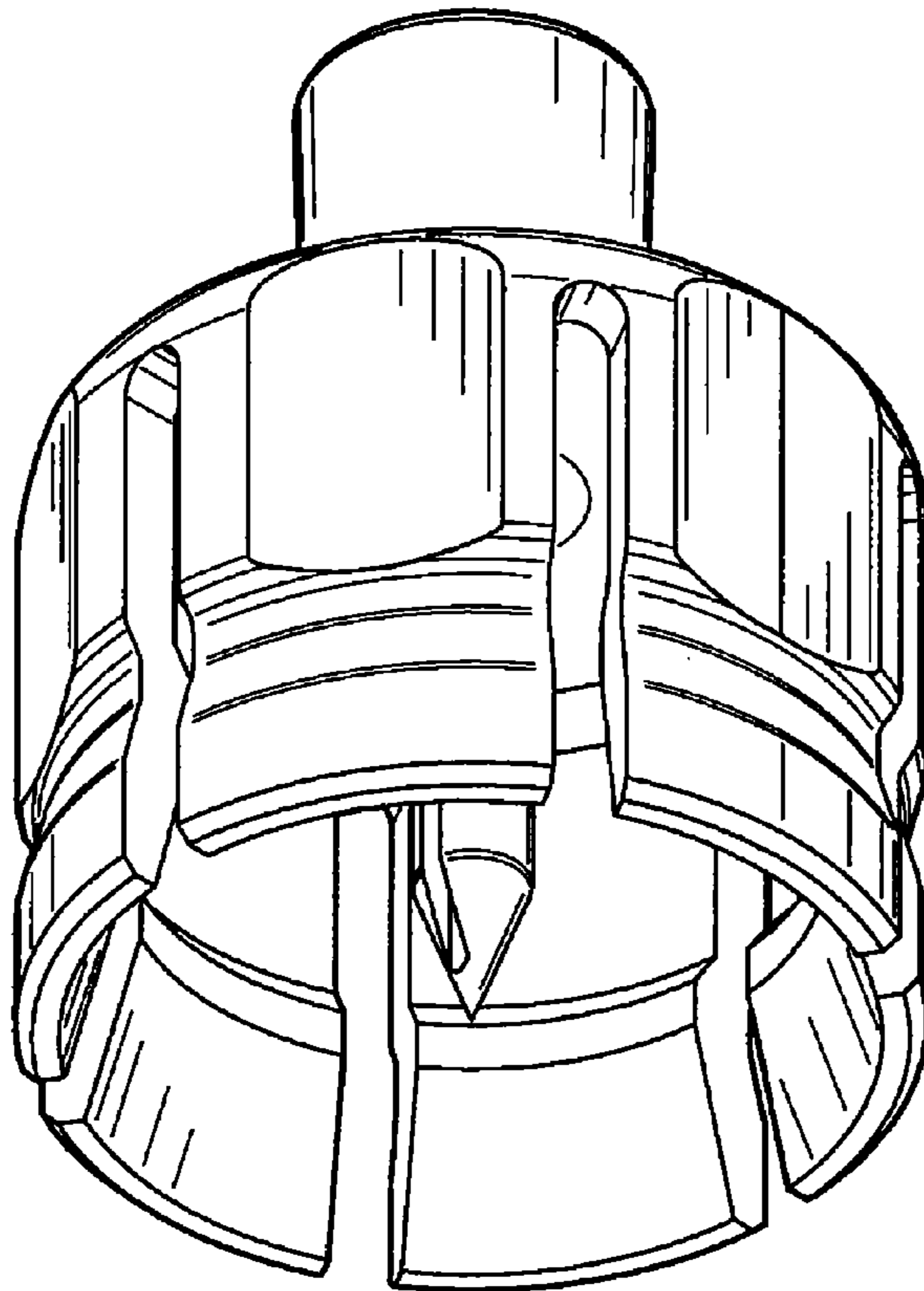


FIG.2

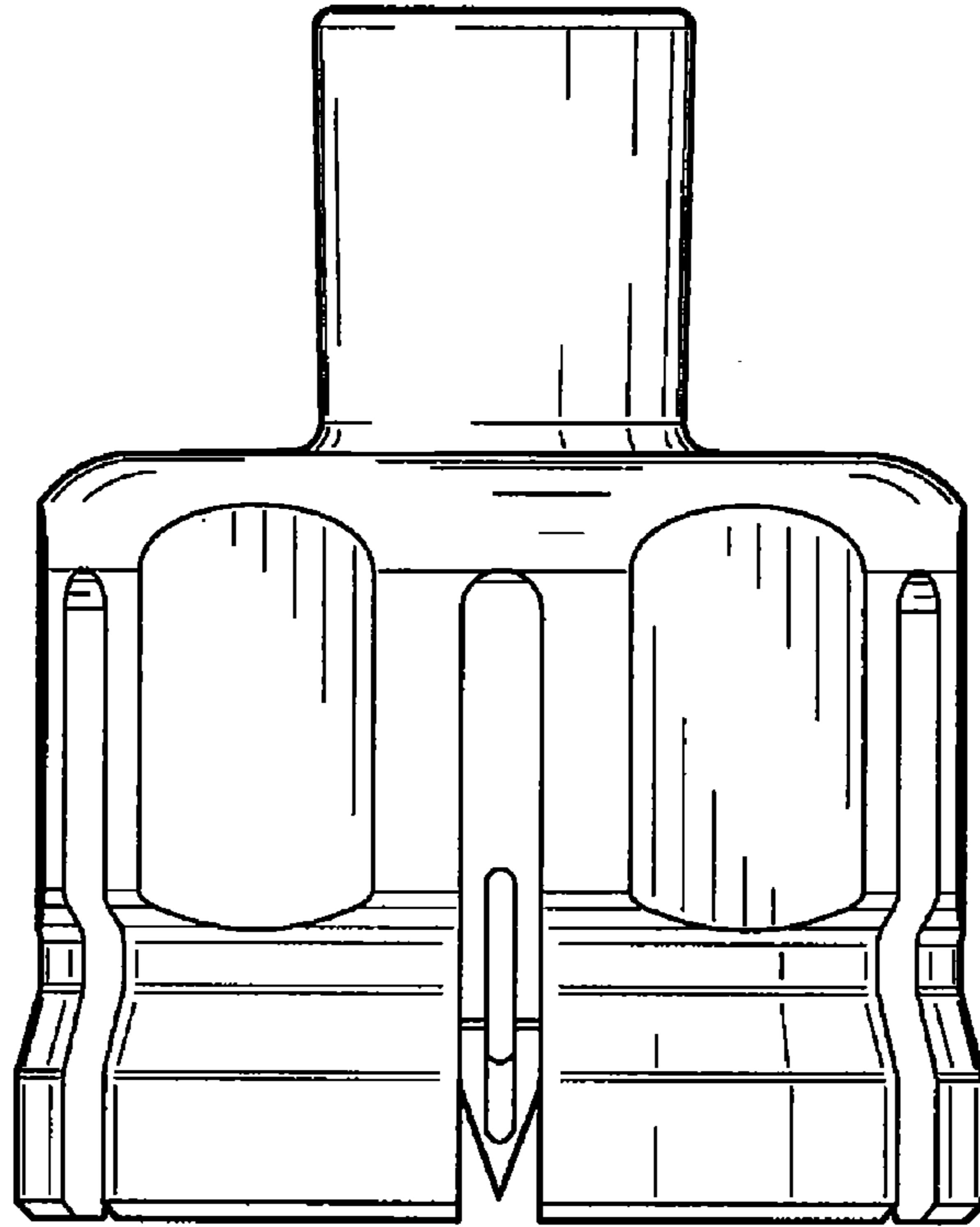


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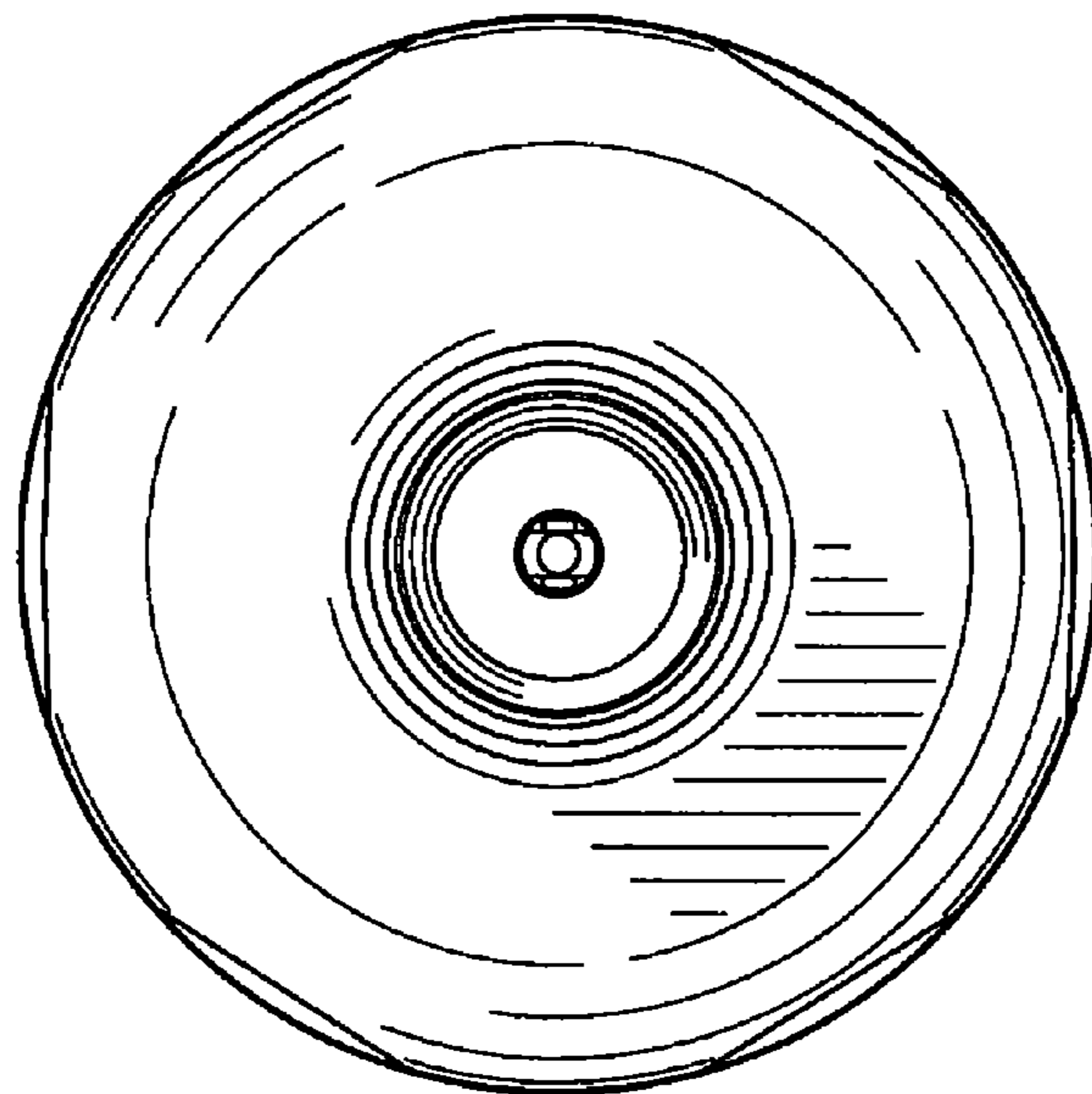


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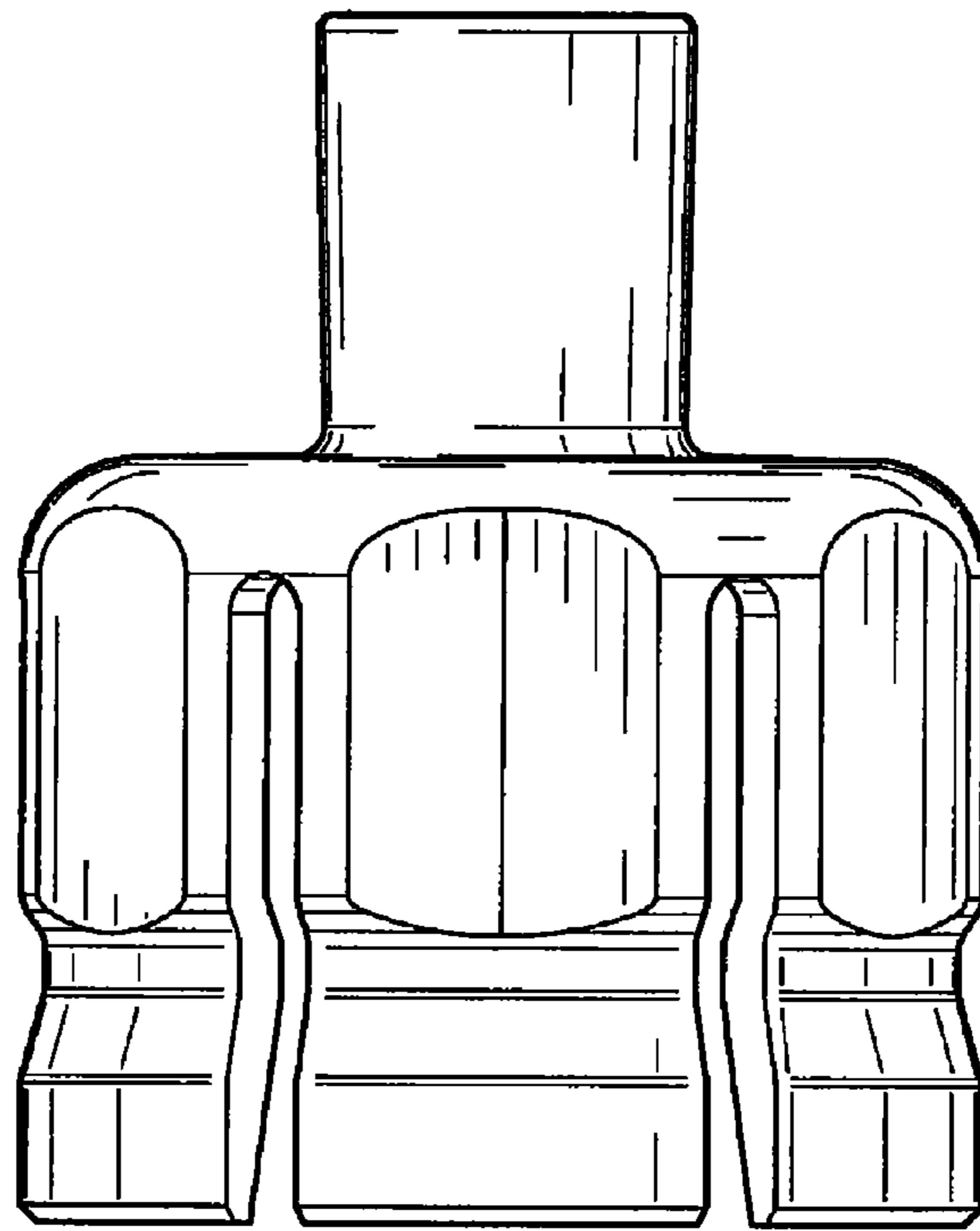


FIG. 5

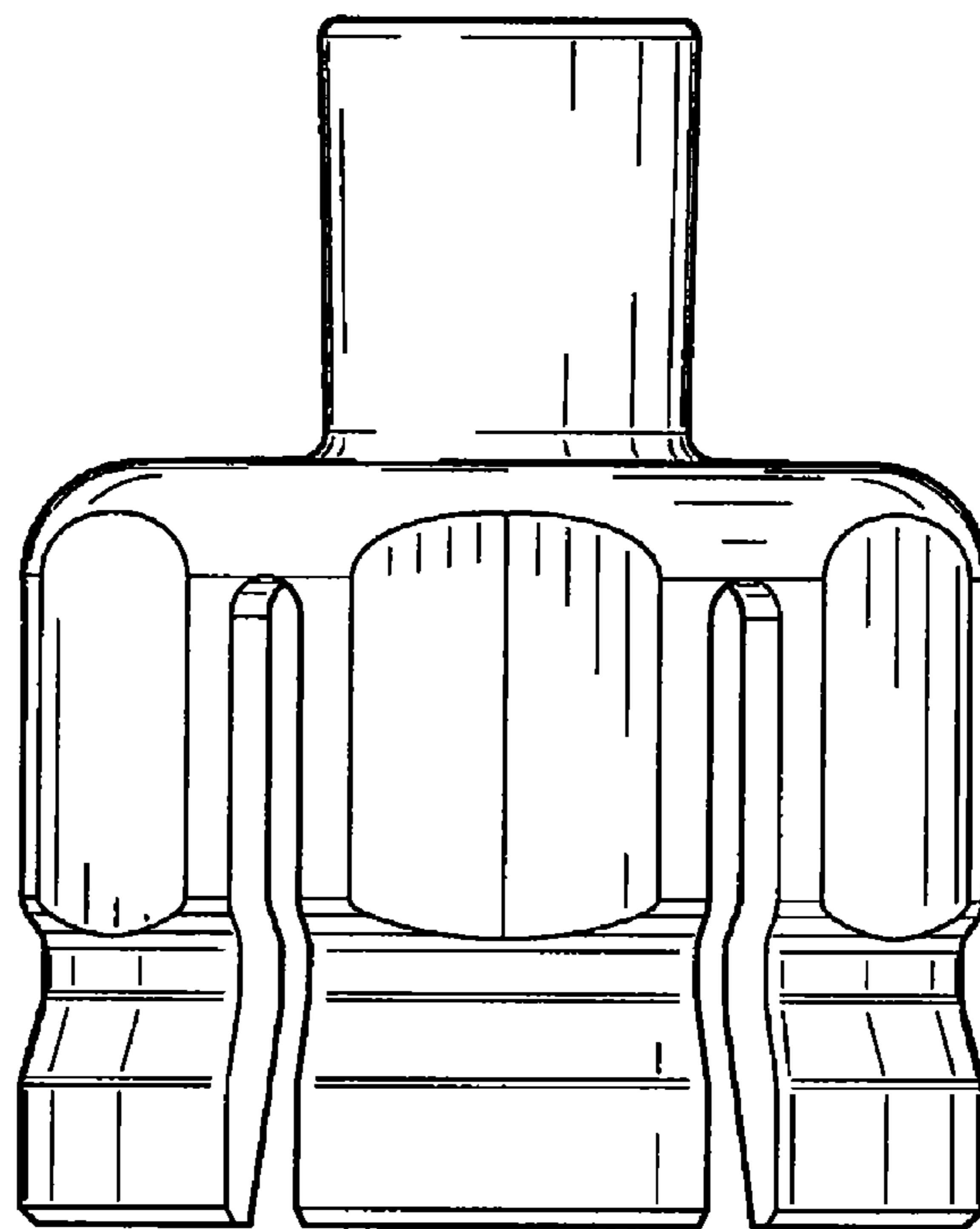


FIG. 6

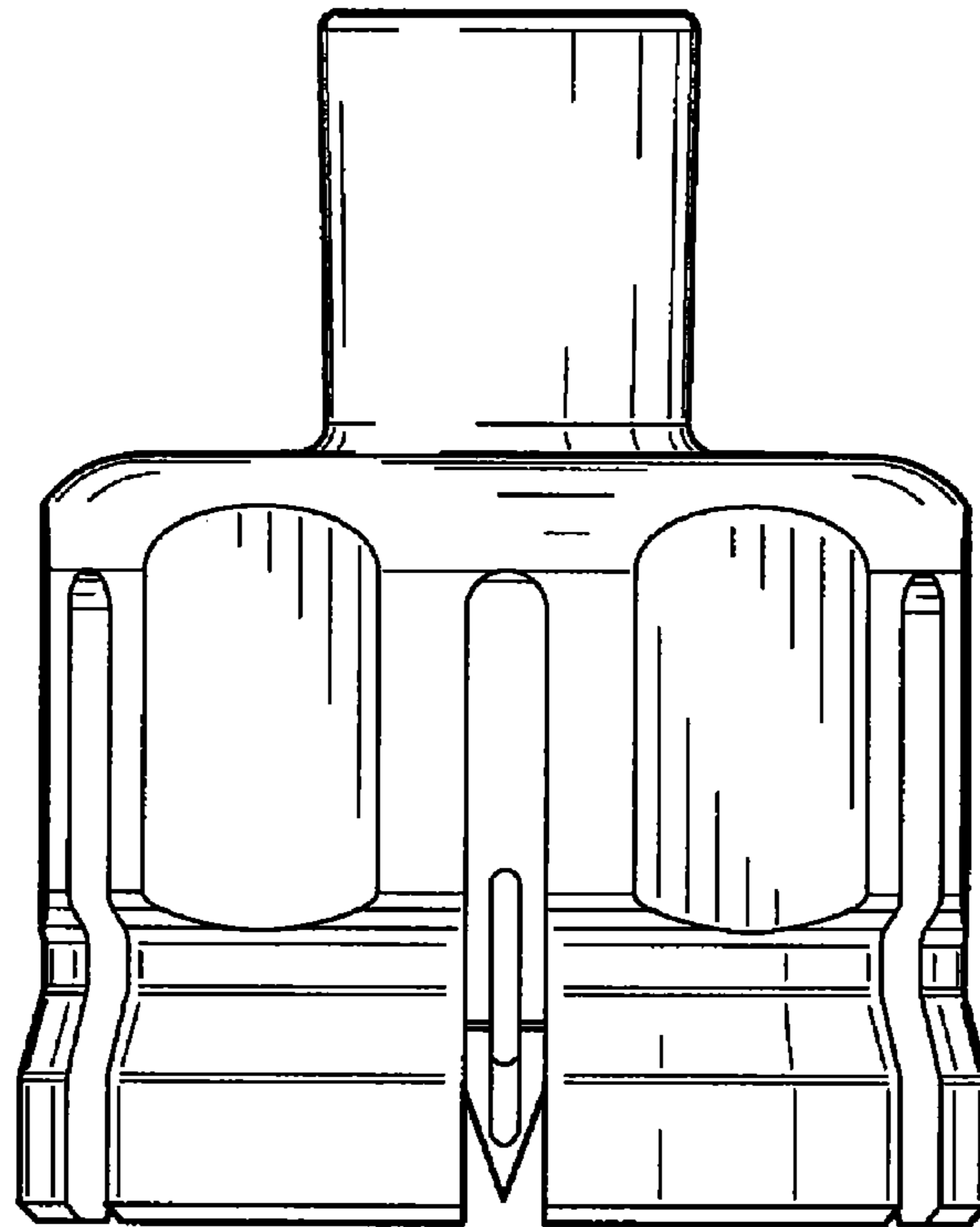


FIG. 7

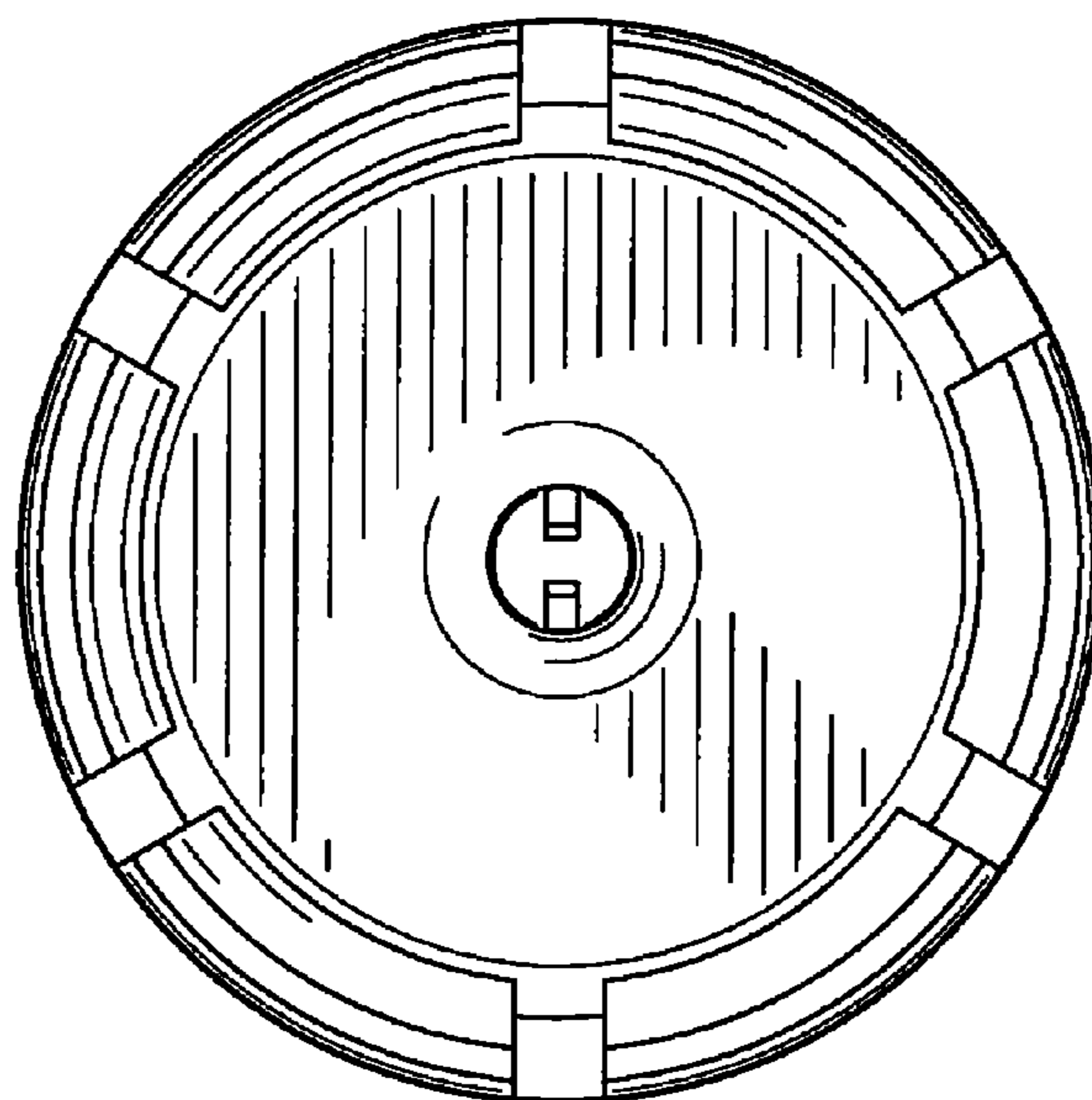


FIG. 8