



US00D393722S

United States Patent [19]
Fangrow, Jr. et al.

[11] **Patent Number: Des. 393,722**
[45] **Date of Patent: **Apr. 21, 1998**

[54] **LOCKING BLUNT CANNULA**

[75] Inventors: **Thomas F. Fangrow, Jr.**, Mission Viejo; **Daniel J. Wait**, Santa Ana; **George A. Lopez**, Laguna Beach; **David Charles Arnold**, Mission Viejo; **Dennis M. Bui**, Alta Loma; **Kevin Barry Hanly**, Mission Viejo, all of Calif.

[73] Assignee: **ICU Medical, Inc.**, San Clemente, Calif.

[**] Term: **14 Years**

4,232,669	11/1980	Nitshke .	
4,265,280	5/1981	Ammann et al. .	
4,291,691	9/1981	Cabel et al.	128/204.18
4,296,949	10/1981	Muetterties et al. .	
4,327,726	5/1982	Kwong et al. .	
4,328,802	5/1982	Curley et al. .	
4,329,987	5/1982	Rogers et al. .	
4,334,551	6/1982	Pfister .	
4,338,933	7/1982	Bayard et al. .	
4,340,097	7/1982	Ammann et al. .	
4,340,148	7/1982	Beckham .	
4,362,156	12/1982	Feller, Jr. et al. .	

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

[21] Appl. No.: **52,594**
 [22] Filed: **Apr. 4, 1996**
 [51] **LOC (6) Cl.** **13-03**
 [52] **U.S. Cl.** **D24/112**
 [58] **Field of Search** D24/112, 129;
 604/411, 280, 283, 905; 128/207.14, 207.17,
 204.18, DIG. 26

1105959	7/1981	Canada .
0114677 A2	8/1985	European Pat. Off. .
0237321 A2	9/1987	European Pat. Off. .
0240987 A2	10/1987	European Pat. Off. .
0309771 A1	4/1989	European Pat. Off. .
855319	7/1949	Germany .
84 25 197 U	9/1985	Germany .
WO 86/01712	3/1986	WIPO .
WO 86/03416	6/1986	WIPO .

[56] **References Cited**

U.S. PATENT DOCUMENTS

D. 321,250	10/1991	Jepson et al. .	
D. 321,251	10/1991	Jepson et al.	D24/112
D. 321,252	10/1991	Jepson et al.	D24/112
D. 327,318	6/1992	Dudar et al. .	
1,578,517	3/1926	Hein .	
2,999,499	9/1961	Willet .	
3,502,097	3/1970	Muller .	
3,583,391	6/1971	Cox et al. .	
3,648,684	3/1972	Barnwell et al. .	
3,974,832	8/1976	Kruck .	
3,976,073	8/1976	Quick et al. .	
3,986,508	10/1976	Barrington .	
3,993,063	11/1976	Larrabee .	
4,019,512	4/1977	Tenczar .	
4,076,285	2/1978	Martinez .	
4,080,965	3/1978	Phillips .	
4,128,098	12/1978	Bloom et al. .	
4,149,535	4/1979	Volder .	
4,161,949	7/1979	Thanawalla .	
4,187,846	2/1980	Lolachi et al. .	
4,214,779	7/1980	Losell .	

Primary Examiner—Louis S. Zarfaz
Assistant Examiner—Eric M. Watterson
Attorney, Agent, or Firm—Knobbe, Martens, Olson & Bear, LLP

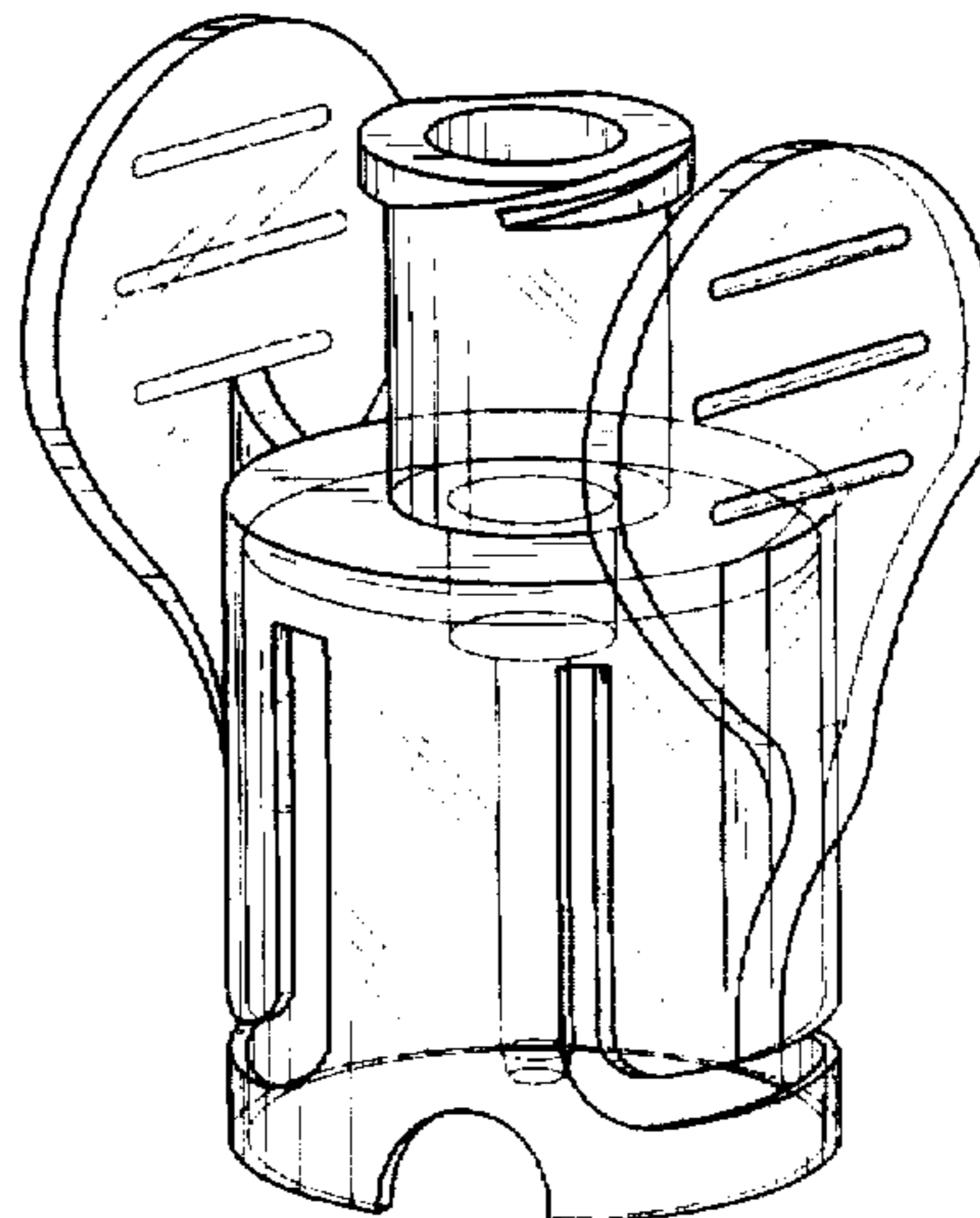
[57] **CLAIM**

The ornamental design for a locking blunt cannula, as shown and described.

DESCRIPTION

FIG. 1 is a front perspective view of the locking blunt cannula of the present invention;
FIG. 2 is a front elevational view thereof, the rear elevational view being a mirror image;
FIG. 3 is a left-side elevational view thereof, the right-side elevational view being a mirror image;
FIG. 4 is a top plan view thereof; and,
FIG. 5 is a bottom plan view thereof.

1 Claim, 2 Drawing Sheets



U.S. PATENT DOCUMENTS					
4,392,499	7/1983	Towse .	4,639,019	1/1987	Mittleman .
4,405,163	9/1983	Voges et al. .	4,673,400	6/1987	Martin .
4,411,662	10/1983	Pearson .	4,752,292	6/1988	Lopez et al. .
4,413,992	11/1983	Soika .	4,767,412	8/1988	Hymanson .
4,432,759	2/1984	Gross et al. .	4,781,702	11/1988	Herrli .
4,432,765	2/1984	Oscarsson .	4,810,241	3/1989	Rogers .
4,439,188	3/1984	Dennehey et al. .	4,834,716	5/1989	Ogle, II .
4,439,193	3/1984	Larkin .	4,874,377	10/1989	Newgard et al. .
4,440,207	4/1984	Genatempo et al. .	4,878,897	11/1989	Katzin .
4,452,473	6/1984	Ruschke .	4,880,414	11/1989	Whipple .
4,457,749	7/1984	Bellotti et al. .	4,889,527	12/1989	Herrli .
4,508,367	4/1985	Oreopoulos et al. .	4,998,927	3/1991	Vaillancourt .
4,511,359	4/1985	Vaillancourt .	5,024,616	6/1991	Ogle, II .
4,512,766	4/1985	Vaillancourt .	5,065,783	11/1991	Ogle, II .
4,564,054	1/1986	Gustavsson .	5,167,642	12/1992	Fowles .
4,573,974	3/1986	Ruschke .	5,201,717	4/1993	Wyatt et al. 128/921
4,607,868	8/1986	Harvey et al. .	5,267,894	12/1993	Doherty 128/207.14
4,617,012	10/1986	Vaillancourt .	5,320,611	6/1994	Bonutti et al. 604/280
			5,390,669	2/1995	Stuart et al. 128/207.14

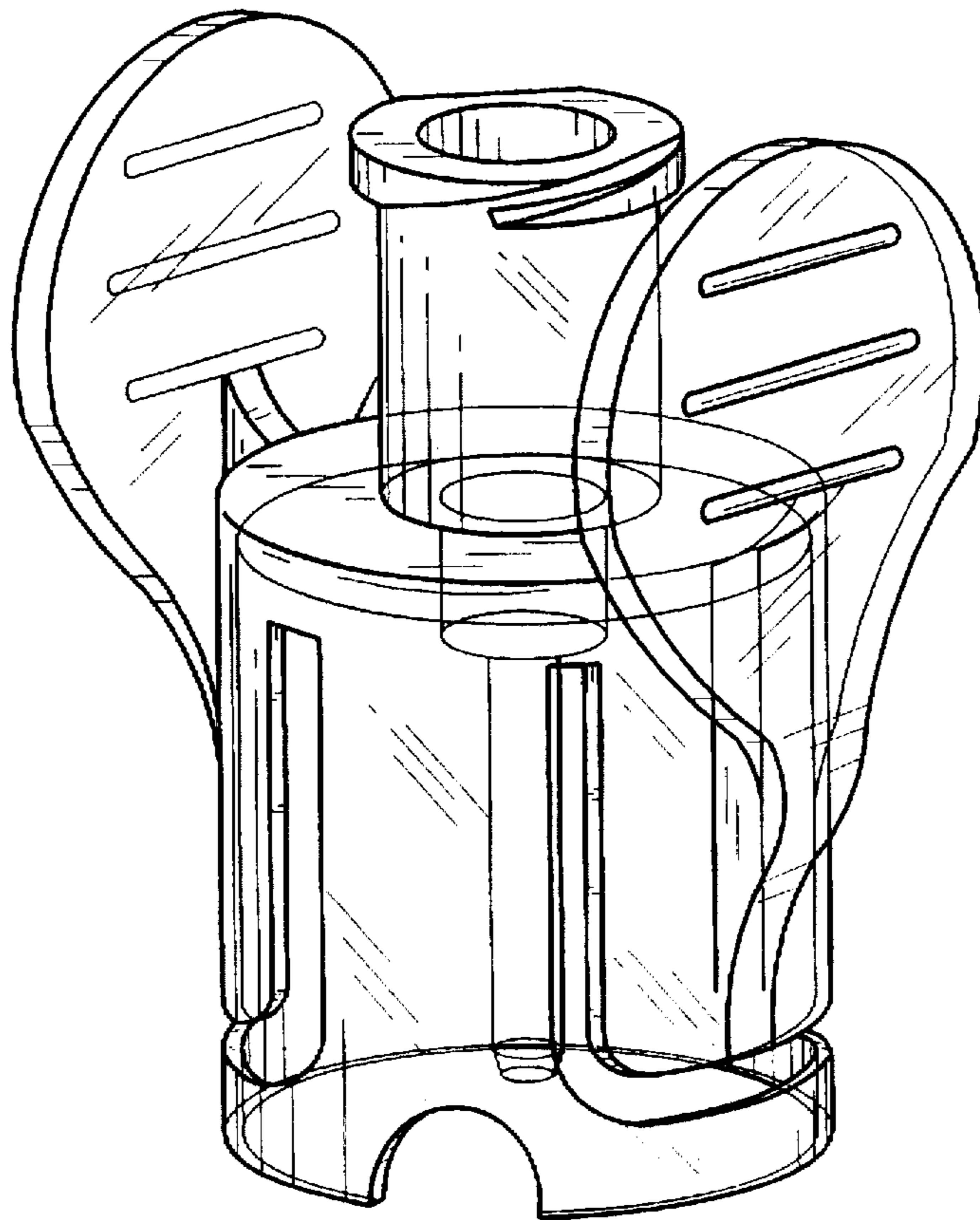


FIG. 1

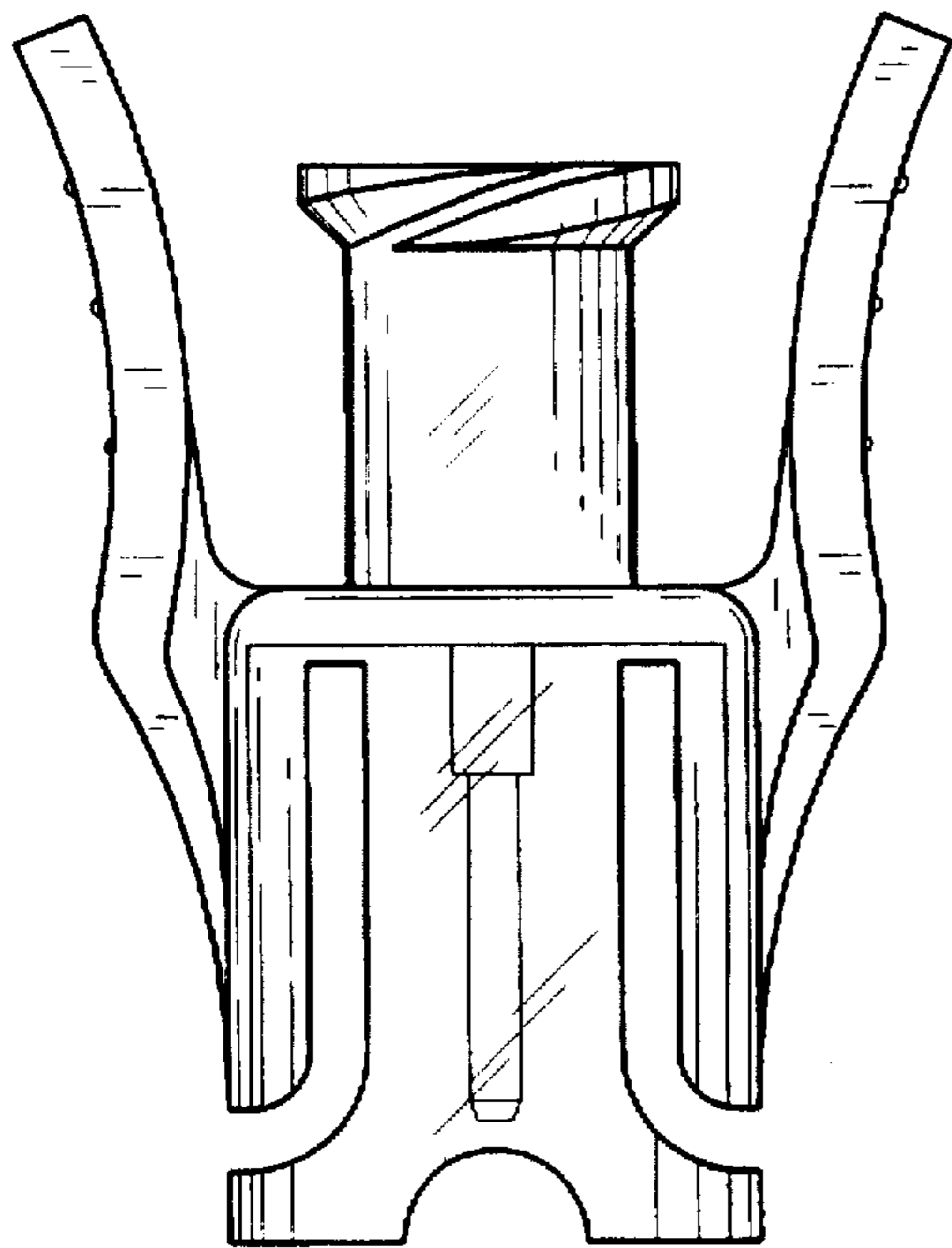


FIG. 2

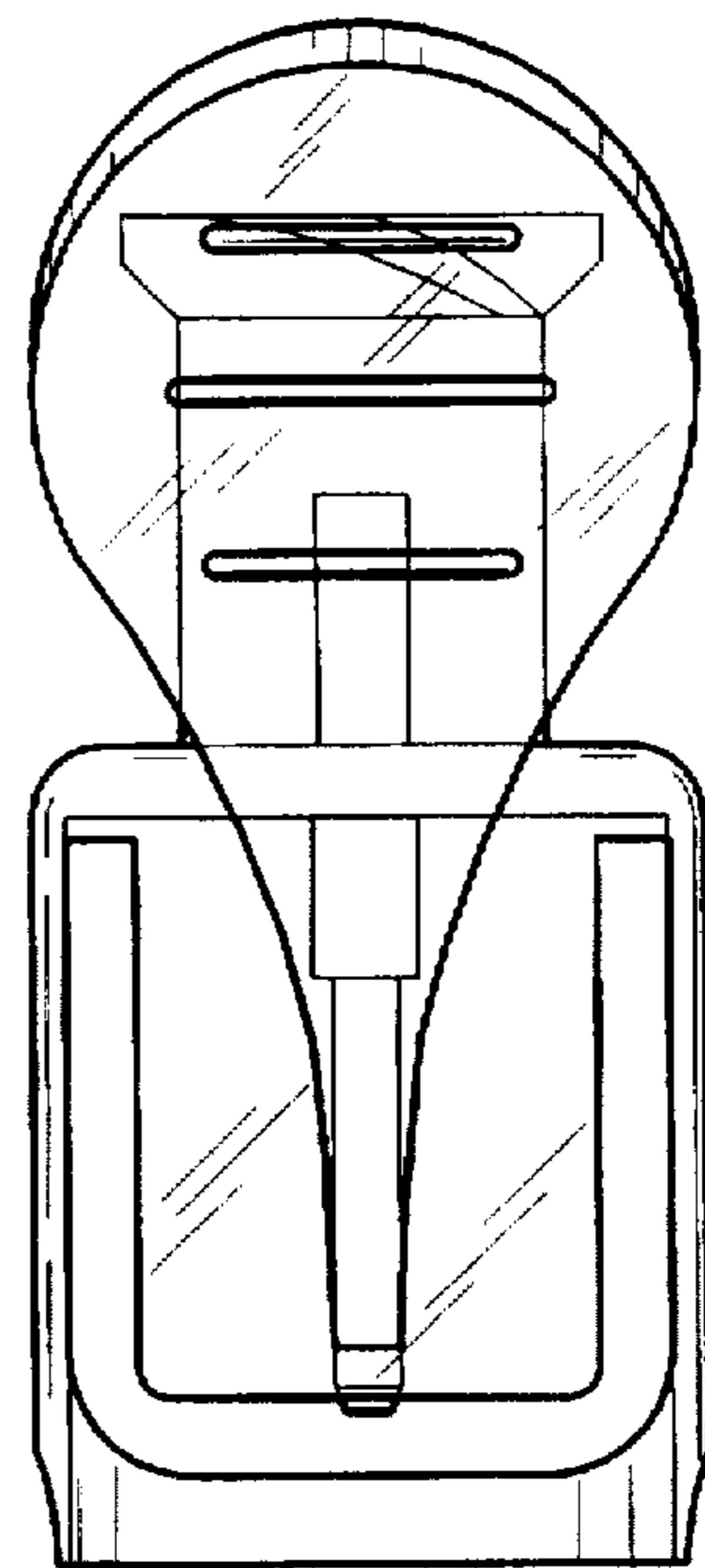


FIG. 3

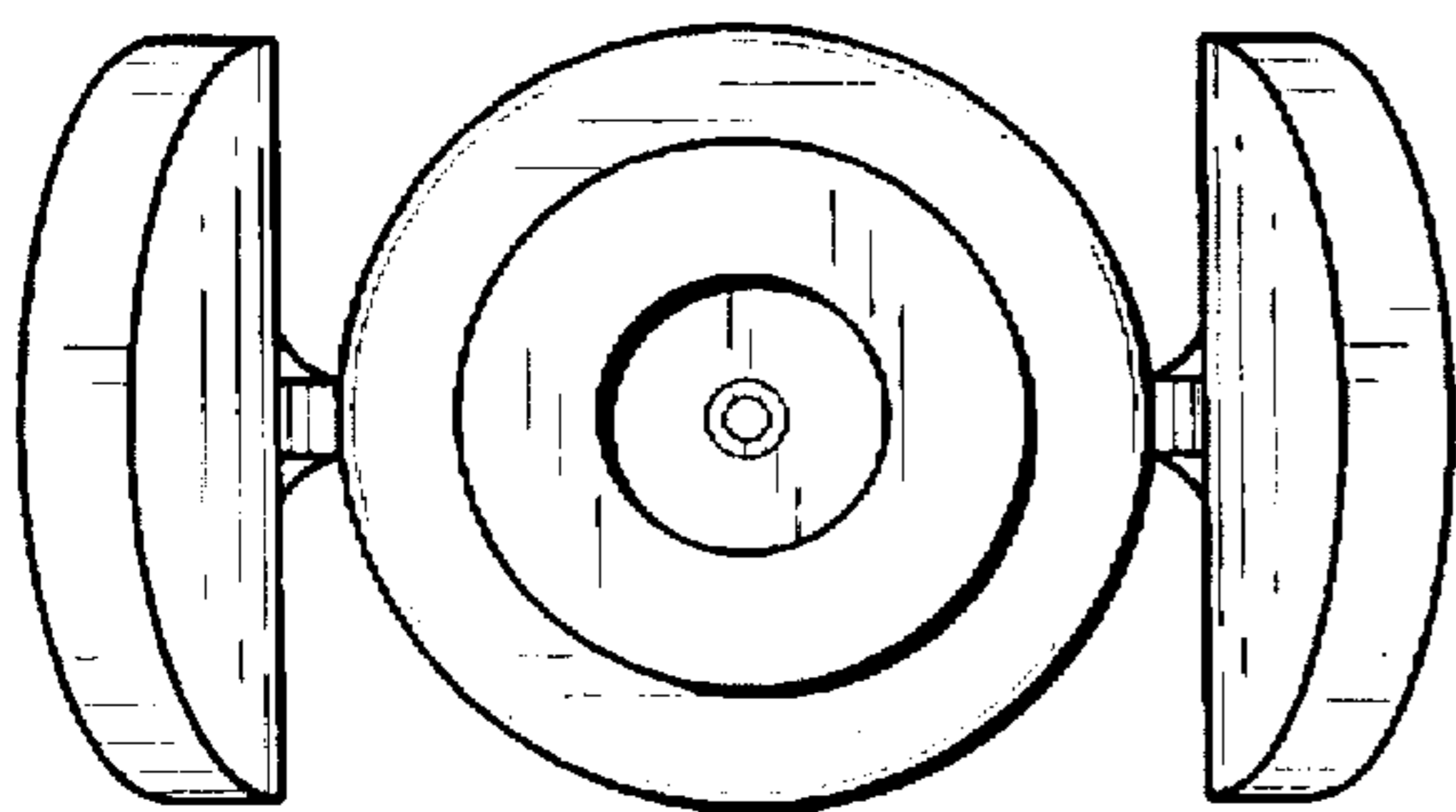


FIG. 4

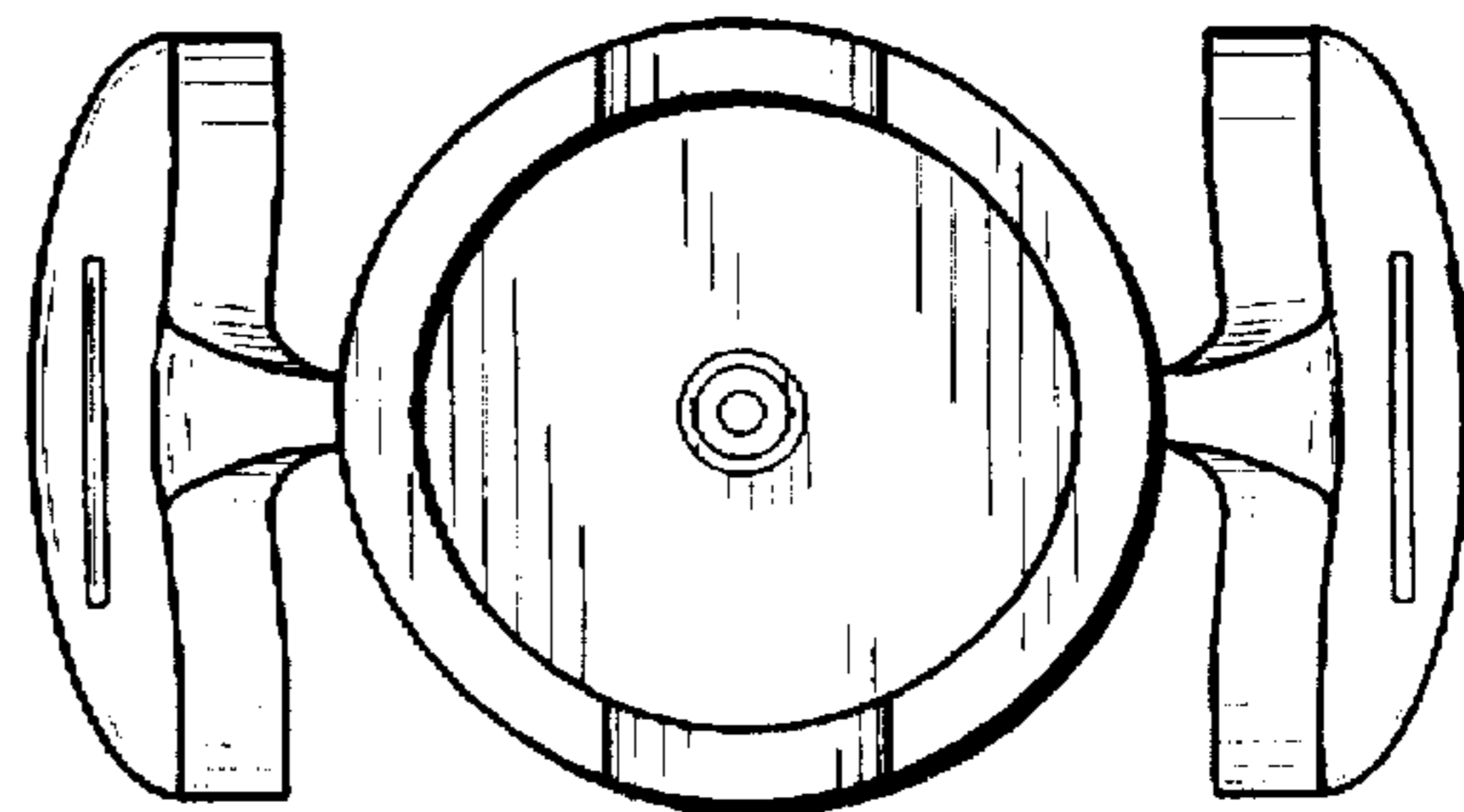


FIG. 5