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

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(54) **SHAFT PORTION OF AN APPARATUS FOR HOLDING AND HEATING SEMICONDUCTOR WAFERS OR THE LIKE**

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

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(30) **Foreign Application Priority Data**

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(51) **LOC (9) Cl.** **15-09**

(52) **U.S. Cl.** **D15/144.1**

(58) **Field of Classification Search** D15/138, D15/140, 144.1, 199; D26/51-63; 438/584, 438/689, 692; 451/288, 289, 388

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

645,199	A *	3/1900	Brooks	.....	248/97
D92,261	S *	5/1934	Leaf	.....	D1/118
3,044,624	A *	7/1962	Parks	.....	209/412
D215,093	S *	9/1969	Cone	.....	D15/144.1
D234,847	S *	4/1975	Hoffman	.....	D23/262
D274,208	S *	6/1984	Hildenbrand	.....	D7/700
D360,178	S *	7/1995	Thomas	.....	D12/194
5,615,429	A *	4/1997	Williams	.....	5/509.1
D379,061	S *	5/1997	Williams	.....	D8/374
D422,189	S *	4/2000	Parsons	.....	D8/99
D452,761	S *	1/2002	Swift	.....	D1/105
D474,270	S *	5/2003	Anderson	.....	D24/110
D481,109	S *	10/2003	Dole et al.	.....	D23/263
D481,447	S *	10/2003	Dole et al.	.....	D23/263
D493,512	S *	7/2004	Dole et al.	.....	D23/262
D513,549	S *	1/2006	Schuster	.....	D34/1

D522,844	S *	6/2006	Harwanko	.....	D8/376
D524,427	S *	7/2006	Wilk et al.	.....	D23/262
7,200,877	B2 *	4/2007	Peng	.....	4/325
D547,165	S *	7/2007	Barrese	.....	D8/380
D551,075	S *	9/2007	Puller	.....	D9/447
D557,438	S *	12/2007	Hsu	.....	D26/83
7,318,454	B2 *	1/2008	Dupoiron	.....	138/135
D564,120	S *	3/2008	Layne et al.	.....	D26/63
D564,637	S *	3/2008	Brockington et al.	.....	D23/263
D589,764	S *	4/2009	Randolph	D7/700

(Continued)

FOREIGN PATENT DOCUMENTS

JP D1345656 10/2008

(Continued)

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(57) **CLAIM**

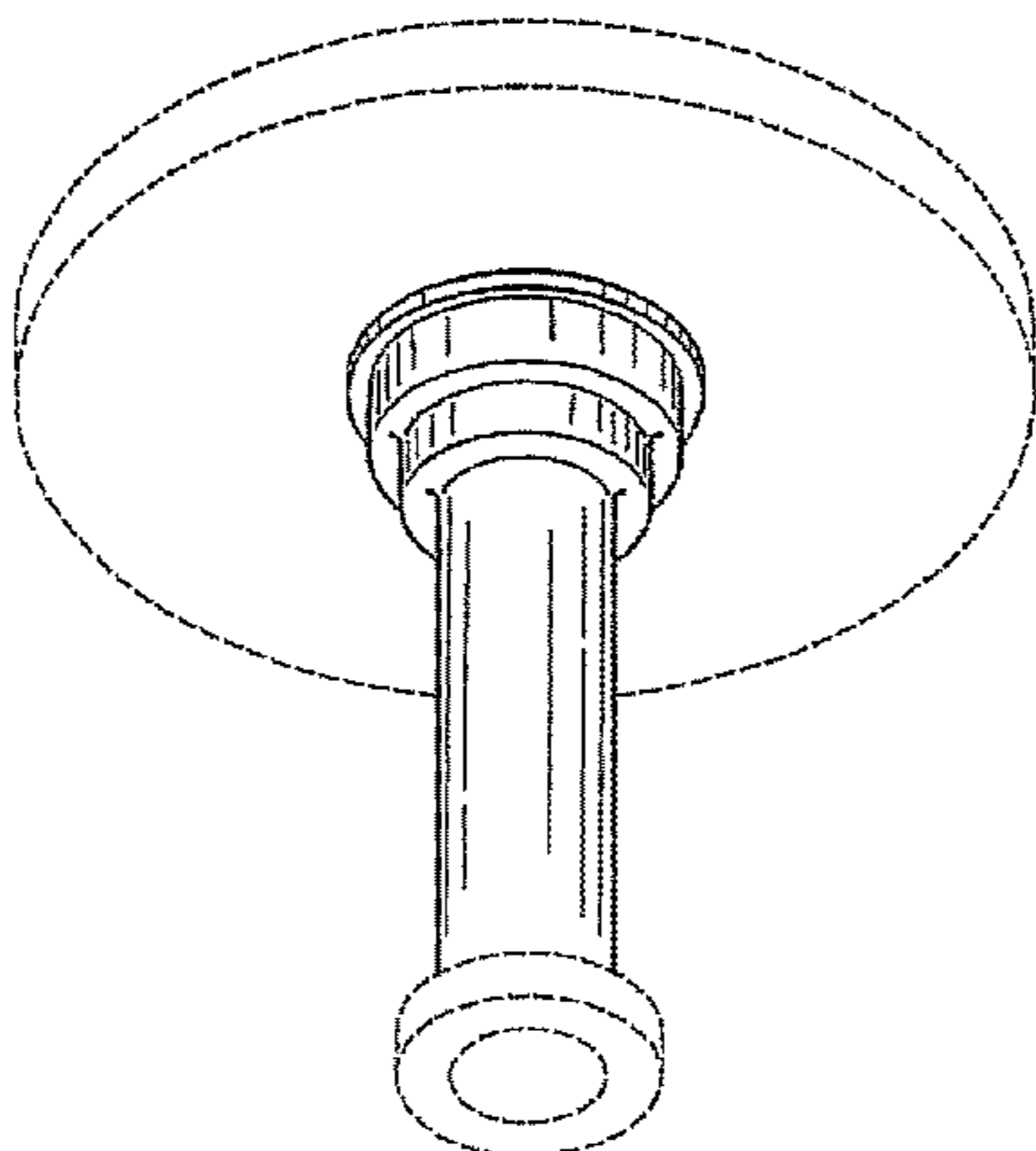
The ornamental design for a shaft portion of an apparatus for holding and heating semiconductor wafers or the like, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a shaft portion of an apparatus for holding and heating semiconductor wafers or the like; FIG. 2 is a front view thereof, a rear view being the same image of a front view; FIG. 3 is a right side view thereof, a left side view being the same image of a right side view; FIG. 4 is a bottom plan view thereof; and, FIG. 5 is a sectional view taken vertically at the center of the portion shown by 5—5 in FIG. 2.

The broken lines showing on the drawing disclosure are for illustrative purposes only and form no part of the claimed design. The lines consisting of long lines and dots indicate conceptual border lines between the claimed portions and the disclaimed portions.

1 Claim, 3 Drawing Sheets



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U.S. PATENT DOCUMENTS

D616,394	S	*	5/2010	Sato	D13/182
D616,395	S	*	5/2010	Sato	D13/182
2001/0054381	A1	*	12/2001	Umotoy et al.	118/715
2003/0019428	A1	*	1/2003	Ku et al.	118/715

FOREIGN PATENT DOCUMENTS

TW	M298774	10/2006
TW	D118408	8/2007

* cited by examiner

Fig.1

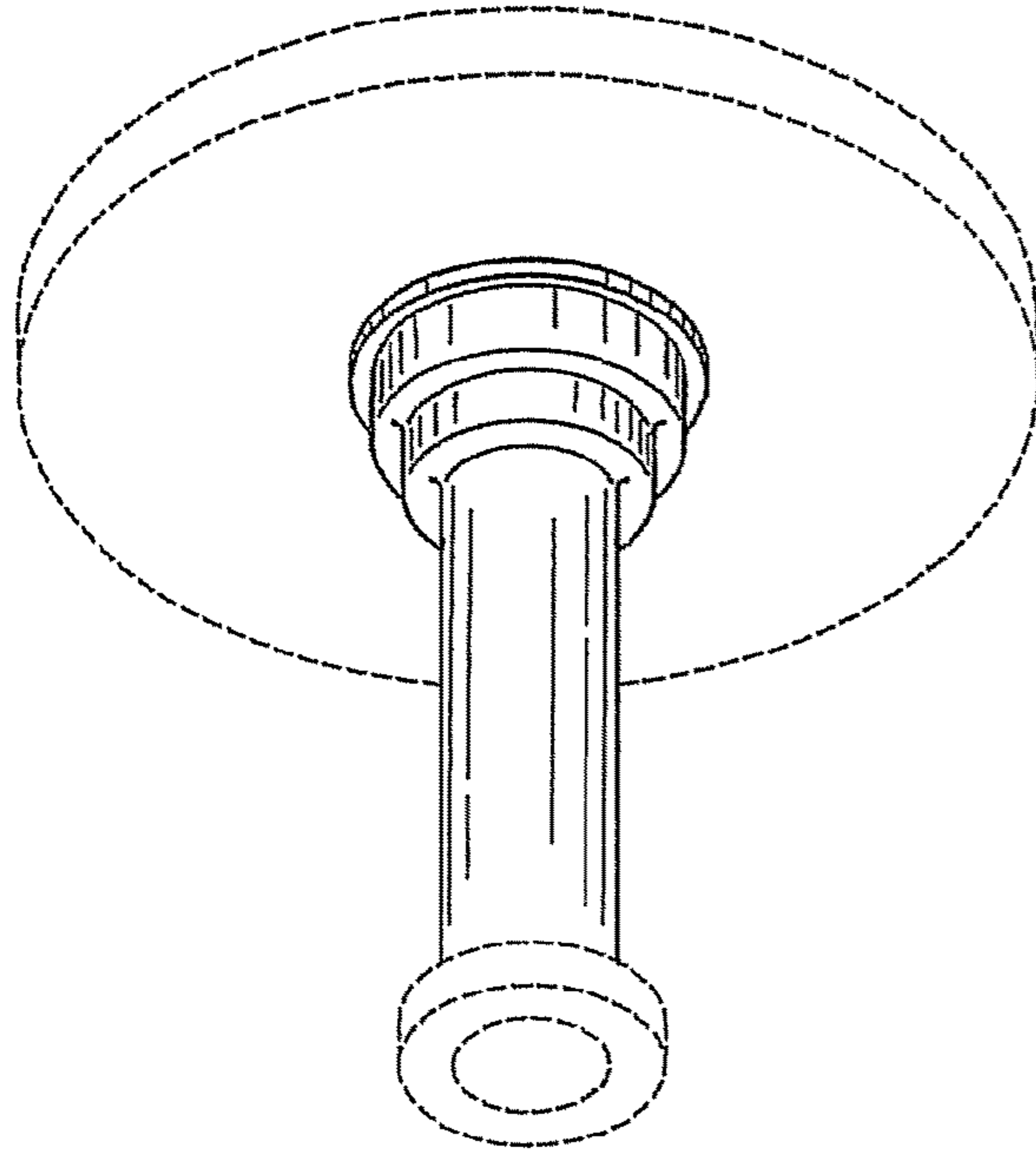


Fig.2

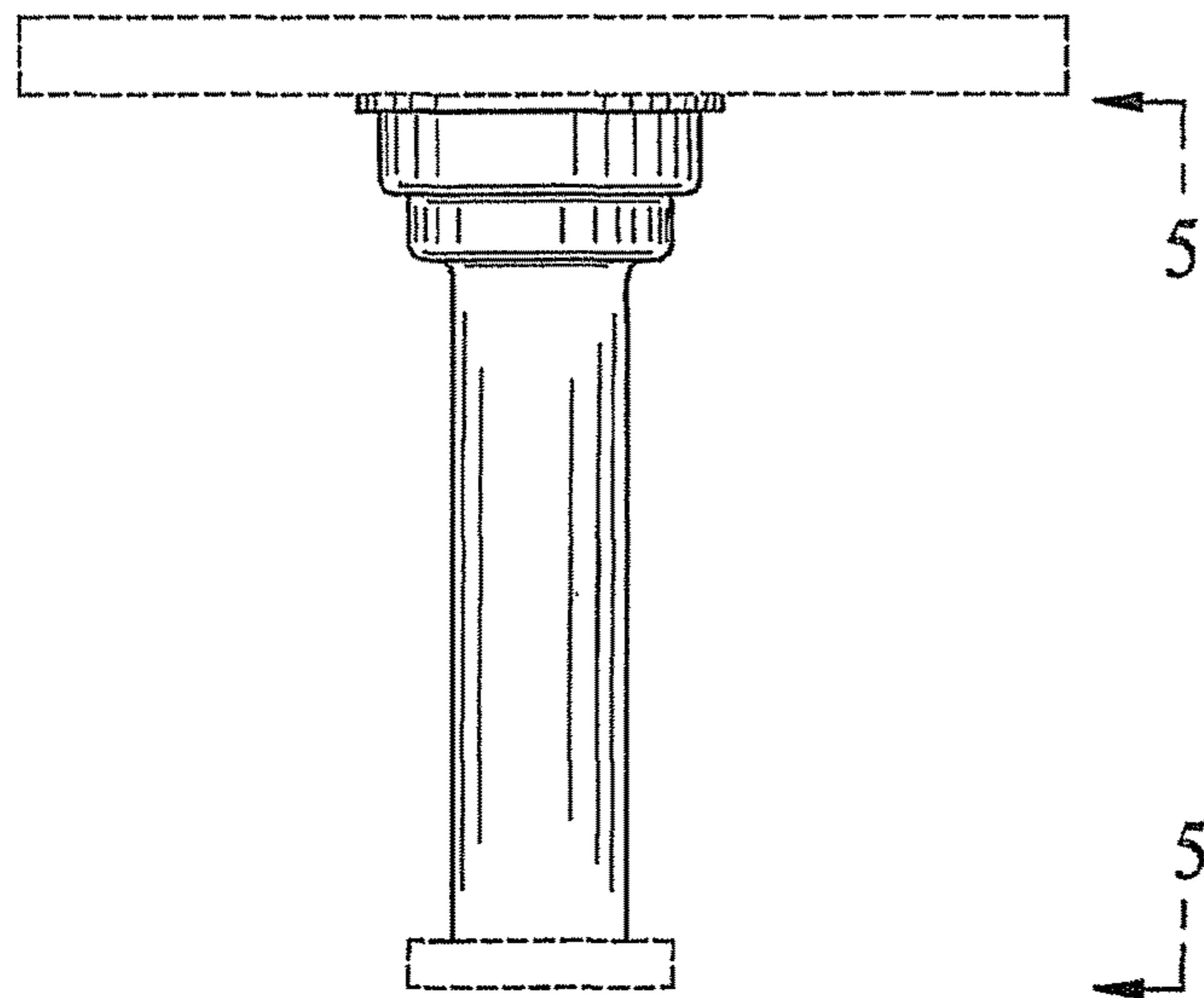


Fig.3

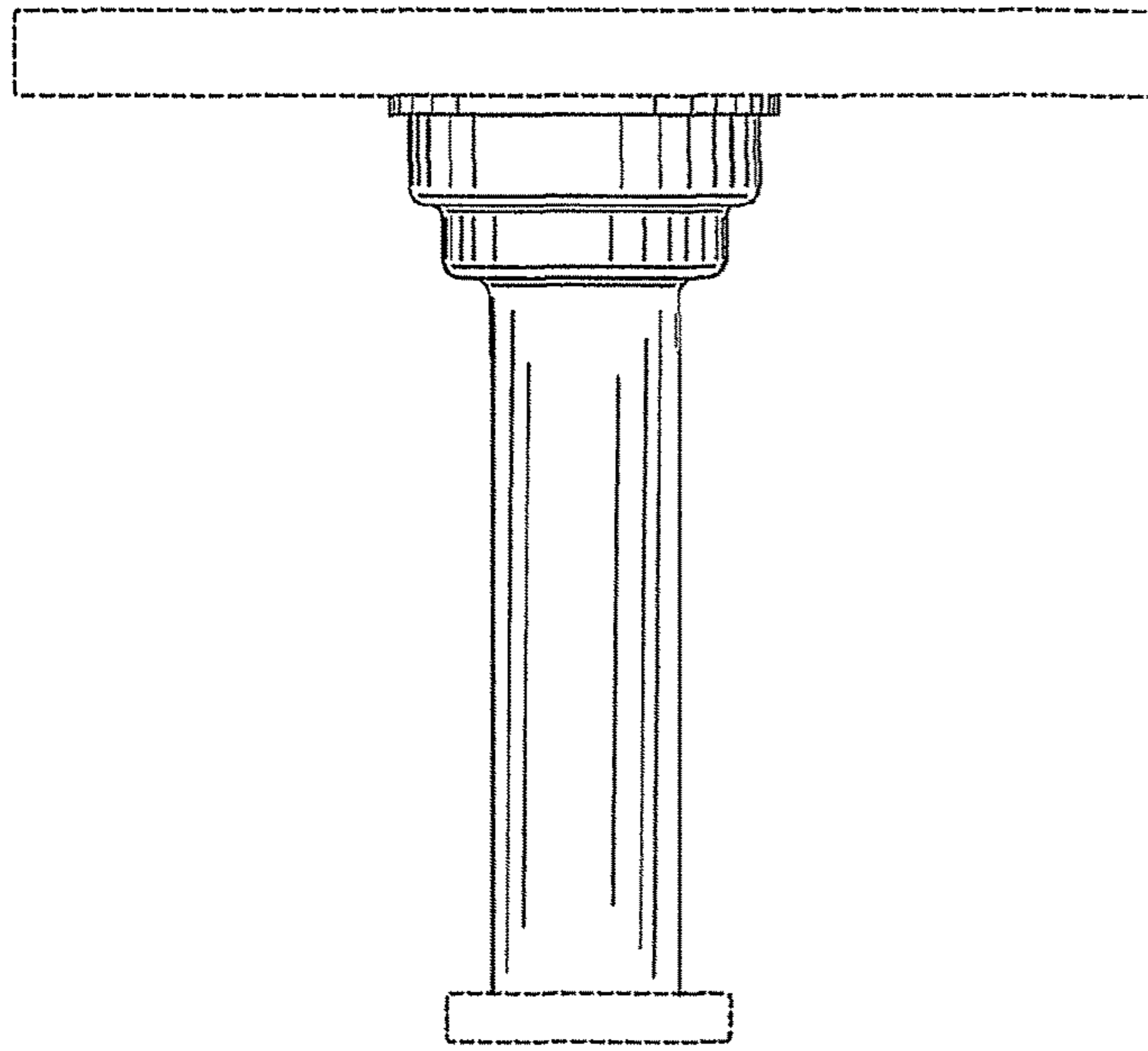


Fig.4

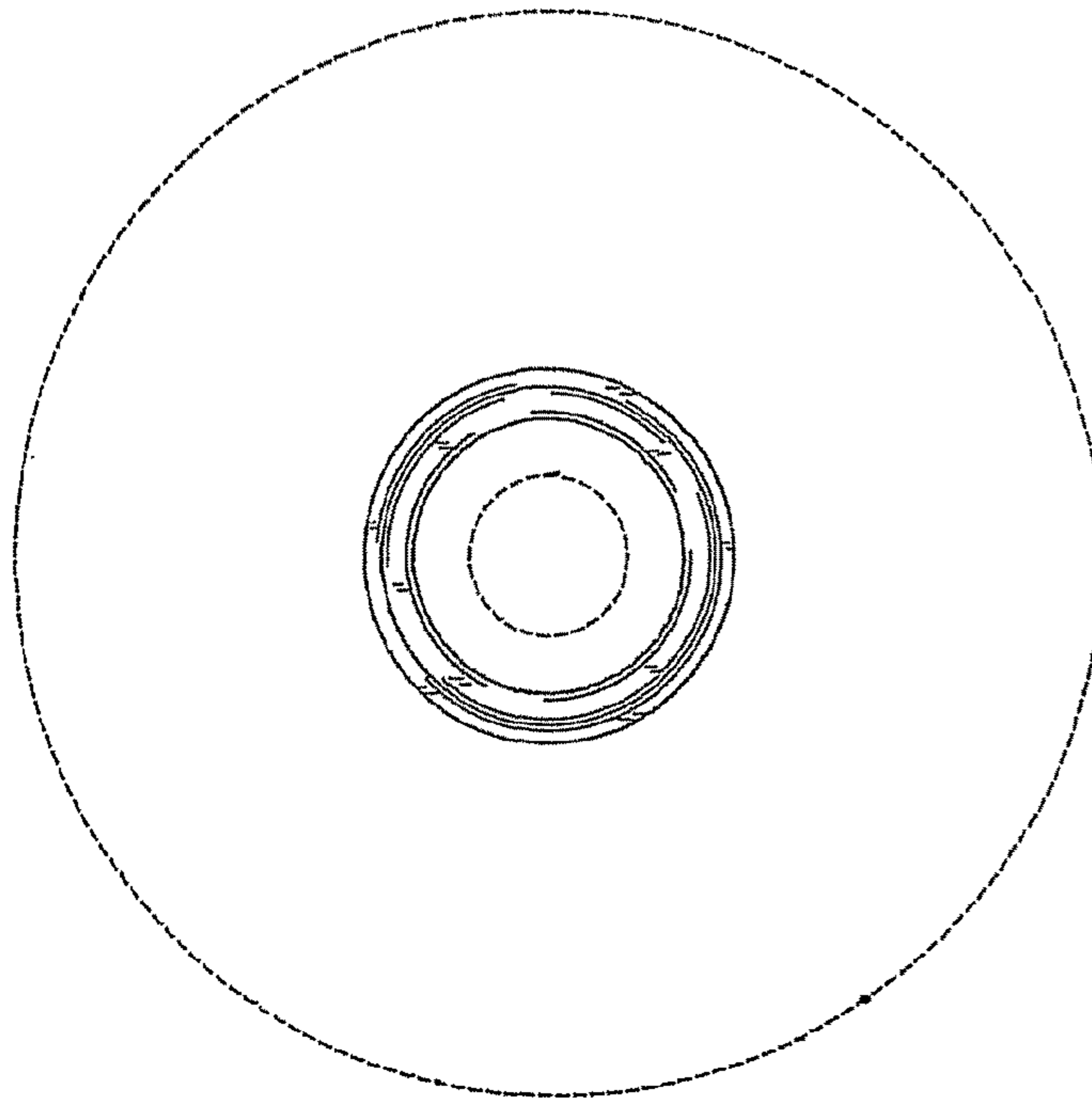


Fig.5

