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Barrett et al.

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(54) **HIGH-YIELD LADLE BOTTOM**
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Company, Moon Township, PA (US)
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(52) **U.S. Cl.** **D15/144**
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D15/144.1, 144.2; 22/600; 66/283; 222/590,
222/591, 593, 594, 597, 601, 603; 266/45,
266/200, 227, 230, 236, 275
See application file for complete search history.

5,382,003 A	1/1995	Sankaranarayanan et al.	266/230
RE35,597 E	8/1997	Vassilicos	266/230
5,879,616 A	3/1999	Erny	266/45
5,948,349 A	9/1999	Beurotte et al.	266/44
RE37,417 E	10/2001	Koffron	266/230
6,673,306 B2	1/2004	Abrino et al.	266/275
6,723,275 B2	4/2004	Koffron et al.	266/45
6,787,098 B2	9/2004	Abrino et al.	266/44
7,112,300 B2	9/2006	Richard et al.	266/275
8,110,142 B2 *	2/2012	Barrett et al.	266/283
2002/0153645 A1	10/2002	Abrino et al.	266/280
2005/0127582 A1 *	6/2005	Richaud et al.	266/200
2007/0029708 A1 *	2/2007	Richaud et al.	266/200
2007/0132162 A1	6/2007	Barrett	266/283
2009/0166387 A1 *	7/2009	Bigelow et al.	222/590

* cited by examiner

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(57) **CLAIM**
The ornamental design for the high-yield ladle bottom, as shown and described.

(56) **References Cited**

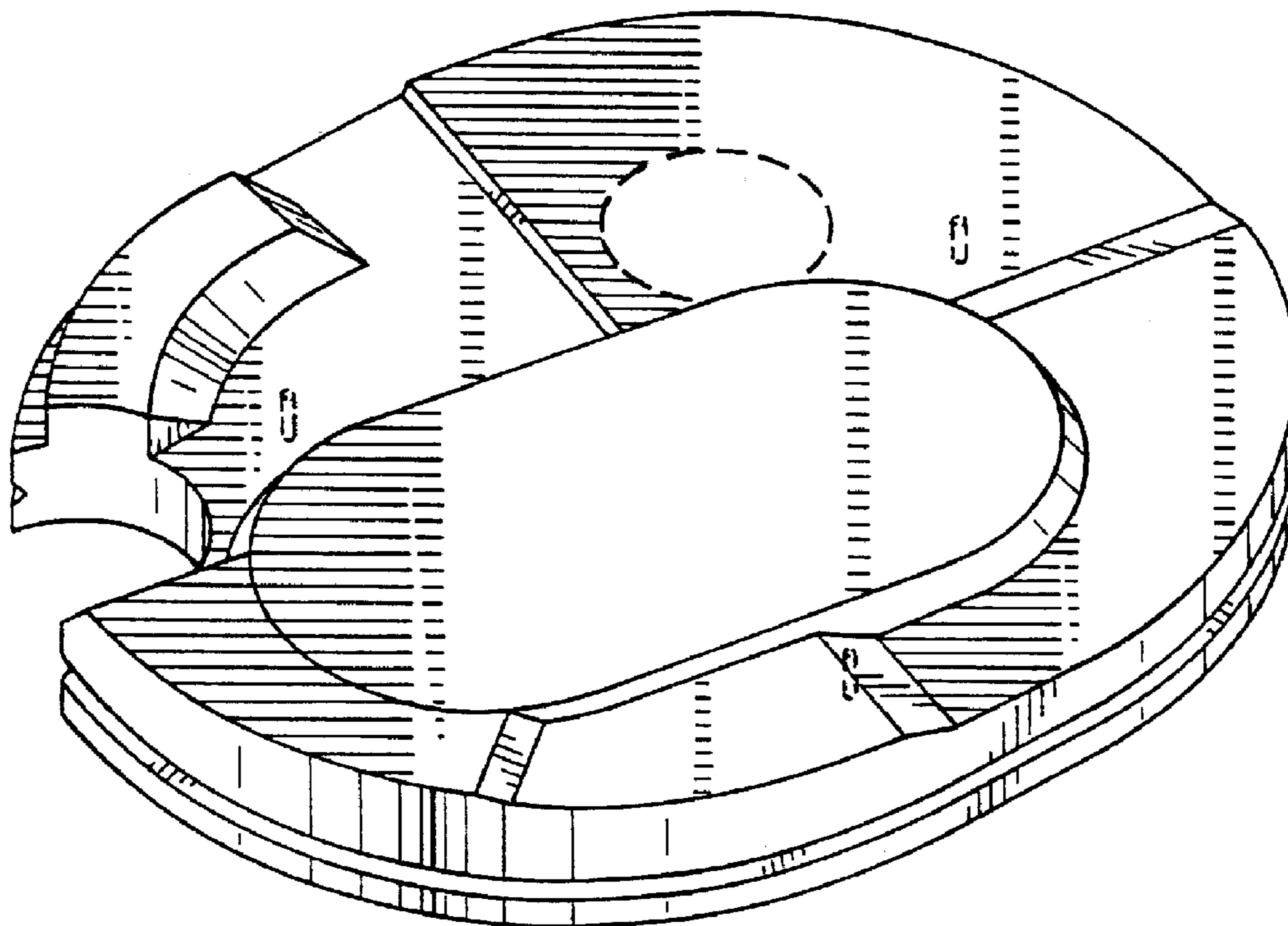
U.S. PATENT DOCUMENTS

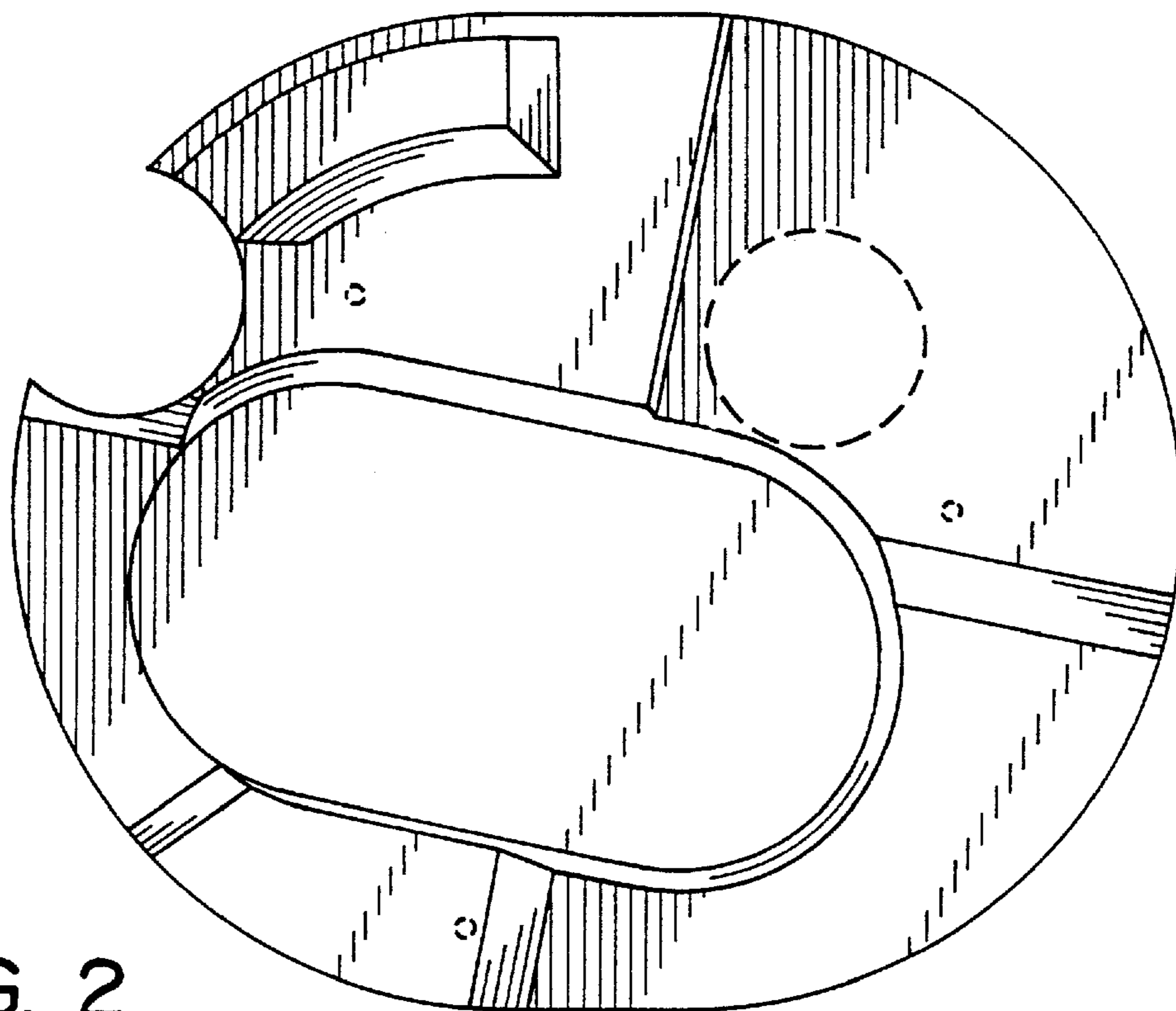
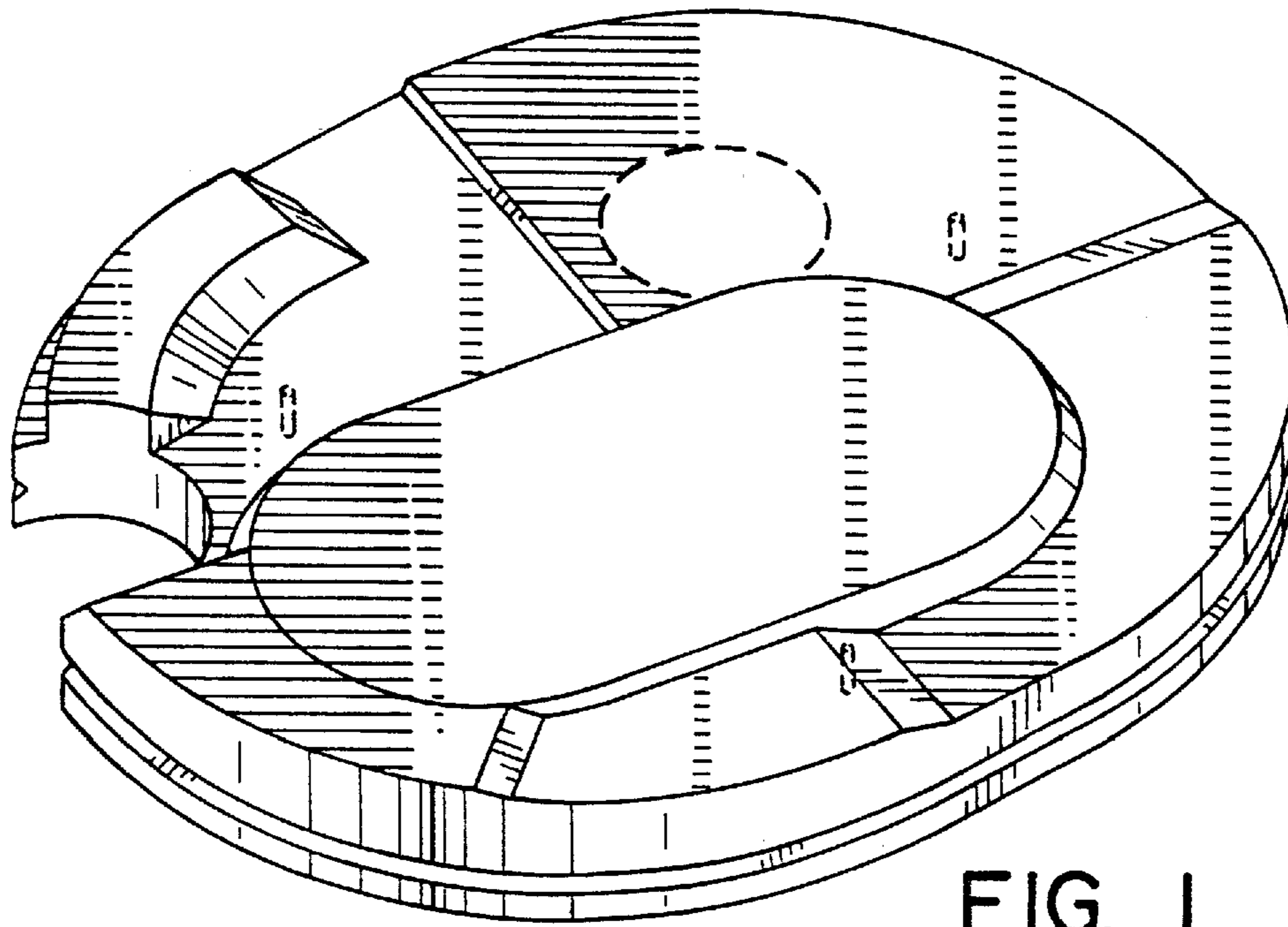
3,352,465 A *	11/1967	Shapland	222/600
3,516,478 A *	6/1970	Dunn et al.	164/423
3,603,050 A	9/1971	Coleman	52/249
4,360,133 A *	11/1982	Debaise	222/590
4,601,415 A	7/1986	Koffron	222/597
4,709,903 A	12/1987	LaBate	266/227
4,746,102 A *	5/1988	Gilles et al.	266/236
4,968,007 A	11/1990	Forte et al.	266/100
5,171,513 A	12/1992	Vassilicos	266/230
5,196,051 A *	3/1993	Heaslip et al.	75/582

DESCRIPTION

FIG. 1 is a top, perspective view of a high-yield ladle bottom;
FIG. 2 is a top plan view thereof;
FIG. 3 is a front elevational view thereof;
FIG. 4 is a left end view thereof;
FIG. 5 is a right end view thereof;
FIG. 6 is a back elevational view thereof; and,
FIG. 7 is a bottom view thereof.

1 Claim, 3 Drawing Sheets





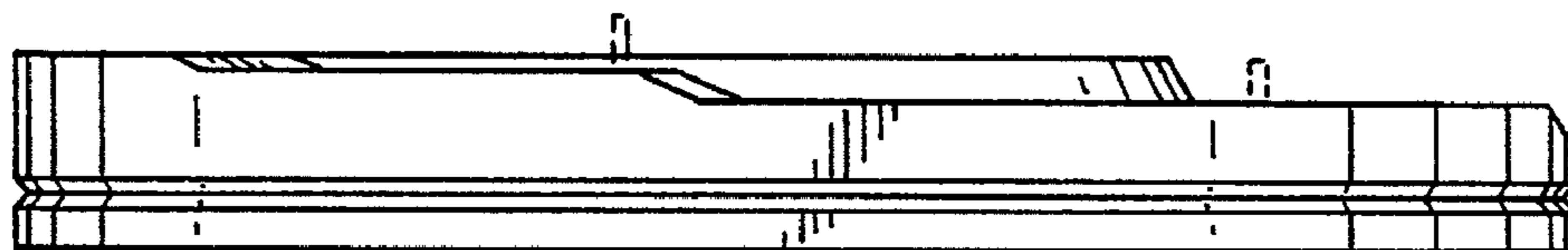


FIG. 3

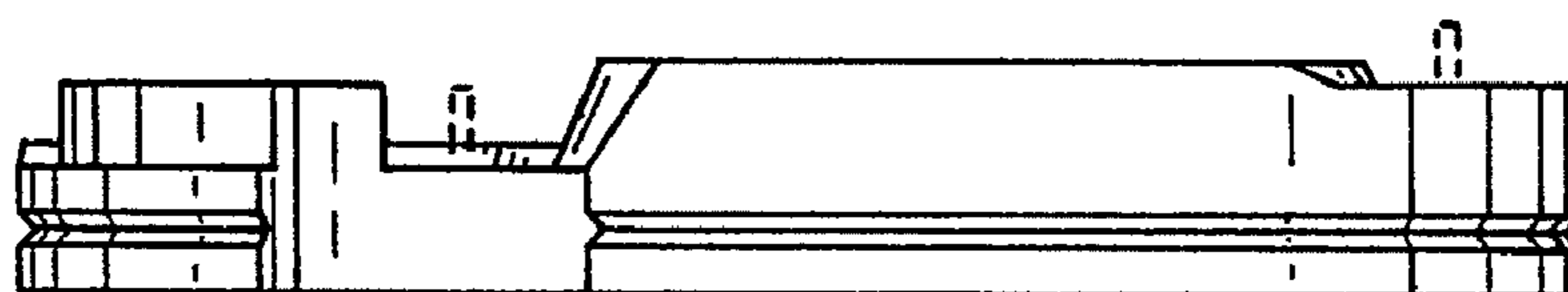


FIG. 4

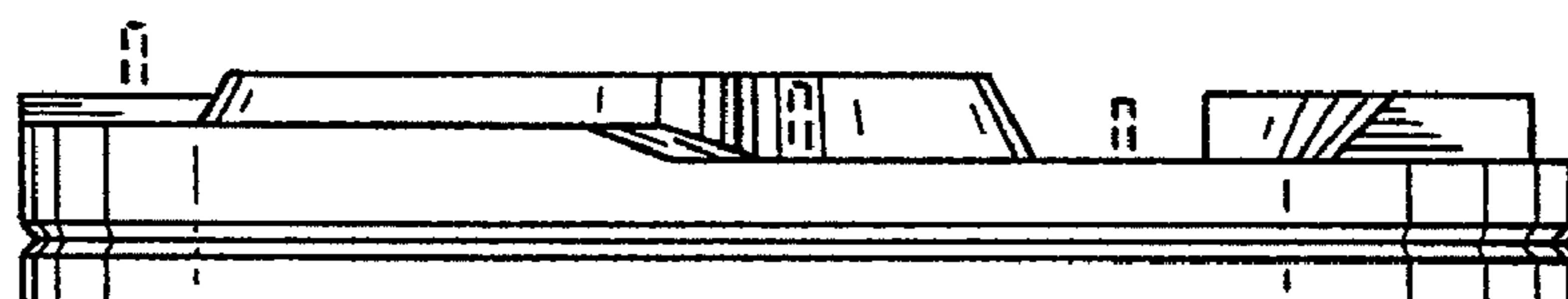


FIG. 5

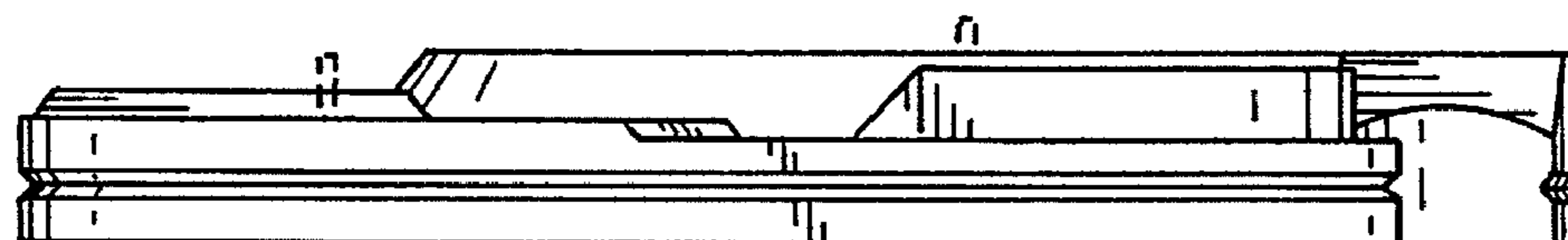


FIG. 6

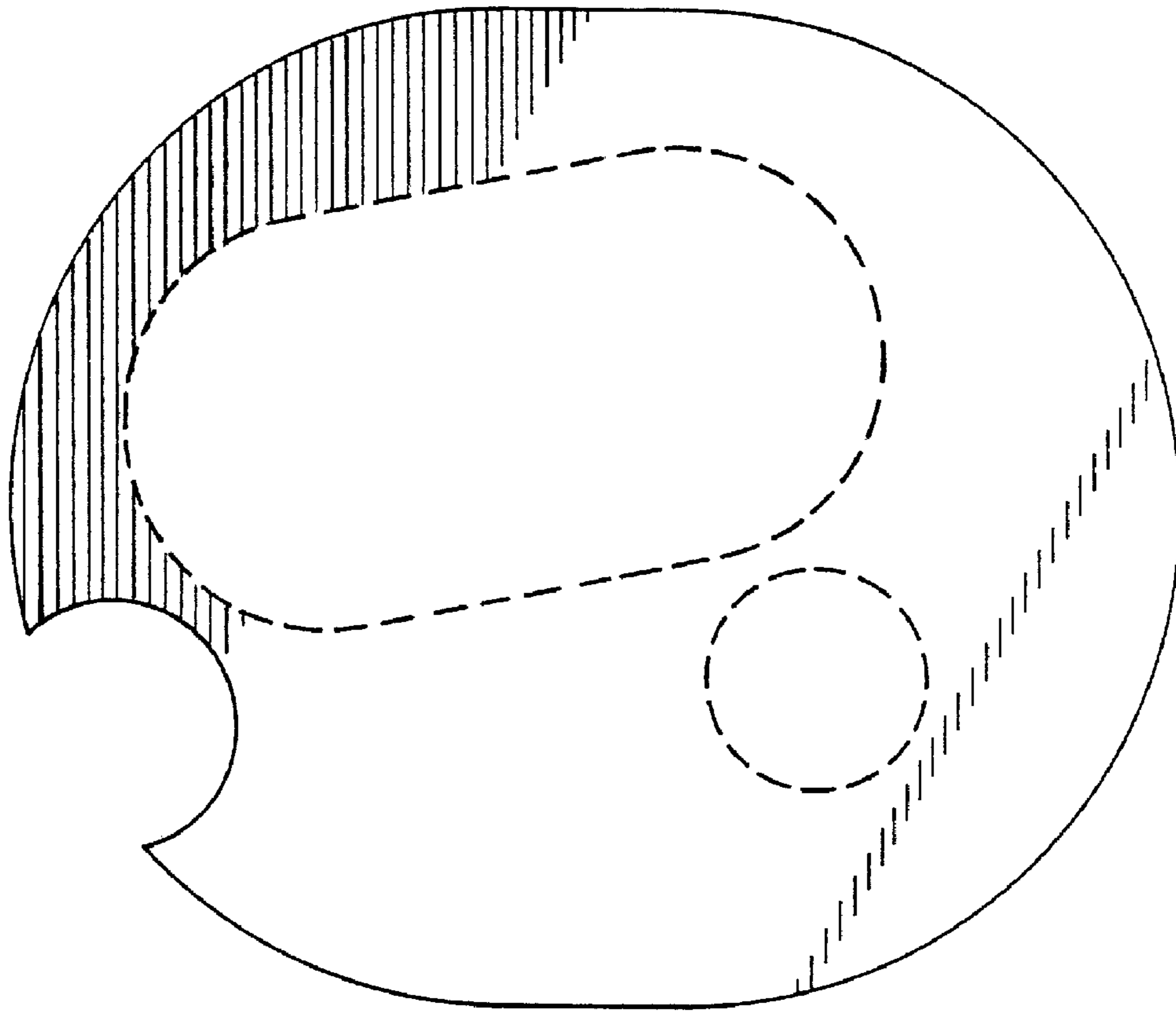


FIG. 7