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

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(54) **CLEANER CARTRIDGE**

3,535,162 A 10/1970 Bray et al. 134/42
3,549,420 A 12/1970 Cunningham 134/22

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(List continued on next page.)

FOREIGN PATENT DOCUMENTS

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DE	44 13 783 A1	3/1995
EP	0 744 148 A2	11/1996
EP	1 044 645 A2	10/2000
JP	11216092	8/1999
WO	WO 95/09557	4/1995
WO	WO 00/35333	6/2000
WO	WO 02/05047	1/2002
WO	WO 02/06435	1/2002

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

OTHER PUBLICATIONS

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(51) **LOC (7) Cl. 09-03**

(52) **U.S. Cl. D9/432**

(58) **Field of Search** D9/337, 338, 339, D9/414, 416, 418, 424, 432, 499; 206/216, 223, 233, 449, 485, 494, 527, 555; 220/890, 908; 221/22, 30, 33, 303, 312 R, 312 C; 229/100; 15/320

International Search Report from International Application No. PCT/US 02/19367, filed Jun. 17, 2002, dated Dec. 12, 2002.

Discover Magazine, Jun. 2002, "Does the Universe Exist if We Don't Observe It?", including cover, Table of Contents, and pp. 26 and 27.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,961,195 A *	6/1934 Carruthers	206/57
2,273,319 A *	2/1942 Huggins	206/57
2,563,151 A	8/1951 Bjorksten	134/111
2,731,659 A	1/1956 Coplen	15/320
2,765,909 A *	10/1956 Graham	206/57
2,993,494 A	7/1961 Svensson	134/169
3,037,887 A	6/1962 Brenner et al.	134/22
3,078,190 A	2/1963 Blaser et al.	134/10
3,145,840 A *	8/1964 Wright	206/57
3,162,427 A	12/1964 Knudson et al.	259/4
3,166,235 A *	1/1965 Schroeder	229/52
3,212,762 A	10/1965 Carroll et al.	261/124
3,231,134 A	1/1966 Webster	222/1
3,384,224 A *	5/1968 Buckholz et al.	206/57
3,392,418 A	7/1968 Schowalter	15/320
3,436,262 A	4/1969 Crowe et al.	134/10
3,453,678 A	7/1969 Gehman et al.	15/50
3,490,948 A	1/1970 Farison	134/36

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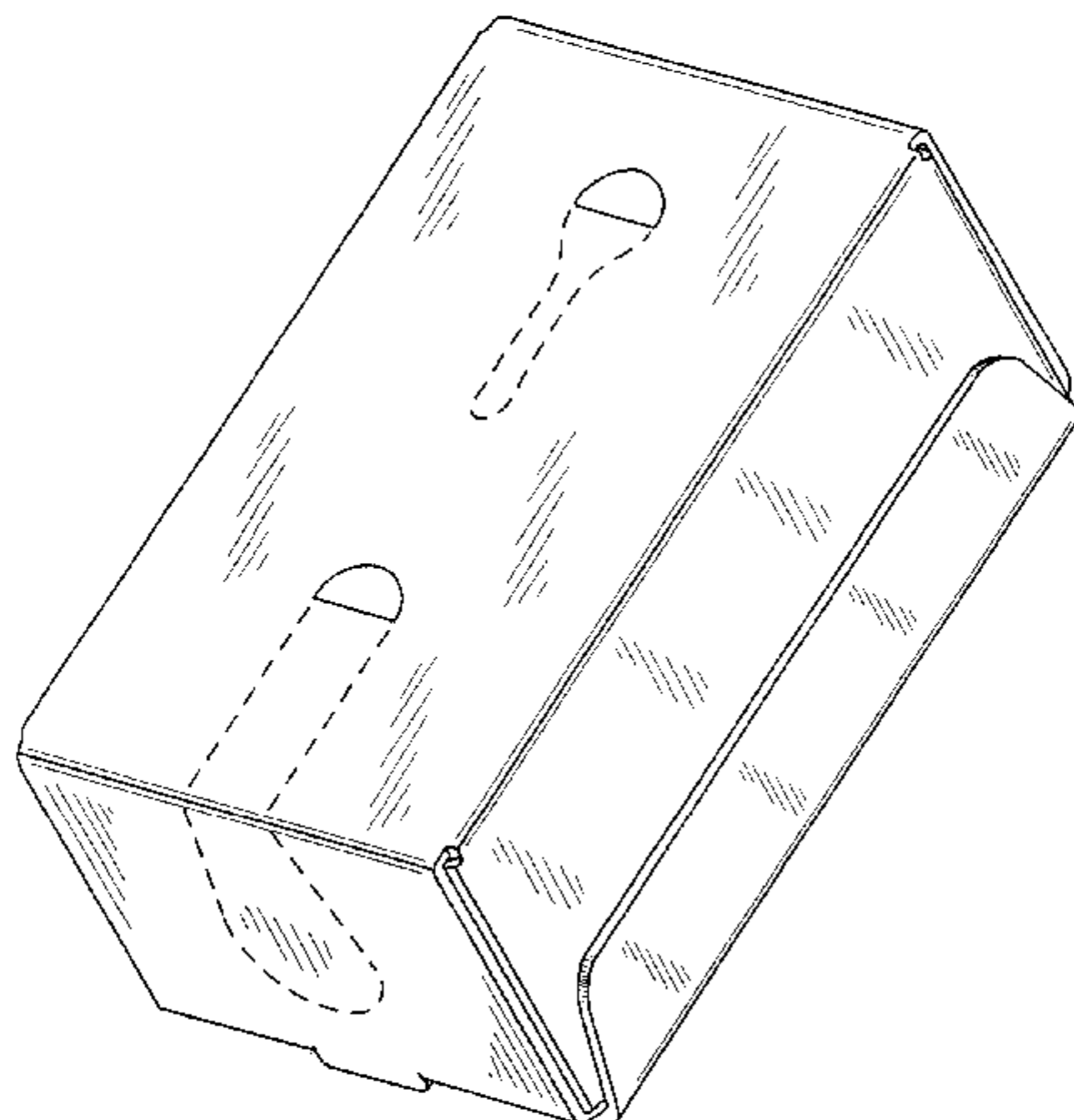
(57) **CLAIM**

The ornamental design for a cleaner cartridge, as shown.

DESCRIPTION

FIG. 1 is a perspective view of the front, bottom, and right side of a cleaner cartridge, showing the claimed design; FIG. 2 is an enlarged front elevation view thereof; FIG. 3 is an enlarged bottom plan view thereof; and, FIG. 4 is an enlarged right elevation view thereof. The broken lines shown in FIGS. 1, 2 and 3 represent perforation lines.

1 Claim, 4 Drawing Sheets



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U.S. PATENT DOCUMENTS

3,655,096 A	4/1972	Easter	222/82	4,595,420 A	6/1986	Williams, III et al.	134/6
3,676,889 A	7/1972	Edlin	15/320	4,667,364 A	5/1987	Meili	15/320
3,761,987 A	10/1973	Nayfa et al.	15/50 R	4,676,287 A	6/1987	Fitzwater	141/285
3,774,262 A	11/1973	Anthony et al.	15/322	4,780,243 A	10/1988	Edgley et al.	252/307
3,789,449 A	2/1974	MacFarland et al.	15/4	4,849,027 A	7/1989	Simmons	134/22.18
3,823,727 A	7/1974	Fry	137/88	4,881,288 A	11/1989	May et al.	15/98
3,931,662 A	1/1976	Nayfa et al.	15/320	4,974,618 A	12/1990	Nysted	134/21
3,940,826 A	3/1976	Phillips et al.	15/320	5,031,837 A	7/1991	Hanish	239/267
4,000,536 A	1/1977	Nayfa et al.	15/50 A	5,060,342 A	10/1991	Brazier	15/322
4,061,001 A	12/1977	von der Eltz et al.	68/200	5,133,107 A	7/1992	MacDonald	15/50.3
4,107,075 A	8/1978	Kramer	252/359 E	5,213,120 A	5/1993	Dickson	134/102.1
4,133,773 A	1/1979	Simmons	252/359	5,462,607 A	10/1995	Mestetsky et al.	134/22.12
4,167,798 A	9/1979	Klugl et al.	15/320	5,509,972 A	4/1996	Akazawa et al.	134/26
4,167,799 A	9/1979	Webb	15/320	5,613,608 A *	3/1997	Tronchetti et al.	206/494
4,191,590 A	3/1980	Sundheim	134/21	5,649,643 A	7/1997	Ridgeway	222/105
4,369,544 A	1/1983	Parisi	15/320	5,813,086 A	9/1998	Ueno et al.	15/320
4,413,769 A *	11/1983	Michetti	229/120.17	5,853,814 A	12/1998	Murphy	427/434.6
4,419,141 A	12/1983	Kunkel	134/22.12	6,090,217 A	7/2000	Kittle	134/11
4,429,432 A	2/1984	Copeland et al.	15/320	6,209,756 B1	4/2001	Van Der Heijden	222/105
4,511,486 A	4/1985	Shah	252/90	6,276,613 B1	8/2001	Kramer	239/304
4,570,856 A	2/1986	Groth et al.	239/310	6,418,586 B2	7/2002	Fulghum	15/320

* cited by examiner

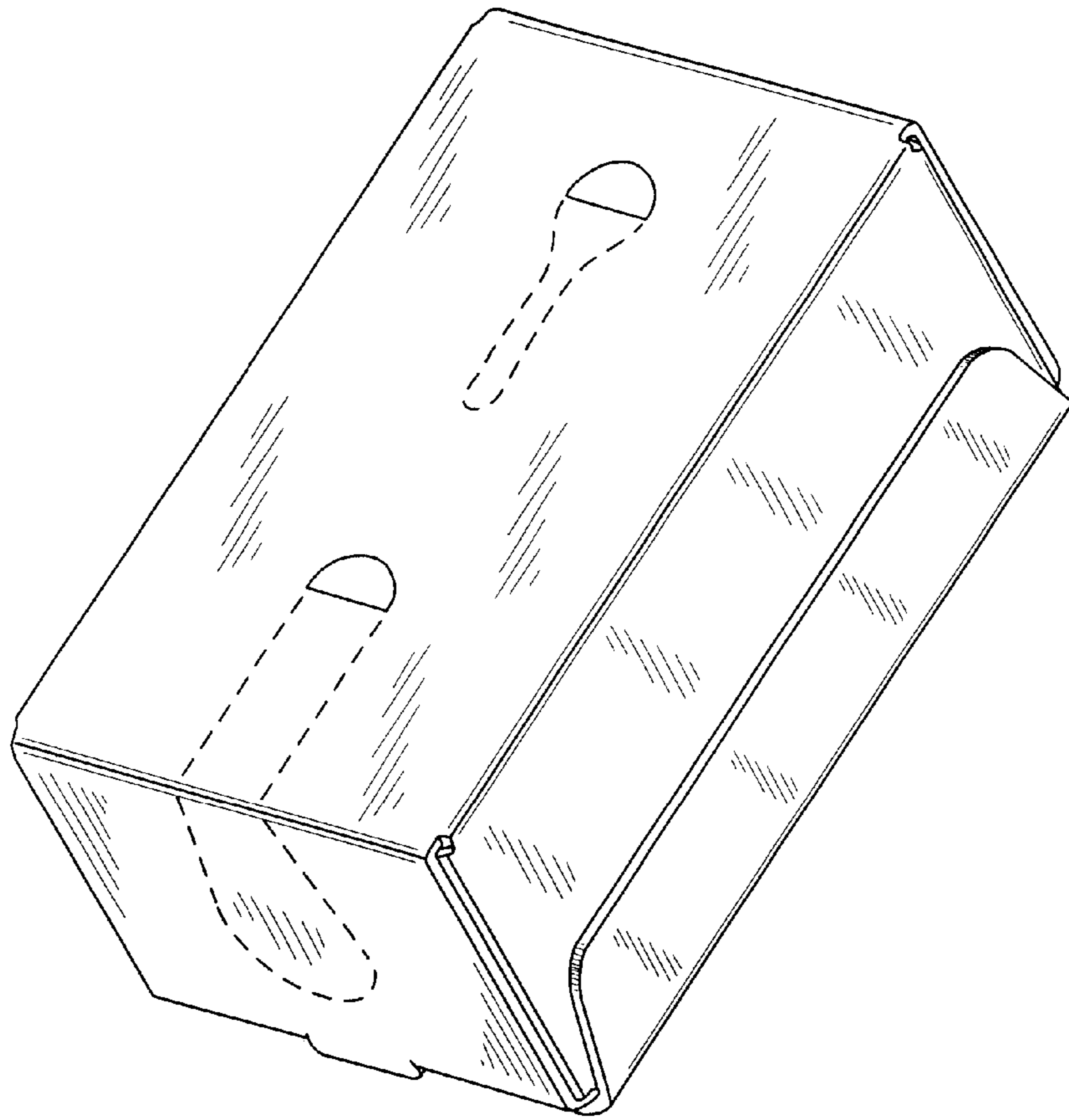


FIG. 1

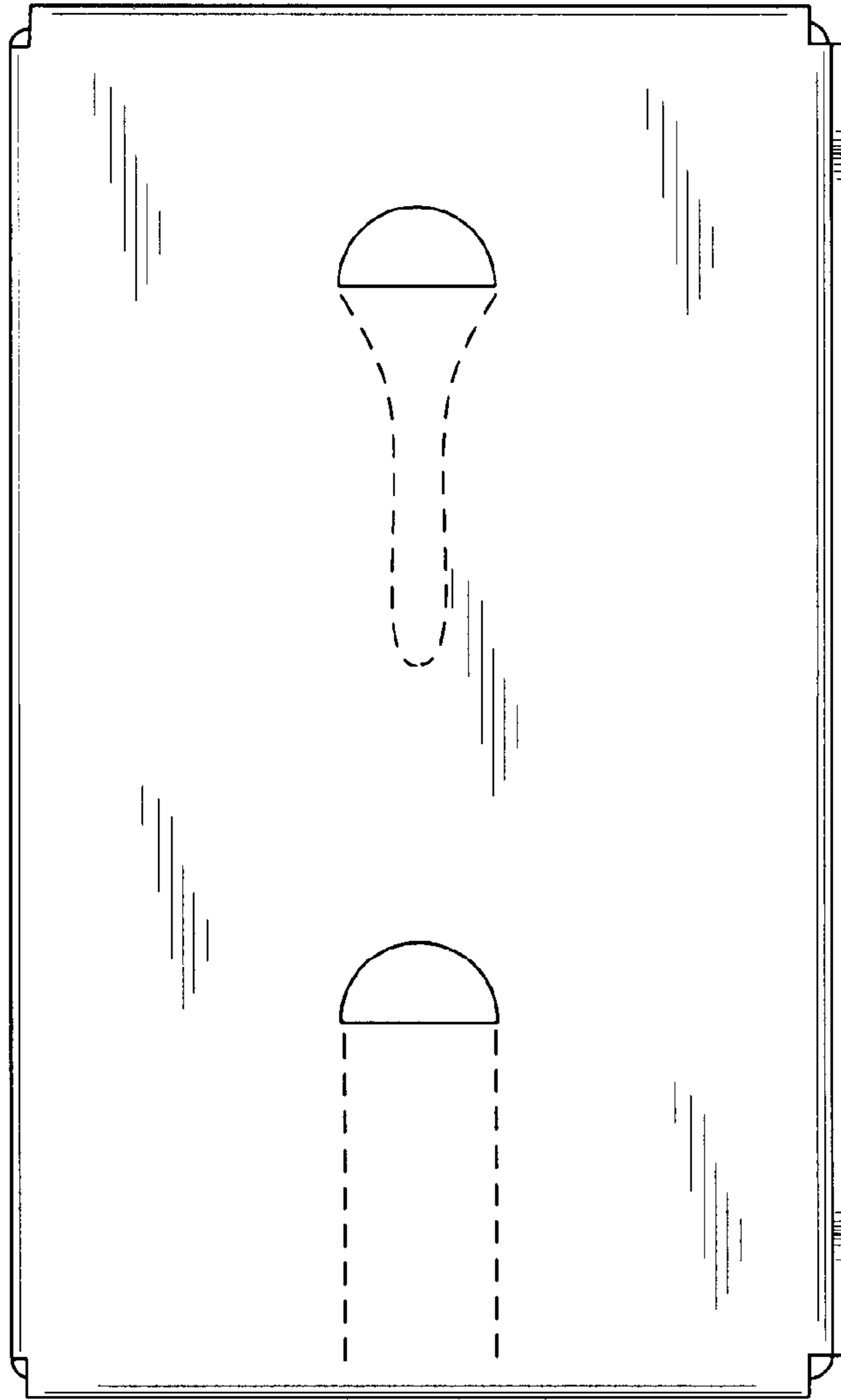


FIG. 2

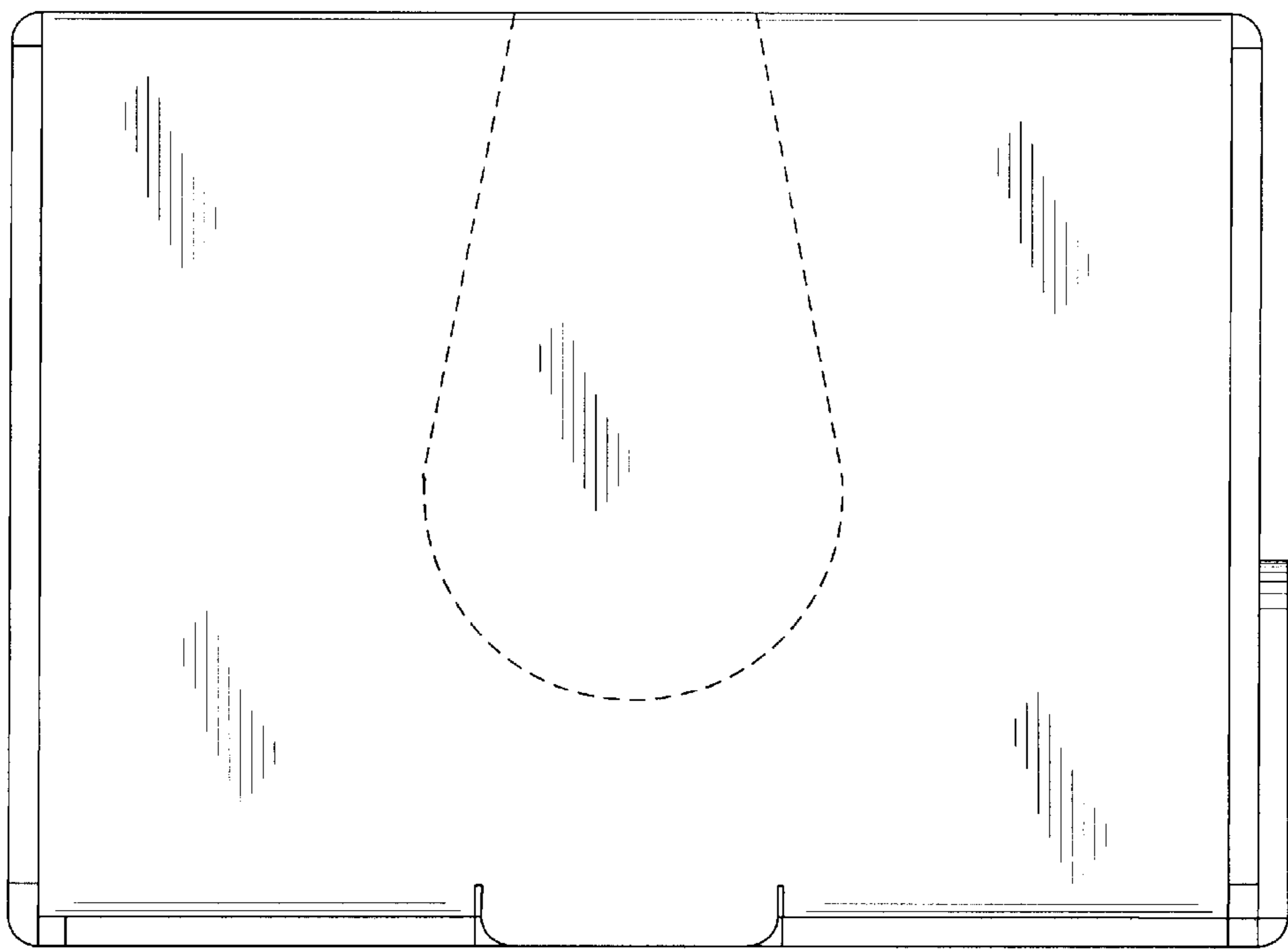


FIG. 3

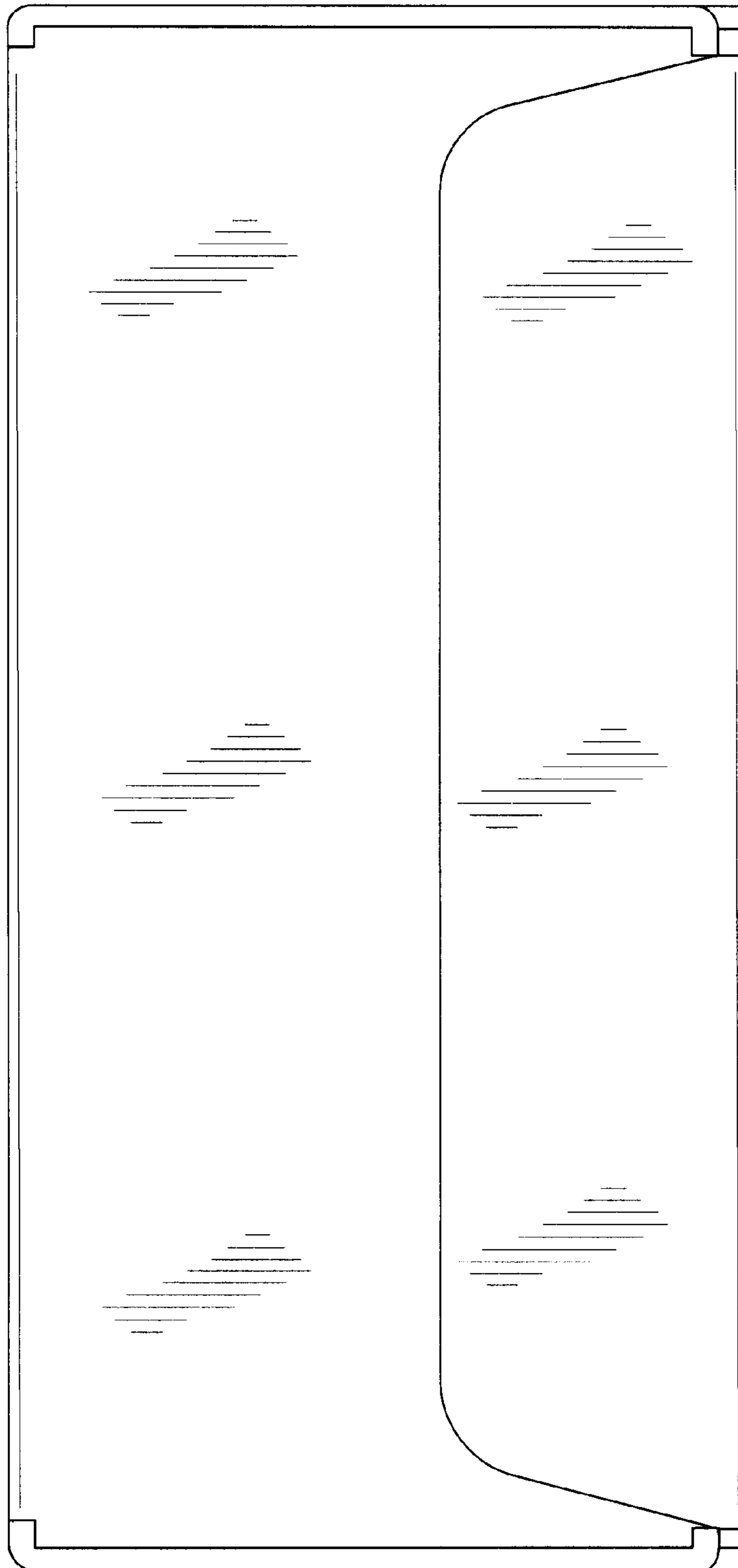


FIG. 4