



US00D485175S

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

(10) **Patent No.: US D485,175 S**

(45) **Date of Patent: \*\* Jan. 13, 2004**

(54) **CLEANER CARTRIDGE**

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

(75) Inventors: **Bruce F. Field**, Golden Valley, MN  
(US); **Daniel L. Joynt**, Wyoming, MN  
(US); **Joseph K. Krueger**, Hopkins,  
MN (US); **Earl Krueger**, Inver Grove  
Heights, MN (US); **Bryan L.  
Christensen**, Dayton, MN (US)

(List continued on next page.)

**FOREIGN PATENT DOCUMENTS**

(73) Assignee: **Tennant Company**, Minneapolis, MN  
(US)

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**

(21) Appl. No.: **29/161,082**

International Search Report from International Application  
No. PCT/US 02/23758 filed Jul. 26, 2002 (date of report  
Nov. 14, 2002).

(22) Filed: **May 21, 2002**

International Search Report from International Application  
No. PCT/US 02/23769 filed Jul. 26, 2002 (date of report  
Dec. 2, 2002).

(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

*Primary Examiner*—Philip S. Hyder

*Assistant Examiner*—Daniel Bui

(74) *Attorney, Agent, or Firm*—Westman, Champlin &  
Kelly

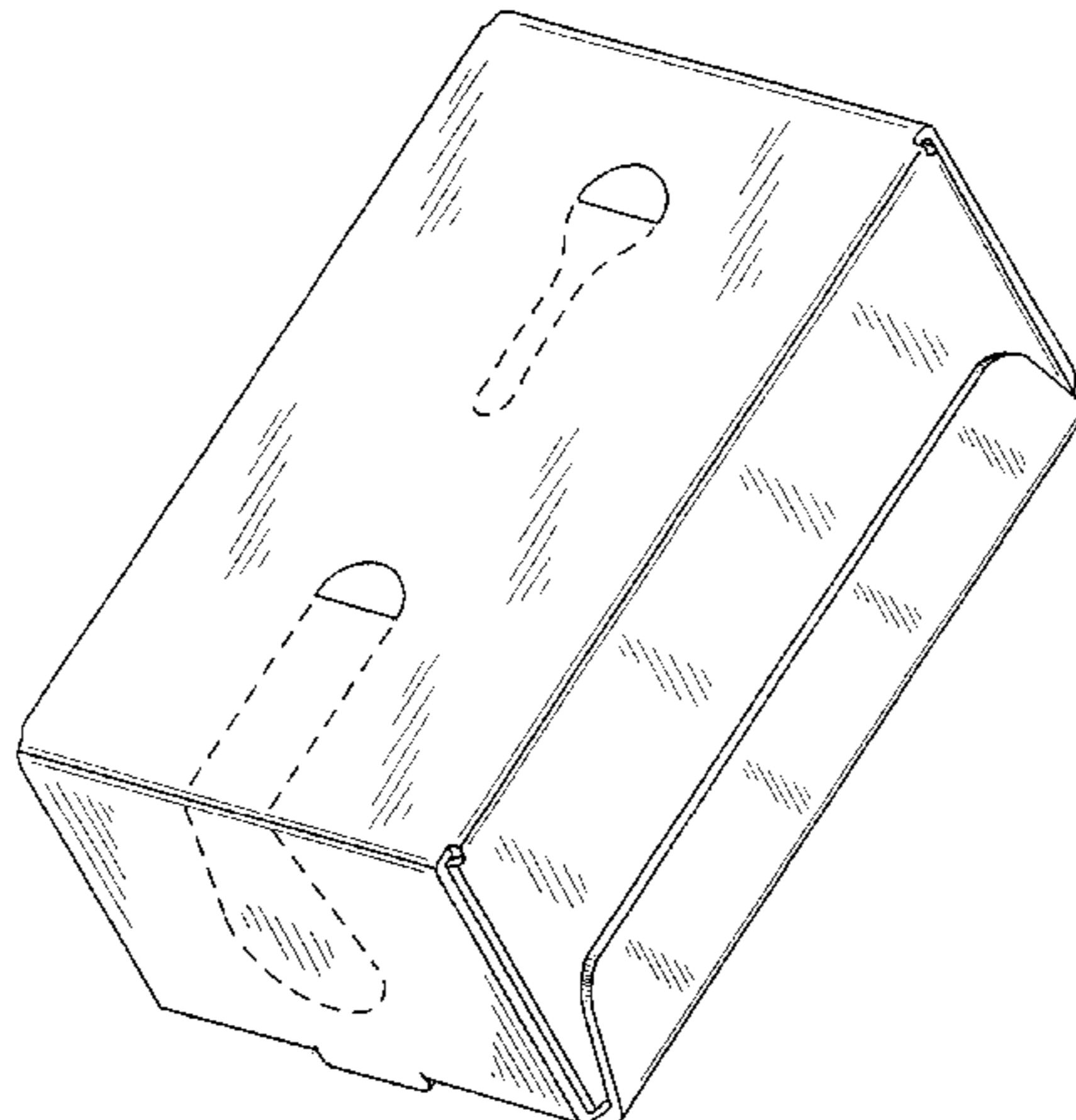
(57) **CLAIM**

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**



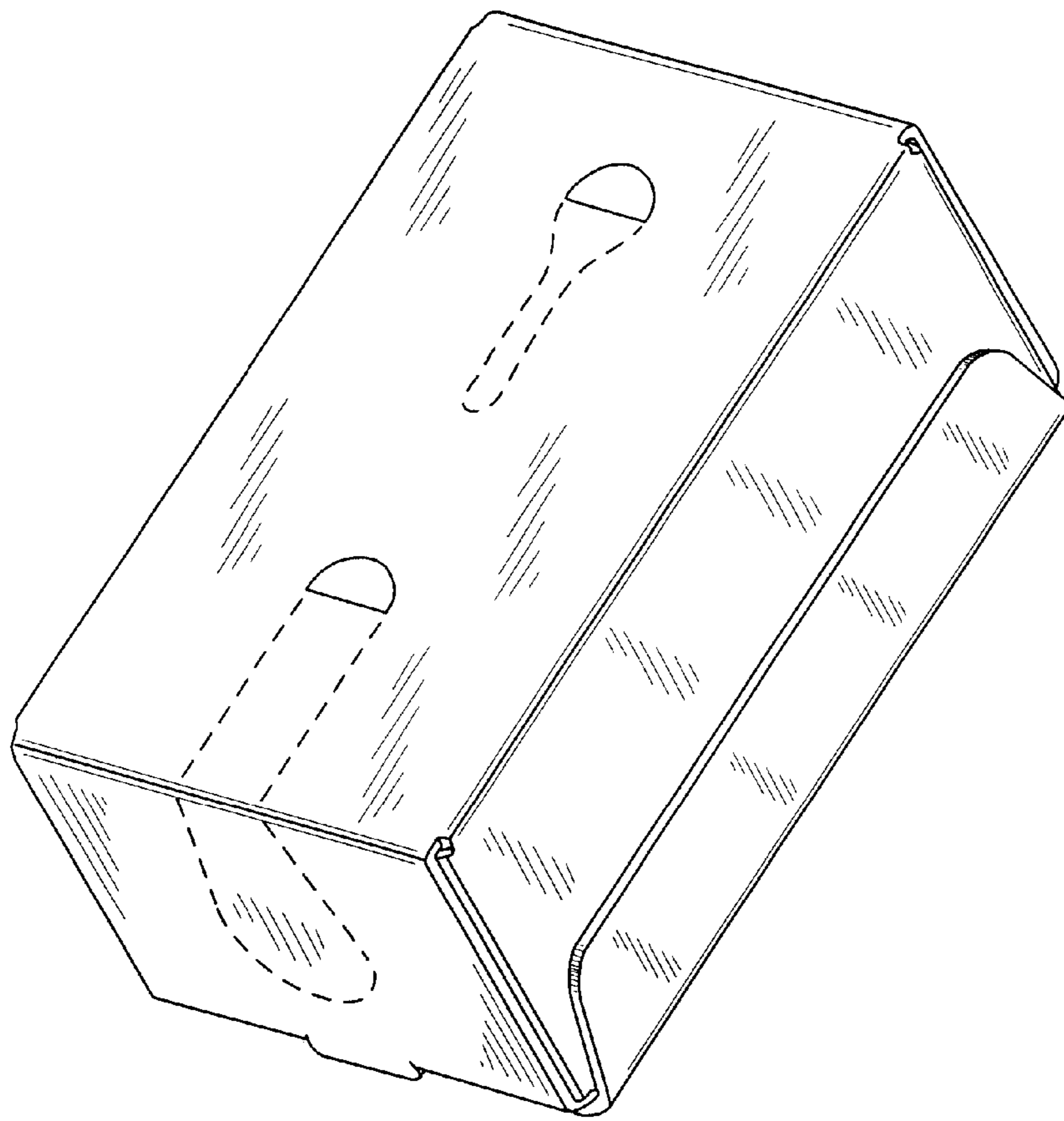
# US D485,175 S

Page 2

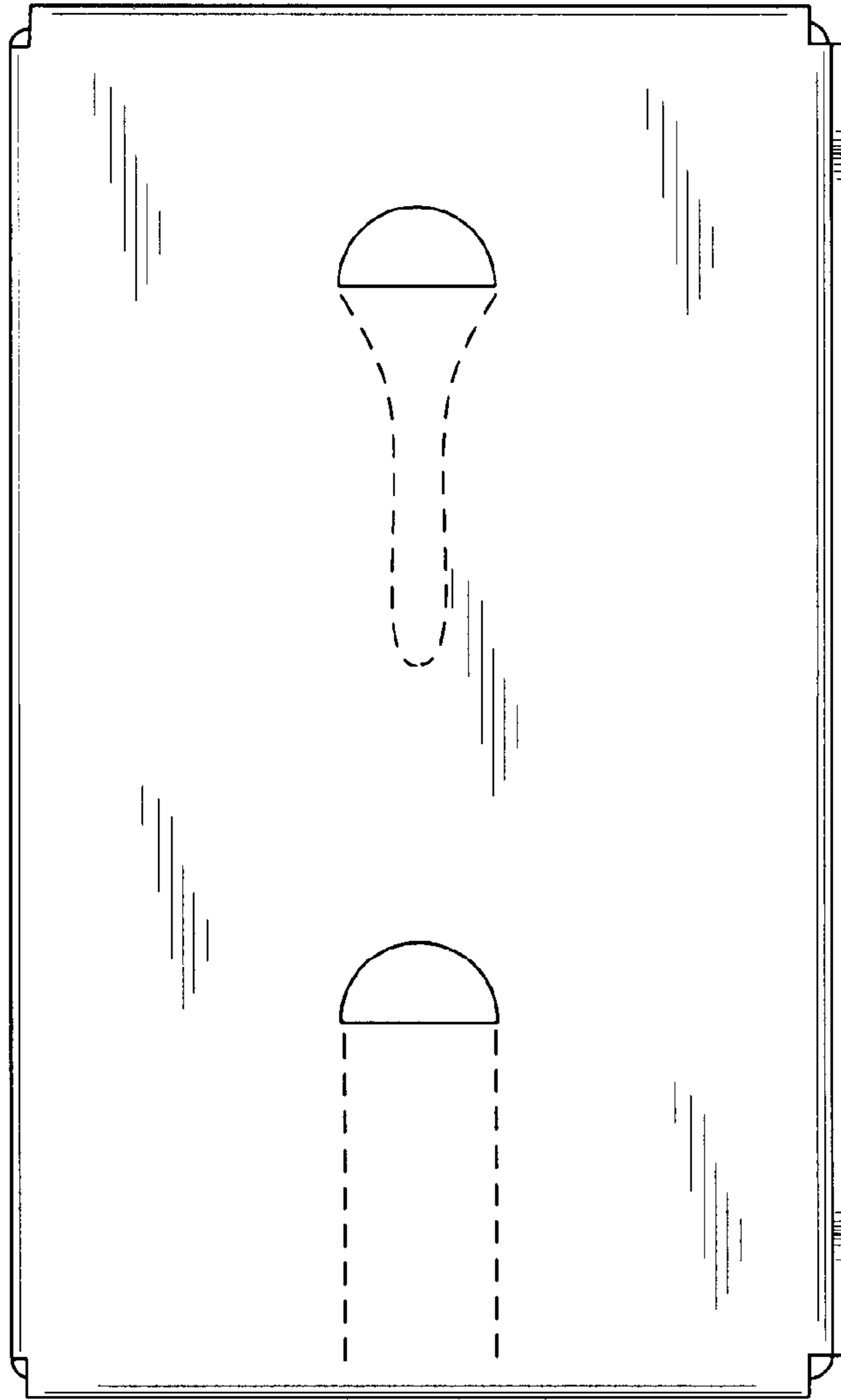
## U.S. PATENT DOCUMENTS

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

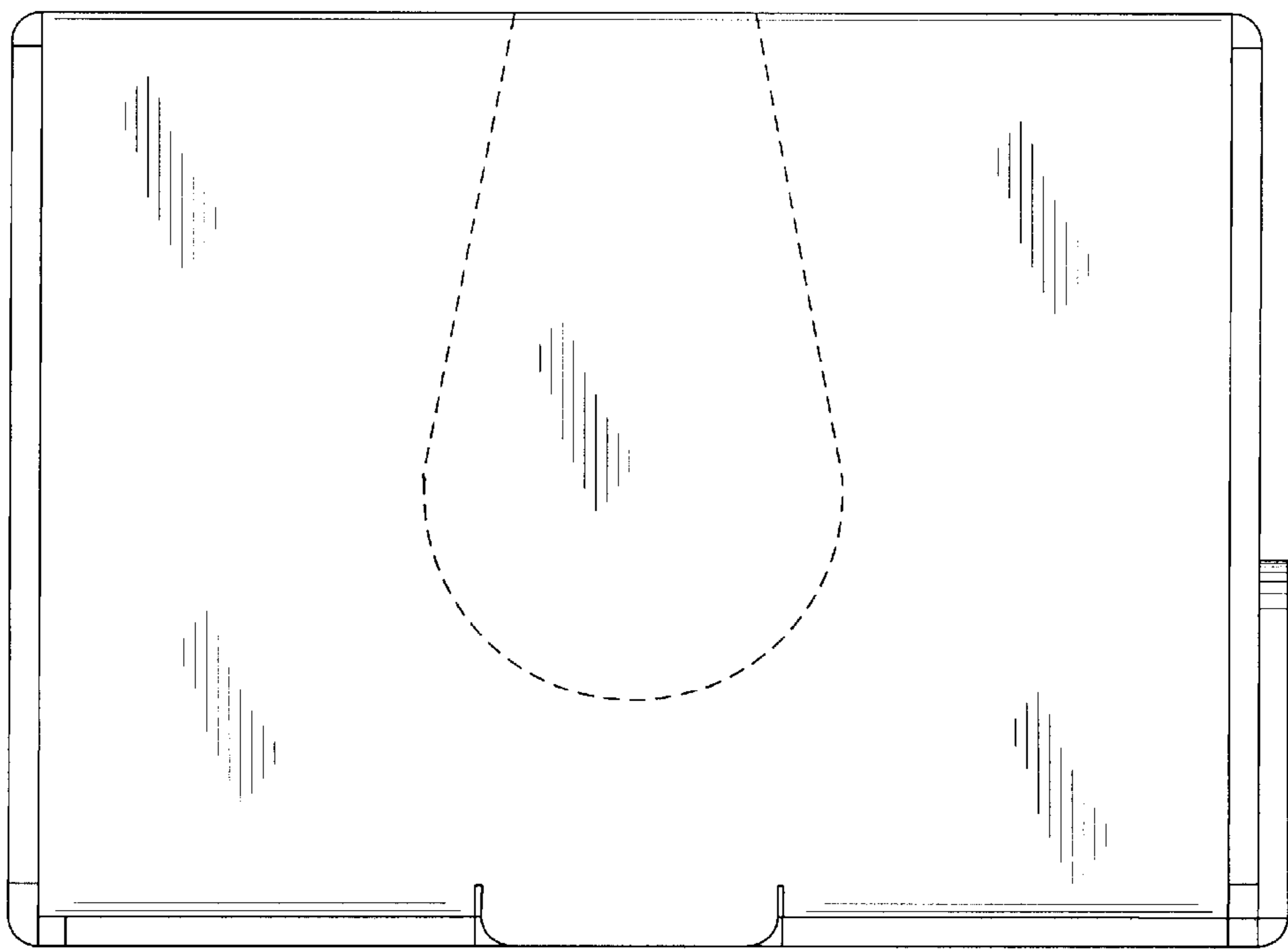
\* cited by examiner



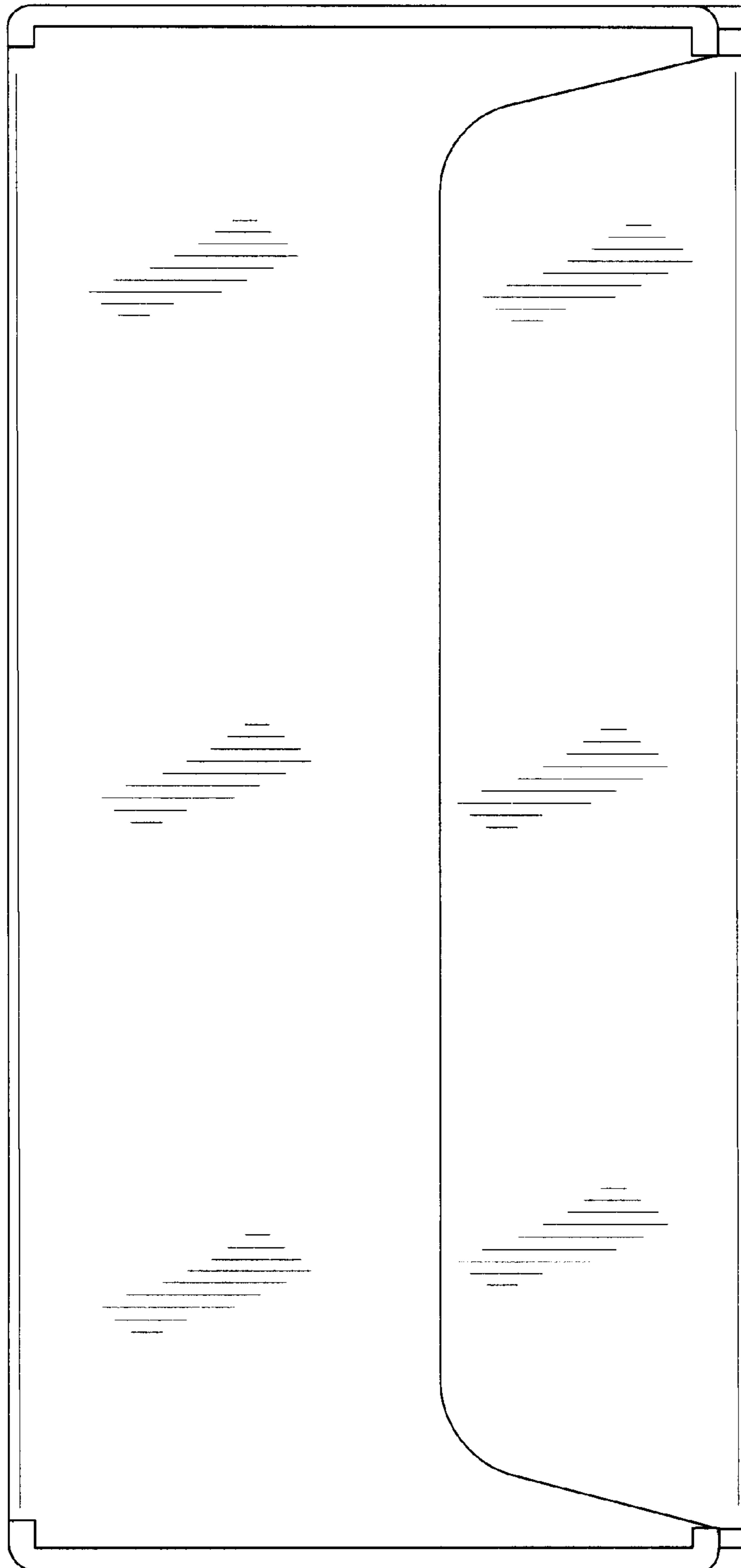
*FIG. 1*



*FIG. 2*



*FIG. 3*



*FIG. 4*