US00D851779S

(12) United States Design Patent

Bulloch et al.

(10) Patent No.: US D851,779 S
(45) Date of Patent: ** Jun. 18, 2019

(54) **ELECTROPHORESIS CASSETTE WITH SAMPLE LOADING GUIDE**

(71) Applicant: **LIFE TECHNOLOGIES CORPORATION**, Carlsbad, CA (US)

(72) Inventors: **Kyle Bulloch**, San Diego, CA (US); **Thomas Diller**, San Diego, CA (US); **Xin Mathers**, Poway, CA (US)

(73) Assignee: **LIFE TECHNOLOGIES CORPORATION**, Carlsbad, CA (US)

(**) Term: **15 Years**

(21) Appl. No.: **29/545,629**

(22) Filed: **Nov. 13, 2015**

(51) **LOC (11) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/233**

(58) **Field of Classification Search**
USPC D24/216, 222, 224–227, 231–233; D10/81

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,888,759 A 6/1975 Elson
4,294,684 A 10/1981 Serwer

(Continued)

FOREIGN PATENT DOCUMENTS

WO 1995024640 9/1995
WO WO1995024640 9/1995

(Continued)

OTHER PUBLICATIONS

Caprette, D. "Characterization of red cell membrane proteins by SDS-Page—Preparing SDS Gels," http:www.ruf.rice.edu/~bioslabs/studies/sds-page/gellab2a.html, updated May 24, 2005, downloaded Jan. 2, 2017, pp. 1-5.

Primary Examiner — Ian Simmons
Assistant Examiner — Samantha Q Lawrence

(57) **CLAIM**

The ornamental design for an electrophoresis cassette with sample loading guide, as shown and described.

DESCRIPTION

This application is related to U.S. Design patent application Ser. No. 29/545,620, entitled "ELECTROPHORESIS GEL CASSETTE," and filed on a date even herewith; and to U.S. Design patent application Ser. No. 29/545,624, entitled "ELECTROPHORESIS SLAB GEL SAMPLE LOADING GUIDE," and filed on a date even herewith, the entire contents of each of which are incorporated by reference herein.

FIG. **1** is a front perspective view of a first embodiment of an electrophoresis cassette with sample loading guide showing our new design.

FIG. **2** is back perspective view thereof.

FIG. **3** is a front view thereof.

FIG. **4** is a back view thereof.

FIG. **5** is a right side view thereof.

FIG. **6** is a left side view thereof.

FIG. **7** is a top view thereof.

FIG. **8** is a bottom view thereof.

FIG. **9** is a front perspective view of a second embodiment of an electrophoresis cassette with sample loading guide showing our new design.

FIG. **10** is a back perspective view thereof.

FIG. **11** is a front view thereof.

FIG. **12** is a back view thereof.

FIG. **13** is a right side view thereof

FIG. **14** is a left side view thereof.

FIG. **15** is a top view thereof.

FIG. **16** is a bottom view thereof.

FIG. **17** is a front perspective view of a third embodiment of an electrophoresis cassette with sample loading guide showing our new design.

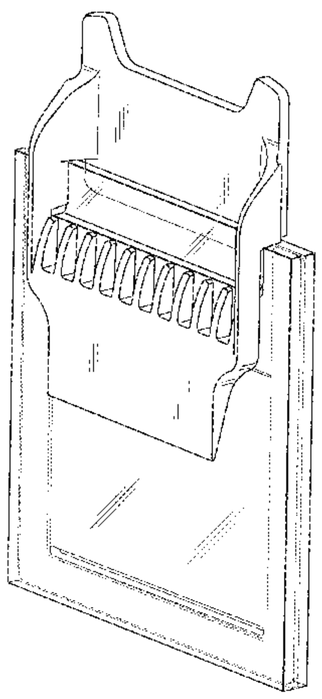
FIG. **18** is a back perspective thereof.

FIG. **19** is a front view thereof.

FIG. **20** is a back view thereof.

FIG. **21** is a right side view thereof.

(Continued)



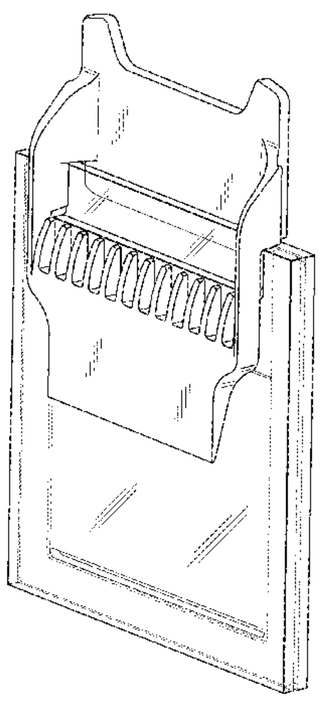


FIG. **22** is a left side view thereof.
FIG. **23** is a top view thereof; and,
FIG. **24** is a bottom view thereof.
The broken lines in the figures show unclaimed portions and form no part of the claimed design.

1 Claim, 18 Drawing Sheets

(58) **Field of Classification Search**
CPC B01D 57/02; B29C 51/30; B29C 51/36; C07K 1/26; G01N 27/447; G01N 27/44704; G01N 27/44708; G01N 27/44713; G01N 27/44721; G01N 27/44739; G01N 27/44743; G01N 27/44747; G01N 27/44756; G01N 27/44769; G01N 27/44773; G01N 27/44778; G01N 27/44782; G01N 27/44786; G01N 27/44795; G01N 27/453
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D269,123	S	*	5/1983	Hoefer	D24/233
4,560,459	A		12/1985	Hoefer	
4,574,040	A		3/1986	Delony et al.	
4,693,804	A		9/1987	Serwer	
4,715,942	A		12/1987	Tezuka	
4,772,373	A		9/1988	Ebata et al.	
4,773,984	A		9/1988	Flesher et al.	
4,795,541	A		1/1989	Hurd	
D303,007	S		8/1989	Flesher et al.	
4,957,613	A		9/1990	Schuette	
4,975,174	A		12/1990	Bambeck	
5,073,246	A		12/1991	Chu	
5,116,483	A		5/1992	Lander	
5,192,408	A		3/1993	Scott	
5,228,971	A		7/1993	Brumley et al.	
5,238,651	A		8/1993	Chuba	
5,284,565	A		2/1994	Chu	
5,292,420	A		3/1994	Nakanura et al.	
5,407,552	A	*	4/1995	Lebacq	B01D 57/02 204/619
D367,713	S		3/1996	La Motte	
5,618,399	A		4/1997	Gautsch	
5,626,735	A	*	5/1997	Chu	G01N 27/44704 204/606
5,632,877	A		5/1997	Van Atta et al.	
5,685,967	A		11/1997	Manis	
5,753,095	A		5/1998	Alpenfels	
5,773,645	A		6/1998	Hochstrasser	
5,827,418	A		10/1998	Haven	
5,843,295	A		12/1998	Steiner	
5,885,431	A		3/1999	Renfrew et al.	
5,888,369	A	*	3/1999	Tippins	G01N 27/44708 204/456
5,972,188	A		10/1999	Rice	
5,989,403	A		11/1999	Provonchee	
6,001,233	A		12/1999	Levy et al.	
6,027,628	A		2/2000	Yamamura	
6,110,340	A		8/2000	Lau et al.	
6,110,344	A		8/2000	Renfrew	
6,139,709	A		10/2000	Scott	
D443,068	S	*	5/2001	Manusu	D24/233
6,231,741	B1		5/2001	Tuurenhout	
6,379,519	B1	*	4/2002	Sevigny	B29C 51/30 204/620
6,436,262	B1		8/2002	Perez et al.	
6,521,111	B1		2/2003	Amshey	
D505,729	S		5/2005	Lee	
6,929,732	B2		8/2005	Chen	
6,932,895	B2		8/2005	Anderson	
6,936,150	B2		8/2005	Rooney et al.	
6,942,775	B1		9/2005	Fox et al.	
D510,770	S		10/2005	Emerson	
D511,386	S		11/2005	Emerson	
6,969,455	B1		11/2005	Helfer et al.	
D524,449	S	*	7/2006	Emerson	D24/233
7,276,143	B2		10/2007	Chen et al.	
7,601,251	B2		10/2009	Rooney	
7,749,367	B2		7/2010	Zhou et al.	
D654,597	S		2/2012	Hiramura	
8,361,294	B2	*	1/2013	Wang	G01N 27/44756 204/466
8,398,838	B2		3/2013	Chen et al.	
8,449,745	B2		5/2013	Wang	
8,480,874	B2		7/2013	Henry	
D719,277	S	*	12/2014	Miller	D24/233
D733,922	S		7/2015	Sjolander	
9,234,874	B2	*	1/2016	Panattoni	G01N 27/44704
D757,958	S		5/2016	Murray	
9,383,335	B2		7/2016	Bjorkesten	
9,400,260	B2	*	7/2016	Suh	G01N 27/44713
D792,603	S		7/2017	Bulloch et al.	
9,714,918	B2	*	7/2017	Updyke	G01N 27/44778
D794,823	S		8/2017	Nelson	
D795,449	S	*	8/2017	Miller	D24/233
D806,894	S	*	1/2018	Nelson	D24/233
10,101,296	B2	*	10/2018	Strong	G01N 27/44704
2002/0079222	A1	*	6/2002	Sevigny	B29C 51/30 204/469
2006/0163067	A1	*	7/2006	Sevigny	B29C 51/30 204/465
2006/0278533	A1		12/2006	Chen	
2007/0205108	A1		9/2007	Tzu-Chao et al.	
2007/0284250	A1	*	12/2007	Magnant	G01N 27/44739 204/459
2011/0042213	A1		2/2011	Updyke	
2011/0042217	A1		2/2011	Updyke	
2014/0045250	A1		2/2014	Kreifels et al.	
2016/0041123	A1	*	2/2016	Guadagno	G01N 27/44743 204/456
2016/0084797	A1		3/2016	Goh et al.	
2016/0258903	A1	*	9/2016	Ran	G01N 27/44739
2017/0153204	A1	*	6/2017	Bulloch	G01N 27/44704

FOREIGN PATENT DOCUMENTS

WO	1999054721	10/1999
WO	WO1999054721	10/1999
WO	2007032951	3/2007
WO	WO2007032951	3/2007

* cited by examiner

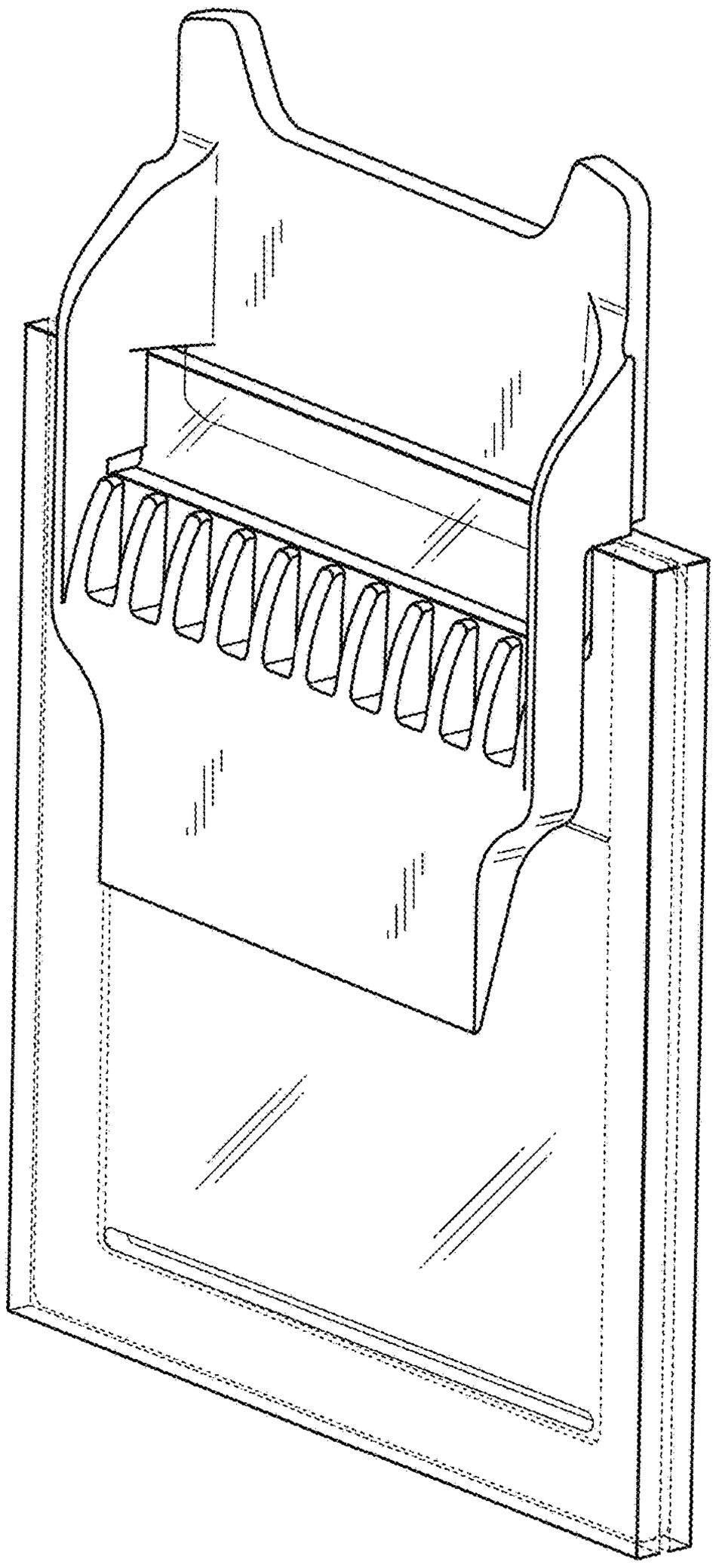


FIG. 1

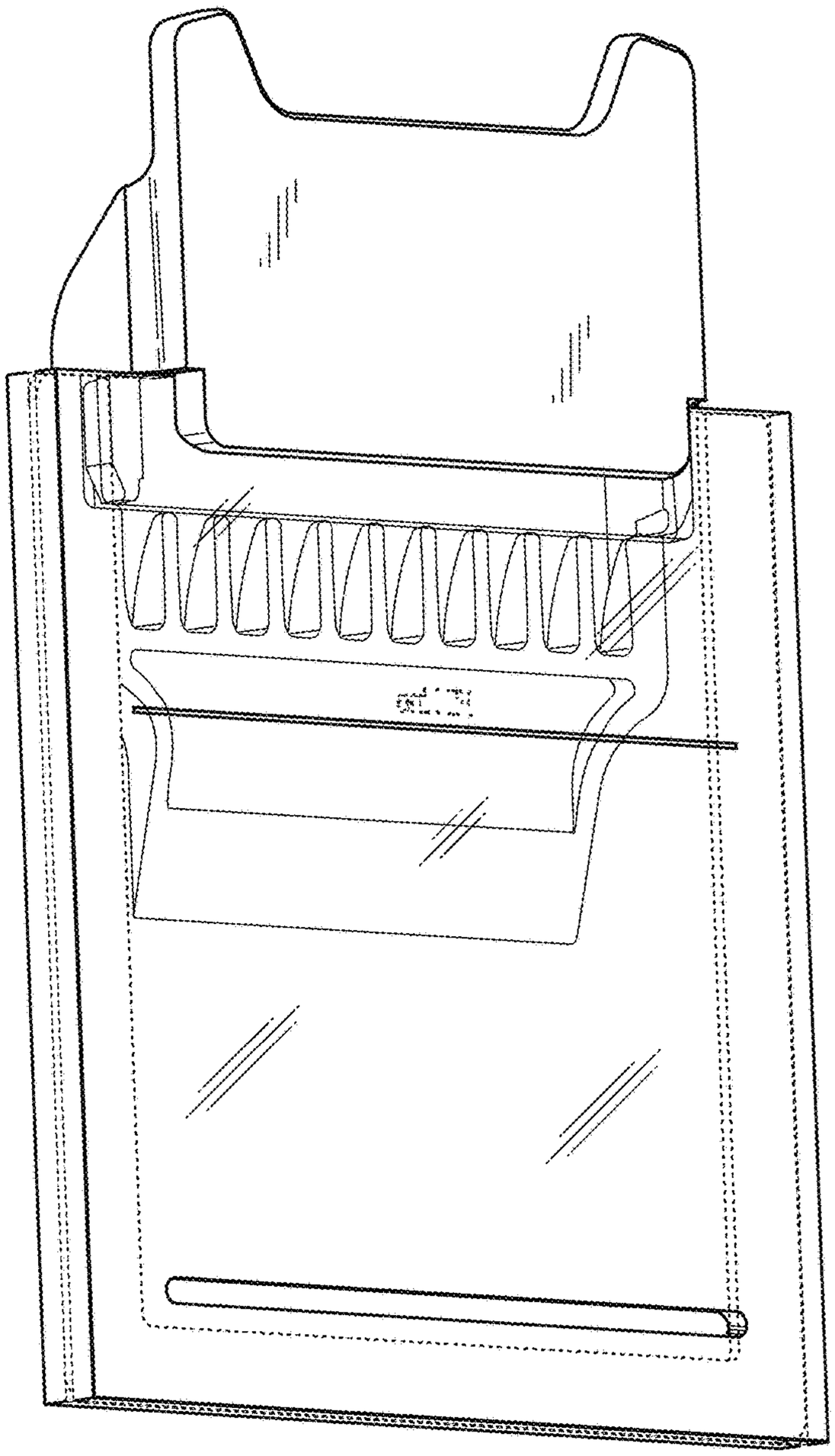


FIG. 2

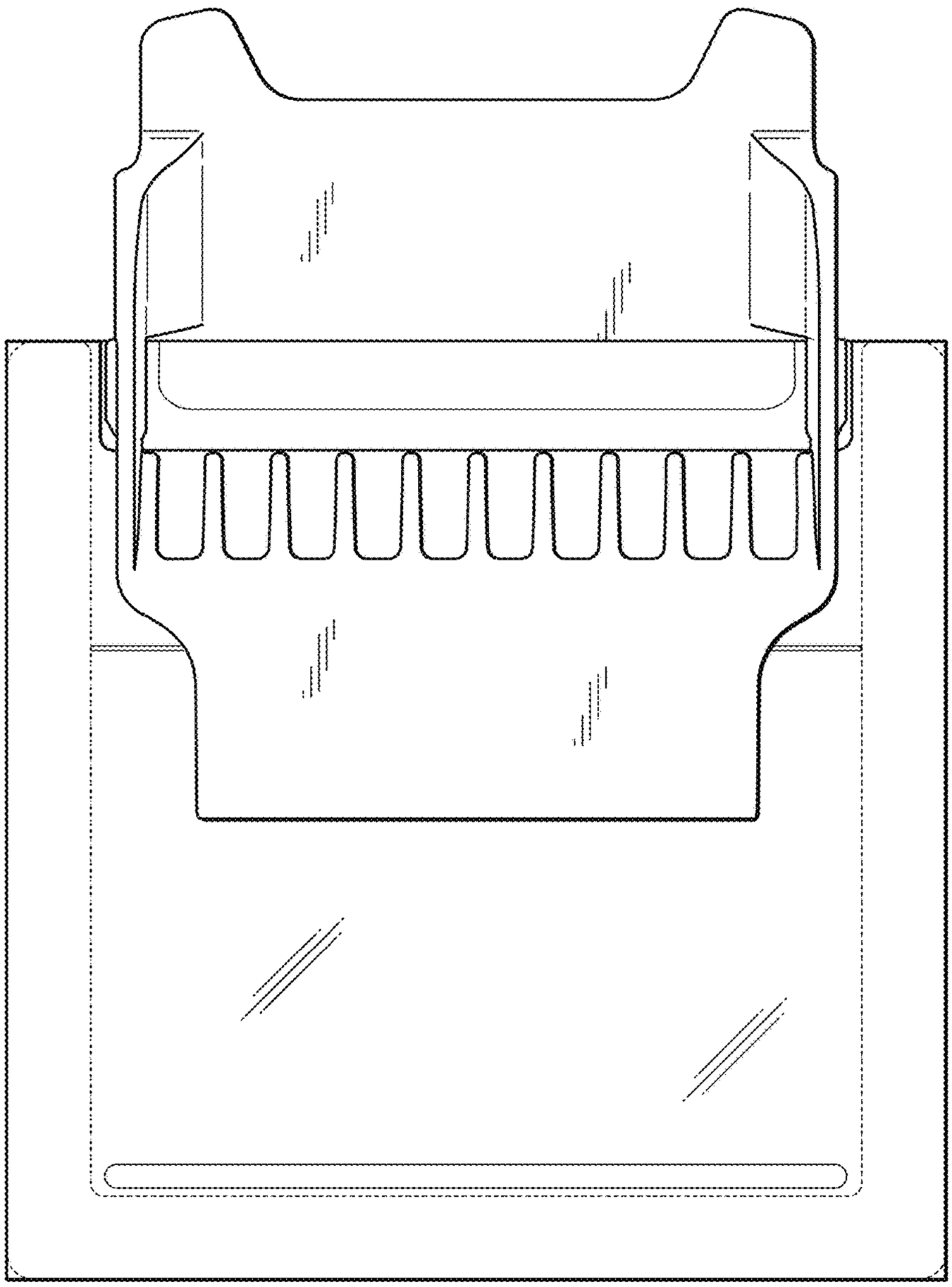


FIG. 3

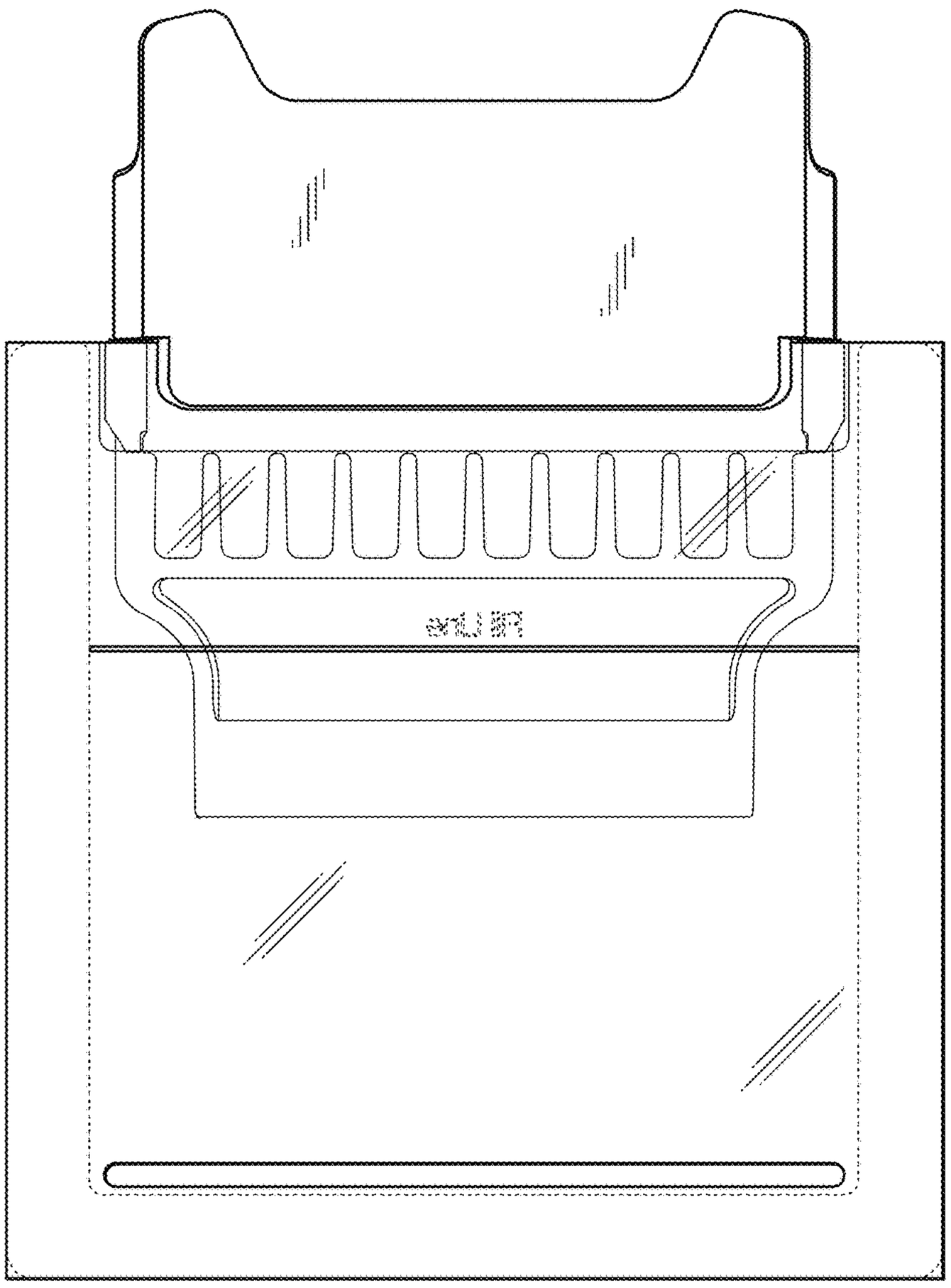


FIG. 4

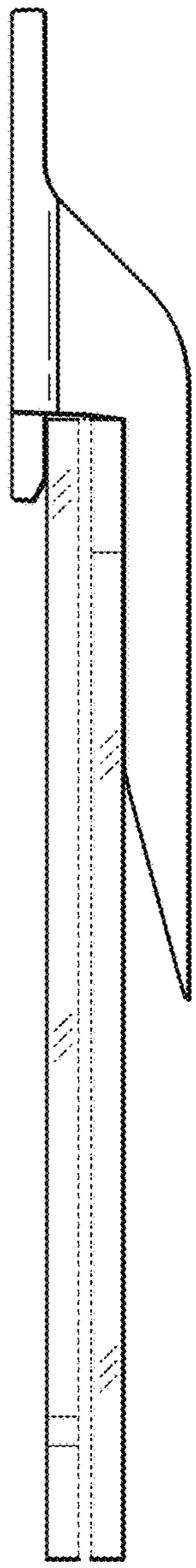


FIG. 5

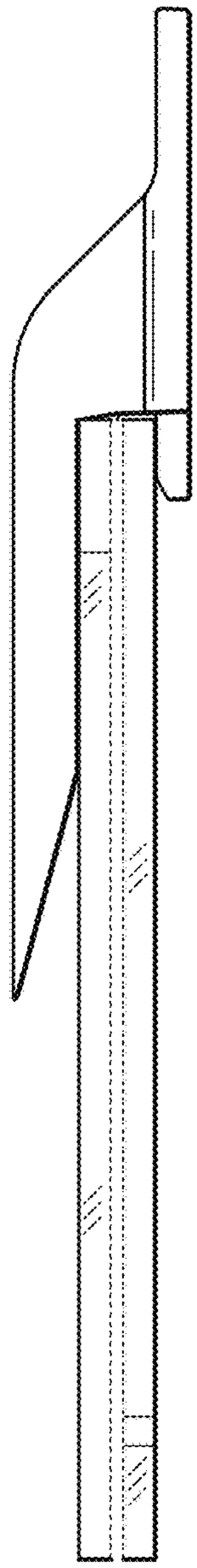


FIG. 6

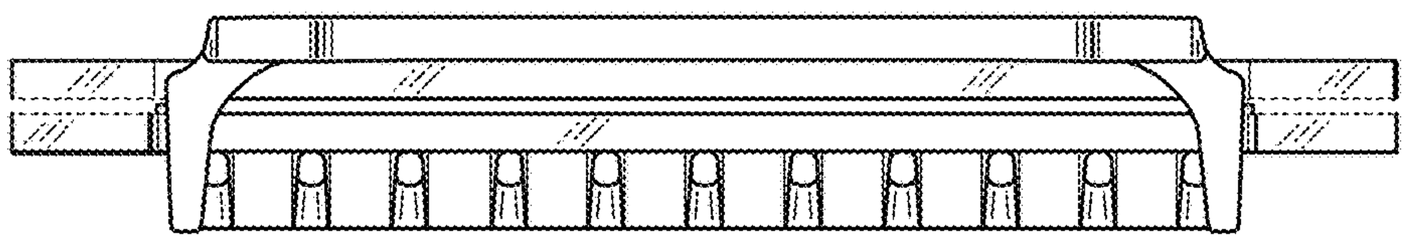


FIG. 7

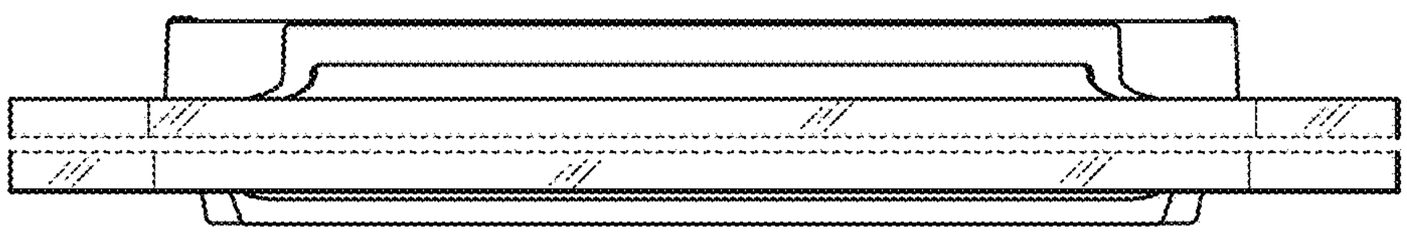


FIG. 8

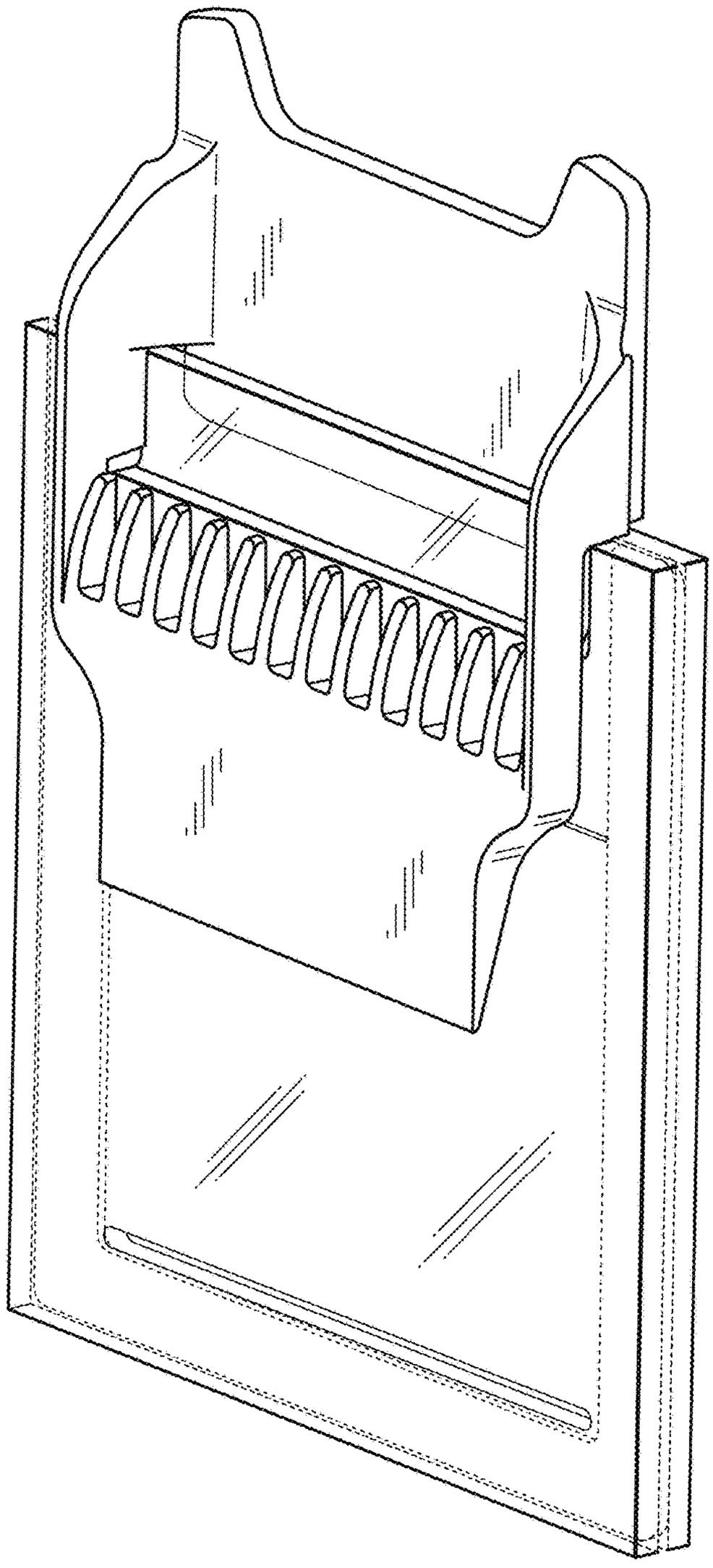


FIG. 9

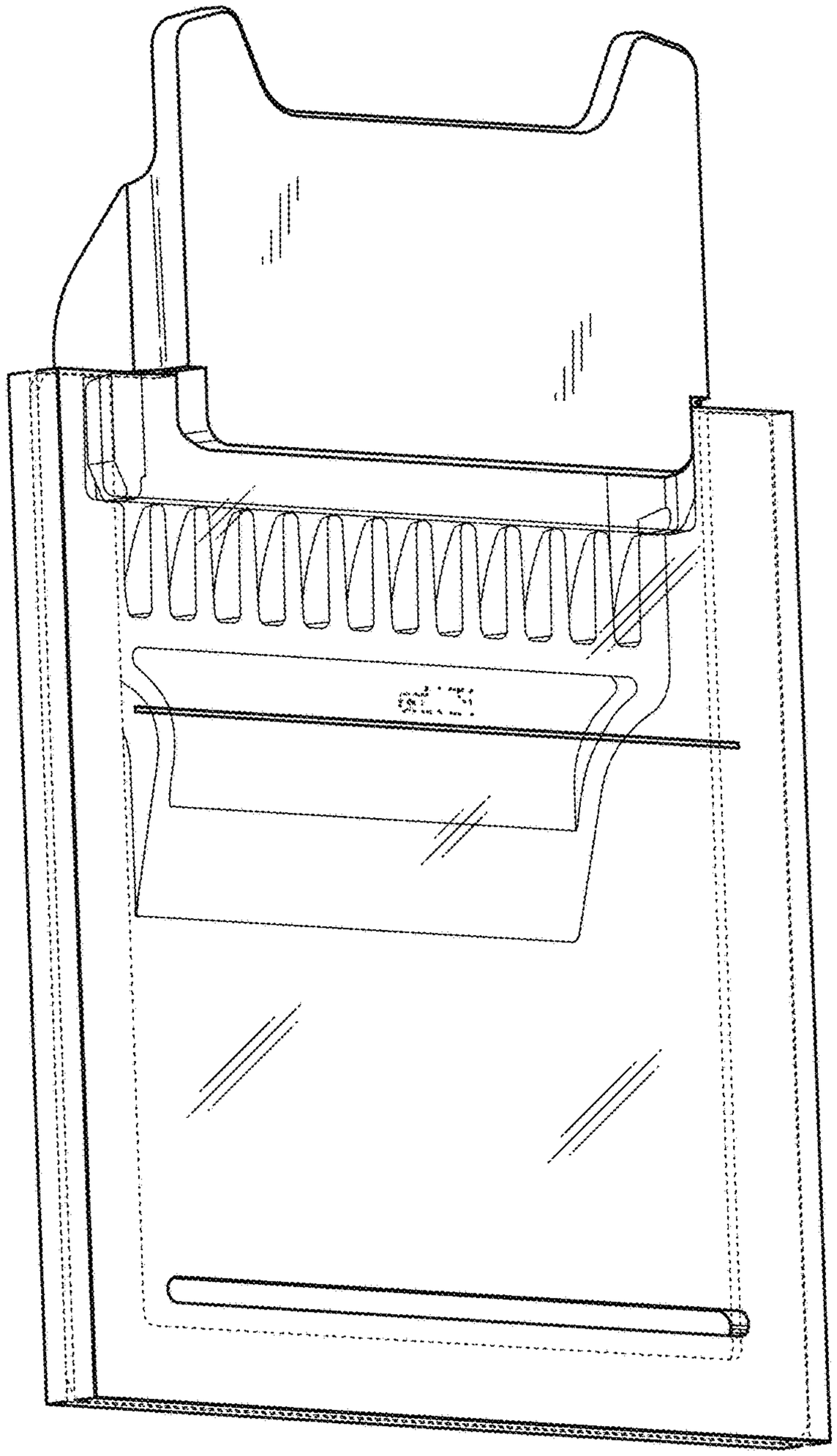


FIG. 10

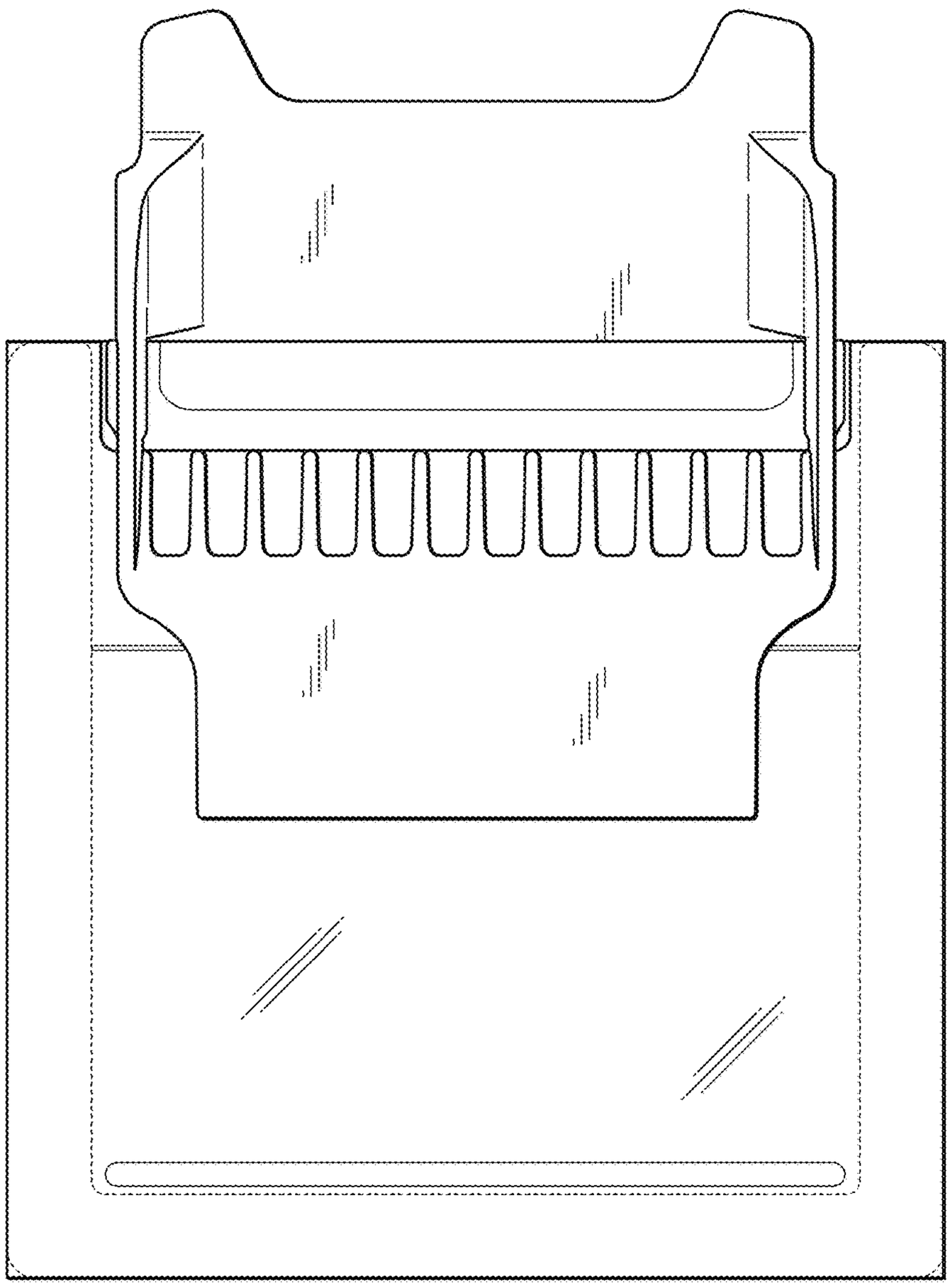


FIG. 11

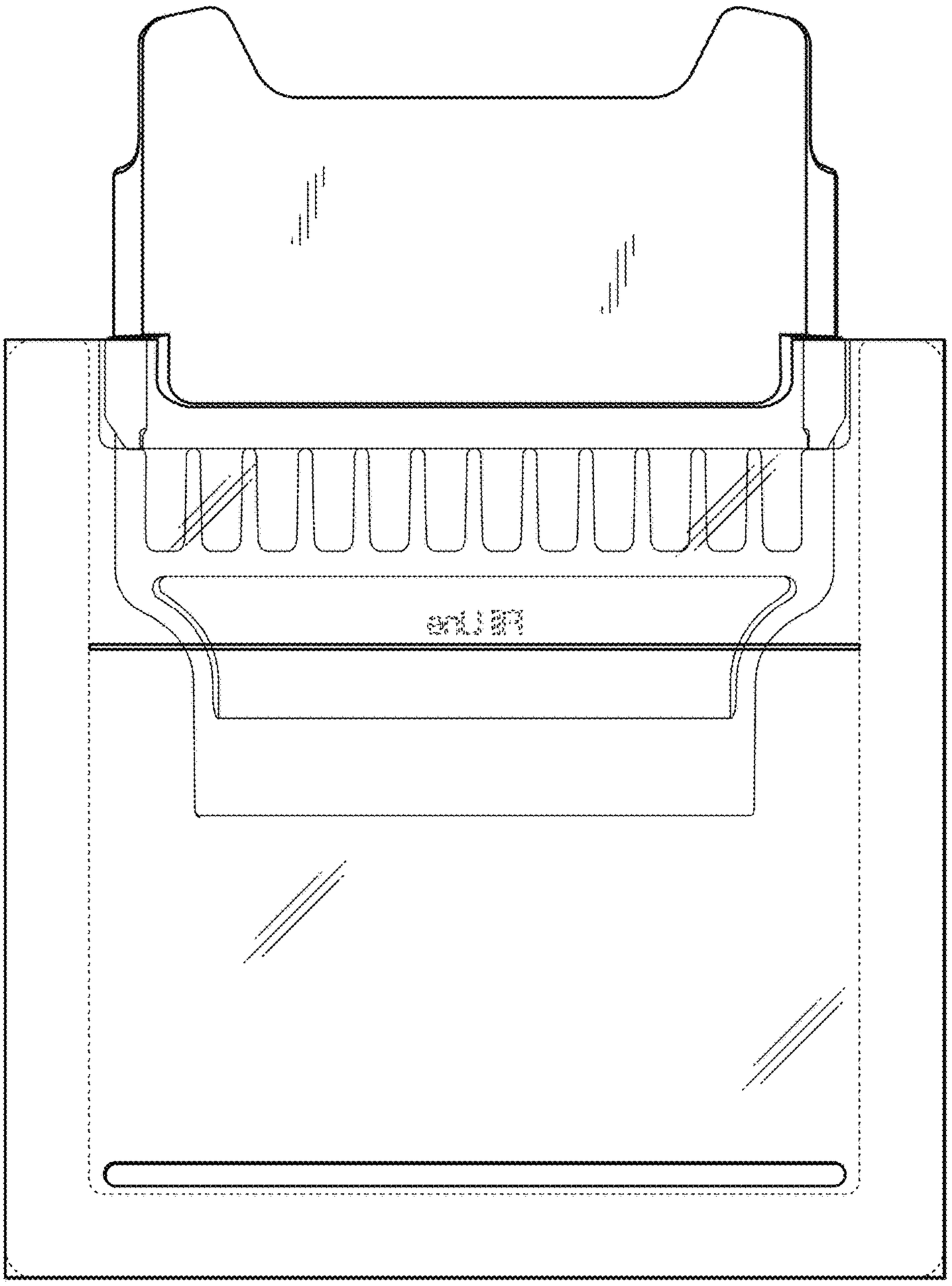


FIG. 12

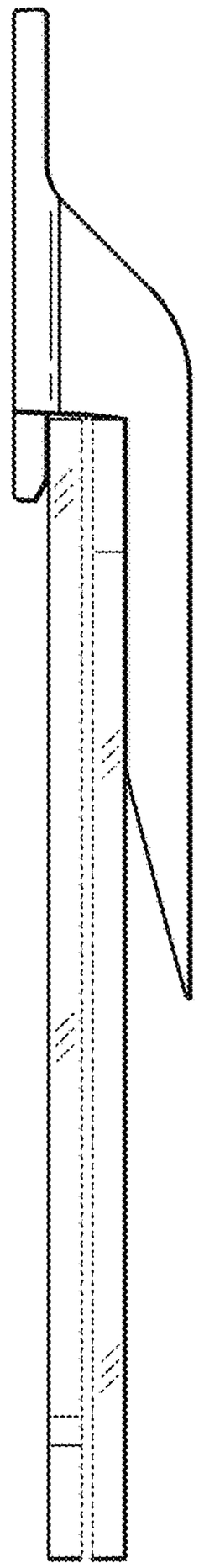


FIG. 13

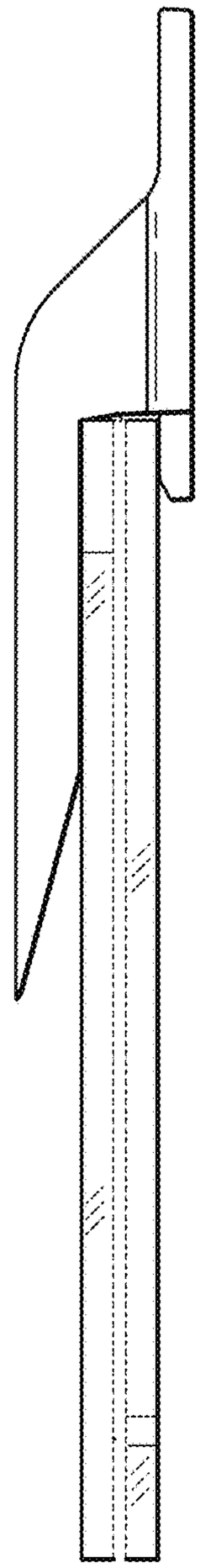


FIG. 14

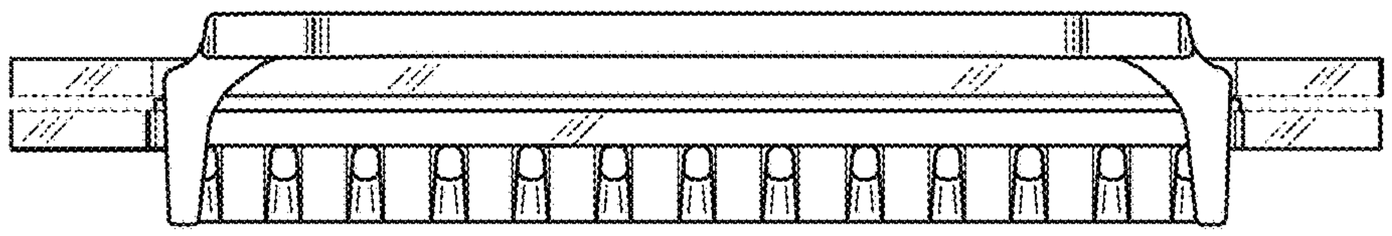


FIG. 15

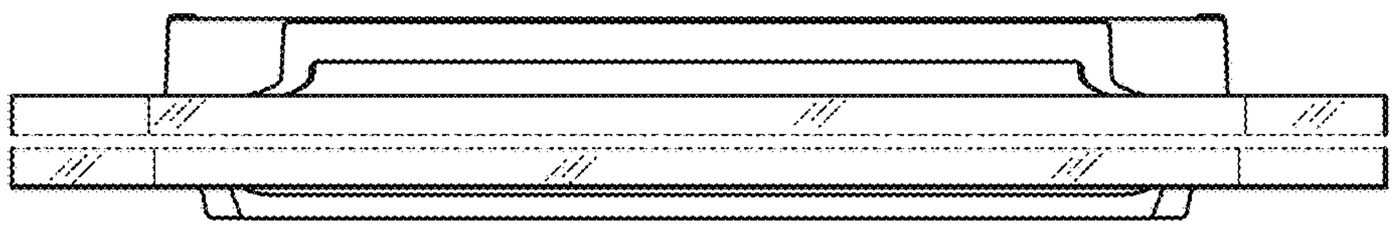


FIG. 16

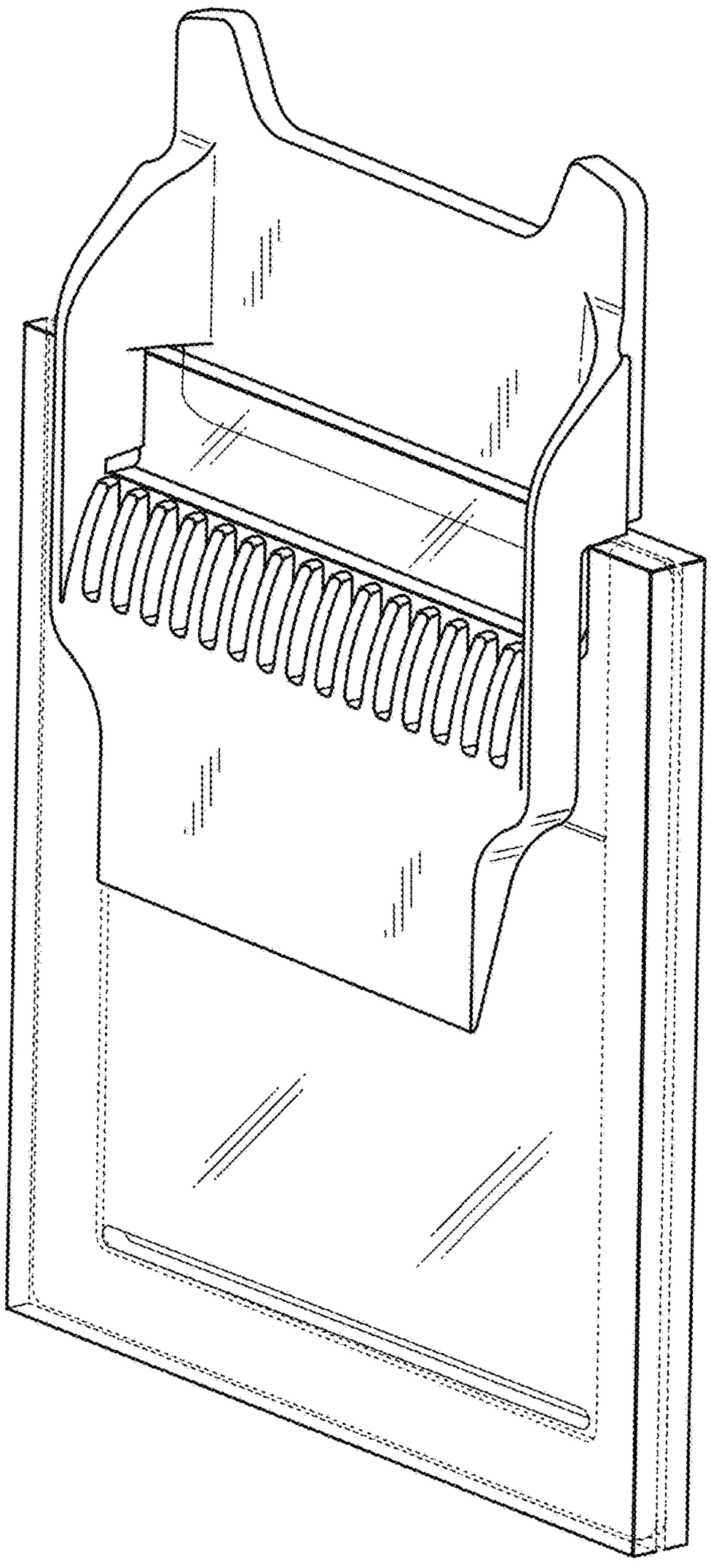


FIG. 17

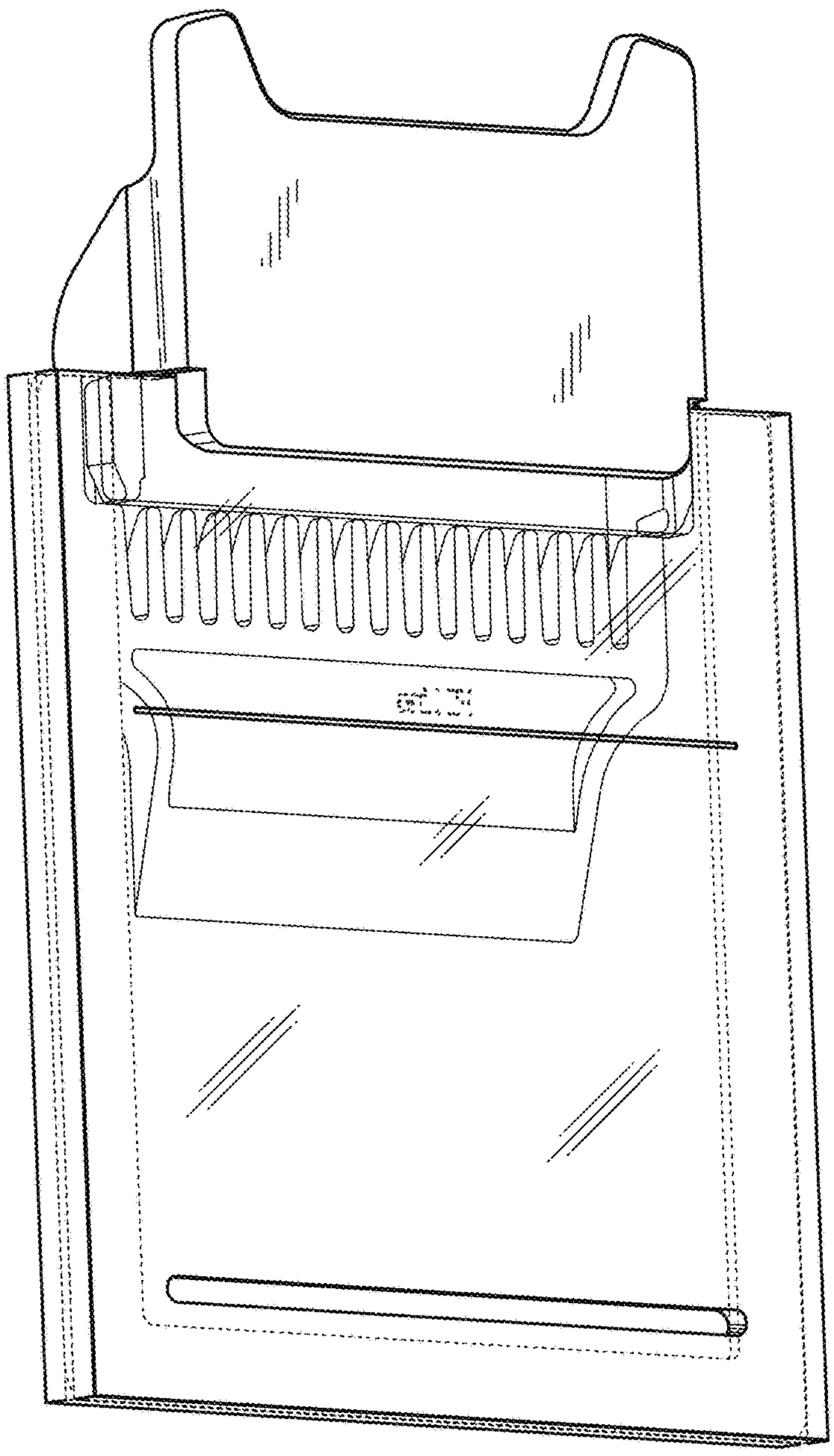


FIG. 18

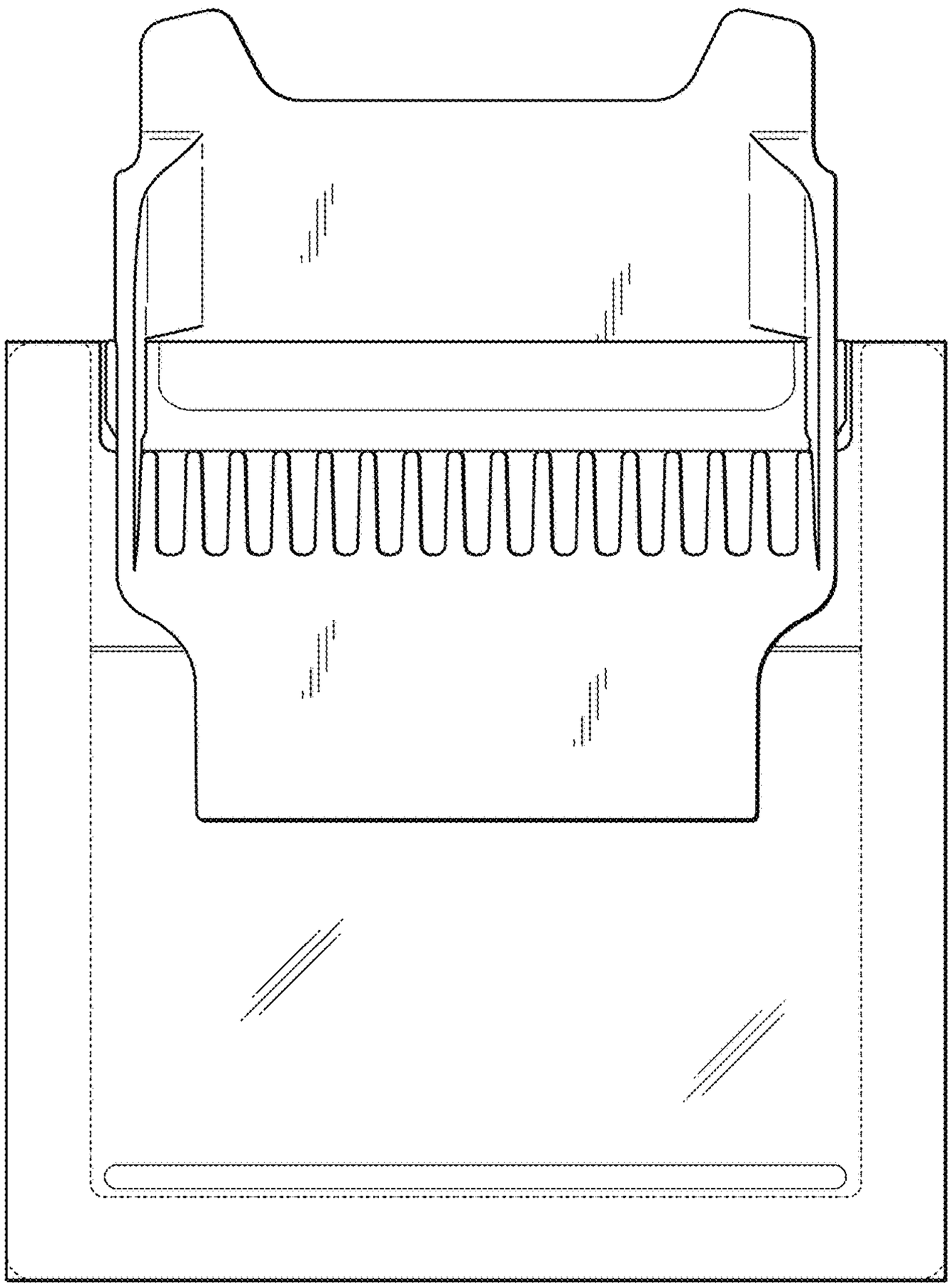


FIG. 19

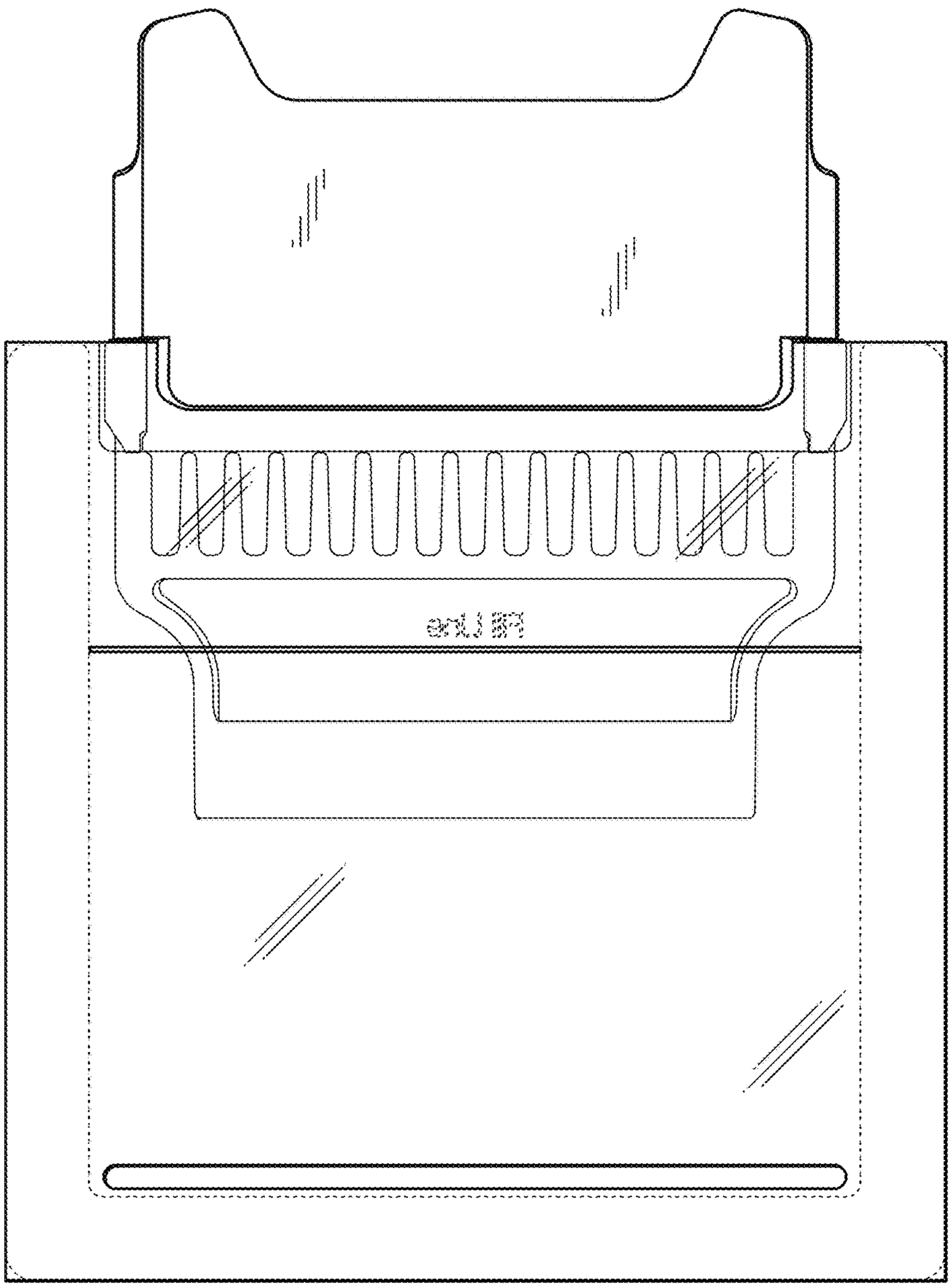


FIG. 20

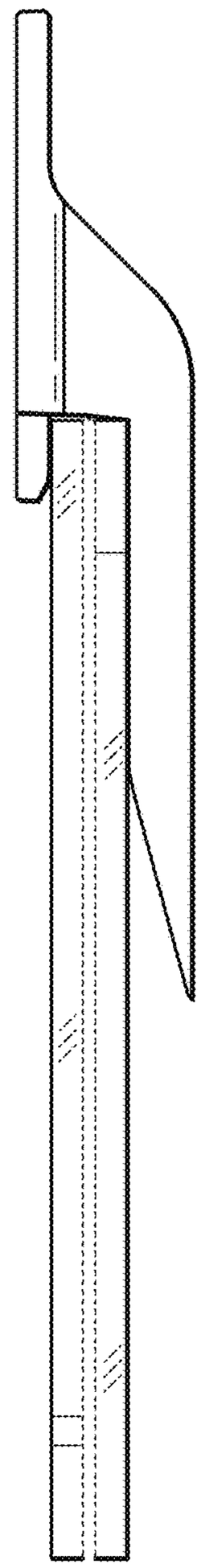


FIG. 21

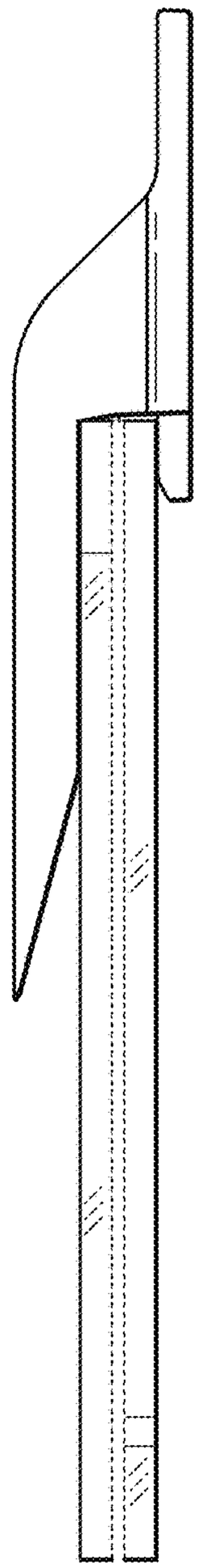


FIG. 22

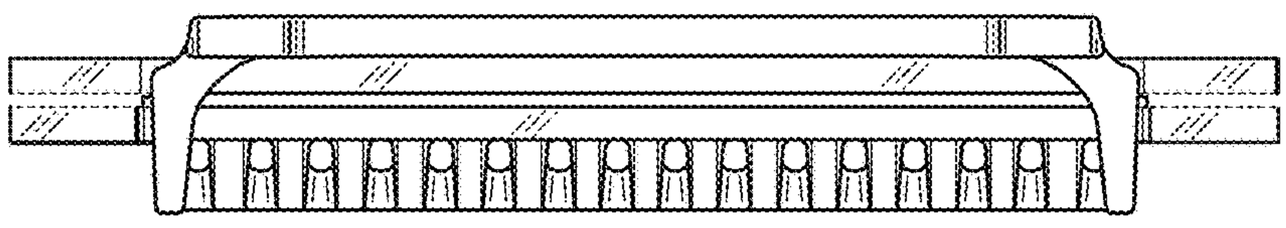


FIG. 23

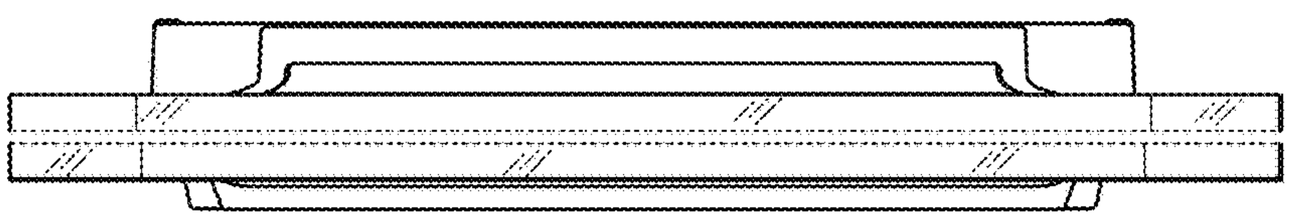


FIG. 24