



US00D744627S

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

(10) **Patent No.:** **US D744,627 S**

(45) **Date of Patent:** **** Dec. 1, 2015**

(54) **AIR-PERMEABLE SUBSTRATE STRUCTURE**

(71) Applicant: **Lee Antimicrobial Solutions, LLC**,
Stamford, CT (US)

(72) Inventors: **Douglas J. Bosma**, Armonk, NY (US);
James D. Lee, Stamford, CT (US)

(73) Assignee: **Lee Antimicrobial Solutions, LLC**,
Stamford, CT (US)

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

(21) Appl. No.: **29/497,305**

(22) Filed: **Jul. 23, 2014**

(51) **LOC (10) Cl.** **28-99**

(52) **U.S. Cl.**
USPC **D23/366**

(58) **Field of Classification Search**
USPC D23/355-369; D28/5, 6; 261/DIG. 17,
261/DIG. 42, DIG. 65, DIG. 88, DIG. 89;
392/386, 390, 394, 395, 392; 239/34,
239/44, 53, 55, 56, 326; D26/22;
D11/131.1; D7/509

CPC A61L 9/00; A61L 9/02; A61L 9/03;
A61L 9/032; A61L 9/035; A61L 9/037;
A61L 9/04; A61L 9/12; A61L 9/22

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,667,753 A 9/1997 Jacobs et al.
5,674,450 A 10/1997 Lin et al.
5,785,934 A 7/1998 Jacobs et al.
5,876,666 A 3/1999 Lin et al.
5,948,355 A 9/1999 Fujishima et al.
D441,441 S * 5/2001 Upson D23/366
D447,551 S * 9/2001 A'Court D23/366
6,500,387 B1 12/2002 Bigelow
D484,583 S * 12/2003 Hunt et al. D23/360
D487,308 S * 3/2004 Engerant D23/366
D490,886 S * 6/2004 Engerant D23/366
D493,515 S * 7/2004 Morillas D23/366
D493,516 S * 7/2004 Harbutt et al. D23/366

D493,878 S * 8/2004 Morillas D23/366
D494,668 S * 8/2004 Morillas D23/366
D495,044 S * 8/2004 Morillas D23/366
D497,424 S * 10/2004 Morillas D23/366
D497,665 S * 10/2004 Morillas D23/366
D497,986 S * 11/2004 Morillas D23/366
D498,524 S * 11/2004 Morillas D23/366
D498,525 S * 11/2004 Harbutt et al. D23/366
D498,836 S * 11/2004 Morillas D23/366
D503,974 S * 4/2005 Morillas D23/366
D504,500 S * 4/2005 Morillas D23/366
D508,285 S * 8/2005 Velicescu D23/366
7,132,083 B2 11/2006 Martin
7,188,780 B2 * 3/2007 Martens, III 239/35
7,213,770 B2 * 5/2007 Martens et al. 239/57
7,914,733 B2 3/2011 Carey
D650,891 S * 12/2011 Freeborn et al. D23/366
D675,307 S * 1/2013 Freeborn et al. D23/366
2005/0175500 A1 8/2005 Adams et al.
2005/0186124 A1 8/2005 Fink et al.
2005/0191205 A1 9/2005 Uslenghi et al.
2005/0255172 A1 11/2005 Omidbakhsh
2009/0246091 A1 10/2009 Vanderspurt et al.

FOREIGN PATENT DOCUMENTS

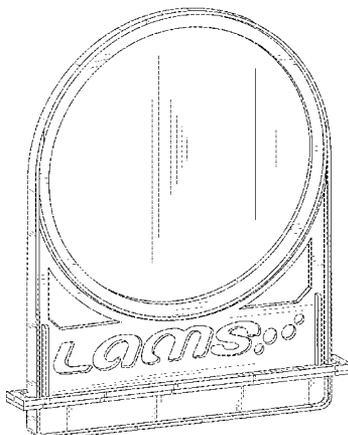
EP 0 306 301 A1 3/1989
EP 0 452 780 A2 4/1991
EP 0 978 690 A1 9/2000
EP 0 978 690 A2 9/2000
EP 1 491 218 A1 12/2004
JP 1-267131 10/1989
JP 2006-233216 9/2006
WO 97/09073 3/1997
WO 01/78793 A1 10/2001
WO 2004/112958 A1 12/2004
WO 2006/111088 A1 10/2006
WO 2009/021108 A1 2/2009
WO 2010/093796 A1 8/2010

OTHER PUBLICATIONS

Block, "Disinfection, sterilization, and preservation," *Peroxygen Compounds*, 187-191 (2001).
International Search Report for PCT/US2008/072454 dated Nov. 28, 2008.
Written Opinion and Search Report mailed on Apr. 11, 2012, in Singapore Patent Application No. 201000787-0.

* cited by examiner

Primary Examiner — Sandra Snapp
(74) *Attorney, Agent, or Firm* — Arnold & Porter LLP



(57)

CLAIM

The ornamental design for an air-permeable substrate structure, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of one embodiment of an air-permeable substrate structure.

FIG. 2 is a front view of the air-permeable substrate structure of FIG. 1.

FIG. 3 is a back view of the air-permeable substrate structure of FIG. 1.

FIG. 4 is a side view of the air-permeable substrate structure of FIG. 1.

FIG. 5 is a top view of the air-permeable substrate structure of FIG. 1.

FIG. 6 is a bottom view of the air-permeable substrate structure of FIG. 1.

FIG. 7 is a perspective view of another embodiment of an air-permeable substrate structure.

FIG. 8 is a front view of the air-permeable substrate structure of FIG. 7.

FIG. 9 is a back view of the air-permeable substrate structure of FIG. 7.

FIG. 10 is a side view of the air-permeable substrate structure of FIG. 7.

FIG. 11 is a top view of the air-permeable substrate structure of FIG. 7.

FIG. 12 is a bottom view of the air-permeable substrate structure of FIG. 7.

FIG. 13 is a perspective view of another embodiment of an air-permeable substrate structure.

FIG. 14 is a front view of the air-permeable substrate structure of FIG. 13.

FIG. 15 is a back view of the air-permeable substrate structure of FIG. 13.

FIG. 16 is a side view of the air-permeable substrate structure of FIG. 13.

FIG. 17 is a top view of the air-permeable substrate structure of FIG. 13.

FIG. 18 is a bottom view of the air-permeable substrate structure of FIG. 13.

FIG. 19 is a perspective view of another embodiment of an air-permeable substrate structure.

FIG. 20 is a front view of the air-permeable substrate structure of FIG. 19.

FIG. 21 is a back view of the air-permeable substrate structure of FIG. 19.

FIG. 22 is a side view of the air-permeable substrate structure of FIG. 19.

FIG. 23 is a top view of the air-permeable substrate structure of FIG. 19; and,

FIG. 24 is a bottom view of the air-permeable substrate structure of FIG. 19.

The broken-line disclosure in the views is for illustrative purposes only and forms no part of the claimed design.

In addition, the air-permeable substrate structure may be of any color, shade, or combination of color and shades.

1 Claim, 20 Drawing Sheets

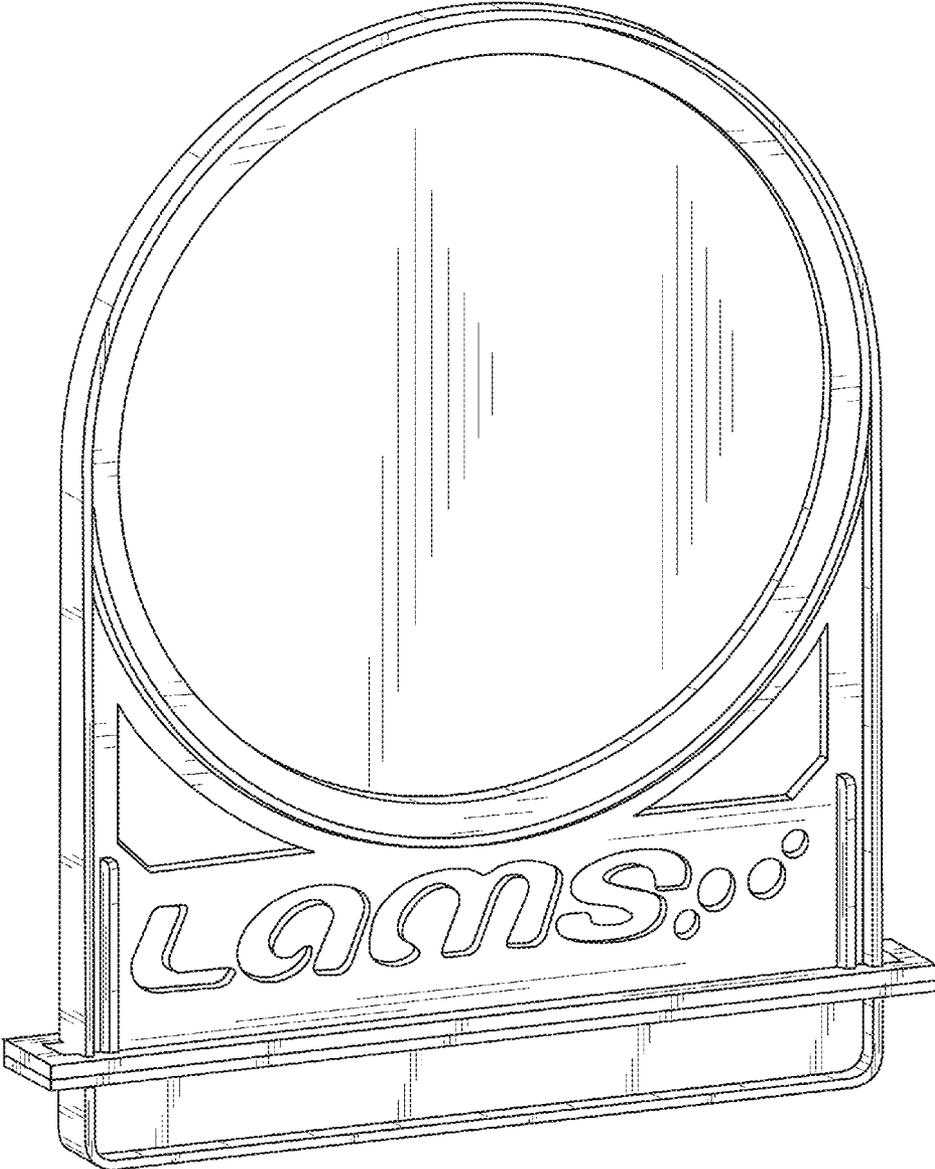


FIG. 1

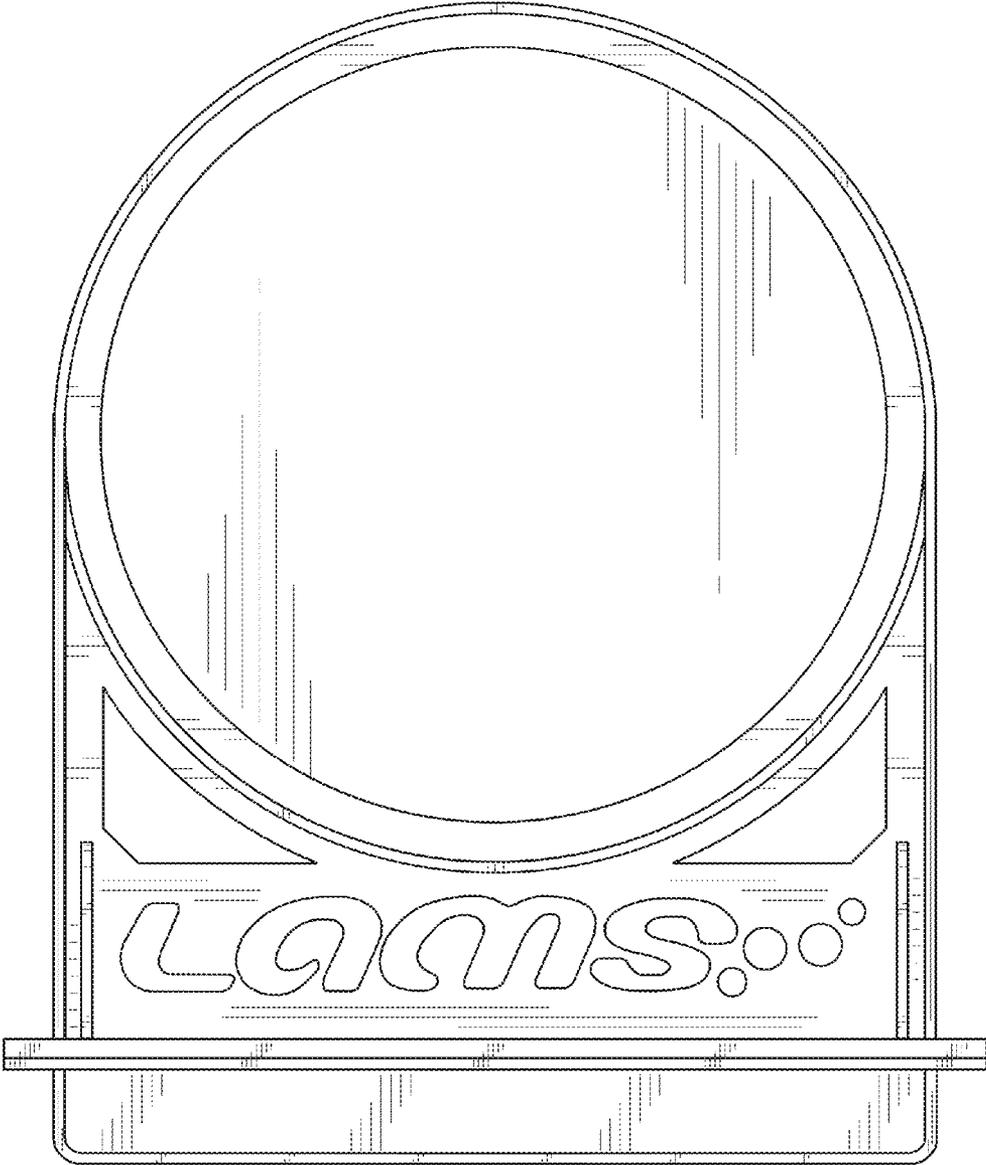


FIG. 2

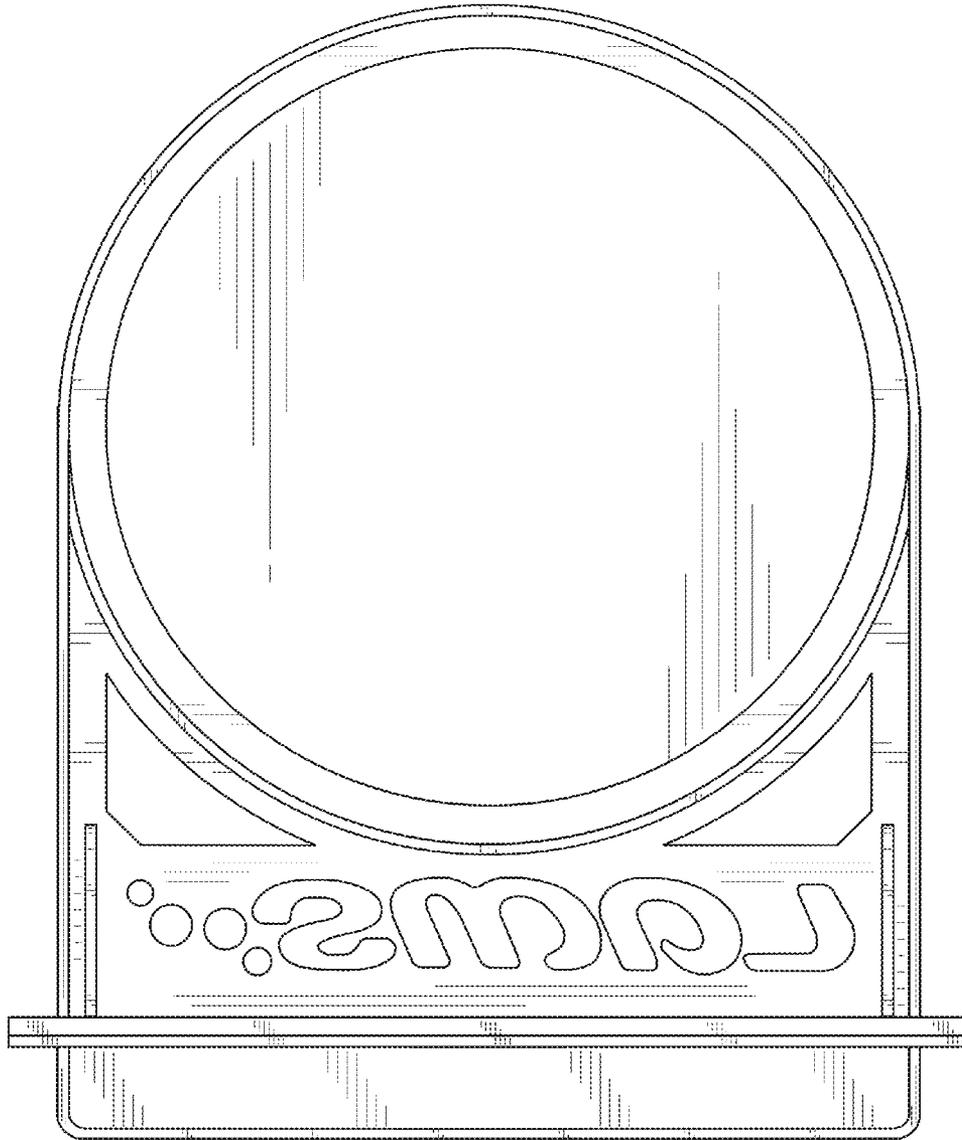


FIG. 3



FIG. 4

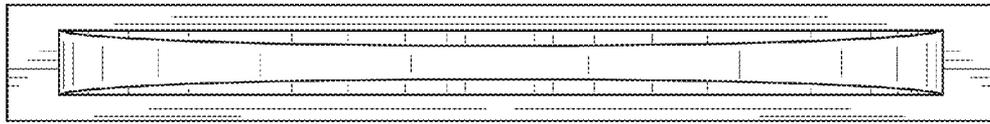


FIG. 5

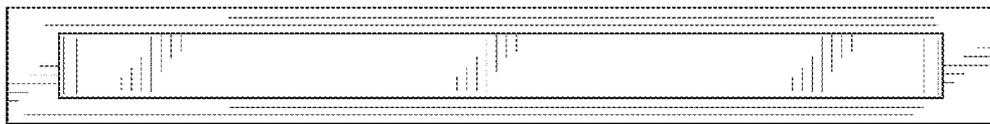


FIG. 6

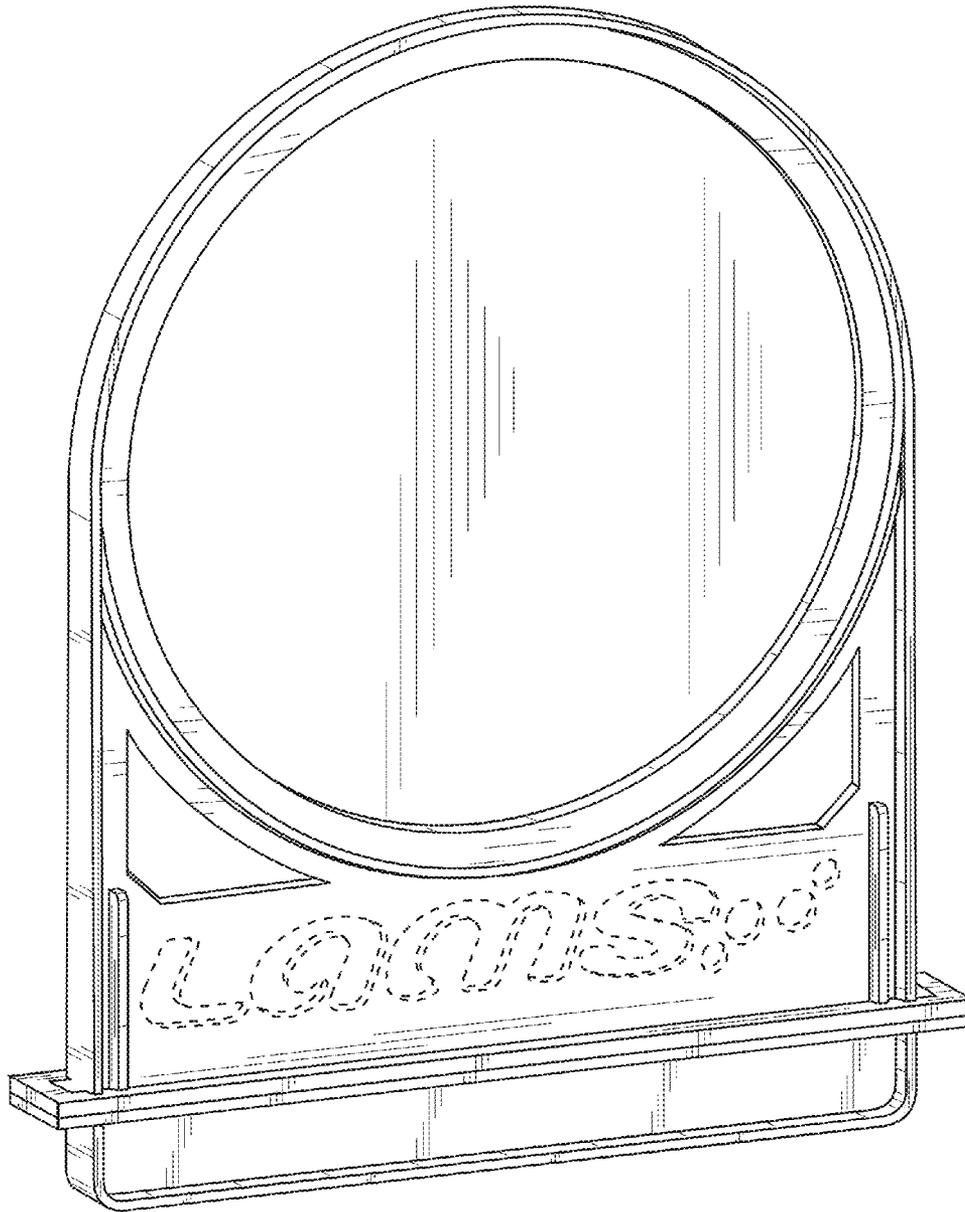


FIG. 7

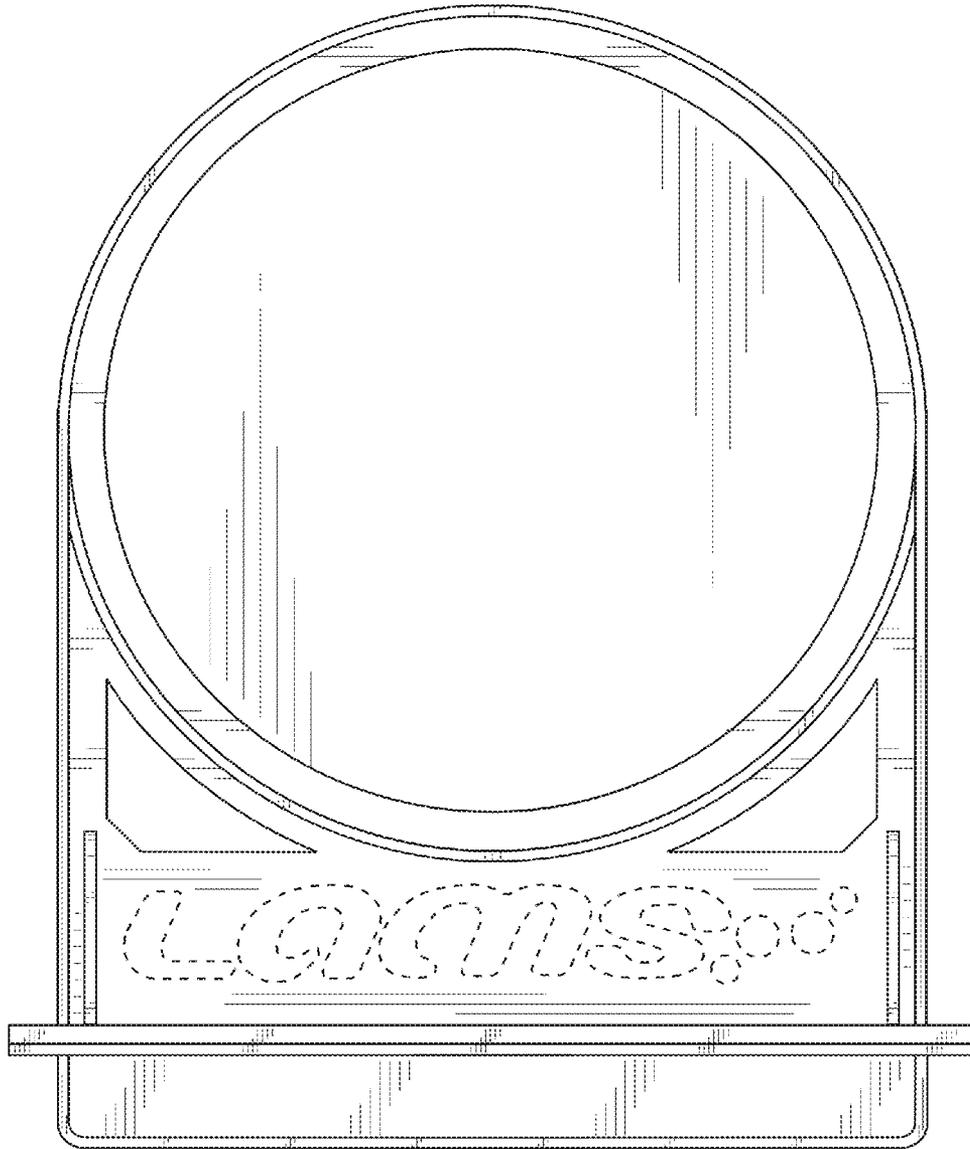


FIG. 8

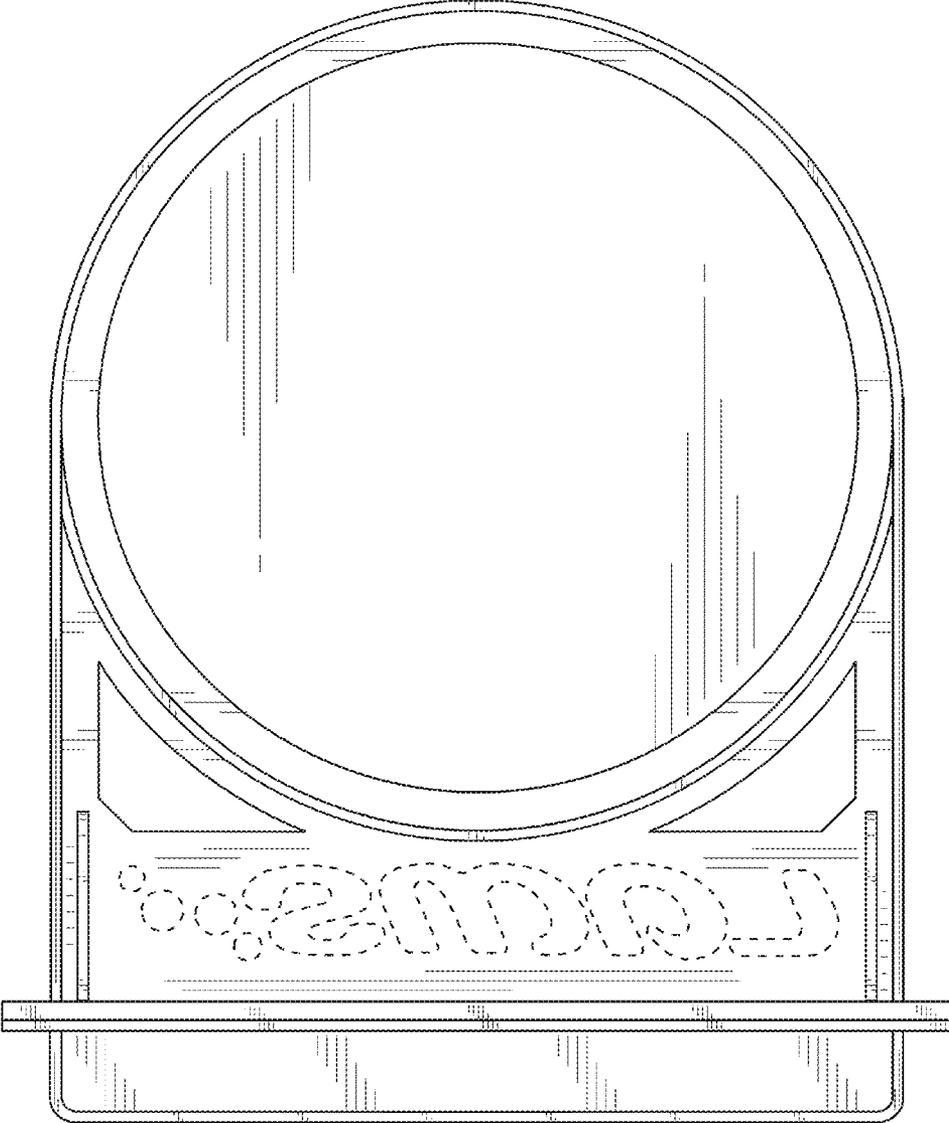


FIG. 9



FIG. 10

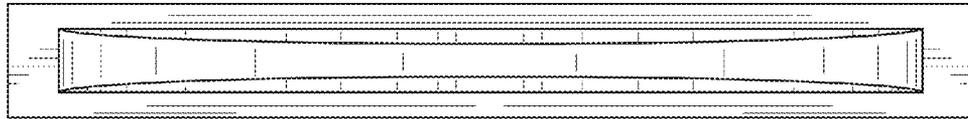


FIG. 11

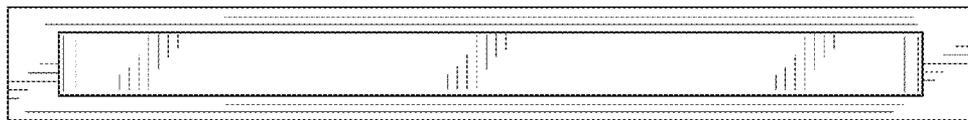


FIG. 12

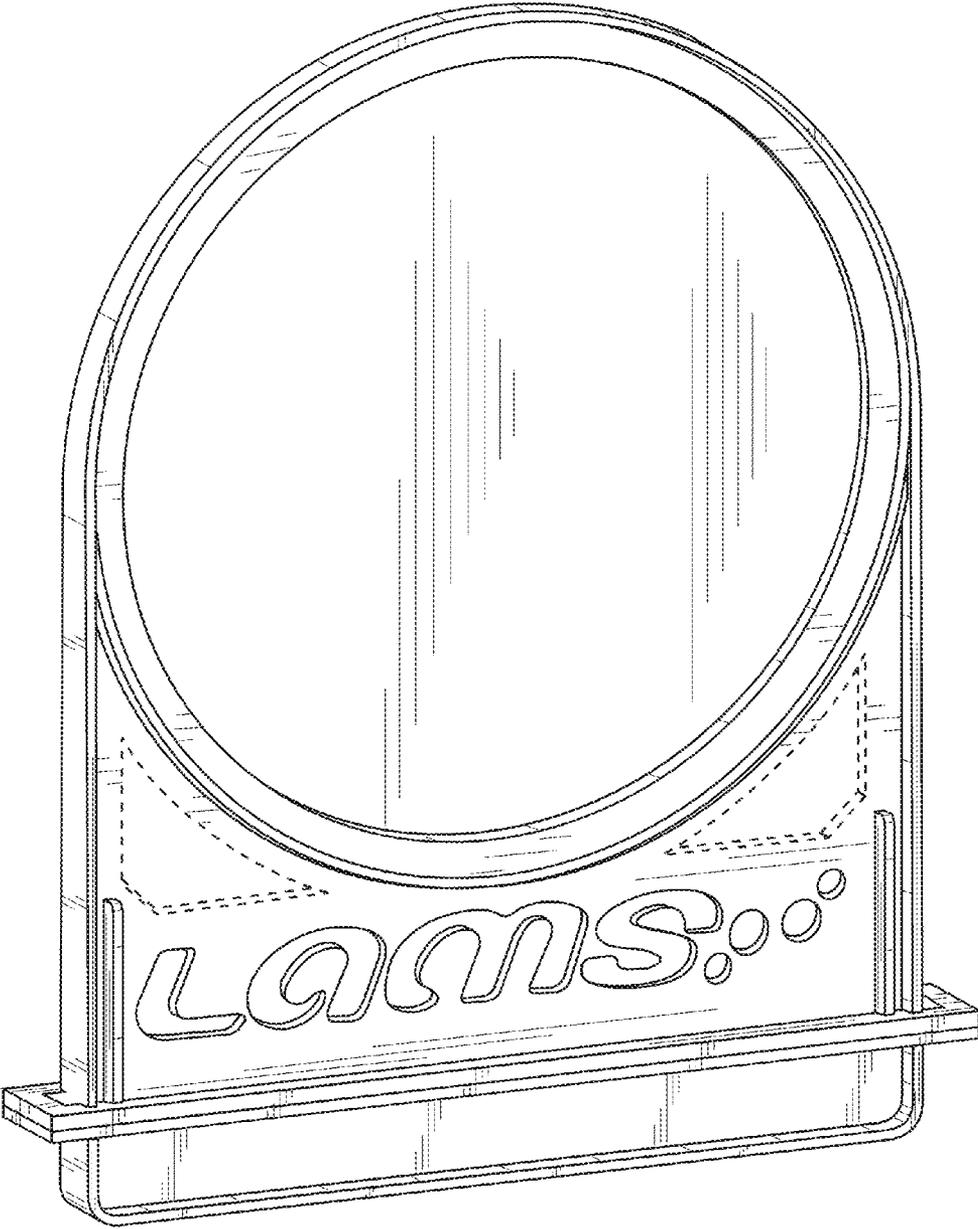


FIG. 13

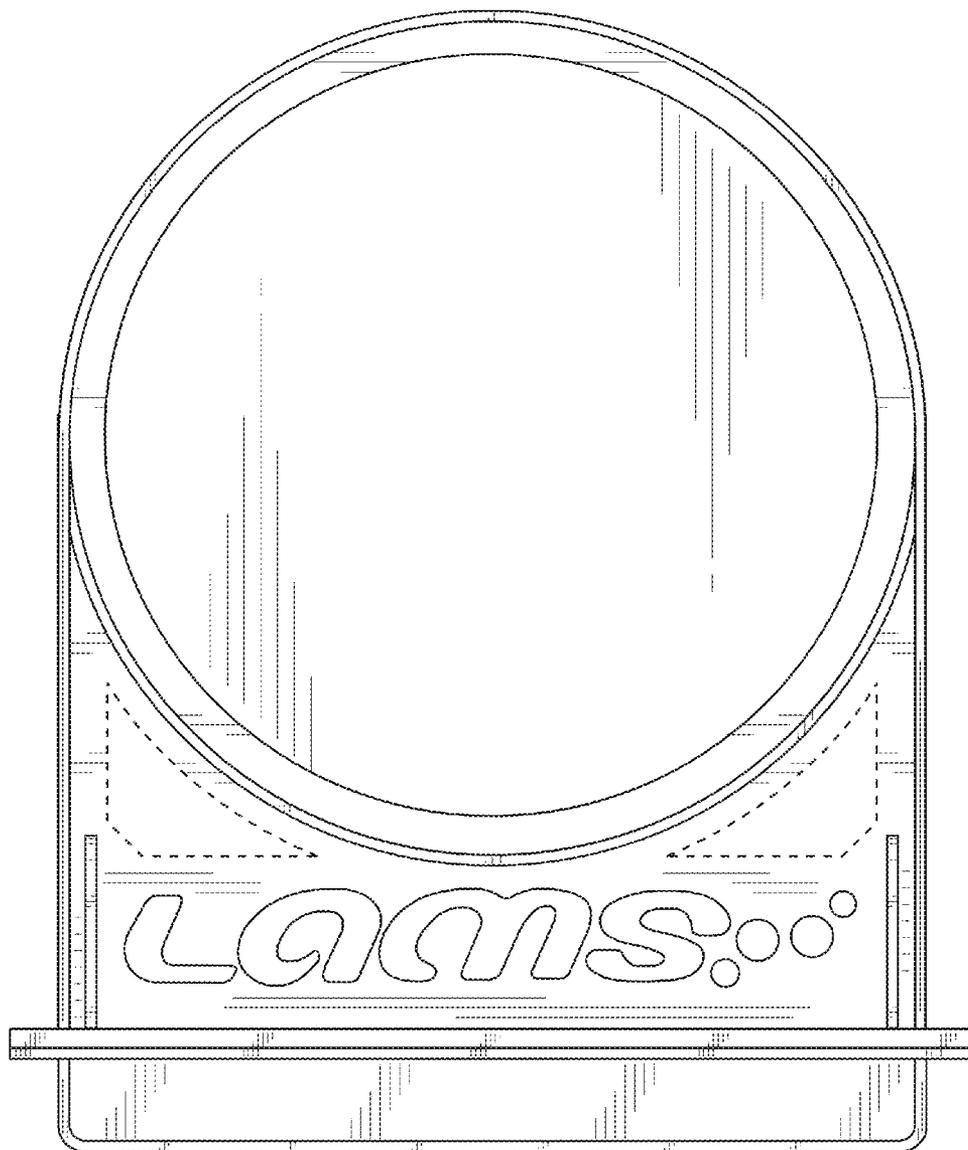


FIG. 14

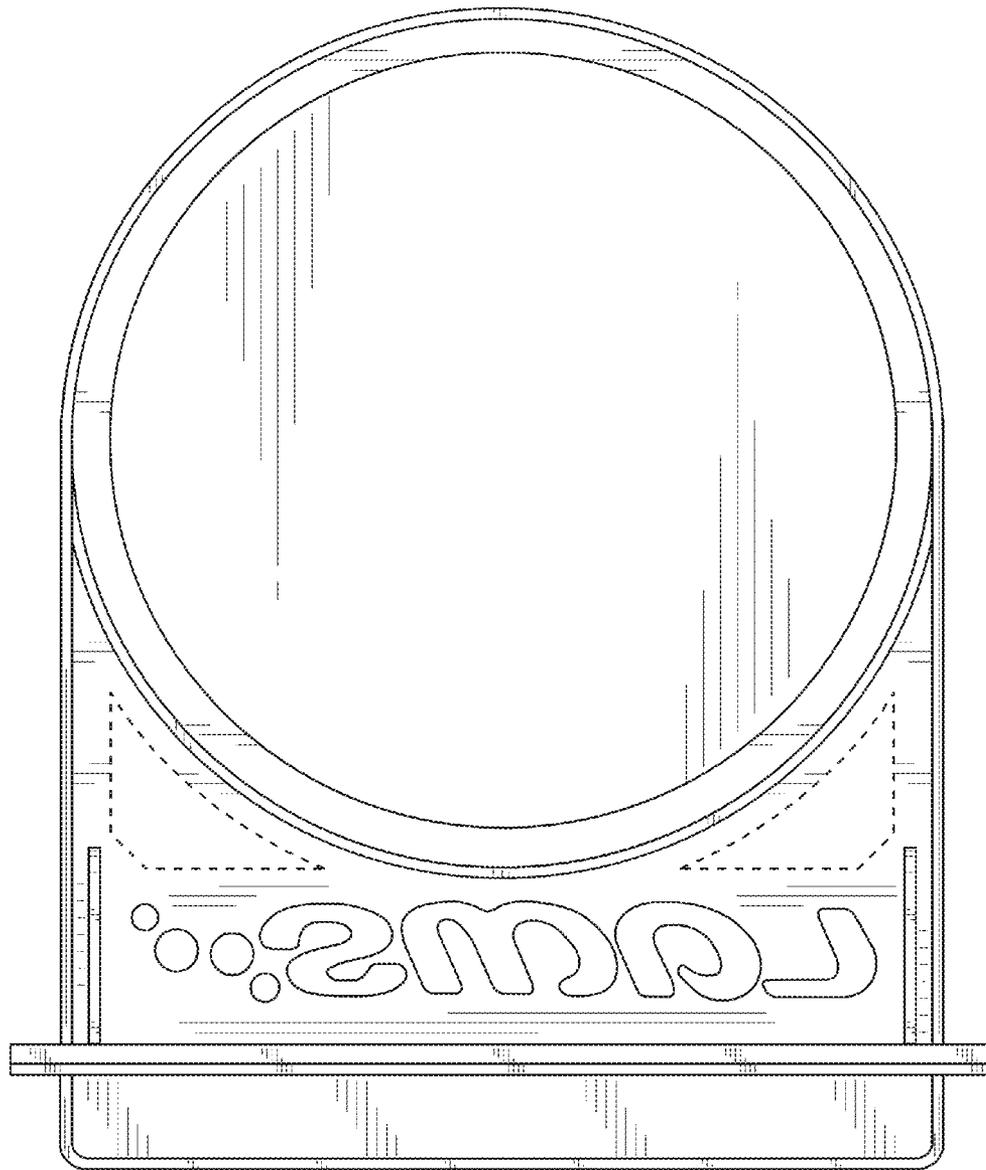


FIG. 15

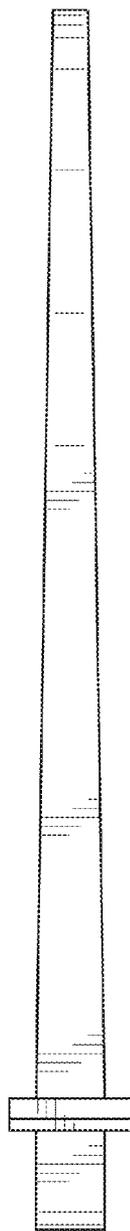


FIG. 16

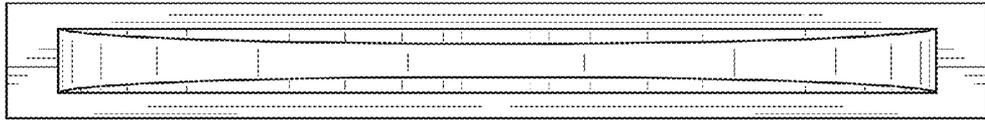


FIG. 17



FIG. 18

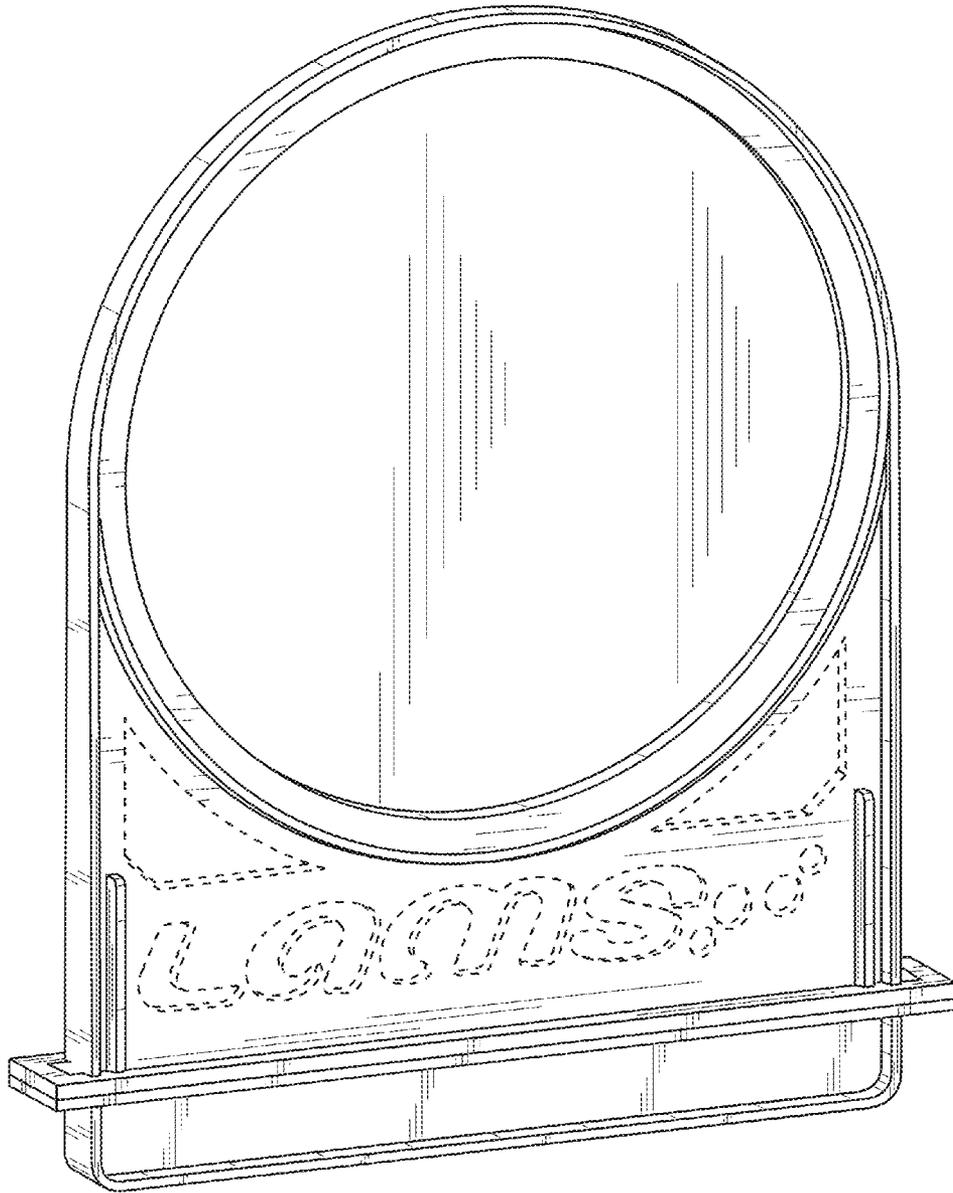


FIG. 19

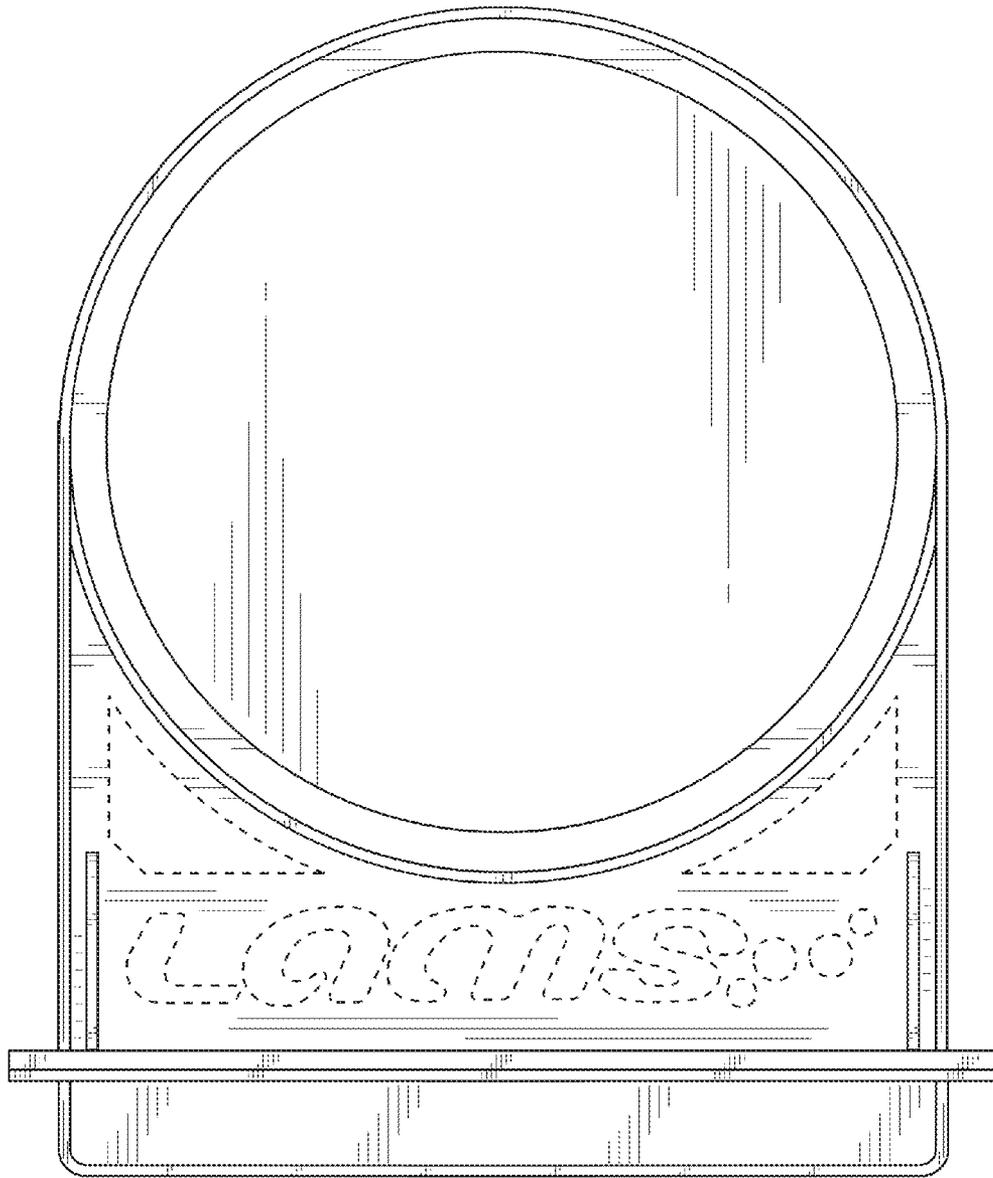


FIG. 20

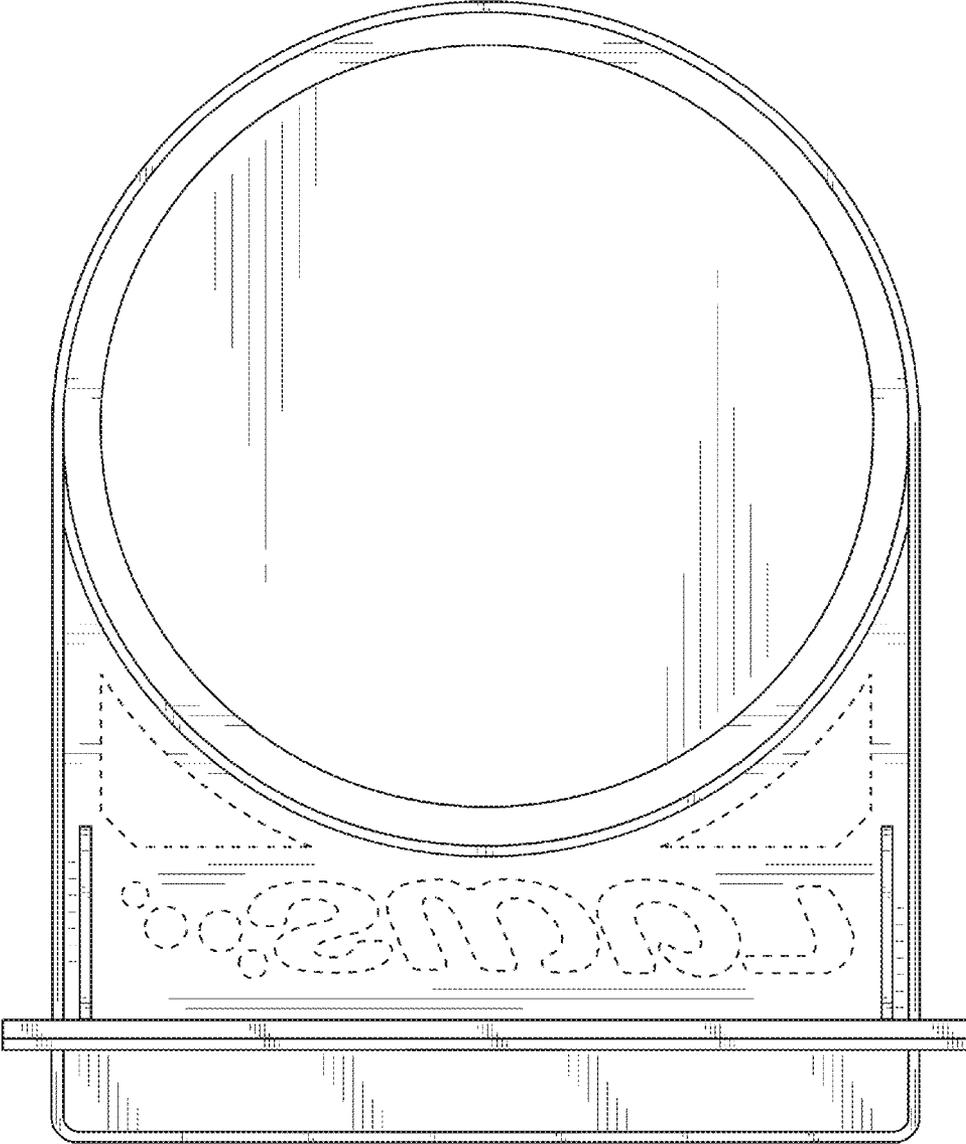


FIG. 21



FIG. 22

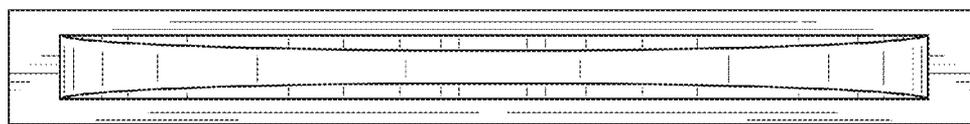


FIG. 23

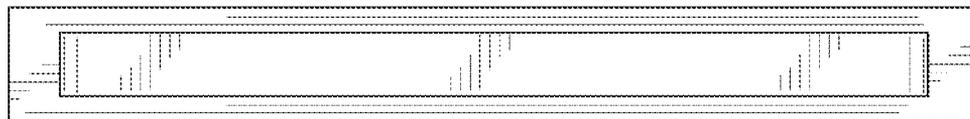


FIG. 24