



US00D978352S

(12) **United States Design Patent** (10) **Patent No.:** **US D978,352 S**
Lacy et al. (45) **Date of Patent:** **** Feb. 14, 2023**

(54) **CARTRIDGE CAP** 4,678,408 A 7/1987 Nason et al.
4,950,245 A 8/1990 Brown et al.
(71) Applicant: **Smiths Medical ASD, Inc.**, Plymouth, MN (US) 5,080,653 A 1/1992 Voss et al.
D326,153 S 5/1992 Eastman et al.
(Continued)

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FOREIGN PATENT DOCUMENTS

CN 303729266 * 6/2016
JP D1698397 11/2021
(Continued)

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OTHER PUBLICATIONS

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

Ambulatory Blood Pressure Monitor ABPM50, Sep. 17, 2019, youtube.com(online),[site visited Jul. 28, 2022], Available from internet, URL: <https://www.youtube.com/watch?v=BHWOVk2dlIU> (Year: 2019).

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(22) Filed: **Oct. 28, 2020**

(51) **LOC (14) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/164**; D24/231

(58) **Field of Classification Search**
USPC D6/700, 866.21, 406.5, 405.6, 694, 685,
D6/641, 553; D19/66, 67, 68, 69;
D11/164; D8/367, 382; D18/50, 53, 54,
D18/55, 56, 57, 58, 59, 34.7, 34.3, 34.1,
D18/4.1; D24/127, 164, 165, 166, 186,
D24/231

CPC G06F 3/02; H04N 1/00278; B32B 27/08;
G11B 23/40

See application file for complete search history.

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(57) **CLAIM**

We claim the ornamental design for a cartridge cap, as shown and described.

DESCRIPTION

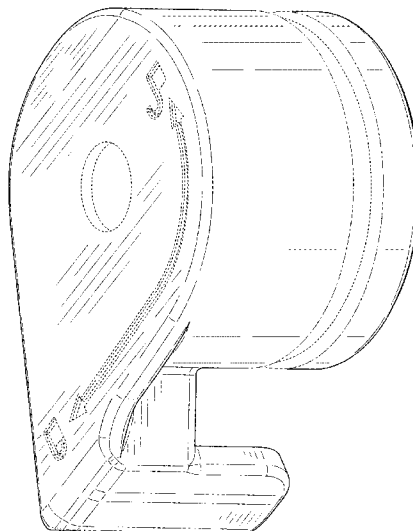
FIG. 1 is a perspective view of a cartridge cap.
FIG. 2 is a front elevation view thereof.
FIG. 3 is a rear elevation view thereof.
FIG. 4 is a left side elevation view thereof.
FIG. 5 is a right side elevation view thereof.
FIG. 6 is a top plan view thereof.
FIG. 7 is a bottom plan view thereof; and,
FIG. 8 is a bottom perspective view thereof.
Items shown in broken lines depict environment and portions of the cartridge cap that form no part of the claimed invention.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D116,599 S * 9/1939 Reinecke D19/69
D118,629 S * 1/1940 Reinecke D19/69
D170,429 S * 9/1953 Reinecke D19/69
4,267,836 A 5/1981 Whitney et al.
D274,825 S * 7/1984 Lissoni D19/69
D276,354 S * 11/1984 Spitzer D19/69
4,562,751 A 1/1986 Nason et al.

1 Claim, 8 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D331,262 S * 11/1992 O'Brien D19/67
 D332,629 S * 1/1993 Oh D19/67
 D336,492 S * 6/1993 Samuelson D19/67
 D365,852 S * 1/1996 Parsey D19/67
 5,637,095 A 6/1997 Nason et al.
 5,779,675 A 7/1998 Reilly et al.
 D408,911 S 4/1999 Moubayed et al.
 5,947,935 A 9/1999 Rhinehart et al.
 6,305,908 B1 10/2001 Hermann et al.
 6,460,800 B1 * 10/2002 Watanabe B43M 99/00
 242/598.5
 D502,508 S * 3/2005 Hung D19/67
 D507,832 S 7/2005 Yanniello et al.
 D524,374 S * 7/2006 Carlson D19/69
 D528,603 S * 9/2006 Carlson D19/69
 7,193,521 B2 3/2007 Moberg et al.
 D541,347 S * 4/2007 Porcini D19/69
 D541,864 S * 5/2007 Porcini D19/69
 D549,287 S * 8/2007 Pitzten D19/69
 D586,463 S 2/2009 Evans et al.
 7,628,772 B2 12/2009 McConnell et al.
 D615,592 S * 5/2010 Shaha D19/69
 7,766,873 B2 8/2010 Moberg et al.
 7,828,528 B2 11/2010 Estes et al.
 7,905,859 B2 3/2011 Bynum et al.
 D640,323 S * 6/2011 Broen D19/69
 D640,325 S * 6/2011 Broen D19/69
 7,988,683 B2 8/2011 Adair et al.
 D659,836 S 5/2012 Bensch et al.
 D663,775 S * 7/2012 Hsu D19/69
 D666,243 S * 8/2012 Hagglund D19/69
 D725,784 S 3/2015 Xia et al.

9,017,307 B2 4/2015 Kow et al.
 D752,229 S 3/2016 Chen et al.
 D767,756 S 9/2016 Sabin
 9,579,452 B2 2/2017 Adair et al.
 D804,017 S 11/2017 Sabin
 D812,218 S 3/2018 Lacy et al.
 9,980,140 B1 5/2018 Spencer et al.
 D823,456 S 7/2018 Lacy et al.
 10,029,045 B2 7/2018 Smith et al.
 D828,547 S 9/2018 Lacy et al.
 D836,769 S 12/2018 Kabel-Eckes et al.
 D855,212 S 7/2019 Komuro
 D908,894 S 1/2021 Eslava et al.
 D921,905 S 6/2021 Castanet et al.
 D935,615 S 11/2021 Ben Dor et al.
 D954,729 S 6/2022 Sit et al.
 D956,788 S 7/2022 Sit et al.
 D958,816 S 7/2022 Sit et al.
 2020/0371548 A1 11/2020 Lund
 2021/0170096 A1 6/2021 Buxton et al.
 2021/0236719 A1 8/2021 Peterson et al.
 2022/0005599 A1 1/2022 Poeze et al.

FOREIGN PATENT DOCUMENTS

JP D1698399 11/2021
 JP DI698400 11/2021

OTHER PUBLICATIONS

Ambulatory PCA Pump, Oct. 30, 2020, youtube.com(online),[site visited Jul. 28, 2022], Available from internet, URL: https://www.youtube.com/watch?v=IGH2o0Ktrv8 (Year:2020).

* cited by examiner

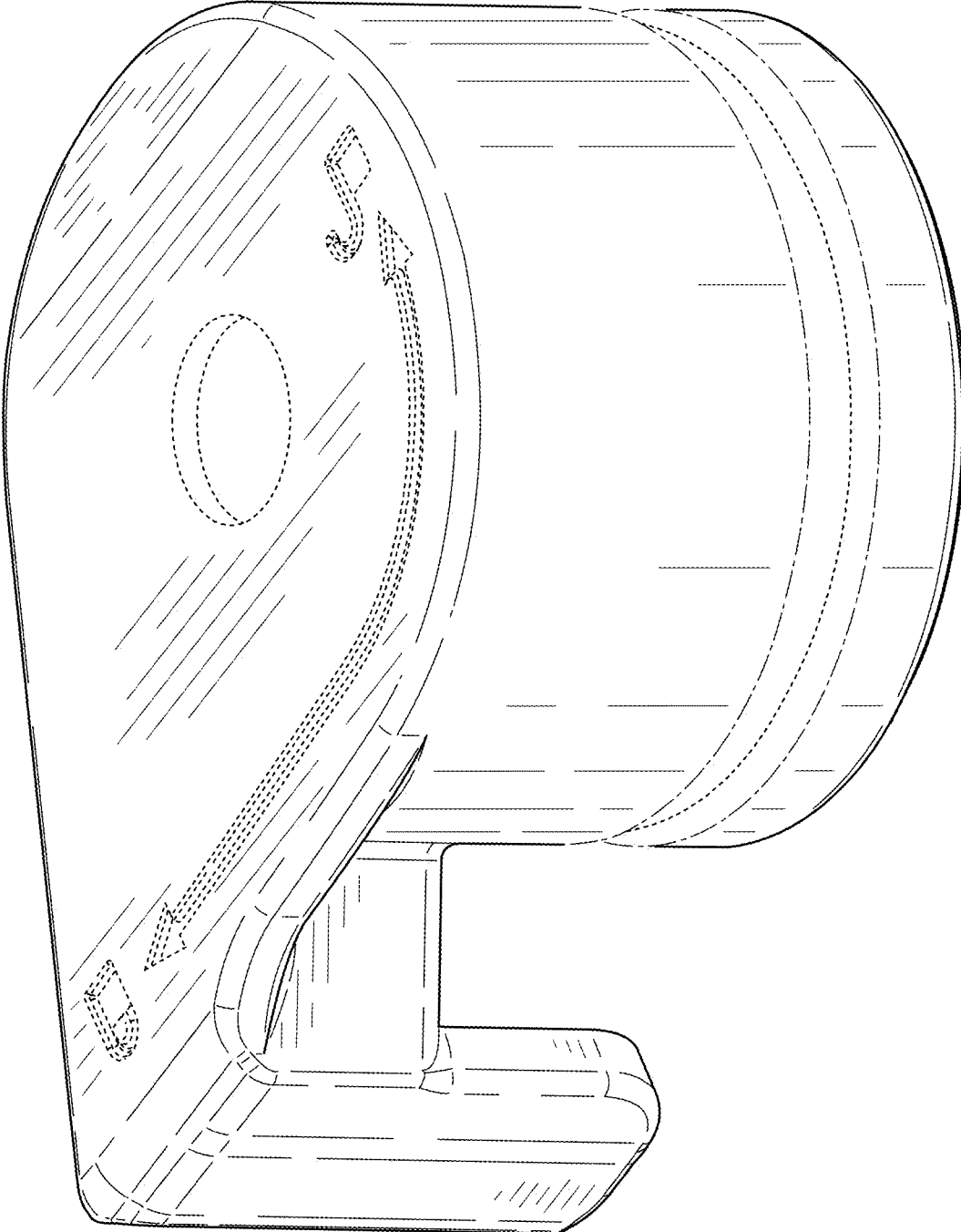


FIG. 1

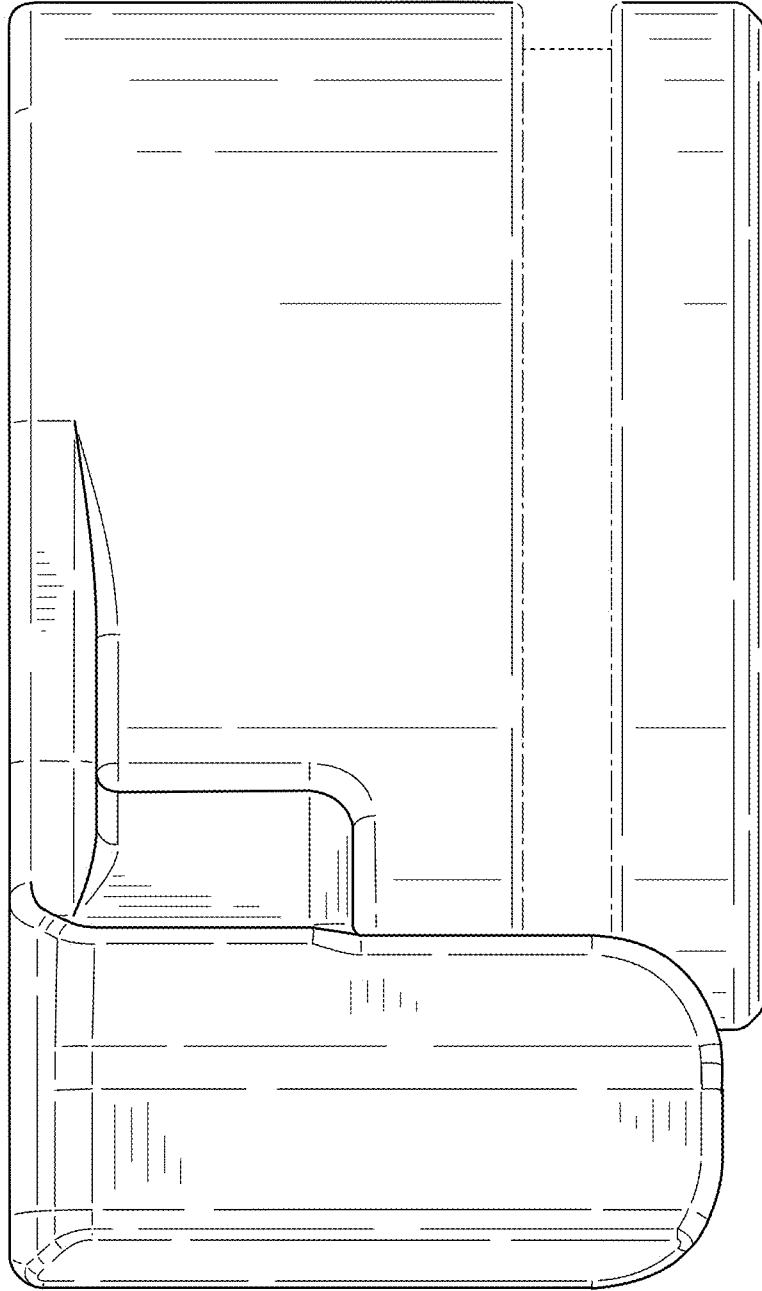


FIG. 2

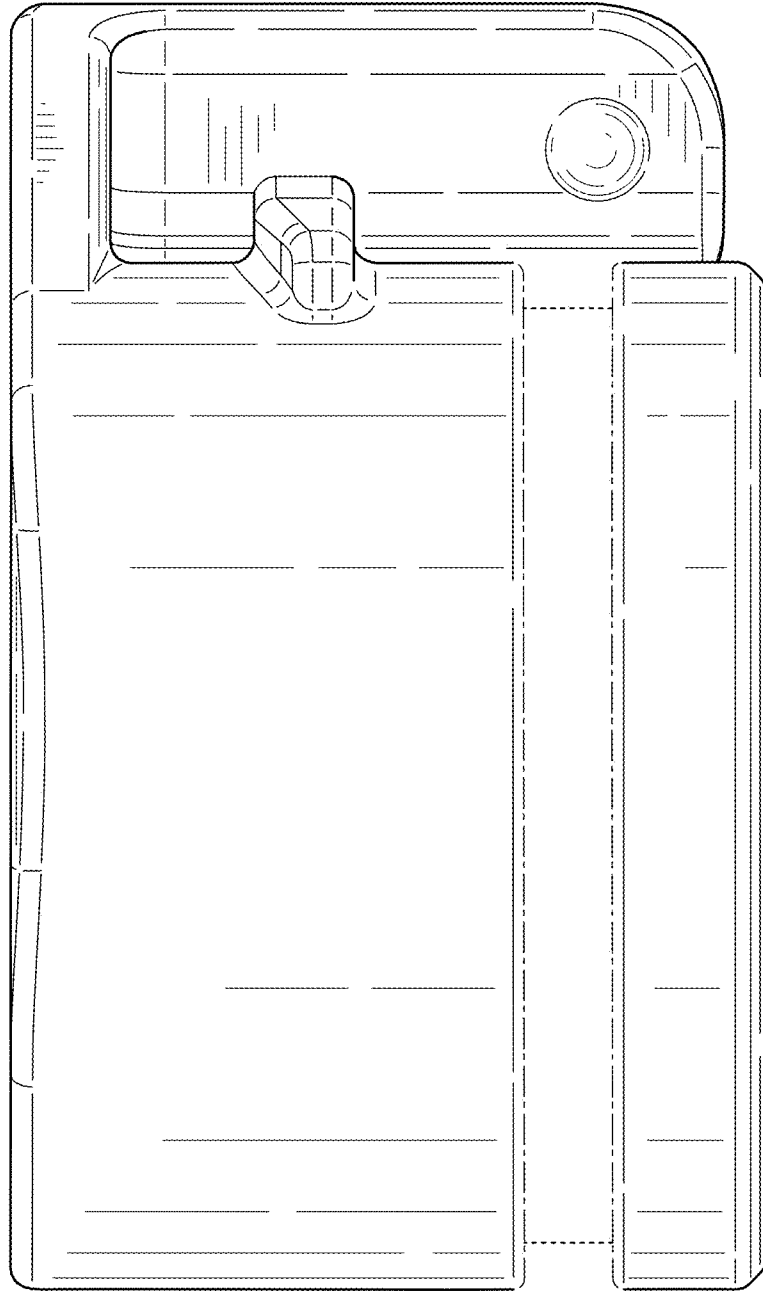


FIG. 3

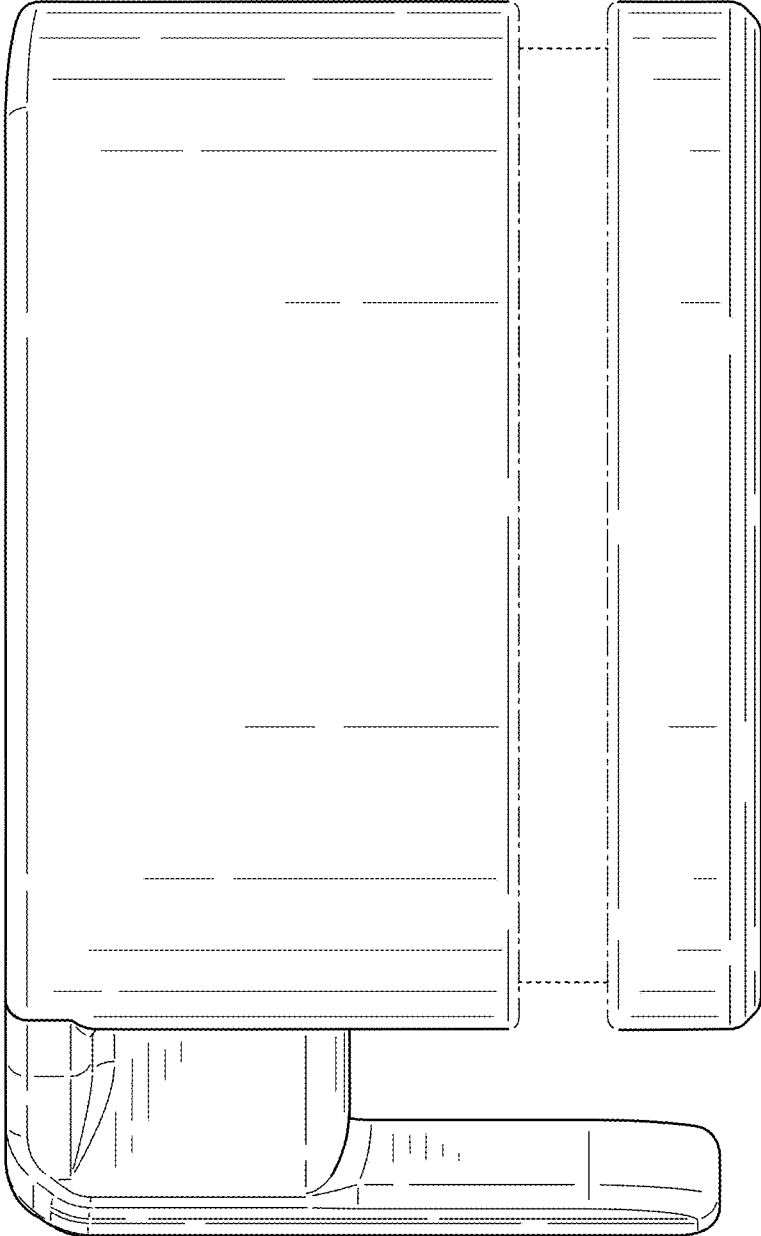


FIG. 4

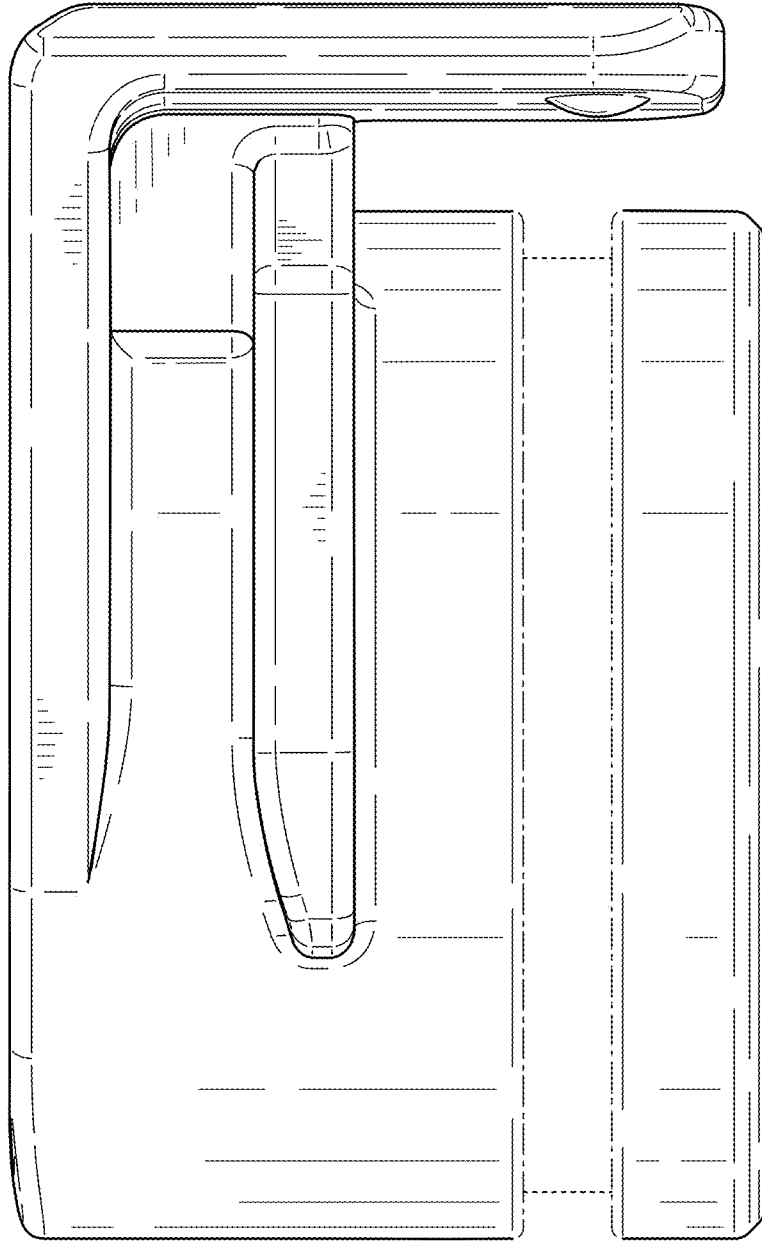


FIG. 5

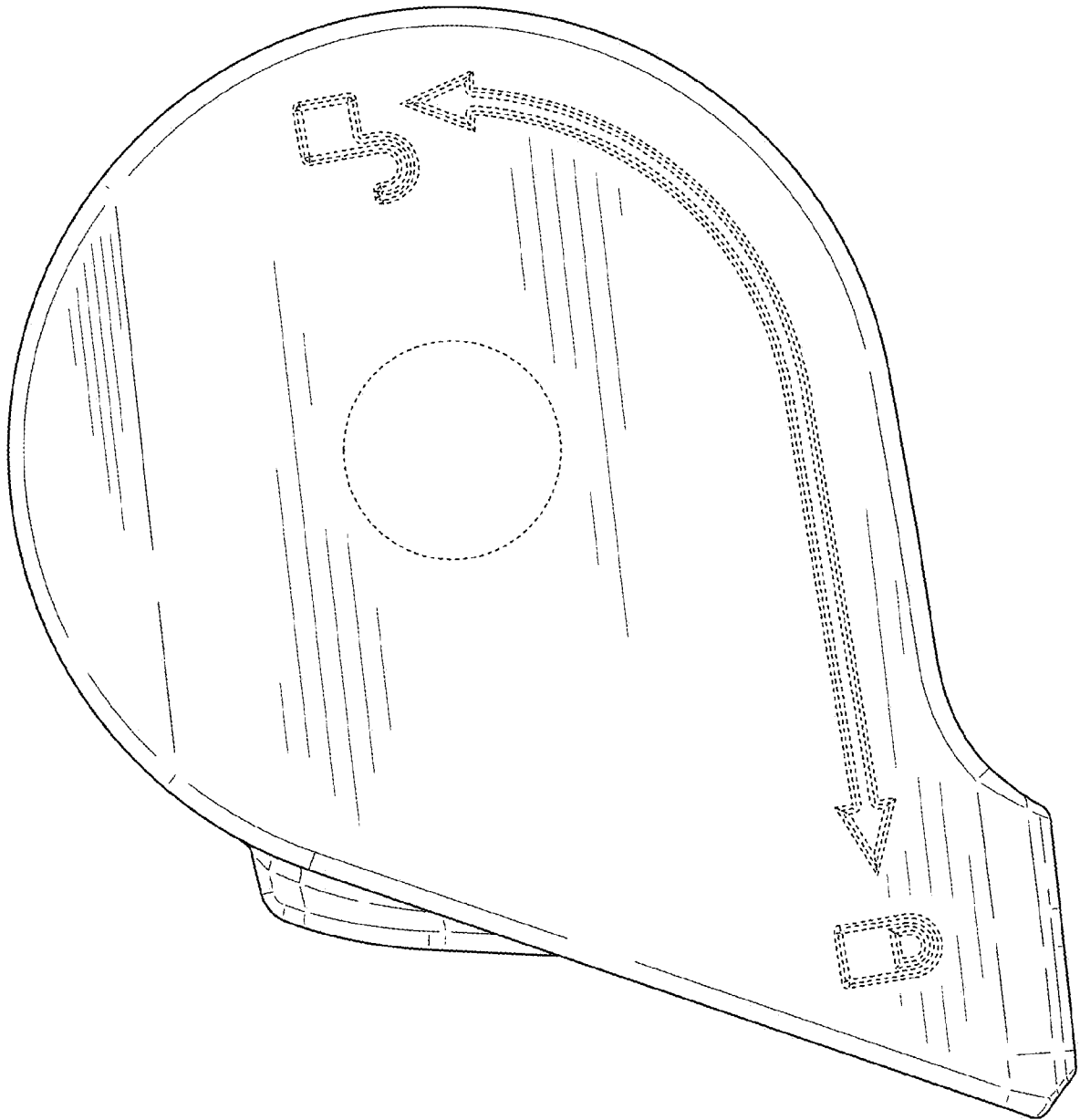


FIG. 6

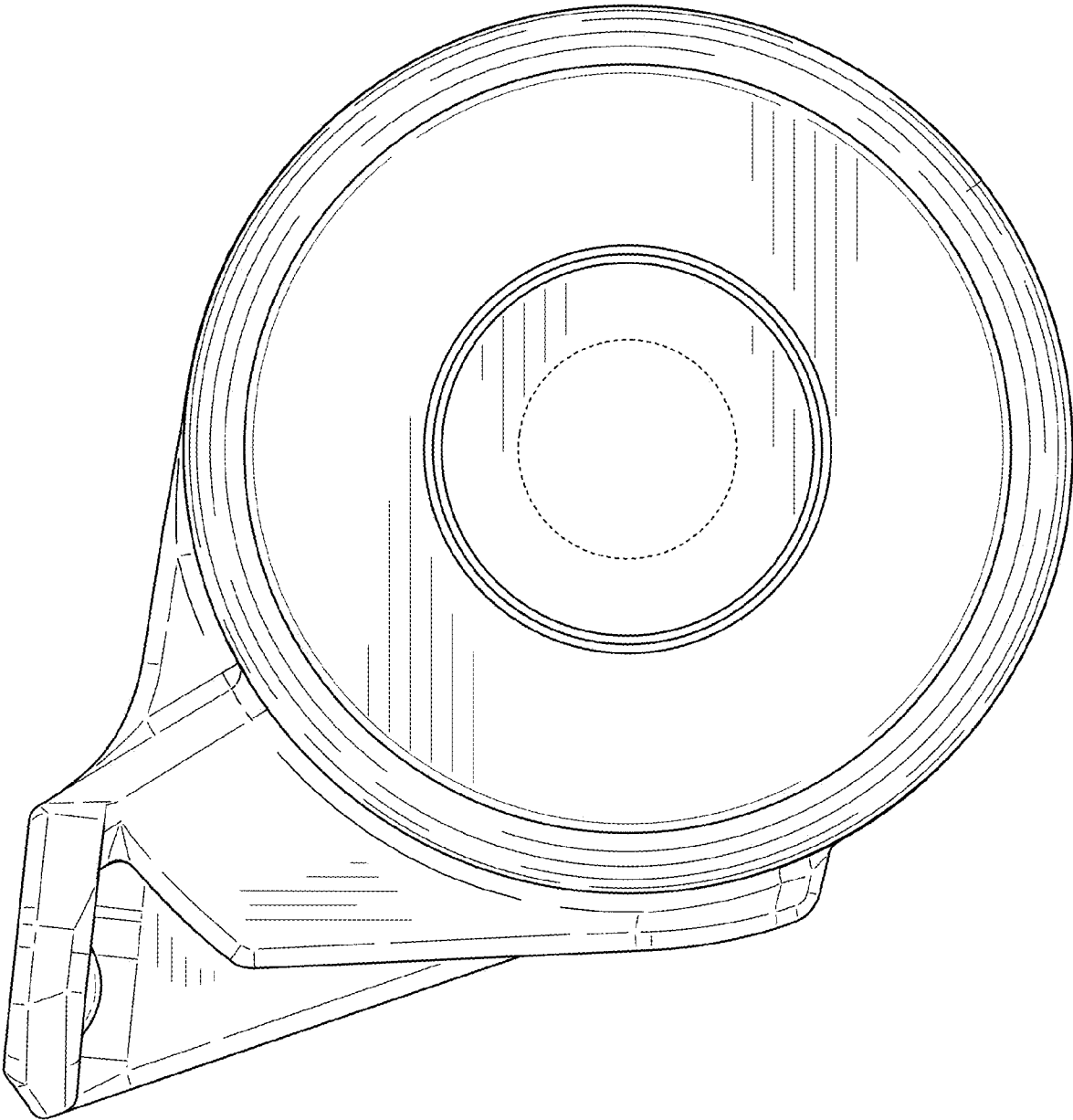


FIG. 7

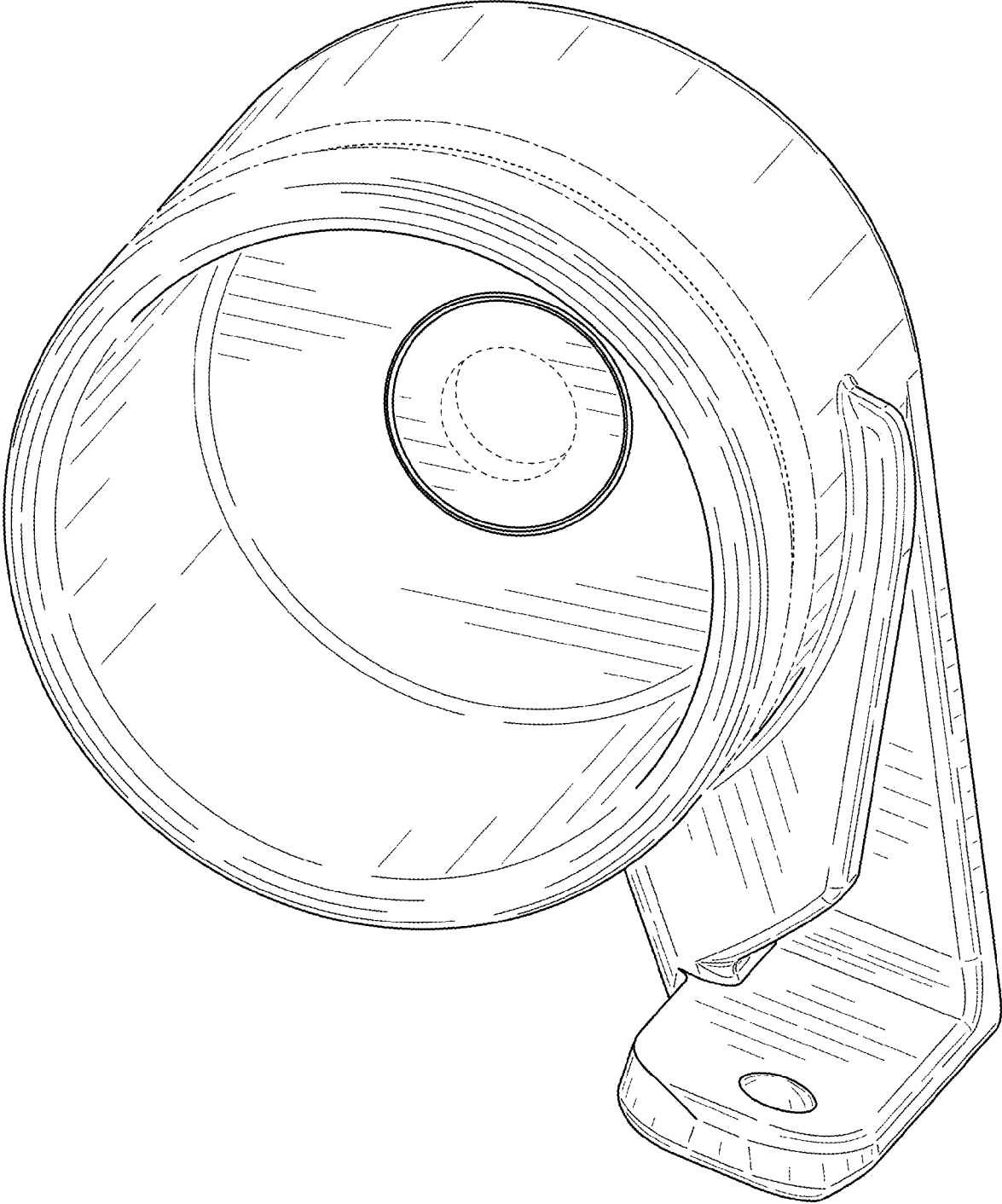


FIG. 8