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(12) **United States Design Patent** (10) **Patent No.:** **US D812,242 S**
Chang et al. (45) **Date of Patent:** **** Mar. 6, 2018**

(54) **MICROFLUIDIC CARTRIDGE**

33/558; G01N 33/54366; G01N 33/53;
G01N 33/5438; G01N 33/54386

(71) Applicant: **Precision Nanosystems Inc.**, Vancouver (CA)

See application file for complete search history.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

D299,859 S *	2/1989	Fan	D24/225
D299,860 S *	2/1989	Fan	D24/223
D328,135 S *	7/1992	Fan	D24/216
D351,913 S *	10/1994	Hieb	D24/223
D530,021 S *	10/2006	Muraca	D24/226
D530,826 S *	10/2006	Rich	D24/225

(Continued)

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OTHER PUBLICATIONS

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

U.S. Appl. No. 62/359,123, Precision NanoSystems Inc.
(Continued)

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

(52) **U.S. Cl.**
USPC **D24/224**

(58) **Field of Classification Search**

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422/404, 408, 412, 417, 422, 500,
422/502-506, 552, 554, 559, 562;
436/165-166, 180, 501, 518; 435/283.1,
435/287.1, 287.2, 288.5, 288.7, 6.11,
435/289.1, 6.12, 29, 34, 4-5, 6.19, 7.1,
435/1.2; 204/403.01, 411, 450-453, 601;
356/246; 506/7, 9, 13, 18, 32, 33, 39;
73/864.91

CPC . A01N 1/0247; B01J 19/0046; B01J 19/0093;
B01L 9/52; B01L 9/527; B01L 3/02;
B01L 3/04; B29C 66/61; C12M 23/16;
C12Q 1/40; C12Q 1/686; C12Q 1/6837;
G01N 15/1484; G01N 21/03; G01N
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21/00029; G01N 21/07; G01N 21/6452;
G01N 21/78; G01N 21/253; G01N

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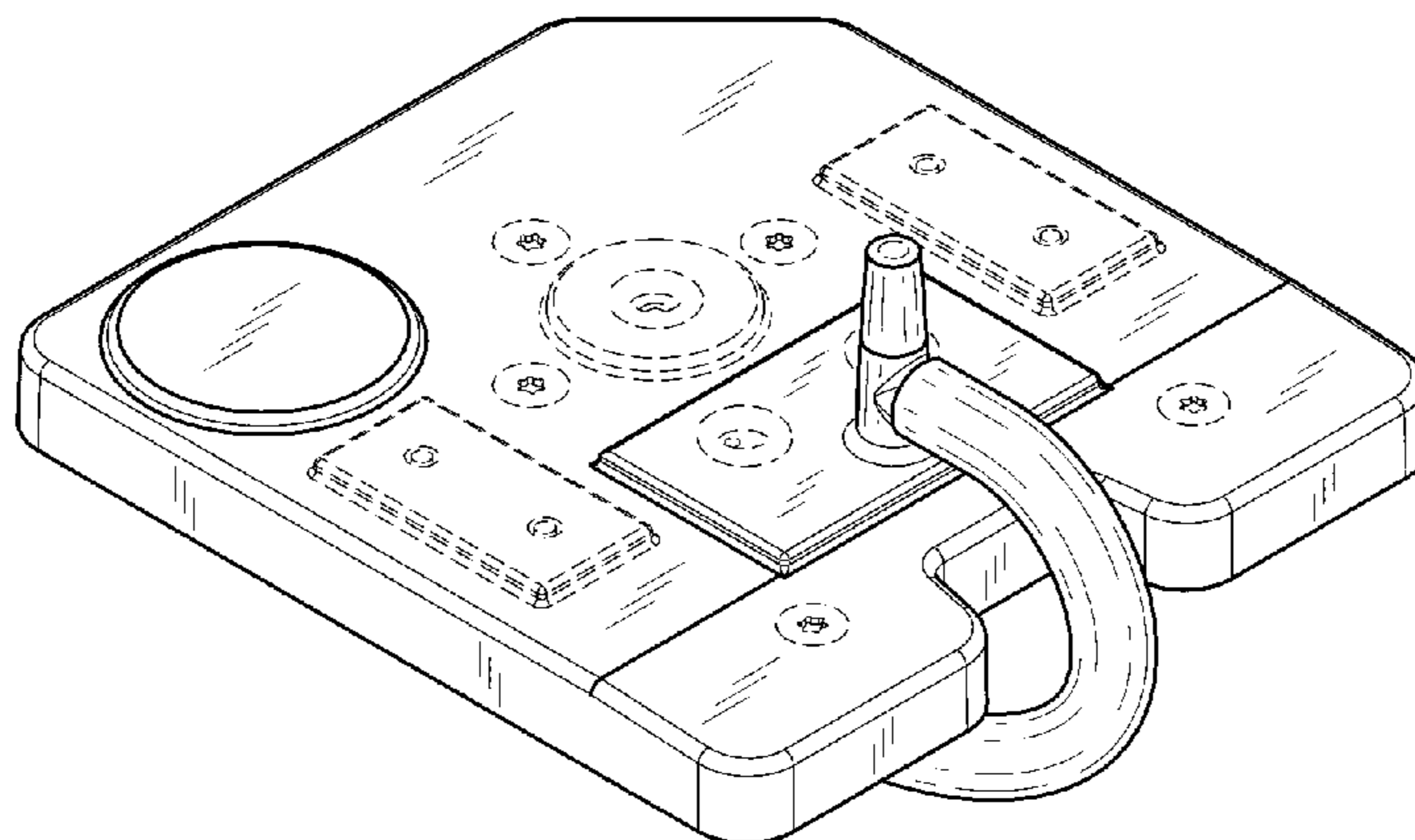
(57) **CLAIM**

The ornamental design for a microfluidic cartridge, as shown and described.

DESCRIPTION

FIG. 1 is a top front right perspective view of a microfluidic cartridge showing our new design; FIG. 2 is a bottom plan view thereof; FIG. 3 is a top plan view thereof; FIG. 4 is a front elevation view thereof; FIG. 5 is a rear elevation view thereof; FIG. 6 is a left side elevation view thereof; and, FIG. 7 is a right side elevation view thereof. The broken lines are included for the purpose of illustrating portions of the microfluidic cartridge that form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D540,953 S * 4/2007 Ramel D24/224
 D565,742 S * 4/2008 Parunak D24/224
 D566,291 S * 4/2008 Parunak D24/224
 7,727,371 B2 * 6/2010 Kennedy B01L 9/527
 422/502
 D633,209 S * 2/2011 Boessneck D24/169
 8,034,296 B2 * 10/2011 Cox B01L 3/502723
 422/73
 D686,340 S * 7/2013 Smith D24/225
 8,636,033 B2 * 1/2014 Jung B01L 3/502738
 436/180
 9,034,634 B2 * 5/2015 Miller B01L 3/5027
 435/283.1
 9,475,052 B2 * 10/2016 Tachibana B01J 19/0093
 2007/0072287 A1 * 3/2007 Morissette B01L 3/502715
 435/287.2
 2009/0170189 A1 * 7/2009 Park B29C 66/61
 435/288.7
 2009/0253582 A1 * 10/2009 Pena B01L 3/5085
 506/7
 2009/0311796 A1 * 12/2009 Griss B01L 3/50273
 436/166
 2010/0216126 A1 * 8/2010 Balachandran B01F 13/0059
 422/505
 2011/0003330 A1 * 1/2011 Durack B01L 3/502761
 435/34

2011/0154919 A1 * 6/2011 Chuang B01L 9/527
 73/864.91
 2013/0052748 A1 * 2/2013 Campbell G01N 33/558
 436/501
 2013/0130262 A1 * 5/2013 Battrell B01L 3/50273
 435/287.2
 2013/0295551 A1 * 11/2013 Eddington A01N 1/0247
 435/1.2
 2014/0038193 A1 * 2/2014 Spoto C12Q 1/686
 435/6.12
 2014/0094391 A1 * 4/2014 McDevitt B01L 3/5027
 506/18
 2014/0220668 A1 * 8/2014 Tachibana B01J 19/0093
 435/287.2
 2015/0087079 A1 * 3/2015 Coffey G01N 33/54366
 436/501
 2015/0147769 A1 * 5/2015 Kim C12Q 1/40
 435/288.7
 2016/0175840 A1 * 6/2016 Ingber B01L 3/502707
 422/502
 2017/0113221 A1 * 4/2017 Hoffman B01L 3/502715

OTHER PUBLICATIONS

U.S. Appl. No. 29/525,300, The University of British Columbia.
 U.S. Appl. No. 29/525,294, The University of British Columbia.
 U.S. Appl. No. 29/525,306, The University of British Columbia.

* cited by examiner

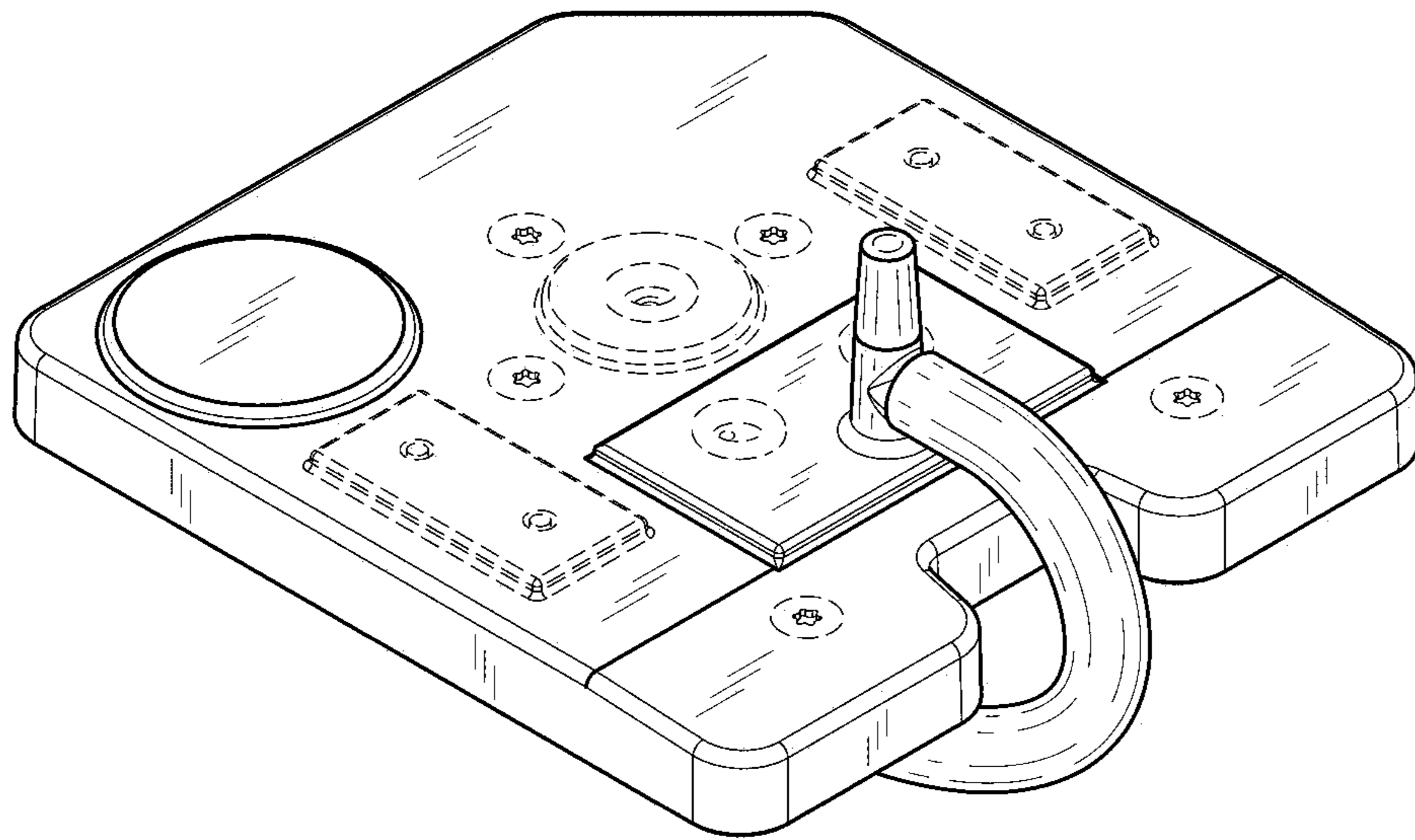


FIG. 1

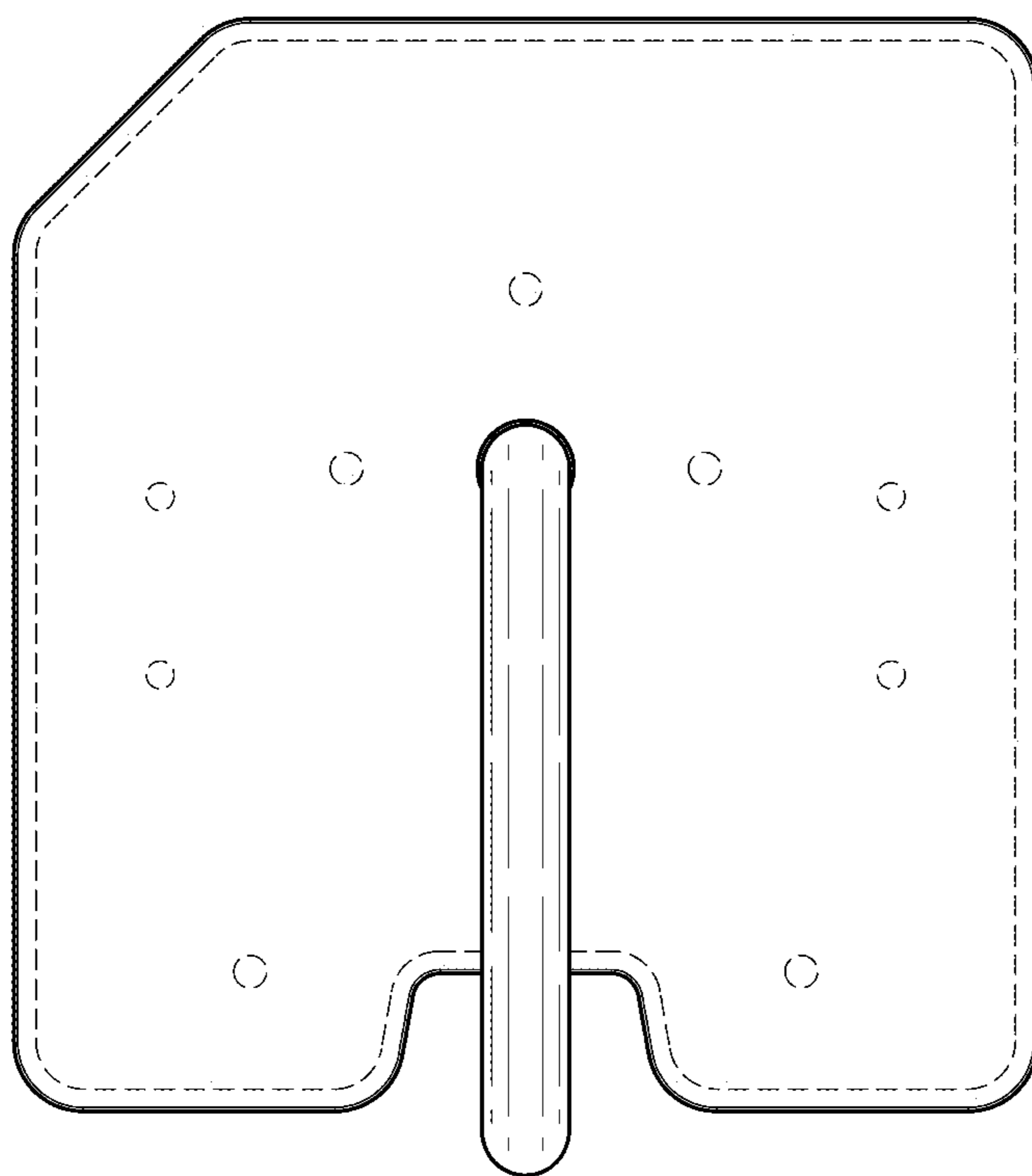


FIG. 2

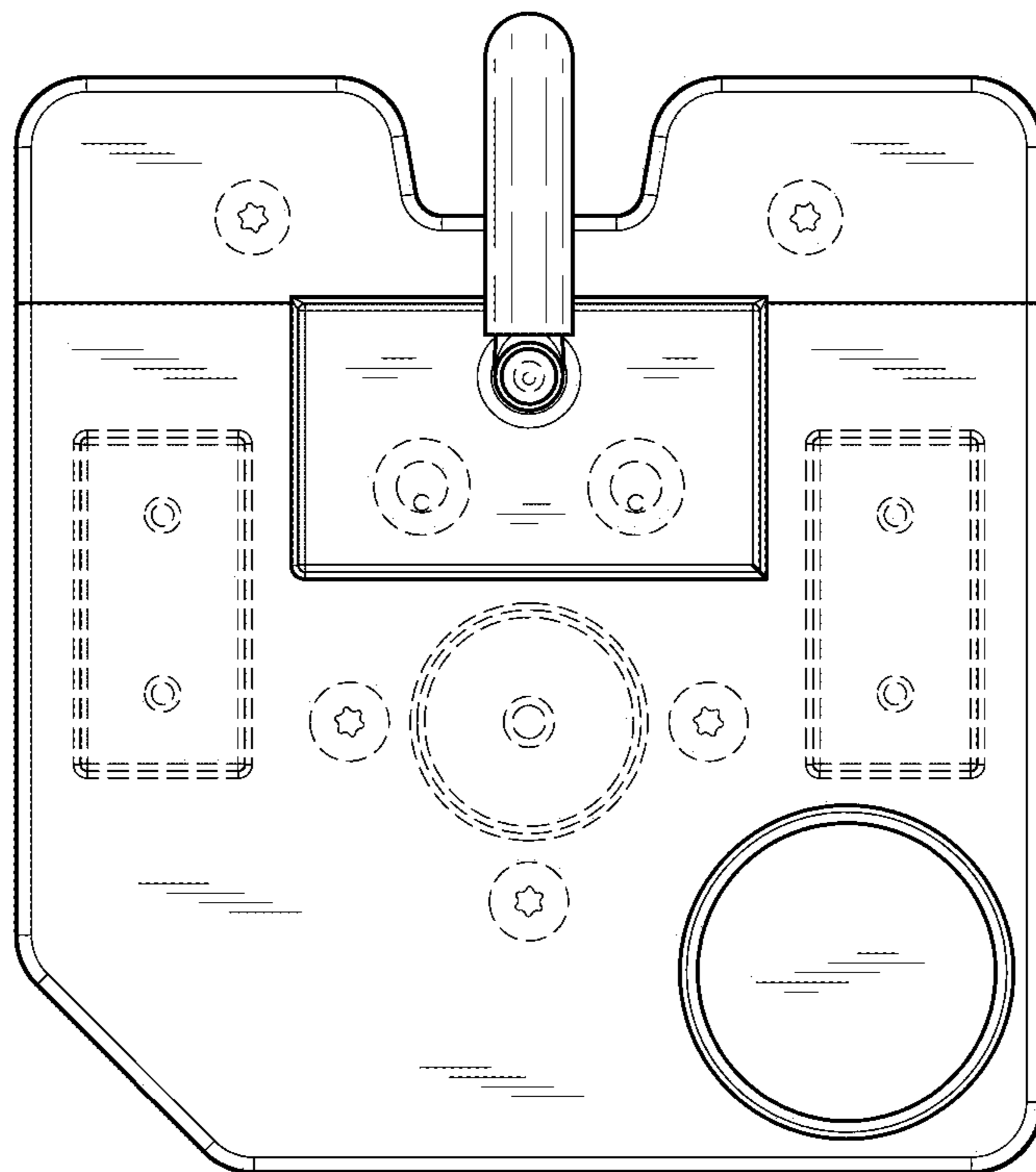


FIG. 3

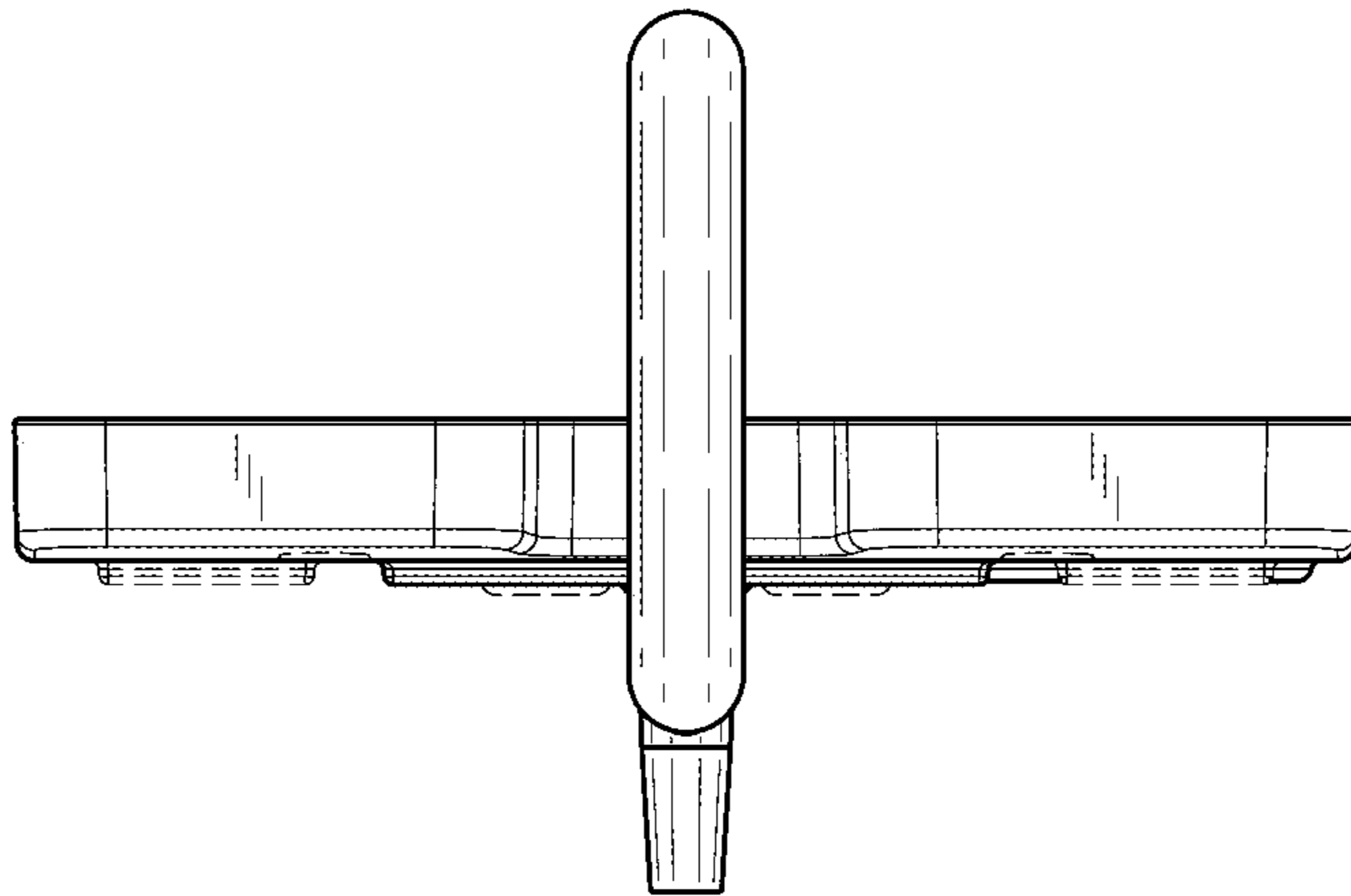


FIG. 4

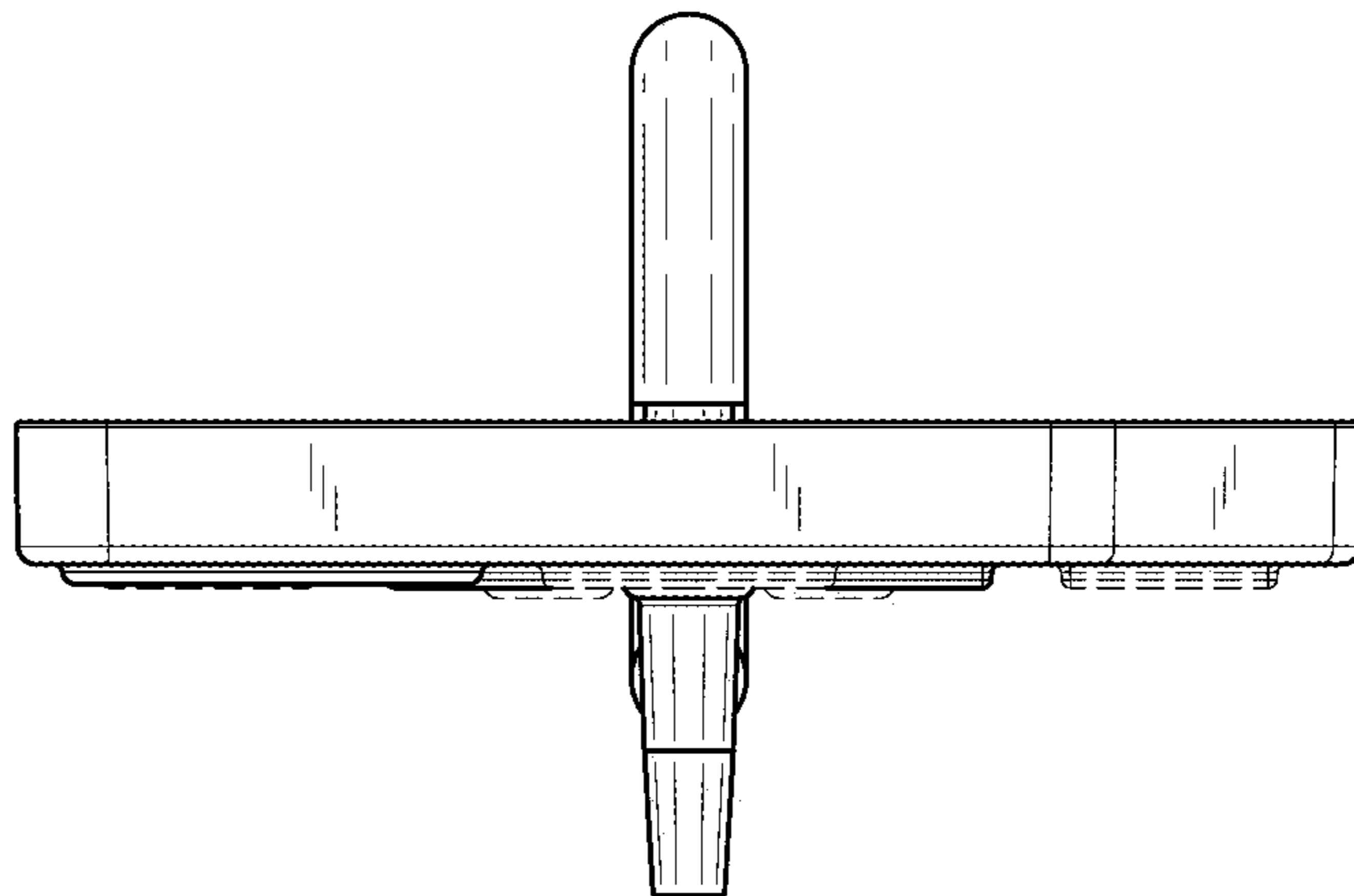


FIG. 5

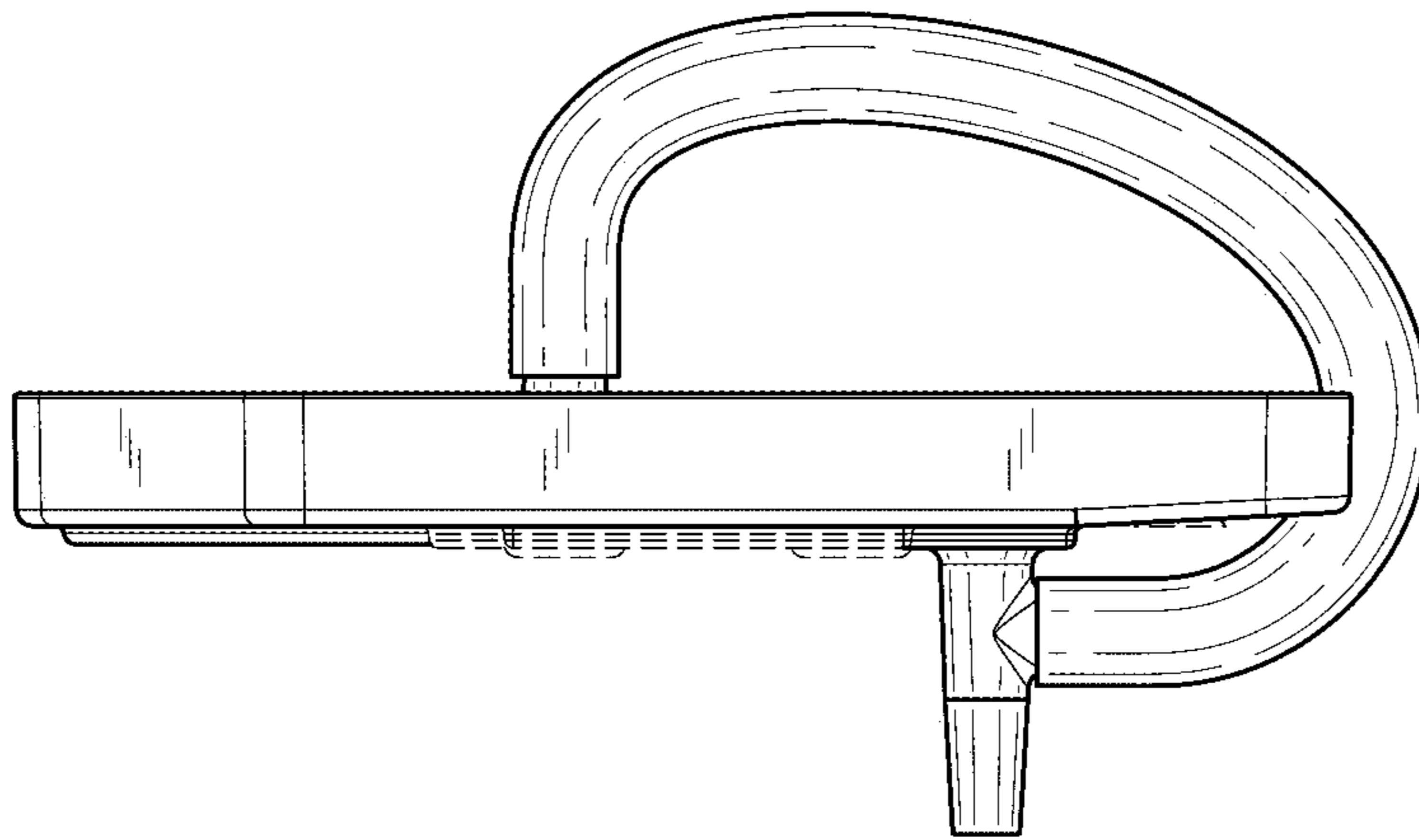


FIG. 6

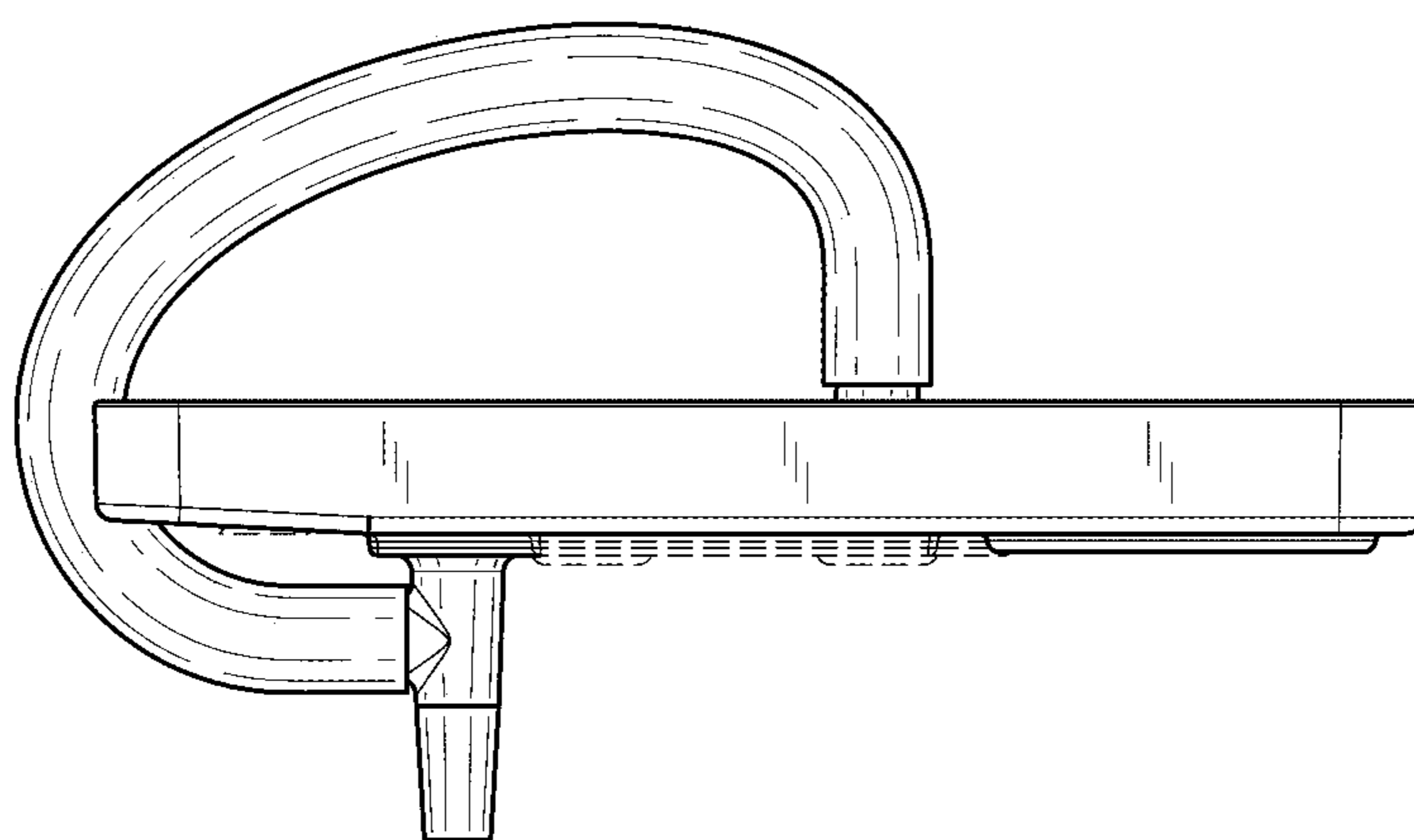


FIG. 7