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(12) **United States Design Patent**
Yamaguchi

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(54) **INSULATION UNIT COVER OF SEMICONDUCTOR MANUFACTURING APPARATUS**

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

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(30) **Foreign Application Priority Data**

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(51) **LOC (11) Cl.** **13-03**

(52) **U.S. Cl.**
USPC **D13/129**

(58) **Field of Classification Search**
USPC D13/123-132, 182, 184, 199; D15/138, D15/140, 144.1
CPC F27B 17/0025; F27B 17/005; F27B 17/0058; F27B 2017/0091; G01R 1/40; G01R 1/42; G01R 1/44; H01L 21/31; H01L 21/3105; H01L 21/311; H01L 21/3115
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D124,726 S * 1/1941 Shimer D13/110
D200,577 S * 3/1965 Crouse D13/112
D493,873 S * 8/2004 Hayashi D23/314
6,922,326 B2 * 7/2005 Kubota H01M 6/5011
361/274.1
D522,456 S * 6/2006 Matsumoto D13/125
7,440,258 B2 * 10/2008 Thrap H01G 2/02
361/502

8,098,479 B1 * 1/2012 Parler, Jr. H01G 2/20
361/301.1
D775,075 S * 12/2016 Aishima D13/129
2011/0134584 A1 * 6/2011 Stockman H01G 5/38
361/328

(Continued)

FOREIGN PATENT DOCUMENTS

JP 2009194297 A * 8/2009 C23C 16/44

OTHER PUBLICATIONS

Ferrotec. <URL: <https://quartz.ferrotec.com/products/>> Visited Sep. 12, 2017. Quartz Insulator.*

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(57) **CLAIM**

I claim the ornamental design for an insulation unit cover of semiconductor manufacturing apparatus, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of an insulation unit cover of semiconductor manufacturing apparatus showing my new design;

FIG. 2 is a front elevational view thereof;

FIG. 3 is a rear elevational view thereof;

FIG. 4 is a left side elevational view thereof;

FIG. 5 is a right side elevational view thereof;

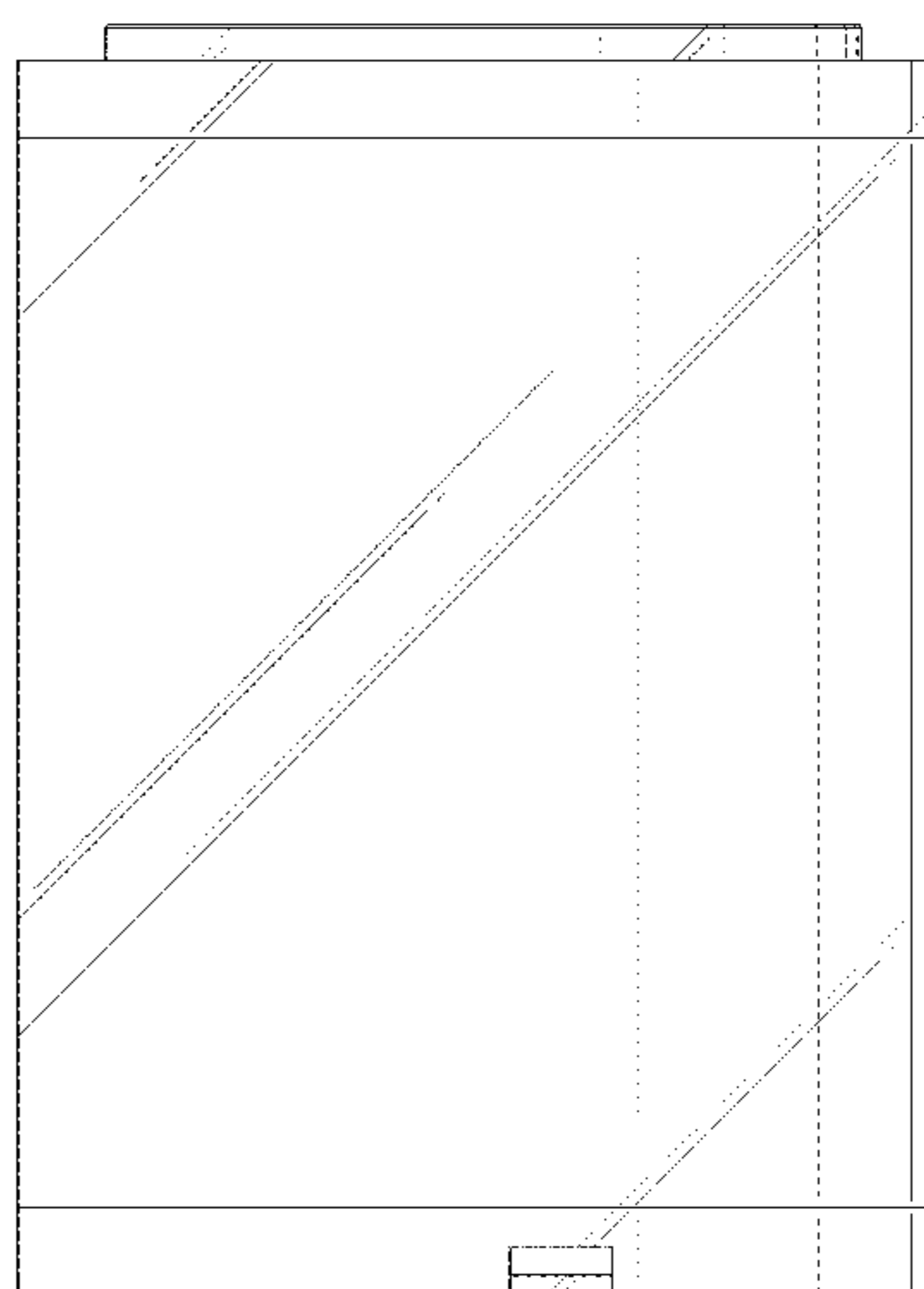
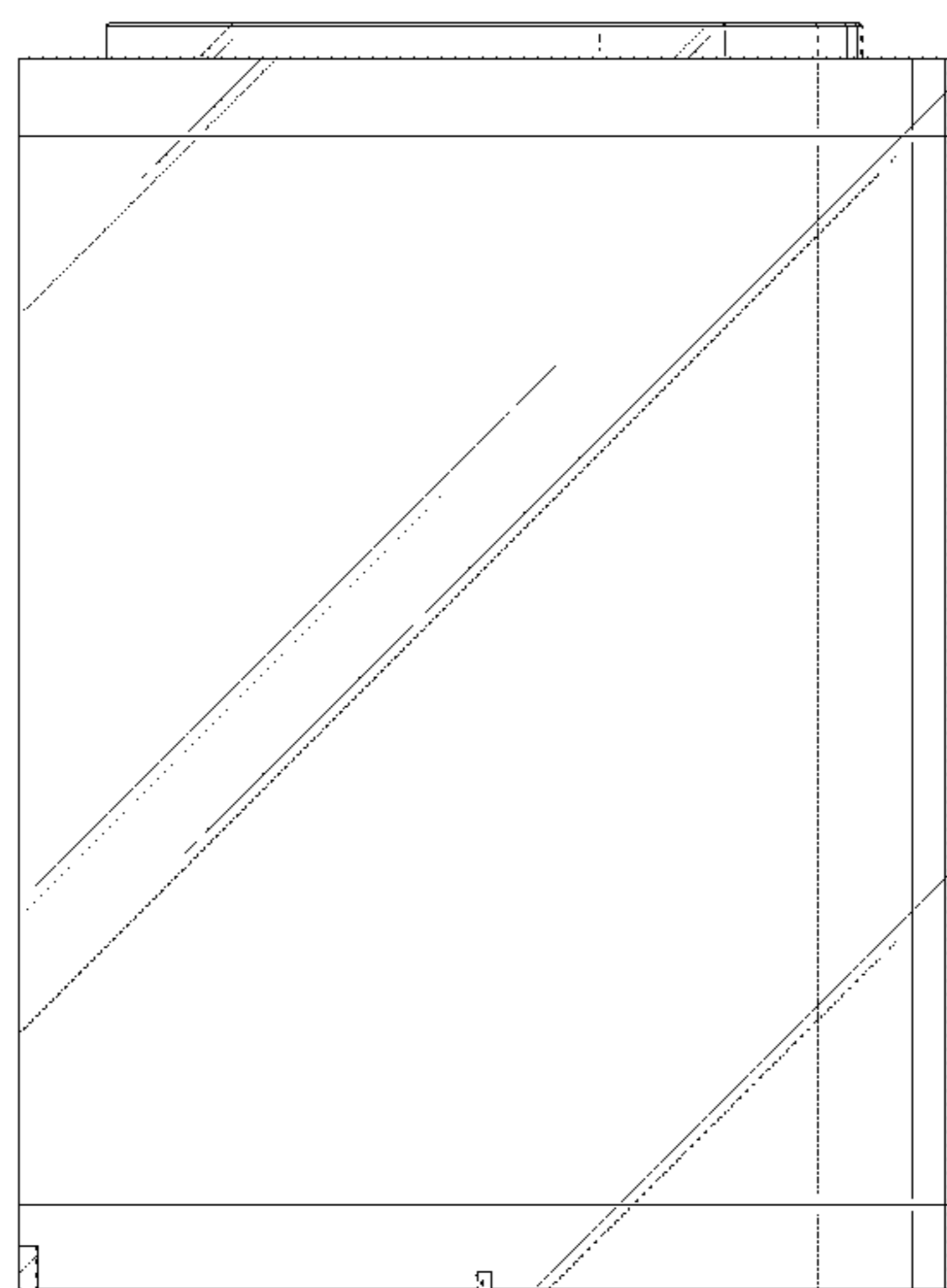
FIG. 6 is a top plan view thereof;

FIG. 7 is a bottom plan view thereof; and,

FIG. 8 is a cross-sectional view thereof taken in the direction of line 8-8 in FIG. 6.

The dot-dash broken lines FIG. 6 are for reference purposes only; the broken lines form no part of the claimed design.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2011/0317333 A1* 12/2011 Chun H01G 2/04
361/518
2012/0231407 A1* 9/2012 Kadobe C23C 16/303
432/247
2012/0243142 A1* 9/2012 Schmit H01G 2/04
361/271
2015/0249025 A1* 9/2015 Torimi F27D 5/0037
432/198

* cited by examiner

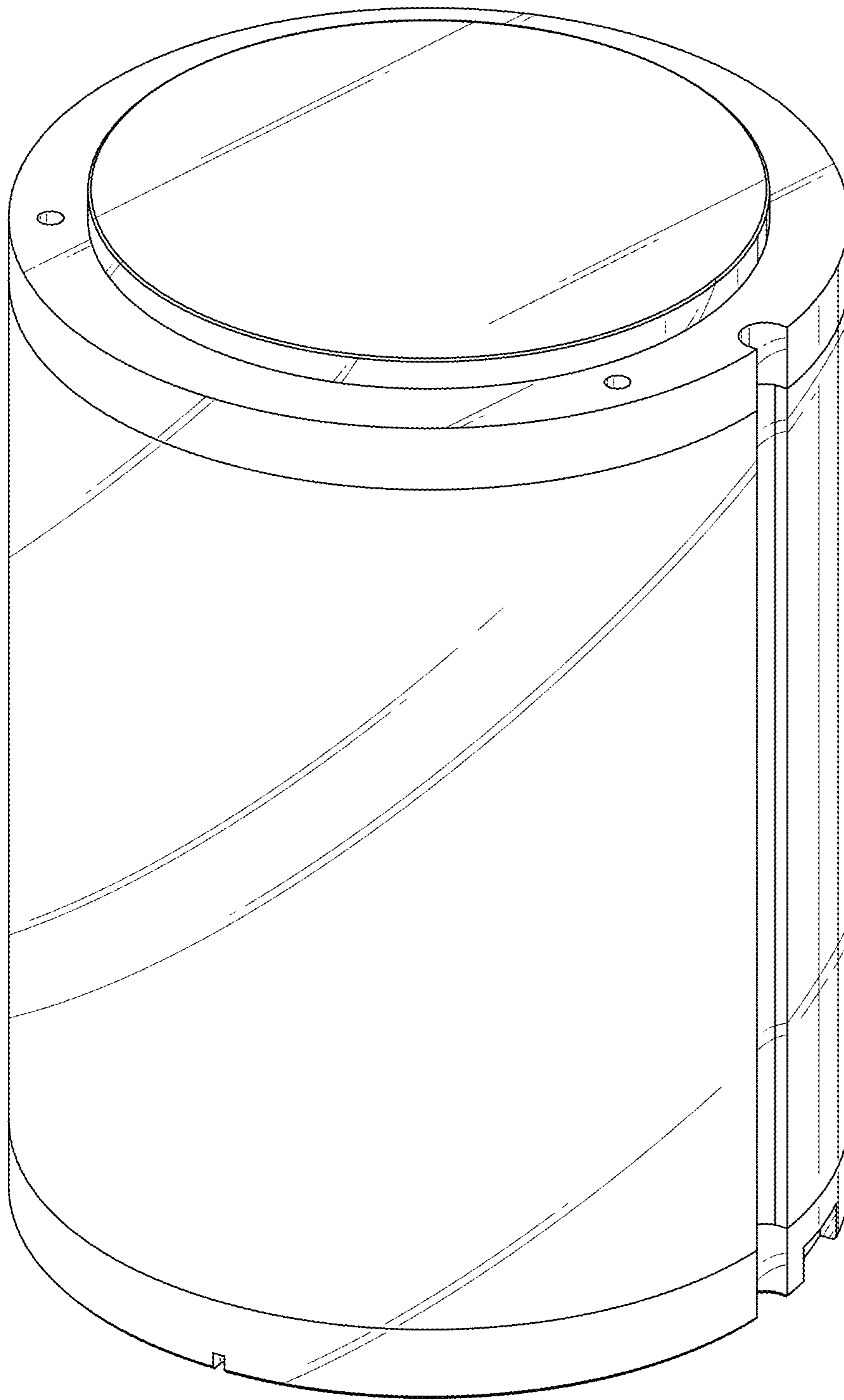


FIG. 1

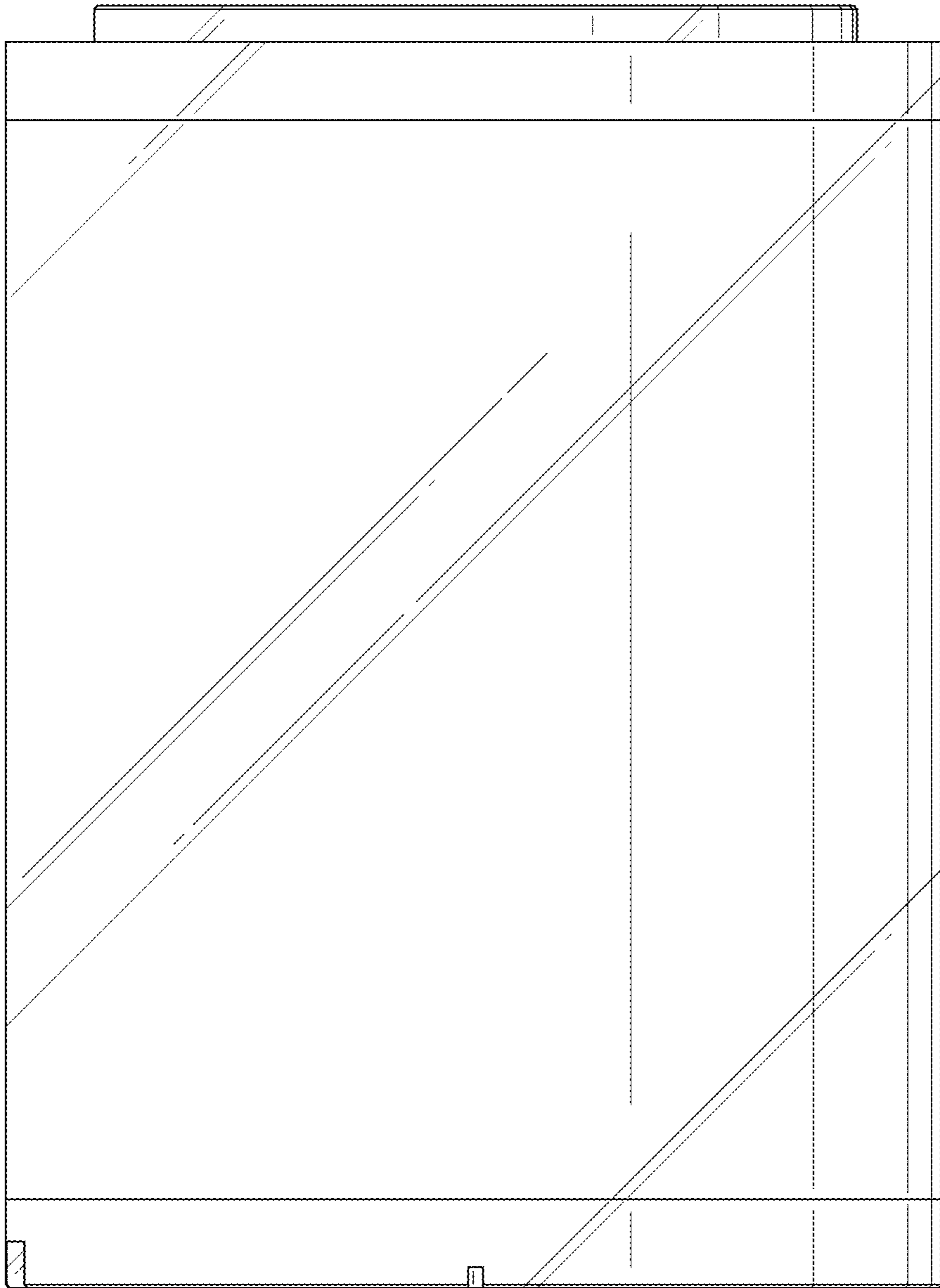


FIG. 2

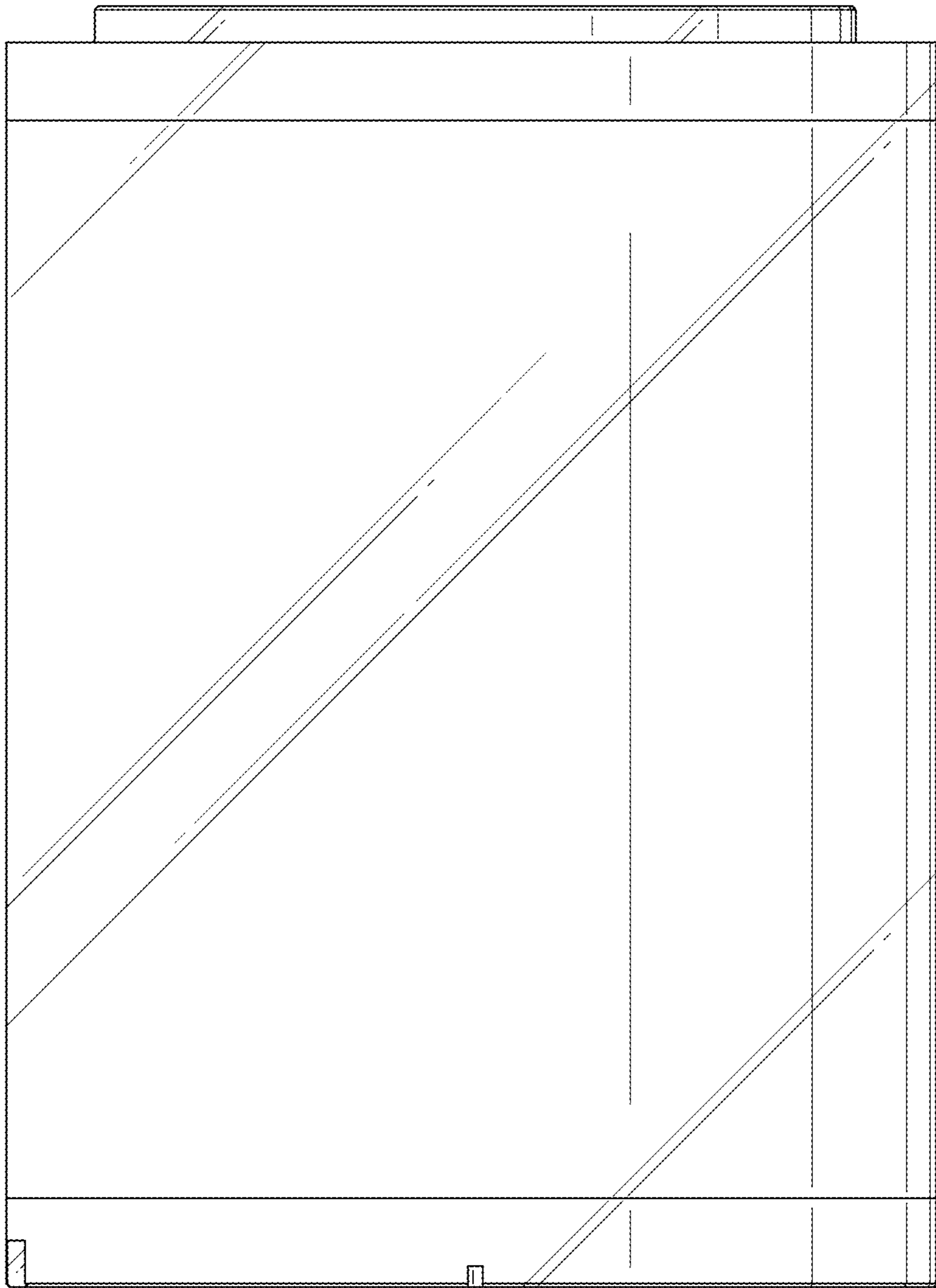


FIG. 3

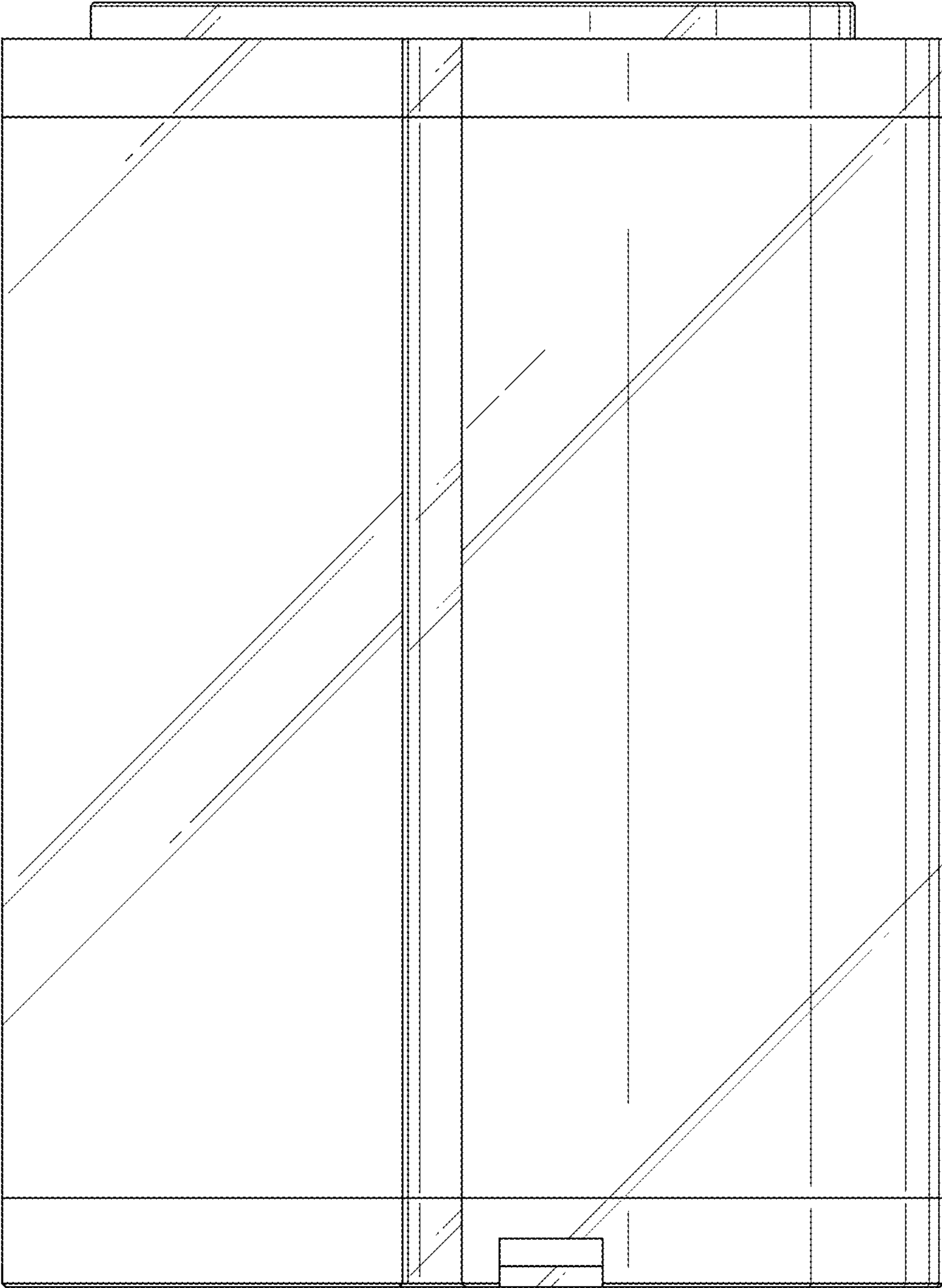


FIG. 4

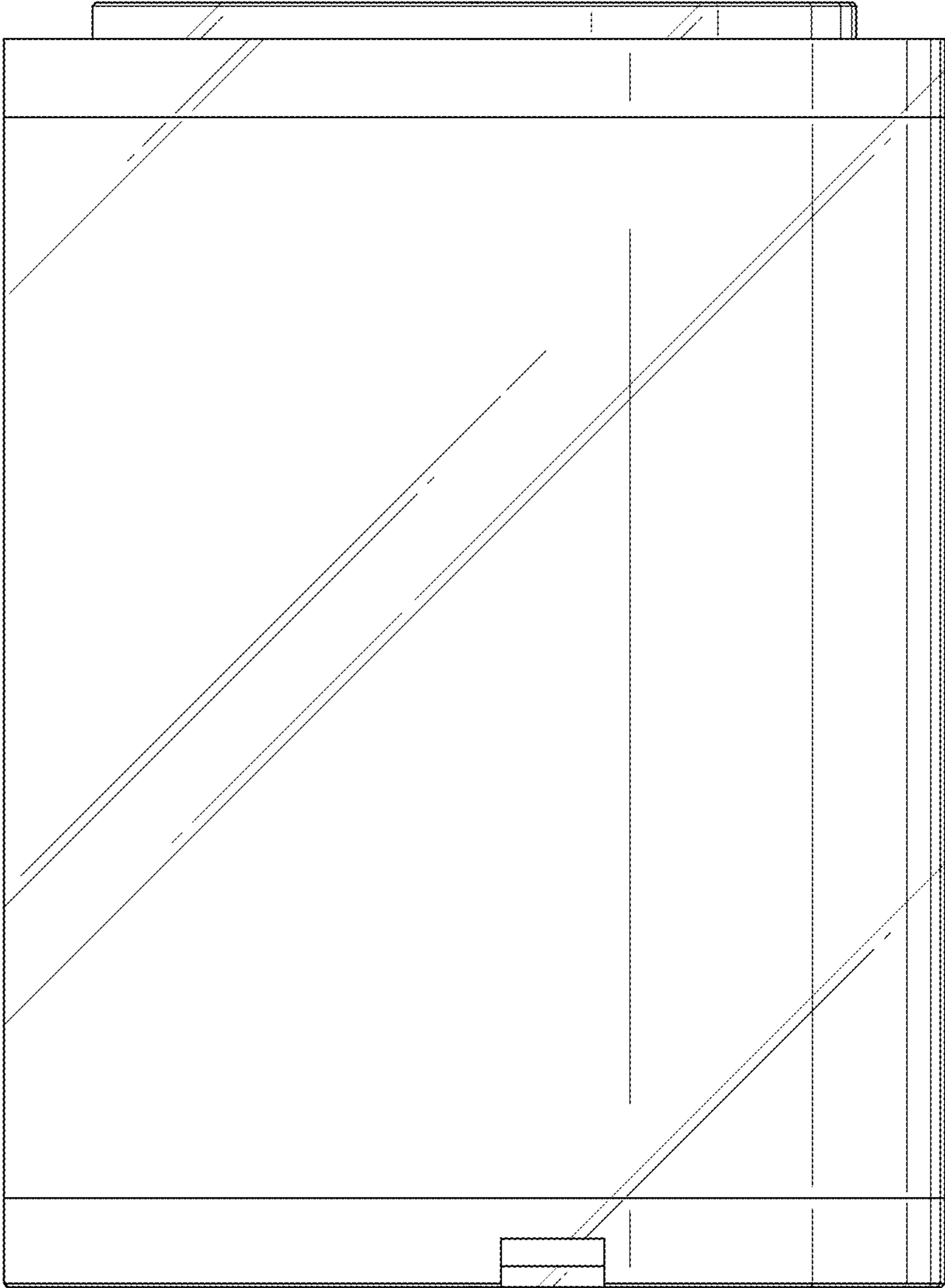


FIG. 5

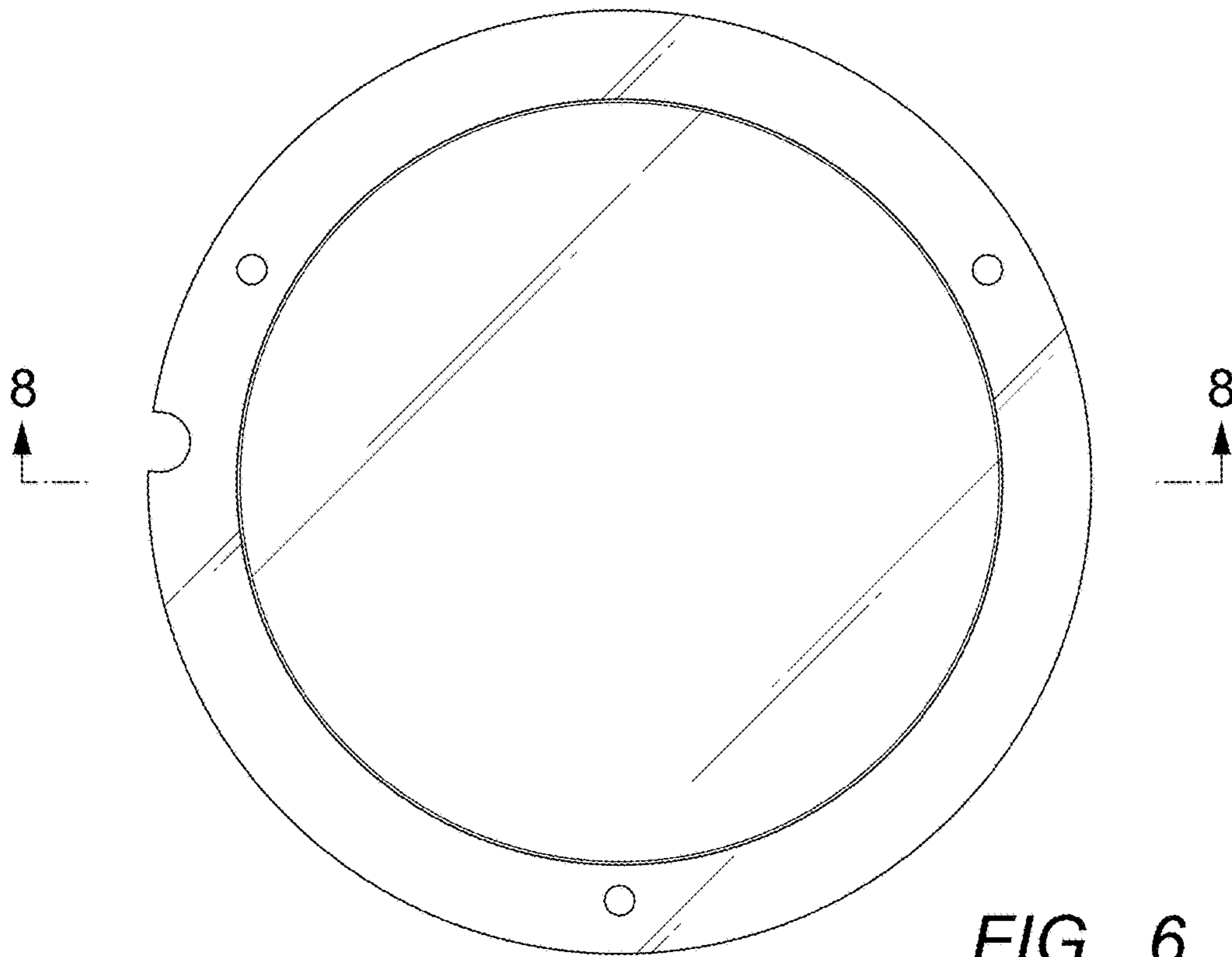


FIG. 6

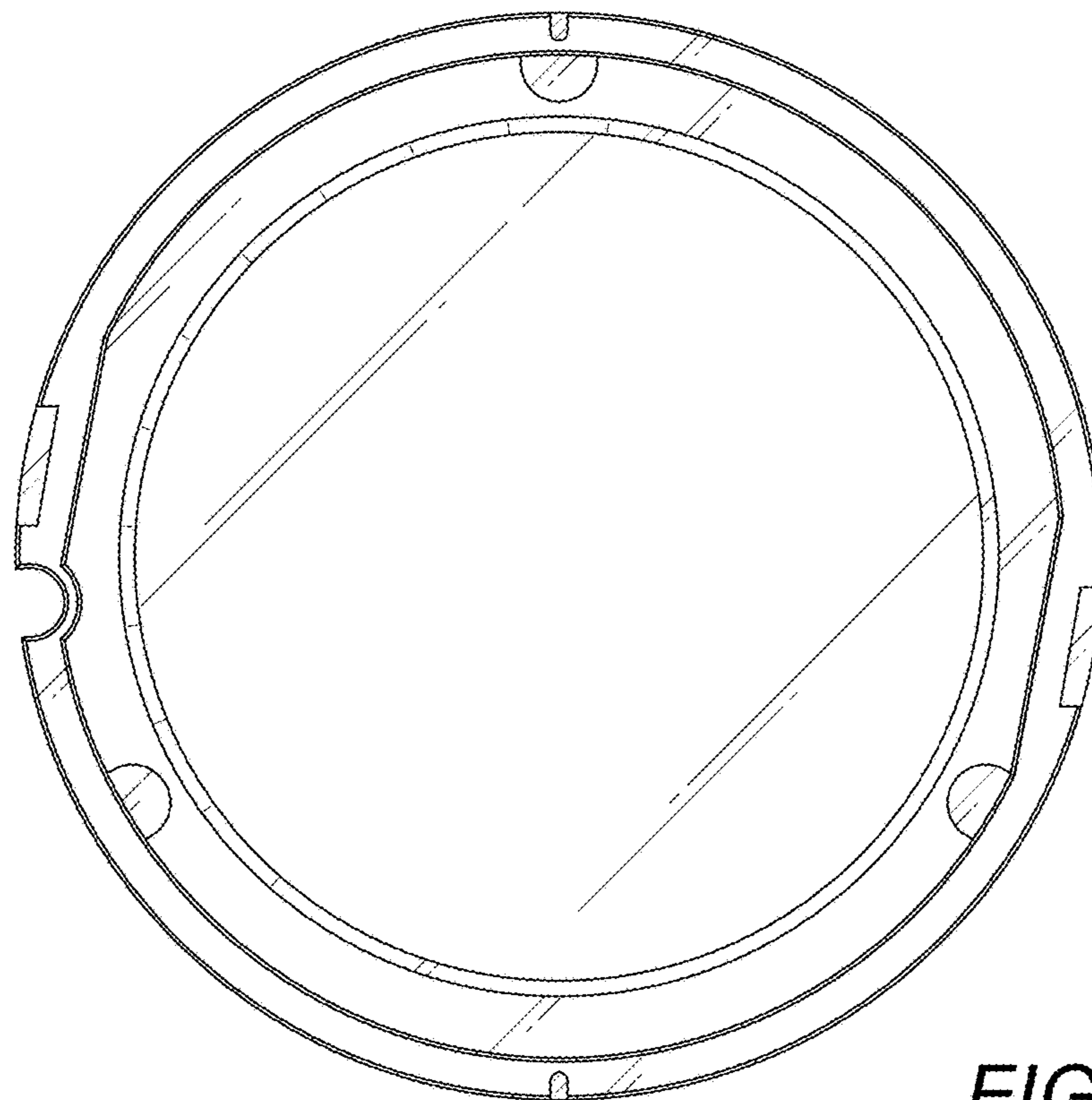


FIG. 7

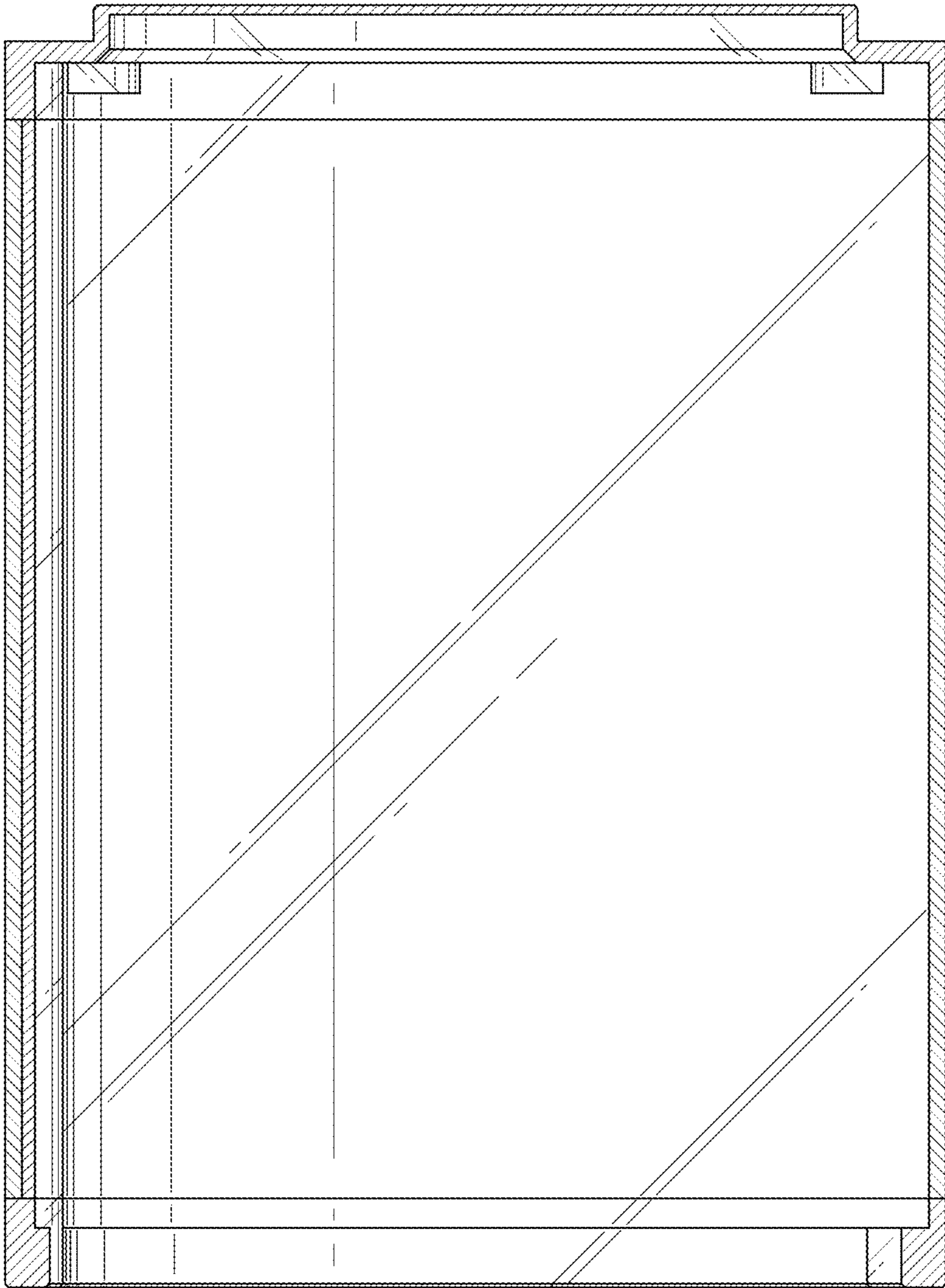


FIG. 8