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

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(54) **ANTENNA APPARATUS**

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

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(51) **LOC (13) Cl.** **14-03**
(52) **U.S. Cl.**
USPC **D14/230**
(58) **Field of Classification Search**
USPC D14/230, 231, 155, 216
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,831,948 A * 4/1958 Fraser H02B 1/048 174/505
D248,763 S * 8/1978 Muller D32/32
(Continued)

FOREIGN PATENT DOCUMENTS

CN 305869075 * 6/2020
CN 306040152 * 9/2020
(Continued)

OTHER PUBLICATIONS

Shakespeare Seawatch 15" Marine TV Antenna . . . , available in hodgesmarine.com, oldest review date Jun. 9, 2017 [online], [site visited Feb. 8, 2022], Internet URL:https://www.hodgesmarine.com/sha3015-shakespeare-seawatchreg-15-marine-tv-antenna.html (Year: 2017).*
(Continued)

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(57) **CLAIM**

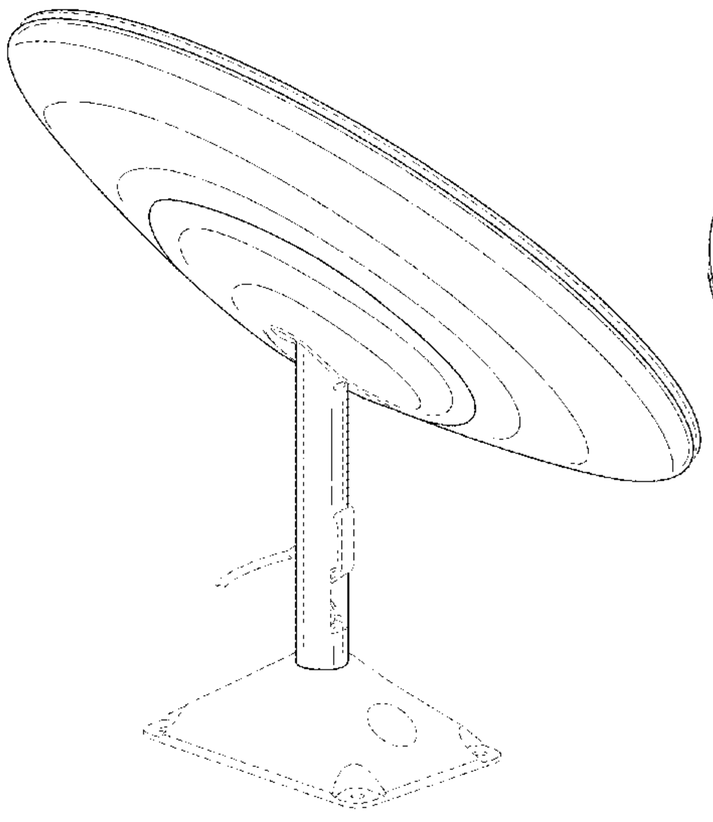
The ornamental design for an antenna apparatus, as shown and described.

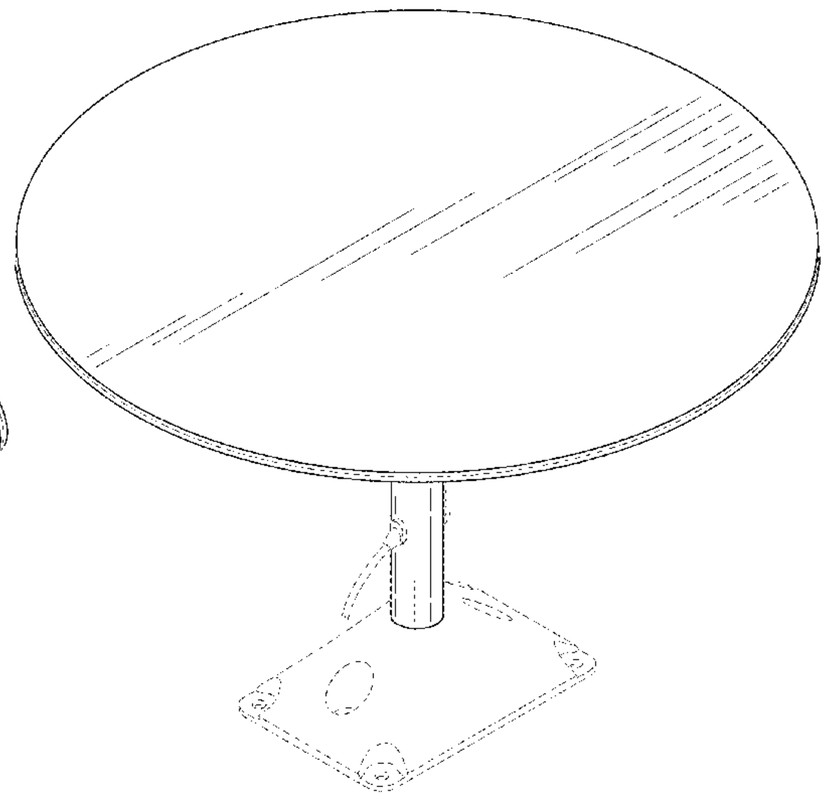
DESCRIPTION

FIG. **1** is a bottom perspective view of an antenna apparatus shown in a first configuration;
FIG. **2** is a left side view of the antenna apparatus shown in FIG. **1**;
FIG. **3** is a top perspective view of the antenna apparatus of FIG. **1** shown in a second configuration;
FIG. **4** is a bottom perspective view of the antenna apparatus of FIG. **3**;
FIG. **5** is a left side view of the antenna apparatus shown in FIG. **3**;
FIG. **6** is a right side view of the antenna apparatus shown in FIG. **3**;
FIG. **7** is a top view of the antenna apparatus shown in FIG. **3**;
FIG. **8** is a bottom view of the antenna apparatus shown in FIG. **3**;
FIG. **9** is a front view of the antenna apparatus shown in FIG. **3**; and,
FIG. **10** is a rear view of the antenna apparatus shown in FIG. **3**.

The broken lines shown in the figures represent portions of the antenna apparatus that form no part of the claimed design.

1 Claim, 10 Drawing Sheets





(58) **Field of Classification Search**
CPC H01Q 13/18; H01Q 19/132; H01Q 1/20; H01Q 19/134; H01Q 19/19; H01Q 19/20; H01Q 9/28; H01Q 1/44; H01Q 5/45; G01S 3/56
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D322,254	S *	12/1991	Su	D14/230
5,185,499	A *	2/1993	Yahraus	H01R 31/02 174/59
5,233,356	A *	8/1993	Lee	H01Q 21/22 342/368
D409,622	S *	5/1999	Inoue	D14/231
5,934,509	A *	8/1999	Niss	A21C 15/005 222/91
6,538,605	B2 *	3/2003	Lebaric	H01Q 9/36 343/702
D519,992	S *	5/2006	McAnally	D14/238
7,161,549	B1 *	1/2007	Cuchanski	H01Q 19/19 343/781 CA
D553,615	S *	10/2007	Courtney	D14/231
D581,705	S *	12/2008	Li	D6/692.3
D585,883	S *	2/2009	Kaneko	D14/230
D606,952	S *	12/2009	Lee	D13/182
D696,649	S *	12/2013	Siemers	D14/231
D698,765	S *	2/2014	Bremaud	D14/231
D793,572	S *	8/2017	Kozuka	D24/224
D807,481	S *	1/2018	Iu	D23/314
D816,641	S *	5/2018	Courtney	D14/230
D864,172	S *	10/2019	Yang	D14/230
D868,993	S *	12/2019	Isozaki	D24/224
D868,995	S *	12/2019	Tanaka	D24/225
D872,713	S *	1/2020	Courtney	D14/230
10,797,402	B2 *	10/2020	Shmuel	H01Q 15/161
D904,359	S *	12/2020	Ahn	D14/231
D907,609	S *	1/2021	Courtney	D14/230
D924,854	S *	7/2021	Zhao	D14/230
D928,752	S *	8/2021	Tinaphong	D14/231
D942,431	S *	2/2022	Zhao	D14/230
2008/0278399	A1 *	11/2008	Nakajima	H01Q 1/42 343/878
2011/0193764	A1 *	8/2011	Shen	H01Q 1/125 343/882
2016/0036134	A1 *	2/2016	Clayton	H01Q 15/161 343/781 R
2020/0381816	A1 *	12/2020	Milroy	H01Q 9/0414
2020/0381842	A1 *	12/2020	Milroy	H01Q 15/144
2021/0135696	A1 *	5/2021	Jang	H04B 1/28

FOREIGN PATENT DOCUMENTS

CN	306984978	* 12/2021
JP	D1676649	* 1/2021
JP	D1676650	* 1/2021
JP	D1676651	* 1/2021
JP	D1676652	* 1/2021
JP	D1676653	* 1/2021

OTHER PUBLICATIONS

Winegard 76cm Satellite Dish . . . , available in solidsignal.com, oldest review date Mar. 16, 2018 [online], [site visited Feb. 8, 2022], Internet URL: https://www.solidsignal.com/winegard-76cm-satellite-dish-antenna-w-universal-lnb-clamp-ds-2076?utm_source=google&utm_medium=cse&utm_term=DS2076&gclid=EAIalQobC (Year: 2018).*

Winegard TB-005 Mounting Pole., available in officedepot.com, oldest review date Nov. 2021 [online], [site visited Feb. 8, 2022], Internet URL: https://www.officedepot.com/a/products/3030551/Winegard-TB-0005-Mounting-Pole-for/?utm_source=google&utm_medium=sag (Year: 2021).*

Wilson Outdoor Antenna Mounts, available in wilsonamplifiers.com, oldest review date Feb. 1, 2020 [online], [site visited Feb. 8, 2022], Internet URL: https://www.wilsonamplifiers.com/wilson-outdoor-antenna-mounts/?sku=WA901117&gclid=EAIalQobChMljPzPpqHz9QIVgb2GCh0eNwiWEAQYByA-BEgKSQPD_BwE (Year: 2020).*

Starlink Install, Speed Test, and Review, available in youtube.com, published on Apr. 9, 2021 [online], [site visited Feb. 10, 2022], Internet URL: https://www.youtube.com/watch?v=JOMbJAXzGfs (Year: 2021).*

* cited by examiner

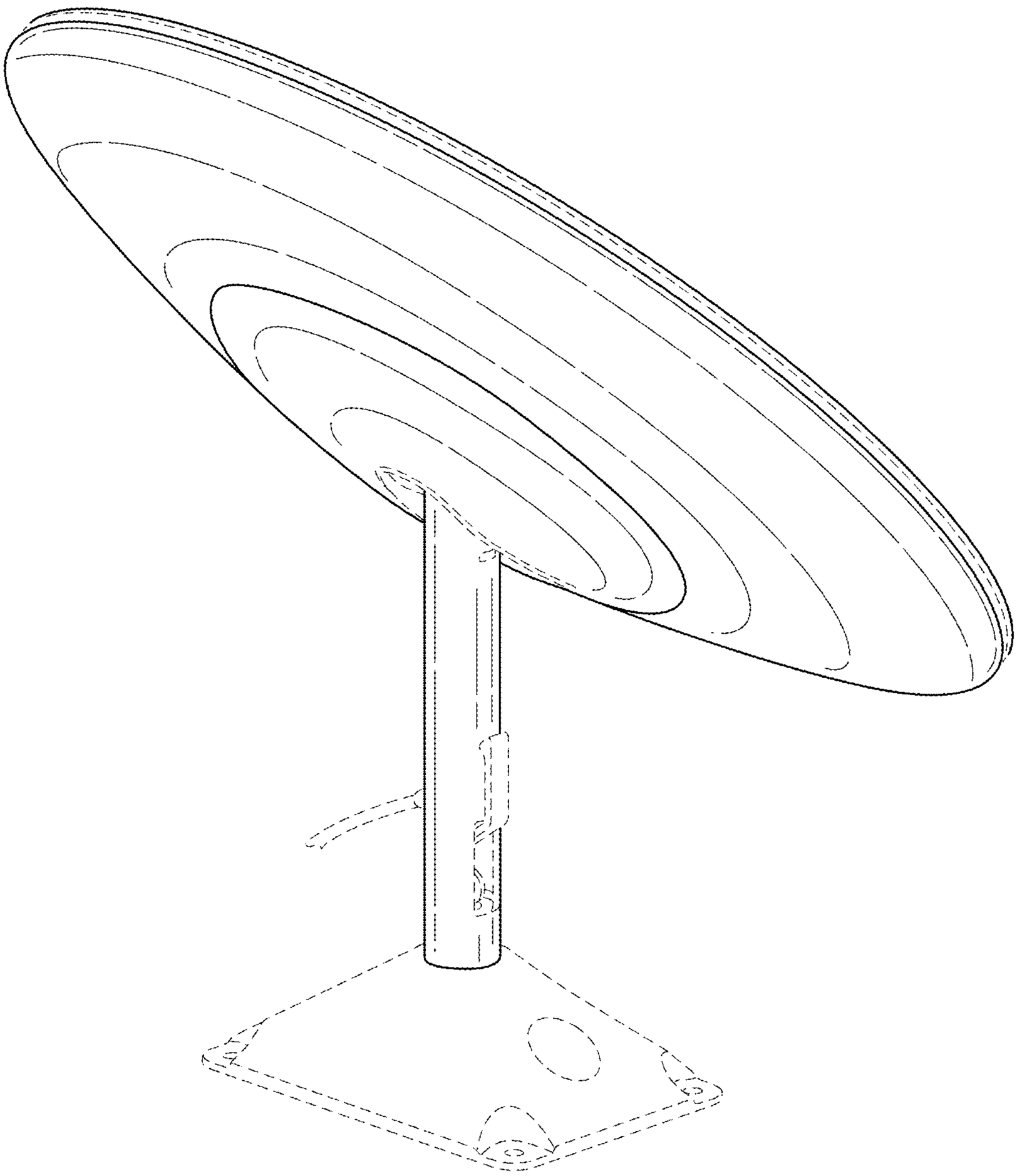


FIG.1

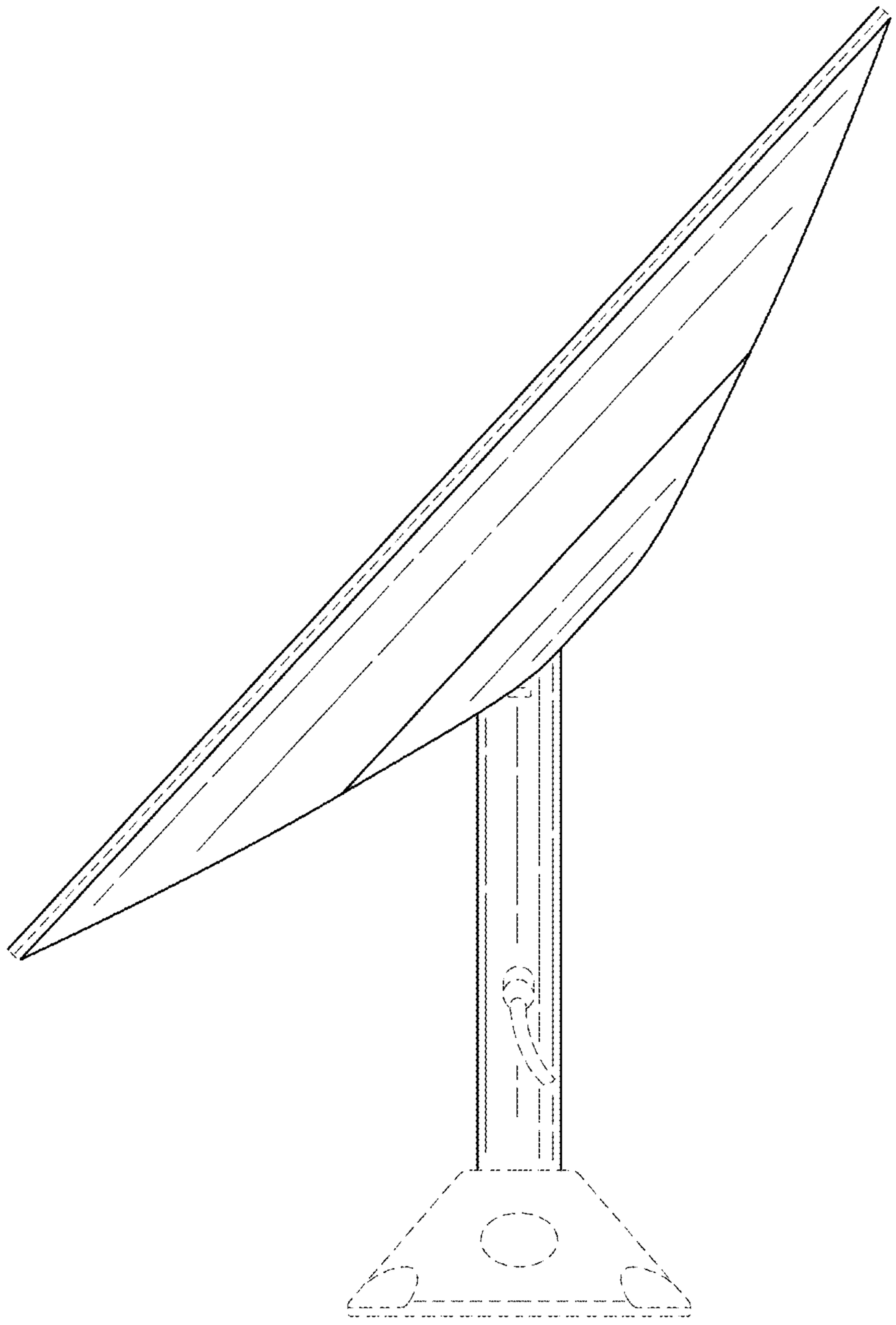


FIG.2

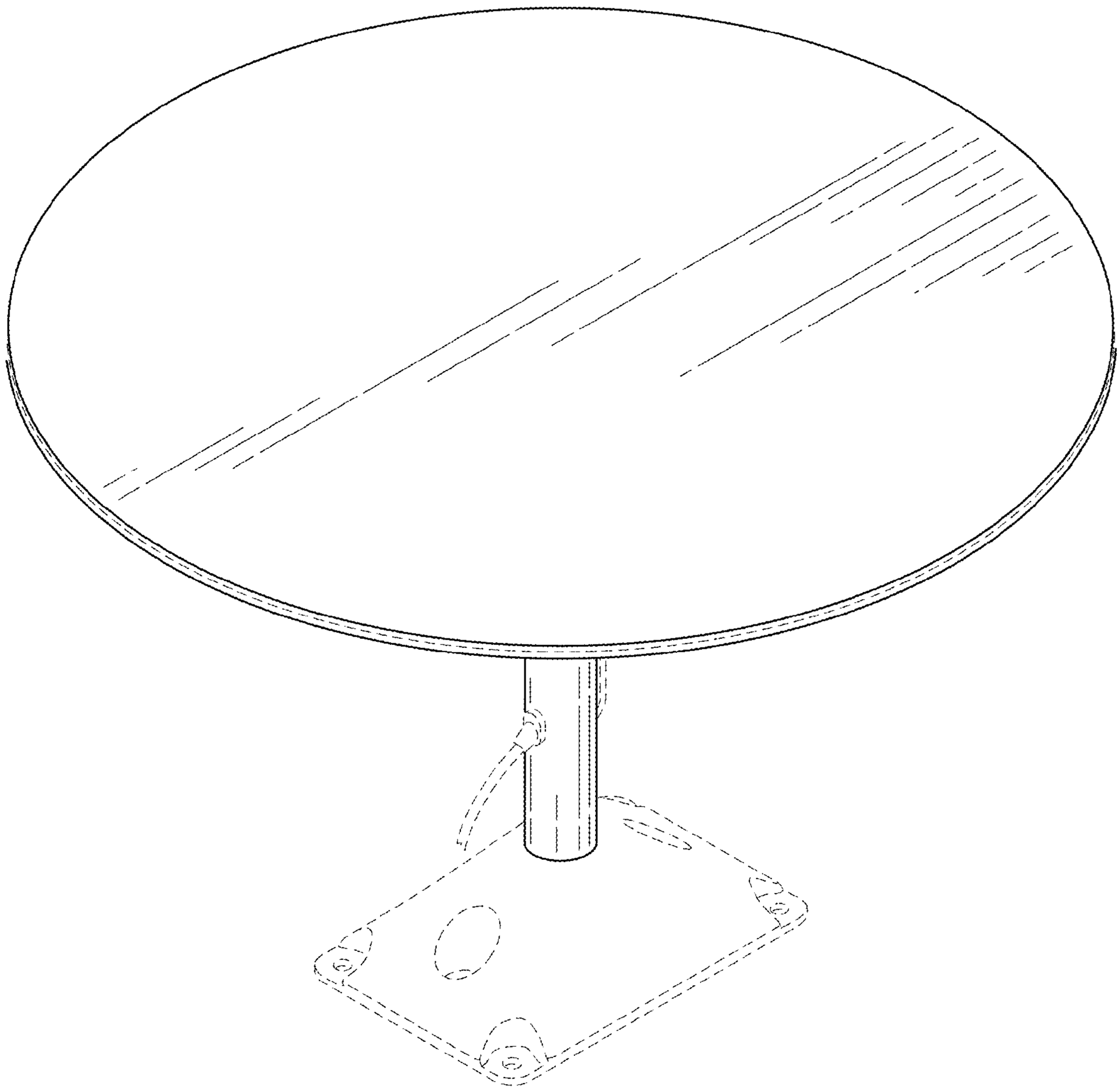


FIG.3

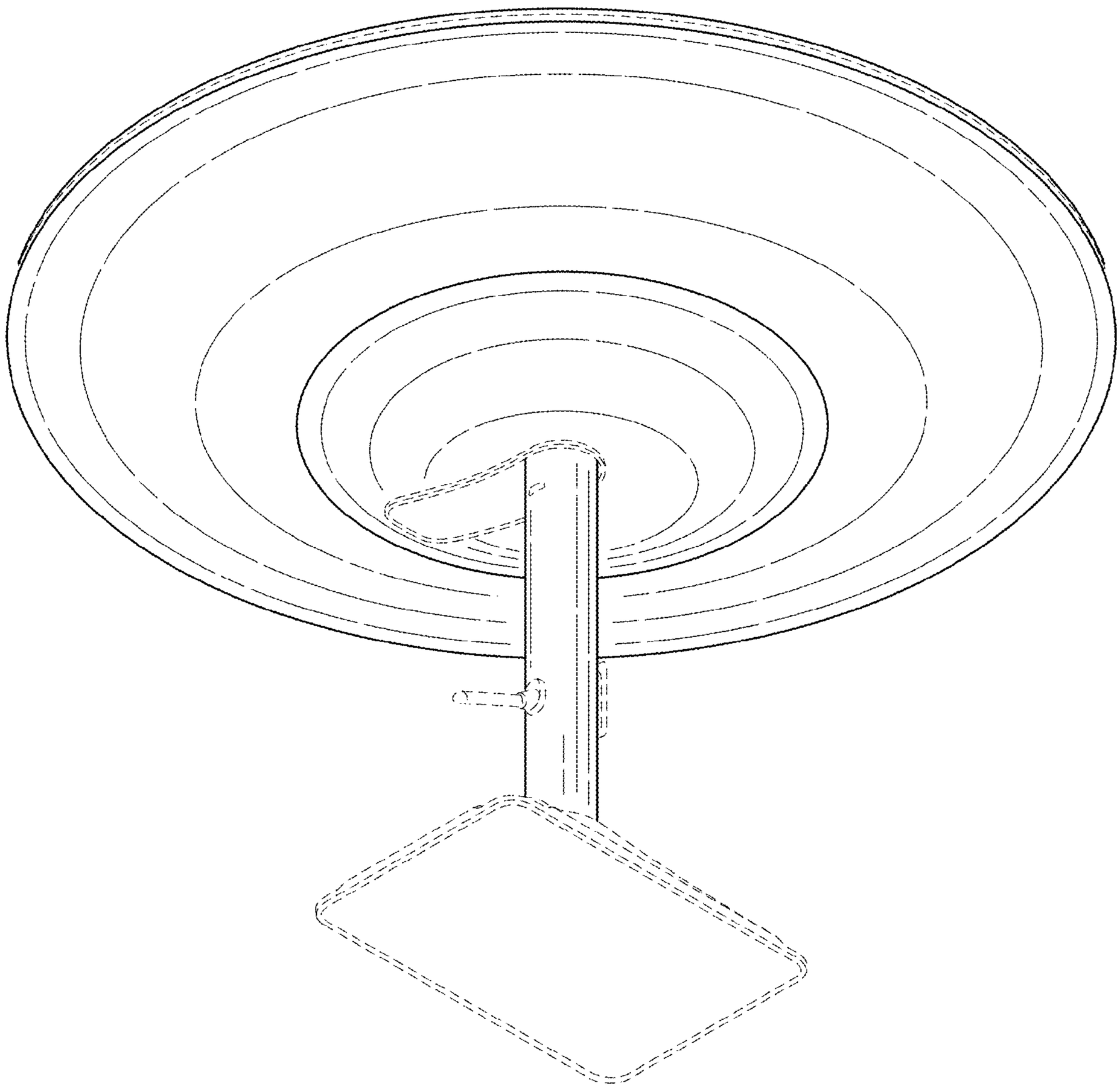


FIG.4

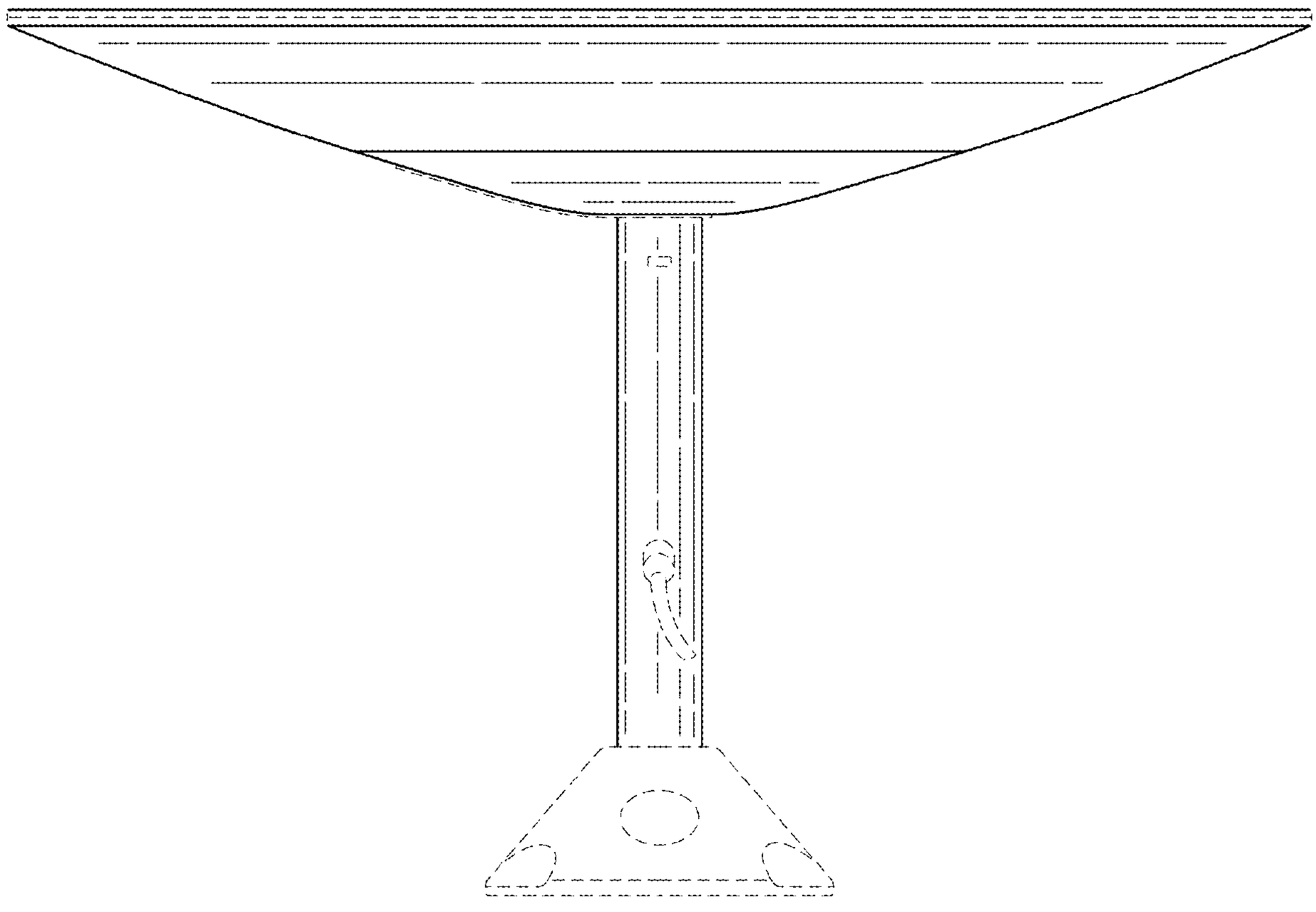


FIG.5

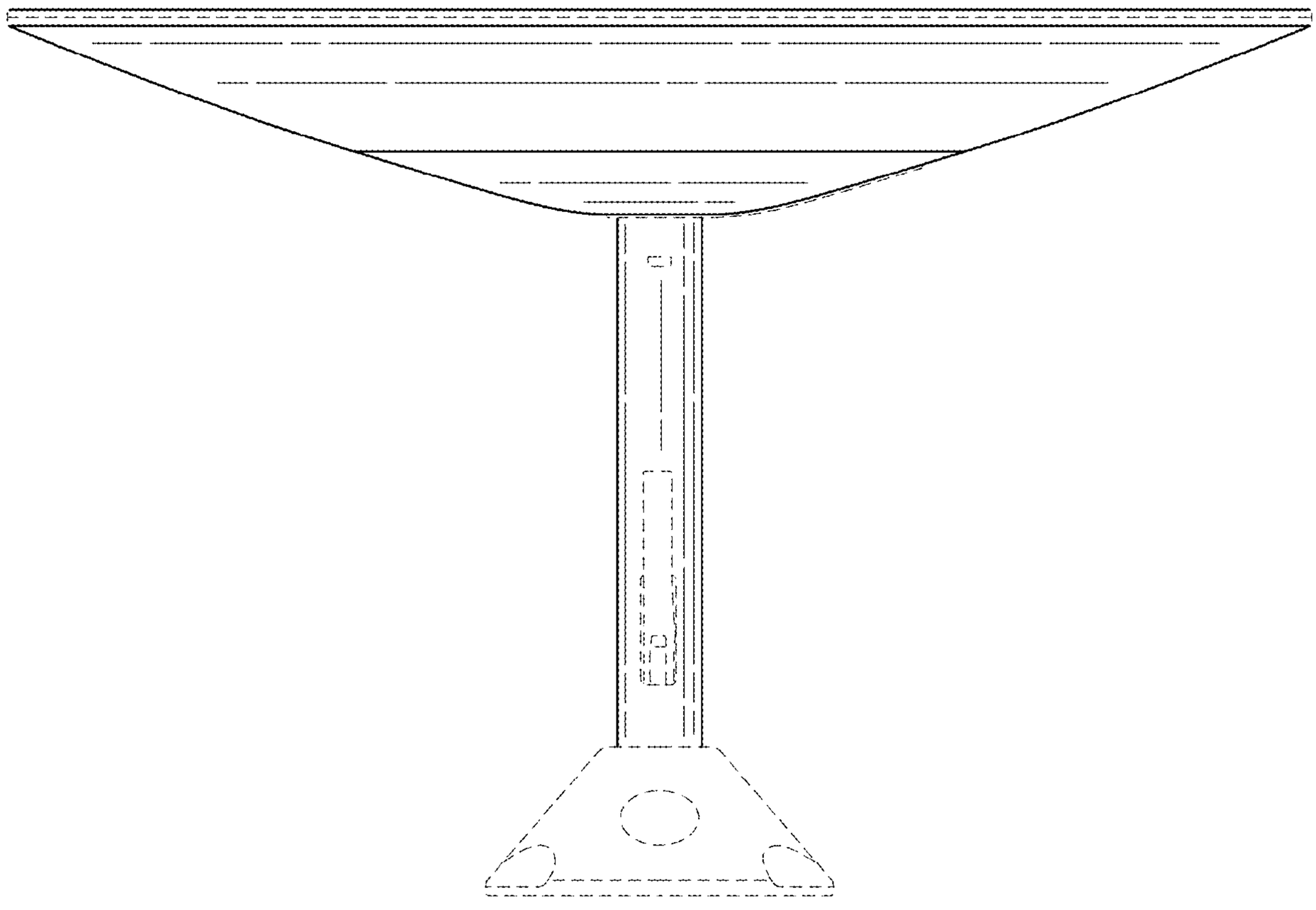


FIG.6

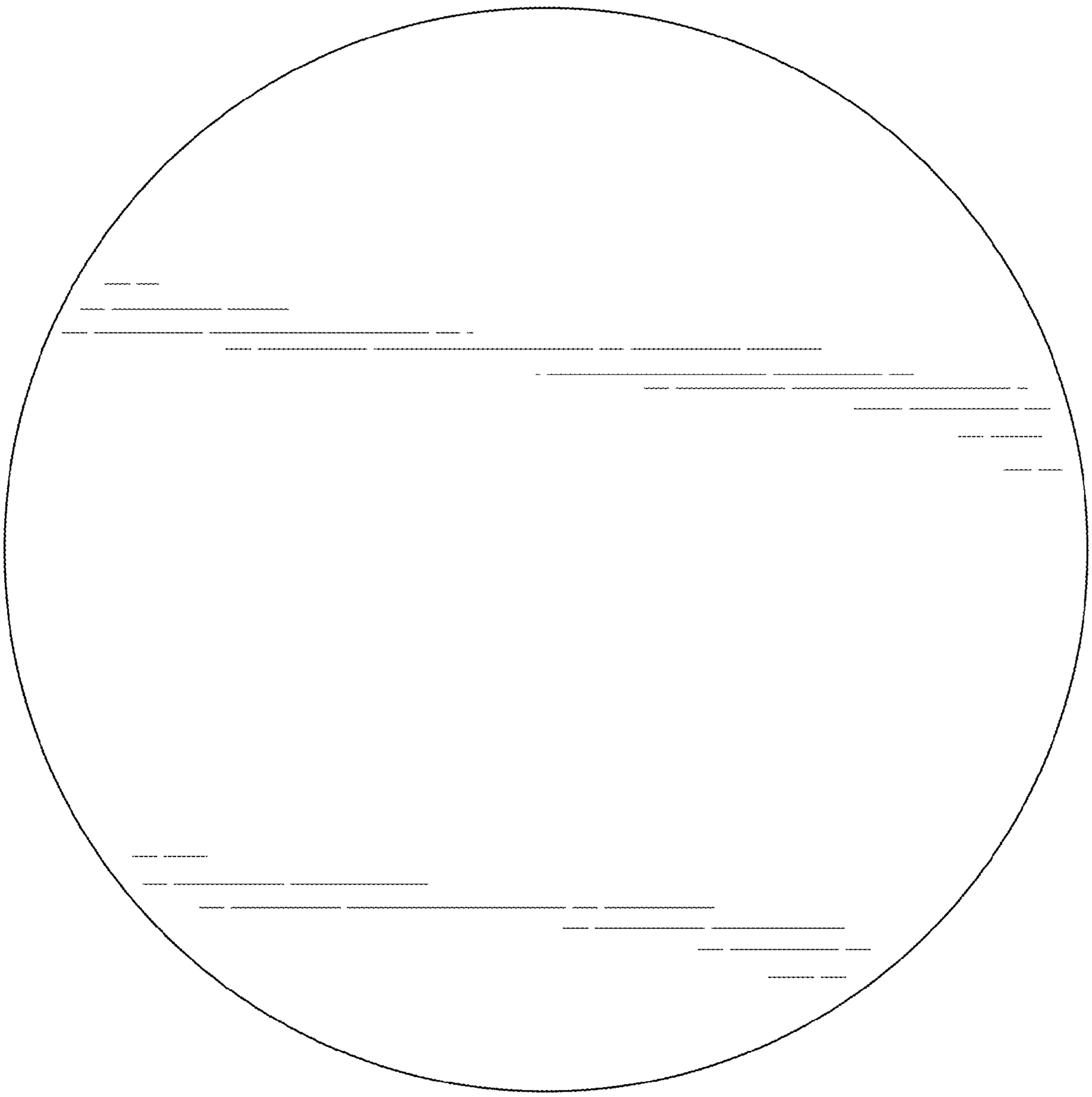


FIG.7

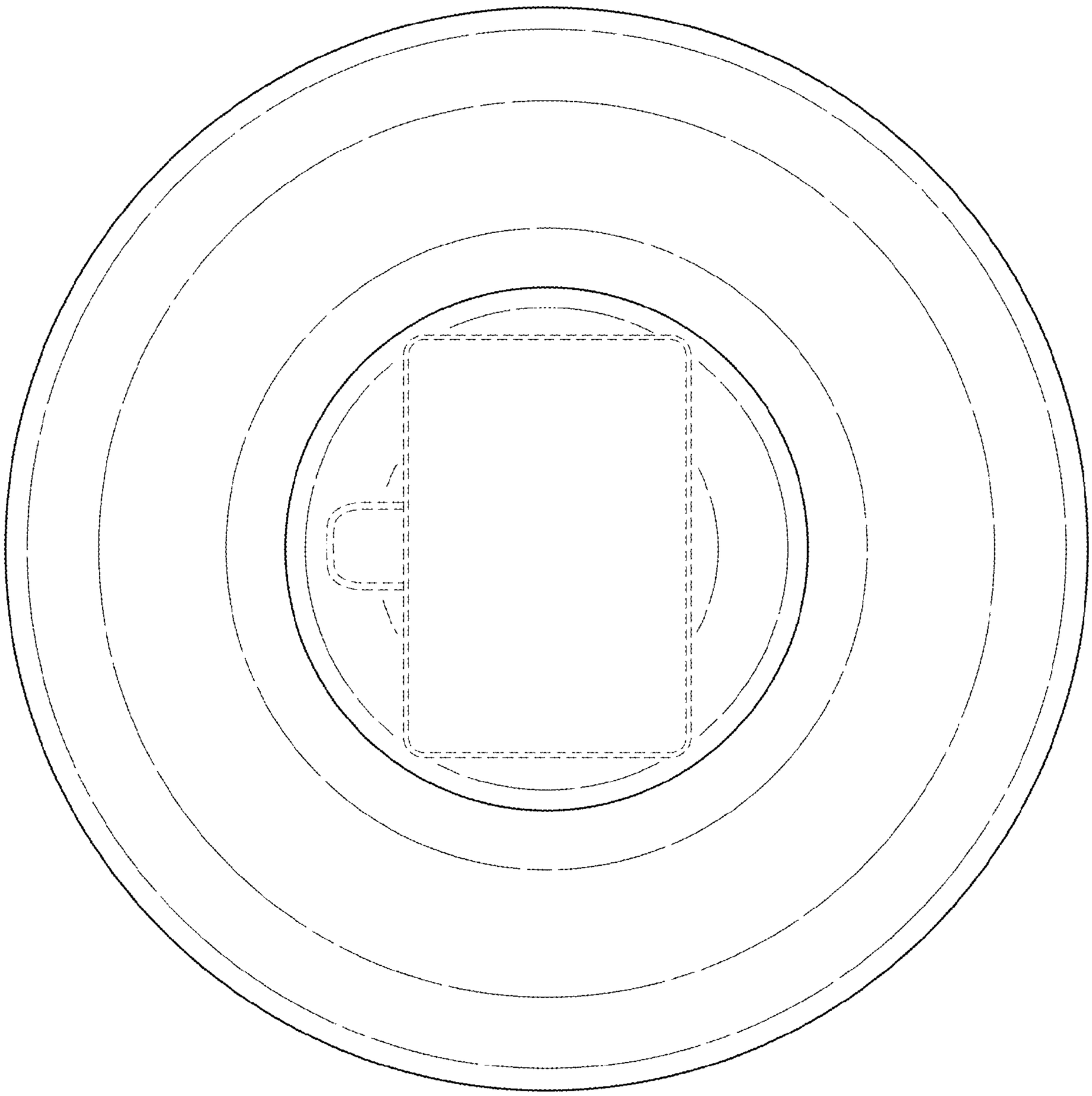


FIG.8

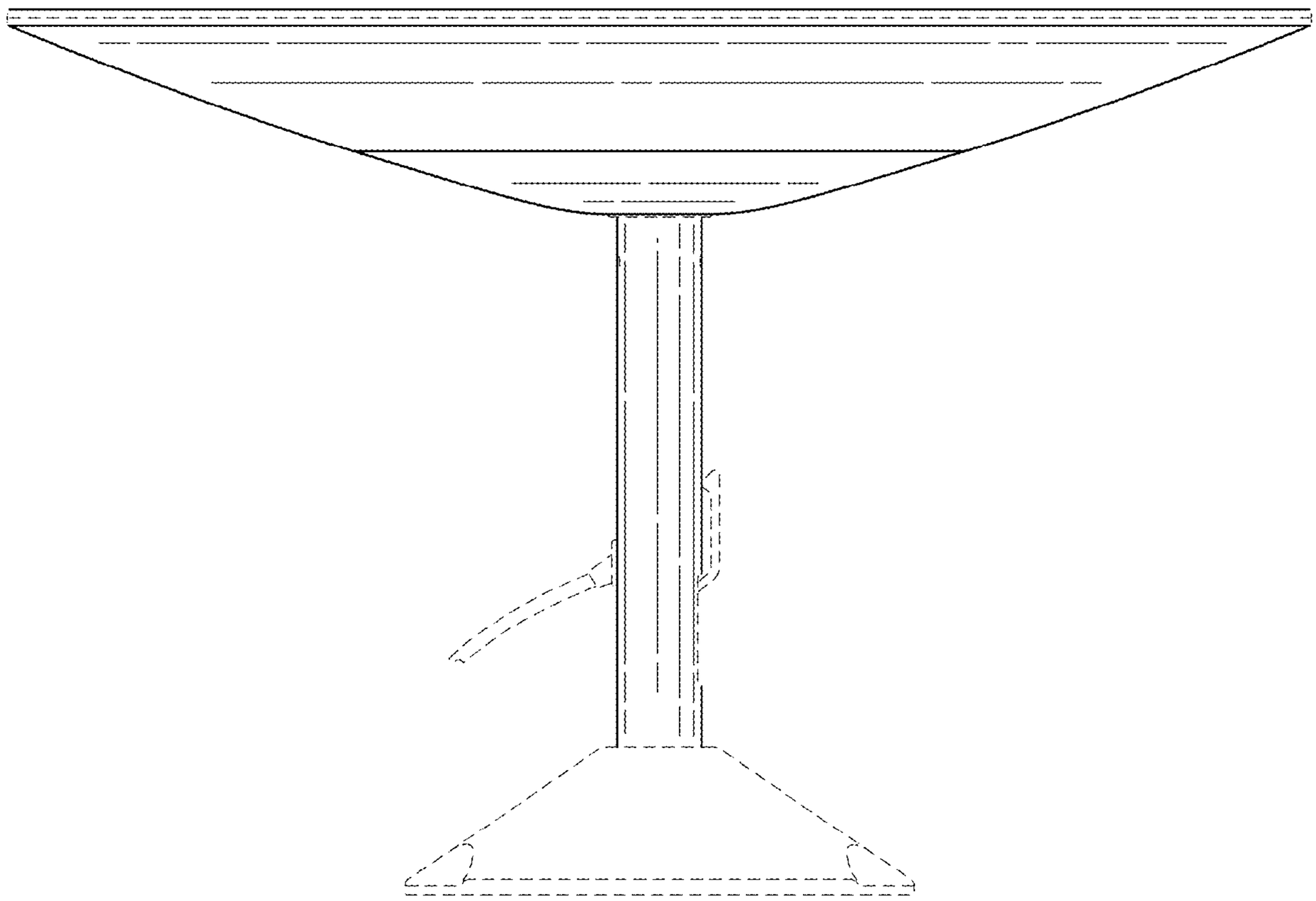


FIG.9

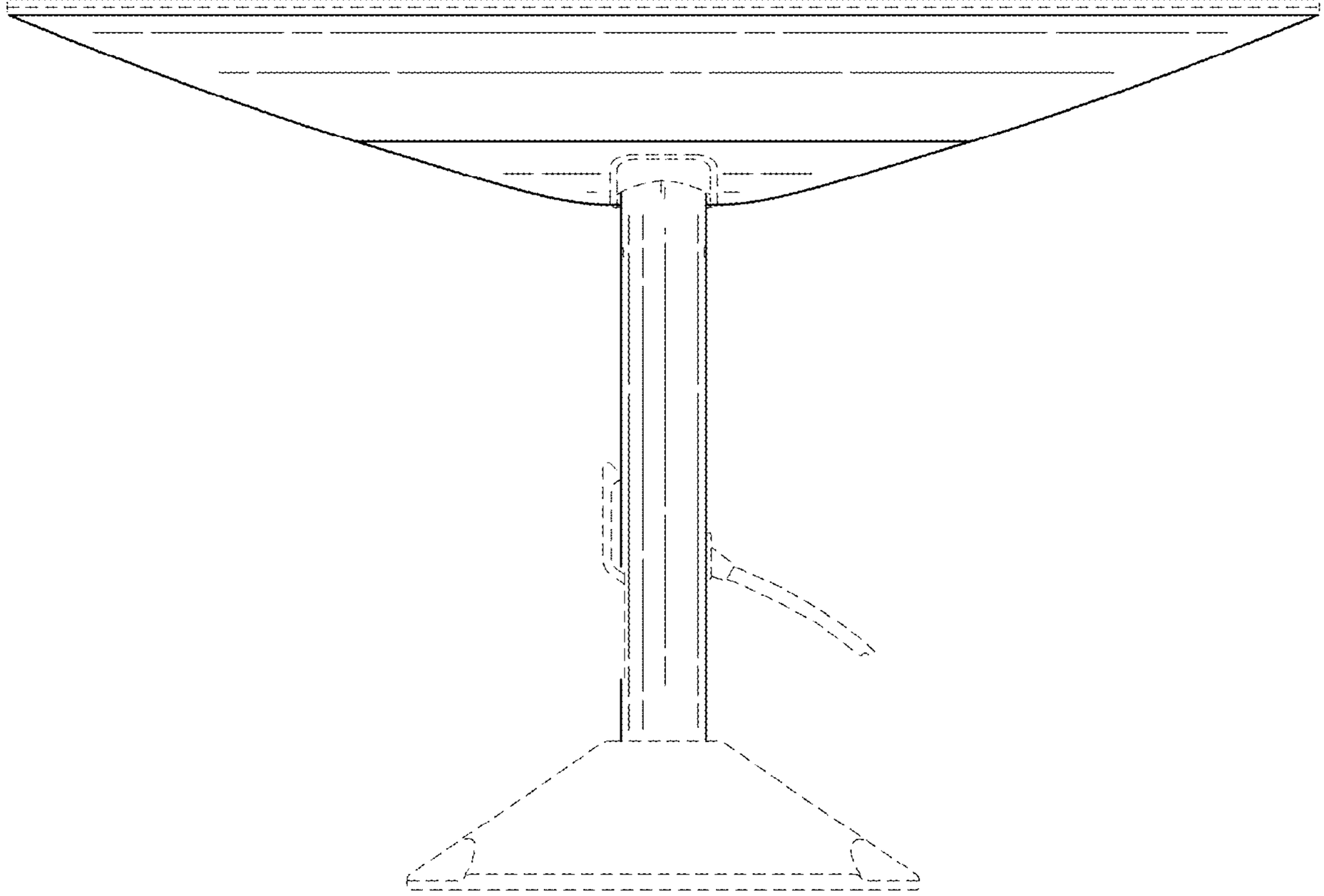


FIG.10