US00D968240S

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

(10) **Patent No.: US D968,240 S**
(45) **Date of Patent: ** Nov. 1, 2022**

(54) **MOBILE MAPPING DEVICE FOR VEHICLE**

(71) Applicant: **Mitsubishi Electric Corporation**, Tokyo (JP)

(72) Inventor: **Atsuhiro Kagaya**, Tokyo (JP)

(73) Assignee: **Mitsubishi Electric Corporation**, Tokyo (JP)

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

(21) Appl. No.: **29/674,643**

(22) Filed: **Dec. 21, 2018**

(30) **Foreign Application Priority Data**

Jun. 29, 2018 (JP) ..... 2018-014430
Jun. 29, 2018 (JP) ..... 2018-014431
(Continued)

(51) **LOC (13) Cl.** ..... **10-04**
(52) **U.S. Cl.**
USPC ..... **D10/65**; D10/70
(58) **Field of Classification Search**
USPC ..... D14/304, 388; D12/1, 14, 320, 96, 174; D10/46, 61–63, 65–67, 70, 74, 98, 103; D16/205, 207–208, 210–211, 215
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

8,473,144 B1 * 6/2013 Dolgov ..... B60W 30/12 701/28
D702,572 S * 4/2014 Sun ..... D10/66
(Continued)

OTHER PUBLICATIONS

Wang, Jin et al., Optech Lynx SG system with two laser scanners, posted at Research Gate, posting date Oct. 2018. Site visited Jun. 30, 2021. URL: <https://www.researchgate.net/figure/Optech-Lynx-SG-system-with-two-laser-scanners-cameras-and-a-navigation-system_fig2_328631748> (Year: 2018).*
(Continued)

*Primary Examiner* — Kathleen L Jones
(74) *Attorney, Agent, or Firm* — Studebaker & Brackett PC

(57) **CLAIM**

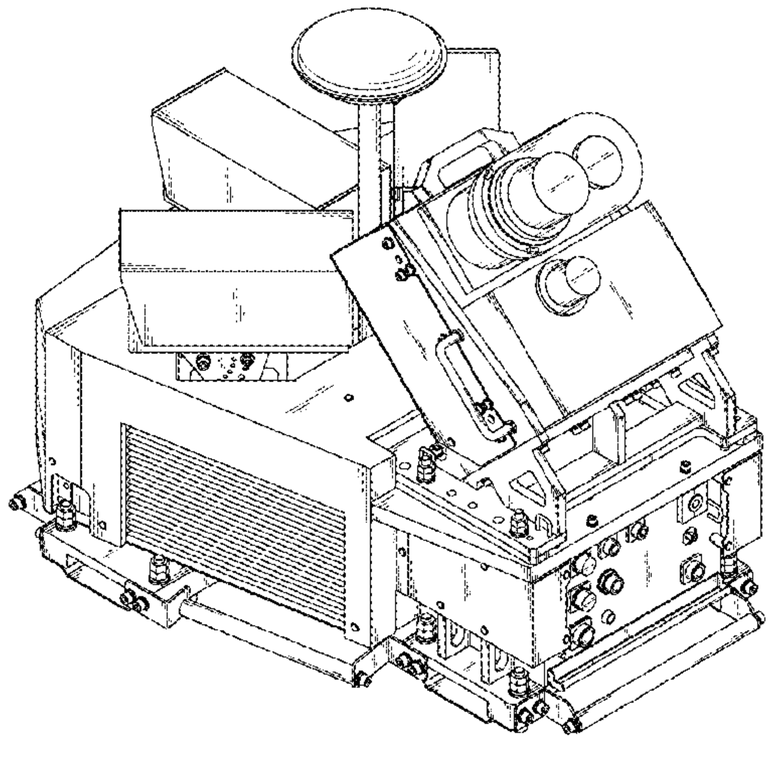
The ornamental design for a mobile mapping device for vehicle, as shown and described.

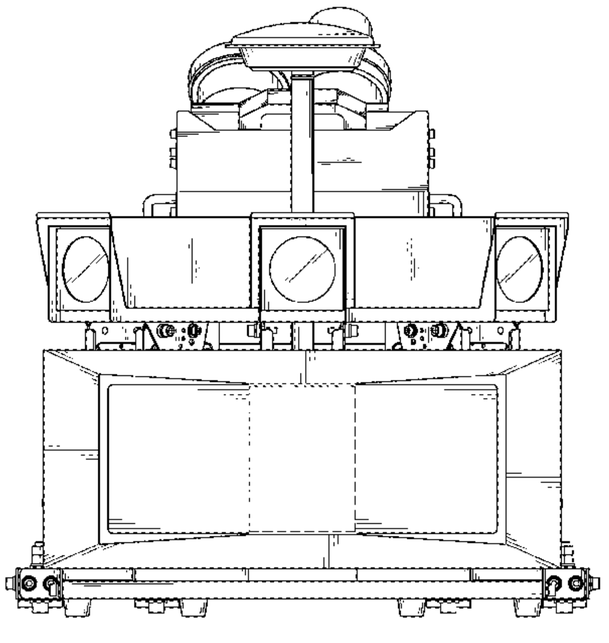
**DESCRIPTION**

FIG. **1** is a front, top, and right perspective view of a mobile mapping device for vehicle showing the first embodiment of my new design;
FIG. **2** is a front view thereof;
FIG. **3** is a rear view thereof;
FIG. **4** is a left side view thereof;
FIG. **5** is a right side view thereof;
FIG. **6** is a top view thereof;
FIG. **7** is a bottom view thereof;
FIG. **8** is a front, top, and right perspective view of a mobile mapping device for vehicle showing the second embodiment of my new design;
FIG. **9** is a front view thereof;
FIG. **10** is a rear view thereof;
FIG. **11** is a left side view thereof;
FIG. **12** is a right side view thereof;
FIG. **13** is a top view thereof;
FIG. **14** is a bottom view thereof;
FIG. **15** is a front, top, and right perspective view of a mobile mapping device for vehicle showing the third embodiment of my new design;
FIG. **16** is a front view thereof;
FIG. **17** is a rear view thereof;
FIG. **18** is a left side view thereof;
FIG. **19** is a right side view thereof;
FIG. **20** is a top view thereof; and,
FIG. **21** is a bottom view thereof.

The broken lines showing portions of the mobile mapping device for vehicle form no part of the claimed design.

**1 Claim, 21 Drawing Sheets**





(30) **Foreign Application Priority Data**

Jun. 29, 2018 (JP) ..... 2018-014432
Jun. 29, 2018 (JP) ..... 2018-014433
Jun. 29, 2018 (JP) ..... 2018-014434

(58) **Field of Classification Search**
CPC ..... G08G 1/00; G08G 1/096775; Y02T 10/7275; Y02T 90/16; G01C 21/30; G01C 21/265; G01C 21/20; G01V 8/20; B60W 30/12; E01C 19/004; E01C 19/006; E01C 19/008; G01B 2210/16; G01B 2210/24; G01B 2210/28; G01B 21/16; G01S 15/88
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | | |
|---|---|---|---|---|---|
| D781,727 | S | * | 3/2017 | Jackson | D10/65 |
| D829,575 | S | * | 10/2018 | Neto | D10/67 |
| D834,968 | S | * | 12/2018 | Ishii | D10/66 |
| D835,532 | S | * | 12/2018 | Ishii | D10/66 |
| D842,140 | S | * | 3/2019 | Kato | D10/66 |
| D851,508 | S | * | 6/2019 | D'Eramo | D10/70 |
| D866,364 | S | * | 11/2019 | O'Neill | D10/66 |
| D870,827 | S | * | 12/2019 | Wang | D21/669 |
| D879,901 | S | * | 3/2020 | Bachus | D21/828 |
| D883,822 | S | * | 5/2020 | Kagaya | D10/65 |
| D892,899 | S | * | 8/2020 | Dayalan | D16/208 |
| D894,770 | S | * | 9/2020 | Jackson | D10/103 |
| D902,756 | S | * | 11/2020 | Gross | D10/70 |
| D915,913 | S | * | 4/2021 | Ahn | D10/70 |
| D931,126 | S | * | 9/2021 | Jones, II | D10/70 |
| D935,424 | S | * | 11/2021 | Juco | D13/182 |
| 2007/0154068 | A1 | * | 7/2007 | Stein | G01S 17/93 382/106 |
| 2016/0282468 | A1 | * | 9/2016 | Gruver | G01S 7/4813 |
| 2017/0008521 | A1 | * | 1/2017 | Braunstein | G01C 21/165 |
| 2017/0305360 | A1 | * | 10/2017 | Zajac | G01V 8/20 |
| 2018/0267527 | A1 | * | 9/2018 | Rubin | G08G 1/09675 |

OTHER PUBLICATIONS

Riegl, The new Riegl VMG-450 Single Scanner Mobile Mapping System, posting date May 19, 2015. Site visited Nov. 9, 2015. URL: <https://www.youtube.com/watch?v=C1ghIvq7Q7Q> (Year: 2015).*

Warner Surveys, Mobile Mapping part 1, posting date Aug. 15, 2018. Site visited Nov. 9, 2021. URL: <https://www.youtube.com/watch?v=IUfVEGKeIxo> (Year: 2018).*

Petrie, Gordon, Mobile Mapping Systems: An Introduction to the Technology, posted at Research Gate, posting date Jan. 2010. Site visited Jun. 30, 2021. URL: <https://www.researchgate.net/publication/284778348_Mobile_Mapping_Systems_An_Introduction_to_the_Technology> (Year: 2010).*

Upgrades Made to Teledyne Optech Lynx SG, posted at Point of Beginning, posting date Feb. 26, 2016. Site visited Jun. 30, 2021. URL: <https://www.pobonline.com/articles/98116-upgrades-made-to-teledyne-optech-lynx-sg#:~:text=Teledyne%20Optech%20has%20made%20two,to%20600%20lines%20per%20second.> (Year: 2016).*

Atsugi et al., KR Design No. 301011300, published at Orbit, publication date Jun. 20, 2019. Site visited Nov. 9, 2021. Available from Internet. (Year: 2019).*

* cited by examiner

FIG. 1

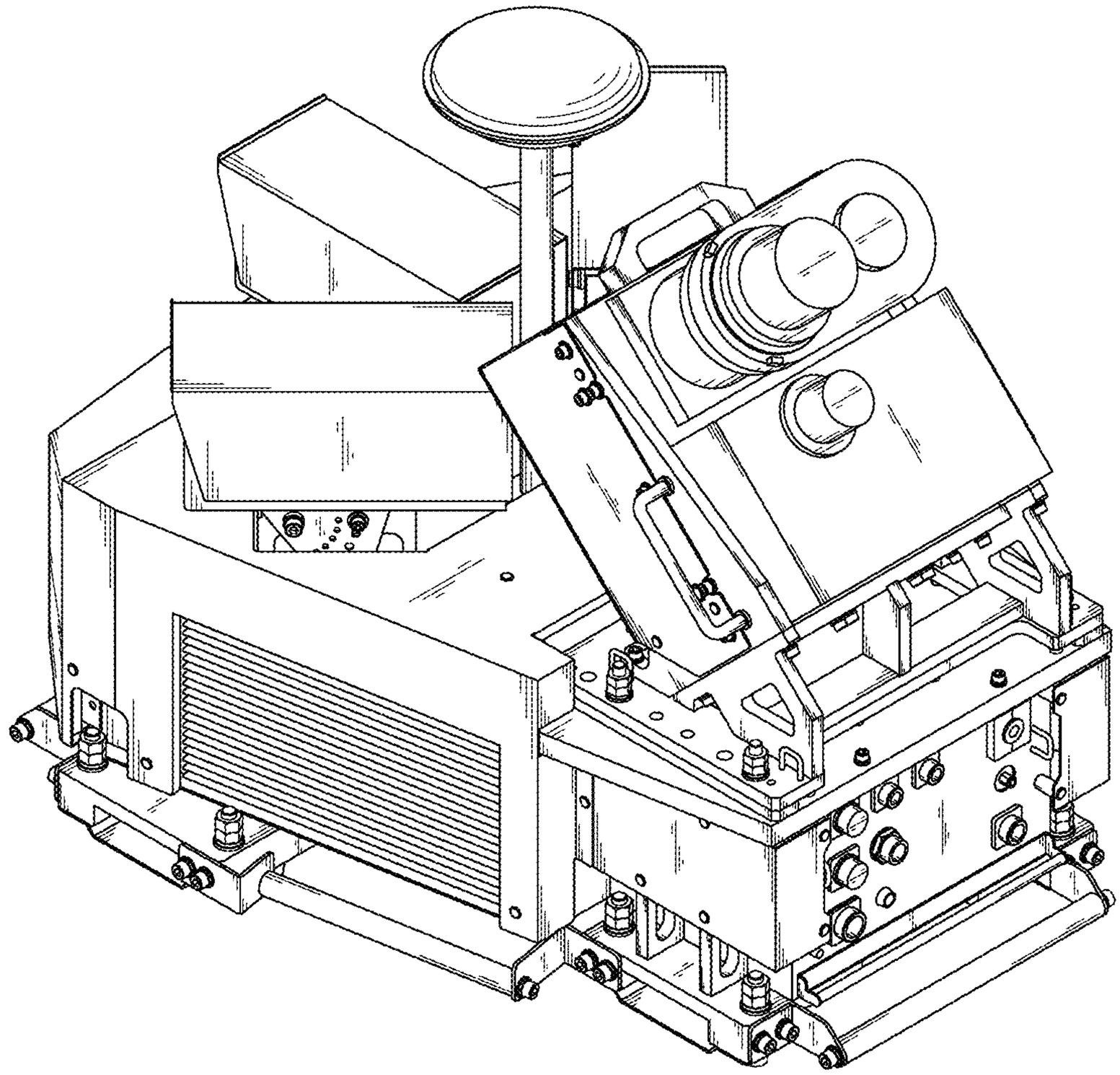


FIG. 2

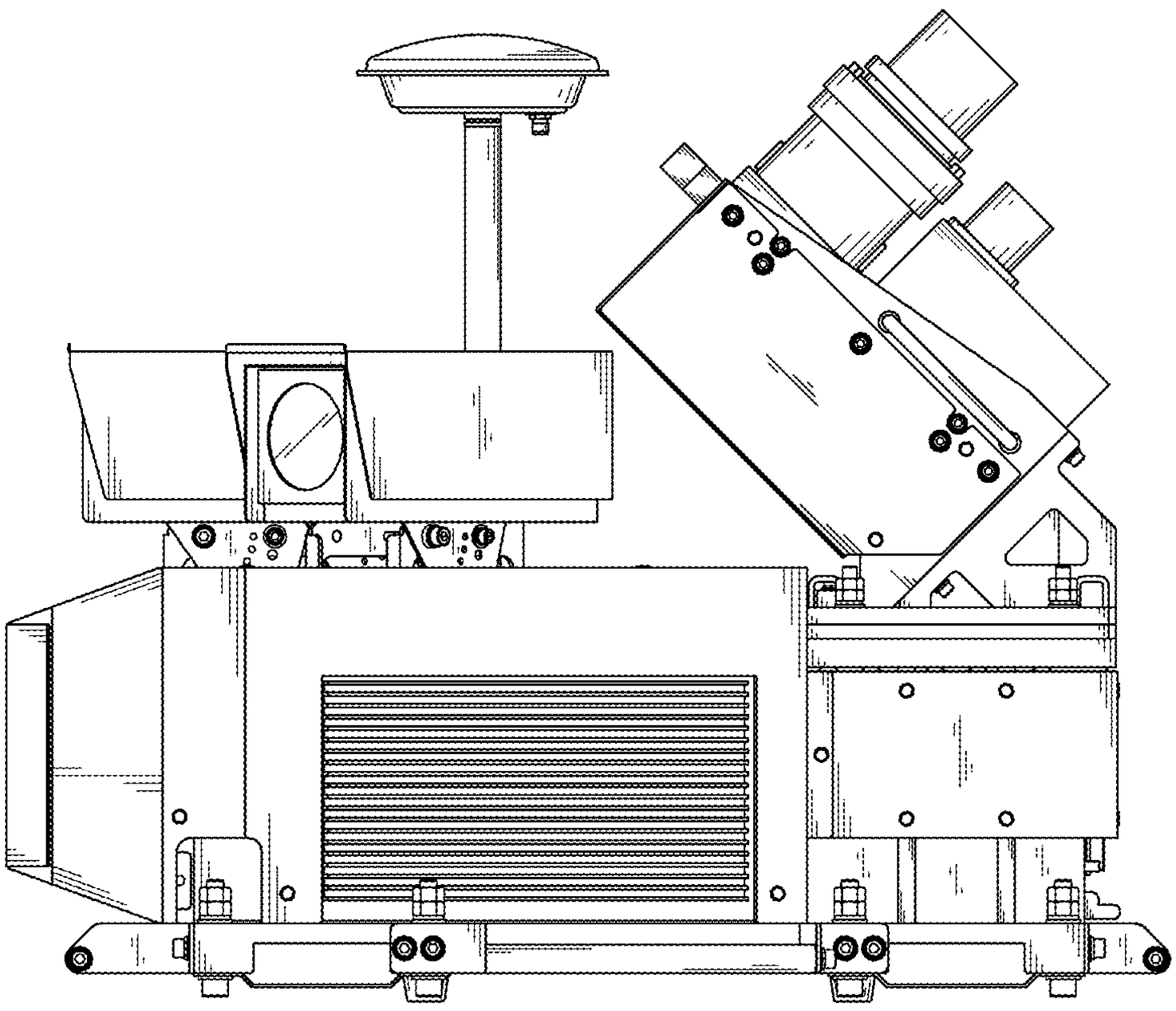


FIG. 3

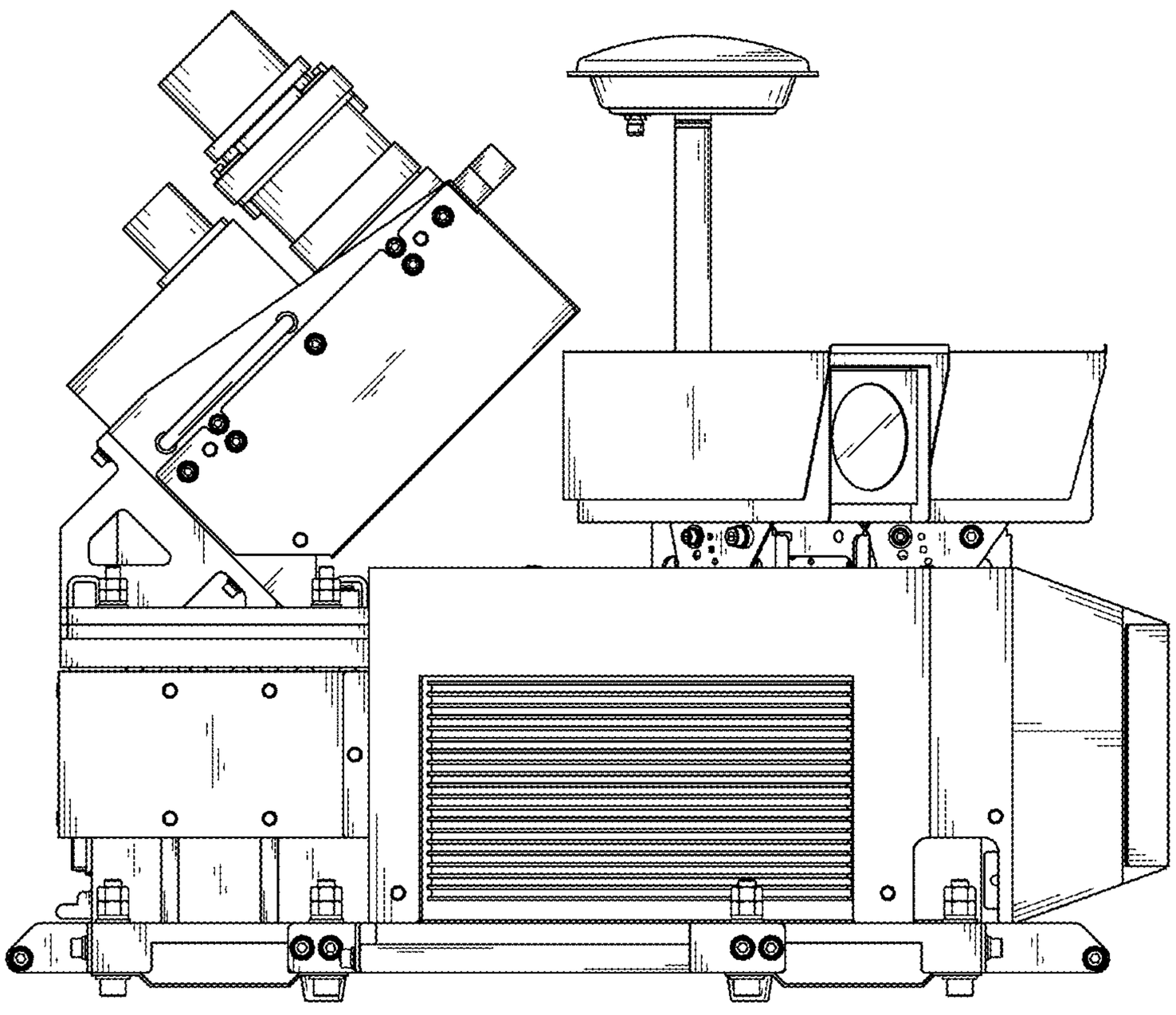


FIG. 4

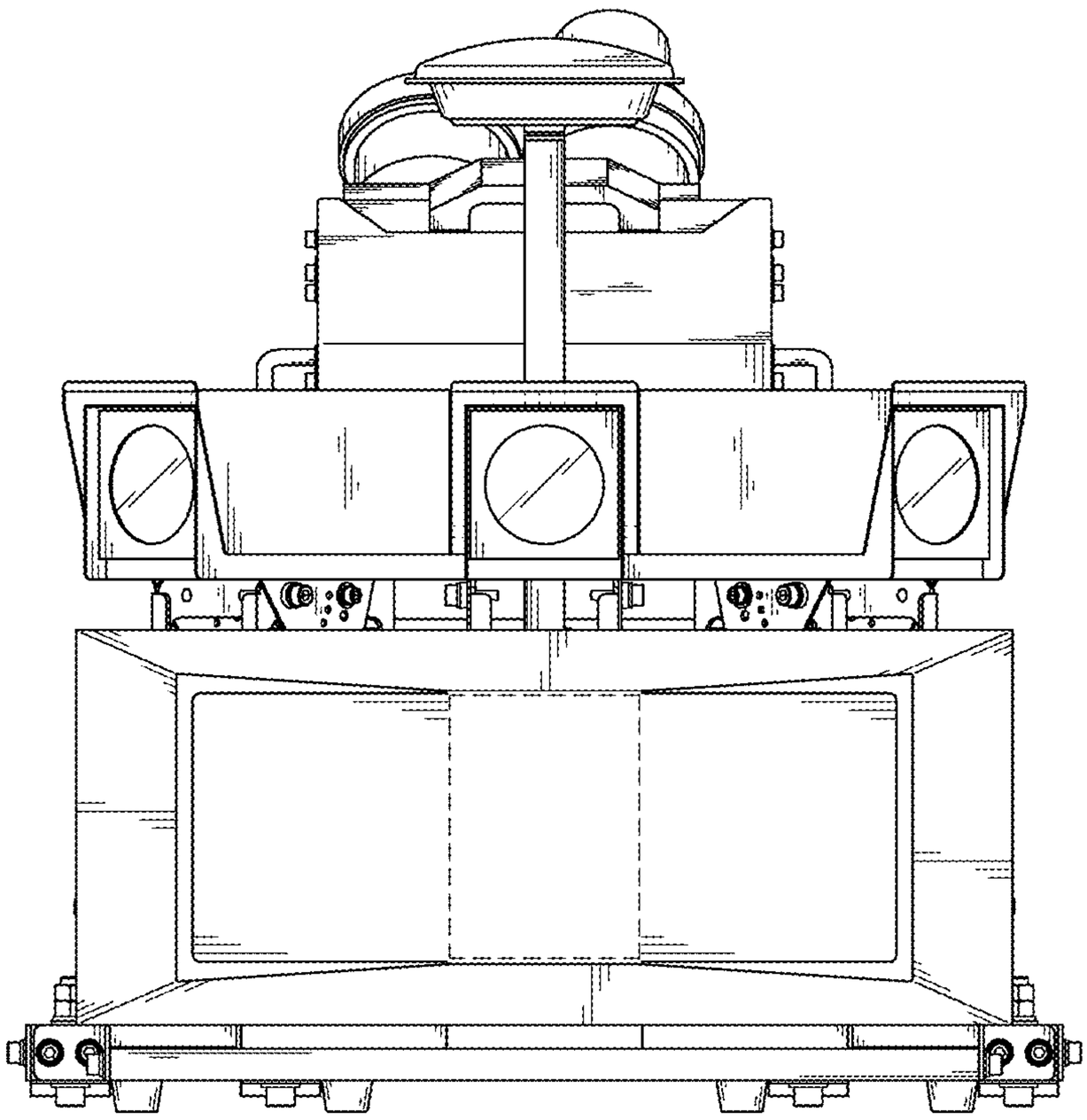


FIG. 5

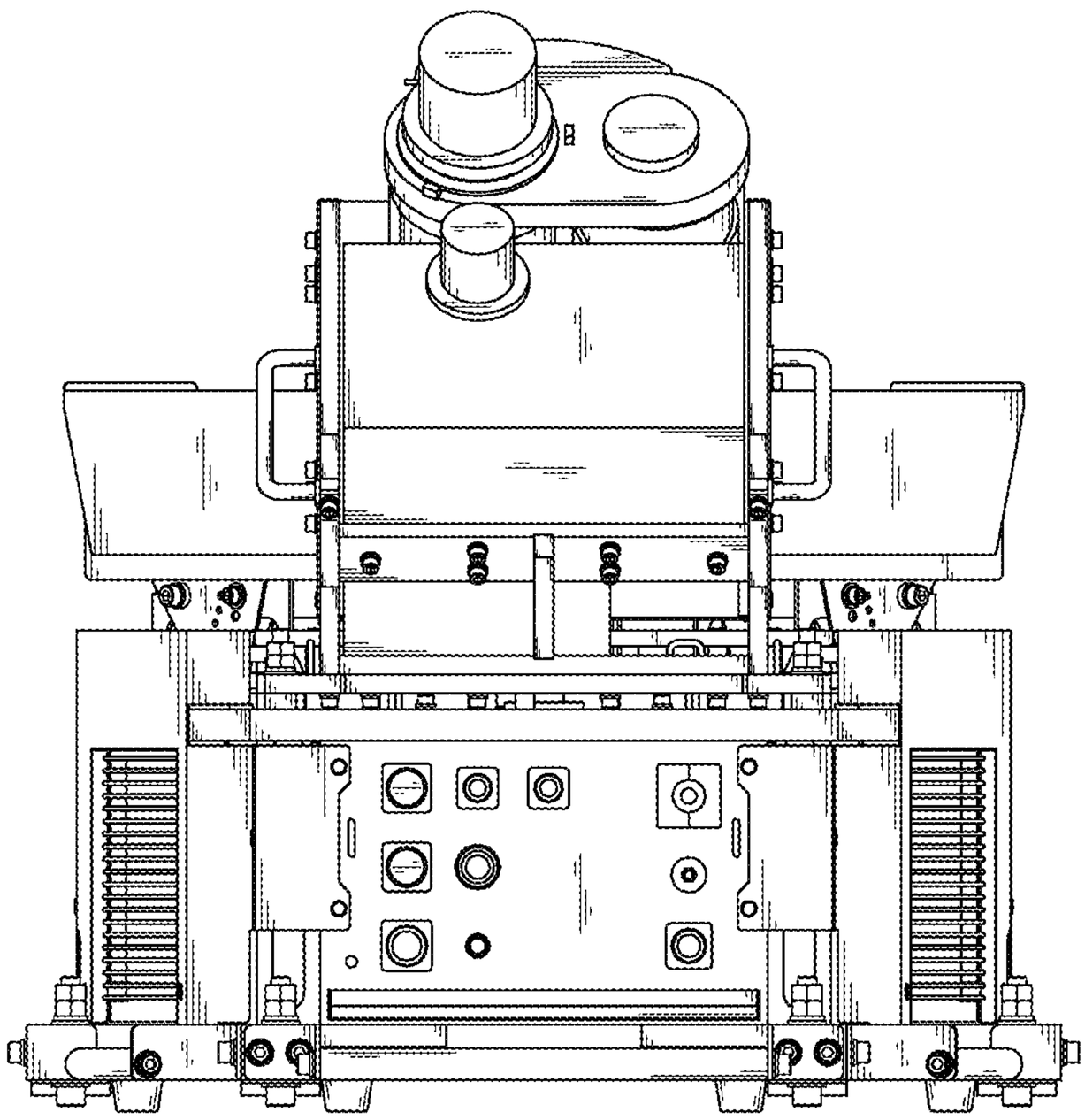


FIG. 6

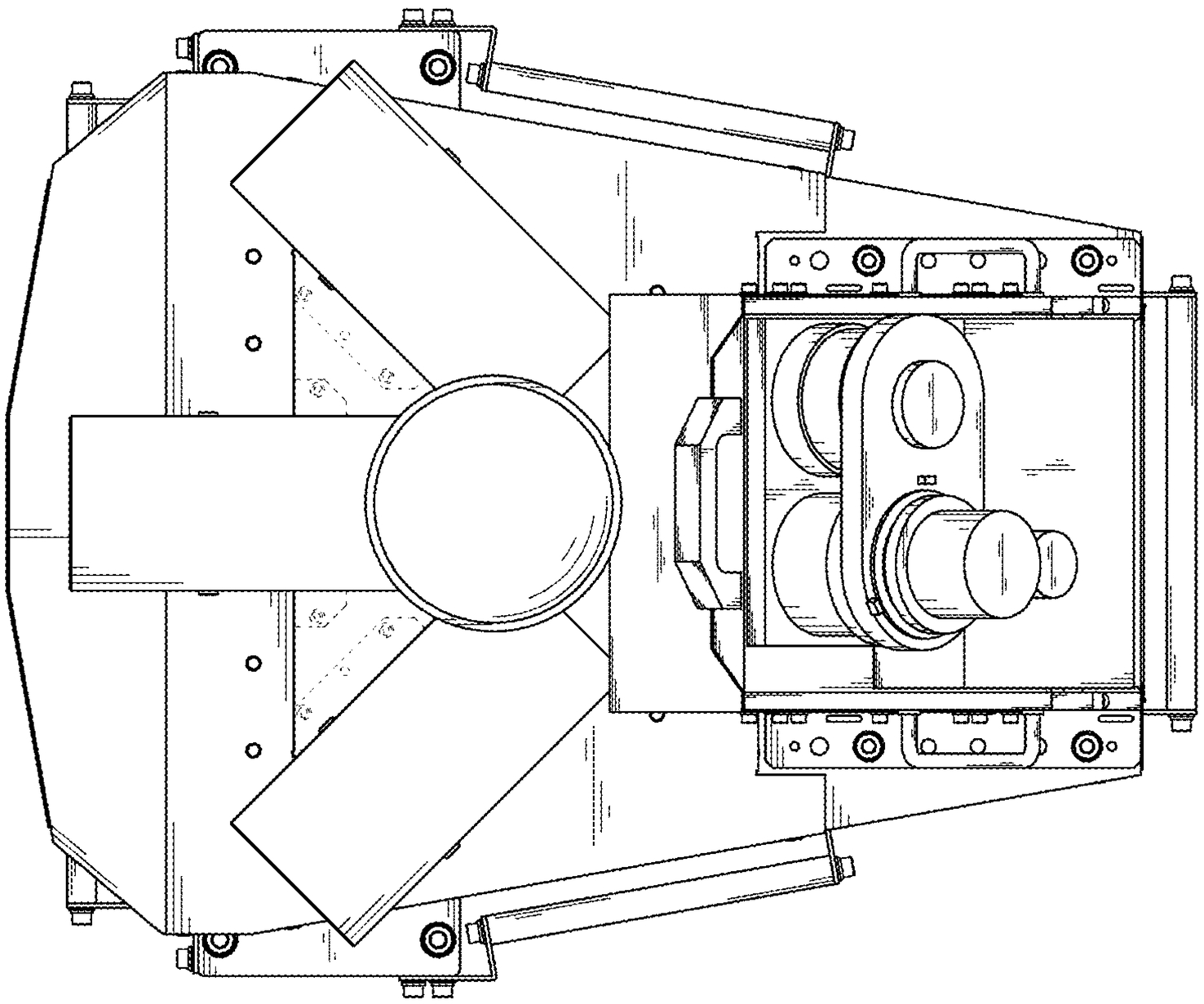


FIG. 7

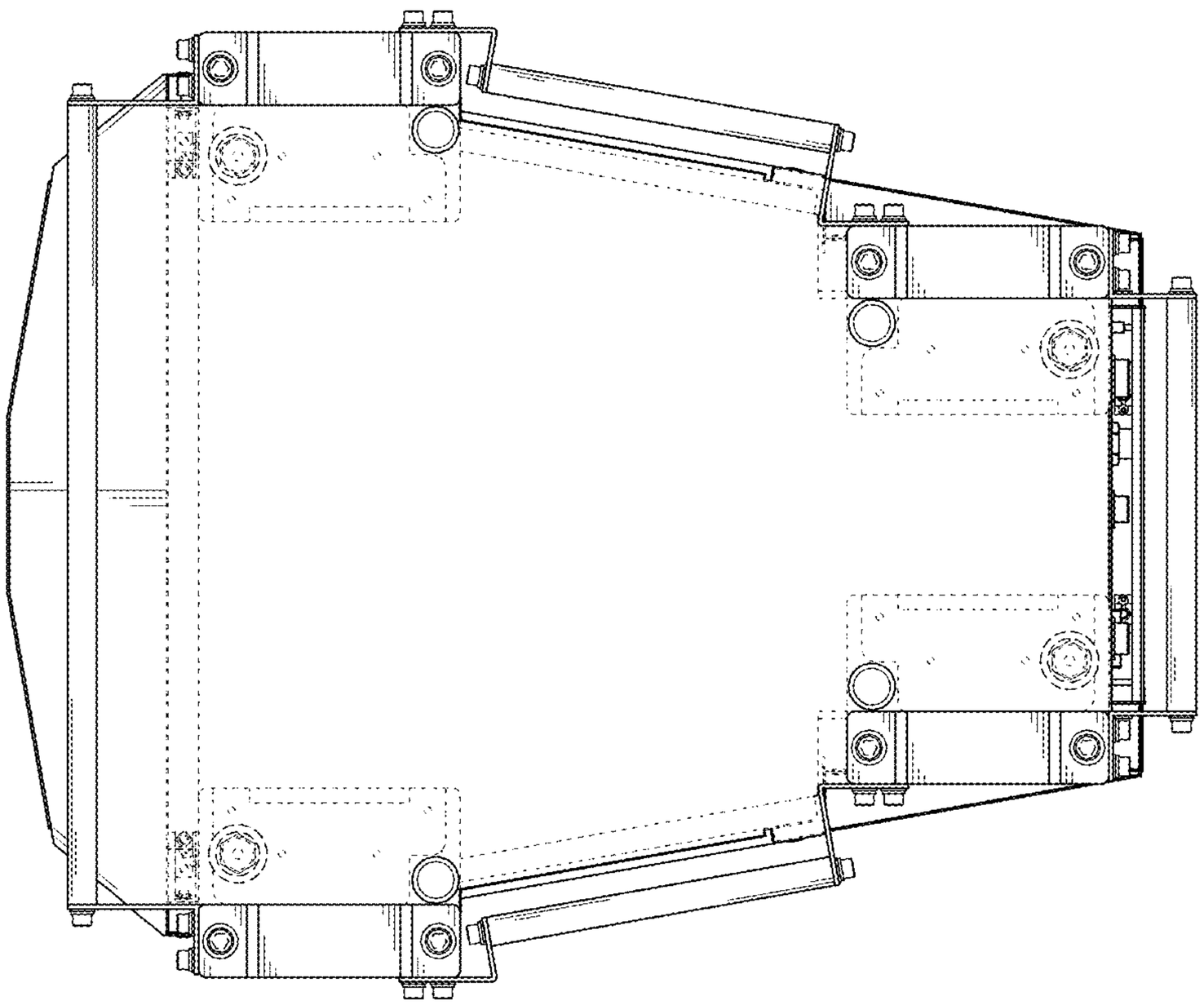
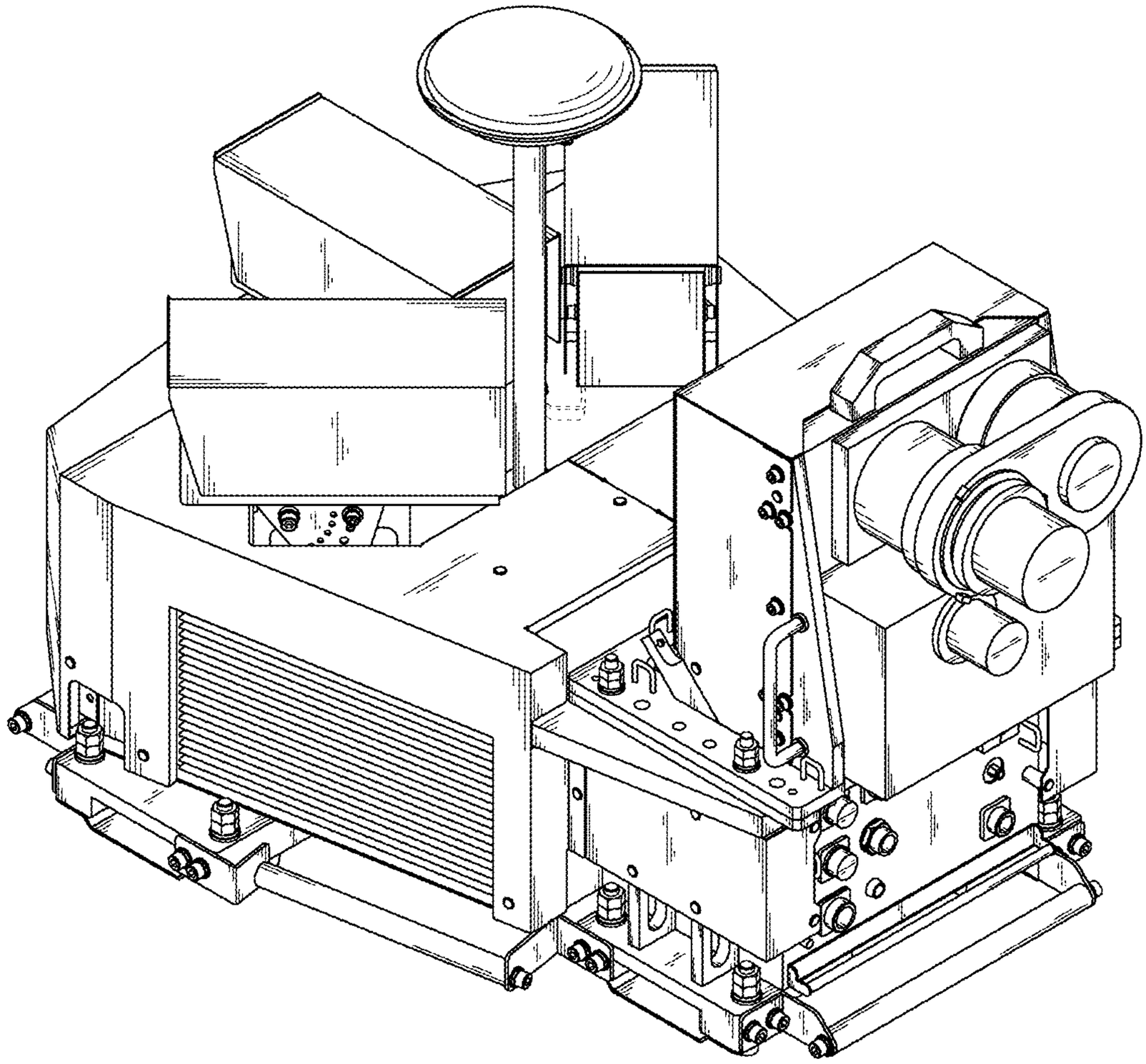


FIG. 8



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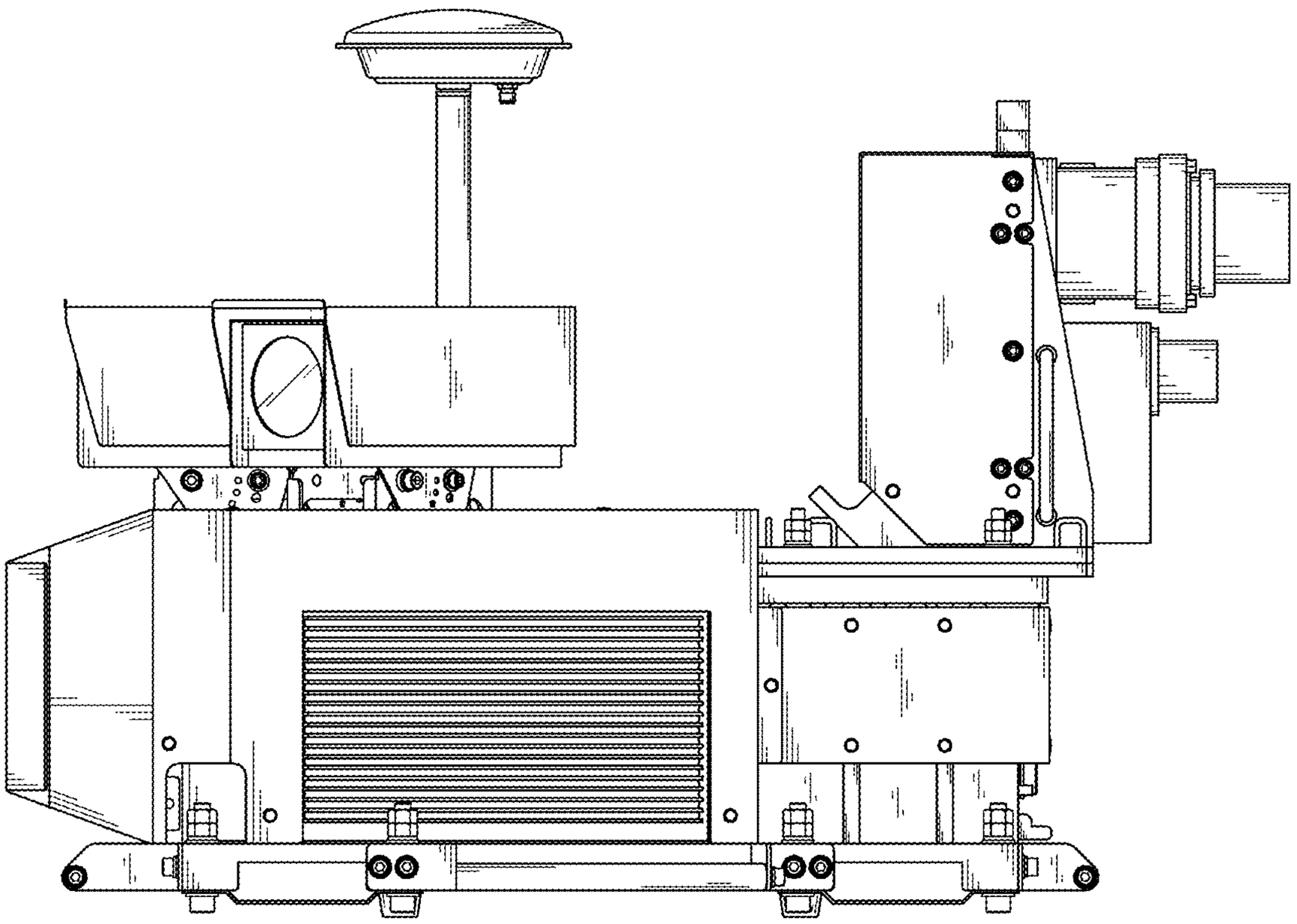

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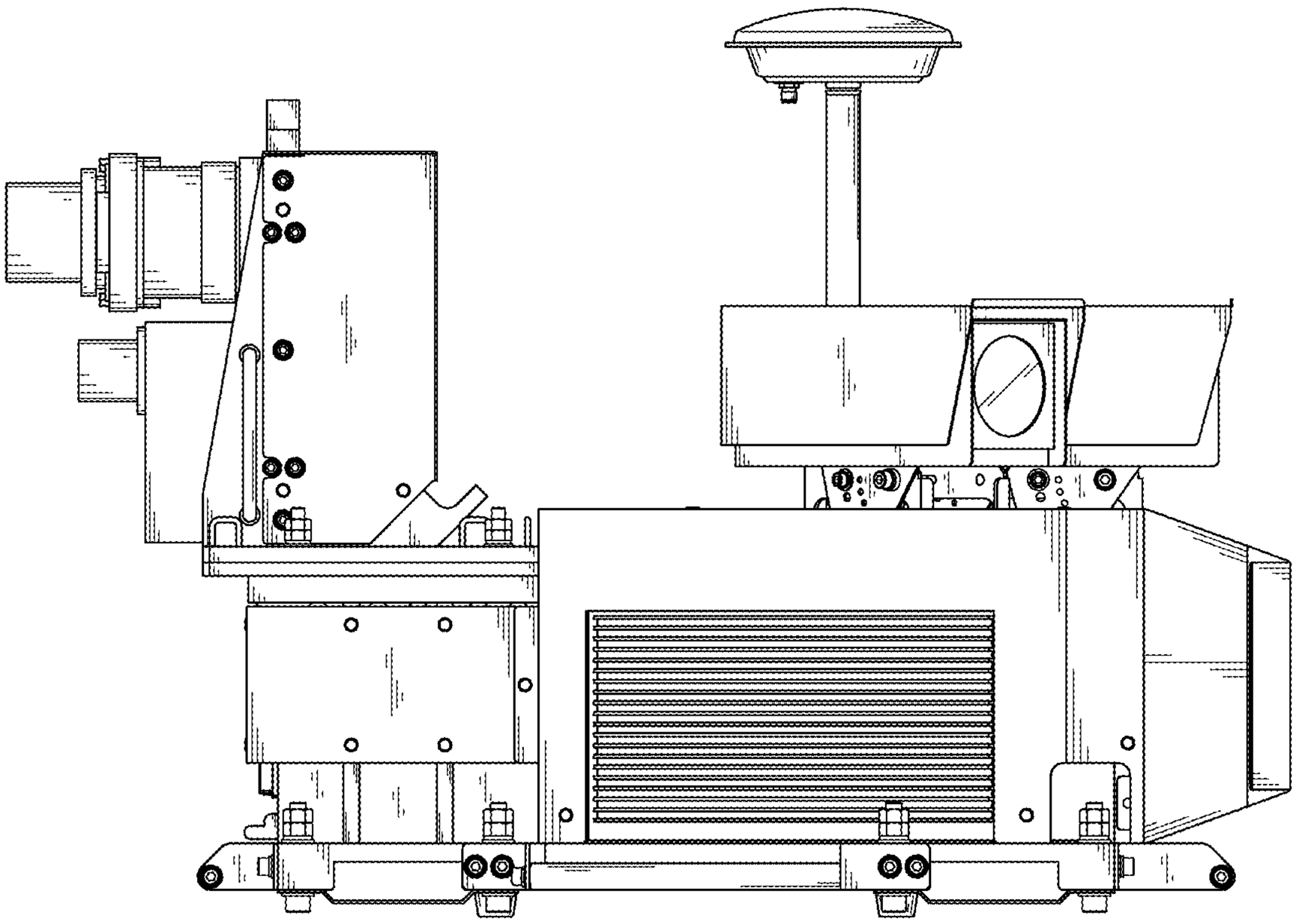


FIG. 11

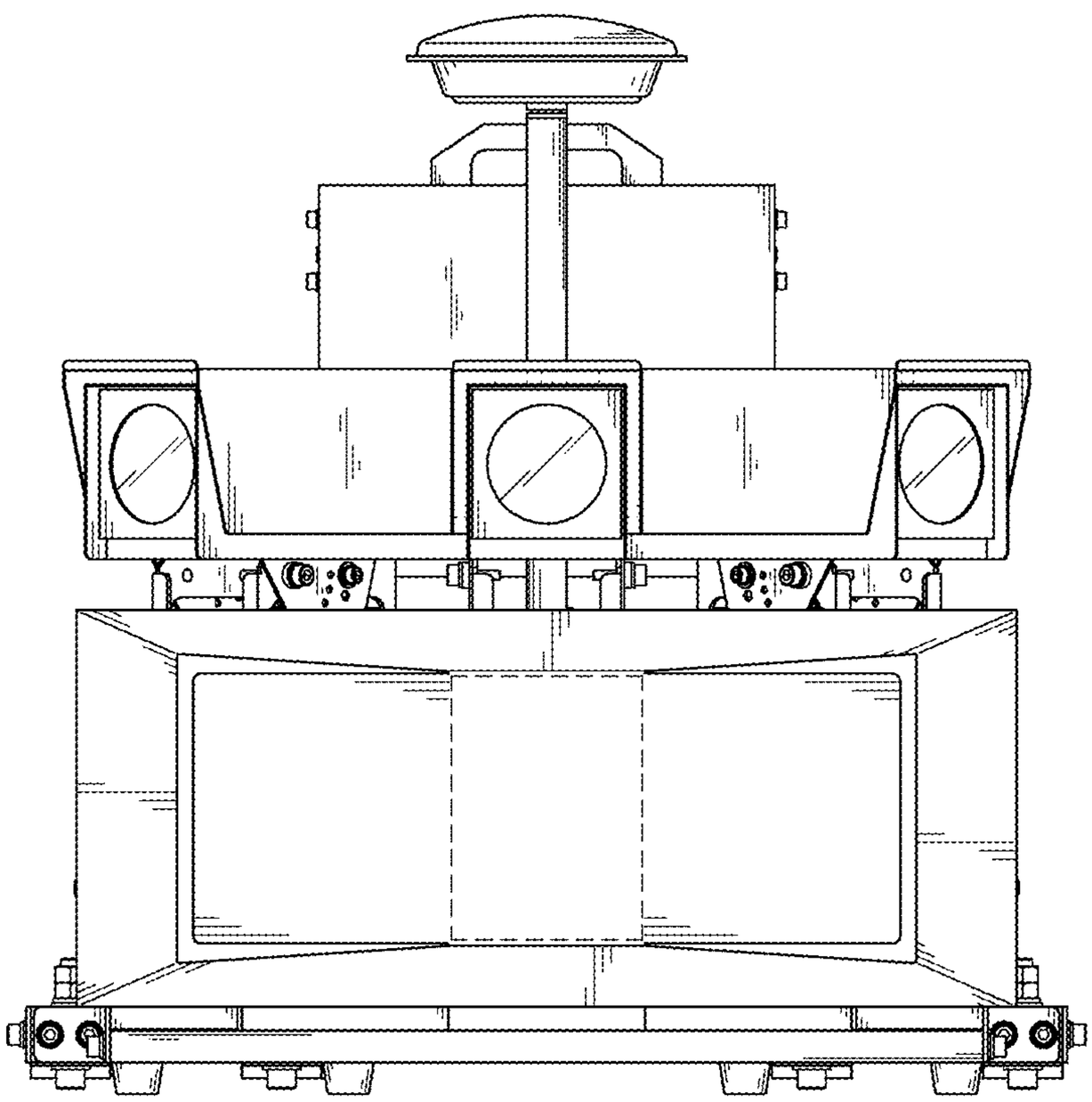


FIG. 12

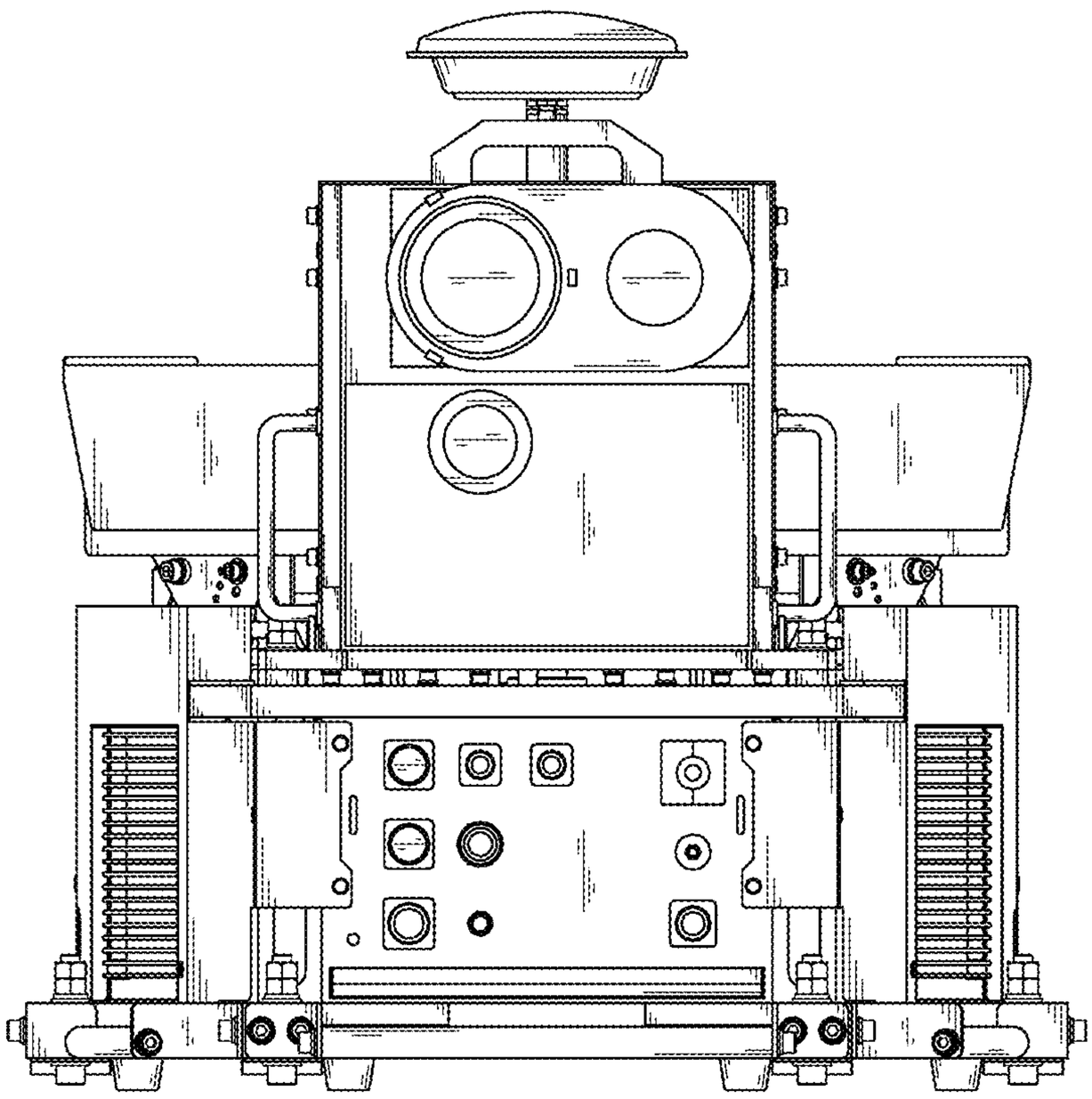


FIG. 13

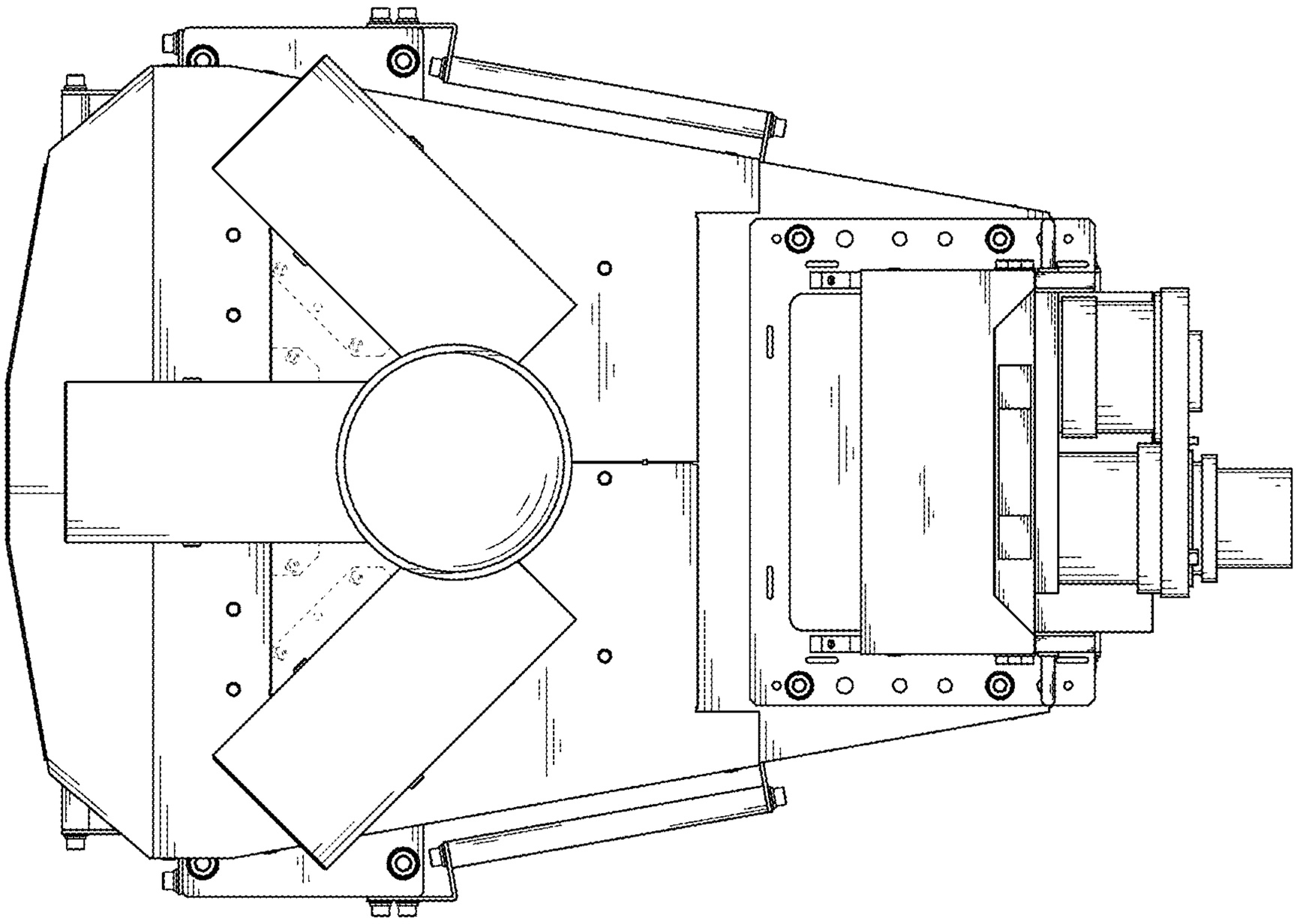
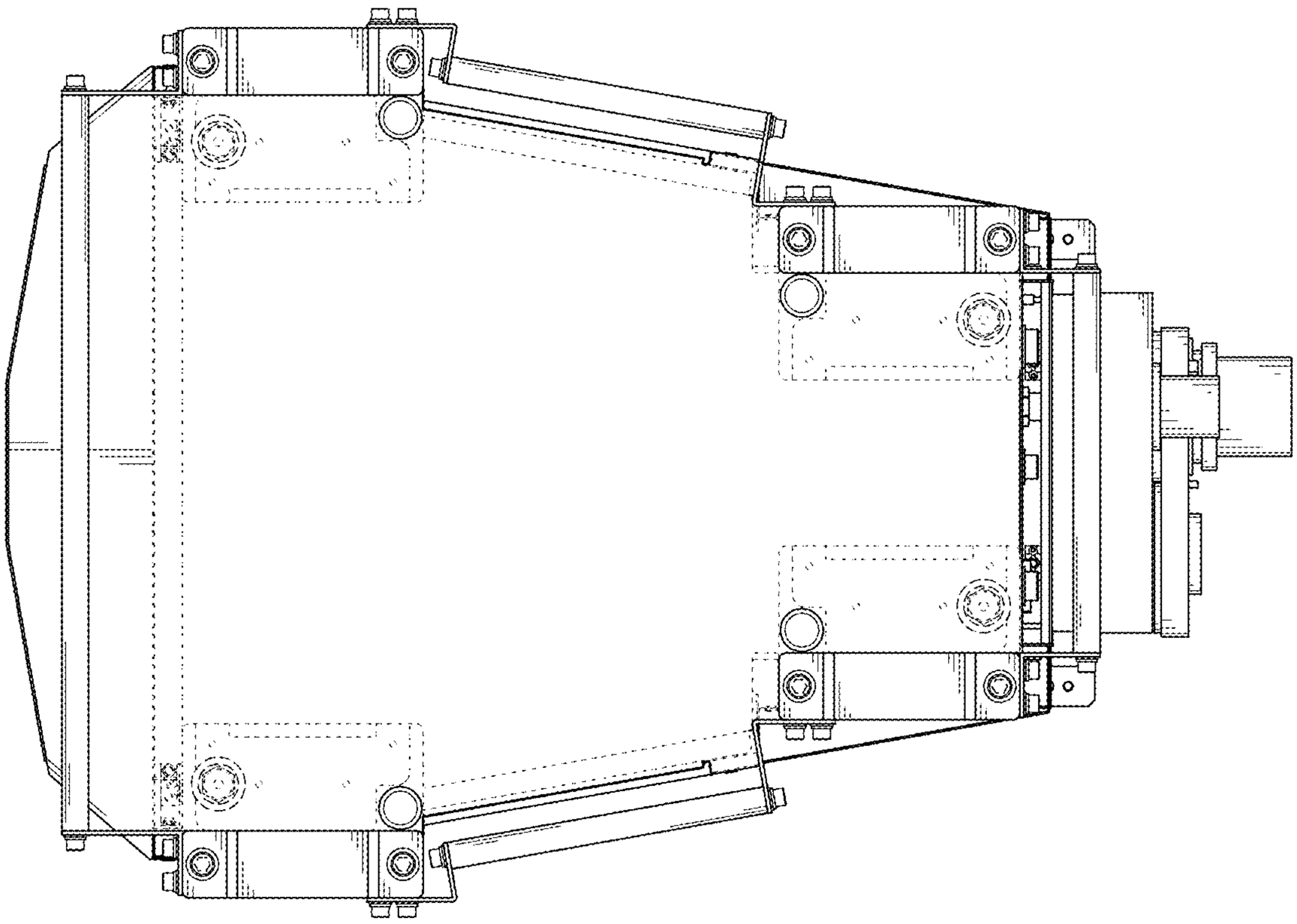


FIG. 14



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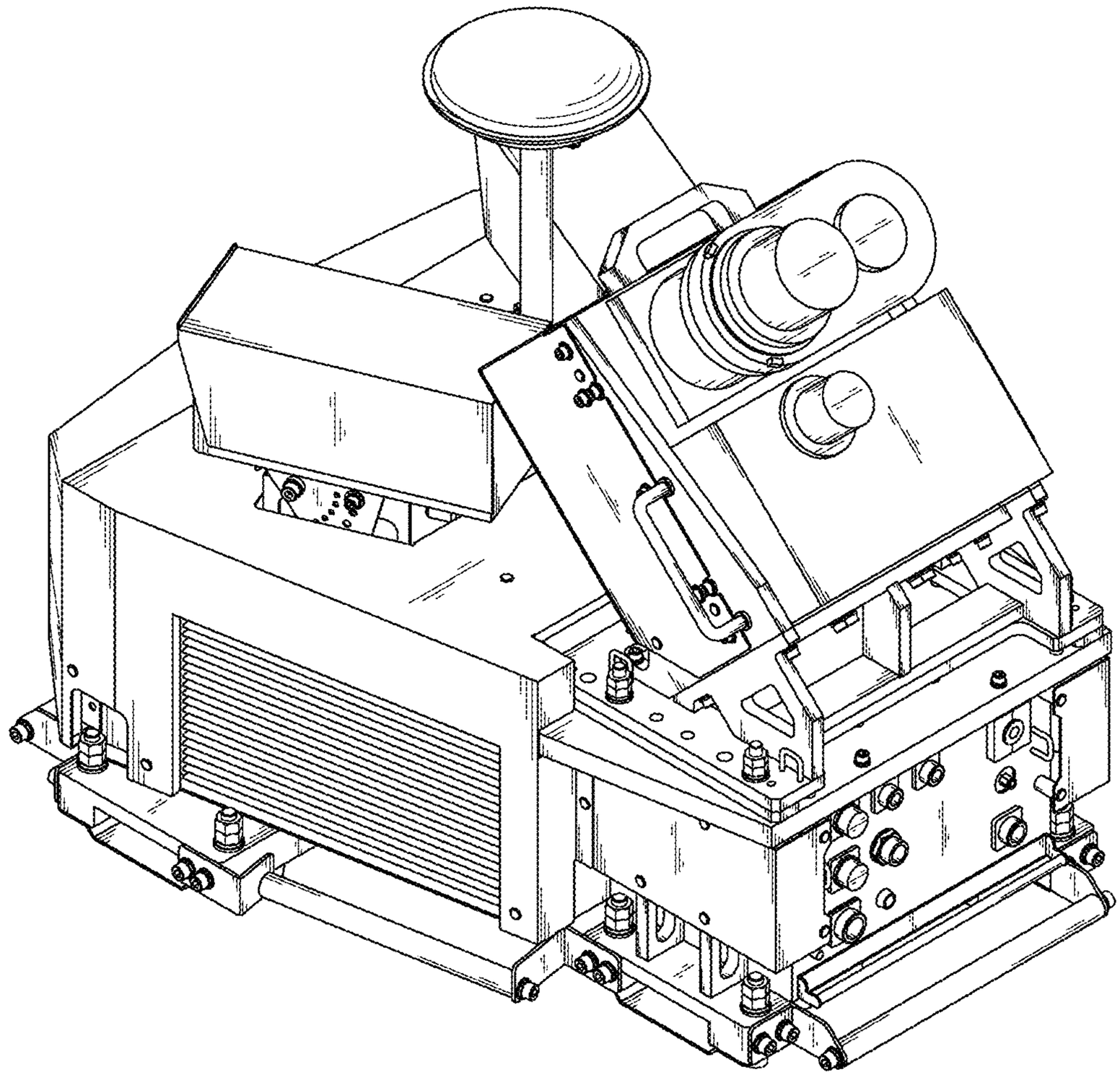

FIG. 16

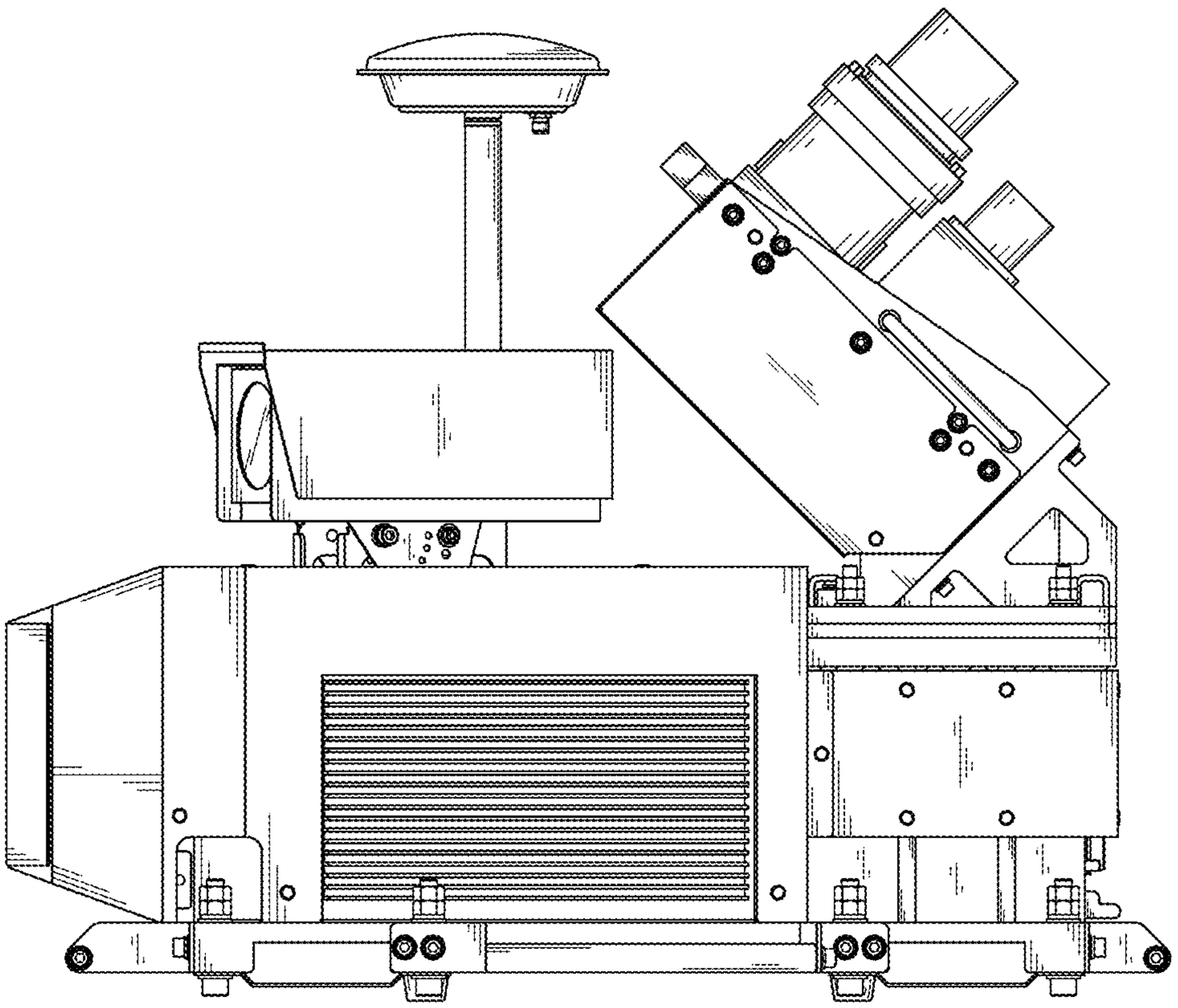

FIG. 17

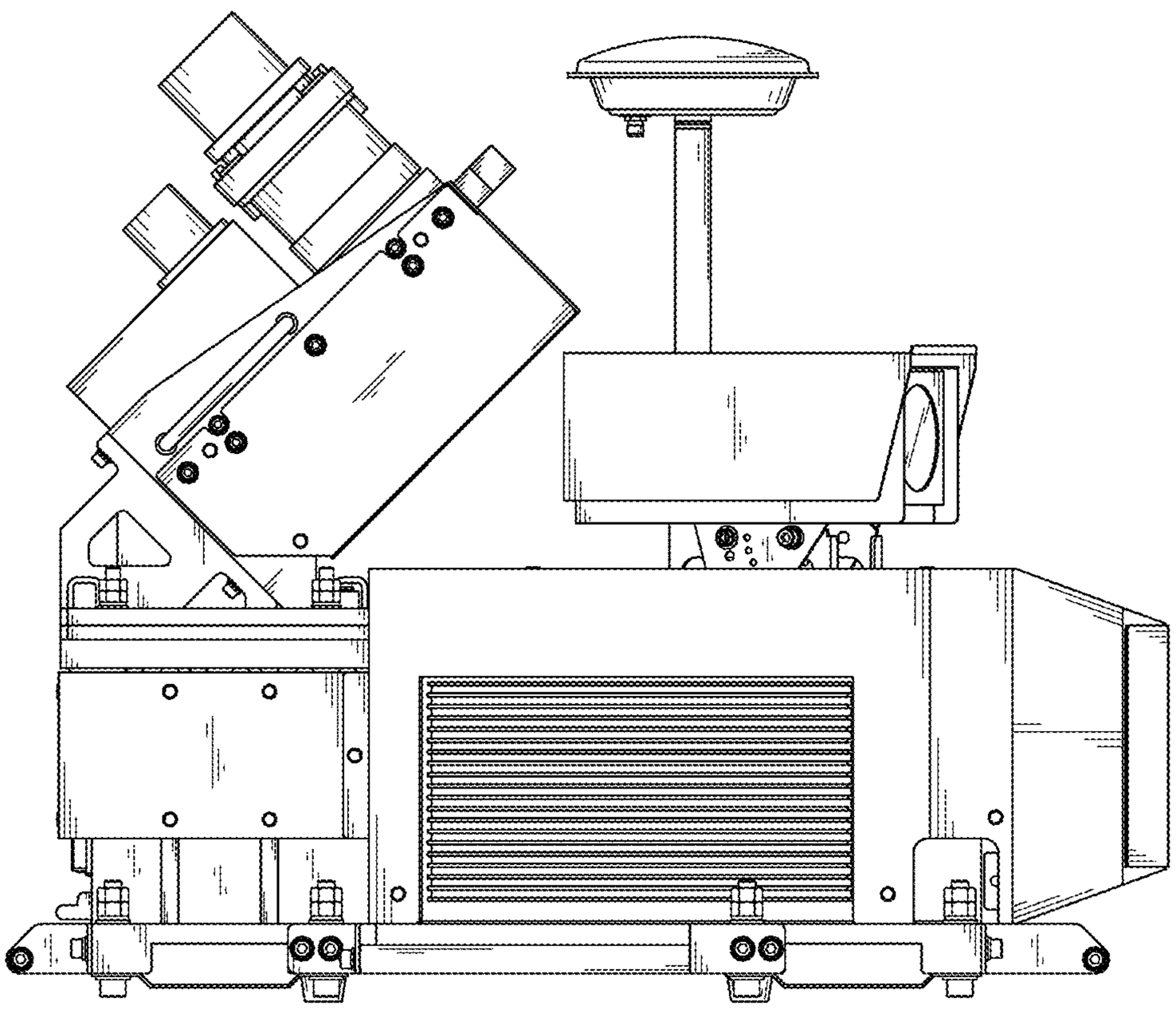

FIG. 18

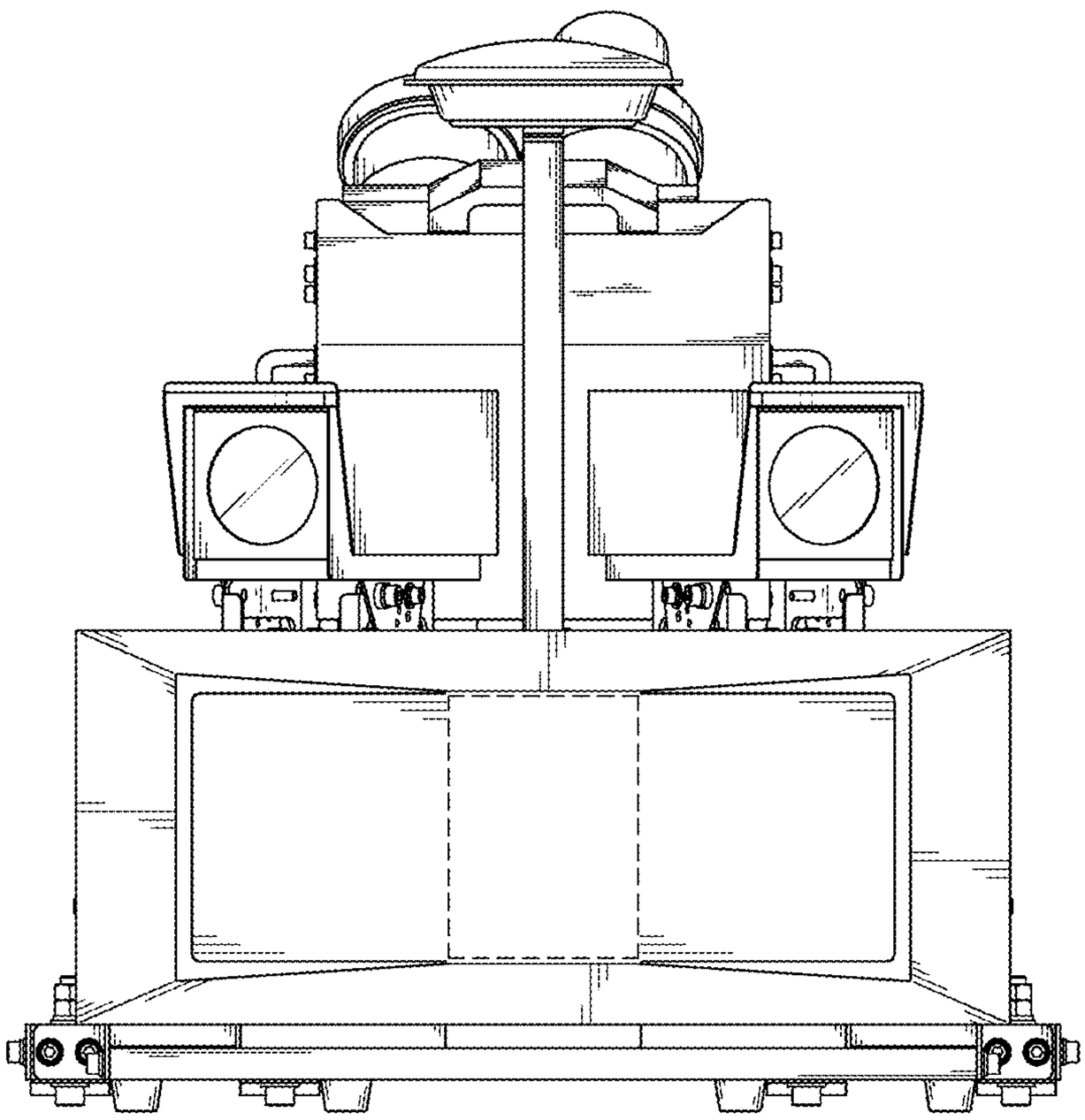

FIG. 19

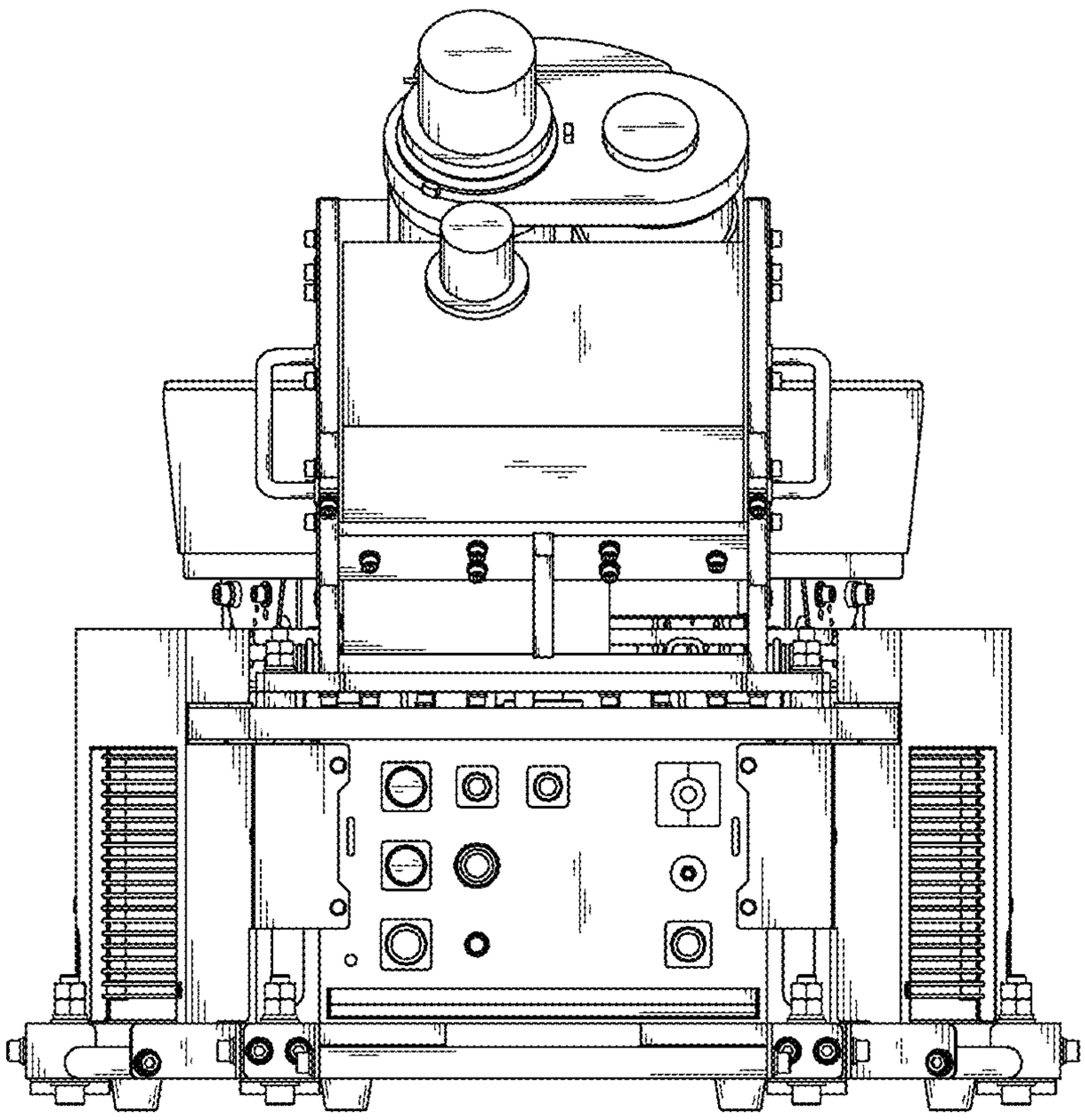

FIG. 20

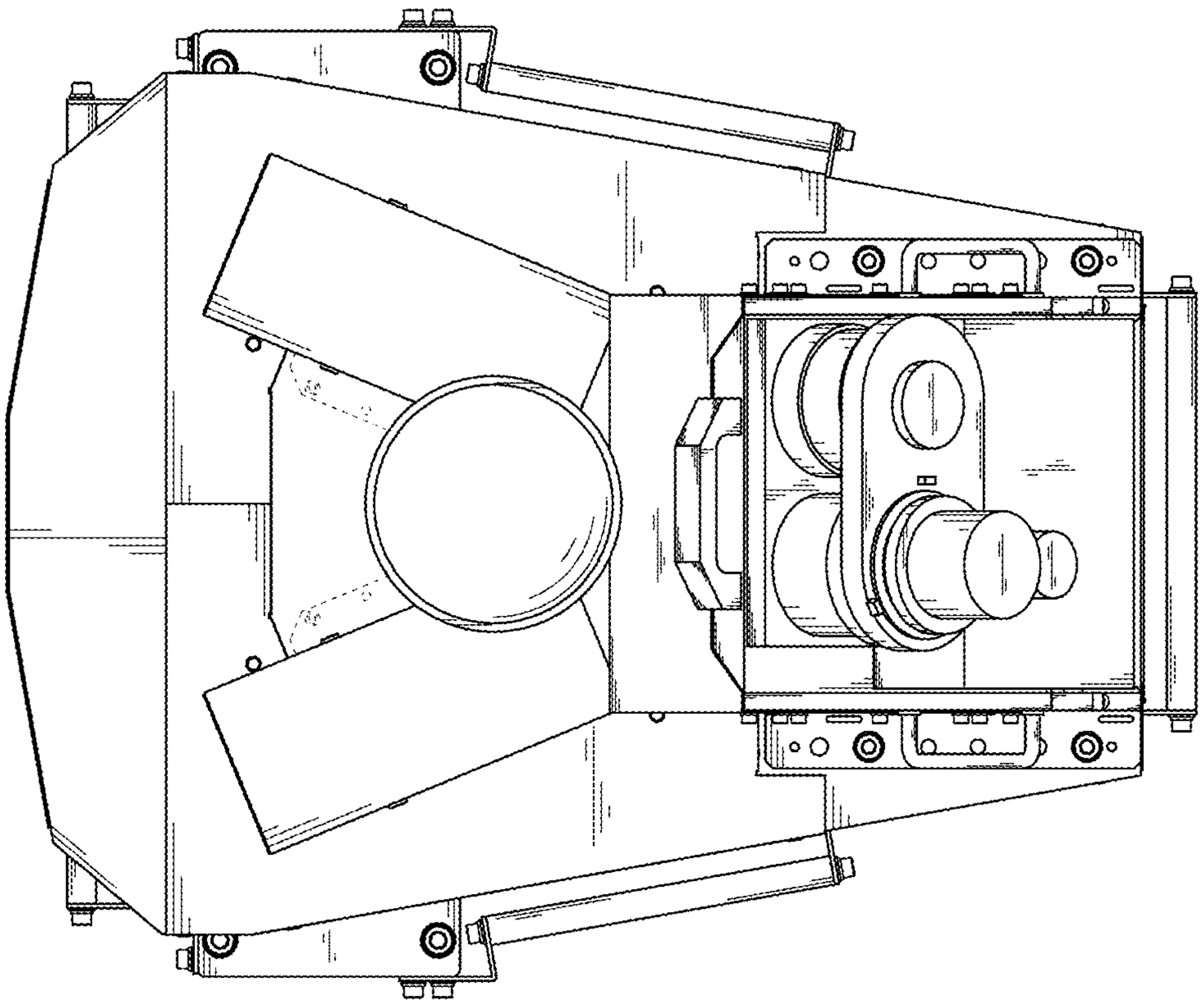

FIG. 21