



US00D932437S

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

(10) **Patent No.:** **US D932,437 S**  
(45) **Date of Patent:** **\*\* Oct. 5, 2021**

(54) **BATTERY PROTECTION CIRCUIT MODULE PACKAGE**

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

(21) Appl. No.: **29/719,158**

(22) Filed: **Dec. 31, 2019**

(30) **Foreign Application Priority Data**

Jul. 5, 2019 (KR) ..... 30-2019-0032396

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

(52) **U.S. Cl.**  
USPC ..... **D13/119**

(58) **Field of Classification Search**  
USPC ..... D13/103, 118, 119, 120, 121, 182, 184  
CPC ..... H02H 7/18; H02J 7/0029; H01M 10/425;  
H01M 10/4257; H01M 10/48  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

D554,587 S \* 11/2007 Miyamoto ..... D13/119  
D556,130 S \* 11/2007 Tajima ..... D13/119  
D556,687 S \* 12/2007 Miyamoto ..... D13/119

D573,115 S \* 7/2008 Miyamoto ..... D13/182  
8,420,253 B2 \* 4/2013 Kim ..... H01G 9/0003  
429/163  
9,450,428 B2 \* 9/2016 Na ..... H01M 50/572  
9,680,973 B2 \* 6/2017 Na ..... H04M 1/026  
9,787,111 B2 \* 10/2017 Na ..... H02J 7/0042  
10,193,193 B2 \* 1/2019 Na ..... H01L 27/0629  
10,263,238 B2 \* 4/2019 Hwang ..... H01M 10/425  
10,756,550 B2 \* 8/2020 Na ..... H02H 7/18  
10,950,845 B2 \* 3/2021 Hwang ..... H01M 10/48  
2008/0160398 A1 \* 7/2008 Kim ..... H01M 50/147  
429/121  
2008/0292954 A1 \* 11/2008 Park ..... H01M 50/543  
429/163  
2010/0053835 A1 \* 3/2010 Kwag ..... H01M 10/425  
361/103  
2010/0075205 A1 \* 3/2010 Kwag ..... H01M 50/543  
429/61  
2011/0003195 A1 \* 1/2011 Kim ..... H01M 10/425  
429/178  
2011/0123838 A1 \* 5/2011 Lee ..... H01M 50/581  
429/7

(Continued)

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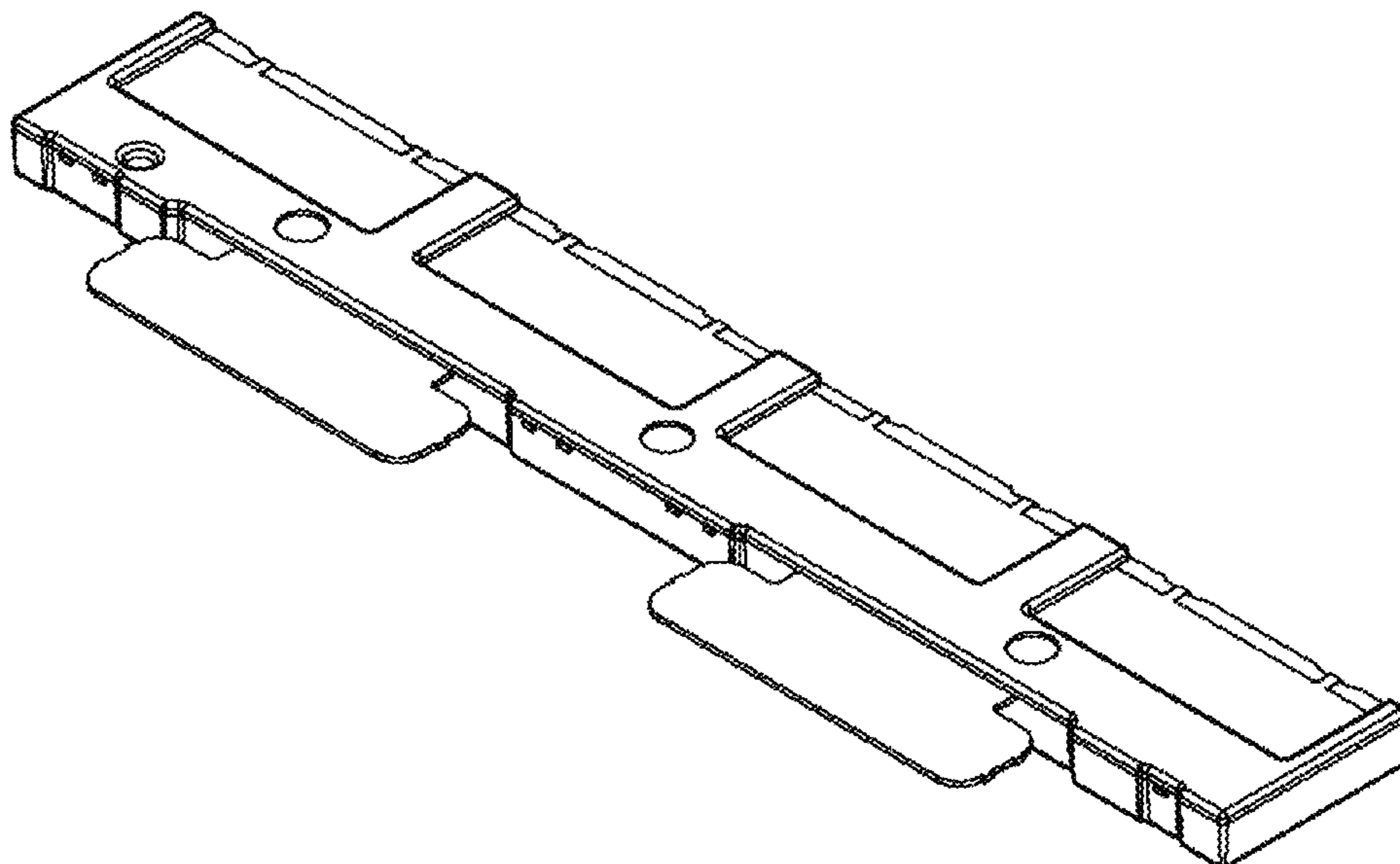
(57) **CLAIM**

We claim the ornamental design for a battery protection circuit module package, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a battery protection circuit module package showing our 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; and, FIG. 7 is a bottom plan view thereof.

**1 Claim, 3 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

2012/0127682 A1\* 5/2012 Jang ..... H01M 50/581  
361/777  
2012/0276420 A1\* 11/2012 Baek ..... H01M 10/425  
429/7  
2014/0212698 A1\* 7/2014 Moon ..... H01M 10/425  
429/7  
2014/0302372 A1\* 10/2014 Kim ..... H01M 50/209  
429/121  
2014/0349163 A1\* 11/2014 Kim ..... H01M 10/425  
429/121  
2015/0004441 A1\* 1/2015 Jeong ..... H01M 50/147  
429/7  
2015/0228954 A1\* 8/2015 Wang ..... H01M 10/486  
429/158  
2016/0056444 A1\* 2/2016 Hwang ..... H01M 10/48  
429/7  
2018/0123178 A1\* 5/2018 Yang ..... H01M 50/557  
2019/0173134 A1\* 6/2019 Lee ..... H01M 10/425  
2020/0077522 A1\* 3/2020 Wang ..... H05K 3/28  
2020/0144677 A1\* 5/2020 Choi ..... H01M 50/572

\* cited by examiner

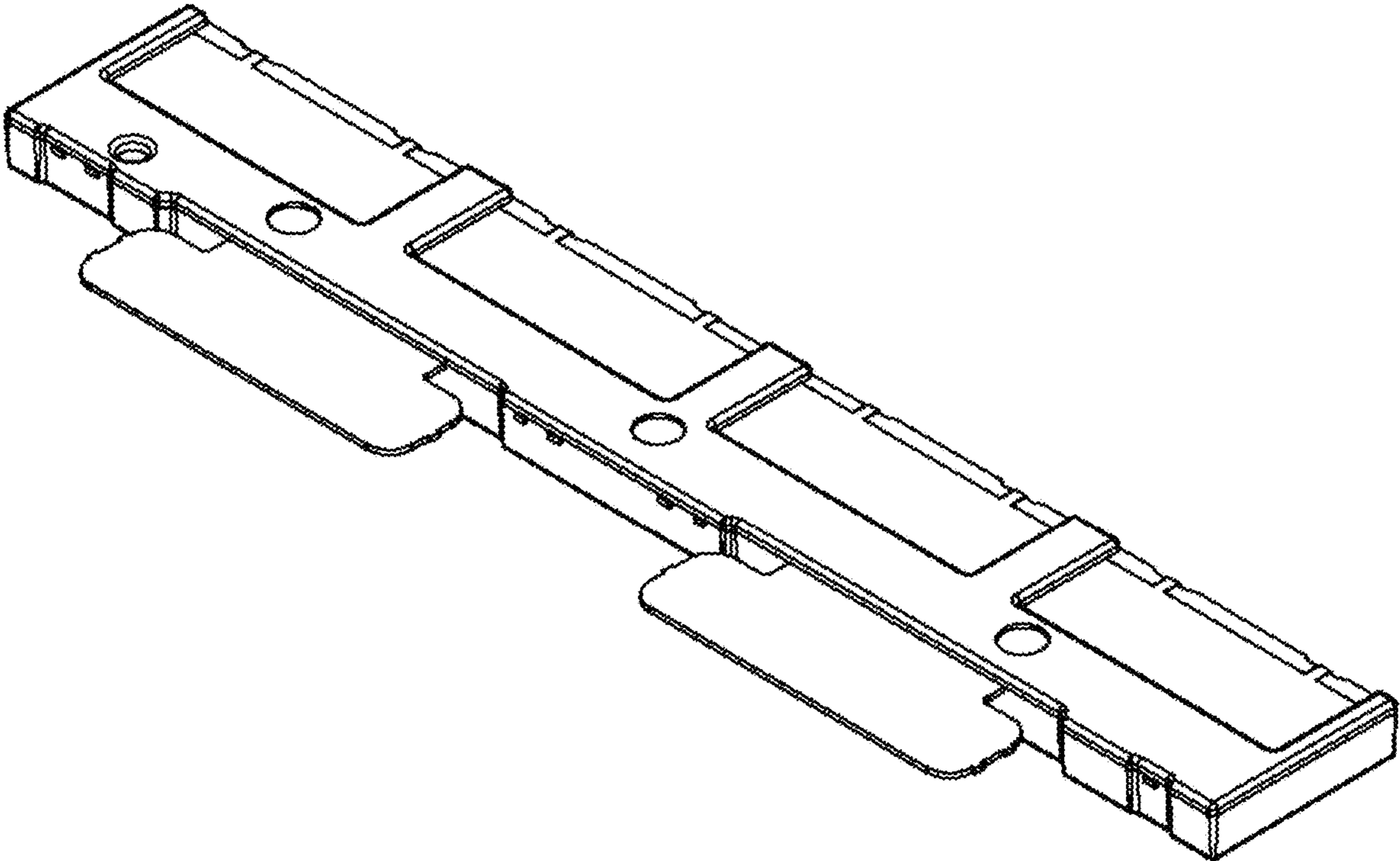


FIG. 1



FIG. 2



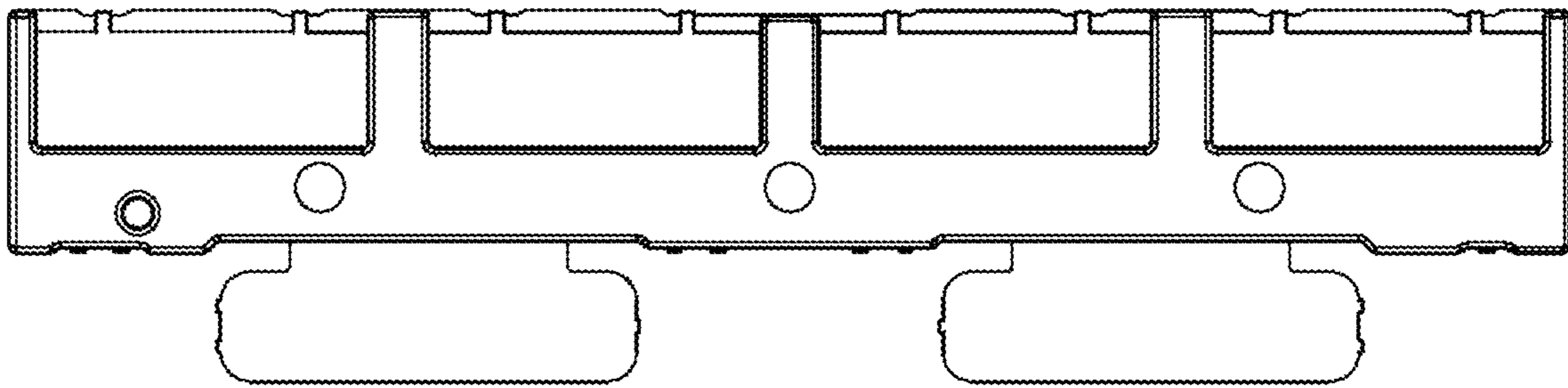
FIG. 3



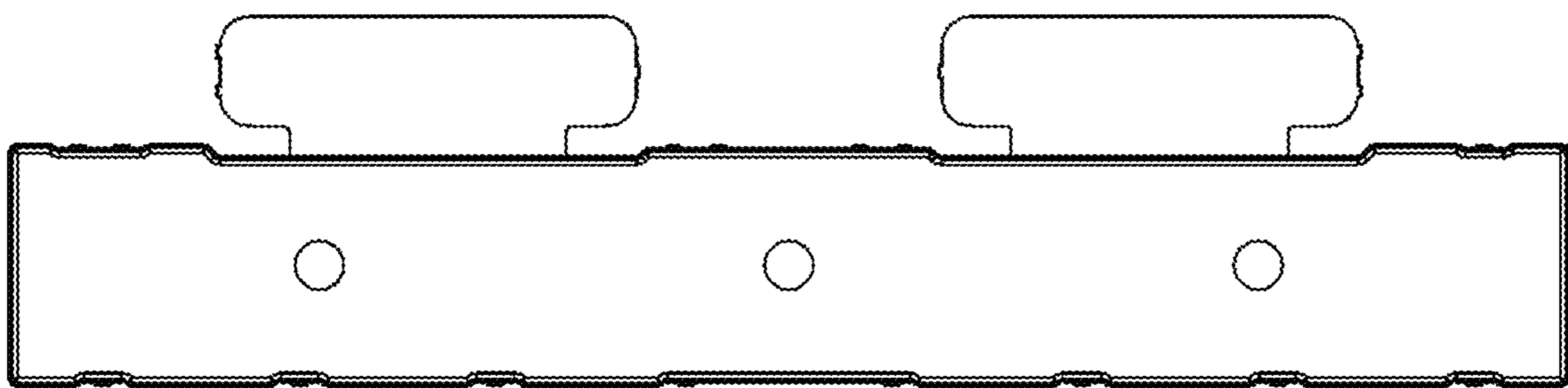
FIG. 4



FIG. 5



**FIG. 6**



**FIG. 7**