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(54) **HUMAN MACHINE INTERFACE FOR A CONTROLLER**

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(52) **U.S. Cl.**  
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(58) **Field of Classification Search**  
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D14/157, 188, 217, 257, 258, 308, 388,  
D14/441, 443, 450; D15/28; D23/324  
CPC ..... H01H 3/02; H01H 3/022; H01H 3/12;  
H01H 3/122; H01H 9/02; H01H 9/0235;  
H01H 13/023; H01H 13/04; H01H 13/06;  
H01H 13/063; H01H 13/10; H01H 13/12;  
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(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D349,102 S \* 7/1994 Ziegler ..... D14/450  
D490,727 S 6/2004 Kido et al.

(Continued)

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(57) **CLAIM**

The ornamental design for a human machine interface for a controller, as shown and described.

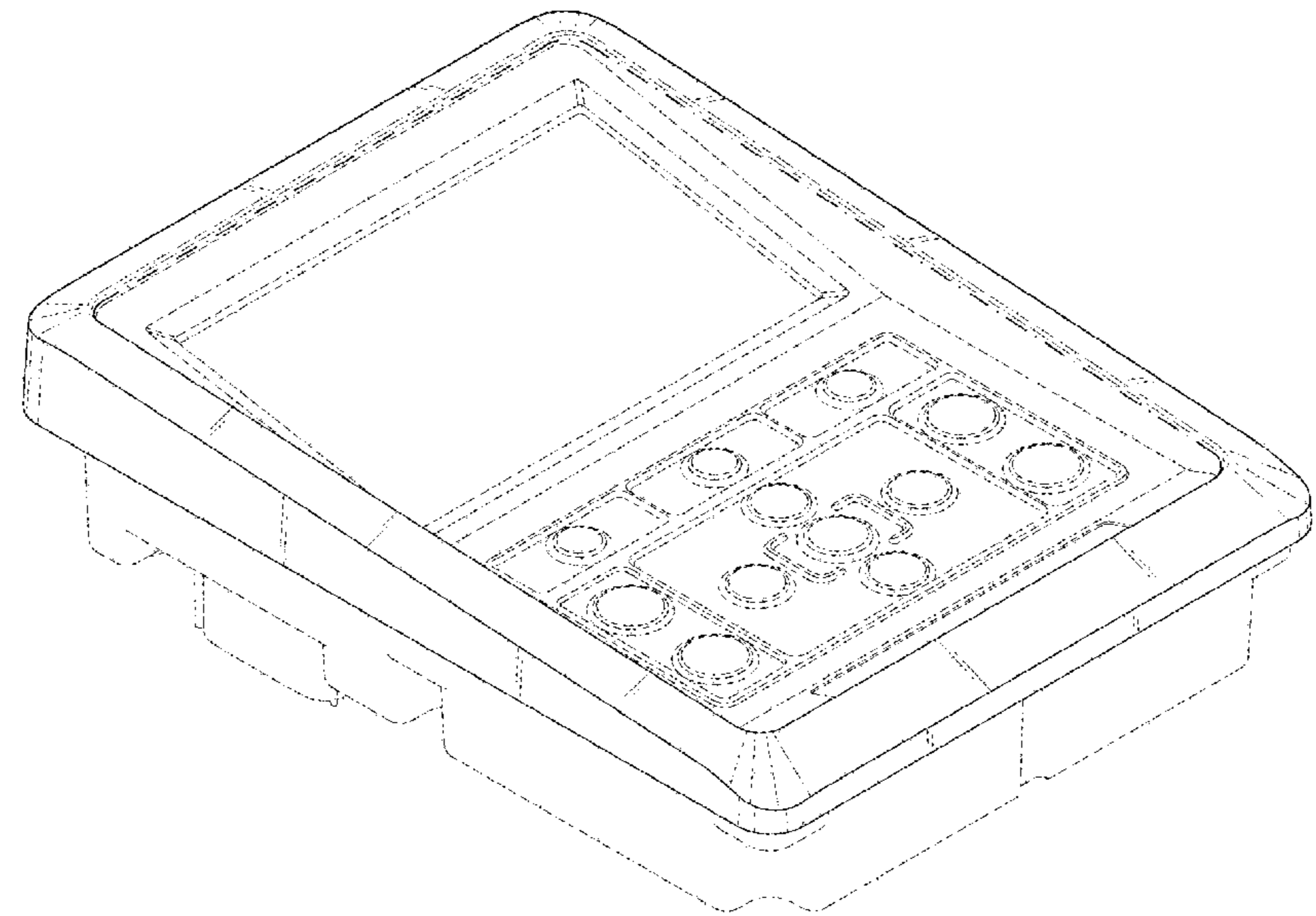
**DESCRIPTION**

FIG. 1 is a front perspective view of a human machine interface for a controller showing our new design; FIG. 2 is a front elevation view thereof; FIG. 3 is a left side elevation view thereof; FIG. 4 is a right side elevation view thereof; FIG. 5 is a bottom plan view thereof; and, FIG. 6 is a top plan view thereof.

We note that the human machine interface for a controller shown in FIGS. 1-6 can be used, for example, in transport applications. For example, the human machine interface can be for a controller used to control a transport climate control system. The transport climate control system can be used to control environmental condition(s) (e.g., temperature, humidity, air quality, and the like) within a climate controlled space of a transport unit (e.g., a truck, a container (such as a container on a flat car, an intermodal container, etc.), a box car, a semi-tractor, a bus, or other similar transport unit). The transport climate control system can include, for example, a transport refrigeration system (TRS) and/or a heating, ventilation and air conditioning (HVAC) system.

The even spaced broken lines in the drawings depict portions of the controller that form no part of the claimed design. The dash-dot-dash broken lines define the bounds of the claim design and form no part thereof.

**1 Claim, 4 Drawing Sheets**



(58) **Field of Classification Search**

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 H01H 21/24; H01H 25/065; H01H 23/02;  
 H01H 23/025; H01H 23/04; H01H 23/08;  
 H01H 23/145; H04B 1/08; H04B 1/082;  
 G05B 19/409; G05B 2219/23406; H05K  
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D512,026 S 11/2005 Nurmi et al.  
 D512,691 S 12/2005 Hisatsune  
 D520,883 S 5/2006 Hillard et al.  
 D520,885 S 5/2006 Takach et al.  
 D556,698 S 12/2007 Walser  
 D557,221 S \* 12/2007 Ewringmann ..... D13/164  
 D559,792 S \* 1/2008 Gemme ..... D13/162  
 D567,189 S 4/2008 Stiles, Jr. et al.  
 D575,239 S 8/2008 Shah  
 D583,687 S \* 12/2008 Menges ..... D10/102  
 D596,587 S 7/2009 Gaertner  
 D607,418 S 1/2010 Kleman et al.  
 D610,553 S 2/2010 Makela  
 D611,007 S 3/2010 Kangas  
 D611,430 S 3/2010 Stiles, Jr. et al.  
 D612,339 S 3/2010 Braun et al.  
 D628,603 S \* 12/2010 Berning ..... D15/28  
 D640,640 S 6/2011 DuckWOrth et al.  
 D646,990 S 10/2011 Rhodes  
 D648,641 S 11/2011 Wallaert et al.  
 D648,642 S 11/2011 Wallaert et al.  
 D659,560 S 5/2012 Rhodes  
 D659,939 S \* 5/2012 Saitou ..... D34/35  
 D662,837 S 7/2012 Morrow  
 D662,838 S 7/2012 Morrow  
 D662,839 S 7/2012 Morrow  
 D663,224 S 7/2012 Morrow  
 D672,262 S 12/2012 Holland et al.  
 D672,666 S 12/2012 Rhodes et al.  
 D675,542 S 2/2013 Breuer  
 D679,204 S 4/2013 Breuer  
 D679,205 S 4/2013 Eyring et al.  
 D679,789 S \* 4/2013 Thao ..... D23/324  
 D688,955 S 9/2013 Deligiannis et al.  
 D689,028 S 9/2013 Ewringmann

D689,443 S \* 9/2013 Ewringmann ..... D13/168  
 D695,234 S 12/2013 Santiago et al.  
 D699,130 S 2/2014 Rhodes et al.  
 D716,298 S \* 10/2014 De La Cruz ..... D14/371  
 D717,673 S 11/2014 Eyring et al.  
 D720,242 S 12/2014 Kostelecky et al.  
 D723,007 S 2/2015 Oh  
 D731,560 S \* 6/2015 Schmaltz ..... D15/28  
 D733,591 S 7/2015 Golden et al.  
 D734,276 S \* 7/2015 Wiesbaum ..... D13/164  
 D737,154 S 8/2015 Jacoby et al.  
 D738,755 S 9/2015 Druce  
 D738,756 S 9/2015 Jiang et al.  
 D738,830 S 9/2015 Suthmann  
 D742,332 S 11/2015 Matsuguma et al.  
 D761,741 S 7/2016 Santiago et al.  
 D762,495 S 8/2016 Tanaka et al.  
 D762,497 S 8/2016 Tanaka et al.  
 D763,201 S 8/2016 Burkell et al.  
 D784,168 S 4/2017 Jacoby et al.  
 D788,715 S \* 6/2017 Ewringmann ..... D13/164  
 D788,716 S \* 6/2017 Ewringmann ..... D13/164  
 D797,580 S 9/2017 Read et al.  
 D800,075 S \* 10/2017 Cooksey ..... D13/162  
 D801,287 S 10/2017 Tehranchi  
 D801,939 S 11/2017 Mäkelä et al.  
 D802,450 S 11/2017 Boynton et al.  
 D803,705 S 11/2017 Read et al.  
 D807,763 S 1/2018 Jacoby et al.  
 D809,943 S 2/2018 Jacoby et al.  
 D828,816 S 9/2018 Spors et al.  
 D832,118 S 10/2018 Higashijima et al.  
 D832,722 S 11/2018 Farenski  
 D835,052 S 12/2018 Jokiniemi et al.  
 D835,053 S 12/2018 Jokiniemi et al.  
 D843,239 S 3/2019 Read et al.  
 D843,859 S 3/2019 Thoren et al.  
 D854,429 S 7/2019 Gentle et al.  
 D862,255 S 10/2019 Erbacher et al.  
 D868,602 S 12/2019 Pennebaker, III  
 10,501,972 B2 \* 12/2019 Twigg, III ..... E05D 7/00  
 D875,052 S \* 2/2020 Zhou ..... D13/164  
 D883,235 S \* 5/2020 Zhou ..... D13/164  
 D891,381 S \* 7/2020 Wareham ..... D13/177  
 D904,469 S \* 12/2020 Loew ..... D15/28  
 2013/0145460 A1 \* 6/2013 Dudley ..... B60H 1/00014  
 726/21  
 2013/0258567 A1 \* 10/2013 Eul ..... E01C 19/48  
 361/679.01

\* cited by examiner



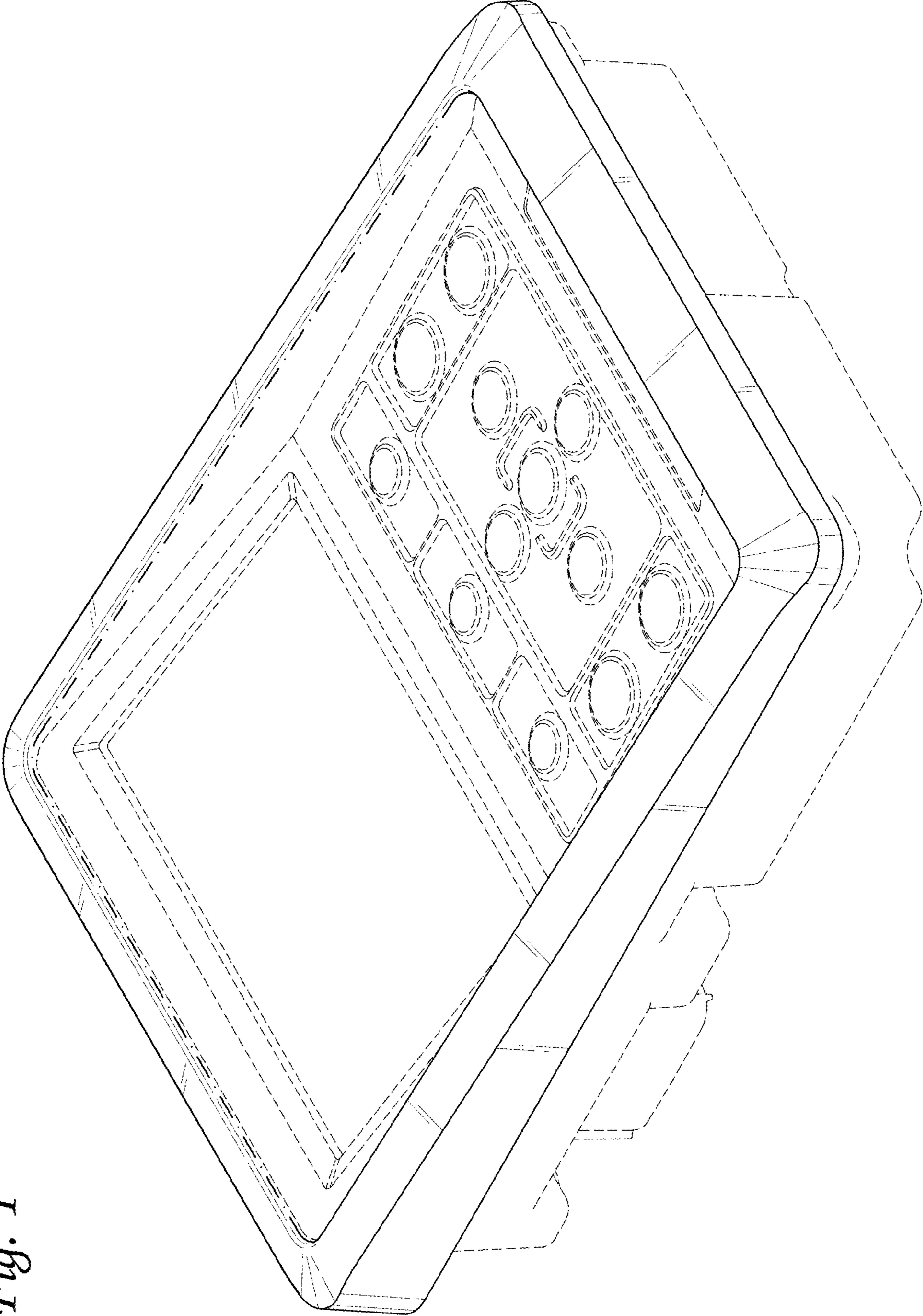
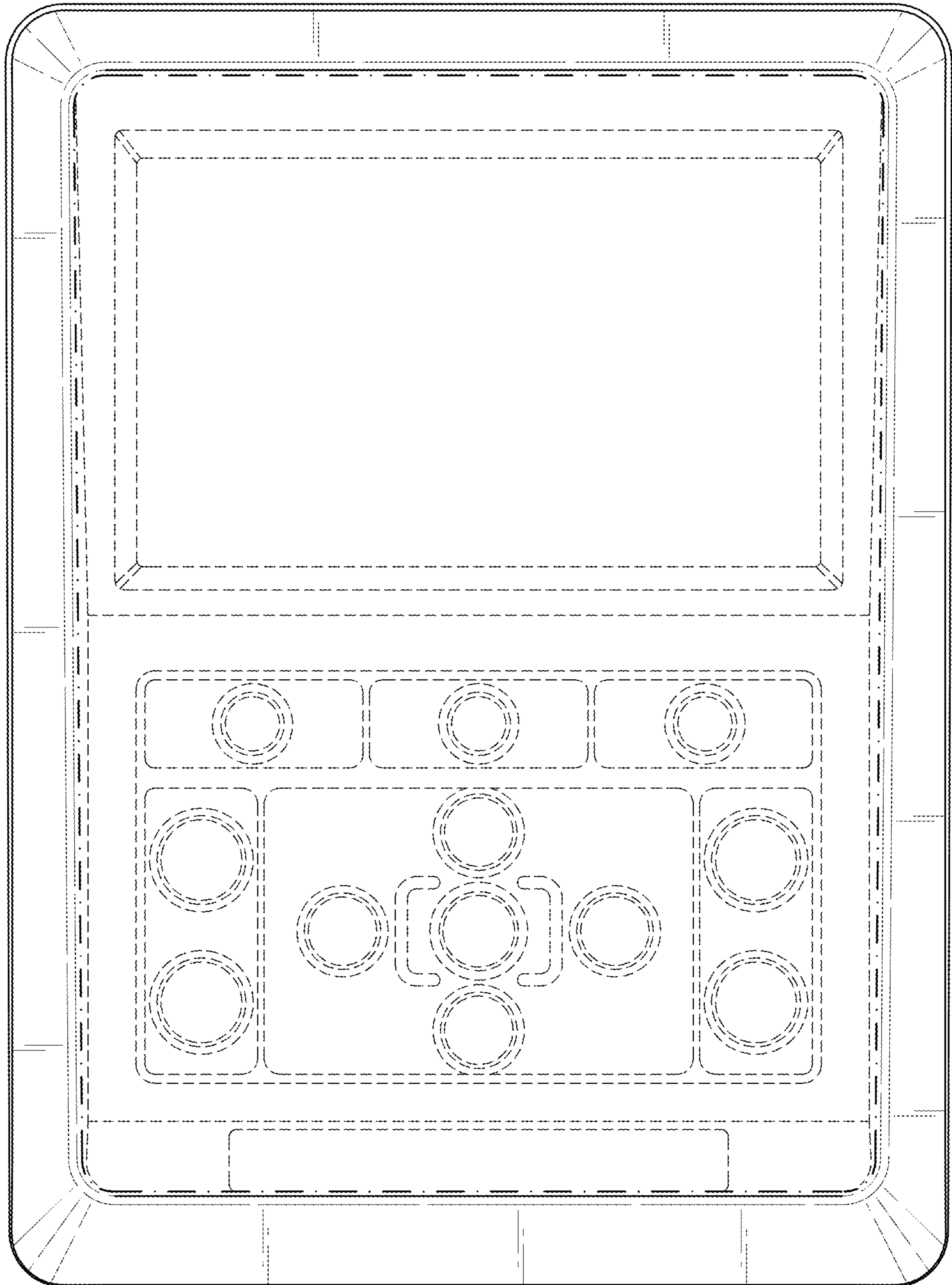
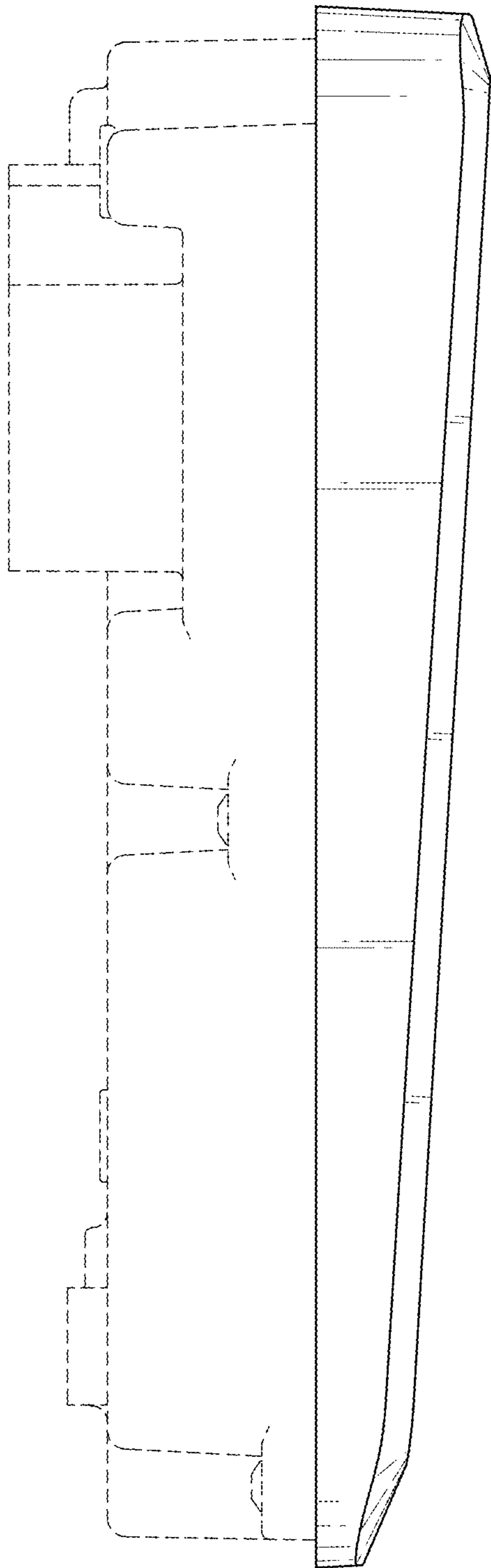


Fig. 1

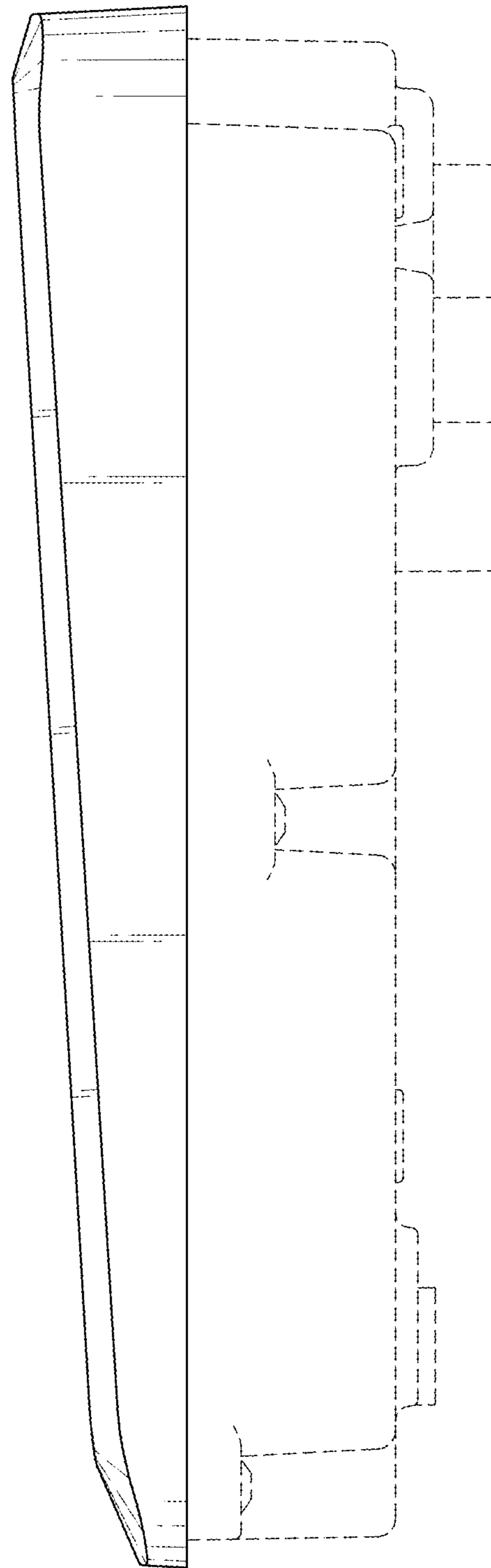
*Fig. 2*



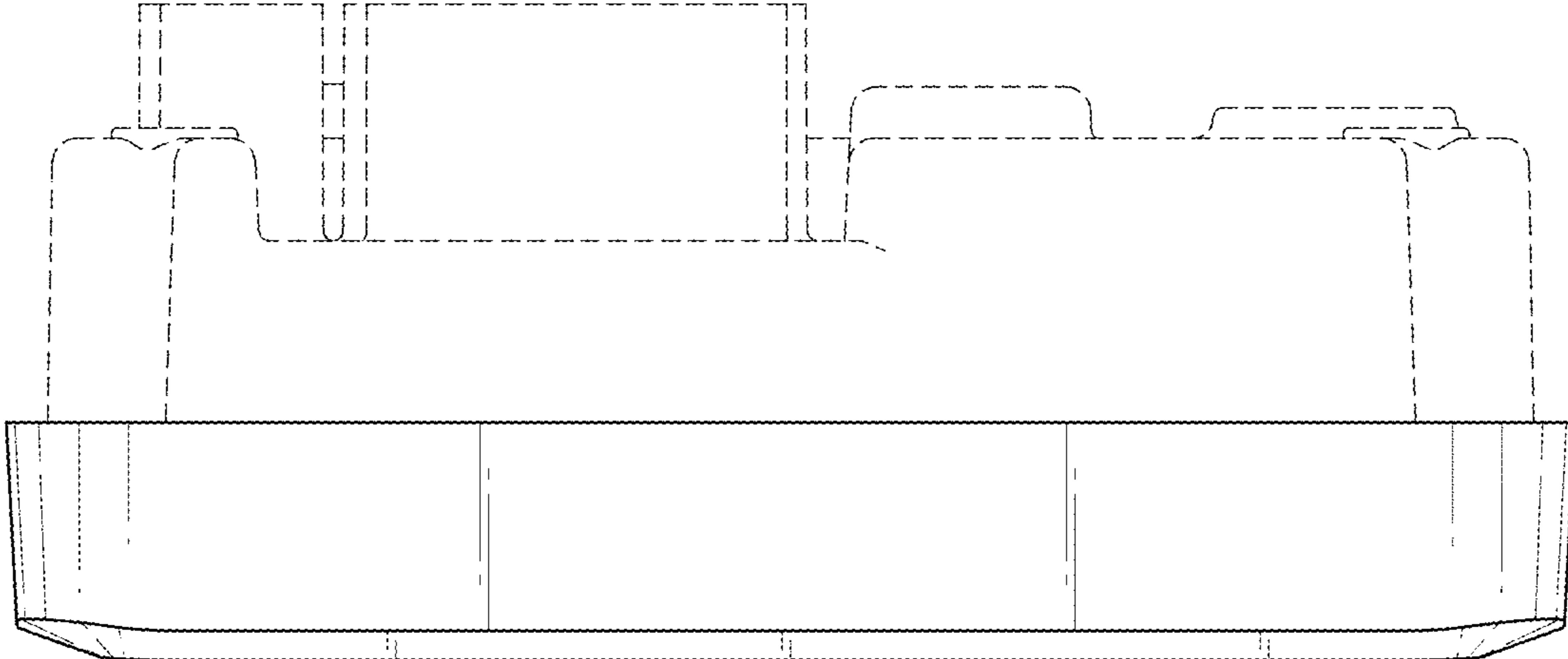
*Fig. 3*



*Fig. 4*



*Fig. 5*



*Fig. 6*

