



US00D957461S

(12) **United States Design Patent** (10) **Patent No.:** **US D957,461 S**
Liu (45) **Date of Patent:** **** Jul. 12, 2022**

(54) **INTERCOOLER FOR AUTOMOTIVE APPLICATIONS**
(71) Applicant: **Resource Intl Inc.**, New Castle, DE (US)
(72) Inventor: **Ye Liu**, New Castle, DE (US)
(73) Assignee: **Resource Intl Inc.**, New Castle, DE (US)
(**) Term: **15 Years**
(21) Appl. No.: **29/652,919**
(22) Filed: **Jan. 11, 2021**
(51) **LOC (13) Cl.** **15-01**
(52) **U.S. Cl.**
USPC **D15/5**
(58) **Field of Classification Search**
USPC D15/1, 2, 3, 4, 5, 6
CPC F02B 29/0425; F02B 29/0412; F02B 29/0437; F02B 29/0443; F02B 29/045; F02B 29/0406; F02B 29/0431; F28D 7/0066; F28D 1/0408; F28D 7/1653; F28F 1/04; F28F 1/12; F28F 9/02; F28F 21/02; B60H 1/14; B60H 1/3211; B60H 1/00271; B60H 1/3205; B60H 1/00342; F01P 11/08; B21D 53/08; F02M 26/27; F02M 26/31; F02M 35/10268
See application file for complete search history.

2012/0024511 A1* 2/2012 Harada F28D 1/05366 165/181
2012/0138025 A1* 6/2012 Yoon F02B 29/0456 123/563
2016/0176284 A1* 6/2016 Nugteren F02B 37/16 180/68.3
2017/0122186 A1* 5/2017 Park F02B 29/0412
2017/0254257 A1* 9/2017 Park B60H 1/3211
2018/0178677 A1* 6/2018 Swain F02M 35/048
2019/0292979 A1* 9/2019 Hlavac F28D 7/0066
2020/0040810 A1* 2/2020 Uehane F02B 37/16
2020/0182205 A1* 6/2020 Moyer F02M 35/024
(Continued)

FOREIGN PATENT DOCUMENTS

DE 102009036745 A1 * 2/2011 F02B 29/0431
DE 102011080204 A1 * 2/2013 F02B 29/04
(Continued)

Primary Examiner — Ania Aman
(74) *Attorney, Agent, or Firm* — Condo Roccia Koptiw LLP

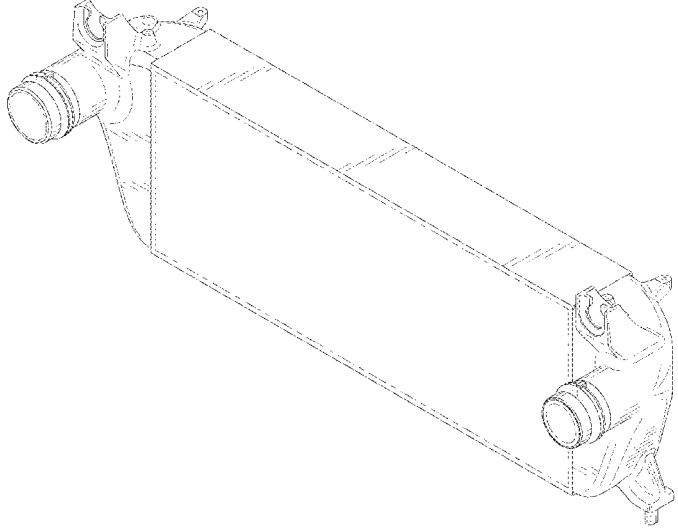
(57) **CLAIM**
The ornamental design for an intercooler for automotive applications, as shown and described.

DESCRIPTION

FIG. 1 is a top front perspective view of the intercooler for automotive applications showing my new design; FIG. 2 is a front elevation view thereof; FIG. 3 is a rear elevation view thereof; FIG. 4 is a right elevation view thereof; FIG. 5 is a left elevation view thereof; FIG. 6 is a top elevation view of the embodiment; and, FIG. 7 is a bottom elevation view of the embodiment. The broken lines shown in the drawings illustrate portions of the intercooler for automotive applications that form no part of the claimed design.

1 Claim, 5 Drawing Sheets

(56) **References Cited**
U.S. PATENT DOCUMENTS
D920,382 S * 5/2021 Tafe D15/5
D931,336 S * 9/2021 Tafe D15/5
2005/0189096 A1* 9/2005 Wilson H01L 23/473 257/E23.098
2008/0271722 A1* 11/2008 Grunenwald F28F 21/083 123/568.12
2009/0314483 A1* 12/2009 Kalbacher F02B 29/0456 165/185



(56)

References Cited

U.S. PATENT DOCUMENTS

2020/0347774 A1* 11/2020 Barrios F02B 29/0418
2020/0370466 A1* 11/2020 Yang F28D 7/1684
2021/0331579 A1* 10/2021 Usuki B60L 50/50

FOREIGN PATENT DOCUMENTS

EP 1512853 A2 * 3/2005 F02B 29/0418
GB 6022639 * 11/2017
JP 2009180482 A * 8/2009

* cited by examiner

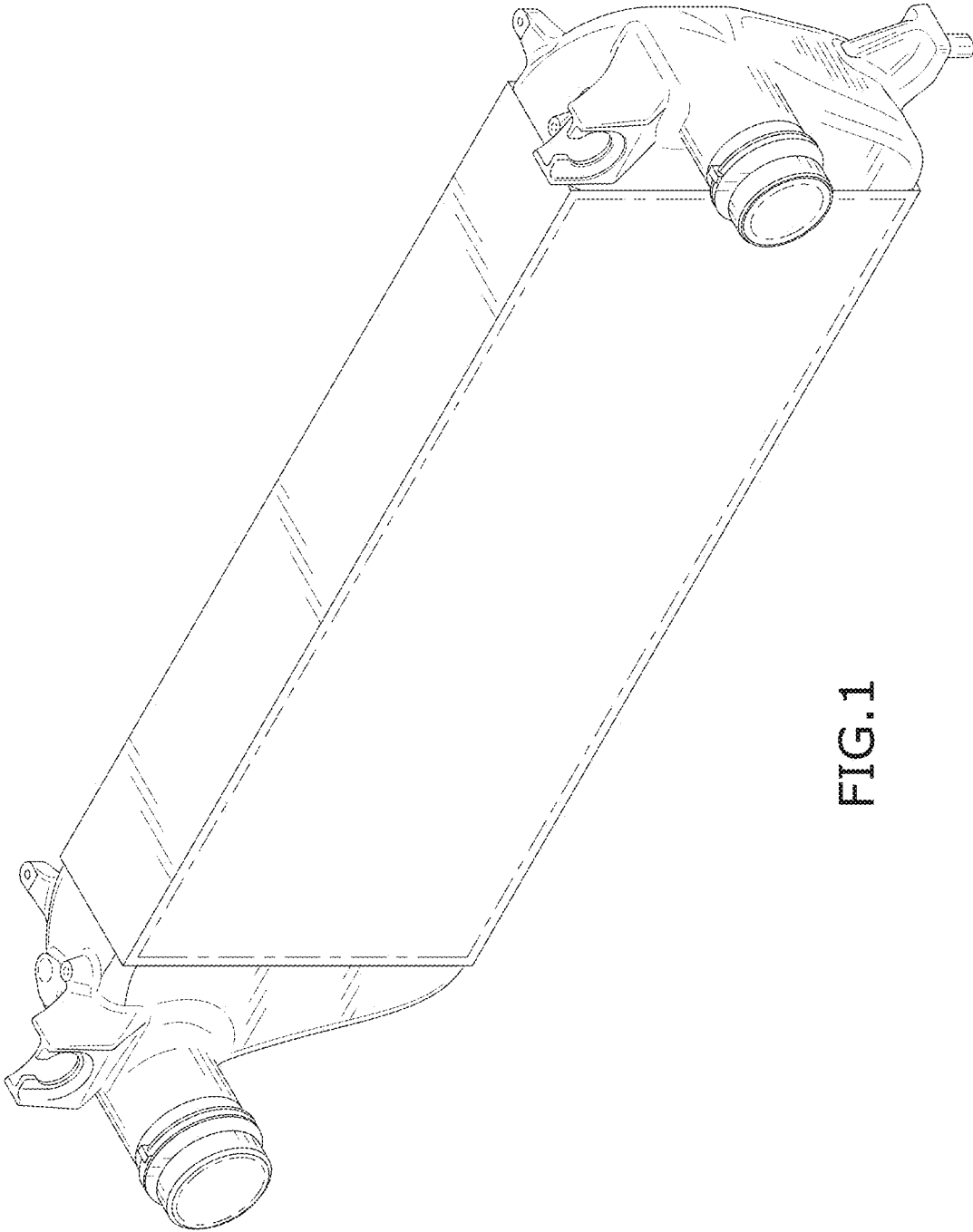


FIG.1

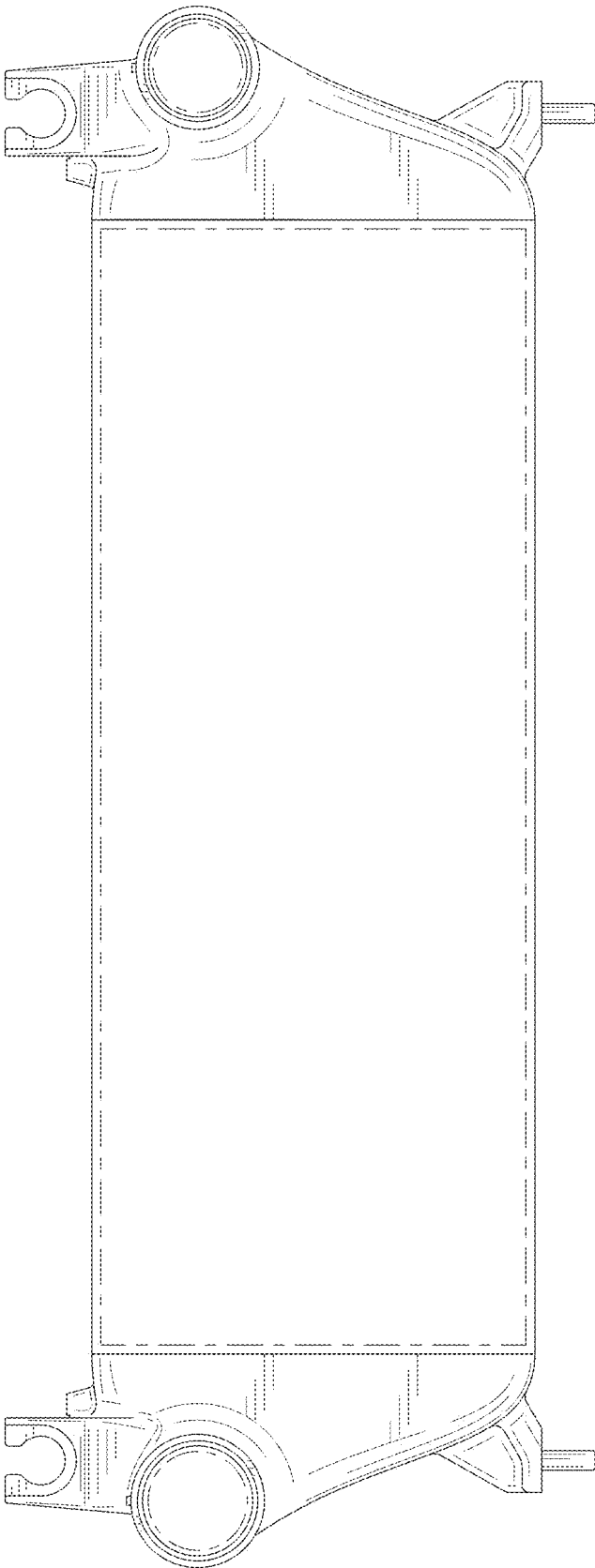


FIG.2

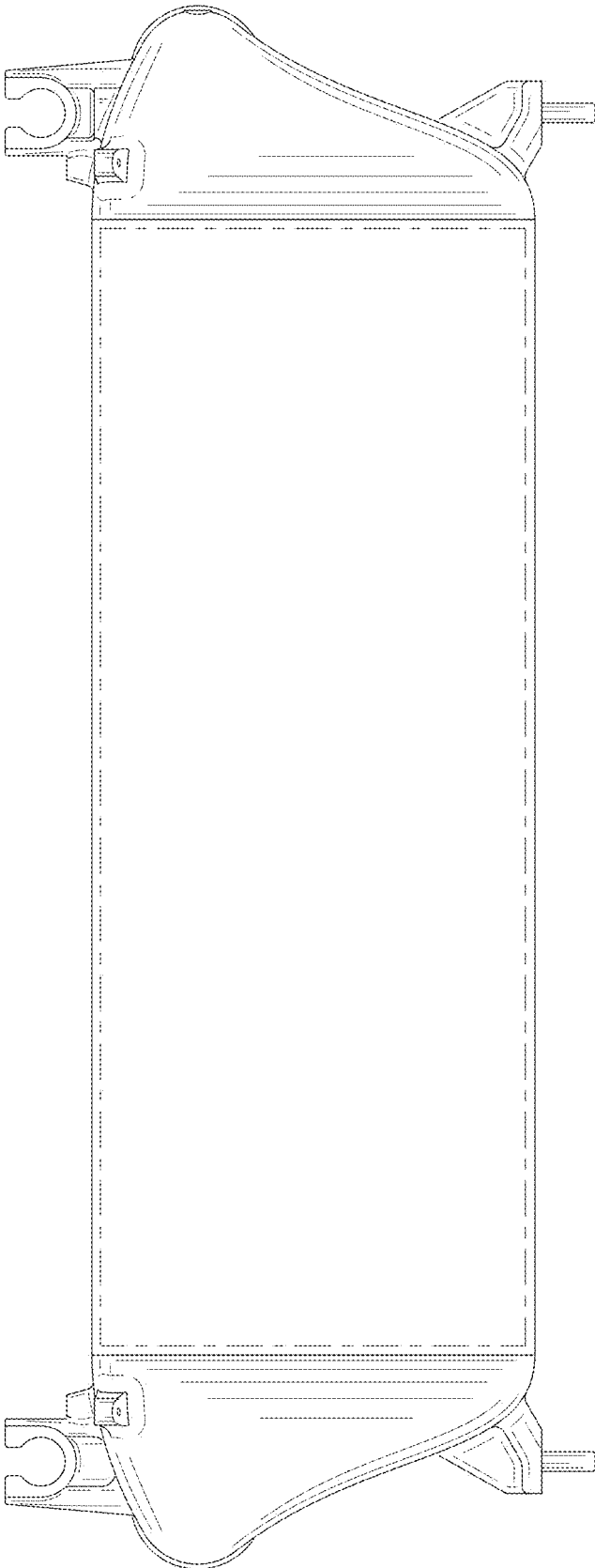


FIG.3

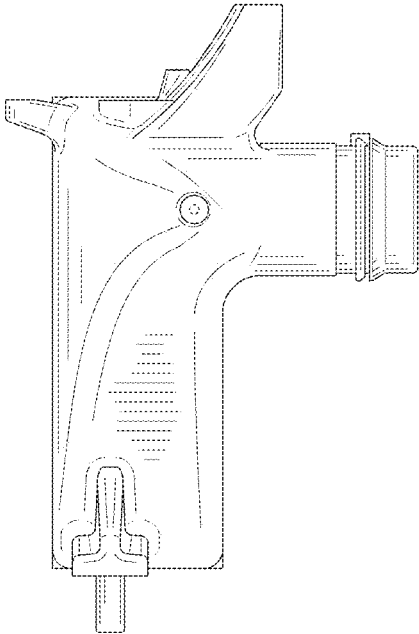


FIG. 4

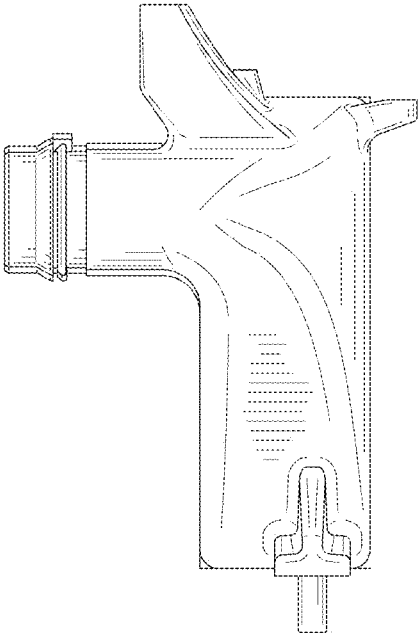


FIG. 5

