UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/929,534	07/15/2020	Derek Wong	KITTP068	2746

21912 7590 08/26/2025

VAN PELT, YI & JAMES LLP
1 1ST ST, STE 12
LOS ALTOS, CA 94022

EXAMINER	
NEDIALKOVA, LILIA V	

ART UNIT	PAPER NUMBER
1724	

NOTIFICATION DATE	DELIVERY MODE
08/26/2025	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@ip-patent.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DEREK WONG,
ALEXIS SHIMANOFF, and ARUNANSHU ROY

Appeal 2024-003687
Application 16/929,534
Technology Center 1700

Before BEVERLY A. FRANKLIN, GEORGE C. BEST, and MERRELL C. CASHION, JR., *Administrative Patent Judges.*

BEST, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals the rejection of claims 1–5, 9, 10, 13–15, and 22 of Application 16/929,534. Final Act. (October 5, 2023). We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we ***affirm***.

---

[1] "Appellant" refers to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies Kitty Hawk Corp. as the real party in interest. Appeal Br. 1.

I. BACKGROUND

The ’534 Application describes a battery system comprising cylindrical battery cells. Spec. ¶ 19. The battery system is intended for use in an electric vertical-off and landing vehicle. *Id.* ¶¶ 1, 19. Claim 1 is representative of the ’534 Application’s claims and is reproduced below from the Appeal Brief’s Claims Appendix.

1. A battery system, comprising:

one or more slide-in brackets, wherein the one or more slide-in brackets are attached to a shelf;

a battery case system, comprising:

a first end plate including a plurality of cutouts;

a plurality of cylindrical cells, including a first cylindrical cell, a second cylindrical cell, a third cylindrical cell, and a fourth cylindrical cell;

an electrical tab fitting entirely within a cutout of the plurality of cutouts, wherein the cutout is a single cutout, wherein the cutout exposes one terminal end of the first cylindrical cell and one terminal end of the second cylindrical cell, and wherein the electrical tab is connected to the first cylindrical cell and the second cylindrical cell using spot welding;

a battery management printed circuit board, wherein the electrical tab provides a connecting surface for a battery management signal between (1) the first cylindrical cell and the second cylindrical cell and (2) the battery management printed circuit board;

a case with a handle and a plurality of vertical guide rails, wherein the plurality of vertical guide rails include a first vertical guide rail and a second vertical guide rail, wherein the first vertical guide rail and the second vertical guide rail are on opposite sides of the case, wherein one or more retaining clips are separate from the case and the one or more slide-in brackets, wherein one retaining clip of the one or more retaining

clips includes a snap-in clip, wherein one slide-in bracket of the one or more slide-in brackets includes a hole, wherein the case is configured to be vertically lowered into the one or more slide-in brackets, wherein after the case has been vertically lowered into the one or more slide-in brackets, the snap-in clip fits into the corresponding hole, and wherein the one or more retaining clips are used to secure the case to the one or more slide-in brackets after the case has been vertically lowered into the one or more slide-in brackets; a battery management system inside the case; and

a display disposed on a top surface of the case, wherein the display is configured to display information from the battery management system, wherein:

the first cylindrical cell and the second cylindrical cell are in a first group of in-parallel cells,

the third cylindrical cell and the fourth cylindrical cell are in a second group of in-parallel cells,

the electrical tab connects: (1) the first cylindrical cell and the second cylindrical cell in parallel, (2) the third cylindrical cell and the fourth cylindrical cell in parallel, and (3) the first group of in-parallel cells and the second group of in-parallel cells in series,

the first cylindrical cell and the third cylindrical cell are in a first row of cells,

the second cylindrical cell and the fourth cylindrical cell are in a second row of cells,

the electrical tab connects a positive terminal of the first cylindrical cell to a positive terminal of the second cylindrical cell, and

the electrical tab connects a negative terminal of the third cylindrical cell to a negative terminal of the fourth cylindrical cell.

Appeal Br. 8–9.

II. REJECTIONS

On appeal, the Examiner maintains the following rejections:

1. Claims 1–5, 9, 10, and 13–15 under 35 U.S.C. § 103 as unpatentable over the combination of Zeller,[2] Bohan,[3] Confer,[4] and Yamagami.[5] Final Act. 2.

2. Claim 22 under 35 U.S.C. § 103 as unpatentable over the combination of Zeller, Bohan, Confer, Yamagami, and Shirai.[6] Final Act. 13.

III. DISCUSSION

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Cf. Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) ("[I]t has long been the Board's practice to require an applicant to identify the alleged error in the examiner's rejections . . . .")).

Upon consideration of the appeal record and each of Appellant's contentions, we determine that Appellant has not identified reversible error in the Examiner's rejections. Accordingly, we sustain the rejections substantially based on the fact findings and for the reasons expressed by the

---

[2] US 2017/0025717 A1, published January 26, 2017.

[3] US 2013/0082661 A1, published April 4, 2013.

[4] US 2020/0321569 A1, published October 8, 2020.

[5] EP 2 403 031 A1, published January 4, 2012.

[6] US 5,019,767, issued May 28, 1991.

Examiner in the Final Office Action and Examiner's Answer. We add the following for emphasis.

A. Rejection of claims 1–5, 9, 10, and 13–15 over the combination of Zeller, Bohan, Confer, and Yamagami

Claims 1 and 13 are independent. *See* Appeal Br. 8–12. Appellant does not present separate arguments for the patentability of any of the dependent claims but states that the dependent claims are allowable for the same reasons that the independent claims are allowable. *Id.* at 7. Furthermore, Appellant does not distinguish between claims 1 and 13 in its arguments for reversal of the rejection of each of these claims. *Id.* at 5–7.

In view of the foregoing, we limit our discussion to claim 1 with the understanding that our reasoning applies equally to the rejection of claim 13.

Appellant argues that the rejection of claim 1 should be reversed for either of two reasons. *Id.* We address each argument in turn.

First, Appellant argues that the rejection of claim 1 should be reversed because the combination of Zeller, Bohan, Confer, and Yamagami does not describe or suggest each of claim 1's limitations. Appeal Br. 5–6. In the relevant part, claim 1 recites "an electrical tab . . . the electrical tab is connected to the first cylindrical cell and the second cylindrical cell using *spot* welding." *Id.* at 8 (emphasis added). Appellant argues that the Examiner reversibly erred by finding that Zeller's paragraph 39 describes or suggests this limitation. *Id.* at 5–6.

We are not persuaded by this argument.

In the Final Action, the Examiner found that Zeller's paragraph 39 describes structure that corresponds to the recited electrical tab and which may be welded to the first and second battery cells. Final Act. 3. Spot

welding is one type of welding and has advantages relative to other types of welding—e.g., arc-welding—in some circumstances. In the Answer, the Examiner explained that a person having ordinary skill in the art would have known that bonding connector elements such as electrical tabs to battery cells is one such situation. Ans. 15–16.[7]

We do not discern reversible error in the Examiner's findings and reasoning.

Second, Appellant argues that the rejection of claim 1 should be reversed because at least one applied reference, Confer, is not analogous art. Appeal Br. 6–7.

We are not persuaded by this argument.

For a reference to be used as part of an obviousness rejection of Appellant's claims, the reference must be analogous art to the claimed invention. *In re Kahn*, 441 F.3d 977, 986–87 (Fed. Cir. 2006). A reference is analogous if it is either (1) in the field of the inventor's endeavor or (2) reasonably pertinent to the particular problem with which the inventor was concerned. *Id.*

For the following reasons, we agree with the Examiner that Confer is within the inventors' field of endeavor. *See* Answer. 16–17.

As an initial matter, we disagree with Appellant's characterization of the nature of the claimed invention. Appellant argues that "[t]he claimed invention is directed to 'electrical take-off and landing (eVTOL) vehicles.'" Appeal Br. 6 (citing Spec. ¶ 19). Claim 1, however, does not recite any limitations incorporating an eVTOL vehicle or making the claimed battery

[7] Appellant did not file a Reply Brief.

system uniquely suitable for use in such vehicles. As currently written, claim 1 is directed to a "battery system" in general.

We begin our determination of the inventors' field of endeavor by referring to the '534 Application's Specification. *See In re Mettke,* 570 F.3d 1356, 1359 (Fed. Cir. 2009) (relying on specification to determine applicant's field of endeavor). The Specification is focused on components for use in eVTOL vehicles. *See, e.g.*, Spec. ¶¶ 1, 19.

We, however, do not consider the field of endeavor to be restricted solely to eVTOL vehicles. The scope of analogous art is construed broadly. *Wyers v. Master Lock Co*., 616 F.3d 1231, 1238 (Fed. Cir. 2010).

Battery systems used in electric vehicles of any type face a common set of criteria including the battery size, weight, reliability, charging speed, etc. While the relative importance of these criteria varies according to the specific vehicle type, improvements in battery systems for one or of electric vehicle very likely are equal to battery systems in other types of electric vehicles. In view of these common factors, we identify the Inventors' field of endeavor as battery systems for use in electric vehicles. *Cf. In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986) (determining that the cited references were in the same field of endeavor where they "have essentially the same function and structure" as the claimed apparatus).

Confer describes battery systems used in industrial material handling vehicles. Confer ¶¶ 3–13. Thus, the Examiner did not reversibly err by finding that Confer is analogous art and may be used in an obviousness rejection of the claimed invention.

B. Rejection of claim 22 over the combination of Zeller, Bohan, Confer, Yamagami, and Shirai

Claim 22 depends from claim 1. Appeal Br. 12. Appellant does not present separate arguments for reversal of the rejection of claim 22. *Id.* at 7. Instead, Appellant argues that the rejection of claim 22 should be reversed based on the arguments Appellant presented for reversal of the rejection of claim 1. *Id.*

Because we have affirmed the rejection of claim 1, we also affirm the rejection of claim 22.

IV. DECISION SUMMARY

The following table summarizes the outcome of this appeal:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–5, 9, 10, 13–15	103	Zeller, Bohan, Confer, Yamagami	1–5, 9, 10, 13–15	
22	103	Zeller, Bohan, Confer, Yamagami, Shirai	22	
Overall Outcome			1–5, 9, 10, 13–15, 22	

V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED