

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ascend Elements, Inc.,

Petitioner

v.

Duesenfeld GmbH,

Patent Owner.

IPR2024-00948

U.S. Patent No. 11,050,097

PATENT OWNER'S CONTINGENT MOTION TO AMEND

TABLE OF CONTENTS

TABLE OF EXHIBITS	3
I. INTRODUCTION	7
II. STATEMENT OF REQUESTED RELIEF	7
A. Request for Preliminary Guidance	7
B. Request for Substitute Claims	7
C. Request for Waiver of Conference Requirement	7
III. OVERVIEW OF THE PROPOSED SUBSTITUTE CLAIMS	8
IV. THE MOTION TO AMEND MEETS ALL STATUTORY AND REGULATORY REQUIREMENTS OF 35 U.S.C. § 316 and 37 C.F.R. § 42.121	12
A. Listing of Proposed Substitute Claims	12
B. The Number of Substitute Claims is Reasonable	12
C. The Substitute Claims Do Not Enlarge the Scope of the Claims of the Patent	13
D. The Substitute Claims Do Not Introduce New Matter	13
1. Claims based on claim 1	15
2. Claims based on claim 12	16
E. The Substitute Claims Respond to a Ground of Patentability Involved in this Trial	18
V. CONCLUSION	20
CLAIM LISTING	22
CERTIFICATE OF SERVICE	31

TABLE OF EXHIBITS

Ex. 2001	Declaration of Vani Dantam in support of Patent Owner's Preliminary Response to the Petition ("Dantam Declaration")
Ex. 2002	Gao Liu et al., <i>Binder Interactions in the Electrodes of the Lithium-ion Batteries</i> , TFUG Conference, February 17, 2009 ("Gao")
Ex. 2003	DE 102012024876 A1 to Electrocyling GmbH ("Electrocyling") (English)
Ex. 2004	U.S. Patent No. 7,198,865 to Sloop ("Ecobat")
Ex. 2005	WO 2010/149611 A1 to LiMotive Company Ltd. ("LiMotive") (English)
Ex. 2006	WO 2010/149611 A1 to LiMotive Company Ltd. ("LiMotive") (German)
Ex. 2007	DE 102012024876 A1 to Electrocyling GmbH ("Electrocyling") (German)
Ex. 2008	Yang et al., <i>Thermal Stability of LiPF₆ Salt and Li-Ion Battery Electrolytes Containing LiPF₆</i> , Journal of Power Sources 161, 573 (2006) (Preprint) ("Yang")
Ex. 2009	Gnanaraj et al., <i>A Detailed Investigation of the Thermal Reactions of LiPF₆ Solution in Organic Carbonates Using ARC and DSC</i> , Journal of the Electrochemical Society, 150(11), A1533 (2003) ("Gnanaraj")
Ex. 2010	Certification of Translation of the Electrocyling Patent
Ex. 2011	Certification of Translation of the Limotive Patent
Ex. 2012	Duesenfeld GmbH Website – Recycling [https://www.duesenfeld.com/recycling_en.html]
Ex. 2013	Ascend Elements Press Release
Ex. 2014	<i>Ascend Elements, Inc.'s Answer to Complaint</i> , Case No. 1-23-cv-01194 (D. Del.)
Ex. 2015	Scheduling Order in Case No. 23-1194-JFM
Ex. 2016	Email from J.Stiel to J.Ploger (dated Dec. 6, 2023)(German)
Ex. 2017	Email from J.Stiel to J.Ploger (dated Dec. 6, 2023)(English)
Ex. 2018	Certification of Translation of Email from J.Stiel to J.Ploger (dated Dec. 6, 2023) and of Kwade, et al. (Ex. 2020, below)
Ex. 2019	Christian Hanish et al., <i>Recycling von Lithium-Ionen-Batterien – das Projekt LithoRec</i> , Recycling und Rohstoffe, January 2012 ("Kwade, et al.") (German)

Ex. 2020	Christian Hanish et al., <i>Recycling von Lithium-Ionen-Batterien – das Projekt LithoRec</i> , Recycling und Rohstoffe, January 2012 (“Kwade, et al.”) (English)
Ex. 2021	Yang et al., <i>Thermal Stability of LiPF₆ Salt and Li-Ion Battery Electrolytes Containing LiPF₆</i> , Journal of Power Sources 161, 573 (2006)
Ex. 2022	Declaration of Vani Dantam in support of Patent Owner’s Response to the Petition (“Dantam POR Declaration”)
Ex. 2023	<i>Duesenfeld GmbH v. Ascend Elements, Inc.</i> , No. 1:23-cv-01194-JFM (D. Del. Oct. 30, 2024), ECF No. 62
Ex. 2024	Deposition transcript of Walter van Schalkwijk, dated February 6, 2025
Ex. 2025	N. Somsuk et al., <i>Design and Development of a Rotary Airlock Valve for using in Continuous Pyrolysis Process to Improve Performance</i> , 2010 International Conference on Manufacturing Science and Technology (ICMST 2010)
Ex. 2026	Water boiling point as function of absolute pressure available at: https://www.engineeringtoolbox.com/water-evacuation-pressure-temperature-d_1686.html
Ex. 2027	DIN 24 800 (English)
Ex. 2028	DIN 24 800 (German)
Ex. 2029	Certificate of Translation for DIN 24 800
Ex. 2030	Bin-Dicator® Installation & Operation Manual (2013)
Ex. 2031	Screenshot of Meyer Rotary Valve Basics video available at: https://www.youtube.com/watch?v=iwjyRePPIt4
Ex. 2032	Boiling point for DMC, available at: https://www.univarsolutions.com/dimethyl-carbonate-5004710?srsltid=AfmBOorjj92rfTGG8ShR_L1YJ7zHq_g7jd5HIM9uvXuqBooKXSIVZw8a
Ex. 2033	Boiling point for EMC, available at: https://www.msесupplies.com/products/high-purity-ethyl-methyl-carbonate-c-4-h-8-o-3-99-99-4n?srsltid=AfmBOoqUr1g_4hUH5zYLI-kjf8M3Z-cqlnYULkbD2h_WRok0GU30TOI
Ex. 2034	Vacuum Guide, available at: https://www.vacuum-guide.com/english/equipment/evacuation_time_vacuum_pump_

	sizing.htm
Ex. 2035	U.S. Patent No. 5,405,231 (“Kronberg”)
Ex. 2036	Confidential Appendix C to Declaration of Vani Dantam [PROTECTIVE ORDER MATERIAL]
Ex. 2037	Confidential Appendix D to Declaration of Vani Dantam [PROTECTIVE ORDER MATERIAL]
Ex. 2038	Screenshots of YouTube Duesenfeld plant video, available at https://www.youtube.com/watch?v=g1Ij4Emz8XQ (“How to recycle lithium-ion batteries? – Closing the loop in e-mobility”, Dec. 6, 2023)
Ex. 2039	Meyer Rotary Valve Basics Video Transcript, available at: https://www.youtube.com/watch?v=iwjyRePPIt4
Ex. 2040	Declaration of Lydia Grote in support of Patent Owner’s Response to the Petition (“Grote POR Declaration”) [PROTECTIVE ORDER MATERIAL]
Ex. 2041	Duesenfeld GmbH Wendeburg plant processing conditions [PROTECTIVE ORDER MATERIAL]
Ex. 2042	German regulations available at https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/kreislaufwirtschaftsgesetz_en_bf.pdf (English translation)
Ex. 2043	Certification from Braunschweig State Trade Supervisory Office to Duesenfeld (German) [PROTECTIVE ORDER MATERIAL]
Ex. 2044	Certification from Braunschweig State Trade Supervisory Office to Duesenfeld (English) [PROTECTIVE ORDER MATERIAL]
Ex. 2045	Translation Certification of Certification from Braunschweig State Trade Supervisory Office to Duesenfeld
Ex. 2046	Duesenfeld GmbH Preliminary Financial Statements 2021 and 2022 (German)

	[PROTECTIVE ORDER MATERIAL]
Ex. 2047	Duesenfeld GmbH Preliminary Financial Statements 2021 and 2022 (English)
	[PROTECTIVE ORDER MATERIAL]
Ex. 2048	Translation Certificates - Duesenfeld GmbH Preliminary Financial Statements 2021 and 2022
Ex. 2049	License Agreement
	[PROTECTIVE ORDER MATERIAL]
Ex. 2050	License Agreement
	[PROTECTIVE ORDER MATERIAL]
Ex. 2051	Press Release: <i>Seval and Riplastic will be the first industrial operators in Italy for the recycling of lithium-ion batteries</i> , dated June 11, 2024
Ex. 2052	Press Release: <i>Andritz and Duesenfeld sign cooperation agreement for battery recycling</i> , dated February 10, 2025
Ex. 2053	Duesenfeld Brochure: Ecofriendly Recycling of Lithium-Ion Batteries
Ex. 2054	U.S. Application No. 15/569,484 (“the ’484 application”) Specification
Ex. 2055	Emails of January 29, 2025 and February 7, 2025 requesting conference prior to motion to amend
Ex. 2056	Decision of the European Patent Office in Opposition Proceeding 16 719 400.0 relating to EP 3 289 627
Ex. 2057	Machine Translation of Decision of the European Patent Office in Opposition Proceeding 16 719 400.0 relating to EP 3 289 627
Ex. 2058	Complaint for Annulment of EP 3 312 922
Ex. 2059	Machine Translation of Complaint for Annulment of EP 3 312 922

I. INTRODUCTION

Duesenfeld GmbH (“Patent Owner”) submits this Motion to Amend U.S. Patent No. 11,050,097 (“the ’097 patent”), contingent upon the Board’s determinations of patentability for originally-issued claims.

II. STATEMENT OF REQUESTED RELIEF

Patent Owner requests the following relief:

A. Request for Preliminary Guidance

First, Patent Owner requests preliminary guidance on this motion pursuant to 37 C.F.R. § 42.121(a)(1)(ii) (effective Oct. 18, 2024) and the Board’s pilot program.

B. Request for Substitute Claims

Second, to the extent the Board finds any of issued claims 1, 2, 3, 7, 8, 9, 10, 12, 13, and/or 19 unpatentable in this proceeding, Patent Owner respectfully requests that the Board grant this motion with respect to each corresponding substitute claim. The Board should not consider this motion for any of issued claims 1, 2, 3, 7, 8, 9, 10, 12, 13, and/or 19 that the Board finds to be patentable.

C. Request for Waiver of Conference Requirement

Third, to the extent necessary, Patent Owner requests waiver of the requirement of Part A.6. of the Scheduling Order to confer with the Board prior to filing a Motion to Amend. Patent Owner attempted to arrange such a conference by emails to trials@uspto.gov and all counsel of record dated January 29, 2025 and February 7, 2025. (Ex. 2055). Because Patent Owner attempted to confer and

because Motions to Amend are authorized by statute, *see* 35 U.S.C. § 316(d), Patent Owner respectfully requests waiver of the conference requirement.

III. OVERVIEW OF THE PROPOSED SUBSTITUTE CLAIMS

This Motion presents ten substitute claims (“Proposed Substitute Claims”), one for each of claims 1, 2, 3, 7, 8, 9, 10, 12, 13, and/or 19. Each Proposed Substitute Claim is written as an independent claim that (1) begins with the limitations of either independent claim 1 or independent claim 12 and (2) further narrows the respective claim. The correspondence between Proposed Substitute Claims, the original claims, and the added limitations is shown in the following table. The ordering of claims is chosen to most closely overlap the Motion to Amend already filed in co-pending IPR2024-00887.

Proposed Substitute Claim	Original Claim	Substitute Claim Content
22	1	The limitations of method claim 1, plus: <u>wherein the drying uses a drying device operated in batch mode</u> and the claim is limited to drying after comminution.
23	2	The limitations of method claim 1, plus: <u>wherein the drying uses a drying device operated in batch mode; and</u> <u>(d) producing, during the drying, a gaseous electrolyte component recoverable by condensation</u>

		and the claim is limited to drying after comminution.
24	3	The limitations of method claim 1, plus: <u>wherein the drying uses a drying device operated in batch mode</u> <u>wherein the drying is such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent</u> and the claim is limited to drying after comminution.
25	8	The limitations of method claim 1, plus: <u>wherein the drying occurs at temperature of 80 °C or less;</u> <u>wherein the drying uses a drying device operated in batch mode</u> <u>(d) producing, during the drying, a gaseous electrolyte component recoverable by condensation</u> and the claim is limited to drying after comminution.
26	12	The limitations of installation claim 12, plus: a drying device <u>operated in batch mode</u> <u>the drying device operates with a pressure of 300 hPa or less</u> and the claim is limited to drying after comminution.
27	13	The limitations of installation claim 12, plus: a drying device <u>operated in batch mode</u>

		<u>the drying device operates with a pressure of 300 hPa or less</u> <u>the drying device configured to produce a gaseous electrolyte component recoverable by condensation</u> and the claim is limited to drying after comminution.
28	10	The limitations of installation claim 12, plus: a drying device <u>operated in batch mode</u> <u>the drying device operates with a pressure of 300 hPa or less</u> <u>drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent</u> and the claim is limited to drying after comminution.
29	19	The limitations of installation claim 12, plus: a drying device <u>operated in batch mode</u> <u>the drying device operates with a pressure of 300 hPa or less</u> <u>the drying device configured to produce a gaseous electrolyte component recoverable by condensation</u> <u>by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent</u> <u>the drying occurs at temperature of 80 °C or less</u>

		and the claim is limited to drying after comminution.
30	7	The limitations of method claim 1, plus: <u>wherein the drying occurs at a temperature such that almost no Hydrogen Fluoride is produced</u> <u>wherein the drying uses a drying device operated in batch mode</u> <u>(d) producing, during the drying, a gaseous electrolyte component recoverable by condensation</u> and the claim is limited to drying after comminution.
31	9	The limitations of installation claim 12, plus: a drying device <u>operated in batch mode</u> <u>the drying device operates with a pressure of 300 hPa or less</u> <u>the drying device configured to produce a gaseous electrolyte component recoverable by condensation</u> <u>by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent</u> <u>wherein the drying occurs at a temperature such that almost no Hydrogen Fluoride is produced</u> and the claim is limited to drying after comminution.

IV. THE MOTION TO AMEND MEETS ALL STATUTORY AND REGULATORY REQUIREMENTS OF 35 U.S.C. § 316 AND 37 C.F.R. § 42.121

A motion to amend must (1) propose a reasonable number of substitute claims, (2) that respond to a ground of unpatentability involved in the trial (3) that do not enlarge the scope of the claims or introduce new matter, and (4) are not shown by a preponderance of the evidence to be unpatentable. *See* Memorandum re: Guidance on Motions to Amend in view of *Aqua Products* (Nov. 21, 2017) at 2; 35 U.S.C. § 316(d); 37 C.F.R. § 42.121. It is Petitioner’s burden to show that the substitute claims are unpatentable. *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 4 (PTAB Feb. 25, 2019) (precedential) (“*Lectrosonics*”).

A. Listing of Proposed Substitute Claims.

Patent Owner provides a Claim Listing, as required by 37 C.F.R. § 42.121(b), in the attached appendix entitled “Claim Listing”.

B. The Number of Substitute Claims is Reasonable.

“There is a rebuttable presumption that a reasonable number of substitute claims per challenged claim is one (1) substitute claim.” *Lectrosonics* at 4. In this proceeding, 10 claims are at issue. Patent Owner proposes 10 substitute claims, which is reasonable (due to being equal to the number of challenged claims) and thus satisfies 35 U.S.C. § 316(d)(1)(B) and 37 C.F.R. § 42.121(a)(3). *See Intuitive Surgical, Inc. v. Ethicon LLC*, IPR2018-00933, Paper 31 at 9 (PTAB Dec. 3, 2019); *see also Lectrosonics* at 4-5.

C. The Substitute Claims Do Not Enlarge the Scope of the Claims of the Patent

The Proposed Substitute Claims do not “enlarge the scope of the claims of the patent”. 35 U.S.C. § 316(d)(3). Specifically, each Proposed Substitute Claim begins with the language of either independent claim 1 or independent claim 12, and provides only narrowing amendments thereto. Thus, there is no Proposed Substitute Claim that would encompass any “conceivable apparatus or process which would not have infringed the original patent.” *Sisvel Int’l v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1237-38 (Fed. Cir. 2023) (internal citation and quotation omitted); *Lectrosonics* at 6-7 (“A substitute claim will meet the requirements of § 42.121(a)(2)(i) and (ii) if it narrows the scope of at least one claim of the patent”).

D. The Substitute Claims Do Not Introduce New Matter

As required by 37 C.F.R. § 42.121(b), the Proposed Substitute Claims are supported by the original application and thus do not introduce new subject matter as required by 37 C.F.R. § 42.121(a)(2)(ii).

The application leading to the ’097 patent (U.S. Application No. 15/569,484)(“**the ’484 application**”) was filed on October 26, 2017, and is a national stage application of PCT/EP2016/059526 filed April 28, 2016. The ’097 patent further claims priority to DE 10 2015 207 843.4 filed April 28, 2015. (Ex. 1001).

For the purposes of this motion, Patent Owner identifies the following portions of the '484 Application as providing written description support for the Proposed Substitute Claims.¹ The written description of the '484 Application is sufficient to inform a PHOSITA how to both make and use the invention as recited in the proposed Substitute Claims. Exemplary citations for each limitation of the Proposed Substitute Claims are summarized below. Citations to the '484 application below are to Exhibit 2054, which is presented for the Board's convenience. Although the '484 application was submitted together with the file history (Ex. 1002), the page numbers of Exhibit 1002 do not align with the PDF page number, or the application page number. In Ex. 2054, the page numbering of the application corresponds to PDF page number. Citations to Ex. 2054 are in the form page:lines.

The Proposed Substitute Claims begin with the language of either claim 1 or claim 12 (where each claim has been further limited to drying only after comminution), and are presented in independent form. For convenience, support for claims 1 and 12 are discussed below, followed by the additional limitations presented in the Proposed Substitute Claims.

¹ The '484 Application is a translation of PCT/EP2016/059526, which was filed as a copy of DE 10 2015 207 843.4. Thus, citations to the '484 Application are also effectively citations to the priority applications of the '097 patent.

1. Claims based on claim 1

Independent Claim 1	
Claim Language	Exemplary Support in '484 Application (Ex. 2054)
1. A method for the treatment of used batteries, comprising the steps:	1:4-9, 3:15-17, 12:29-15:1, Fig. 1, Fig. 2, 15:3-14, claim 1.
(a) comminuting the batteries such that comminuted material is obtained;	1:4-9, 13:5-19, 15:25-32, claim 1.
(b) inactivating the comminuted material such that an inactivated comminuted material is obtained, wherein the inactivating step is performed [during or] after the comminuting step; and	1:4-9, 2:9-11, 3:6-9, 3:23-4:3, 13:9-28, 14:9-20, claim 1.
(c) filling a transport container with the inactivated comminuted material;	1:4-9, 3:19-21, 9:25-31, 10:6-11, 11:20-27, 12:8-11, 14:19-27, 16:7-18, claim 1.
wherein the inactivating step is performed by drying the comminuted material, and	1:11-16, 2:9-11, 3:6-9, 3:23-4:3, 13:15-28, claim 1.
wherein the drying occurs at a maximum pressure of 300 hPa.	4:16-25, 13:21-32.

Proposed Substitute Claims 22-25 and 30 include all of the above-recited claim limitations. Proposed Substitute Claims 22-25 and 30 also add the following elements, which are described in the '484 application as follows.

- drying after comminution: 3:23-4:3, 7:5-12, 13:9-19, Fig. 1, rn 18, 26;
- wherein the drying uses a drying device operated in **batch** mode: 10:17-21;

- producing, during the drying, a **gaseous electrolyte** component recoverable by condensation: 8:4-14, 10:26-11:3, 14:4-9;
- wherein the comminuted material is dried until an electrolyte content in the comminuted material is so low that an **electrochemical reaction** is impossible or only to a negligibly small extent: Abstract, 2:15-18, 6:5-14, 10:17-18, claim 2;
- wherein the drying occurs at a temperature such that almost no **Hydrogen Fluoride** is produced: 7:33-8:1, 2:21-3:4, 4:18-25; and
- wherein the drying occurs at temperature of **80 °C** or less: 2:21-3:4, 4:18-25, 7:33-8:1.

2. Claims based on claim 12

Independent Claim 12	
Claim Language	Exemplary Support in '484 Application (Ex. 2054)
12. A battery processing installation for treatment of used batteries, comprising:	1:11-15, 3:15-17, Fig. 2, Fig. 3, 15:3-14, claim 7.
(a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;	1:11-16, 13:5-19, 15:25-32, claim 7.
(b) an inactivation device comprising a drying device configured to inactivate the comminuted material, wherein the inactivation device is configured to perform the inactivating step [during or]	1:11-16, 2:9-11, 3:6-9, 3:23-4:3, 13:9-28, 14:9-20, claim 7.

after the comminuting step of the comminution unit;	
(c) a filling device configured to fill a transport container with the inactivated comminuted material; and	1:11-16, 3:19-21, 9:25-31, 10:6-11, 11:20-27, 12:8-11, 14:19-27, 16:7-18, claim 7.
(d) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device.	4:5-7, 4:16-25, 7:14-24, 11:10-18, 13:21-14:12, claim 7.

Proposed Substitute Claims 26-29 and 31 include all of the above-recited claim limitations. Proposed Substitute Claims 26-29 and 31 also add the following elements, which are described in the '484 application as follows.

- drying after comminution: 3:23-4:3, 7:5-12, 13:9-19, Fig. 1, rn 18, 26;
- operated in **batch** mode: 10:17-21;
- a condenser configured to recover a **gaseous electrolyte** component produced during the drying by condensation: 8:4-14, 10:26-11:3, 14:4-9;
- by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an **electrochemical reaction** is impossible or only to a negligibly small extent: Abstract, 2:15-18, 6:5-14, 10:17-18, claim 8;
- wherein the drying occurs at a temperature such that almost no

Hydrogen Fluoride is produced: 7:33-8:1,2:21-3:4, 4:18-25; and

- **wherein the drying occurs at temperature of 80 °C or less:** 2:21-3:4, 4:18-25, 7:33-8:1; and
- **such that the drying device operates with a pressure of 300 hPa or less:** 4:16-25, 13:21-32.

E. The Substitute Claims Respond to a Ground of Patentability Involved in this Trial.

Proposed Substitute Claims 22-31 respond to a ground of patentability involved in this trial. For example, each of claims 22-31 now contains a limitation requiring a dryer, or drying, operating in a batch mode. This addresses the grounds in the Petition. The Petition proposes four grounds, each relying on U.S. Patent No. 9,780,419 (“Hanisch”)(Ex. 1004) as the primary reference teaching a “pre-dryer” or “high-temperature drying”. Neither Hanisch’s pre-dryer, nor its high-temperature drying, however, employs a batch drying device. Thus, each of the claims excludes Hanisch, and the combination of Hanisch with another reference to reach the new claims would not have the necessary motivation.

F. Disclosure of Other Proceedings and References

A European patent (EP 3 289 627) related to the ’097 patent by common priority was subject to an opposition proceeding at the European Patent Office. A copy of the EPO’s decision is attached as Exhibit 2056, with a DeepL machine

translation provided as Ex. 2057. The documents considered during the opposition proceeding are listed on pages 1-2 of both documents.

Patent Owner notes that U.S. Patent Application No. 17/181,311 and U.S. Patent Application No. 18,377,011 are currently pending. These applications are assigned to Patent Owner. These applications are not in the same patent family as the '097 patent at-issue here, but are directed to methods for treatment of comminuted batteries and associated battery processing installations. The claims in both pending applications currently stand rejected under 35 U.S.C. § 103 in Non-Final Office Actions in view of the following references: U.S. Patent Application Publication 2008/0050295 ("Uchida"), WO2013/023640 ("Hanisch"), U.S. Patent Application Publication 2007/0196725 ("Tedjar"), and/or U.S. Patent Application Publication 2021/0040581 ("Song").

Another patent owned by Patent Owner (EP 3 312 922, or "EP '922") is the subject of an invalidity action, filed April 23, 2024 in the German Patent Court by No Canary GmbH ("Challenger"). EP '922 is not in the same patent family as the '097 patent at-issue here, but is also directed to methods for treatment of comminuted batteries and associated battery processing installations. The Challenger's complaint (submitted as Ex. 2058 with a DeepL machine translation as Ex. 2059) cites 16 references, listed on pages 4-5 of the original document and machine translation.

V. CONCLUSION

For any original claim among claims 1, 2, 3, 7, 8, 9, 10, 12, 13, and/or 19 the Board might find unpatentable, Patent Owner requests the Board grant this contingent motion to amend as to the corresponding Substitute Claim.

Date: <u>February 14, 2025</u>	<u>/Matthew A Smith/ (RN 49,003)</u> Matthew A. Smith Reg. No. 49,003 SMITH BALUCH LLP 700 Pennsylvania Ave. SE, 2nd floor Washington, DC 20003 (202) 669-6207 smith@smithbaluch.com <i>Counsel for Patent Owner</i>
--------------------------------	--

CLAIM LISTING

Below is the claim listing required by *See* 37 C.F.R. § 42.121(b), with brackets [] to identify deleted text and underlining to identify inserted text.

Claim 22, to be substituted for claim 1, if claim 1 is found unpatentable:

[1.] 22. A method for the treatment of used batteries, comprising the steps:

- (a) comminuting the batteries such that comminuted material is obtained;
- (b) inactivating the comminuted material such that an inactivated comminuted material is obtained, wherein the inactivating step is performed [during or] after the comminuting step; and
- (c) filling a transport container with the inactivated comminuted material;

wherein the inactivating step is performed by drying the comminuted material, and wherein the drying occurs at a maximum pressure of 300 hPa[.],
wherein the drying uses a drying device operated in batch mode.

Claim 23, to be substituted for claim 2, if claim 2 is found unpatentable:

[2. The method according to claim 1, wherein the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible.]

23. A method for the treatment of used batteries, comprising the steps:

(a) comminuting the batteries such that comminuted material is obtained;
(b) inactivating the comminuted material such that an inactivated comminuted material is obtained, wherein the inactivating step is performed after the comminuting step; and
(c) filling a transport container with the inactivated comminuted material;
wherein the inactivating step is performed by drying the comminuted material, and wherein the drying occurs at a maximum pressure of 300 hPa,
wherein the drying uses a drying device operated in batch mode; and
(d) producing, during the drying, a gaseous electrolyte component recoverable by condensation.

Claim 24, to be substituted for claim 3, if claim 3 is found unpatentable:

[3. The method according to claim 1, wherein the drying occurs under vacuum.]

24. A method for the treatment of used batteries, comprising the steps:

(a) comminuting the batteries such that comminuted material is obtained;
(b) inactivating the comminuted material such that an inactivated comminuted material is obtained, wherein the inactivating step is performed after the comminuting step; and
(c) filling a transport container with the inactivated comminuted material;
wherein the inactivating step is performed by drying the comminuted material, and

wherein the drying occurs at a maximum pressure of 300 hPa,
wherein the drying uses a drying device operated in batch mode, and
wherein the comminuted material is dried until an electrolyte content in the
comminuted material is so low that an electrochemical reaction is impossible or
only to a negligibly small extent.

Claim 25, to be substituted for claim 8, if claim 8 is found unpatentable:

[8. The method according to claim 1 wherein the batteries are lithium batteries.]

25. A method for the treatment of used batteries, comprising the steps:

(a) comminuting the batteries such that comminuted material is obtained;

(b) inactivating the comminuted material such that an inactivated comminuted
material is obtained, wherein the inactivating step is performed after the
comminuting step; and

(c) filling a transport container with the inactivated comminuted material;

wherein the inactivating step is performed by drying the comminuted material, and

wherein the drying occurs at a maximum pressure of 300 hPa,

wherein the drying occurs at temperature of 80 °C or less,

wherein the drying uses a drying device operated in batch mode; and

(d) producing, during the drying, a gaseous electrolyte component recoverable by
condensation.

Claim 26, to be substituted for claim 12, if claim 12 is found unpatentable:

[12.] 26. A battery processing installation for treatment of used batteries, comprising:

- (a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;
- (b) an inactivation device comprising a drying device, operated in batch mode, configured to inactivate the comminuted material, wherein the inactivation device is configured to perform the inactivating step [during or] after the comminuting step of the comminution unit;
- (c) a filling device configured to fill a transport container with the inactivated comminuted material; and
- (d) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device, such that the drying device operates with a pressure of 300 hPa or less.

Claim 27, to be substituted for claim 13, if claim 13 is found unpatentable:

[13. The battery processing installation according to claim 12, wherein the drying device is configured to dry the comminuted material until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible.]

27. A battery processing installation for treatment of used batteries, comprising:

- (a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;
- (b) an inactivation device comprising a drying device, operated in batch mode, configured to inactivate the comminuted material, wherein the inactivation device is configured to perform the inactivating step after the comminuting step of the comminution unit;
- (c) a filling device configured to fill a transport container with the inactivated comminuted material;
- (d) the drying device configured to produce a gaseous electrolyte component recoverable by condensation; and
- (e) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device, such that the drying device operates with a pressure of 300 hPa or less.

Claim 28, to be substituted for claim 10, if claim 10 is found unpatentable:

[10. The method according to claim 1 further comprising a step of sealing the transport container so as to be dust-tight after the step of filling with the inactivated comminuted material.]

28. A battery processing installation for treatment of used batteries, comprising:

- (a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;
- (b) an inactivation device comprising a drying device, operated in batch mode, configured to inactivate the comminuted material, by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent, wherein the inactivation device is configured to perform the inactivating step after the comminuting step of the comminution unit;
- (c) a filling device configured to fill a transport container with the inactivated comminuted material; and
- (d) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device, such that the drying device operates with a pressure of 300 hPa or less.

Claim 29, to be substituted for claim 19, if claim 19 is found unpatentable:

[19. The battery processing installation of claim 12 wherein the batteries are lithium batteries.]

29. A battery processing installation for treatment of used batteries, comprising:

- (a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;

- (b) an inactivation device comprising a drying device, operated in batch mode, configured to inactivate the comminuted material by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent, wherein the inactivation device is configured to perform the inactivating step after the comminuting step of the comminution unit, and wherein the drying occurs at temperature of 80 °C or less;
- (c) a filling device configured to fill a transport container with the inactivated comminuted material;
- (d) the drying device configured to produce a gaseous electrolyte component recoverable by condensation; and
- (e) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device, such that the drying device operates with a pressure of 300 hPa or less.

Claim 30, to be substituted for claim 7, if claim 7 is found unpatentable:

[7. The method according to claim 1, wherein the drying of the comminuted material is only completed if one or more of the following conditions is met: no flammable or explosive gas mixture is formable above the comminuted material in

the transport container, and the comminuted material is so dry that no flammable or explosive gas mixture is able to emerge in the transport container.]

30. A method for the treatment of used batteries, comprising the steps:

(a) comminuting the batteries such that comminuted material is obtained;

(b) inactivating the comminuted material such that an inactivated comminuted material is obtained, wherein the inactivating step is performed after the comminuting step; and

(c) filling a transport container with the inactivated comminuted material;

wherein the inactivating step is performed by drying the comminuted material, and

wherein the drying occurs at a maximum pressure of 300 hPa,

wherein the drying occurs at a temperature such that almost no Hydrogen Fluoride is produced;

wherein the drying uses a drying device operated in batch mode; and

(d) producing, during the drying, a gaseous electrolyte component recoverable by condensation.

Claim 31, to be substituted for claim 9, if claim 9 is found unpatentable:

[9. The method according to claim 1 wherein drying occurs at a temperature of less than 80° C.]

31. A battery processing installation for treatment of used batteries, comprising:

- (a) a comminution unit configured to comminute the batteries such that comminuted material is obtained;
- (b) an inactivation device comprising a drying device, operated in batch mode, configured to inactivate the comminuted material by drying such that the comminuted material is dried until an electrolyte content in the comminuted material is so low that an electrochemical reaction is impossible or only to a negligibly small extent, wherein the inactivation device is configured to perform the inactivating step after the comminuting step of the comminution unit, and wherein the drying occurs at a temperature such that almost no Hydrogen Fluoride is produced;
- (c) a filling device configured to fill a transport container with the inactivated comminuted material;
- (d) the drying device configured to produce a gaseous electrolyte component recoverable by condensation; and
- (e) a vacuum installation connected to the drying device and configured to generate a vacuum in the drying device, such that the drying device operates with a pressure of 300 hPa or less.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing Patent Owner's Contingent Motion to Amend, together with all exhibits and other documents filed therewith, were served on February 14, 2025 on Petitioner's counsel of record in the above-referenced proceeding, by electronic mail directed to:

ryan@gishpllc.com
josef.schenker@gishpllc.com
andrew@gishpllc.com

Date: February 14, 2025

/Matthew A. Smith/ (RN 49,003)