

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT8318978

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
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ANDREW M. WELCH	12/04/2023
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	18533121
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NAME OF SUBMITTER:	LAURA COPELAND
SIGNATURE:	/LAURA COPELAND/
DATE SIGNED:	12/08/2023
Total Attachments: 4	
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source=Executed Assignment#page2.tif	
source=Executed Assignment#page3.tif	

ASSIGNMENT

Each inventor signing below (an "Assignor") has made or authorized to be made the following one or more patent applications ("Patent Applications"):

U.S. Patent Application No. 18/533,121, filed December 7, 2023, titled HEAT PUMP SYSTEMS WITH CAPACITY MODULATION.

The Patent Applications disclose, whether claimed or unclaimed, one or more inventions ("Inventions"). Assignor believes themselves to be an original inventor or an original joint inventor of the Inventions. Copeland LP ("Assignee"), having a place of business at 1675 W. Campbell Road, Sidney, Ohio 45365-0669, desires to acquire "Intellectual Property" (as defined below) including the Inventions and the Patent Applications.

For US\$1 and other good and valuable consideration, the receipt and adequacy of which is acknowledged, Assignor (a) acknowledges and confirms any prior assignments or obligations to assign, whether by operation of law or agreement, from Assignor to Assignee of any part of the Intellectual Property and (b) agrees to and hereby irrevocably assigns, sells, and transfers all legal and equitable right, title, and interest in and to the Intellectual Property to Assignee. The right, title, and interest will be held and enjoyed by Assignee and Assignee's successors in interest to the full end of any term, and to the full extent, as the Intellectual Property would have been held and enjoyed by Assignor if no assignment, sale, or transfer had been made to Assignee.

The Intellectual Property includes:

1. the Inventions;
2. any improvements to the Inventions conceived by Assignor and subject to an obligation of assignment to Assignee by operation of law or agreement ("Improvements");
3. all patent rights relating to the Inventions and the Improvements, worldwide, including:
 - a. the Patent Applications;
 - b. any application to which any of the Patent Applications claims, can claim, or could have claimed priority or benefit directly or indirectly, where "application" includes (i) applications filed under the laws and

- treaties of the U.S., other countries, regions, and international bodies,
 - (ii) provisional patent applications and nonprovisional patent applications, and
 - (iii) other applications for the protection of intellectual property, including applications for utility models, design patents, and statutory invention registrations;
- c. any application that claims, can claim, or could have claimed priority to or benefit of any application identified in subparts (a)-(b) directly or indirectly (including divisionals, continuations, continuations-in-part, patents of addition, and non-U.S. applications);
 - d. any official grant (including a U.S. Patent) arising from any application identified in subparts (a)-(d);
 - e. any modification or extension of any official grant, identified in subpart (d), including reissues, reexaminations, renewals, substitutes, patents of addition, extensions, and claim amendments in post-grant proceedings; and
 - f. the right to claim priority (including under the Paris Convention) to the applications identified in subparts (a)-(c).
4. all works of authorship by Assignor related to the Intellectual Property described above, whether incorporated in the Patent Applications or not, and including computer code, user interfaces, graphic works, and the Patent Applications (including the written descriptions, the drawings, and the claims) themselves ("Works of Authorship");

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5. all copyrights and other intellectual property rights in the Works of Authorship, worldwide; and
6. all rights to assert, defend, and recover for any past, present, and future infringement, misuse, misappropriation, impairment, unauthorized use, or other violation of any of the Intellectual Property, including for damages accrued prior to execution of this Assignment and pre-issuance damages under 35 U.S.C. § 154(d) or other applicable law .

Assignor requests, in each country in which an application encompassed by the Intellectual Property is filed, any official whose duty it is to make an official grant (such as the Director of the country's Patent Office) to issue the official grant to Assignee.

Assignor represents that Assignor has not entered, and agrees that Assignor will not enter, into any assignment, sale, license, agreement, transfer, or encumbrance that conflicts or will conflict with this Assignment. Assignor further agrees not to challenge or assist or otherwise participate in any challenge to the Intellectual Property (including any rights of the Assignee with respect to the Intellectual Property), whether in a court or before an administrative agency.

Assignor agrees to fully cooperate ("Cooperation") with Assignee and Assignee's successors in interest to (i) acquire and defend title to the Intellectual Property, including to perfect an assignment, sale, or transfer contemplated by this Agreement (ii) make, prosecute, and issue applications encompassed by the Intellectual Property, (iii) defend the validity of the Intellectual Property, and (iv) enforce the Intellectual Property. Cooperation encompasses proceedings before administrative tribunals (such as an appeals board of the United States Patent and Trademark Office or the patent office of any other country, region, or international body) and in courts of law or equity for any country, region, or international body. The proceedings include litigation (such as disputes regarding validity or

infringement), reexamination proceedings, reissue proceedings, interference proceedings, derivation proceedings, opposition proceedings, post-grant review, *inter partes* review, covered business method review, and any similar proceedings.

Cooperation includes, at Assignee's request and without further or other compensation beyond the good and valuable consideration recited above, (i) promptly reviewing and executing all truthful instruments and documents, (ii) promptly providing Assignee with all pertinent facts and documents relating to the Intellectual Property as may be known and accessible to Assignor, and (iii) testifying truthfully, under oath if necessary, orally and in writing.

Assignor irrevocably grants durable power of attorney to Assignee to execute any document necessary to fulfill Assignor's duties of Cooperation on Assignor's behalf in the event that Assignor is unable or unwilling to do so. Assignor agrees that this appointment survives Assignor's death, Assignor's incapacity, and the termination of Assignor's relationship with Assignee.

For any reason, including by operation of law, in any respect and in any jurisdiction:

1. to the extent that the assignment, sale, and transfer fails, Assignor grants Assignee an unconditional, irrevocable, perpetual, worldwide, fully paid-up, royalty-free, exclusive license to the Intellectual Property, including the right to sublicense;
2. to the extent that the exclusive license fails, the exclusive license will operate as a non-exclusive license to the Intellectual Property; and
3. to the extent that the non-exclusive license fails, Assignor grants Assignee, Assignee's successors in interest, and each of their respective direct and indirect customers, a covenant not to sue regarding the Intellectual Property, binding on Assignor's successors in interest.

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If any provision of this Assignment is determined to be invalid or unenforceable for any reason, including by operation of law, all other provisions will remain in full force and effect, and Assignor and Assignee hereby request the court or tribunal making such a finding to substitute an enforceable provision that most closely reflects the original.

Assignor grants Harness, Dickey & Pierce, P.L.C. the power and authority to, after execution of this Assignment, (i) insert the corresponding application number and filing date if blanks are provided above, (ii) overlay annotations to correct any typographical errors in application numbers, filing dates, and titles provided above, and

(iii) overlay annotations to correct any formal errors in the legal name of the Assignee.

This Assignment may be executed in any number of duplicate counterparts. The text of this Assignment together with a copy of each executed signature page will constitute one and the same instrument. Execution of a facsimile copy (including a PDF) will have the same force and effect as execution of an original, and a facsimile signature will be recognized as an original and valid signature.

Further, Assignor and Assignee agree that an electronic signature, such as a typed name or electronic representation of a freehand signature, may be used to execute this Assignment.

Brian R. Butler

Brian R. Butler

4 Dec 2023

Dated

Witness 1
Signature:

Stuart K. Morgan

Witness 1

Printed Name:

Stuart K. Morgan

Witness 2
Signature:

Winfield S. Monte

Witness 2

Printed Name:

winfield S. Monte

Andrew M. Welch

Andrew M. Welch

4-Dec-2023

Dated

Witness 1
Signature:

Stuart K. Morgan

Witness 1

Printed Name:

Stuart K. Morgan

Witness 2
Signature:

Winfield S. Monte

Witness 2

Printed Name:

winfield S. Monte