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First Named Inventor/Applicant Name:	Kenneth M. Ponder
Customer Number:	24504
Filer:	Todd Deveau./Sheila Gray
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	821920-1033__Response_to_Office_Action_dated_9-24-19.pdf	335700	no	17
			48264298cc3b1a16984c23bb1a328e4c912fba9a		
Warnings:					
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2	Extension of Time	821920-1033__2_mth_EOT_small_.pdf	189388	no	2
			a445cced04259a339cbea8813848ddd56c456791		
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3	Oath or Declaration filed	8219201032_Second_Declaration_of_Kenneth_M_Ponder.pdf	1001872	no	11
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Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Form (SB08)	IDS_Form_1449__Submit_w-Response_.pdf	614867	no	4
			a5f1f72d77c1a06c6fbac37df2fd54adc449170		
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7	Non Patent Literature	Ref3.pdf	361311	no	10
			4c4c102c4d969d48a7fa88118c89180524c21f1b		
Warnings:					
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8	Non Patent Literature	Ref4.pdf	2513008	no	35
			d63e0d460399b496d273b700f5c8d27a1a86c0df		
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9	Fee Worksheet (SB06)	fee-info.pdf	32424	no	2
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Confirmation No.: 5897

Kenneth M. Ponder

Group Art Unit: 1761

Serial No.: 15/989,655

Examiner: Hardee, John R.

Filed: May 25, 2018

Docket No. 821920-1033

For: **REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22
REFRIGERANT**

RESPONSE TO NON-FINAL OFFICE ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

The Non-Final Office Action from Examiner John R. Hardee mailed on September 24, 2019 (Paper No./Mail Date 20190918), has been received and reviewed. Applicants provide the following remarks in response.

AUTHORIZATION TO DEBIT ACCOUNT

A petition for a two-month extension of time is herein submitted. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefore (including fees for net addition of claims) are hereby authorized to be charged to deposit account no. 20-0778.

IN THE CLAIMS:

1-29. (Cancelled)

30. (Currently Amended) In an apparatus designed for use with chlorodifluoromethane refrigerant, the improvement comprising substituting the chlorodifluoromethane with a refrigerant composition designed to achieve a phase change, the refrigerant composition comprising a combination of refrigerant gases, said refrigerant gases consisting of a blend of tetrafluoroethane and pentafluoroethane, wherein in the substitute refrigerant said pentafluoroethane is present in an amount of 59% to 57% by weight and said tetrafluoroethane is present in an amount of 41% to 43% by weight of the combined weight of the pentafluoroethane and tetrafluoroethane on the basis of the combined weights of said pentafluoroethane and said tetrafluoroethane totaling 100%, and wherein the said tetrafluoroethane is 1,1,1,2- tetrafluoroethane.

31. (Cancelled)

32. (Previously Presented) A method for refilling an apparatus designed for use with a chlorodifluoromethane refrigerant, the method comprising:

(1) selecting a substitute refrigerant composition designed to achieve a phase change and comprising a combination of refrigerant gases, the refrigerant gases consisting of a blend of tetrafluoroethane and pentafluoroethane, wherein in the substitute refrigerant said pentafluoroethane is present in an amount of 59% to 57% by weight and said tetrafluoroethane is present in an amount of 41% to 43% by weight of the combined weight of the pentafluoroethane and tetrafluoroethane on the basis of the combined

weights of said pentafluoroethane and said tetrafluoroethane totaling 100%, and wherein the tetrafluoroethane is 1,1,1,2- tetrafluoroethane, and

(2) supplying the substitute refrigerant composition under pressure, in a cylinder can fitted with an outlet compatible with a chlorodifluoromethane recharging manifold of the apparatus.

33. (Cancelled)

34. (Currently Amended) A refrigerant composition comprising a combination of refrigerant gases, the refrigerant gases consisting of a blend of tetrafluoroethane and pentafluoroethane, wherein in the refrigerant composition said pentafluoroethane is present in an amount of 59% to 57% by weight and said tetrafluoroethane is present in an amount of 41% to 43% by weight ~~of the combined weight of the pentafluoroethane and tetrafluoroethane~~ on the basis of the combined weights of said pentafluoroethane, and said tetrafluoroethane totaling 100% and wherein ~~the~~ said tetrafluoroethane is 1,1,1,2- tetrafluoroethane.

35-36. (Cancelled)

37. (Previously Presented) In the apparatus of claim 30, wherein the apparatus is selected from the group consisting of refrigeration equipment, air-conditioning equipment, and HVAC equipment.

38. (Previously Presented) In the apparatus of claim 30, wherein the refrigerant composition includes an additive selected from the group consisting of an acrylic polymer, a corrosion inhibitor, a surfactant, a foaming agent, and mixtures thereof.

39. (Previously Presented) The method according to claim 32, wherein the apparatus is selected from the group consisting of refrigeration equipment, air-conditioning equipment, and HVAC equipment.

40. (Currently Amended) The method according to claim 32, wherein the substitute refrigerant composition includes an additive selected from the group consisting of an acrylic polymer, a corrosion ~~inhibit~~ inhibitor, a surfactant, a foaming agent, and mixtures thereof.

41-46. (Cancelled)

REMARKS

The Office Action presents two issues, namely: 1) an objection to claim 40; and 2) claims 30, 32, 34, and 37-40 stand rejected under 35 U.S.C. §103(a) as obvious in view of US 6,207,071 (Takigawa et al.).

Applicants note the kind statement in Section 8 at page 6 of the Office Action that: "Submission of the declarations which were submitted in the parent case would further prosecution." Applicants respectfully submit this information herein and in response to the Office Action.

First, regarding the objection to claim 40, Applicants have amended the claim as kindly suggested to correct the spelling of the term "inhibitor."

Second, Applicants respectfully submit that the declarations and supporting information demonstrate:

- 1) the unexpected benefits of the refrigerant of the present claims;
- 2) that unexpectedly adjusting the present refrigerant blend so that the refrigerant more closely matches that of R-22 for which it is to serve as a substitute would negatively impact the GWP of the Applicants' refrigerant blend;
- 3) there is no teaching or suggestion in *Takigawa* determining a refrigerant blend that can serve as a substitute for HCFC-22 (R-22);
- 4) that, while the Office asserts that *Takigawa* reads on refrigerant compositions consisting of 40-60% R134a and 60-40% R125 and infers that *Takigawa* provides motivation to experiment within "the relatively narrow range of 40:60 to 60:40 pentafluoroethane to tetrafluoroethane, the Office fails to identify any purpose or objective allegedly taught by *Takigawa* for such blind experimentation;
- 5) that a range of 40:60 to 60:40 is not at all a "relatively narrow range in the refrigerant field"; and

- 6) that various refrigerant blends within the 40:60 to 60:40 range are not suitable as substitutes for various types of refrigerants including, in particular, HCFC-22.

Thus, Applicants respectfully request reconsideration based upon the amendments and remarks presented herein.

The presently pending claims are directed to a refrigerant "consisting of a blend of tetrafluoroethane and pentafluoroethane wherein in the substitute refrigerant said pentafluoroethane is present in an amount of 59% to 57% by weight and said tetrafluoroethane is present in an amount of 41% to 43% by weight on the basis of the combined weights of said pentafluoroethane and said tetrafluoroethane totaling 100%, and wherein said tetrafluoroethane is 1,1,1,2- tetrafluoroethane."

See claims 30, 32, and 34.

The Second Declaration of Kenneth M. Ponder (dated March 28, 2017 submitted in regards to Applicants' application no. 13/493,491 and resubmitted herein) demonstrates the unexpected benefits provided by the above referenced refrigerant composition of the present claims. They show that the refrigerant recited in the present claims more closely approximates characteristics of HCFC-22 than the 60/40 composition asserted as the closest prior art, particularly within the temperature range most needed for the refrigerant.

Additionally, the evidence shows that unexpectedly adjusting the refrigerant blend so that the refrigerant blend more closely approximates that of HCFC-22 negatively impacts the Global Warming Potential (GWP) of the blend. Moreover, the present refrigerant blend while having been determined by the trade association as an acceptable substitute for HCFC-22, it is not an acceptable substitute for refrigerant R-11.

Applicants respectfully submit that when a rejection is made for obviousness, there must be some teaching or suggestion found in the prior art to modify the teachings of the prior art to meet all of the elements of a claim. The Office Action, in effect, concedes that *Takigawa* does not

provide any such teaching or suggestion in regards to finding or determining a substitute for R-22 to reach the refrigerant composition of the present claims.

Further, Applicants note that *Takigawa* fails to provide any teaching for identifying or determining a substitute refrigerant for R-22.

Instead, the Office Action asserts: "It would have been obvious at the time the invention was made to make such a composition, because this reference teaches that all of the ingredients recited by appellants are suitable for inclusion in a refrigerant composition. The person of ordinary skill in the refrigeration art would expect the recited compositions to have properties similar to those compositions which are exemplified, absent a showing to the contrary."

This amounts, in effect, to an assertion that *Takigawa* provides "motivation to experiment". However, the Office Action fails to comment or explain where the motivation comes from. Stated another way, what purpose can the Office point to in *Takigawa* for such "motivation to experiment"? Applicants submit that experimentation for experimentation sake - without any purpose or objective - fails to meet the evidence required to support a rejection for obviousness.

Further, the Action appears to suggest that *Takigawa* provides motivation to experiment within the range of 40:60 to 60:40 mixtures of R-125 and R-132A. Applicants show, however, that the trade does not consider a range of from 40:60 to 60:40 to be a "relatively narrow range". In fact, the trade association, ASHRAE, considers this is unacceptably large range when refrigerants are defined by percentages of, for example, $\pm 1\%$ and not an overall range of 20%. This is shown, for example, by NPL4 resubmitted herewith, namely the ANSI/ASHRAE Addenda a, b, c, e, f, k, n, o, p, q, r, s, and u to ANSI/ASHRAE Standard 34-2004, in which it can be seen the industry standard composition deviation is typically plus or minus 1%, and for Applicants' R421A having 58% R125 and 42% R134a in particular is plus or minus 1% (page 13).

Additionally, the evidence shows that refrigerants within such range of 40:60 to 60:40 would not behave identically, nor could they be expected to behave in a particular manner. For example, refrigerant blends within such range may be found to be acceptable as a substitute for

one type of refrigerant but not another type of refrigerant. More particularly, the evidence shows that there are refrigerants that could be considered within the range of 40:60 to 60:40 that are not suitable as substitutes for R-22.

Moreover, the Office Action seems to rely on a blind “obvious to try” standard since it does not point to anywhere in *Takigawa* where there is any suggestion as what one may be trying to achieve by such “obvious to try” experimentation. Without evidence of motivation for the objective of finding a substitute for R-22, *Takigawa* cannot serve as a basis for “obvious to try” where the objective is unknown.

Stated another way, the Office Action has not stated what result-effective parameters are to be considered or involved in carrying out the blind “obvious to try” experimentation over a variation of 20% other than to find out if all compositions over the range of 20% would behave identically. This, however, would not lead one to determine an acceptable substitute for HCFC-22. Instead, such experimentation would only determine whether one composition within the 20% range behaves identically to another composition within the 20% range. As shown below, however, not all refrigerant blends within the 20% range would be considered to behave identical. Then what is the purpose for the alleged “obvious to try” experimentation? Without the hindsight guidance of Applicants’ specification why would one conduct such experimentation?

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as “a routine experimentation”. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Only result-effective variables can be optimized. The Office fails to address this point. It fails to describe what features are result-effective variables in finding an acceptable substitute for HCFC-22 as they are used in the claimed subject matter. Specifically, the Office fails to state what the recognized result that is to be achieved. In addition, the Office does not provide any support for the assertion that these features are routinely optimized as is used in the claims. Rather, the Office seems to make a conclusory assertion that

the amounts can be optimized without a reasonable argument to support its position. Thus, the Office has not met its prima facie case of obviousness. Accordingly, the claims are novel and non-obvious over *Takigawa*.

More particularly, Applicants note the Second Declaration of Kenneth Ponder re-presented herein shows just this. As demonstrated by the Second Declaration of Kenneth Ponder and as previously argued and presented in the parent application, the composition of the present claims is designated by ASHRAE as R421a consisting of 58% (+1.0 – 1.0%) and 42% R134a (+1.0, -1.0%). See, page 13, NPL4. Furthermore, ASHRAE's designation providing formulation tolerances of $\pm 1\%$ for each of the 2 components shows that the composition referenced in the Office Action of 60% pentafluoroethane and 40% tetrafluoroethane does not fall within ASHRAE's designation nor within ASHRAE's formulation tolerances for the present R421a showing that ASHRAE considers a composition of 60% R125 and 40% R134a to be distinct from the present R421a. See, Second Declaration of Kenneth Ponder, paragraph 4.

Furthermore, as noted in the Second Declaration of Kenneth Ponder the present R421a composition offers a much closer approximation of the thermodynamic HCFC-22 (R22) pressure-temperature characteristics than the 60%/40% composition asserted to be taught by *Takigawa* and that such is an important consideration for replacement of HCFC-22 in for retrofit and specifically for thermostatic valve control of refrigerant flow metering and air conditioning and refrigeration machinery. In short, unexpectedly, R421a better approximates the pressure-temperature characteristics of HCFC-22 than a composition of 60% R-125 and 40% R134a. Furthermore, the R124a out performs a blend of 60% R125a and 40% R134a for average condensing temperatures. Additionally, the advantage of R421a over a 60/40% composition grows at higher temperatures, namely, when air conditioning and refrigeration modes increased, i.e., when they are most needed. Stated another way, **unexpectedly the “58/42” [R-421A (58% R125 / 42% R134a)] composition benefits are greatest when most needed** as compared to a

60% R125 / 40% R134a composition. See, Second Declaration of Kenneth Ponder, paragraphs 5-9.

These arguments are supported by the evidence submitted by way of the Second Declaration of Kenneth Ponder and also the Supplemental Information Disclosure Statement submitted herewith, including NPL4.

Also, submitted with the Supplemental Information Disclosure Statement herewith are copies of the EPA's listing of Substitute Refrigerants Under SNAP as of October 4, 2011 (NPL2) that provides a list of acceptable substitutes for Class I (CFCs) under the SNAP program as of October 4, 2011 and the EPA's Summary of Substitute Refrigerants Listed in SNAP Notice 25 (NPL3) providing a listing of refrigerant substitutes for HCFC-22 (chlorodifluoromethane). Comparing the two lists one finds the following comparison of many refrigerants that are listed as a suitable replacement for one but not the other. Examples are provided in Tables 1 and 2 below. See, Second Declaration of Kenneth Ponder, paragraph 13.

Table 1

In Air Conditioning

	CFC	HCFC-22
HCFC 123	Yes	No
HCFC 125	Yes	No
HFC 236	Yes	No
R-290	No	Yes
R401A,B	Yes	No
R404A	No	Yes
R-406A	Yes	No
R407A	No	Yes
R409A	Yes	No

R410A,B	No	Yes
R416A	No	No
R417A	No	Yes
R421A	No	Yes
R422B	No	Yes
R424A	No	Yes

Table 2

In Commercial Refrigeration

	CFC	HCFC-22
HCFC 22	Yes	No
HCFC 152B	No	Yes
HFC 236	Yes	No
R290	No	Yes
R401A,B	Yes	No
R402A,B	Yes	No
R406A	Yes	No
R408A	Yes	No
R409	Yes	No
R410A,B	No	Yes
R411A,B	Yes	No
R416A	No	No
R417A	No	Yes
R421A	No	Yes
R422B	No	Yes
R424A	No	Yes

Thus, just because a refrigerant may be suitable or acceptable as a replacement for some CFC refrigerant, that neither *Takigawa* - nor the Office - identifies, does not automatically render it suitable for replacement of an HCFC refrigerant, and vice versa. In fact R416A (134a/125/600 in the ratio 59.0 (+0.5, -1.0)/39.5 (+1.0,-0.5)/1.5 (+1.0,-0.5) is not listed as a suitable replacement for either CFC-11 or HCFC-22. Further, there is simply no teaching or suggestion for such in *Takigawa*. This demonstrates the unpredictability in the art.

Attached hereto is a Table 7 including a listing of the refrigerants that are primarily offered in competition to my R-421A refrigerant along with their respective dew points and bubble points. The bubble point and dew point for HCFC-22 are -41.46 and -41.46°F, respectively. While the bubble point for my R-421A refrigerant closely approximates that of HCFC-22, the blend dew point does not; yet as shown above my R-421A refrigerant performs surprisingly well as a substitute for HCFC-22. In fact, the inventors found that to adjust the ratio of R125 and R134a in their refrigerant blend away from its 58% $\pm$ 1.0% R125 and 42% $\pm$ 1.0% R134a so the dew point more closely matches the dew point of HCFC-22 would negatively impact the aforementioned Global Warming Potential (GWP). See, Second Declaration of Kenneth Ponder, paragraph 14.

Moreover referring again to the "Summary of Substitute Refrigerants Listed in SNAP Notice 25," Applicants note that their present invention has received SNAP approval as a replacement for HCFC-22, but not CFC-11. The Summary includes a Table of SNAP approved refrigerant substitutes for HCFC-22 (chlorodifluoromethane) that lists approximately 45 to 50 differing refrigerant blends that are all approved substitutes for HCFC-22, including Applicants' present invention. This SNAP listing refutes the inference that the present invention is a "mere" optimization of the teachings of *Takigawa*, or stated in another way that it is simply "obvious to try" the teachings of *Takigawa* to arrive at the present invention. In view of the number of refrigerants listed as acceptable substitutes it appears the odds would be extremely low that one

would arrive at Applicants' refrigerant based on *Takigawa*. See, Second Declaration of Kenneth Ponder, paragraph 11.

Included in this SNAP listing are numerous blends of refrigerants that comprise pentafluoroethane (R-125) and tetrafluoroethane (R-134A). Further, many of such refrigerants include pentafluoroethane in a range between 60 to 40% and tetrafluoroethane in a range of 40 to 60% such as: 1) R125/R290/R134A/R600A in a ratio of 55.01/1/42.5/1.5% by weight; 2) R32/R125/R134A in a ratio of 20/40/40% by weight (known as R407A); 3) R125/R134A/R600A in a ratio of 46.6/50.0/3.4% by weight (R417A); 4) R125/R134A/R600A in a ratio of 55.0/42.0/3.0 (R422B); 5) R125/R134A/R600A/R600/R601A in a ratio of 50.5/47.0/0.9/1.0/0.6% by weight (R424A); and 6) R125/R134A in a ratio of 50/50% by weight (R507A). As seen by the ASHRAE "R" designations, each of these refrigerant blends or compositions is considered by ASHRAE to be a different refrigerant offering properties different from those of the other ASHRAE designated refrigerants. See, Second Declaration of Kenneth Ponder, paragraph 12.

In Honeywell International Inc. v. Mexichem Amanco Holding S.A.D.E.C.V. et al., Appeal No. 2016-1996, August 1, 2017) the Federal Circuit Court of Appeals reviewed and rejected arguments presented by the U.S. Patent and Trademark Office, Patent Trial and Appeal Board, in which the Board found on reexamination claims to a refrigerant namely, 1,1,1,2-tetrafluoropropene (HFO-1234YF) unpatentable on grounds that are basically the same as those presented in the present Office Action. In Honeywell, the Federal Circuit found that the Board committed legal error by improperly relying on inherency to find obviousness of the claims. Additionally, the Federal Circuit found error by the Board, while noting the overall unpredictability in the refrigerant art, the Board asserted that "routine testing" would have led to the discovery of the claimed refrigerant. The Federal Circuit rejected the Board's assertion concerning "routine testing" and reversed the rejection of the claims. The Board noted:

"A further point regarding so-called "routine testing" is that § 103 provides that "[p]atentability shall not be negated by the manner in which the invention was made." 35 U.S.C. § 103 (2012). That

provision was enacted to ensure that routine experimentation does not necessarily preclude patentability. See, e.g., *In re Saether*, 492 F.2d 849, 854 (C.C.P.A. 1974) (“In his argument that ‘mere routine experimentation’ was involved in determining the optimized set of characteristics, the solicitor overlooks the last sentence of 35 U.S.C. § 103...Here we are concerned with the question of whether the claimed invention would have been obvious at the time it was made to a person having ordinary skill in the art-not how it was achieved.” (internal citation omitted)); *In re Fay*, 347 F.2d 597, 602 (C.C.P.A. 1965) (“[W]e do not agree that ‘routine experimentation’ negatives patentability. The last sentence of section 103 states that ‘patentability shall not be negated by the manner in which the invention was made.’”).

Thus, as shown herein, the reliance on the statement: “The person of ordinary skill in the refrigeration art would expect the recited compositions to have properties similar to those compositions which are exemplified” in *Takigawa* is not correct. As shown, Applicants’ recited composition does not have properties similar to those compositions which according to the Office would also be exemplified in *Takigawa*.

CONCLUSION

In light of the foregoing remarks and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed and that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

THOMAS | HORSTEMEYER, LLP

By: /Todd Deveau/

Todd Deveau

Registration No. 29,526

3200 Windy Hill Road SE
Suite 1600E
Atlanta, Georgia 30339
Phone: 770.933.9500
Email: todd.deveau@thomashorstemeyer.com

ATTACHMENT OF TABLE 7

Comparative Properties and Efficiency of R-421A for Retrofit Use to Replace R-22
James M. Cain, Engineering Consultant, USA

JMCC/RMS-1312a
2013.12.26

Table 7: Data for Selected Refrigerants (IP units)

properties	R-22	R-407C	R-410A	R-421A	R-422B	R-422D	R-427A	R-438A
molar mass (kg/mol)	0.10628	0.190046	0.180023	0.280359	0.238242	0.282366	0.199395	0.218478
normal boiling point (NBP)								
bubble point for blends (°F)	-41.46	-46.60	-60.60	-41.22	-42.36	-46.76	-46.33	-44.19
dew point for blends (°F)	-41.46	-32.63	-60.60	-31.65	-32.59	-37.01	-33.16	-33.65
maximum temperature glide								
at NBP (°F)	0.000	12.967	0.142	9.569	9.768	8.747	12.164	11.340
at 68 °F (°F)	0.000	10.060	0.209	6.582	6.334	5.373	9.323	8.805
density at NBP								
saturated liquid (lb/ft ³)	67.67	66.19	64.36	91.19	87.35	87.61	86.46	86.64
saturated vapor (lb/ft ³)	0.2896	0.2861	0.2605	0.3731	0.3632	0.3718	0.3030	0.3319
latent heat of vaporization								
at NBP (Btu/lb)	100.6	107.2	117.4	82.5	84.2	91.6	101.9	92.8
at NBP (Btu/lb) vapor	29.03	26.86	30.00	30.78	30.56	30.40	30.83	30.80
at 140 °C (Btu/lb)	90.29	96.29	45.23	41.46	41.76	37.94	53.00	47.28
saturated vapor pressure								
at 68 °F (psia)	132.0	127.7	209.3	119.0	120.7	131.1	124.2	122.8
at 140 °F (psia)	352.1	366.8	566.1	338.3	340.3	368.3	355.0	349.7
critical point								
temperature (°F)	228.1	188.8	180.4	181.0	181.8	179.2	188.0	189.0
pressure (psia)	723.7	671.4	710.9	588.4	574.0	565.3	637.0	626.3
specific volume (ft ³ /lb)	0.0306	0.0331	0.0346	0.0291	0.0304	0.0303	0.0327	0.0314
ozone depletion potential (ODP) relative to R-11								
scientific	0.04	0	0	0	0	0	0	0
regulatory (MP)	0.055							
global warming potential (GWP) for 100 yr (TH)								
scientific relative to CO ₂	1760	1700	2100	2680	2560	2760	2100	2200
ASHRAE 34 / ISO 817 safety classification	A1	A1	A1	A1	A1	A1	A1	A1
ASHRAE 34 Refrigerant Concentration Limit (RCL) (lb/Mcf)	13	18	26	17	16	18	16	4.9

The gray regions of Table 6 and Table 7 indicate inapplicable data, namely the absence of composition-based glide based for the single-compound R-22. They also signify inapplicable data for blends not directly regulated by ozone depletion potential (ODP) in international treaties (notably the Montreal Protocol) and most regulations, though regulatory consequences result indirectly based on mass-weighted formulations of the blends.

PATENT APPLICATION FEE DETERMINATION RECORD				Application or Docket Number 15/989,655		Filing Date 05/25/2018		☐ To be Mailed			
Substitute for Form PTO-875											
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A		N/A		N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *				x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *				x \$230 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
APPLICATION AS AMENDED - PART II											
AMENDMENT	(Column 1)		(Column 2)		(Column 3)						
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)		
	02/24/2020		*		** 20		= 0		x \$50 = 0		
	Total (37 CFR 1.16(i))		Minus		*** 3		= 0		x \$230 = 0		
	Independent (37 CFR 1.16(h))		*		***		=		x \$0 =		
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE		0	
AMENDMENT	(Column 1)		(Column 2)		(Column 3)						
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)		
	*		**		=		x \$0 =		x \$0 =		
	Total (37 CFR 1.16(i))		Minus		***		=		x \$0 =		
	Independent (37 CFR 1.16(h))		*		***		=		x \$0 =		
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
								TOTAL ADD'L FEE		0	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.								LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/SHAREILL A COLES/			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".											
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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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.
15/989,655	05/25/2018	Kenneth M. Ponder	821920-1033	5897
24504	7590	03/09/2020	EXAMINER	
THOMAS HORSTEMEYER, LLP			HARDEE, JOHN R	
3200 WINDY HILL ROAD, SE				
SUITE 1600E				
ATLANTA, GA 30339				
			ART UNIT	PAPER NUMBER
			1761	
			NOTIFICATION DATE	DELIVERY MODE
			03/09/2020	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):

docketing@thomashorstemeyer.com
ozzie.liggins@tkhr.com
uspatents@tkhr.com

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Double Patenting

2. Claims 30, 32, 34 and 37-40 remain rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 8,197,706 and claims 1-37 of U.S. Patent 9,982,179 for the reasons of record in the previous office action.

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Dr. John R. Hardee, whose telephone number is (571) 272-1318. The examiner can normally be reached on Monday through

Friday from 8:00 until 4:30. In the event that the examiner is not available, his supervisor, Mr. Harold Pyon, may be reached at (571) 272-1498.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8100. Please note that examiners may not accept or enter faxed amendments.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JOHN R HARDEE/
Primary Examiner
Art Unit 1761

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15989655
	Filing Date	2018-05-25
	First Named Inventor	Kenneth M. Ponder
	Art Unit	1761
	Examiner Name	Hardee, John R.
	Attorney Docket Number	821920-1033

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.R.H/

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15989655
Filing Date	2018-05-25
First Named Inventor	Kenneth M. Ponder
Art Unit	1761
Examiner Name	Hardee, John R.
Attorney Docket Number	821920-1033

1	List of refrigerants from Wikipedia, https://en.wikipedia.org/wiki/List_of_refrigerants , last modified on 19 January 2017, 13 pages
2	Environmental Protection Agency (EPA), Air and Radiation Stratospheric Protection Division 6205J, "Substitute Refrigerants Under SNAP as of October 4, 2011", SNAP Information: http://www.epa.gov/ozone/snap , 18 pages
3	Summary of Substitute Refrigerants Listed in SNAP Notice 25, 10 pages
4	ANSI/ASHRAE Addenda a, b, c, e, f, k, n, o, p, q, r, s, and u to ANSI/ASHRAE Standard 34-2004, "Designation and Safety Classification of Refrigerants", 2006 Supplement, ISSN 1041-2336, 35 pages

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/JOHN R HARDEE/ (03/02/2020)	Date Considered	03/02/2020
--------------------	------------------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.R.H/

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15989655
Filing Date	2018-05-25
First Named Inventor	Kenneth M. Ponder
Art Unit	1761
Examiner Name	Hardee, John R.
Attorney Docket Number	821920-1033

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Todd Deveau/	Date (YYYY-MM-DD)	2020-02-24
Name/Print	Todd Deveau	Registration Number	29526

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number

Filing Date

15/989,655

May 25, 2018

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)



I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

24504

OR



I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:



The address associated with the above-mentioned Customer Number

OR



The address associated with Customer Number:

OR



Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

Name

Kenneth M. Ponder

Title

Owner / President

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



Total of

forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Electronic Acknowledgement Receipt

EFS ID:	38843068
Application Number:	15989655
International Application Number:	
Confirmation Number:	5897
Title of Invention:	REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22 REFRIGERANT
First Named Inventor/Applicant Name:	Kenneth M. Ponder
Customer Number:	24504
Filer:	Todd Deveau./Sheila Gray
Filer Authorized By:	Todd Deveau.
Attorney Docket Number:	821920-1033
Receipt Date:	12-MAR-2020
Filing Date:	25-MAY-2018
Time Stamp:	10:27:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	821920-1033__POA.pdf	583169	no	1
			24c20dcbdd521ff9382c6a4ffa7521613d627adf		

Warnings:

Information:	
Total Files Size (in bytes):	583169
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/989,655	05/25/2018	Kenneth M. Ponder	821920-1033

24504
THOMAS | HORSTEMEYER, LLP
3200 WINDY HILL ROAD, SE
SUITE 1600E
ATLANTA, GA 30339

CONFIRMATION NO. 5897
IMPROPER CPOA LETTER



Date Mailed: 03/17/2020

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 03/12/2020. The power of attorney in this application is not accepted for the reason(s) listed below:

- The signature(s) of Steffan Thomas, co-inventor(s) in this application, has/have been omitted. The power of attorney will be entered upon receipt of confirmation signed by said co-inventor(s).

/dgela/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
15/989,655	May 25, 2018

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

24504

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address:

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

R421A LLC

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

Name

Title

R421A LLC (Manager)

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Kenneth M. Ponder

Application No./Patent No.: 15/989,655 Filed/Issue Date: May 25, 2018

Titled: REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22 REFRIGERANT

R421A LLC, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is ____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: ESTATE OF STEFFEN W. THOMAS, JR. & KENNETH M. PONDER To: STEFKO PROPERTIES, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 052121, Frame 0739, or for which a copy thereof is attached.

2. From: STEFKO PROPERTIES, LLC To: R421A LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 052121, Frame 0803, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Todd Deveau/

Signature

Todd Deveau

Printed or Typed Name

March 27, 2020

Date

29,526

Title or Registration Number

[Page 2 of 2]

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**REQUEST TO CORRECT OR UPDATE
THE NAME OF THE APPLICANT UNDER
37 CFR 1.46(c)(1), OR CHANGE THE
APPLICANT UNDER 37 CFR 1.46(c)(2)
(FOR USE ONLY IN APPLICATIONS FILED ON OR AFTER
SEPTEMBER 16, 2012)**

Application Number	15/989,655
Filing Date	May 25, 2018
First Named Inventor	Kenneth M. Ponder
Art Unit	1761
Examiner Name	Hardee, John R.
Practitioner Docket Number	821920-1033

**To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Applicant hereby **requests that the name of the applicant be corrected or updated under 37 CFR 1.46(c)(1), or that the applicant be changed under 37 CFR 1.46(c)(2),** in the above-identified application. **Requests under 37 CFR 1.46(c)(1) or (c)(2) cannot be submitted after payment of the issue fee or if the application has been patented.**

Please check the applicable box(es) below.

☐ 1. This request is to **correct or update the name of the applicant (under 37 CFR 1.46(c)(1))** and includes:

☐ An application data sheet (ADS) in accordance with 37 CFR 1.76(c) with the corrected or updated information shown with markings (e.g., underlining for insertions, strikethrough for deletions). A Corrected Web-based ADS may be used.

Note: Requests under 37 CFR 1.46(c)(1) may be filed to correct typographical errors in the name of the § 1.46 applicant, or for updating the name of the § 1.46 applicant (i.e., where there is no change in the applicant itself but just in the applicant's name). See the Manual of Patent Examining Procedure (MPEP) section 605.01.

☒ 2. This request is to **change the applicant (under 37 CFR 1.46(c)(2))** and includes:

☒ An application data sheet (ADS) in accordance with 37 CFR 1.76(c) that identifies the changes with proper markings (underlining for insertions and strikethrough for deletions). A Corrected Web-based ADS may be used.

☒ A Statement Under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent). See MPEP 325.

I am the

☐ applicant*

☒ attorney or agent of record

Registration number 29,526

☐ attorney or agent acting under 37 CFR 1.34

Registration number _____

Signature /Todd Deveau/

Typed or printed name Todd Deveau

Date March 27, 2020

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. *Juristic entities must be represented by a patent practitioner (See 37 CFR 1.31, applicable to any paper filed on or after September 16, 2012 that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below**.

☐ ** Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND**

TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	821920-1033
		Application Number	15/989,655
Title of Invention	REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22 REFRIGERANT		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Inventor Information:

Inventor 1					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Kenneth	M.	Ponder			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Cumming	State/Province	GA	Country of Residence	US	
Mailing Address of Inventor:						
Address 1		105 Highland View Drive				
Address 2						
City	Cumming	State/Province	GA			
Postal Code	30040	Country	US			
Inventor 2					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Steffan		Thomas			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Buckhead	State/Province	GA	Country of Residence	US	
Mailing Address of Inventor:						
Address 1		4250 Bethany Road				
Address 2						
City	Buckhead	State/Province	GA			
Postal Code	30625	Country	US			
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add						

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).
