

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of 35 U.S.C. 112(b):

(B) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 30-43 are rejected under 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claims merely setting forth physical characteristics desired in article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics; thus, expression “a liquefiable substance having a liquefaction temperature from about 40 °C. to about 300 °C. and being compatible with the ingredients in the powdered detergent composition” is too broad and indefinite since it purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites compounds by what it is desired that they do rather than what they are.—Ex parte Slob (PO BdApp) 157 USPQ 172.

Claim Scope and Interpretation

3. At p. 13 of the specification, applicant states that the compositions of interest possess the characteristics recited in claim 1. Figure 1 shows characteristics for compositions containing 40/60, 45/55 and 42/58 blends of tetrafluoroethane and pentafluoroethane, respectively. Compositions comprising these percentages of these

refrigerants were searched and examined, in the absence of any percentage limitations in claims 30-43.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 30-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takigawa et al., US 6,207,071. The reference discloses lubricating oil compositions and their use in compositions comprising R134a and R125 (col. 1, lines 13+). The reference further discloses the use of hydrofluorocarbons as replacements for chlorofluorocarbons (col. 1, lines 20+). Suitable lubricants include the alkylbenzene oils described at col. 2, lines 30+. Refrigerants include alkane fluorides containing 40% or more of R134a in admixture with alkyl fluorides containing, most preferably, 40% or more of R125 (col. 8, lines 20+). The reference further discloses that there is “no restriction as to the kind of HFC to be mixed with” the disclosed refrigerants. The examiner takes the position that this can reasonably be construed to mean that no additional HFC need be added, and that the disclosure reads on refrigerant compositions *consisting of* 40-60% R134a and 60-40% of R125. Conventional additives may be added, including those disclosed at the top of col. 8. The examiner takes the position that anticorrosion additives are conventional, and that their use would be obvious over this disclosure. Lubricant compositions comprising naphthenic mineral oil and polyol polyesters are disclosed in Table 1. Note the disclosure in Evaluation Tests 2 and 3 of refrigerant being premixed with lubricant prior to charging a compressor. The disclosed lubricating refrigerant compositions are useful in a variety of refrigeration apparatus, as disclosed at the top of col. 9. Determination of the lubrication-effective amount of a disclosed lubricant amounts to routine optimization. This reference differs from the claimed subject matter in that it does not disclose a composition which reads on appellant’s claims with sufficient specificity to constitute anticipation.

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.

In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art, a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed Cir. 1990).

8. No additional art was cited with this office action.

9. 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.

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

Art Unit: 1761

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
March 19, 2013

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2012-06-11
	First Named Inventor	Kenneth M. Ponder	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	821920-1032	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6207071		2001-03-27	Takigawa et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS						
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
	1					

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NON-PATENT LITERATURE DOCUMENTS			
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

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

Application Number			
Filing Date		2012-06-11	
First Named Inventor	Kenneth M. Ponder		
Art Unit			
Examiner Name			
Attorney Docket Number		821920-1032	

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

EXAMINER SIGNATURE

Examiner Signature	/John R. Hardee/	Date Considered	03/19/2013
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*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.

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

Application Number	
Filing Date	2012-06-11
First Named Inventor	Kenneth M. Ponder
Art Unit	
Examiner Name	
Attorney Docket Number	821920-1032

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.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

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)	2012-06-11
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.**

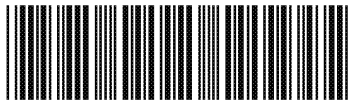
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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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.
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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 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.

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

Search Notes 	Application/Control No. 13493491	Applicant(s)/Patent Under Reexamination PONDER ET AL.
	Examiner JOHN HARDEE	Art Unit 1761

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
PALM invetor search. Reviewed prosecution history and searches in parent cases.	3/19/13	JRH

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:	Confirmation No.: 1039
Ponder et al.	Group Art Unit: 1761
Serial No.: 13/493,491	Examiner: Hardee, John R.
Filed: June 11, 2012	Docket No. 821920-1032
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 March 25, 2013 (Paper No./Mail Date 20130319), has been received and reviewed. Applicant provides the following amendments and remarks in response.

AUTHORIZATION TO DEBIT ACCOUNT

A petition for a 2-months 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:

Please amend the claims as indicated hereafter wherein the changes are shown by strikethrough or double brackets for deleted matter and underlining for added matter.

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, the ratio of the tetrafluoroethane to the pentafluoroethane being selected such that the blend exhibits a dew point at about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure, wherein the refrigerant composition further comprises non-refrigerant gas components, said non-refrigerant gas components including a lubricating oil, wherein the lubricating oil is present up to about 20% by weight of the refrigerant gases and is soluble in chlorodifluoromethane, tetrafluoroethane and pentafluoroethanes wherein the lubricating oil is selected from the group consisting of mineral oil, synthetic alkyl aromatic lubricants, and mixtures thereof.

31. (Currently Amended) In the apparatus of claim 30, wherein the blend exhibits a dew point at about -32°F and a bubble point at about -41.5°F at about one standard atmosphere of pressure.

32. (Currently Amended) 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, the ratio of the tetrafluoroethane to the pentafluoroethane being selected such that the blend exhibits a dew point at about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure,

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

(3) adding to said apparatus via the manifold the substitute refrigerant composition for chlorodifluoromethane, wherein the refrigerant composition further comprises non-refrigerant gas components, said non-refrigerant gas components including a lubricating oil, wherein the lubricating oil is present up to about 20% by weight of the refrigerant gases and is soluble in chlorodifluoromethane, tetrafluoroethane and pentafluoroethane, wherein the lubricating oil is selected from the group consisting of mineral oil, synthetic alkyl aromatic lubricants, and mixtures thereof.

33. (Currently Amended) The method of claim 32, wherein the blend exhibits a dew point at about -32°F and a bubble point at about -41.5°F at about one standard atmosphere of pressure.

34. (Currently Amended) A refrigerant composition comprising a combination of refrigerant gases, the refrigerant gases consisting of a blend of tetrafluoroethane and pentafluoroethane, the ratio of the tetrafluoroethane to the pentafluoroethane being selected such that the blend exhibits a dew point at about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure, wherein the refrigerant composition further comprises non-refrigerant

gas components, said non-refrigerant gas components including a lubricating oil, wherein the lubricating oil is present up to about 20% by weight of the refrigerant gases and is soluble in chlorodifluoromethane, tetrafluoroethane and pentafluoroethane, wherein the lubricating oil is selected from the group consisting of mineral oil, synthetic alkyl aromatic lubricants, and mixtures thereof.

35. (Currently Amended) The refrigerant composition of claim 34, wherein the blend exhibits a dew point at about -32°F and a bubble point at about -41.5°F at about one standard atmosphere of pressure.

36. (Previously presented) The refrigerant composition according to claim 34, wherein the lubricating oil includes an additive selected from the group consisting of further includes an acrylic polymer, a corrosion inhibitor, a surfactant, a foaming agent, and mixtures thereof.

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 lubricating oil 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. (Previously presented) The method according to claim 32, wherein the lubricating oil includes an additive selected from the group consisting of an acrylic polymer, a corrosion inhibit, a surfactant, a foaming agent, and mixtures thereof.

41. (Previously presented) In the apparatus of claim 30, wherein the tetrafluoroethane is 1,1,1,2-tetrafluoroethane.

42. (Previously presented) The method of claim 32, wherein the tetrafluoroethane is 1,1,1,2-tetrafluoroethane.

43. (Previously presented) The refrigerant composition of claim 34, wherein the tetrafluoroethane is 1,1,1,2-tetrafluoroethane.

44. (Previously presented) In the apparatus of claim 41, wherein in the substitute refrigerant said pentafluoroethane is present in the ratio of about 58% by weight to said tetrafluoroethane present in an amount of about 42% by weight.

45. (Previously presented) The method according to claim 42, wherein in the substitute refrigerant said pentafluoroethane is present in the ratio of about 58% by weight to said tetrafluoroethane present in an amount of about 42% by weight.

46. (Previously presented) The refrigerant composition according to claim 43, wherein said pentafluoroethane is present in the ratio of about 58% by weight to said tetrafluoroethane present in an amount of about 42% by weight.

47. (New) In the apparatus of claim 30, wherein the blend exhibits a glide at about 9.5°F.
48. (New) The method of claim 32, wherein the blend exhibits a glide at about 9.5°F.
49. (New) The refrigerant composition of claim 34, wherein the blend exhibits a glide at about 9.5°F.

REMARKS

The Office Action presents following points: 1) claims 30-43 stand rejected under 35 USC 112, second paragraph, as being indefinite; and 2) claims 30-46 stand rejected under 35 USC 103(a) as obvious in view of US 6,207,071 (*Takigawa et al.*).

Applicant respectfully requests reconsideration and withdrawal of the rejections based upon the amendment and remarks presented herein. This response is supported by the Declaration of Kenneth M. Ponder submitted herewith.

1. Claim Rejections – 35 USC § 112

Claims 30-43, but not claims 44-46, are rejected under 35 USC 112, second paragraph, as being indefinite, in particular for “merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such a characteristics”, citing *Ex Parte Slob*, 157 USPQ 172 (Bd. Pat. App. & Int. 1967). (copy attached)

A reading of *Ex Parte Slob* shows that it does not support the rejection. In fact a reading *Ex Parte Slob* shows that this rejection is improper and should be withdrawn. In *Ex Parte Slob*, the Board of Patent Appeals and Interferences held that claim 16 which merely recited: “A process...which comprises thoroughly mixing together a powdered detergent composition and from about 2% to about 40% by weight of the powdered detergent composition of a liquefiable substance having a liquefaction (sic) temperature from about 40°C...” was properly rejected as being indefinite and too broad, and in particular for not setting forth specific compositions which would meet the characteristics recited in the claim. In contrast, however, the Board specifically held that the rejection of claim 26 would not be sustained where claim 26 recited a hydrated inorganic salt, specifically “hydrated sodium perborate”. The Board held that claim 26 “is clearly not too broad and indefinite”. Accordingly, the rejection of claim 26 was reversed.

The claims presented herein are analogous to claim 26 in *Ex Parte Slob* in that all the claims originally filed with this application and now presently pending particularly point out and

distinctly claim “refrigerant gases consisting of a blend of tetrafluoroethane and pentafluoroethane”, in contrast to claim 16 of *Ex Parte Slob* that vaguely recited “a liquefiable substance”. Accordingly, under the holding by the Board in *Ex Parte Slob*, the rejection of the present claims is not sustainable and should be withdrawn.

2. Claim Rejection – 35 USC § 103(a)

Claims 30-46 are rejected as being obvious under 35 USC §103(a) in view of *Takigawa et al.*, (US Patent No. 6,207,071).

This rejection relies upon 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, absent a showing to the contrary.” This statement, however, is not correct. As shown below, the recited compositions do not have properties similar to those compositions which are exemplified in *Takigawa et al.*

To the contrary, *Takigawa et al.* present no teaching or suggestion whatsoever of a refrigerant composition designed for use with chlorodifluoromethane refrigerant (R-22) or as a substitute or a replacement for R-22 refrigerant, as recited in independent claims 30, 32. Further, *Takigawa et al.* do not provide any teaching or suggestion whatsoever as to selecting such a refrigerant composition consisting of a blend of tetrafluoroethane and pentafluoroethane wherein the blend is selected such that the blend exhibits a dew point at about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure, as recited in independent claims 30, 32 and 34.

Moreover, Applicant’s recited refrigerant composition consisting of a blend of tetrafluoroethane and pentafluoroethane in a ratio exhibiting such dew point or bubble point does not cover everything which will perform the desired functions (namely, a refrigerant blend composition for use with or as a substitute or a replacement for R-22) regardless of its composition. To the contrary the recited composition of the pending claims having the stated ratio describes a

very specific composition having a capacity and efficiency that most closely mimics R-22 refrigerant over a selected temperature range, whereas compositions exemplified by *Takigawa et al.* do not and would not be suitable for use with or as a substitute or a replacement for R-22 refrigerant. For example, refrigerant compositions of 1) 40% R134a and 60% R125, and 2) 60% R134a and 40% R125, noted in the Office Action, are considered unsuitable as substitutes or replacements for R-22 and do not have approval by EPA for use as substitutes or replacements for R-22 (see, Declaration of Kenneth M. Ponder, paragraph 12).

Takigawa et al. disclose: "A refrigerator oil for use with an HFC refrigerant containing HFC – 134a and/or HFC – 125", which comprises a specific alkylbenzene oil. See abstract. In particular: "The object of the present invention [Takigawa et al.] is to provide a refrigerator oil to be used within HFC refrigerant containing HFC -134a and/or HFC – 125, which enables a refrigerating compressor to be prevented from its seizure, is excellent in lubricity and retains high reliability for a long period of time". (emphasis added) See column 2, lines 14-18.

It is unquestionable that the objective of *Takigawa et al.* is to provide a refrigerator oil used with an HFC refrigerant containing HFC – 134a and/or HFC -125 in just about any composition, further stating that there is no restriction as to the kind of HFC to be mixed therewith. Thus, *Takigawa et al.* is focused on what type of refrigerator oil may be used with such a wide range of refrigerants and refrigerant compositions to prevent seizure. *Takigawa et al.* provide no teaching whatsoever as to what of those refrigerant compositions may be suitable as a substitute or replacement for refrigerant R-22 (chlorodifluoromethane), let alone how to determine what of those refrigerant compositions may be suitable as a substitute or replacement for R-22. *Takigawa et al.* make no distinction as to what if any of their refrigerant compositions would be suitable as an R-22 replacement or substitute. In fact, there can be no doubt, that *Takigawa et al.* disclose HFC refrigerant compounds or compositions that are unsuitable with or as a substitute or a replacement for R-22 (see, Declaration of Kenneth M. Ponder, paragraphs 11, 12).

Stated another way, *Takigawa et al.* fail to recognize the problem of finding a refrigerant composition that may be used with or as a substitute for R-22 refrigerant, let alone any possible solution to this problem addressed by Applicant. The failure of *Takigawa et al.* to recognize this problem, let alone teach a solution to this problem demonstrates the non-obviousness of Applicants' claimed solution in view of *Takigawa et al.*

In contrast, the presently pending claims, in particular independent claims 30 and 32, are directed to a refrigerant composition comprising a combination of "refrigerant gases consisting of blend of tetrafluoroethane and pentafluoroethane" that is suitable as for use with or as a substitute for chlorodifluoromethane (R-22). More particularly, the pending independent claims recite that the ratio of the tetrafluoroethane to the pentafluoroethane is selected such that the blend exhibits a dew point of about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure. This is a specific recitation that is not met by just any combination of tetrafluoroethane and pentafluoroethane. (See, Declaration of Kenneth M. Ponder, paragraph 8).

Takigawa et al. provide no teaching or suggestion, whatsoever, to a blend of refrigerant gases "consisting of" tetrafluoroethane and pentafluoroethane that exhibits such a dew point or bubble point. This is so because *Takigawa et al.* have no interest in identifying a specific blend or ratio of tetrafluoroethane and pentafluoroethane to be used with or as a substitute or a replacement for R-22 to the exclusion of other blends or ratios of tetrafluoroethane and pentafluoroethane. (see again, Declaration of Kenneth M. Ponder).

With respect to dependent claims 31, 33 and 35, there is no teaching or suggestion in *Takigawa et al.* to a combination "consisting of a blend of tetrafluoroethane and pentafluoroethane" wherein the blend of the two refrigerant components exhibits both a dew point at about -32°F and a bubble point at about -41.5°F at about one standard atmosphere of pressure.

With respect to independent claim 32 which is a method claim and its dependent claims 33, 39-40 and 42, Applicant respectfully submits *Takigawa et al.* fail to render these claims obvious. There is no teaching or suggestion in *Takigawa et al.* to a method for refilling an apparatus designed for use with chlorodifluoromethane refrigerant (R-22) that involves selecting a substitute refrigerant composition for R-22, the refrigerant gases "consisting of" a blend of tetrafluoroethane and pentafluoroethane, the ratio of tetrafluoroethane to the pentafluoroethane being selected such that the blend exhibits a dew point at about -32°F or a bubble point at about -41.5°F at about one standard atmosphere of pressure, further supplying the selected substitute refrigerant composition under pressure in a cylinder can fitted with an outlet compatible with a chlorodifluoromethane recharging manifold for the apparatus and adding to the apparatus via the manifold the selected substitute the refrigerant composition recited therein as a substitute for R-22.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits 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, KAYDEN, HORSTEMEYER
& RISLEY, LLP**

By: /Todd Deveau/
Todd Deveau
Registration No. 29,526

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1 of 1 DOCUMENT

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UNITED STATES PATENTS QUARTERLY

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Ex parte SLOB

No Number in Original

U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences

157 U.S.P.Q. (BNA) 172

Patent issued Jan. 30, 1968 Opinion dated Apr. 13, 1967

CASE HISTORY and DISPOSITION: Appeal from Group 150.

Application for patent of Arie Willem Slob, Serial No. 194,658, filed May 14, 1962. From decision rejecting claims 16 to 28, applicant appeals (Appeal No. 625-73). Affirmed as to claims 16 to 25, 27, and 28; reversed as to claim 26.

HEADNOTES:
PATENTS

[**1H] 1. Claims -- Indefinite -- In general (20.551)

Claims merely setting forth physical characteristics desired in article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics; thus, expression "a liquefiable substance having a liquefaction temperature from about 40 degreesC. to about 300 degreesC. and being compatible with the ingredients in the powdered detergent composition" is too broad and indefinite since it purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites compounds by what it is desired that they do rather than what they are; expression also is too broad since it appears to read upon materials that could not possibly be used to accomplish purposes intended.--*Ex parte Slob (PO BdApp) 157 USPQ 172.*

Particular patents--Detergent Tablets

3,366,570, Slob, Process of Preparing Detergent Tablets, claim 26 of application allowed; claims 16 to 25, 27, and 28 refused.--*Ex parte Slob (PO BdApp) 157 USPQ 172.*

CLASS-NO: 20.551

COUNSEL: BRUMBAUGH, FREE, GRAVES & DONOHUE, New York, N.Y., for applicant.

JUDGES: Before LIDOFF, Examiner in Chief, and STONE and REBOLD, Acting Examiners in Chief.

OPINIONBY: STONE, Acting Examiner in Chief.

OPINION:

This is an appeal from the final rejection of claims 16 through 28, which are all the claims remaining in the application.

Claim 16 is illustrative:

16. A process for the preparation of a strong, hard surface, rapidly disintegrating and dissolving detergent tablet which comprises thoroughly mixing together a powdered detergent composition and from about 2% to about 40% by weight of the powdered detergent composition of a liquefiable substance having a liquefaction (sic) temperature from about 40 degreesC. to about 300 degreesC. and being compatible with the ingredients in the powdered detergent composition, forming the resulting mixture having the compatible liquefiable substance uniformly distributed therethrough into the shape of a tablet, heating the tablet-shaped mixture at a temperature from about 40 degreesC. to about 300 degreesC. for from about 90 seconds to about 6 minutes to liquefy thereby at least the portion of the liquefiable substance at the surface of the tablet-shaped mixture without completely melting the powdered detergent composition, and cooling the tablet-shaped mixture to [*173] convert the liquefied liquefiable substance to solid state and thereby bind together at least the portion of the powdered detergent composition at the surface of the tablet-shaped mixture, whereby there is formed a strong detergent tablet which disintegrates and dissolves in water in about 15 to 75 seconds and which has a hard agglomerated surface portion and a center portion having a consistency in the range from hard agglomerates to loose powder.

No references are relied on.

The claims stand rejected as being indefinite and too broad, under 35 U.S.C. 112. The examiner has set forth a number of different expressions which he considers as being too broad and indefinite.

Go to Headnotes [**1R] [1] We are in accord with the examiner's position with respect to the expression "a liquefiable substance having a liquefaction temperature from about 40 degreesC. to about 300 degreesC. and being compatible with the ingredients in the powdered detergent composition." In our opinion, this language purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites the compounds by what it is desired that they do rather than what they are. We consider the holding in *Austen Laboratories, Inc. v. Nobilium Processing Company*, 115 USPQ 44, is especially pertinent here, that claims merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in the future and which would impart the desired characteristics. The decision relied upon the Supreme Court decision of *Holland Furniture Co. v. Perkins Glue Co.*, 1928 C.D. 266, 372 O.G. 517, 275 U.S. 512. See also *General Electric Co. v. Wabash Appliance Corp.*, 1938 C.D. 813, 491 O.G. 463, 304 U.S. 364, 37 USPQ 466; and *In re Fullam et al.*, 34 CCPA 1018, 1947 C.D. 352, 603 O.G. 189, 161 F.2d 247, 73 USPQ 399.

We also find the expression too broad as it appears to read upon materials that could not possibly be used with a powdered detergent composition to accomplish the purposes intended. For example, the language is broad enough to read upon Wood's metal and Wood's alloy which have a melting point of approximately 71 degreesC. Such materials melt within the temperature range recited and are compatible with the detergent composition but clearly will not give rise to a suitable preparation for detergent or laundry purposes.

The examiner has also set forth a number of examples of different compounds which decompose when heated within the range claimed and which could not be used for the purposes intended. On the basis of the limited disclosure of approximately ten ingredients, most of which are hydrated inorganic salts, we see no reason for the allowance of claims drawn to all substances which are totally unrelated to those ingredients shown as suitable by appellant and which are merely claimed by the designation of desired properties.

We are also in accord with the examiner's position with respect to the expression "a hydrated inorganic salt," as recited in claim 25, as this reads on such a salt as strontium dichromate .3H₂O which the examiner has indicated decomposes within the temperature range recited and which would be unsuitable for the purpose in view. This expression also reads

upon sodium dichromate .2H₂O which melts at 100 degreesC. and which would clearly be unsuitable for washing purposes in view of its color.

We do not agree with the examiner's position with regard to the expression "a powdered detergent composition," per se, or his objections to "forming the product into the shape of a tablet."

We will not sustain the rejection as to claim 26 wherein the hydrated inorganic salt is the specific compound, hydrated sodium perborate. There is no reference to show the combination recited in this claim and the claim is clearly not too broad and indefinite.

The decision of the examiner is affirmed as to claims 16 through 25, 27, and 28 but is reversed as to claim 26.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Confirmation No.: 1039

Ponder et al.

Group Art Unit: 1761

Serial No.: 13/493,491

Examiner: Hardee, John R.

Filed: June 11, 2012

Docket No. 821920-1032

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

DECLARATION OF KENNETH M. PONDER

I, Kenneth M. Ponder, hereby declare as follows:

1. I am the President of RMS of Georgia, LLC and am a co-inventor named on the above application.

2. RMS of Georgia, LLC sells and distributes refrigerants and reclaims most refrigerants.

3. Among the refrigerants that RMS of Georgia, LLC sells and distributes are refrigerants known under ASHRAE designations R-421A and R-421B. Our R-421A and R-421B refrigerants are approved by ASHRAE and are SNAP approved by the U.S. Environmental Protection Agency (EPA) for use with or as a replacement or substitute for R-22 refrigerant for different uses, as described below. The refrigerant having the ASHRAE designation R-421A is a refrigerant composition that is a mixture of R-125(pentafluoroethane) and R-134a (1,1,1,2-tetrafluoroethane) blended with a lubricant in which R-125 is present in an amount of about 58% by weight and R-134a is present in an amount of about 42% by weight of the two refrigerant gases. R-421B, on the other hand, is also a mixture of R-125 (pentafluoroethane) and R-134a (1,1,1,2-tetrafluoroethane). R-421B, however, includes pentafluoroethane in the amount of about

85% by weight and 1,1,1, 2-tetrafluoroethane in the amount of about 15% by weight of the two refrigerant gases.

4. Our R-421B refrigerant comprised of about 85% by weight pentafluoroethane and about 15% tetrafluoroethane by weight of the refrigerant gases is covered by U.S. Patent No. 7,320,763 on which I am named as a co-inventor.

5. Our R-421A refrigerant was developed for use with or as a replacement or a substitute for R-22 refrigerant that consists of chlorodifluoromethane. R-22 refrigerant could cover a wide array of temperatures. The industry has not yet found a single refrigerant composition that could replace R-22 for use over the entire array of temperatures over which R-22 was used. As a result, the industry has had to come up with multiple refrigerant compositions covering different arrays of temperatures.

6. Our R-421A and our R-421B refrigerants were developed to address different uses in the marketplace. In particular, R-421A was developed to address a higher temperature or (medium temp) application in the industry. By high or medium temperature applications I mean approximately -5°F to +45 °F. In contrast, R-421B was developed as a long term option for low temperature applications in the industry. By low temperature applications, I mean applications below about 0°F and generally in the range of below about -5°F to about -40°F. Accordingly, R-421A and R-421B are marketed by us and used by our customers for different applications to meet different needs, depending upon whether a high R-22 and medium R-22 temperature application or a low R-22 temperature application is the specified use by our customer.

7. Our refrigerant R-421A that consists of 58% pentafluoroethane and 42% tetrafluoroethane, which would be covered by the presently pending claims in this application, is superior to R-421B that consists of 85% pentafluoroethane and 15% tetrafluoroethane in high and medium temperature applications because it has a different temperature-pressure profile than R-421B and because the temperature-pressure profile

of R-421A is superior to that of R-421B for high and medium temperature applications.

8. As noted in my above application, one way of exemplifying such a refrigerant gas composition that consists of pentafluoroethane and tetrafluoroethane for use with or as a replacement for R-22 refrigerant for high and medium temperature applications is by specifying a dew point at about -32°F or a bubble point at about -41.5°F or both for the refrigerant composition blend. This is a specific recitation that is not met by just any combination of tetrafluoroethane and pentafluoroethane. Table 2 in my above application is a temperature/pressure chart that presents the bubble point or boiling point for the various compositions for given temperatures and pressures. As can be seen a bubble point of about -41.5°F for the (58-42) composition is at about 14.7 psi, or at about one standard atmosphere of pressure. The “glide” is simply the difference between the bubble point temperature and the dew point temperature for a given composition at the same pressure.

9. I have read U.S. Patent No. 6,207,071 (Takigawa) and do not find any mention or suggestion in Takigawa of combining pentafluoroethane with tetrafluoroethane to create a composition including refrigerant gases consisting of pentafluoroethane and tetrafluoroethane to the exclusion of other refrigerant gases except for impurities ordinarily associated with those two gases having a temperature-pressure profile that provides superior properties for use in high and medium temperature applications as described above.

10. I also do not find any mention or suggestion in Takigawa for how to determine what HFC refrigerant or combination of HFC refrigerants would be suitable to be used with or as a substitute or a replacement for R-22 (chlorodifluoromethane). Not all HFC refrigerants are suitable for use with or as a substitute or a replacement for R-22.

11. Not all combinations of HFC-125 (pentafluoroethane) and HFC-134a (1,1,1,2-tetrafluoroethane) are suitable for use with or as a substitute or a replacement for R-22. In fact the only combination of HFC-125 and HFC-134a to the exclusion of other refrigerant gases that are SNAP approved by EPA to be suitable for use with or as a substitute or replacement for R-22 are our R-421A and R-421B refrigerants.

12. I understand the Office Action mailed March 25, 2013 takes the position that Takigawa teaches to one skilled in the refrigerant art a refrigerant composition consisting of 40-60% R134a and 60-40% R125 to the exclusion of any other refrigerant gas. I respectfully disagree. Even assuming this position is correct, this covers a wide range of combinations of R134a and R125 that are not suitable for use with or as a substitute or a replacement for R-22. As examples, refrigerant compositions of 1) 40% R134a and 60% R125, 2) 60% R134a and 40% R125, and 3) 50% R134a and 50% R125 are considered unsuitable as substitutes or replacements for R-22, and do not have approval, by EPA or ASHRAE for use with or as a substitute or replacement for R-22.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this patent.

Respectfully submitted,

Date: August 26, 2013


Kenneth M. Ponder

Electronic Patent Application Fee Transmittal

Application Number:	13493491			
Filing Date:	11-Jun-2012			
Title of Invention:	REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22 REFRIGERANT			
First Named Inventor/Applicant Name:	Kenneth M. Ponder			
Filer:	Todd Deveau./Amy Kwon			
Attorney Docket Number:	821920-1032			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				300

Electronic Acknowledgement Receipt

EFS ID:	16683979
Application Number:	13493491
International Application Number:	
Confirmation Number:	1039
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./Amy Kwon
Filer Authorized By:	Todd Deveau.
Attorney Docket Number:	821920-1032
Receipt Date:	26-AUG-2013
Filing Date:	11-JUN-2012
Time Stamp:	14:26:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 300
RAM confirmation Number	766
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip (if appl.)	Pages (if appl.)
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1	Extension of Time	01875548.PDF	151534 48ed92d17a8f31294e1acf595e1dcb6d00b0f94c	no	2
Warnings:					
Information:					
2	Amendment/Req. Reconsideration-After Non-Final Reject	01891171.PDF	133874 d9bfbba649ce16bda5ac8120e2b432acc6d23345	no	12
Warnings:					
Information:					
3	Miscellaneous Incoming Letter	01875796.PDF	142391 a72deaf4f59cbda26819f975ba03a13db19471b4	no	3
Warnings:					
Information:					
4	Miscellaneous Incoming Letter	01891033.PDF	162021 6e80301690ae694820214117d530ed8efb9fbb52	no	4
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30406 f53acc755aa92a777a2a339ec550e50ccc42ba9a	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			620226		
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.					

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 821920-1032
Application Number 13/493,491	Filed June 11, 2012	
For REFRIGERANT WITH LUBRICATING OIL FOR REPLACEMENT OF R22 REFRIGERANT		
Art Unit 1761	Examiner Hardee, John R.	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☐ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
☒ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ <u>300.00</u>
☐ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ _____
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☒ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 20-0778.

☒ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☒ attorney or agent of record. Registration number 29,526

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____

/Todd Deveau/ August 26, 2013

Signature Date

Todd Deveau 770-933-9500

Typed or printed name Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. 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 1.136(a). 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 6 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: Mail Stop PCT, 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 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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/493,491	Filing Date 06/11/2012	☐ To be Mailed
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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), (i), 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 \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ 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

(Column 1) (Column 2) (Column 3)

AMENDMENT	08/26/2013	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$210 =	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	

(Column 1) (Column 2) (Column 3)

AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** 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.

LIE
/JAMES TUNSTALL/

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/493,491

06/11/2012

Kenneth M. Ponder

821920-1032

1039

24504

7590

09/09/2013

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ATLANTA, GA 30339

EXAMINER

HARDEE, JOHN R

ART UNIT

PAPER NUMBER

1761

NOTIFICATION DATE

DELIVERY MODE

09/09/2013

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):

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Office Action Summary	Application No. 13/493,491	Applicant(s) PONDER ET AL.	
	Examiner JOHN HARDEE	Art Unit 1761	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 8/26/13.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) 30-49 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☒ Claim(s) 30-49 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some * c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

4) ☐ Other: _____.

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

DETAILED ACTION

2. Applicant's arguments regarding the rejection under 112 are persuasive, and the rejection is withdrawn. However, applicant takes on the burden of showing that prior art compositions do not meet the recited limitations.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 30-49 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Takigawa et al., US 6,207,071 for the reasons of record in the previous office action. Newly added claims 47-49 recite physical characteristics of compositions which are obvious over the reference.

Response to Arguments

5. Applicant's arguments filed August 26, 2013 have been fully considered but they are not persuasive. Applicant argues that the Takigawa reference does not present any teaching or suggestion of a refrigerant composition as recited in claims 30 and 32. This is not persuasive because Takigawa discloses the desirability of replacing chlorofluorocarbons at col. 1, lines 20+. Furthermore, chlorodifluoromethane, or R22, is notoriously well known in the art for its ozone depletion and global warming properties.

At col. 8, lines 64+, the reference discloses a variety of heat transfer apparatus in which the disclosed refrigerant compositions are useful, with no teaching that any alteration would be required. Applicant's arguments regarding dew points and bubble points are not persuasive because they recite characteristics of combinations of tetrafluoroethane and pentafluoroethane which are obvious over the reference. See the PTO Board of Patent Appeals and Interferences decision in the grandfather case, 10/937,736.

6. The declaration of Mr. Kenneth Ponder has been carefully considered, but it is also found not to be persuasive. Paragraphs 1-8 are drawn to the background of the invention. At paragraph 9, Mr. Ponder states that he does not find any mention or suggestion in the Takigawa reference of compositions including refrigerant gases consisting of tetrafluoroethane and pentafluoroethane which provides the superior properties described earlier in the declaration. This is not persuasive because the examiner and his superiors at the Board found motivation in the reference to make such compositions, as noted above. Regarding paragraph 10, while the claims in the grandparent case did not recite apparatus suitable for R22, the reference provides motivation for replacement of hydrochlorofluorocarbons with the disclosed hydrofluorocarbon blends, and it teaches their utility in a variety of heat transfer apparatus. Regarding the arguments of paragraph 11, the Takigawa reference does not disclose the use of any and all combinations of tetrafluoroethane and pentafluoroethane. In paragraph 12, Mr. Ponder argues that not all compositions consisting of 40-60% of each of tetrafluoroethane and pentafluoroethane are suitable as R22 replacements, citing three examples. Do these compositions meet the bubble and