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Paper 10
Entered: March 13, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NESTE OIL OYJ,
Petitioner,

v.

SYNTROLEUM CORPORATION,
Patent Owner.

Case IPR2013-00578
Patent No. 8,231,804

Before RAMA G. ELLURU, SHERIDAN K. SNEDDEN, and CHRISTOPHER L. CRUMBLEY, *Administrative Patent Judges.*

CRUMBLEY, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

On September 10, 2013, Neste Oil Oyj ("Neste") filed a petition for *inter partes* review of claims 1-5 and 8 of U.S. Patent No. 8,231,804 (Ex. 1033, "the '804 patent"). Paper 1. An amended petition was filed on September 20, 2013. Paper 5, "Am. Pet." The owner of the '804 patent, Syntroleum Corporation ("Syntroleum"), elected to waive filing a preliminary response. Paper 9. We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides as follows:

> THRESHOLD—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Upon consideration of the petition, we determine that the arguments and information presented establish that there is a reasonable likelihood that Neste would prevail with respect to claims 1-5 and 8 of the '804 patent. Accordingly, pursuant to 35 U.S.C. § 314, we authorize an *inter partes* review to be instituted as to these claims.

A. Related Proceedings

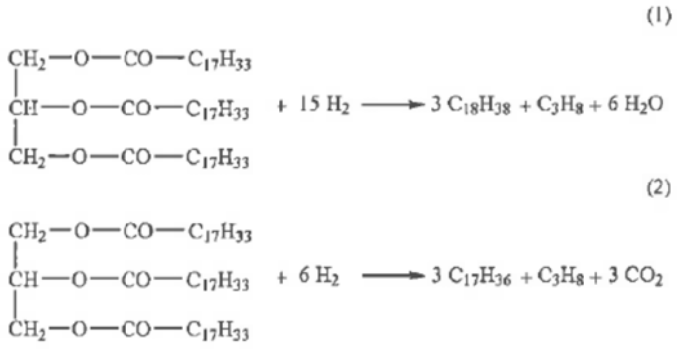
Neste states that it is unaware of any related matters involving the '804 patent. Am. Pet. 2.

B. The '804 Patent

The '804 patent is directed to paraffin compositions containing mainly even carbon number paraffins, and methods of making such compositions. Ex. 1033, Abstract. Specifically, such compositions are useful in "phase change materials" which exploit the latent heat of the paraffins as a passive thermal storage device. *Id.* at 1:29-35. For example, the compositions can be incorporated into the wall boards of a house, where they will absorb heat during the warm part of the day by undergoing a solid-liquid phase transition, and then return the heat to the air by refreezing during cooler portions of the day. *Id*. at 1:39-48.

The specification of the '804 patent discloses that the thermal storage capacity of the phase change materials is determined by their latent heat, and that the latent heat of even carbon number paraffins is higher than the latent heat of odd carbon number paraffins with similar melting points. *Id*. at 1:56-63; *see also id.* at Table 1. The '804 patent, therefore, seeks to increase the production of paraffins via reaction pathways that result in a greater proportion of even carbon number paraffins. *Id.* at 3:33-35. Specifically, the '804 patent discloses one method that hydrogenates and deoxygenates naturally occurring fatty acids and esters such as bio-oils to produce primarily even carbon number paraffins. *Id.* at 4:9-7:67.

As the '804 patent notes, deoxygenation of a triglyceride, such as the ones found in bio-oil feedstocks, proceeds along one of two reaction pathways:



Id. at 3:15-25. As shown above, reaction pathway (1) depicts deoxygenation through hydrogenolysis, which results in a paraffin having the same number of carbon atoms as the fatty acid. Reaction pathway (2) depicts deoxygenation through decarboxylation, which results in a paraffin having one fewer carbon atom than the fatty acid feedstock. *Id.* at 3:26-32. As naturally occurring fatty acid feedstocks typically contain primarily even carbon number fatty acids, the '804 patent discloses a catalyst reaction which selectively prefers the hydrogenolysis pathway, resulting in primarily even carbon number paraffins. *Id.* at 4:2-8. During the disclosed process, the fatty acids are also hydrogenated such that any double bonds are saturated. *Id*. at 3:26-27.

C. Illustrative Claim

Of the challenged claims, only claim 1 is independent, whereas claims 2-5 and 8 depend directly from claim 1. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

> 1. A phase change material composition comprising at least 75 wt % even carbon number paraffins, wherein the paraffins are produced by hydrogenation/hydrogenolysis of naturally occurring fatty acids and esters.

Ex. 1033, claims.

D. Prior Art Relied Upon

Neste relies upon the following prior art references:

Craig	US 4,992,605	Feb. 12, 1991	(Ex. 1035)
Dindi	US 2008/0312480	June 13, 2008[1]	(Ex. 1036)

W. Craig & E. Coxworth, *A Marketing Survey of Worldwide Potential for Use of Vegetable Oil Conversion Products in Diesel Fuel*, SRC Publication No. R-1520-2-C-89 (October 1989) ("Coxworth") (Ex. 1062).

J. Gusmão et al., *Utilization of Vegetable Oils as an Alternative Source for Diesel-Type Fuel: Hydrocracking on Reduced Ni/SiO_2 and Sulphided Ni-Mo/γ-Al_2O_3*, 5 CATALYSIS TODAY 533 (1989) ("Gusmão") (Ex. 1041).

[1] We provide the filing date of Dindi, as Neste relies on the reference as prior art under 35 U.S.C. § 102(e).

J. Beare-Rogers et al., *Lexicon of Lipid Nutrition*, 73 PURE & APPLIED CHEM. 685, no. 4 (2001) ("Beare-Rogers") (Ex. 1040).

Hideshi Iki et al., *Applicability of Hydrogenated Palm Oil for Automotive Fuels*, 16th Saudi Arabia Japan Joint Symposium, Dhahran, Saudi Arabia (2006) ("Iki") (Ex. 1039).

David Kubíčka et al., *Transformation of Plant Oils to Hydrocarbons*, APROCHEM 2007, 1149 (2007) ("Kubíčka") (Ex. 1064[2]).

Pavel Šimáček et al., *Hydroprocessed Rapeseed Oil as a Source of Hydrocarbon-Based Biodiesel*, 88 FUEL 456 (2009) ("Šimáček") (Ex. 1037).

Quido Smejkal et al., *Thermodynamic Balance in Reaction System of Total Vegetable Oil Hydrogenation*, 146 CHEM. ENG'G J. 155 (2009) ("Smejkal") (Ex. 1038).

The '804 patent was filed on December 10, 2008. According to Neste, Craig, Coxworth, Kubíčka, Iki, and Gusmão are prior art to the '804 patent under 35 U.S.C. § 102(b). Am. Pet. 10, 31, 34, 49, 58. Dindi is said to be prior art to the '804 patent under § 102(e), while Šimáček and Smejkal are said to qualify as prior art under § 102(a). *Id*. at 21, 39, 44. Neste does not address the prior art status of Beare-Rogers, but the reference appears to have been published in 2001 and, therefore, would qualify as § 102(b) prior art. Ex. 1040.

[2] An English translation of Kubíčka was submitted as Ex. 1063; our references to "Kubíčka" herein are to the English language document.

E. The Asserted Grounds

Neste asserts that the challenged claims are unpatentable based on the following grounds (Am. Pet. 5):

Claims	**Basis**	**References**
1-4 and 8	§ 102 or § 103	Craig
5	§ 103	Craig and Coxworth
1-5 and 8	§ 102 or § 103	Dindi
1-3 and 8	§ 102 or § 103	Coxworth
1-3 and 8	§ 102	Kubíčka
1-3 and 8	§ 102	Šimáček
1-3 and 8	§ 102	Smejkal
1, 3, and 8	§ 102 or § 103	Iki
5	§ 103	Craig and "Admitted Prior Art"
4 and 5	§ 103	Kubíčka and "Admitted Prior Art"
4 and 5	§ 103	Šimáček and "Admitted Prior Art"
4 and 5	§ 103	Smejkal and "Admitted Prior Art"
4 and 5	§ 103	Iki and "Admitted Prior Art"
5	§ 103	Craig and Gusmão
5	§ 103	Kubíčka and Gusmão
5	§ 103	Šimáček and Gusmão
5	§ 103	Smejkal and Gusmão
5	§ 103	Iki and Gusmão

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, "[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears." 37 C.F.R. § 42.100(b). Under this standard, we construe claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). We presume that claim terms have their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) ("The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.") (internal quotation marks omitted). However, a patentee may rebut this presumption by acting as his own lexicographer, providing a definition of the term in the specification with "reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Neste requests that we construe two terms: 1) *a phase change material composition*; and 2) *hydrogenation/hydrogenolysis*. We have considered each proposed construction, applying the broadest reasonable interpretation and taking into account the plain meaning of the terms and their usage in the specification.

1. A Phase Change Material Composition

The phrase *a phase change material composition* appears in the preamble of claim 1. Neste contends that the preamble is non-limiting, and thus asks that we construe the phrase as requiring only "a composition." Am. Pet. 6-7. To support this argument, Neste relies on statements allegedly made by Syntroleum during prosecution of a counterpart Singapore patent application, as well as before the Singapore High Court in a patent infringement litigation. *Id.*

We need not reach the issue of Syntroleum's alleged statements, because we determine that the preamble is not a limitation on the scope of claim 1. We will only construe a claim term that appears in the preamble of a claim if it is necessary to "give life, meaning, and vitality" to the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co*., 182 F.3d 1298, 1305 (Fed. Cir. 1999) (citing *Kropa v. Robie*, 187 F.2d 150, 152 (CCPA 1951)). As the Federal Circuit has noted:

> If [] the body of the claim fully and intrinsically sets forth the complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations, but rather merely states, for example, the purpose or intended use of the invention, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.

Id.

Upon review of the claim language, we determine that the inclusion of "phase change material" in the preamble of claim 1 does nothing more than state the intended use of the compositions that are set forth fully in the body of the claim. We, therefore, decline to construe the preamble as limiting, in this case.

2. Hydrogenation/Hydrogenolysis

Neste also asks that we construe *hydrogenation/hydrogenolysis*, which appears in the context of claim 1's recitation that the paraffins are "produced by hydrogenation/hydrogenolysis." Am. Pet. 9-10. Citing to the declaration of its expert, Dr. Michael T. Klein, Neste notes that *hydrogenation* typically refers to a chemical reaction that adds hydrogen to a molecule, whereas *hydrogenolysis* refers to a chemical reaction that breaks bonds by adding hydrogen. *Id*. at 9 (citing Ex. 1034, ¶ 34). As discussed above, these definitions are consistent with the usage of the terms in the specification of the '804 patent.

Neste further contends that *hydrogenation/hydrogenolysis* should be interpreted to mean "hydrogenation and/or hydrogenolysis." *Id*. at 10. Again, Neste cites to the declaration of Dr. Klein, who notes the specification's disclosure that "the process may occur either in batch mode, in a fixed bed reactor, or in a reactors-in-series process" supports this construction. Ex. 1034, ¶ 34; *see* Am. Pet. 10.

To the extent that Neste's proffered construction would allow claim 1 to cover paraffins produced by a process employing hydrogenation or hydrogenolysis alone, we do not consider the construction to be consistent with the specification of the '804 patent. The specification refers to the process as a "single-step hydrogenation/hydrogenolysis process of biological feedstocks," implying a combination of both reactions into a single step. Ex. 1033, 4:1-2. In describing the potential reaction pathways of the process, the specification notes that "[t]he fatty acid/glyceride feed is hydrogenated *and* deoxygenated." *Id*. at 3:6-7 (emphasis

added). As a result, "the glycerol backbone [of the fatty acid] is converted to propane and double bonds are saturated." *Id*. at 3:27-28.

Furthermore, the examples of paraffin production processes covered by the invention of the '804 patent show that both hydrogenation and hydrogenolysis reactions occur. Example 2, entitled "Hydrogenation/Hydrogenolysis of Canola Oil," begins with a feedstock of canola oil, which, according to Table 2 of the specification, contains 10-18 wt% of monounsaturated oleic acid (C18:1). *Id*. at 9:20-10:17. After the feedstock is subjected to the *hydrogenation/hydrogenolysis* process, the resulting product is primarily saturated C18 paraffins, implying that the oleic acid underwent both hydrogenation and hydrogenolysis. *Id*.; *see also id.* at Figure 6. The '804 patent thus uses the term *hydrogenation/hydrogenolysis* to refer to processes in which both reactions occur; we discern no example in the specification in which the term refers to processes involving only one reaction. We, therefore, construe *hydrogenation/hydrogenolysis* as "hydrogenation and hydrogenolysis."

B. Anticipation by Craig

Neste asserts that claims 1-4 and 8 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Craig. Pet. 10-19. In support of this asserted ground of unpatentability, Neste sets forth the disclosure of Craig, provides a detailed claim chart, and cites to the declaration of Dr. Klein (Ex. 1034, ¶¶ 37-42, 55), explaining how each limitation is disclosed in Craig. *Id*.

Craig discloses a process for producing hydrocarbons with a relatively high cetane number, useful as diesel fuels or diesel fuel ignition improvers. Ex. 1035,

1:12-15. The process hydroprocesses a feedstock containing fatty acids or triglycerides of fatty acids, including naturally occurring vegetable oils, to result in a mixture of saturated hydrocarbons. *Id*. at 2:40-55. The hydroprocessing "includes hydrocracking of the triglyceride structure, hydrotreating (removal of oxygen), and hydrogenation of unsaturated bonds." *Id*. at 3:23-35. Table 9 of Craig discloses naturally occurring feedstocks such as canola oil, rapeseed oil, and palm oil, and the makeup of the hydrocarbon product produced from each feedstock. *Id.* at Table 9. The table lists the results of GC-MS (gas chromatography-mass spectrometry) analysis of the products, expressed as peak area percentages of each hydrocarbon (e.g., C_{16}, C_{17}, C_{18}, etc.). *Id*.

We find persuasive at this stage of the proceeding Neste's unchallenged analysis of how the claim elements are taught by Craig. For example, with respect to claim 1, Neste has shown sufficiently that Craig discloses a composition comprising at least 75 wt% even carbon number paraffins, for the following reasons. We are persuaded by Dr. Klein's testimony that it is common practice in the art to use peak areas on a gas chromatography trace to approximate weight percentage of various components. Ex. 1034, ¶ 24. The Dindi reference supports this conclusion, as it discloses that "it is presumed the FID peak area % is equally comparable to weight percent due to the similarity of components (all hydrocarbons, linear and branched)." Ex. 1036 [0063]. Therefore, we conclude that the peak areas disclosed in Craig are a reasonable approximation of the weight percentage amounts of the resulting paraffins.

Alternatively, we are persuaded by Dr. Klein's testimony that the weight percentage amounts of the paraffin products may be calculated from peak areas

using relative response factors. Ex. 1034 ¶ 25-26. Using either of these approaches, Neste has set forth sufficient evidence that Craig discloses compositions comprising at least 75 wt% even carbon number paraffins. For example, paraffins produced from hydrotreating canola oil premium quality results in 82.76 wt% C_{16}, C_{18}, and C_{20}. Ex. 1035, Table 9. These paraffins are produced by hydrogenation and hydrogenolysis of canola oil, a naturally occurring fatty acid.

With respect to dependent claims 2-4 and 8, we are persuaded that Craig discloses all elements of these claims. The canola oil example noted above produces over 80 wt% even carbon number paraffins, which contain both n-hexadecane and n-octadecane, satisfying claims 2 and 3, respectively. *Id*. With respect to claim 4, which requires that the even carbon number paraffins comprise n-octadecane and n-docosane, Craig's "rapeseed oil 343 ºC + cut" contains both C_{18} and C_{22}. *Id*. Finally, the process of Craig occurs in the presence of cobalt-molybdenum, nickel molybdenum, or other transition metal based catalysts, meeting claim 8's requirement of a catalyst containing nickel, molybdenum, cobalt, and/or tungsten. *Id*. at 2:60-65.

Based on the record before us, Neste has established a reasonable likelihood that it would prevail in showing that each of claims 1-4 and 8 are anticipated by Craig.

C. Anticipation by Dindi

Neste asserts that claims 1-3, 5, and 8 are unpatentable under 35 U.S.C. § 102 as anticipated by Dindi.[3] Am. Pet. 21-30. In support of this asserted ground of unpatentability, Neste sets forth the disclosure of Dindi, provides a detailed claim chart, and cites to the declaration of Dr. Klein (Ex. 1034, ¶¶ 60-63, 67, 68), explaining how each limitation is disclosed in Dindi. *Id.*

Dindi discloses a process for the production of linear and branched paraffins from renewable resources such as naturally occurring bio-oils. Ex. 1036, [0002]. The process involves hydrotreating the oils, which Dindi discloses may comprise three major reactions: hydrodeoxygenation ("HDO"), hydroisomerization, and hydrocracking. *Id*. at [0038]. The HDO may occur as decarbonylation, decarboxylation, or hydrodeoxygenation reactions. *Id*. at [0039]. Dindi discloses that the particular HDO route that occurs may be controlled selectively by varying the type and/or composition of the catalyst used in the process. *Id*. at [0041]. By using a catalyst comprising molybdenum and one or more of nickel, cobalt, or mixtures thereof, the hydrodeoxygenation route is preferred and results in a hydrocarbon product having an even carbon number to odd carbon number ratio of from 2:1 to 10:1. *Id*. at [0046].

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[3] Neste's petition sets forth both an anticipation and an obviousness ground based on Dindi under the heading "Claims 1-5 and 8 Are Anticipated by and/or Obvious Over Dindi." Am. Pet. 21. Claim 4, however, is discussed only in the context of obviousness. *Id*. at 24-26. As a result, Neste has contended that only claims 1-3, 5, and 8 are unpatentable as anticipated by Dindi.

We find persuasive at this stage of the proceeding Neste's unchallenged analysis of how the claim elements are taught by Dindi. For example, with respect to claim 1, Neste has shown sufficiently that Dindi discloses a composition comprising at least 75 wt% even carbon number paraffins. As discussed above, we are persuaded by Dr. Klein's testimony that weight percent can be approximated from gas chromatography peak areas, or calculated using relative response factors. Ex. 1034, ¶¶ 24-26. Neste has set forth sufficient evidence that Dindi discloses compositions comprising at least 75 wt% even carbon number paraffins. For instance, Example 10 describes the production of paraffins from soybean oil, resulting in 92.5 wt% C_{16} and C_{18}. Ex. 1036, [0076]. These paraffins are produced by hydrogenation and hydrogenolysis of the soybean oil, which is a naturally occurring fatty acid.

With respect to dependent claims 2, 3, 5, and 8, we are persuaded that Dindi discloses all elements of these claims. The soybean oil example noted above produces over 80 wt% even carbon number paraffins, which contain both n-hexadecane and n-octadecane, satisfying claims 2 and 3, respectively. *Id*. With respect to claim 5, which requires that the even carbon number paraffins comprise n-dodecane and n-tetradecane, Example 14 of Dindi processes refined coconut oil, resulting in a product containing 43.5% C_{12} and 17.5% C_{14}. *Id*. at [0081]. Finally, the Examples of Dindi utilize cobalt/nickel/molybdenum or nickel/molybdenum catalysts, meeting claim 8's requirement of a catalyst containing nickel, molybdenum, cobalt, and/or tungsten. *See, e.g.*, *id*. at [0076], [0078].

Based on the record before us, Neste has established a reasonable likelihood that it would prevail in showing that each of claims 1-3, 5 and 8 are anticipated by Dindi.

D. Anticipation by Kubíčka

Neste asserts that claims 1-3 and 8 are unpatentable under 35 U.S.C. § 102 as anticipated by Kubíčka. Am. Pet. 34-38. In support of this asserted ground of unpatentability, Neste sets forth the disclosure of Kubíčka, provides a detailed claim chart, and cites to the declaration of Dr. Klein (Ex. 1034, ¶¶ 69-74, 87), explaining how each limitation is disclosed in Kubíčka. *Id.*

Kubíčka compares various processes for converting vegetable oils into hydrocarbons. Ex. 1063, 1149. One such process involves hydrogenation of vegetable oils on sulfided NiMo catalysts. *Id*. Kubíčka describes the reaction as comprising two steps: first, saturation of double bonds occurs (hydrogenation); second, elimination of oxygen atoms and formation of hydrocarbons occurs. *Id*. at 1151. Kubíčka notes that when using a NiMo catalyst, the primary component of the product is n-heptadecane, which is evidence that the elimination of oxygen atoms is achieved by hydrodeoxygenation. *Id*. Figure 4 shows the ratio of the weight percentages of even carbon number paraffins (C_{16} and C_{18}) to the weight percentages of odd carbon number paraffins (C_{15} and C_{17}) at various temperatures and using various catalysts. *Id*. at 1153.

We find persuasive at this stage of the proceeding Neste's unchallenged analysis of how the claim elements are taught by Kubíčka. For example, with respect to claim 1, Neste has shown sufficiently that Kubíčka discloses a

composition comprising at least 75 wt% even carbon number paraffins. Neste notes that Figure 4 of Kubíčka shows that when rapeseed oil is processed with a NiMo catalyst at 310 ºC, the ratio of C_{18} to C_{17} is approximately 4.9 and the ratio of C_{16} to C_{15} is approximately 5.0. Am. Pet. 35. Dr. Klein testifies that these ratios can be converted to show that the product is approximately 82.6-83.3% even carbon number paraffins, satisfying the percentage limitations of both claim 1 and claim 2. Ex. 1034, ¶ 69-71.

With respect to dependent claims 3 and 8, we are persuaded that Kubíčka discloses all elements of these claims. As noted above, Figure 4 shows that the product contains both n-hexadecane and n-octadecane, satisfying claim 3. Ex 1063, 1153. With respect to claim 8, which requires that the catalyst contain nickel, molybdenum, cobalt, and/or tungsten, the process of Kubíčka uses a NiMo catalyst. *Id*.

Based on the record before us, Neste has established a reasonable likelihood that it would prevail in showing that each of claims 1-3 and 8 are anticipated by Kubíčka.

E. Obviousness over Kubíčka and Gusmão

Neste contends that claim 5 of the ’804 patent is unpatentable under 35 U.S.C. § 103 as having been obvious over the combined teachings of Kubíčka and Gusmão. Am. Pet. 57-59. Neste concedes that Kubíčka does not disclose the production of a paraffin product comprising n-dodecane and n-tetradecane, as required by claim 5. *Id.* Neste argues, however, that the combination of Kubíčka’s hydrotreating process with a feedstock of babaçu oil as disclosed by Gusmão

would have been obvious to a person of ordinary skill in the art at the time the invention was filed. *Id*.

Gusmão discloses the production of hydrocarbon fuel from vegetable oils, and specifically focuses on the processing of soybean oil and babaçu oil. Ex. 1041, 534-35. Babaçu oil is said to comprise 42.5 wt% C_{12} fatty acid, and 16.1 wt% C_{14} fatty acid. *Id*. Neste also points out that Kubíčka expressly discusses Gusmão, and notes its use of "babassu" oil. Am. Pet. 59. According to Dr. Klein, the use of babaçu oil in the process of Kubíčka—which results in products having high quantities of paraffins having the same number of carbon atoms as the starting fatty acids—would result in a final product that contains greater than 75 wt% even carbon number paraffins, and specifically n-dodecane (C_{12}) and n-tetradecane (C_{14}). Ex. 1034, ¶ 83-86.

According to Neste, Gusmão discloses that babaçu oil is a suitable starting material for hydroprocessing, and one of ordinary skill in the art would have understood that the hydrocarbon distribution of the final product could be controlled by choosing an appropriate feedstock oil. Am. Pet. 58. Neste argues that the "use of the babacu oil of Gusmão in the process of . . . Kubíčka . . . to obtain the composition of claim 5 would have been the simple substitution of one known starting material for another to obtain predictable results." *Id*. at 59 (italicization omitted).

In light of the foregoing, we are persuaded that Neste has provided a sufficient rationale to combine the teachings of Kubíčka and Gusmão, and that the combination would disclose all elements of claim 5. We conclude, based on the record before us, that Neste has established a reasonable likelihood that it would

prevail in showing that claim 5 would have been obvious over the combined teachings of Kubíčka and Gusmão.

F. Other Asserted Grounds

Neste asserts several additional grounds of unpatentability, all of which are denied as redundant in light of the grounds on which we have instituted review. *See* 37 C.F.R. § 42.108(a); *see also Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, CBM2012-00003, slip op. at 2-3 (PTAB Oct. 25, 2012) (Paper 7, Order (Redundant Grounds)).

III. CONCLUSION

For the foregoing reasons, we determine that the information presented in the petition establishes that there is a reasonable likelihood that Neste would prevail in showing unpatentability of claims 1-5 and 8 of the '804 patent.

At this stage of the proceeding, the Board has not made a final determination as to the patentability of any challenged claim.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 1-5 and 8 of the '804 patent on the following grounds:

1. Claims 1-4 and 8 are unpatentable under 35 U.S.C. § 102 as anticipated by Craig;

2. Claims 1-3, 5 and 8 are unpatentable under 35 U.S.C. § 102 as anticipated by Dindi;
3. Claims 1-3 and 8 are unpatentable under 35 U.S.C. § 102 as anticipated by Kubíčka; and
4. Claim 5 is unpatentable under 35 U.S.C. § 103 as having been obvious over the combined teachings of Kubíčka and Gusmão.

FURTHER ORDERED that no other ground of unpatentability alleged in the petition for any claim is authorized for this *inter partes* review;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, the trial commencing on the entry date of this decision; and

FURTHER ORDERED that an initial conference call with the Board is scheduled for 11:00 a.m. Eastern Time on April 2, 2014; the parties are directed to the Office Trial Practice Guide[4] for guidance in preparing for the initial conference call, and should be prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

[4] Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,765-66 (Aug. 14, 2012).

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