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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EDMUNDO STEVEN VAN DOESBURG

Appeal 2019-006423
Application 13/383,887
Technology Center 1700

Before JEFFREY B. ROBERTSON, N. WHITNEY WILSON, and
MERRELL C. CASHION, JR., *Administrative Patent Judges*.

CASHION, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the
Examiner's decision to reject claims 1–3, 6, 7, 10–12, 18–20, and 23–27.

We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Shell Oil Company. Appeal Br. 1.

The invention is generally directed to a process for hydrotreating a hydrocarbon oil employing at least a first and a second reactor vessel in series. Spec. 1. Claim 1 illustrates the invention (formatting added):

1. A process for hydrotreating a hydrocarbon oil, which is a lubricating oil containing at least 95% by weight hydrocarbons boiling in the range of from 150 to 400 °C, employing at least a first reactor vessel and a second reactor vessel, which process comprises:

(i) contacting the hydrocarbon oil in the first reactor vessel at a first elevated temperature and a first elevated pressure with a hydrodesulphurization catalyst, comprising one or more metals cobalt and nickel and one or more metals molybdenum and tungsten on a first solid carrier, in the presence of a hydrogen-containing gas, thereby consuming hydrogen and yielding an effluent;

(ii) passing the effluent to a gas-liquid separator providing for a contaminated hydrogen-containing gas and a partly hydrotreated hydrocarbon oil;

(iii) cleaning the contaminated hydrogen-containing gas to yield a clean hydrogen-containing gas;

(iv) stripping the partly hydrotreated hydrocarbon oil using a stripping column employing a used hydrogen-containing gas as a stripping gas to provide the hydrogen-containing gas removed from the partly hydrotreated hydrocarbon oil to provide a stripped partly hydrotreated hydrocarbon oil;

(v) contacting the stripped partly hydrotreated hydrocarbon oil within the second reactor vessel that defines an upper reaction zone, including a hydrodewaxing catalyst, comprising a noble metal selected from the group consisting of platinum, palladium, iridium and ruthenium on a second solid carrier, in the presence of the clean hydrogen-containing gas, thereby consuming hydrogen and yielding a product, wherein at least 80% of the hydrogen consumed in the contacting steps is supplemented by fresh make-up hydrogen fed to the second reactor vessel and a lower separation zone providing for

separating the product into a hydrotreated hydrocarbon oil and the used hydrogen-containing gas, which hydrotreated hydrocarbon oil can be recovered as product; and,

(vi) transporting at least a portion of the used hydrogen-containing gas obtained in the separating step to the stripping column for use as the stripping gas.

Independent claim 18 is directed to a process similar to claim 1 but recites additional features.

Appellant requests review of the Examiner's rejection of claims 1–3, 6, 7, 10–12, 18–20, and 23–27 under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Ravella (US 2002/0074261 A1, published June 20, 2002), Thielemans (EP 0 611 816 A1, published August 24, 1994), Schorfheide (US 4,243,519, issued January 6, 1981), and Shiroto (US 4,399,026, issued August 16, 1983). Appeal Br. 4; Non-Final Act. 3.

Appellant presents arguments for independent claim 1 and indicates that all of the appealed claims stand or fall together with independent claim 1. Appeal Br. 4. Accordingly, we select claim 1 as representative of the subject matter claimed and decide the appeal based on the arguments presented for claim 1.

OPINION

After review of the respective positions the Appellant provides in the Appeal Brief² and the Examiner provides in the Non-Final Action and the Answer, we affirm the Examiner's prior art rejection of claims 1–3, 6, 7, 10–

² Appellant did not file a Reply Brief.

12, 18–20, and 23–27 based essentially on the Examiner’s fact-finding and reasoning. We add the following for emphasis.

Independent claim 1

We refer to the Examiner’s Non-Final Action for a complete statement of the Examiner’s rejection of claim 1. Non-Final Act. 3–11.

Appellant argues that the combined teachings of the cited art do not teach the following claimed features:

1. a two-reaction stage process for treating lubricating oil, whereby a hydrodesulfurization reaction stage and a hydrodewaxing reaction stage are combined with interstage separation that includes the two steps of gas-liquid separation followed by stripping of the liquid phase from the gas-liquid separation step;

2. the use of a single reactor vessel defining dual-zones including a hydrodewaxing zone and separation zone to provide for separation of hydrogen and treated lubricating oil product and for recycling the separated hydrogen to the stripper of the interstage two-step gas-liquid separation system for use as a stripping fluid;

3. the process that includes the above arrangement of process steps with passing of the stripper overhead gas stream (hydrogen-containing gas) to the hydrodesulfurization reaction stage;

4. a requirement that most of the makeup hydrogen that is consumed by the overall process (i.e., at least 80%) must be introduced into the hydrodewaxing zone of the second stage reactor vessel. Appeal Br. 8.

Appellant’s arguments do not identify error in the Examiner’s determination of obviousness for the reasons the Examiner presents.

It is well established that the obviousness inquiry does not ask “whether the references could be physically combined but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole.” *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc); *see also In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (stating “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference”). “[T]he test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *Keller*, 642 F.2d at 425–26.

While Appellant’s arguments highlight several claim 1 features, the arguments do not address the reasons the Examiner presents in support of the rejection. *See generally* Non-Final Act. and Ans. “[S]tatement[s] which merely point[] out what a claim recites will not be considered [] argument[s] for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(iv).

Appellant argues that the Examiner relies on impermissible hindsight to pick various features from among the numerous references to combine them with the primary reference to arrive at the claimed invention. Appeal Br. 9. According to Appellant, Ravella provides for dewaxing of its process feedstock while the processes of the other references provide only for hydrotreating of their feedstocks. *Id.* Thus, Appellant asserts each of the processes of the four references deals with a different type of feed and provides a different function, making the combinations improper. *Id.* In addition, Appellant also contends that the large number of references used to support the obviousness rejection itself suggests a lack of obviousness of the claimed process. *Id.*

Appellant's arguments lack persuasive merit.

As the Examiner finds in the Non-Final Office Action, Ravella discloses hydrodewaxing as one among various well known processes for treating hydrocarbon feedstocks. Non-Final Act. 5; Ravella ¶ 26. Appellant's arguments do not address this finding by the Examiner. Moreover, given that Thielemans teaches it was known to combine a hydrotreatment process and a separation process in a single reactor (Non-Final Act. 5–6),³ Appellant has not explained adequately why one skilled in the art, using no more than ordinary creativity, would not have been capable of adapting Thielemans's single reactor to incorporate a hydrodewaxing step, in view of Ravella's disclosure, if that particular hydroprocessing is desired for the hydrocarbon feedstock to be treated. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”); *see also In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985) (presuming skill on the part of one of ordinary skill in the art).

With respect to the Examiner's reliance on a “large number of references” (Appeal Br. 9), reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. *In re Gorman*, 933 F.2d 982, 986 (Fed. Cir. 1991). Here, the Examiner presents a detailed articulated rationale for combining the teachings of the cited art to arrive at the claimed invention. Non-Final Act. 3–11. As we indicate above, Appellant's arguments do not refute adequately the Examiner's reasons in support of the rejection. Therefore,

³ Appellant discusses the reference to Thielemans in the Specification and acknowledges the above-noted teaching. Spec. 2–3.

Appellant has not explained adequately why the Examiner's reliance on a total of four references is a large number of references to support an obviousness rejection.

Accordingly, we affirm the Examiner's prior art rejection of claims 1–3, 6, 7, 10–12, 18–20, and 23–27 for the reasons the Examiner presents and we give above.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 6, 7, 10–12, 18–20, 23–27	103(a)	Ravella. Thielemans, Schorfheide, Shiroto	1–3, 6, 7, 10–12, 18– 20, 23–27	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED