

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

EMERACHEM HOLDINGS, LLC,
Patent Owner.

Case IPR2014-01558
Patent 5,599,758

Before JAMES T. MOORE, SHERIDAN K. SNEDDEN, and
KRISTINA M. KALAN, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

DECISION ON REHEARING

A final written decision in this matter was rendered January 22, 2016.
Paper 59. Patent Owner filed a timely notice of appeal. Paper 64.

The United States Court of Appeals for the Federal Circuit affirmed
the decision of the Board in part¹, vacated in part², and remanded the

¹ As to the finding that claims 1–2, 4–14, and 17–19 were unpatentable.

² As to the finding that claims 3, 16, and 20 were unpatentable.

proceeding to the Board for clarification. *EmeraChem Holdings, LLC v. Volkswagen Grp. of Am.*, 859 F.3d 1341, 1348 (Fed. Cir. 2017).

The Federal Circuit determined that the prior Board panel violated the notice and opportunity to respond requirement of the Administrative Procedures Act, 5 U.S.C. §§ 554, 556, and 706. *EmeraChem*, 859 F.3d at 1352. Specifically, the violation occurred when the Board panel determined that claims 3, 16, and 20 were rendered obvious by the combination of Campbell (Ex. 1003A), Saito (Ex. 1008B), and Stiles (Ex. 1009A). Paper 59, 54.

Although not specifically argued in the Petition, the Board panel in the final written decision nonetheless relied on Stiles for its disclosure of the specific limitations of dependent claims 3, 16, and 20. *Id.* According to the Federal Circuit, inclusion of the Stiles reference was a denial of *EmeraChem's* procedural rights guaranteed by the Administrative Procedures Act because the Petition did not specifically set forth Stiles as a reference for claims 3, 16, and 20. *EmeraChem*, 859 F.3d at 1349.

More specifically, in instructing us how to further proceed, the Court observed:

EmeraChem argues the Board's final written decision should be reversed. While Volkswagen and PTO Intervenor dispute whether there was sufficient notice, neither dispute the proper remedy. Therefore, we consider them to have waived any argument that any remedy other than reversal is appropriate when a new rationale for unpatentability is adopted by the Board in its final written decision.

Id. at 1352.

In the penultimate sentence of its decision, the Federal Circuit gave the following instruction:

Because we are unable to discern whether the Board found Saito does not disclose the dependent limitations in claims 3, 16, and 20, we vacate the Board's decision as to these claims and remand for clarification.

Id.

A conference call was conducted October 3, 2017, during which the panel and the parties discussed different approaches for addressing the remand order from the Federal Circuit. Ex. 1059. After consideration of the issues, the Board issued a decision on remand, finding the Petitioner had not carried its burden of proof as regards to claims 3, 16, and 20 because Saito did not describe certain limitations. Paper 67.

Petitioner has filed a request for rehearing of the decision on remand. Paper 68. Patent Owner was invited to respond. Paper 73. Patent Owner responded with an opposition to the request. Paper 75. Petitioner was permitted a reply, which was filed. Paper 76.

The request for rehearing asserts that we abused our discretion in three ways in deciding the remanded proceeding. Paper 68, 1. More specifically, Petitioner contends that we failed on multiple levels in that:

(1) the Board violated the Administrative Procedure Act ("APA"), 5 U.S.C. § 554(c)(1), by failing to consider the prior art Stiles reference even though it had been part of the IPR2014-01558 record since the filing of the Petition and previously relied upon in the Final Written Decision to invalidate claims 3, 16 and 20; (2) the Board violated the APA, §554(c)(1), and PTAB Standard Operating Procedure ("SOP") 9 by denying Petitioner's request to file a remand brief addressing the prior art Saito reference; and (3) the Board made an error of law and/or a clear

erroneous finding of fact by limiting Saito to just its inventive embodiment, and overlooking arguments in Petitioner's Reply regarding Saito's disclosed alternative use of low oxygen-content exhaust as an inert carrier gas for the hydrogen reducing agent.

Id.

As relief, Petitioner requests we conduct the remand anew, giving consideration to Stiles as a secondary reference, or simply find outright that claims 3, 16, and 20 are unpatentable under Ground 4, i.e., in view of Campbell '558 and Saito. *Id.* We address these issues *seriatim* below.

The Administrative Procedures Act

The Administrative Procedure Act, codified at 5 U.S.C. § 500 *et. seq.* provides in pertinent part that:

- (c) The agency shall give all interested parties opportunity for—
 - (1) the submission and consideration of facts, arguments, offers of settlement, or proposals of adjustment when time, the nature of the proceeding, and the public interest permit; ...

5 U.S.C. § 554(c)(1).

According to Petitioner, “the Board violated §554(c)(1) by depriving Petitioner Volkswagen (an “interested party”) of the requested opportunity to have the previously submitted Stiles reference (Ex. 1009A) considered by the Board on remand as part of the Ground 4 combination of Campbell '558, Saito and Stiles.” Paper 68, 4.

As we understand the argument made by Petitioner, because Stiles is relevant, and because the time, nature of the proceeding, and the public interest permit the Board to consider Stiles on remand, we should do so. *Id.* at 5. This argument is misdirected.

Initially, we observe that the agency provided Petitioner an opportunity to submit evidence and arguments in its Petition. Although the Petition included the Stiles reference in Ground 4, the decision not to rely on the Stiles reference in Ground 4 for claims 3, 16, and 20 was either a strategy choice or omission by counsel. Petitioner is now, in essence, requesting a second chance in order to add to its arguments that were made in the Petition and provide its reasoning as to why Stiles would render those claims obvious. We therefore are unpersuaded that we overlooked or misapprehended the Administrative Procedures Act requirements in this regard.

Moreover, the United States Supreme Court has been quite explicit in that the petition as filed governs the proceedings in an *inter partes* review. More specifically “in an inter partes review the petitioner is master of its complaint and normally entitled to judgment on all of the claims it raises.” *SAS Institute, Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018). Being master of the complaint comes with a responsibility for its content. And as our reviewing court has said, “[g]iven the specificity with which the petition’s claim chart and the Institution Decision’s list of claims expressly identified particular references’ disclosures for some claims and not for others, it cannot be the case that the general statements Volkswagen relies upon provided sufficient notice that Stiles could be applied to all claims. *EmeraChem*, 859 F.3d 1349.

Petitioner has had an adequate opportunity to argue its Petition to the Board.

The APA and Board SOP

Petitioner next asserts that the Board violated the APA, § 554(c)(1), and PTAB Standard Operating Procedure 9 (“SOP 9”) by denying Petitioner’s request to file a remand brief addressing the prior art Saito reference. Paper 68, 8. More specifically, it is urged that the Board should have allowed additional briefing.

Petitioner requested leave to file a remand brief on Saito. See Ex. 1059, 28. We denied that request “[g]iven the stated limited purpose of the remand and our reviewing court’s viewpoint” Paper 67, 9.

Petitioner is of the view that the concluding paragraph of the Federal Circuit’s decision places no limitations whatsoever on the remand proceeding, asserting that, instead, 5 U.S.C. § 554 (c)(1) gives Petitioner the “opportunity for the submission . . . of facts, [and] arguments” regarding Saito on remand “when time, the nature of the proceeding, and the public interest permit.” Paper 68, 8.

This position again overlooks the statements referenced above in the Federal Circuit’s decision discussing the fault in the Petition *ab initio* and the Institution Decision. Indeed, following this line of reasoning would eviscerate the outcome of the entire appeal process at the Federal Circuit.

Petitioner next turns to the Board’s Standard Operating Procedure 9 for support for its position. According to Petitioner, “the Board’s SOP 9 indicates that the default procedure for a “lack of due process / denial of remand scenario, which is what occurred here (*see EmeraChem*, 859 F.3d at 1348-52; Paper 67, 4), is to allow additional briefing. Paper 68, 8–9, citing SOP 9, 8.

Petitioner fails to note, however, that SOP 9 also provides that “[i]n deciding whether to allow additional briefing by the parties, the panel will take into account whether the parties already have had an adequate opportunity to address the issues raised by the remand.” SOP 9, 6. The issues raised by the remand are limited—whether Saito describes the limitations of claims 3, 16, and 20. *EmeraChem*, 859 F.3d at 1352.

Petitioner had a full and complete opportunity to address those issues in the Petition and its Reply. As the Federal Circuit has already noted, they simply did not adequately avail themselves of the opportunity. “By directing the patent owner to how it believed this portion of Stiles discloses limitations of claim 17 and no other claims, Volkswagen did not suggest that the same block quote would be relied upon for limitations of claims 3, 16, and 20.” *EmerCchem*, 859 F.3d at 1350.

Accordingly, we do not conclude that we either abused our discretion or overlooked either the requirements of the Administrative Procedures Act or SOP 9.

SAITO

Claim 3 of the ’758 patent depends from claim 1, and both recite as follows:

1. A method of regenerating a devitalized absorber having nitrogen oxides absorbed therein or thereon, said method comprising the steps of:

- providing a stream of regenerating gas comprising a reducing gas, said reducing gas having an effective amount for removing said nitrogen oxides from said devitalized absorber, and an inert carrier gas; and

- passing said stream of regenerating gas comprising an inert carrier gas and a component selected from the group consisting of hydrogen, carbon monoxide and mixtures thereof

over said devitalized absorber comprising an alumina support with a platinum coating thereon and having nitrogen oxides absorbed therein or thereon for an effective time, at an effective temperature and at an effective space velocity to remove said nitrogen oxides from said devitalized absorber to form a regenerated absorber.

Ex. 1001, 9:28–44.

3. The method of claim 1 wherein said regenerating gas further comprises up to 10% carbon dioxide.

Id. at 9:46–47.

Claims 16 and 20 depend from claims 13 and 14. Those claims recite:

13. A method of regenerating a devitalized catalyst/absorber and having nitrogen oxides absorbed therein or thereon, comprising the steps of:

providing a stream of inert carrier gas containing an effectuating amount of a reducing agent selected from carbon monoxide, hydrogen gas and mixtures thereof said stream further characterized as containing at least carbon monoxide or carbon dioxide for removing said nitrogen oxides from said catalyst/absorber and restoring a carbonate form for said alkali or alkaline earth; passing said gaseous stream over said exhausted catalyst/absorber comprising an oxidation catalyst specie selected from platinum, palladium, rhodium, cobalt, nickel, iron, copper, molybdenum or combinations thereof disposed on a high surface area support, said catalytic component being intimately and entirely coated with an absorber material selected from a hydroxide, carbonate, bicarbonate or mixture thereof of an alkali or alkaline earth or mixtures thereof and having nitrogen oxides absorbed therein or thereon for an effective time, at a temperature in the range of 250° to 750° F. and at a GHSV in the range of 10 to 100,000 hr⁻¹ to remove said nitrogen oxides from said devitalized catalyst/absorber to form a regenerated catalyst/absorber.

14. The method of claim 13 wherein said inert carrier gas comprises nitrogen, steam or mixtures thereof.

Id. at 10:13–40.

16. The method of claim 14 wherein said inert carrier gas comprises steam.

Id. at 10:44–45

20. The method of claim 14 wherein said inert carrier gas comprises steam.

Id. at 10:53–54.

These claims recite varyingly that in the regenerating method the inert carrier gas comprises up to 10% carbon dioxide (claim 3) or steam (claims 16 and 20).

Ground D of the Petition originally asserted that claims 3, 16, and 20 were rendered obvious by the combination of Campbell and Hirota or Saito, in view of Stiles. Paper 3, 45.

During the conference call on October 3, 2017, Petitioner’s counsel asserted, prior to our decision on remand, that Saito:

...discloses two embodiments. One where there’s a low oxygen content and one where there’s a high oxygen content. When there is a high oxygen content, they shut off one of the beds and only put hydrogen through. But it says when the content is low or it’s zero or substantially low, then you can use the exhaust as the carrier gas.

Ex. 1059, 25:25–26:9.

Despite that assertion, we found in the decision on remand that:

Saito itself states that the method includes stopping the flow of the exhaust gas. Ex. 1008B p. 3, left hand column, line 4. Hydrogen is introduced to the catalyst bed “through which the

exhaust is not flowing.” *Id.*, right hand column, 4–8. We do not find Saito to say that the exhaust can be the carrier gas.

Paper 67, 8.

Petitioner asserts that the Board “made an error of law and/or a clear erroneous finding of fact by limiting Saito to just its inventive embodiment, and overlooking arguments in Petitioner’s Reply regarding Saito’s disclosed alternative use of low oxygen-content exhaust as an inert carrier gas for the hydrogen reducing agent.” Paper 68, 1.

In the request for rehearing, Petitioner urges that:

In its Reply, Petitioner argued and pointed out how Saito discloses two embodiments -- an inventive embodiment wherein exhaust flow is stopped during regeneration and a prior art embodiment wherein low oxygen content exhaust is used as an inert carrier gas for the reducing gas. See Reply (Paper 40) at pp. 14-16 & 21. Petitioner’s Saito arguments presented in its Reply are not, and have never been found to be, improper “new” arguments because they respond to arguments made in Patent Owner’s Response (Paper 29) at pp. 20-24 and 33-35. See *Belden Inc. v. Berk-Tec LLC*, 805 F.3d 1064, 1078 (Fed. Cir. 2015). The linchpin to the Board’s remand patentability ruling, namely its finding that “Saito itself states that the method includes stopping the flow of the exhaust gas” (see Decision On Remand at p. 9), improperly limits Saito’s disclosure to the inventive embodiment and ignores the prior art embodiment.

Paper 68, 9–10.

We again return to the Reply, Paper 39, to revisit the arguments made there at pages 14–16 and 21. Given the importance of those arguments to the current contention, we reproduce them, as they relate to Saito, below:

Saito further discloses that “[t]he second characteristic of the present invention lies in regeneration of the catalyst that has decreased removal efficiency, using a gaseous reducing agent

such as hydrogen.” Ex. 1008B at p. 3. Saito discloses two alternatives for passing hydrogen over the devitalized catalyst: (1) preferably, isolated from the exhaust gas and diluted in nitrogen (Ex. 1008B at p. 4); and (2) non-preferably, in the diesel engine exhaust stream (Ex. 1008B at p. 3). Saito explained that the alternative, prior art method was not preferred because it requires larger amounts of hydrogen to first remove the oxygen before reducing the NO_x.

The method of reducing NO_x using a reducing agent such as hydrogen is widely known as a nonselective catalytic reduction method, but in this method, if large amounts of oxygen are present in the exhaust gas [amounts of] reducing agent sufficient to react with the oxygen will be added and the NO_x will be reduced, which is not economical in so much as large amounts of reducing agent are consumed....

Ex. 1008A at p. 3.

Saito may nevertheless be relied upon for this disclosed nonpreferred embodiment wherein the exhaust gas containing a hydrogen reducing agent is passed over the devitalized catalyst. See MPEP §2123(I). Saito further discloses that automobile exhaust gas contains “1 to 15 vol. % of carbon dioxide gas” (Ex. 1008B at p. 4), which encompasses the range recited in claim 3.

...

Similar to the discussion above for claim 3, Saito discloses that the exhaust comprises “1 to 15 vol. % of water vapor”, which is the steam recited in claims 16 and 20.

Paper 39, 14–16.

Saito discloses the recited regeneration steps for the reasons discussed supra at pp. 12-15.

Id., 21.

We find Petitioner's position to be lacking in substance. The quotation provided by Petitioner is only a partial quotation. The complete quotation from Saito, with appropriate following context italicized, is as follows:

The method of reducing NO_x using a reducing agent such as hydrogen is widely known as a nonselective catalytic reduction method, but in this method, if large amounts of oxygen are present in the exhaust gas [amounts of] reducing agent sufficient to react with the oxygen will be added and the NO_x will be reduced, which is not economical in so much as large amounts of reducing agent are consumed, *and thus the use of nonselective catalytic reduction methods was limited to situations in which oxygen was not present, or situations in which the oxygen concentration had been greatly lowered.*

In the method of the present invention, the amount of reducing agent consumed is the amount necessary to reduce and remove the NO_x that has been absorbed by the catalyst, which is a very small amount, and therefore this is very economically advantageous.

Ex. 1008A, 3 column 1, lines 38–54 (emphasis added).

The italicized language, to us, indicates that this discussion in Saito is not that simply of one nonpreferred specific embodiment of catalyst renewal taught, but rather a discussion of the reasons why nonselective *catalytic reduction* methods of exhaust gas directly were not generally used due to their prohibitive costs. Moreover, it is a stretch to say that catalytic reduction methods *are the same as renewing a devitalized catalyst* as alleged in Petitioner's request for rehearing. In this we agree with the Patent Owner that this disclosure of a prior art "non-selective catalytic reduction method does not render claims 3, 16, and 20 obvious." Paper 75, 10.

To the extent that Petitioner asserts we did not consider this argument, we have again considered it and again find it to be unpersuasive based upon Saito itself, when taken in complete context. As noted before, Saito's example is explicit that Saito uses two catalyst beds and regenerates each catalyst bed independently of each other. PO Resp. 21, 24. By the use of valving, the reducing agent is introduced into the catalyst bed through which exhaust gas is not flowing. *Id.* at 21 (citing Ex. 1008B, 3).

As to the several pages of additional argument and evidence provided in the request for rehearing beyond that originally found in the Petition and Reply, we shall not consider it, as it is an improper use of the rehearing process. *See* 37 C.F.R. § 71(d).

The request for rehearing is therefore DENIED.

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