

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FMC TECHNOLOGIES, INC.,
Petitioner,

v.

ONESUBSEA IP UK LIMITED,
Patent Owner.

Case IPR2016-00907
Patent 8,573,306 B2

Before JOSIAH C. COCKS, CARL M. DEFRANCO, and
MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

DECISION
Granting Petitioner's Request for Rehearing
37 C.F.R. § 42.71

I. INTRODUCTION

On October 26, 2017, OneSubsea IP UK Limited (“Patent Owner”) filed a Notice of Appeal (Paper 22) to the U.S. Court of Appeals for the Federal Circuit from our Final Written Decision (Paper 21, “Final Decision” or “Final Dec.”). Later that same day, FMC Technologies, Inc. (“Petitioner”) filed a Request for Rehearing (Paper 23, “Req. Reh’g”) of our Final Decision. FMC Technologies also subsequently filed a Notice of Cross-Appeal (Paper 24) to the Federal Circuit from our Final Decision. The Federal Circuit recognized that Petitioner’s Request for Rehearing “remains pending at the Board” and therefore ordered a limited remand of the parties’ respective appeals for the purpose of allowing us to address Petitioner’s Request for Rehearing. *FMC Techs., Inc. v. OneSubsea IP UK Ltd.*, No. 17-2437, Paper 24, 3 (Fed. Cir. Dec. 21, 2017). With our authorization, Patent Owner filed an Opposition (Paper 26, “Opp.”) to Petitioner’s Request for Rehearing.

In our Final Decision, we concluded that Petitioner had demonstrated by a preponderance of the evidence that claims 1, 10–12, 17–19, 21–23, 25–29, 31–35, 38, 39, and 41 of U.S. Patent No. 8,573,306 B2 (Ex. 1001, “the ’306 patent”) are unpatentable. Final Dec. 90–91. We found that Petitioner had *not* demonstrated by a preponderance of the evidence that claims 36 and 37 of the ’306 patent are unpatentable. *Id.* Petitioner requests rehearing as to our holding that Petitioner has not demonstrated that claims 36 and 37 are unpatentable. Req. Reh’g 1. For the reasons that follow, we *grant* Petitioner’s Request for Rehearing. We modify our Final Decision in determining that Petitioner has demonstrated by a preponderance of the

evidence that claims 36 and 37 would have been obvious over (1) Kelly and Fenton, (2) Kelly, Bednar, and Fenton, and (3) Clair and Fenton.

II. BACKGROUND

Petitioner in this case challenged claims 1, 10–12, 17–19, 21–23, 25–29, 31–39, and 41 of the '306 patent on the following grounds. Pet. 4–5.

Reference(s)	Basis	Claims Challenged
Kelly ¹	§ 102	11, 12, 17–19, 22, 25–28, 32–36, 39, and 41
Kelly and Fenton ²	§ 103	28, 29, and 36–39
Kelly and Bednar ³	§ 103	11, 12, 17–19, 22, 25–28, 32–36, and 41
Kelly, Bednar, and Fenton	§ 103	28, 29, and 36–38
Clair ⁴	§ 102	1, 10–12, 17–19, 21–23, 25–28, 31–36, and 41
Clair and Fenton	§ 103	28, 29, 32–38, and 41

We instituted *inter partes* review on all the challenged claims and all the asserted grounds. Paper 7, 11–12. The Final Decision found only claims 1, 10–12, 17–19, 21–23, 25–29, 31–35, 38, 39, and 41 to be unpatentable.

In the Final Decision, we concluded that Petitioner had not demonstrated by a preponderance of the evidence that claims 36 and 37 are unpatentable based on (1) obviousness over Kelly and Fenton, (2) obviousness over Kelly, Bednar, and Fenton, or (3) obviousness over

¹ Kelly, U.S. Patent No. 4,589,493, issued May 20, 1986 (Ex. 1004).

² Fenton, U.S. Publ'n No. 2002/0070026 A1, published June 13, 2002 (Ex. 1005).

³ Bednar, U.S. Patent No. 5,010,956, issued Apr. 30, 1991 (Ex. 1007).

⁴ Clair, U.S. Patent No. 2,638,917, issued May 19, 1953 (Ex. 1006).

Clair and Fenton. *See* Final Dec. 91. Petitioner seeks rehearing on these portions of the Final Decision. *See* Req. Reh’g 1–3.

We also concluded that Petitioner had not demonstrated by a preponderance of the evidence that claim 36 is unpatentable based on (1) anticipation by Kelly, (2) obviousness over Kelly and Bednar, or (3) anticipation by Clair. *See* Final Dec. 91. Petitioner does not request rehearing on these portions of the Final Decision.

III. STANDARD OF REVIEW

According to 37 C.F.R. § 42.71(d), “[t]he burden of showing a decision should be modified lies with the party challenging the decision,” and the “request must specifically identify all matters the party believes the Board misapprehended or overlooked.” The burden here, therefore, lies with Petitioner to show we misapprehended or overlooked the matters it requests that we review.

IV. ANALYSIS

Independent claim 32 recites a “diverter assembly” and a “choke.” Claim 36 depends from claim 32 and further recites a “processing apparatus.” Claim 37, which depends from claim 36, requires the processing apparatus to be chosen from among a list of items, including a “measurement apparatus,” a “temperature measurement apparatus,” and a “flow rate measurement apparatus.”

Petitioner contends that we misapprehended and overlooked its arguments regarding the recited “choke” and the recited “processing apparatus” with respect to three of its asserted grounds: (1) obviousness

over Kelly and Fenton, (2) obviousness over Kelly, Bednar, and Fenton, and (3) obviousness over Clair and Fenton. *See* Req. Reh’g 1–4.

A. Obviousness over Kelly and Fenton

In our Final Decision, we found that the “diverter assembly,” the “choke,” and the “processing apparatus” required by claims 36 and 37 constitute three separate structures. Final Dec. 41–43, 49–50. We agreed with Petitioner that Kelly’s collet body teaches the “diverter assembly.” *Id.* at 33–34; *see also* Pet. 22. With respect to the other two structures, however, we interpreted Petitioner’s argument as being that Kelly’s whole choke assembly, as modified in view of Fenton, corresponds to both the claimed “choke” and the claimed “processing apparatus.” Final Dec. 50. As such, we were unpersuaded that claims 36 and 37 would have been obvious over Kelly and Fenton. *Id.*

Petitioner now contends that we “erroneously assumed Petitioner relied on the [prior art] ‘choke’ as being the claimed ‘processing apparatus.’” Req. Reh’g 4; *see also id.* at 6 (“The Decision as to claims 36 and 37, however, based its findings on an erroneous assumption that Ground 2, like Ground 1, relied on Kelly’s choke as being the claimed ‘processing apparatus.’”). According to Petitioner, “the Decision overlooked repeated, express arguments that Fenton’s ‘temperature, pressure, and flow sensors’ are the claimed ‘processing apparatus’ and specific claimed types thereof.” *Id.* at 4. As support, Petitioner directs us to where it argued in the Petition that “[m]easurement apparatus, such as the temperature, pressure, and flow sensors, as described by Fenton, are expressly enumerated as being processing apparatus in claim 29.” *Id.* at 5 (citing Pet. 28).

Petitioner additionally contends that our “determination on claims 36 and 37 under Ground 2 [in the Final Decision] is also internally inconsistent with the Decision’s own analysis of dependent claims 38 and 39.” *Id.* at 7.

In support of this contention, Petitioner explains:

For example, dependent claim 38 requires a “flow rate measurement apparatus” – a device that is expressly enumerated in dependent claim 37 as being a processing apparatus. Like claim 37, claim 38 also depends from independent claim 32. The Decision expressly found that Ground 2 demonstrated Fenton’s flow meter was the flow rate measurement apparatus of claim 38, and that the underlying elements of independent claim 32 were also all shown. Decision, pp. 50-51. Inconsistently, though, the Decision found the very same elements, a flow rate measurement apparatus and the underlying elements of independent claim 32, were not shown for claim 36 and 37.

Id.

In response, Patent Owner contends that we “did not misapprehend [Petitioner’s] claims 36 and 37 arguments.” Opp. 5. Patent Owner asserts that these claims “require at least three separate structural components,” namely, a “diverter assembly,” a “choke,” and a “processing apparatus,” and that Petitioner’s “rehearing request never identifies where all three claimed elements were shown in its Petition.” *Id.* at 2. Patent Owner further asserts that Petitioner’s “claim 36 analysis only refers the Board back to [Petitioner’s] claim 28 argument.” *Id.* at 4; *see also id.* at 5 (“[Petitioner’s] claim 36 analysis relies solely on its rationale for claim 28”). Unlike claim 36, claim 28 does not require a “choke.” As such, Patent Owner concludes that Petitioner’s “sole reliance on claim 28’s rationale is why the Petition never sets forth an argument as to how Kelly and Fenton would be modified

to provide three separate components: a diverter assembly, a choke, and a processing apparatus.” *Id.* at 5.

Patent Owner also contends that “there is nothing inconsistent about the Board’s treatment of claim 38 in relation to claims 36 and 37.” *Id.* at 7.⁵ According to Patent Owner, “unlike [Petitioner’s] claims 36 and 37 analysis, [Petitioner] provided the Board with a specific argument as to why a flow meter [as recited in claim 38] would have been provided in addition to Kelly’s choke.” *Id.* Alternatively, Patent Owner contends that, “should this Board decide there is an inconsistency, the correct resolution is to find claims 38 and 39 patentable.” *Id.* Patent Owner does not provide further explanation in this regard.

Based on the record before us, we disagree with Patent Owner and find that Petitioner’s contentions are persuasive. We now understand Petitioner’s argument in the Petition to have been that Kelly’s choke assembly, as modified in view of Fenton, includes both a “choke” as well as a “processing apparatus.” With respect to the “choke,” Petitioner explained in its Petition that Kelly’s subsea choke assembly has a valve member mounted in a body for movement toward or away from a valve seat to control the flow of production fluids therethrough. Pet. 22–23. We agree that these choke assembly components in Kelly correspond to the recited “choke.” With respect to the “processing apparatus,” Petitioner explained that “[m]easurement apparatus, such as the temperature, pressure, and flow

⁵ Although Patent Owner presents this argument with respect to obviousness over Kelly, Fenton, and Bednar, we find that it applies equally in the context of obviousness over Kelly and Fenton. See Opp. 6–7. Accordingly, we address the argument in this section.

sensors, as described by Fenton, are expressly enumerated as being processing apparatus in dependent claim 29.” *Id.* at 28 (cited by Req. Reh’g 5). The ’306 patent indeed teaches that a processing apparatus may include a temperature, pressure, or flow sensor. Ex. 1001, claim 29 (“the processing apparatus is chosen from at least one of: . . . measurement apparatus; temperature measurement apparatus; flow rate measurement apparatus . . .”); *accord id.* at claim 37. Accordingly, we also agree that Fenton’s sensors correspond to the recited “processing apparatus.” Petitioner further explained that “[m]odifying Kelly’s subsea choke assembly by adding *one or more temperature sensors, pressure sensors, or flow meters* as taught by Fenton would provide information related to fluid flow through the assembly and allow more precise control of *the choke* to achieve desired flow characteristics.” Pet. 27 (emphases added) (cited by Req. Reh’g 1).

In light of our current understanding of Petitioner’s argument, based on the record, we find that the combination of Kelly and Fenton teaches a “diverter assembly,” a “choke,” and a “processing apparatus,” and that Petitioner’s proffered reasoning for modifying Kelly’s choke assembly to include Fenton’s temperature sensors, pressure sensors, or flow meters in order to allow for more precise control of the choke is sufficient to support the legal conclusion of obviousness. *See* Pet. 27–28.

Our finding that claims 36 and 37 would have been obvious over Kelly and Fenton is consistent with our finding in the Final Decision that claim 38 would have been obvious over Kelly and Fenton. *See* Final Dec. 50–51. As discussed above, claims 36 and 37 depend from claim 32 and further require a “processing apparatus.” Claim 38 similarly depends from

claim 32 and further requires a “flow rate measurement apparatus.” We note that the ’306 patent teaches that a processing apparatus may include a flow rate measurement apparatus. Ex. 1001, claim 29; *accord id.* at claim 37.

In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 36 and 37 would have been obvious over Kelly and Fenton.⁶

B. Obviousness over Clair and Fenton

As discussed above, the “diverter assembly,” the “choke,” and the “processing apparatus” required by claims 36 and 37 constitute three separate structures. In our Final Decision, we agreed with Petitioner that Clair teaches the claimed “diverter assembly.” Final Dec. 82; *see also* Pet. 53; *id.* at 40–41 (identifying Clair’s warming chamber 5, coupling 6, header 7, and tubular expansion chamber 12, or Clair’s warming chamber 5, coupling 6, tubular expansion chamber 12, and turn tube 10 as a “diverter assembly”); *accord id.* at 46. With respect to the other two structures, however, we interpreted Petitioner’s argument as being that Clair’s whole

⁶ As noted above, Petitioner additionally proposed a ground of unpatentability as to claims 36 and 37 based on Kelly, Fenton, and Bednar. We determine that the addition of Bednar’s teachings does not disrupt the obviousness showing of claims 36 and 37 based on Kelly and Fenton. Nor does Patent Owner adequately rebut that showing with its arguments and evidence regarding obviousness over Kelly, Fenton, and Bednar. *See* Opp. 6–8 (presenting similar arguments discussed above with respect to obviousness over Kelly and Fenton). Accordingly, we conclude that Petitioner has also demonstrated by a preponderance of the evidence that claims 36 and 37 would have been obvious based on Kelly, Fenton, and Bednar.

reduction choke, as modified in view of Fenton, corresponds to both the claimed “choke” and the claimed “processing apparatus.” Final. Dec. 90. We were, therefore, unpersuaded that claims 36 and 37 would have been obvious over Clair and Fenton. *Id.*

Petitioner now contends that we “overlooked [its] arguments in the Petition identifying Fenton’s sensors as a ‘processing apparatus’ and a specific claimed type thereof (‘measurement apparatus’).” Req. Reh’g 10. As support, Petitioner directs us to where it argued that “[t]he system of Clair incorporating one or more temperature, pressure, or flow sensors, as taught by Fenton, discloses a processing apparatus.” *Id.* (citing Pet. 59 (“See Ground 6, [28.0]-[29.0], *supra*.”)); Pet. 58 (discussion of Ground 6, claim 29). According to Petitioner, our “Decision erroneously overlooked that the Petition did not rely on the same structure for different claim elements.” Req. Reh’g 11.

In response, Patent Owner contends that Petitioner’s “failure to address claim 36’s requirement of separate diverter assembly, choke, and processing apparatus structures also dooms [Petitioner’s] arguments” regarding obviousness over Clair and Fenton. Opp. 8. According to Patent Owner, “the entirety of [Petitioner’s] analysis once again refers back to claim 28,” which “only addressed the two requirements of claim 28—a diverter assembly and a processing apparatus.” *Id.* Thus, Patent Owner concludes, the “Petition, and [the] rehearing request, provide no rationale as to how Clair and Fenton would have been combined to include separate diverter assembly, choke, and processing apparatus structures.” *Id.*

We disagree with Patent Owner and find that Petitioner’s contention is persuasive. We now understand Petitioner’s argument in the Petition to

have been that Clair's reduction choke, as modified in view of Fenton, includes both a "choke" and a "processing apparatus." With respect to the recited "choke," Petitioner explained in its Petition that Clair's reduction choke has a choke cylinder, a choke seat, as well as a choke valve, and that the choke valve admits gas or oil in a selected quantity through the valve seat and through a choke seat. Pet. 53–54. We agree that these reduction choke components in Clair correspond to the recited "choke." With respect to the recited "processing apparatus," Petitioner explained that "[t]he system of Clair incorporating one or more temperature, pressure, or flow sensors, as taught by Fenton, discloses a processing apparatus." *Id.* at 58. We note that the '306 patent teaches that a processing apparatus may include a temperature, pressure, or flow sensor, as discussed above with respect to obviousness over Kelly and Fenton. Ex. 1001, claim 29; *accord id.* at claim 37. Thus, we agree that Fenton's sensors correspond to the recited "processing apparatus." Petitioner further explained that "[m]odifying Clair's reduction choke by adding *one or more temperature, pressure, or flow sensors* as taught by Fenton would provide additional information related to fluid flow parameters through the system, . . . and allow more precise control of '*choke valve 16*' to achieve desired flow characteristics." Pet. 56–57 (emphases added) (cited by Req. Reh'g 11).

In light of our current understanding of Petitioner's argument, based on the record, we find that the combination of Clair and Fenton teaches a "diverter assembly," a "choke," and a "processing apparatus," and that Petitioner's proffered reasoning for modifying Clair's reduction choke to include Fenton's temperature sensors, pressure sensors, or flow meters in order to allow for more precise control of the choke is sufficient to support

the legal conclusion of obviousness. *See id.* Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 36 and 37 would have been obvious over Clair and Fenton.⁷

V. CONCLUSION

For the foregoing reasons, Petitioner has demonstrated that we misapprehended or overlooked its arguments that claims 36 and 37 are unpatentable. Therefore, with respect to claims 36 and 37, we modify the conclusion from our Final Decision as follows. Petitioner has shown by a preponderance of the evidence that claims 36 and 37 are unpatentable under 35 U.S.C. § 103 based on: (1) Kelly and Fenton; (2) Kelly, Bednar, and Fenton; and (3) Clair and Fenton. We maintain our determination that claims 1, 10–12, 17–19, 21–23, 25–29, 31–35, 38, 39, and 41 are unpatentable.

⁷ We note Petitioner’s additional contention that we overlooked in our Final Decision “that the Petition identified [Clair’s] ‘tubular expansion chamber 12,’” as “an additional ‘processing apparatus’ that is not its ‘choke.’” Req. Reh’g 11 (citing Pet. 45). As Patent Owner points out, however, the cited portion of the Petition specifically identifies Clair’s choke valve (not Clair’s tubular expansion chamber) as a processing apparatus. Opp. 9; Pet. 45. The cited portion of the Petition relies on Mr. Herrmann’s declaration testimony, which states that “Clair’s choke processes fluid by operating as a gas separator.” Ex. 1003 ¶ 52 (cited by Pet. 45); *see also id.* (“Clair expressly describes the ‘gradual cooling’ of the upstream fluid provided by its arrangement, and associated advantages in avoiding ‘channeling and freezing’ as the fluid passes through ‘choke valve 16.’”). Based on the record before us, we are not persuaded by Petitioner’s contention. We could not have overlooked an argument that was not presented. Nevertheless, for other reasons given above, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 36 and 37 would have been obvious over Clair and Fenton.

VI. ORDER

Accordingly, it is

ORDERED that Petitioner's Request for Rehearing is *granted*;

FURTHER ORDERED that a preponderance of the evidence supports the conclusion that claims 36 and 37 of the '306 patent are unpatentable;

FURTHER ORDERED that the portions of the Final Decision regarding whether claims 36 and 37 would have been obvious over (1) Kelly and Fenton, (2) Kelly, Bednar, and Fenton, and (3) Clair and Fenton are vacated; and

FURTHER ORDERED that the Final Decision is modified to include our analysis herein regarding whether claims 36 and 37 would have been

IPR2016-00907
Patent 8,573,306 B2

obvious over (1) Kelly and Fenton, (2) Kelly, Bednar, and Fenton, and
(3) Clair and Fenton.

PETITIONER:

Joshua A. Griswold
Craig A. Deutsch
Kenneth W. Darby, Jr.
FISH & RICHARDSON P.C.
IPR29188-0027IP1@fr.com
PTABInbound@fr.com
PTABInbound@fr.com

PATENT OWNER:

Michael L. Kiklis
Christopher Ricciuti
Katherine D. Cappaert
OBLON, MCCLELLAND, MAIER & NEUSTADT, LLP
CPDocketKiklis@oblon.com
CPDocketRicciuti@oblon.com
CPDocketCappaert@oblon.com