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Paper No. 11
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASM IP HOLDING B.V.,
Petitioner,

v.

KOKUSAI SEMICONDUCTOR EQUIPMENT CORP.,
Patent Owner.

Case IPR2018-01582
Patent 6,783,627 B1

Before GEORGIANNA W. BRADEN, KRISTINA M. KALAN, and SHELDON M. McGEE, *Administrative Patent Judges*.

McGEE, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

ASM IP Holding B.V. ("Petitioner") filed a Petition (Paper 1, "Pet.") seeking *inter partes* review of claims 1–19 and 26–30 of U.S. Patent No. 6,783,627 B2 (Ex. 1001, "the '627 patent"). Kokusai Semiconductor Equipment Corporation ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). In a telephone conference on January 7, 2019, Petitioner sought authorization to file a reply to Patent Owner's Preliminary Response to address certain claim construction issues raised therein. We granted Petitioner's request to file a reply and also granted Patent Owner an opportunity to file a sur-reply. Paper 8. Pursuant to our authorization, Petitioner filed a Reply (Paper 9, "Reply") and Patent Owner filed a Sur-Reply (Paper 10, "Sur-Reply").

We have authority to determine whether to institute an *inter partes* review. 37 C.F.R. § 42.4(a). An *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). Applying this standard to the information presented in the Petition, the Preliminary Response, the Reply, the Sur-Reply, and the supporting evidence, we determine Petitioner has not satisfied this standard with respect to at least one of the challenged claims. We, therefore, decline to institute *inter partes* review of the '627 patent.

I. BACKGROUND

A. Related Matters

The parties identify the following civil action as involving the '627 patent: *Hitachi Kokusai Electric, Inc. v. ASM International N.V.*, C.A. No. 18-cv-00323 (D. Or.). Pet. 80; Paper 5, 1 (Patent Owner's Mandatory Notices).

The parties also identify IPR2018-01584 as involving the '627 patent. Pet. 79 ("ASM is concurrently filing a petition [IPR2018-01584] challenging Claims 20–25 and 31–42 of the '627 patent. Together with this Petition, ASM is therefore challenging all claims of the '627 patent."); Paper 5, 1.

B. Asserted Grounds of Unpatentability

Reference(s)	**Basis**	**Claim(s) Challenged**
Fong[1]	§ 102(b)	1–3, 6–13, 16, 26–29
Fong	§ 103(a)	1–3, 6–14, 16, 26–29
Fong in view of Loewenstein[2]	§ 103(a)	4, 15
Fong in view of Bhatnagar[3]	§ 103(a)	5
Fong in view of Barnes[4]	§ 103(a)	17–19
Fong in view of Mahawili[5]	§ 103(a)	30

C. The '627 Patent (Ex. 1001)

The '627 patent, titled "Reactor With Remote Plasma System and Method of Processing a Semiconductor Substrate," issued on August 31, 2004. Ex. 1001, [54], [45]. The '627 patent relates to "[a] reactor for processing a semiconductor substrate." *Id.* at [57].

[1] Ex. 1002, US 5,812,403, issued Sept. 22, 1998.
[2] Ex. 1003, US 4,904,621, issued Feb. 27, 1990.
[3] Ex. 1004, US 6,029,602, issued Feb. 29, 2000.
[4] Ex. 1005, US 6,239,553, issued May 29, 2001.
[5] Ex. 1006, US 5,814,365, issued Sept. 29, 1998.

Figure 2 of the '627 patent, with colorization as applied by Patent Owner (Prelim. Resp. 5), is illustrative of the claimed invention and is reproduced below:

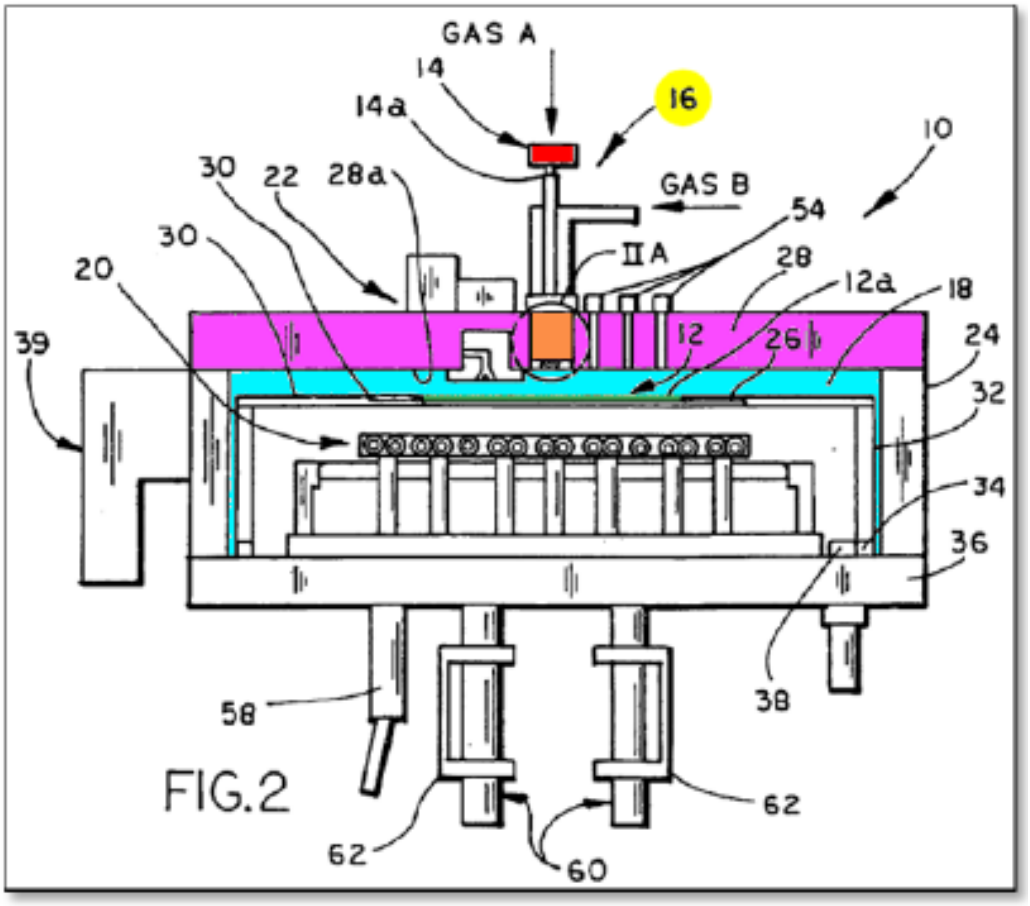

Figure 2 of the '627 patent, above, represents a cross-sectional view of a reactor with a remote plasma generator system. Ex. 1001, 3:9–11. As depicted in Patent Owner's colorized Figure 2, "reactor 10 includes a gas injection system 16 which injects reactant gases into the reactor's processing chamber 18 [colorized blue] for processing a substrate 12 [colorized green]. Gas injection system 16 includes a plasma generator 14 [colorized red] for raising the level of energy of the reactant gases preferably prior to injection into chamber 18." *Id.* at 3:41–46; Prelim. Resp. 4–5, 7. According to Patent

Owner, colorized Figure 2 depicts the unnumbered "gas injector" component of gas injection assembly 16 in orange. Sur-Reply 1.

D. Illustrative Claim

Petitioner challenges three independent claims of the '627 patent: claims 1, 11, and 26. Pet. 4.

Of these, claim 1 is illustrative of the challenged claims and is reproduced below with relevant numbering and emphasis added[6]:

> 1. A reactor [10] for processing a semiconductor substrate [12], said reactor comprising:
>
> a reactor housing [24] defining a processing chamber [18] and being adapted to support the substrate [12] in said processing chamber;
>
> a plasma generator [14] for ionizing at least one gas into a gas plasma;
>
> at least one *gas injector*, said gas injector being adapted to inject the ionized gas into said processing chamber and onto the substrate supported therein for processing the substrate, wherein said housing includes a cover [28], said *gas injector* being *supported in* said cover;
>
> a heater [20] for selectively heating the substrate in said processing chamber; and
>
> a heater housing [32][7] supported in said reactor housing [24] and enclosing said heater therein.

Ex. 1001 at 10:15–30 (emphasis added).

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[6] The numbering and emphasis are aids to the reader and do not affect or impact the scope of the claim.

[7] The '627 patent discloses that "heater assembly 20 is completely enclosed by housing 32 and platform 26, which when placed on top of housing 32 completes the enclosure of heater assembly 20." Ex. 1001, 4:43–46. Thus, housing 32 appears to be the "heater housing" recited in claims 1, 26, 28–30, 41 and 42.

II. ANALYSIS

A. Claim Construction

The parties assert that, for purposes of this IPR, claim terms of the '627 patent should be afforded their "plain and ordinary meaning" under *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). Pet. 5–6; Prelim. Resp. 2–3. Specifically, Patent Owner indicates that a *Phillips*-type construction is appropriate because the '627 "is set to expire on January 20, 2020 and the Board's Final Written Decision is set to issue on or about February 28, 2020." Prelim. Resp. 2. Here, because the parties agree to adopt the claim construction principles articulated in *Phillips*, and because the '627 patent would expire during the pendency of any trial proceeding if instituted, we apply the *Phillips* standard. Pet. 5–6; Prelim. Resp. 2–3; *see also* IPR2018-00727, slip op. at 10–11 (PTAB Oct. 5, 2018) (Paper 8), (applying *Phillips* claim construction standard to a patent that "will expire while this proceeding is pending").

Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* "Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims." *Id.* at 1314. "Differences among claims can also be a useful guide in understanding the

meaning of particular claim terms. For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314–15 (citations omitted).

> The claims, of course, do not stand alone. Rather, they are part of "a fully integrated written instrument," consisting principally of a specification that concludes with the claims. For that reason, claims "must be read in view of the specification, of which they are a part." As we stated in *Vitronics* [*Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996)], the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." 90 F.3d at 1582.

Phillips, 415 F.3d at 1315.

Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (cited with approval in *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017)). Patent Owner proposes constructions for certain limitations found in each of the challenged independent claims 1, 11, and 26—namely, "a reactor housing defining a processing chamber" which "housing includes a cover," and a "gas injector being supported in said cover." Ex. 1001, 10:17, 25–26, 61; 11:2–3; 12:8, 16–17.

Based on our review of the Petition, the Preliminary Response, the Reply, and the Sur-Reply, we determine that the only limitation that needs to be construed in order for us to reach our determination to not institute trial is "gas injector being supported in said cover."

In the Petition, Petitioner offers no explicit construction for the "gas injector being supported in said cover" limitation, but rather indicates that

"all claim terms [in the Petition] have been accorded their plain and ordinary meaning under a *Phillips*-type construction." Pet. 5.

Patent Owner, however, offers the following construction for this limitation: "a 'gas injector being supported in said cover' means 'the **component** of a gas injection assembly contained **within a cover of the reactor housing** that defines the processing chamber.'" Prelim. Resp. 3–4. Patent Owner indicates that "[c]onstruction of this term is required because Petitioner's arguments comparing the prior art to the claims read[] this limitation out of the claims." *Id.* at 4.

Patent Owner asserts that the claimed "gas injector" is not the "gas injection assembly 16," which "includes numerous components including a 'plasma generator 14' . . . and a 'manifold 40 through which one or more gases are injected onto substrate 12.'" *Id.*; *see also id.* at 10 (explaining how the function of the "gas injector" is to "inject . . . gas into [the] processing chamber" or "onto the substrate" and cannot be performed by other components of system 16); *see also id.* at 9–10 (noting how claims 31 and 37, unchallenged in this proceeding, support viewing the gas injector as one component part of gas injection system). Patent Owner also asserts that the claimed phrase "supported in" means "contained within" not merely "partially supported in" or "supported by." *Id.* at 7–9.

In its Reply to the Preliminary Response, Petitioner argues that Patent Owner's construction of the recited "gas injector" as one component of gas injection assembly 16 is too narrow because such a construction is contradicted by claim 12. Reply 1. Specifically, Petitioner urges that because claim 12—dependent from claim 11—requires additional elements such as a supply tube and an injection tube, "the 'gas injector' cannot be

only one component because it must have at least two components: a supply tube and an injection tube." *Id.* Petitioner thus contends that "[i]t is the 'gas injector assembly 16' that embodies the claimed 'gas injector.'" *Id.*

Petitioner contends further that Patent Owner's construction of the phrase "supported in" as "contained within" is also "contradicted by Claim 12, which requires the gas injector to include a 'supply tube'." Reply 2. According to Petitioner, Figure 2A shows supply tubes 52a, 52b, and 52c positioned outside of chamber 18 and above (i.e., not "within") cover 28. *Id.* As such, Petitioner asserts that the "gas injector" is capable of being "supported in" the cover "and still have portions of the gas injector (such as supply tubes) that are not contained within the cover." *Id.* at 3. According to Petitioner, "[t]he plain language of the claim merely requires a **support** for the gas injector to be **in** the cover; it does not require the **entire gas injector** to be **within** the cover." *Id.*

In its Sur-Reply, Patent Owner cites to Figures 2 and 2A of the '627 patent to support its construction, and provides colorized versions of these Figures as set forth below:

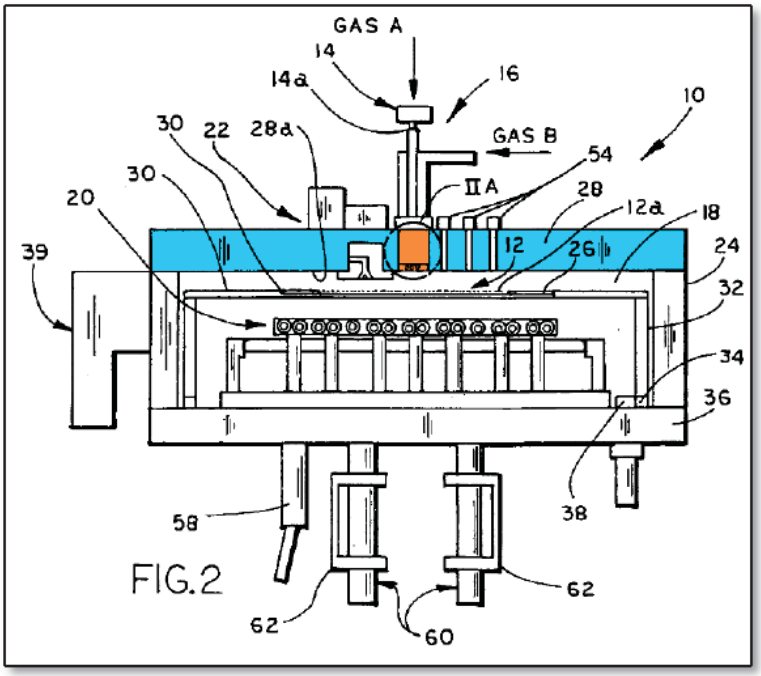

FIG. 2

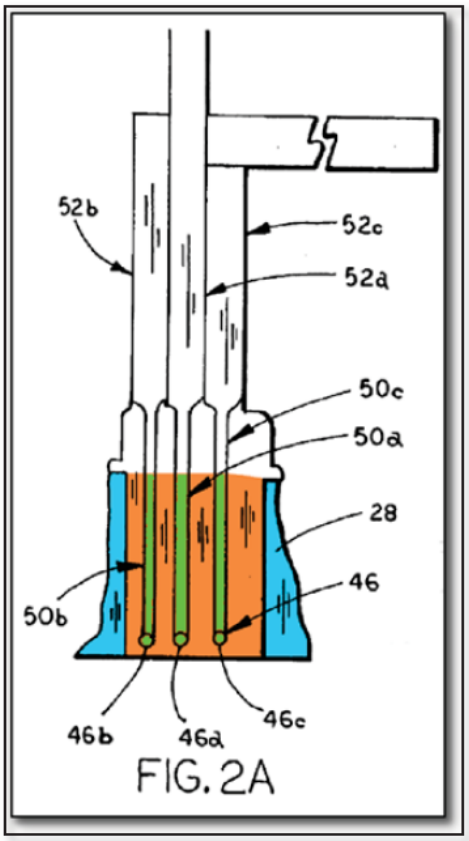

FIG. 2A

Figure 2 of the '627 patent as colorized in the Sur-Reply shows a cross-sectional view of reactor 10 with cover 28 depicted in blue and purports to show the unnumbered "gas injector" of the claims in orange. Sur-Reply 1. Figure 2A "is an enlarged cross-section of the section designated IIA–IIA in FIG 2." Ex. 1001, 3:13–14. Colorized Figure 2A of the '627 patent as set forth in the Sur-Reply purports to "show[] all of the possible tubes (green) of the "gas injector" component (orange) supported in the cover 28 (blue)." Sur-Reply 1.

Patent Owner states that the "gas injector" recited in each independent claim 1, 11, and 26 "cannot possibly correspond to the 'gas injector assembly 16'" as alleged by Petitioner because, *inter alia*,

(1) the claimed "'gas injector' is adapted to inject ionized gas supplied by the separately-claimed 'plasma generator'"

which Petitioner concedes is included in gas injector assembly 16; and

(2) independent claim 11 "cannot be construed to require elements added by dependent claims"; and

(3) Petitioner's construction of "supported in" reads the word "in" out of the claim by "confusingly transform[ing] the claimed verb '**supported**' into a noun when arguing that the 'claim merely requires **a support** for the gas injector to be in the cover' and that 'it does not require the entire gas injector to be within the cover.'"

Sur-Reply 2–4.

Upon review of the parties' respective positions, as well as the disclosure of the '627 patent, we determine that the proper construction of the limitation "gas injector being supported in said cover" is "the component of a gas injection assembly or system that is fully contained within a cover of the reactor housing defining a processing chamber." Our reasoning follows, beginning with the term "gas injector."

Other than appealing to the "plain and ordinary meaning under a *Phillips*-type construction" (Pet. 5), Petitioner provides little evidence to support its view that the claimed "gas injector" is "gas injection assembly 16." Here, Petitioner points to claims 11 and 12 and asserts that, because claim 12's gas injector further includes a supply tube and an injection tube, the "gas injector" of claim 11 cannot be only one component. Reply 1. This logic fails, however, because, as pointed out by Patent Owner (Sur-Reply 3), "independent claims cannot be construed to require elements added by dependent claims." *See Phillips*, 415 F.3d at 1314–15 ("[T]he presence of a

dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.").

Moreover, Petitioner does not explain how one "component" part is incapable of containing other components such as the additional tubes recited in claim 12. Here, we emphasize in particular Petitioner's recognition that one of the "components" of gas injection assembly 16 is manifold 40. Reply 1. Manifold 40, however, "is formed from a *plurality of gas injection tubes 46* which are arranged in a spaced relationship to extend over substrate 12 and are supported in cover 28." Ex. 1001, 4:60–63 (emphasis added); *see also id.* at 5:12–13 ("Manifold 40 also includes a gas injection ring 41, which extends around tubes 46."). Thus, the '627 patent recognizes that a single component (manifold 40) can itself contain other, separate components therein (e.g., a plurality of tubes 46 or a gas injection ring 41).

Furthermore, while Petitioner agrees that gas injection assembly 16 contains several components including a "plasma generator 14" (Reply 1), Petitioner does not adequately address the separate recitation of a "plasma generator" in each of the challenged independent claims 1, 11, and 26. In other words, if the recited "gas injector" is to be properly construed as a system *including* a plasma generator, it is incumbent on Petitioner to explain why each challenged independent claim recites a plasma generator as a component of the reactor that is *separate from* the claimed "gas injector."

Turning to the requirement that the gas injector be "supported in" the cover of the reactor housing, we furthermore agree with Patent Owner (Prelim. Resp. 7–9; Sur-Reply 4) that it is not proper to construe this phrase as meaning "partially supported in" or "supported by," as urged by

Petitioner (Reply 2–3). Rather, we determine that the proper construction of the phrase "supported in" as used in the '627 patent is "fully contained within."

Here, again, Petitioner points to claim 12, along with Figure 2A, to support its position that "supported in" does not necessarily mean "fully contained within." Reply 2–3. Claim 12 requires the gas injector to "further include[] a supply tube and an injection tube." Ex. 1001, 11:7–8. Figure 2A, as annotated by Petitioner (Reply 3) appears below:

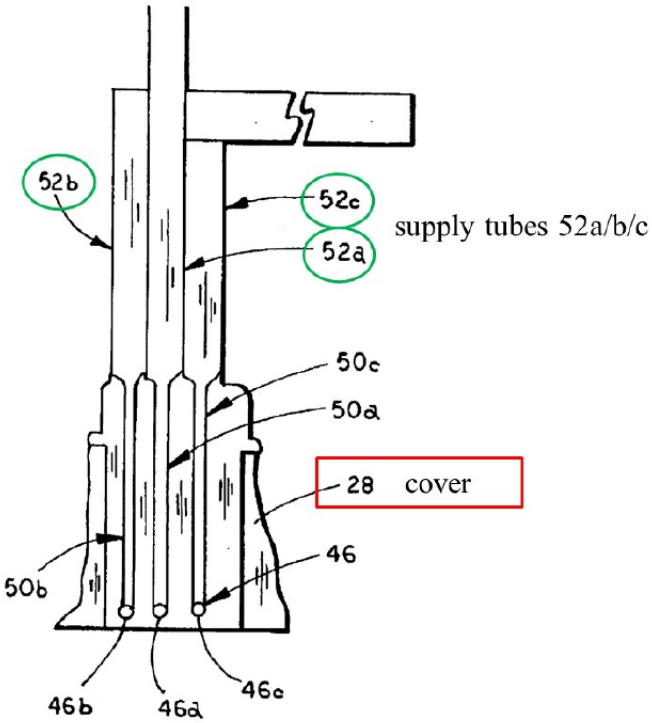

FIG. 2A

Figure 2A depicts an enlarged cross-section of a portion of a reactor with a remote plasma generator system. Ex. 1001, 3:13–14. Petitioner's annotated Figure 2A highlights supply tubes 52a, 52b, and 52c in green circles and separately identifies cover 28 in a red box. Reply 3. According to Petitioner, because Figure 2A shows supply tubes 52a, b, and c positioned above cover 28, then "the 'gas injector' *can* be 'supported in' the cover

within the meaning of the claims and still have portions of the gas injector (such as supply tubes) that are not contained within the cover." *Id.* (emphasis added). While this observation may be true with respect to the embodiment depicted in Figure 2A, Petitioner has not shown persuasively that claim 12 encompasses such embodiment. Here, we emphasize that the '627 patent's description of Figure 2A indicates that tubes 46 are "supported in" the cover. Ex. 1001, 4:60–63. The description does not address supply tubes 52a, 52b, 52c, much less indicate that such tubes are "supported in" the cover. *Id.*

Patent Owner, on the other hand, provides intrinsic evidentiary support for their position that "supported in" means "fully contained within." Prelim. Resp. 7–9; Sur-Reply 4. For example, Patent Owner points to Figure 2A and its accompanying description at column 4, lines 60–63. Prelim. Resp. 7. This disclosure states "[a]s best seen in FIG. 2A, manifold 40 [not labeled in the figure] is formed from a plurality of gas injection tubes 46 which are . . . *supported in* cover 28" Ex. 1001, 4:60–63 (emphasis added). As depicted in Figure 2A above, gas injection tubes 46a, 46b, and 46c are fully contained within cover 28.

Furthermore, the '627 patent describes the substrate 12 depicted in Figure 2 as "supported in processing chamber 18," and the housing 32 "rotatably supported in housing 24." Ex. 1001, 4:8–9, 30–31. Figure 2 shows that the entirety of substrate 12 is contained within chamber 18. Ex. 1001, Fig. 2. Similarly, housing 32 is fully contained within housing 24.[8] *Id.*

[8] We observe that independent claim 1 also recites "a heater housing [32] supported in said reactor housing [24]." Challenged independent claim 26

Moreover, and quite significantly, claim 5 of the '627 patent uses the phrase "supported *by*" to describe the relationship of the plasma generator with respect to the cover. Ex. 1001, 10:40–43; *see also id.* at 2:43–46 ("Preferably, the plasma generator is supported *by* the cover exteriorly of the processing chamber" (emphasis added)). As correctly noted by Patent Owner (Prelim. Resp. 8), in Figure 2,[9] plasma generator 14 is located on, but *outside of*, cover 28. Thus, the claims themselves use different terminology to distinguish between a component that is "supported in" or "supported by" the cover. Such differences serve as "a useful guide in understanding the meaning of particular claim terms" such as "supported in." *Phillips*, 415 F.3d at 1314; *see also id.* (noting that "claim terms are normally used consistently throughout the patent").

Thus, for purposes of this proceeding, we construe the limitation "gas injector being supported in said cover" as "the component of a gas injection assembly or system that is fully contained within a cover of the reactor housing defining a processing chamber."

No other claim terms require an explicit construction for us to reach our determination here not to institute trial.

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contains a similar limitation. Ex. 1001, 10:28, 12:28–29. Such recitations vis-à-vis Figure 2 and the disclosure stating that housing 32 is "supported in" housing 24 is further evidence supporting Patent Owner's construction. *Phillips*, 415 F.3d at 1314 ("[C]laim terms are normally used consistently throughout the patent.").

[9] We recognize that claim 5 is not necessarily limited by the embodiment depicted in Figure 2. In its Reply, however, Petitioner fails to directly address Patent Owner's observation regarding the language of claim 5, much less point to any disclosure in the '627 patent that evinces support for construing the plasma generator of claim 5 as being anything but exterior to cover 28.

B. Asserted Anticipation Ground based on Fong

Petitioner asserts that claims 1–3, 6–13, 16, and 26–29 of the '627 patent are unpatentable as anticipated under 35 U.S.C. § 102(b) over Fong. Pet. 4, 6–56; Ex. 1002. Petitioner also relies on the Declaration of Alexander Glew, Ph.D. (Ex. 1007) for support. Pet. 6–8, 10, 12–17, 20, 21, 23, 24, 26–31, 33–38, 40–44, 46–48, 50–56.

i. Overview of Fong (Ex. 1002)

Fong discloses "high temperature deposition, heating and efficient cleaning for forming dielectric films having relatively thin film thicknesses." Ex. 1007, 7:34–36. One embodiment of Fong's invention is a chemical vapor deposition ("CVD") reactor. *Id.* 2:40, 12:35–24:48. Fong's CVD reactor contains what are described as "individual systems" (*id.* at 24:47), such as an "Enclosure Assembly" 200 (*id.* at 24:49–26:13), "Gas Distribution System" 205 (*id.* at 26:14–29:67), "Exhaust System" (*id.* at 30:1–31:8), "Heater/Lift Assembly" 30 (*id.* at 31:9–35:38), "Integral remote microwave plasma system" 55 (*id.* at 35:39–37:67), and "Endpoint Detection System" 800 (*id.* at 38:1–40:17).

Figure 3 of Fong, as annotated by Petitioner (Pet. 18), is illustrative and is reproduced below:

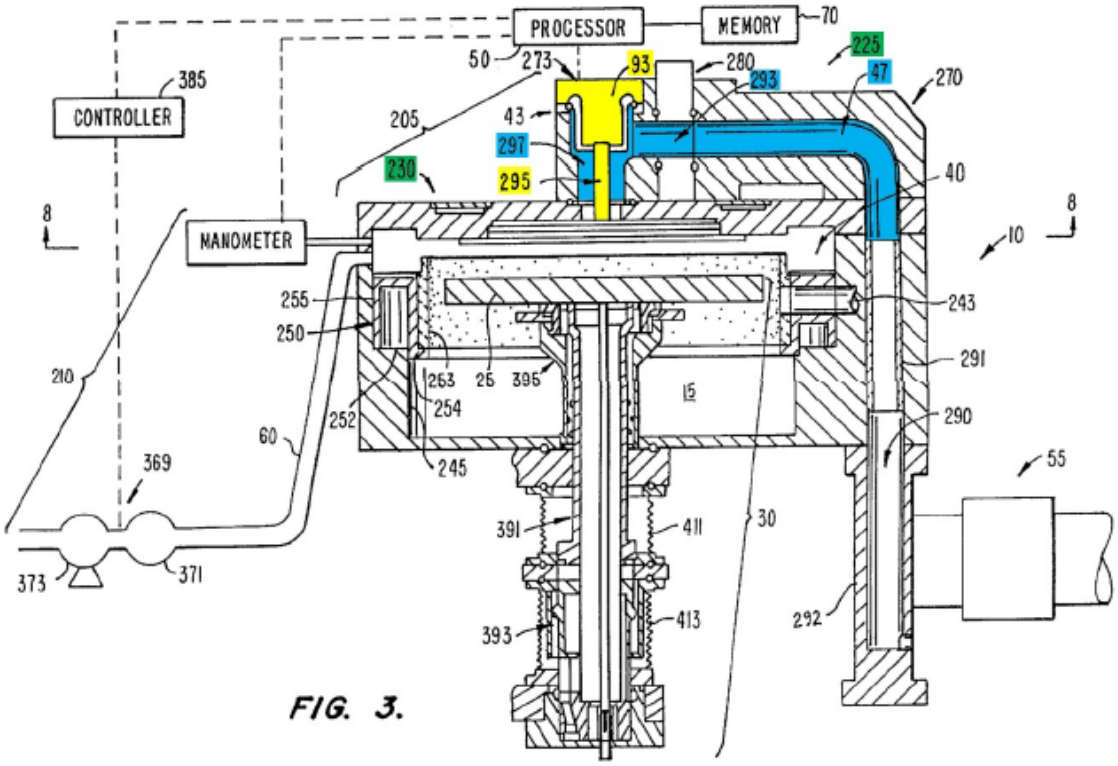

FIG. 3.

Fong's Figure 3, as annotated by Petitioner, depicts a CVD reactor 10 and illustrates the components of, *inter alia*, gas distribution system 205. Ex. 1002, 26:14–36. Figure 3 shows an inner lid assembly 230, as well as an outer lid assembly 225, both highlighted in green. Outer lid assembly 225 contains parts of Fong's gas distribution system 205 including "a clean gas manifold 270 that includes conduit 47 [colorized in blue], gas mixing box 273 [colorized in yellow] for mixing and injecting process gas(es) and cleaning gas(es) through inlet tube 43 to the processing chamber 15, and a gate valve 280 for selectively distributing cleaning and/or process gases to gas mixing box 273." Ex. 1002, 26:14–22; *see also* Pet. 20–21

(acknowledging that the components of gas distribution system 205[10] include elements 43, 295, 297, 293, 270, 47, 273, and 280); *see also* Ex. 1007 ¶ 46 (testifying regarding the contents of Fong's gas distribution system 205 as including 43, 295, 297, 293, 270, 47, 273, and 280).

ii. Analysis

Petitioner asserts, *inter alia*, that Fong's gas distribution assembly 205 corresponds to the gas injection assembly 16 disclosed in Figure 2 of the '627 patent. Pet. 16–17. Specifically, Petitioner asserts that "Fong's gas distribution system 205 shown in Figure 3 corresponds to the gas injector *assembly* of limitation 1[c]."[11] *Id.* at 16 (emphasis added). Petitioner thus maps Fong's gas distribution system 205 to the claimed "gas injector" and contends that Fong discloses limitation 1[c]. *Id.* at 16.

As set forth in Section II.A., *supra*, however, Petitioner's construction is not correct because, as Patent Owner correctly argues, the "gas injector" of the challenged independent claims is properly construed as a *component* of gas injection assembly 16. Prelim. Resp. 4–7; Sur-Reply 1–4. Thus, at a minimum, because Petitioner improperly mapped Fong's gas distribution *system* 205 to the claimed gas injector *component*, the Petition fails to

[10] Both the Petition (Pet. 20) and the Declaration (Ex. 1007 ¶ 46) erroneously refer to Fong's gas distribution system 205 as "Fong's gas distribution system 20." We assume for purposes of this Decision that both Petitioner and Declarant intended to correctly identify Fong's gas distribution system as item 205.

[11] Limitation 1[c] to which Petitioner refers is "at least one *gas injector*, said *gas injector* being adapted to inject the ionized gas into said processing chamber and onto the substrate supported therein for processing the substrate." Pet. 14 (emphasis added). A "gas injector assembly" is not recited as Petitioner asserts.

"specify where each element of the claim is found in the prior art patents or printed publications relied upon." 37 C.F.R. § 42.104(b)(4).

Moreover, even if we were to overlook this deficiency of the Petition, Fong's gas distribution system 205 fails to meet the claimed requirement that the gas injector be "supported in" the cover. Here, Petitioner maps the "cover" of the "reactor housing" to the combined inner and outer lid assemblies 225 and 230, and base plate 265. *See* Pet. 20 ("Fong discloses that the overall lid assembly (which includes outer assembly 225, inner assembly 230 and base plate 265) can be opened to perform preventative maintenance cleanings of processing chamber 15."); *see also* Ex. 1007 ¶ 46. However, the upper portion of Fong's gate valve 280 and the lower portion of Fong's conduit 47 of gas distribution system 205 are not "fully contained within," and, thus, not "supported in," the "cover" 225/230/265 of Fong. *See* Ex. 1002, Fig. 3.

C. Asserted Obviousness Grounds based on Fong

All of Petitioner's obviousness grounds (Pet. 57–78) rely on the same mapping of the recited "gas injector" to Fong's gas distribution system 205 as set forth in the anticipation ground. Pet. 6–56; *see id.* at 57, 64 (incorporating "[t]he discussion of Fong from Ground 1" by reference into Grounds 2 and 3); *see also id.* at 67–78 (failing to present alternative mapping for the claimed "gas injector"). We have found this mapping deficient, as explained above in connection with the anticipation ground based on Fong. As such, all of Petitioner's obviousness grounds, which are all based on Fong, suffer from the same deficiencies as the anticipation ground discussed above.

III. CONCLUSION

For the reasons discussed above, we conclude that Petitioner has failed to demonstrate a reasonable likelihood that it would prevail in showing that at least one claim of the '627 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is denied.

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