Trials@uspto.gov
571-272-7822

Paper 8
Entered: November 17, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WHITEWATER WEST INDUSTRIES, LTD.,
Petitioner,

v.

AMERICAN WAVE MACHINES, INC.,
Patent Owner.

IPR2022-01035
Patent 10,738,492 B1

Before BENJAMIN D. M. WOOD, CARL M. DEFRANCO, and ALYSSA A. FINAMORE, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

WhiteWater West Industries, Ltd. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–20 of U.S. Patent No. 10,738,492 B1 (Ex. 1001, "the '492 patent"). American Wave Machines, Inc., ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

We have authority under 35 U.S.C. § 314, which provides that 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) (2018). Upon considering the Petition, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. Accordingly, we determine not to grant the Petition.

B. Related Proceedings

The '492 patent is the subject of an infringement action filed May 20, 2022 in *Whitewater West Industries, Ltd. v. American Wave Machines, Inc.*, Case No. 3-22-cv-00729 (S.D. Cal.). *See* Paper 5, 2. Petitioner identifies as related matters the following Board proceedings between Petitioner and Patent Owner: (1) IPR2022-001032 (challenging U.S. Patent No. 10,662,663 B2), (2) IPR2022-01033 (challenging U.S. Patent No. 8,434,966 B1), and (3) IPR2022-01034 (challenging U.S. Patent No. 9,279,263 B2). Pet. 1.

C. The '492 Patent (Ex. 1001)

The '492 patent, titled "Aquatic Sports Amusement Apparatus," is directed to wave generators for making waves in pools for recreational purposes. Ex. 1001, code (54), 1:20–22.

According to the '492 patent, waves are created when a plurality of chambers release pressurized water into a pool by manipulating the air pressure in the chambers. Ex. 1001, 1:30–31, 40–41. A plenum is pneumatically connected to each chamber, and a plurality of fans is connected to the plenum to pressurize the plenum and chambers. *Id.* at 1:67–2:2, Fig. 3. "[A] multi-fan system can cause single fans within the system to become unstable," however. *Id.* at 4:17–18. Figure 1 of the '492 patent, reproduced below, illustrates this problem:

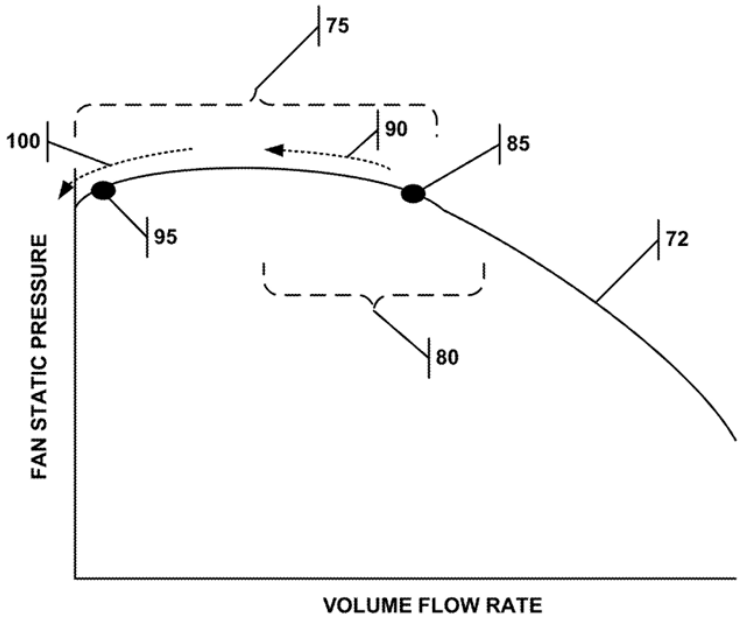

FIG. 1

Figure 1 of the '492 patent depicts typical fan discharge-pressure-versus-flowrate curve 71, one portion of which is identified as optimal

region 80, another portion identified as the fan's instability region 75. Ex. 1001, 4:23–27. If a fan enters the instability region, "it is possible that the fan will move along the curve to a non-optimal region," and may "actually have a negative flow rate—i.e., the fan is turning but air is flowing in the wrong direction." *Id.* at 4:30–35. "Operating in the negative flow region can cause premature wear on the fan, and consumes power without any benefit from the fan." *Id.* at 4:35–37.

"To overcome this problem, the present disclosure presets a pressure set point" outside of the instability region, and includes in the wave-generating apparatus "a pressure relief structure to maintain the pressure below that set point." Ex. 1001, 4:45–47. Figure 3 of the '492 patent, reproduced below, illustrates an embodiment of the apparatus with this pressure-relief structure:

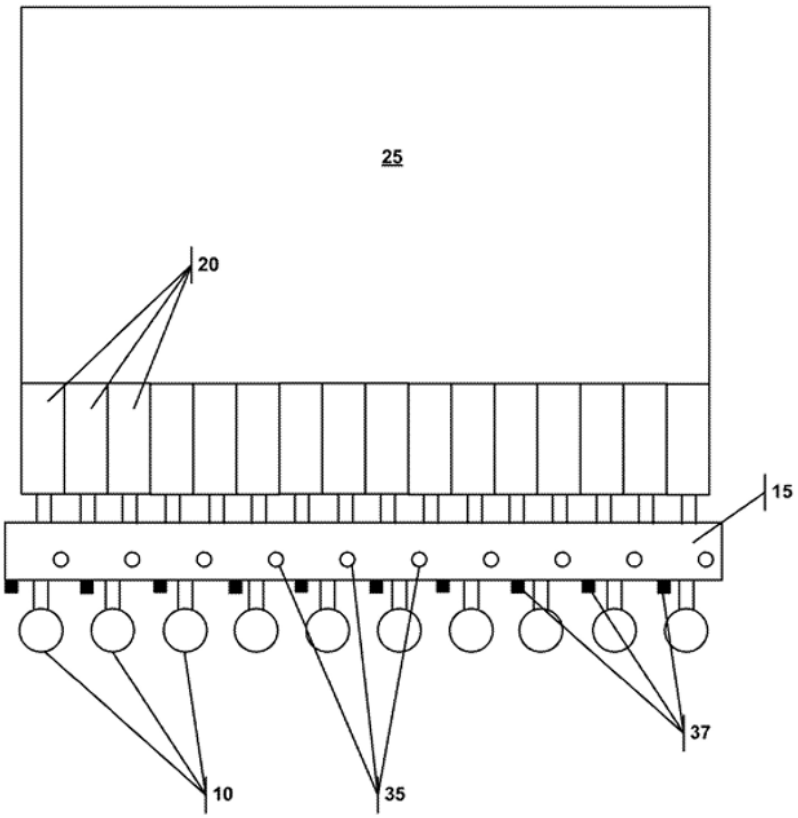

FIG. 3

Figure 3, a top view of an embodiment of the claimed wave-generating apparatus, illustrates multiple fans 10 jetting air into plenum 15, which is pneumatically connected to each chamber 20. Ex. 1001, 4:1–3, 43–44, 55–59. Sensors 37 are connected to and measure the pressure of plenum 15. Vents 35 are also connected to the plenum. *Id.* at 4:60–63. When the measured pressure at any one sensor is greater than or equal to the set point pressure, a controller actuates one or more of a plurality of vent valves 35 for a predetermined period of time or until a second, lower set point pressure is measured. *Id.* at 5:45–53, Fig. 6. The controller may be a central processor with the appropriate algorithms to detect the set point pressure and to open the valve accordingly. *Id.* at 5:25–27.

D. Challenged Claims

Petitioner challenges claims 1–20 of the '492 patent. Pet. 1. Claims 1, 9, and 17 are independent. Ex. 1001, 7:2–19, 7:38–8:12, 8:32–37. Claim 1 is representative and recites:[1]

> [1.Preamble] 1. An aquatic sports amusement apparatus, comprising:
> [1.A] a plurality of wave generating chambers that releases water into a pool;
> [1.B] a plenum pneumatically connected to each chamber;
> [1.C] a plurality of fans connected to the plenum and adapted to pressurize the plenum;
> [1.D] a plurality of sensors connected to the plenum and adapted to measure the pressure of the plenum;
> [1.E] a plurality of vents connected to the plenum and adapted to release pressure from the plenum upon actuation;

[1] Claim 1 has been reformatted slightly for clarity and to include Petitioner's limitation designations.

> [1.F] a controller connected to the vents and the sensors, wherein the controller is constructed to perform the following steps:
>
> a. measure the pressure from a sensor in the plurality of sensors;
>
> b. when the measured pressure is greater than a preset set point, then actuate a vent from the plurality of vents to release pressure.

Ex. 1001, 7:2–19.

E. The Asserted Grounds of Unpatentability

Claims Challenged	**35 U.S.C. §**	**Basis**
1–20	103	Van Gucht,[2] Uddin[3]
1–20	103	Kreinbihl,[4] Uddin

In support of its proposed grounds, Petitioner relies on the Declaration of Glen Stevick, Ph.D. (Ex. 1007). Patent Owner submits the Declaration of Charles Alexander Garris, Jr., Ph.D. (Ex. 2003).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that one of ordinary skill in the art at the time of the invention "would have knowledge and familiarity with: (i) design of mechanical structures and (ii) fluid characteristics and the interaction of fluid forces upon mechanical structures, and (iii) basic fan and system

[2] European Patent Application No. 0,287,714 A1, pub. Oct. 26, 1988 (Ex. 1004, "Van Gucht").
[3] U.S. Patent No. 4,730,355, iss. Mar. 15, 1988 (Ex. 1005, "Kreinbihl").
[4] Nur Uddin and Jan Tommy Gravdahl, *Two General State Feedback Control Laws for Compressor Surge Stabilization*, ResearchGate, June 2016 (Ex. 1006, "Uddin").

curves." Pet. 10. Petitioner further contends that one of ordinary skill in the art "would also have a basic understanding of control systems and sensors as reflected in the prior art references." *Id.* at 11. According to Petitioner, this knowledge and experience "could be obtained by: (i) successfully completing a Master's degree in Mechanical Engineering or Control Systems Engineering or (ii) at least 5 years of experience in a job working with control systems, including designing or implementing fan-generated fluid displacement systems." *Id.* at 12–13 (citing Ex. 1007 ¶ 41). At this stage, Patent Owner does not contest that assertion. *See* Prelim. Resp. 12. Nor do we discern any reason to question its credibility at this stage. Further, we presume that the cited prior art references reflect the level of ordinary skill at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining the level of ordinary skill in the art may be evidenced by the cited references themselves).

B. Claim Construction

We apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). That is, "the words of a claim 'are generally given their ordinary and customary 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 1312–13; *see also* 37 C.F.R. § 42.100(b).

Petitioner and Patent Owner agree that no claim term requires express construction, and indeed neither party offers constructions for any claim term. Pet. 13; Prelim. Resp. 13–14. For the reasons set forth in the following analysis of the asserted grounds of unpatentability, no claim term requires an express construction for us to determine whether to an institute

an *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Accordingly, we proceed with the understanding that each term should be accorded its plain and ordinary meaning.

C. Ground 1

Petitioner alleges that claims 1–20 would have been obvious over Van Gucht and Uddin. Pet. 21–31. Claims 1, 9, and 17 are independent, and claims 2–8 depend from claim 1, claims 10–16 depend from claim 9, and claims 18–20 depend from claim 20. Ex. 1001, 7:2–8:48.

1. Van Gucht

Van Gucht discloses an apparatus for generating waves in a swimming pool. Ex. 1004, code (57). An exemplary embodiment is depicted in Figure 1, reproduced below.

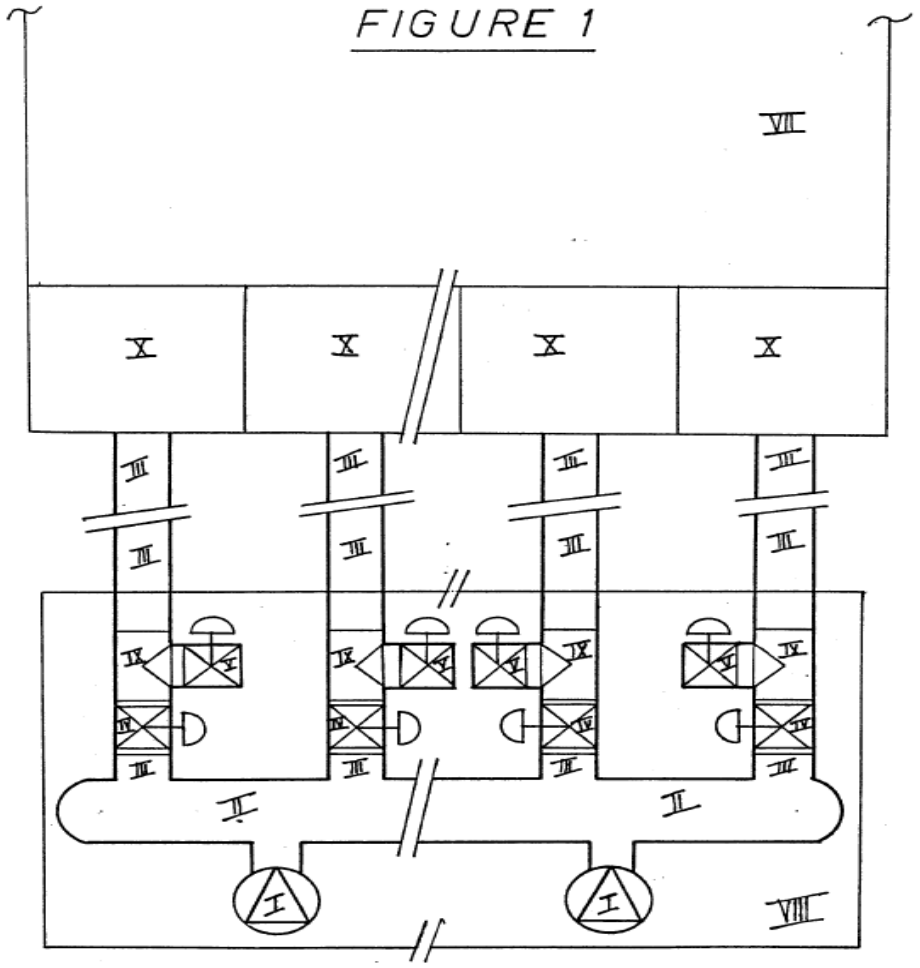

Figure 1 "is an upper view of the pneumatic wave producer" of Van Gucht. Ex. 1004, 1:26–27.[5] Two high-pressure fans I blow pressurized air into pipe collector II. *Id.* at 1:40–42. Pipe collector II is connected to four branches III, each branch connected to pressure valve IV, escaping valve V, and, downstream of the pressure valve, chamber X. *Id.* at 1:42–53. Waves are created in pool VII downstream of chambers X by repeated cycling of pressure valves IV and escaping valves V. *Id.* at 2:6–11. When pressure valve IV is open and escaping valve V is shut, high pressure air flows from

[5] Citations of Van Gucht are to column:line numbers.

the fans to the chambers via pipe collector II, pushing the water level in chambers X down, which causes the pool water level to rise. *Id.* When the water level in chambers X is at its lowest level, pressure valve IV shuts and escaping valve V opens, allowing the water level in chambers X to rise and the pool water level to fall. *Id.* at 2:11–15. When the water in pressure chamber X reaches its highest level, pressure valves IV open and escaping valves V shut, repeating the cycle. *Id.* at 2:15–19. "In view of the repetition of this cycle a wave motion is generated in the swimming pool VII from the pressure chamber X." *Id.* at 2:20–22.

2. Uddin

Uddin discusses methods for controlling "compressor surge." Ex. 1006, Abstract. Compressor surge "is an aerodynamic instability in the compression system" in which "the pressure developed by a compressor . . . is less than the system pressure." *Id.* at 2:2.[6] Compressor surge "occurs due to [the] inability of the impeller to produce the amount of required energy for the process system," and leads to "pressure fluctuation, reversal of flow, . . . severe vibration," and possible compressor damage. *Id.* Uddin describes two methods to prevent compressor surge: "surge avoidance system (SAS)" and "active surge control system (ASCS)." *Id.*

"SAS is the traditional method to prevent a compressor entering surge" (Ex. 1006, 2:2), and can be explained with reference to Figure 1 of Uddin, reproduced below:

[6] Citations to Uddin are generally to page number:column number.

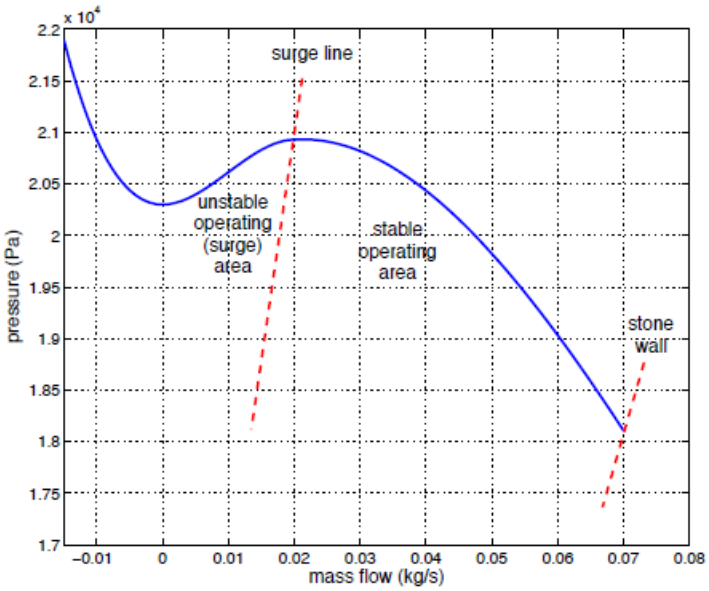

Fig. 1. A compressor map with surge line.

Figure 1 of Uddin depicts a compressor map (pressure-versus-mass-flow graph) with a "surge line" separating a stable operating area from an unstable operating (surge) area. Ex. 1006, 2:1, Fig. 1. In SAS, a surge control line is established to the right of the surge line so the compressor's operating point never reaches the surge line. *Id.* at 2:2. When the compressor's operating point crosses the surge control line, a blow-off valve opens to discharge downstream fluid and thereby increase the compressor flow to keep the compressor operating at the surge control line. *Id.* at 2:2–3:1. SAS "works well to prevent a compressor from entering surge," but "reduces the compressor operating envelope as the limit of minimum compressor flow is surge control line instead of surge line." *Id.* at 3:1.

ASCS, on the other hand, allows the compressor to operate beyond the surge line into a stabilized surge area where the compressor may operate more efficiently. Ex. 1006, 3:1. For ASCS, an "active element," or "actuator," is "driven by a controller based on a state feedback control law"

to prevent compressor surge "by flowing out more fluid from the plenum." *Id.* at 3:1–2.

3. Principles of Law

"A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in [35 U.S.C. § 102], if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103. Obviousness is a question of law based on underlying findings of fact. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The underlying factual considerations "include the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and any relevant secondary considerations" of non-obviousness, including commercial success of the patented product or method, a long-felt but unmet need for the functionality of the patented invention, and the failure of others who have unsuccessfully attempted to accomplish what the patentee has achieved. *Id.* at 17–18. The obviousness analysis should not be conducted "in a narrow, rigid manner," but should instead focus on whether a claimed invention is merely "the result[] of ordinary innovation," which is not entitled to patent protection. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007).

4. Discussion

a. Claims 1 and 9 and their dependents

Petitioner asserts that Van Gucht teaches elements [1.Preamble], [1.A], [1.B], and [1.C] of claim 1, and elements [9.Preamble], [9.A], [9.B],

and [9.C] of claim 9. Pet. 21–22 (citing Ex. 1004, 1:21–25, 30–38, 40–44, Figs. 1, 2). For elements [1.D/9.D], [1.E/9.E], and [1.F/9.F], Petitioner relies on Uddin. *Id.* at 22–25. Because the positions of the parties and our analysis are identical for claims 1 and 9, and unless otherwise specified, we limit our discussion to claim 1, with the understanding that it applies equally to claim 9.

Claim 1 requires

> a plurality of sensors connected to the plenum and adapted to measure the pressure of the plenum [element [1.D]];
> a plurality of vents connected to the plenum and adapted to release pressure from the plenum upon actuation [element [1.E]]; [and]
> a controller connected to the vents and the sensor, wherein the controller is constructed to . . . :
>
> a. measure the pressure from a sensor in the plurality of sensors; and
>
> b. when the measured pressure is greater than a preset set point, then actuate a vent from the plurality of vents to release pressure [element [1.F]].

Ex. 1001, 7:8–19; Pet. 7. Petitioner relies on Uddin to teach these three elements. Pet. 22–25. For element [1.D], Petitioner specifically asserts that the SAS method taught by Uddin uses "sensors" (as well as a "controller") to "determine 'when the compressor [i.e., fan] operating point is crossing the surge [control] line.'" *Id.* at 22–23 (alteration in original) (citing Ex. 1006, 2:2). Petitioner also refers us to Uddin's ASCS method, which uses pressure sensors to measure compressor discharged pressure and plenum pressure. *Id.* at 23 (citing Ex. 1006, Abstract).

For element [1.E], Petitioner refers us to the "blowoff valve" used in the SAS method, which, when the compressor's operating point crosses the surge control line, "'will open to discharge the downstream fluid and result

in increasing the flow such that the compressor operating point will stay at (or below) the surge control line.'" Pet. 24 (quoting Ex. 1006, 3:1).[7] According to Petitioner, "[a] POSITA would consider these blowoff valves as vents adapted to release pressure from the plenum upon actuation." *Id.*

For element [1.F], Petitioner asserts that "[a] POSITA familiar with Uddin would recognize that a controller is operationally connected to the sensors and the vents in the described systems." Pet. 24–25. According to Petitioner:

> Uddin states "SAS works by defining a surge control line which [is] located on the right side of the surge line as a limit of the minimum compressor flow. It makes the compressor operating point not reach the surge line." (Ex. 1006, page 2, col. 2.) When the controller senses that the "compressor operating point is crossing the surge control line," the "blow-off valve [i.e., vent] will open to discharge the downstream fluid and result in increasing the flow such that the compressor operating point will stay at the surge control line." (Ex. 1006, page 2, col. 2 – page 3, col. 1.)

Id. at 25.

Finally, while Petitioner acknowledges that "Uddin primarily focuses on a single fan, sensor, valve combination," Petitioner contends that "a POSITA would readily appreciate its applicability to systems incorporating multiple fans, sensors and vents as the need and the science remain the same." In support of this contention, Petitioner relies on the '492 patent itself:

> In fact, the '492 Patent highlights the importance of each fan having its own sensor and vent: "Using multiple pressure

[7] Petitioner's quotation is not entirely correct, as Uddin does not use the term "(or below)." We do not consider this misquotation to be substantive.

> sensors 37 and vents 35, wherein each sensor 37 and vent 40 is located near each fan 10, is a way to account for the variations in the plenum 15 and to more effectively abate fan instability." (Ex. 1001, 5:4–7; Ex. 1007, ¶ 75.)

Pet. 25.

Patent Owner disagrees with Petitioner's analysis of Uddin. Patent Owner contends that Uddin's SAS system "is not disclosed . . . as utilizing a controller or state feedback from sensors of any kind, much less pressure sensors." Prelim. Resp. 26. Instead, according to Patent Owner, "Uddin's disclosure of the SAS system that employs a blowoff valve describes nothing more than a valve that will self-open at a particular pressure condition." Prelim. Resp. 26–27; *see id.* at 29 (arguing "the only form of 'actuation' associated with opening a blowoff valve is when the pressure against the closure is sufficiently high to overcome a closing force (e.g., spring)") (citing Ex. 2005, 3–4).

Patent Owner further submits that Petitioner relies on Uddin's ASCS embodiment, instead of the SAS embodiment, for the claimed sensors. Patent Owner thus submits that Petitioner relies on "SAS for vents" and "ASCS for sensors," and therefore "improperly mix[es] and match[es] features from these two distinct and disparate embodiments together." *Id.* at 27–28.

Patent Owner also takes issue with Petitioner's statement that "[a]lthough Uddin primarily focuses on a single fan, sensor, valve combination, a POSITA would readily appreciate its applicability to systems incorporating multiple fans, sensors and vents as the need and the science remain the same." Pet. 25. Patent Owner argues that this assertion "even taken at face value, conveys nothing more than the ***possibility*** that a

PHOSITA ***could*** apply the teachings of Uddin to systems incorporating multiple fans sensors and vents," but "does not explain ***why*** a PHOSITA would have been motivated to do so," and "does not specify with any degree of particularity ***what modifications*** to Van Gucht would be necessary to satisfy any acknowledged difference to meet the requirements of elements [1.F]/[9.F] of claims 1 and 9." Prelim. Resp. 35. Patent Owner also submits that Petitioner "improperly cites the specification of the '492 patent itself in support of its obviousness rationale," which indicates that "Petitioner's proposed grounds are driven by an improper hindsight reconstruction of the prior art." *Id.*

As Petitioner's contentions regarding Van Gucht are largely unrebutted, our discussion focuses primarily on Uddin. At the outset, we note that Uddin does not expressly teach a controller connected to a plenum vent and plenum-pressure sensor to actuate the vent when the measured plenum pressure is greater than a preset point (we assume *arguendo* that Petitioner is correct that one of ordinary skill in the art would have considered the blow-off valve used with SAS to correspond to one of the plurality of claimed vents).

For the plenum-pressure sensor, Petitioner asserts that both the SAS and ASCS methods employ sensors. Pet. 22–23 (citing Ex. 1006, Abstract, 2:2). Uddin, however, only discloses pressure sensors with respect to the ASCS method, not the SAS method. *See, e.g.*, Ex. 1006, Abstract (describing the ASCS method); *see also id.* at 6, Conclusion (describing ASCS's use of pressure sensor to measure plenum pressure).

Although we agree with Petitioner that the ASCS method utilizes pressure sensors, Petitioner relies on the SAS method for the plenum-vent

limitation. Pet. 24–25 (citing Ex. 1006, 2:2–3:1). Petitioner's reliance on the SAS embodiment for the claimed vent and on the ASCS embodiment for the claimed pressure sensor is problematic. Petitioner does not acknowledge that it is relying on different embodiments for these claim limitations, much less explain how or why one of ordinary skill in the art would have combined them to achieve the claimed invention. Nor is it clear from our reading of Uddin how or why the skilled artisan would have done so. Indeed, Uddin appears to characterize SAS and ASCS as two distinct, mutually exclusive methods of dealing with compressor surge. *See, e.g.*, Ex. 1006, 3:1 ("As opposed to the SAS which limits the compressor operating area of a surge control line, ASCS is stabilizing surge by an active element such that the compressor operating point is allowed to cross the surge line . . . .").

For the controller limitation, Petitioner relies on the unsupported assertion that a "POSITA familiar with Uddin would recognize that a controller is operationally connected to the sensors and the vents in the described *systems*." Pet. 24–25. Petitioner's reasoning seems to be that because, in SAS, the blow-off valve opens to discharge fluid downstream when "the compressor operating point is crossing the surge control line," there must be a "controller" that "senses" this condition and then actuates the valve. *Id.* at 25 (citing Ex. 1006, 2:2–3:1). Petitioner does not offer any evidence to support this contention, however.[8] Conversely, Patent Owner

[8] Although Petitioner's Declarant, Dr. Stevick, repeats this contention *verbatim*, Petitioner does not cite to this testimony as supporting evidence. See Pet. 24–25. Regardless, we would not have found such testimony persuasive, as Dr. Stevick also does not support this contention with evidence or persuasive technical reasoning. *See* 37 C.F.R. § 42.65(a)

has proffered evidence that a controller is not required. According to this evidence, a blow-off valve is self-actuating, meaning that it opens when pressure is sufficiently high to overcome a counterforce biasing the valve shut, such as that provided by a spring. Prelim. Resp. 29 (citing Ex. 2005, 3–4). The pressure set point is determined by the choice of spring used by the valve, so pressure need not be "measured" per se. *See* Ex. 2005, 3. Thus, on this record, we are not persuaded that the SAS embodiment uses a controller.

Finally, we find untenable Petitioner's apparent reason why one of ordinary skill in the art would have applied Uddin's teaching to a system having multiple fans: "Although Uddin primarily focuses on a single fan, sensor, valve combination, a POSITA would readily appreciate its applicability to systems incorporating multiple fans, sensors and vents as the need and the science remain the same." Pet. 25. This assertion suffers from three problems. First, Petitioner has not established that Uddin teaches "a single fan, sensor, valve combination." As discussed above, the SAS embodiment uses a fan and a valve, but not necessarily a sensor. Uddin's ASCS embodiment (which Petitioner does not appear to be relying on) uses a fan and a sensor, but not necessarily a valve.[9] Second, Petitioner has not

("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *cxLoyalty, Inc. v. Maritz Holdings Inc.*, 986 F.3d 1367, 1378 (Fed. Cir. 2021) ("We do not accord weight to conclusory expert testimony.").

[9] Uddin does not describe ASCS as using a blow-off valve, but rather an "active element," or "actuator." Ex. 1006, 3:1. According to Uddin, "Several actuators have been applied in active surge control," such as "a moveable plenum wall," "close coupled valve," "drive torque," etc. *Id.*

established the existence in the prior art of "systems incorporating multiple fans, sensors and vents" to which Uddin's purported single fan/sensor/valve combination would have been applicable. Petitioner does not contend, and we do not find, that Van Gucht teaches such a system.

Third, Petitioner's only support for why a skilled artisan would have "appreciate[d the] applicability" of Uddin's sensor to Van Gucht's fans and plenum is the patent at issue. Pet. 25 ("[T]he '492 Patent highlights the importance of each fan having its own sensor and vent.") (citing Ex. 1001, 5:4–7).[10] "Obviousness can not be established by hindsight combination to produce the claimed invention." *In re Dance,* 160 F.3d 1339, 1343 (Fed. Cir. 1998) (internal citation omitted). Using an inventor's disclosure to defeat the patentability of the inventor's claims is "the essence of hindsight." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1320 (Fed. Cir. 2004).

In sum, Petitioner has not persuaded us that the combination of Van Gucht and Uddin teaches or suggests elements [1.D], [1.E], or [1.F], and has not persuaded us that one of ordinary skill in the art would have had reason to combine Van Gucht and Uddin. Accordingly, we are not persuaded that Petitioner is reasonably likely to prevail in showing the unpatentability of claim 1 or its dependent claims. Because, as stated above, the issues and arguments regarding claim 9 are largely the same as those regarding claim 1, we also are not persuaded that Petitioner has a reasonable likelihood of

[10] Petitioner does cite to the testimony of its Declarant, Dr. Stevick, but because this testimony merely repeats *verbatim* the contention for which it is offered support, and also cites only to the '492 patent for its own support, it adds little to what is asserted in the Petition.

prevailing in showing the unpatentability of claim 9 and its dependent claims.

b. Claim 17 and Its dependents

Claim 17 recites:

> 17. A method for controlling fan instability in an aquatic sports amusement apparatus, the sports apparatus having a plurality of pneumatically controlled chambers that release water into a pool, the chambers are connected to a plenum that is pressurized by a plurality of fans, the method comprising:
>
> a. measuring the pressure in the plenum;
>
> b. releasing pressure from the plenum when the measured pressure reaches a preset set point.

Ex. 1001, 8:32–41.

Petitioner relies on Van Gucht to teach the structure recited in the preamble to claim 17. Pet. 26 (citing Ex. 1004, 1:32–38, 40–44, Fig. 1; Ex. 1007 ¶ 76). For the measuring-the-pressure step, Petitioner refers us to its discussion of elements [1.D] and [1.F] of claim 1. *Id.* (citing Ex. 1007 ¶ 77). For the releasing-pressure step (step b), Petitioner relies on its discussion of elements [1.E] and [1.F]. *Id.*

Patent Owner responds, *inter alia*, that Uddin contains "no disclosure of the use of any form of sensor (or pressure measurement) associated with a blowoff valve in the cited SAS system." Prelim. Resp. 40. Patent Owner also asserts that "a blowoff valve does not operate to release pressure "*when the* ***measured pressure*** *reaches a preset set point*." *Id.* at 40–41.

We are not persuaded that Uddin teaches "measuring the pressure in the plenum" in combination with "releasing pressure from the plenum when the measured pressure reaches a preset set point." As Petitioner refers us to its discussion regarding elements [1.D], [1.E], and [1.F], we understand

Petitioner to be relying on Uddin's SAS embodiment for these teachings. As discussed above, however, we are not persuaded that the SAS embodiment employs any sensor to measure plenum pressure. Petitioner has also not persuaded us that Uddin's blow-off valve can be considered to measure plenum pressure. Therefore, we are not persuaded that Petitioner has a reasonable likelihood of prevailing in showing that claim 17, or its dependent claims, are unpatentable as obvious over Van Gucht and Uddin.

In sum, we are not persuaded that there is a reasonable likelihood that Petitioner would prevail with respect to any of the claims challenged in Ground 1 of the Petition.

D. Ground 2

Petitioner also challenges claims 1–20 based on Kreinbihl and Uddin. Pet. 32–42.

1. Kreinbihl

Kreinbihl is directed to "pneumatic wave generators for use in generating waves in a wave pool." Ex. 1005, 1:7–8. Kreinbihl uses "a valve arrangement for use with two wave generating chambers each having an inlet-outlet passageway with the valve arrangement having four modes of operation," which include directing "air into both of the chambers simultaneously, or direct[ing] air into one of the chambers while exhausting the other chamber or exhaust[ing] both chambers while blocking air from the source of forced air." *Id.* at 2:10–17. One embodiment is depicted in Figure 10, reproduced below.

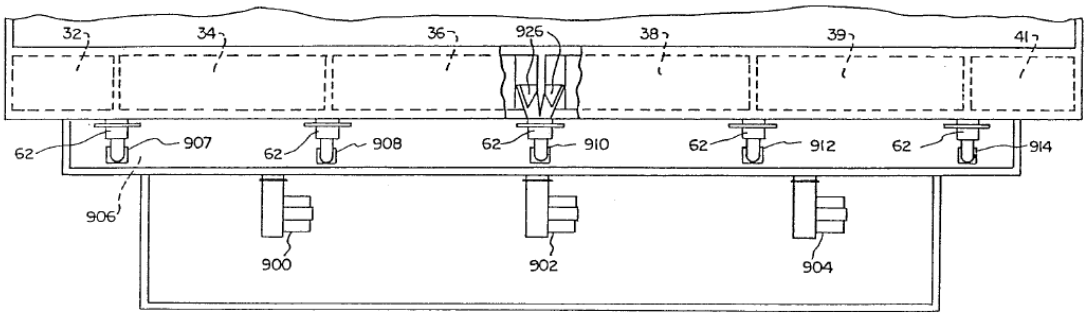

FIG.10

Figure 10 is a plan view of a wave pool according to an embodiment. Ex. 1005, 3:20. The wave pool of Figure 10 includes a plurality of "wave chambers 32, 34, 36, 38, 39 and 41." *Id.* at 8:8. Three motor driven blowers 900, 902, and 904 direct air into common plenum 906 which, in turn, communicates with the six wave chambers through spaced apart valve ducting arrangement 907, 908, 910, 912, and 914. *Id.* at 8:13–18. "Air is directed into two adjacent water chambers, such as chambers 36 and 38" through opening 926. *Id.* at 8:25–32. Kreinbihl explains that that air driven by the blowers "is directed into various of the chambers forcing water downwardly in the chambers and through the below [] water passageway so as to create waves in the pool. Different wave patterns may be created by directing forced air into various combinations of the wave chambers and at various sequences." *Id.* at 1:20–27.

2. Discussion

Other than citing to different paragraphs of Dr. Stevick's Declaration, Petitioner's discussion of Ground 2, for limitations [1.E/9.E] and [1.F/9.F], as well as [17.a] and [17.b], is exactly the same as that for Ground 1. *Compare* Pet. 34–36, 37–38 *with* Pet. 23–25, 26–27. Because Petitioner relies on Uddin in the same manner, for the above reasons, we are not persuaded that Petitioner has sufficiently shown that claims 1–20 would

have been obvious over Kreinbihl and Uddin. Therefore, we are not persuaded that Petitioner is reasonably likely to prevail with respect to at least one of the claims challenged in Ground 2.

E. Summary

For the above reasons, we are not persuaded that there is a reasonable likelihood that Petitioner would prevail with respect any of the claims challenged in the Petition. Accordingly, we decline to institute *inter partes* review of the '492 patent.

III. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 325(d)

Patent Owner urges us to exercise our discretion under 35 U.S.C. § 325(d) to deny institution because the same or substantially the same prior art or arguments were already considered during prosecution of the '492 patent. Prelim. Resp. 7–11. Because we find that Petitioner has not shown a reasonable likelihood that it would prevail in showing the unpatentability of any of the challenged claims, this argument is moot.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not shown that there is a reasonable likelihood that it would prevail with regard to at least one of the claims challenged in the Petition. Accordingly, we decline to institute inter partes review. 35 U.S.C. § 314(a).

V. ORDER

For the reasons given, it is

ORDERED that the Petition for *Inter Partes* Review is denied.

For PETITIONER:

J. Rick Tache
Willmore F. Holbrow III
BUCHALTER
rtache@buchalter.com
wholbrow@buchalter.com

For PATENT OWNER:

Scott W. Cummings
Kevin Greenleaf
Debodhonyaa Sengupta, Ph.D.
DENTONS US LLP
Scott.cummings@dentons.com
Kevin.greenleaf@dentons.com
Debodhonyaa.sengupta@dentons.com