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Patent Trial and Appeal Board

Precedential

Standard Operating Procedure 2

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES GERARD McAWARD, DAVID S. ZAKREWSKI,
KEVIN G. PIEL, and JONATHAN KLINGER

Appeal 2015-006416
Application 13/435,655
Technology Center 3700

Before LINDA E. HORNER, ANNETTE R. REIMERS, and
NATHAN A. ENGELS, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

James Gerard McAward et al. (Appellants)¹ seek our review under 35 U.S.C. § 134 of the Examiner’s decision, as set forth in the Final Action dated November 7, 2014 (“Final Act.”), rejecting claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify Honeywell International, Inc. as the real party in interest. Appeal Brief 2 (filed January 27, 2015) [hereinafter “Appeal Br.”].

CLAIMED SUBJECT MATTER

Appellants' claimed subject matter relates to "water leakage detectors . . . which are easily connectable to flexible water hoses, and, can be coupled together to monitor leakage from hot and cold supplies." Specification, para. 1 (filed March 30, 2012) [hereinafter "Spec."]. Claims 1, 8, and 10 are independent. Claim 1 is illustrative of the subject matter on appeal and is reproduced below.

1. A water detector comprising:
 - a housing;
 - flow connectors carried by the housing including a spin-on female pipe connector at an inflow end and a spin-on male pipe connector on an outflow end;
 - at least one water presence sensor carried by the housing;
 - an electrically actuatable valve, carried by the housing, and having first and second states; and
 - control circuits, carried by the housing, coupled to the sensor and valve, and, responsive to a leakage indicating signal from the sensor, the circuits actuate the valve causing it to change state wherein the control circuits detect flood conditions, shut off a malfunctioning water branch to a home appliance and communicate to a premises alarm communication device or home automation system via a wireless link and wherein the water detector is configured to be reliably installed by an untrained installer or a homeowner and to not require the services of a plumber or electrician to perform installation, thereby permitting widespread and cost effective adoption.

REJECTIONS

The Final Action includes the following rejections:

- I. Claims 1–20 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite.
- II. Claims 1–7 and 10–20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Walter (US 7,549,435 B2, issued June 23, 2009) and Kaplan (US 7,403,839 B1, issued July 22, 2008).

ANALYSIS

I.

A.

Appellants argue the claims subject to the first ground of rejection as a group. Appeal Br. 8. We select claim 1 as representative of the group, with claims 2–20 standing or falling with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner states that the recitation in claim 1 of the water detector “configured to be reliably installed by an untrained installer or a homeowner and to not require the services of a plumber or electrician to perform installation, thereby permitting widespread and cost effective adoption” is “unclear and indefinite.” Final Act. 5. The Examiner explains that “one having ordinary skill in the art cannot determine the metes and bounds of the claimed subject matter” because “the claim language does not provide any structure to the apparatus or system that would allow it to be ‘configured’ to function as described in the claims.” *Id.* at 6.

Appellants assert that this “configured” limitation “would be understood to mean capable of being installed without special knowledge or tools” and “[g]arden hose connectors or electrical plugs for home wall outlets would be understood as examples of such configuration.” Appeal Br. 8; *see also* Reply Brief 2 (dated June 18, 2015) [hereinafter “Reply Br.”] (“the claims are directed to the simple, straightforward concept of a ‘do-it-yourself’ device installed by an amateur”).

B.

Under 35 U.S.C. § 112(b) or pre-AIA 35 U.S.C. § 112, second paragraph,² the specification must conclude with “one or more claims particularly pointing out and distinctly claiming the subject matter” regarded as the invention. This definiteness requirement “secure[s] to the patentee all to which he is entitled” and “apprise[s] the public of what is still open to them.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (quotation and brackets omitted).

The USPTO bears responsibility for testing claims for definiteness prior to issuance. *See, e.g., In re Zletz*, 893 F.2d 319, 321–22 (Fed. Cir. 1989). Thus, when applying § 112 during examination of a patent application, the Office must carry an initial procedural burden of presenting a *prima facie* case that a pending claim is indefinite. *Hyatt v. Dudas*, 492

² Appellants filed the application on appeal before September 16, 2012, and thus, the pre-Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), version of § 112 applies. *See* 35 U.S.C. § 112, second paragraph (2006); AIA, 125 Stat. at 297.

Appeal 2015-006416
Application 13/435,655

F.3d 1365, 1369–70 (Fed. Cir. 2007) (“In the prosecution of a patent, the initial burden falls on the [Office] to set forth the basis for any rejection, *i.e.*, a *prima facie* case.”); *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.”).

As the first step in its indefiniteness analysis, the Office must determine the scope of the claims. *See Zletz*, 893 F.2d at 321 (discussing generally claim interpretation during patent examination). The Office “determines the scope of claims . . . not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction ‘in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (quoting *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)); *see also Zletz*, 893 F.2d at 321. Applying the broadest reasonable interpretation of a claim, then, the Office establishes a *prima facie* case of indefiniteness with a rejection explaining how the metes and bounds of a pending claim are not clear because the claim contains words or phrases whose meaning is unclear. *See In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014) (per curiam) (citing Manual of Patent Examining Procedure (“MPEP”) § 2173.05); *see also* MPEP § 2173.02(I) (9th ed. Rev. 7, Nov. 2015) (advising examiners that a rejection for indefiniteness is appropriate “after applying the broadest reasonable interpretation to the claim, if the metes and bounds of the claimed invention are not clear”); *Ex Parte Miyazaki*, 89 USPQ2d 1207, 1211 (BPAI 2008) (precedential) (“if a claim is amenable to two or more plausible claim

constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable . . . as indefinite”).³ During prosecution, an examiner’s indefiniteness rejection begins what is intended to be an interactive process in which the applicant has the opportunity to respond to the examiner by amending the claims or by providing evidence or explanation that shows why the claims are not indefinite. *Packard*, 751 F.3d at 1311–12.

The Office plays an important role in ensuring that proposed patent claims are clear, unambiguous, and drafted as precisely as the art allows. Claim clarity keeps the rights afforded by patents commensurate with the invention’s contribution to the art. *Packard*, 751 F.3d at 1313. Interpreting the claims as broadly as reasonable during prosecution allows the Office to fulfill this important role. *See In re Buszard*, 504 F.3d 1364, 1366 (Fed. Cir. 2007) (claims are given their broadest reasonable interpretation during prosecution “to facilitate sharpening and clarifying the claims at the application stage”); *Zletz*, 893 F.2d at 321 (“during patent prosecution when claims can be amended, ambiguities should be recognized, scope and

³ The Board’s precedential decision in *Miyazaki*, which remains Board precedent, provides an example in which the Board affirmed an indefiniteness rejection of a claim containing words or phrases whose meanings were unclear, *i.e.*, the approach approved in *Packard*. The instant decision reaffirms, after the Supreme Court’s decision in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. ___, 134 S. Ct. 2120 (2014), the USPTO’s long-standing approach to indefiniteness and the reasons for this approach.

Appeal 2015-006416
Application 13/435,655

breadth of language explored, and clarification imposed”). And, in situations where the application of the broadest reasonable interpretation reveals ambiguity in the claim language, “the applicant may ‘amend his claims to obtain protection commensurate with his actual contribution to the art.’” *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984) (quoting *In re Prater*, 415 F.2d 1393, 1405 (CCPA 1969)). Thus, the broadest reasonable interpretation standard ensures that claims, once fixed and issued, are as “precise, clear, correct, and unambiguous” as possible. *Zletz*, 893 F.2d at 322.

The broadest reasonable interpretation standard differs from the claim interpretation standard used during patent litigation in the federal courts. The Supreme Court has recognized “a degree of inconsistency in the standards used between the courts and the agency” in claim interpretation. *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. ___, 136 S. Ct. 2131, 2146 (2016) (holding that the broadest reasonable interpretation standard set forth in 37 C.F.R. § 42.100(b) represents a reasonable exercise of the rulemaking authority that Congress delegated to the Office). But, importantly, the Court approved of the distinction, explaining that “construing a patent claim according to its broadest reasonable construction helps to protect the public” because it “helps ensure precision while avoiding overly broad claims, and thereby helps prevent a patent from tying up too much knowledge, while helping members of the public draw useful information from the disclosed invention and better understand the lawful limits of the claim.” *Id.* at 2144–45; *see also In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997) (“It would

Appeal 2015-006416
Application 13/435,655

be inconsistent with the role assigned to the PTO in issuing a patent to require it to interpret claims in the same manner as judges who, post-issuance, operate under the assumption the patent is valid.”).

As the Federal Circuit stated in *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008) (cited with approval in *Nautilus*, 134 S. Ct. at 2129):

We note that the patent drafter is in the best position to resolve the ambiguity in the patent claims, and it is highly desirable that patent examiners demand that applicants do so in appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.

The Office’s application of the broadest reasonable interpretation for pending claims and its employment of an interactive process for resolving ambiguities during prosecution naturally results in an *approach* to resolving questions of compliance with § 112 that fundamentally differs from a court’s approach to indefiniteness. To that end, the Office’s approach effectively results in a lower threshold for ambiguity than a court’s. *Miyazaki*, 89 USPQ2d at 1211 (stating that an examiner may use “a lower threshold of ambiguity when reviewing a pending claim for indefiniteness”). The different approaches to indefiniteness before the Office and the courts stem not from divergent interpretations of § 112, but from the distinct roles that the Office and the courts play in the patent system. The lower threshold makes good sense during patent examination because the patent record is in development and not fixed, the Office construes claims broadly during that period, and an applicant may freely amend claims. *See, e.g., Packard*, 751

Appeal 2015-006416
Application 13/435,655

F.3d at 1325 (Plager, J., concurring) (stating that “unlike courts which have a full prosecution record to consider, the prosecution record before the USPTO is in development and not fixed during examination”). By contrast, once a patent has been issued and is under review by a court, simple amendments are impossible, the full prosecution record is available, and courts endeavor to adopt saving constructions. *Cf. In re Swanson*, 540 F.3d 1368, 1377–78 (Fed. Cir. 2008) (explaining that the differences in burdens, standards of proof, and modes of claim interpretation between PTO examination proceedings and district court actions could result in different but correct obviousness conclusions in both forums based on the same evidence).

We recognize that after the *Packard* decision, the Supreme Court in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. ___, 134 S. Ct. 2120, 2129 (2014), explained that the “definiteness command” of § 112, ¶ 2 “require[s] that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” The Court stated that “[t]he definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* We do not understand *Nautilus*, however, to mandate a change in the Office’s approach to indefiniteness in patent-examination matters in which, as discussed above, the claims are interpreted under the broadest reasonable interpretation standard and an opportunity to amend the claims is afforded. *See Packard*, 751 F.3d at 1323–24 (Plager, J., concurring) (recognizing and approving the reasons enumerated by the

Appeal 2015-006416
Application 13/435,655

Office regarding why the Office review of pending claims for indefiniteness uses “a lower threshold for ambiguity than a court’s”).

Indeed, the United States participated in *Nautilus* as amicus curiae and defended the Office’s approach to definiteness. See Br. for the United States as Amicus Curiae Supporting Respondent, *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014) (No. 13-369), 2014 WL 1319151 at *21 (“U.S. Br.”). Specifically, the government explained that “[f]or nearly a century, the courts have recognized that the PTO . . . may appropriately insist on a greater degree of clarity than would the court in an infringement suit.” *Id.* (citing *Morris*, 127 F.3d at 1054; *Zletz*, 893 F.2d at 321; *Prater*, 415 F.2d at 1404–05; *In re Carr*, 297 F. 542, 543–44 (D.C. Cir. 1924)). Accordingly, the government argued, the Office is “justified in using a lower threshold for indefiniteness.” *Id.* at *22.

Following *Nautilus*, the government reaffirmed that view in a brief opposing a writ of *certiorari* in *Packard v. Lee*. See Br. for the Respondent in Opposition, *Packard v. Lee*, 2015 WL 1642022 (No. 14-655) (Apr. 9, 2015). The United States emphasized that the Court’s reasoning about “‘infringement actions’ (i.e., proceedings implicating *issued* patents) demonstrates that [the Court] was not addressing the pre-issuance examination context, which was not at issue in *Nautilus* itself.” *Id.* at *21. Thus, the government explained, “[t]here is no basis” for the contention that “the Court in *Nautilus* rejected the PTO’s long-standing practice.” *Id.* Indeed, it would be “implausible,” the government argued, that the Court “intended to overturn the PTO’s longstanding practice without even

addressing the government’s contention that the Court should be particularly loath to disturb the settled distinction that the PTO and the courts have recognized between the pre- and post-issuance contexts, which long predates the 1952 Patent Act.” *Id.* at *22 (quotation omitted).

Thus, in this proceeding, we apply the approach for assessing indefiniteness approved by the Federal Circuit in *Packard*, i.e., “[a] claim is indefinite when it contains words or phrases whose meaning is unclear.” 751 F.3d at 1310, 1314. Put differently, “claims are required to be cast in clear—as opposed to ambiguous, vague, indefinite—terms.” *Id.* at 1313; *see also* MPEP § 2173.02(I).⁴

[W]hen the USPTO has initially issued a well-grounded rejection that identifies ways in which language in a claim is ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention, and thereafter the applicant fails to provide a satisfactory response, the USPTO can properly reject the claim as failing to meet the statutory requirements of § 112(b).

Packard, 751 F.3d at 1311; *see also* *Zletz*, 893 F.2d at 322 (“the inquiry during examination is patentability of the invention as ‘the applicant regards’ it; and if the claims do not ‘particularly point[] out and distinctly claim[],’ in the words of section 112, that which examination shows the applicant is entitled to claim as his invention, the appropriate PTO action is to reject the claims for that reason”) (alterations in original) (footnote

⁴ We do not address, in this decision, the approach to indefiniteness that the Office follows in post-grant trial proceedings under the America Invents Act.

omitted). We caution, however, that “this requirement is not a demand for unreasonable precision,” and “does not contemplate in every case a verbal precision of the kind found in mathematics.” *Packard*, 751 F.3d at 1313. Instead, the requirement that claims be written in clear and unambiguous terms “necessarily invokes some standard of reasonable precision in the use of language in the context of the circumstances.” *Id.*

C.

Claim 1 recites that the water detector is “configured to be reliably installed by an untrained installer or a homeowner and to not require the services of a plumber or electrician to perform installation, thereby permitting widespread and cost effective adoption.” Appeal Br. 15 (Claims App.). This claim language is unusual because, rather than further defining the water detector’s structure, including by reference to a function that the water detector is capable of performing, the claim language attempts to further define the water detector’s structure by the skill level required to install the water detector. This language fails to provide adequate clarity to the required structure because the skill level of “an untrained installer or a homeowner” is ambiguous and vague, and thus, the meaning of a structure configured to be “reliably installed” by such an installer is unclear.

Appellants assert that a person having ordinary skill in the art would understand the “configured” limitation to mean “capable of being installed without special knowledge or tools.” Appeal Br. 8; *see also* Reply Br. 2 (“the claims are directed to the simple, straightforward concept of a ‘do-it-yourself’ device installed by an amateur”). The Specification does not,

however, provide support for this definition. In particular, the Specification contains no description of, for example, the knowledge or tools required for installation of the claimed water detector, nor does the Specification define the skill level of an “untrained installer” or a “homeowner.” *But cf.* Spec., paras. 3, 4 (stating generally that prior art installation methods require professionals or tradesmen). Appellants’ argument attempts to contrast “an untrained installer or a homeowner” from a trained professional, e.g., “a plumber or electrician.” This distinction alone, however, is insufficient to provide clarity to the claim language because the claim requires the water detector to be configured to be “reliably installed” by the former. A person having ordinary skill in the art would appreciate that a “homeowner” can encompass a wide range of people of all skill levels. As such, the claim suffers from general vagueness and ambiguity.

Even assuming Appellants’ proffered understanding to be correct, the claim language of the “configured” limitation, when read in light of the Specification, fails to further clearly define the structure encompassed by the limitation. Appellants’ Specification provides a preferred embodiment of a water detector suitable for mechanical installation in which the detector’s connector elements are “standard hose connectors used with flexible hose[s]” that “can be easily, and, manually attached to the respective detector.” Spec., para. 16; *see also id.* at para. 25 (“[U]nits such as Di, as discussed above, are modular and flexible and can be used as standalone devices, or may be linked to additional structures, such as Hot/Cold supply

lines. They can be fitted with commonly-used threaded water connectors or, they can be fitted with any type of connectors commonly known to the trade.”). In particular, the Specification describes installation as follows:

Methods of installation include, disconnecting a water supply hose for an appliance at the supply valve of the appliance. An inflow end of a modular unit in accordance herewith is threaded onto the supply valve. The water supply hose is threaded onto [an] “outflow” end of the modular unit. External water sensor probes are connected to the modular unit. External water sensing probes are placed as to most efficiently detect potential leaks given the local environment.

Id. at para. 28.

We agree with Appellants that one having ordinary skill in the art could discern from the example provided in the Specification that a modular unit configured with threaded inflow and outflow ends would be an example of a structure capable of being installed without special knowledge or tools. Distinct from the “configured” limitation, however, claim 1 separately recites that the claimed water detector comprises “flow connectors . . . including a spin-on female pipe connector at an inflow end and a spin-on male pipe connector on an outflow end.” Appeal Br. 15 (Claims App.). Thus, it is unclear what additional structural limitation the “configured” limitation adds to the “spin-on” flow connectors of the claimed water detector. Stated differently, neither the language of claim 1 nor anything in Appellants’ Specification delineates how a person of ordinary skill would determine whether a water detector that includes each of the structural limitations of claim 1 further satisfies the “configured” limitation.

Similarly, Appellants provide in the Appeal Brief an example of an electrical installation that would include “electrical plugs for home wall outlets.” Appeal Br. 8. We fail to see how one having ordinary skill in the art would discern from the Specification, which does not provide any description of the use of electrical plugs for home wall outlets to power the water detector units, that such structure would be understood as an example of the claimed configuration. Rather, the Specification describes that the detectors can be powered by batteries. Spec., paras. 9, 11, 12, and 22.

The Specification also describes that during installation, pairs of the modular units can be “interconnected” and that “[i]n instances where a wireless monitoring system is available, the units would be enrolled, or otherwise made known to the system as would be understood by those of skill in the art.” *Id.* at para. 28. The Specification does not provide, however, any further discussion of the structure that would enable an installer “without special knowledge or tools” to interconnect pairs of modular units (e.g., are electrical wiring skills necessary, or can the units be simply plugged together?) and does not provide any description of the structure (e.g., software/hardware) that would be necessary to enable an installer “without special knowledge or tools” to enroll the units with the homeowner’s wireless monitoring system.

For these reasons, we agree with the Examiner that the claimed “configured” limitation, under the broadest reasonable interpretation when read in light of the Specification, is vague and unclear, and a person having ordinary skill in the art would not be able to discern the metes and bounds of

Appeal 2015-006416
Application 13/435,655

the claimed invention in light of this claim language. Appellants have failed to provide a satisfactory response that apprises us of error in the Examiner's rejection. Accordingly, we sustain the rejection of claims 1–20 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim Appellants' invention.

II.

Appellants argue the claims subject to the second ground of rejection as a group. Appeal Br. 9–13. We select claim 1 as representative of the group, with claims 2–7 and 10–20 standing or falling with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

A.

Appellants contend that the Examiner erred in finding the combined teachings of Walter and Kaplan render obvious the claimed “flow connectors carried by the housing including a spin-on female pipe connector at an inflow end and a spin-on male pipe connector on an outflow end.” Appeal Br. 9, 12–13. The Examiner determines that Walter shows, in Figures 1–3, a water detector (system 100 or 200) comprising a housing (202) and flow connectors carried by the housing and having an inlet and an outlet (204 and 206). Final Act. 6. The Examiner finds that “Fig[ures] 1–3 of Walter fail to explicitly show or teach the limitations wherein the flow connectors include ‘a spin-on female pipe connector at an inflow end and a spin-on male pipe connector on an outflow end.’” *Id.* at 8. The Examiner also finds that such male and female connectors, however, are well known in

the art. *Id.* (citing Walter, Fig. 20 (showing valve module 600 with a threaded female end 606 and a threaded male end 608 that allows for a spin-on coupling)). The Examiner states that it would have been obvious to modify the flow connections of the device of Walter to be “spin-on” connectors, as shown in Figure 20 of Walter, “thus allowing the device to be easily and securely installed to a complementary threaded connection.” *Id.* at 9.

We agree with the Examiner and find the proffered reasoning and explanation adequate. Figure 1 of Walter shows one embodiment of a leak detection and restriction system 100 having control module 102, valve module 104, which comprises one or more valves 113, and sensor 106. Walter, col. 3, ll. 46–48, col. 4, l. 43, Fig. 1. Control module 102, valve module 104, and sensor 106 are separate from each other and connected via wires or wirelessly. *Id.* at col. 3, l. 52 – col. 4, l. 4. Walter describes that in system 100, “the valve module **104** is directly connected to the plumbed line **114** at the wall spigot and is interposed between the plumbed line **114** and the supply line **110**.” *Id.* at col. 4, ll. 35–37. Walter does not explicitly provide details in the portion of the patent that discusses system 100 of how the connections between valve module 104 and plumbed line 114 and between valve module 104 and supply line 110 are effected.

Figure 3 of Walter shows another embodiment of a leak detection and restriction system 200 of integrated construction in which each component of the system depicted in Figure 1 is contained within a single housing 202. Walter, col. 6, ll. 28–35, Fig. 3. “[W]ater flows in through a water inlet **204**

and out through a water outlet **206**.” *Id.* at ll. 43–45. “A valve **208**, such as a motorized ball valve, is interposed between the inlet **204** and the outlet **206**.” *Id.* at ll. 45–46. Walter does not explicitly provide details in the portion of the patent that discusses system 200 of how the connections are effected between plumbed line 114 and water inlet 204 and between water outlet 206 and supply line 110.

Nonetheless, Water discloses in Figure 20 “an embodiment of a ball valve **600** usable with the leak detection and correction systems [100, 200] described herein.” Walter, col. 10, ll. 28–30. Walter discloses that “the valve body **604** includes threaded connecting portions **606** and **608** for coupling to a supply line.” *Id.* at ll. 40–41, Fig. 20 (showing a female threaded connecting portion 606 and a male connecting portion 608); *id.* at ll. 42–45 (describing an example threaded connection including a $\frac{3}{4}$ inch National Pipe Taper pipe thread for engagement with a supply line of a water heater or other appliance). This disclosure in Walter would have suggested to one having ordinary skill in the art that one way to effect the connections to supply line 110 and plumbed line 114 in systems 100 and 200 would be to use threaded female and male connectors for the ends of valve module 104 and for water inlet 204 and water outlet 206 of housing 202. In other words, the use of such threaded connections in systems 100 and 200 is nothing more than the predictable use of these threaded connections according to their established functions to connect the water inlet and water outlet of each system to the supply line and plumbed line. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

B.

Appellants contend the Examiner erred in finding that the combined teachings of Walter and Kaplan render obvious the claimed “context ‘wherein the control circuits detect flood conditions, shut off a malfunctioning water branch and communicate to a premises alarm communication device or home automation system via wireless link.’” Appeal Br. 9–10. The Examiner finds that Walter teaches control circuits that detect flood conditions (via sensors 106, 212), shut off a malfunctioning water branch (control module 102, 210 sends an actuation signal to close one or more valves) and communicate with a remote monitoring unit that alerts a user that a leak has occurred. Final Act. 7 (citing Walter, col. 7, ll. 45–55). The Examiner finds that “Walter fail[s] to explicitly show or teach the limitations wherein the control circuits communicate to a premises alarm communication device or home automation system ‘via a wireless link.’” *Id.* at 8 (stating that Walter teaches use of wireless communications between the control module, the valves, and the sensor, but not explicitly with the remote monitoring unit). The Examiner finds that such wireless communication between valve modules and remote monitoring units, however, was well known in the art. *Id.* (citing Kaplan, Fig. 1). The Examiner states it would have been obvious “to use wireless communication in the device of Walter to allow remote and convenient wireless communication between the control module of the valve and a remote monitoring system, as it is taught by Kaplan.” *Id.* at 9.

Walter discloses that “when the processor **302** determines that there is a fluid leak, the processor **302** may output one or more signals to alert a user that a leak [h]as occurred” and that “processor **302** may be in communication with a remote monitoring unit that alerts a user that a leak has occurred.” Walter, col. 7, ll. 45–55. We agree with the Examiner that this portion of Walter does not explicitly disclose that the communication between processor 302 and a remote monitoring unit can be by wireless link. As noted *supra*, however, Walter discloses, with reference to system 100, that control module 102 may communicate with valve module 104 via wireless communication links, and likewise control module 102 may communicate with sensor 106 through wireless communication links. Walter, col. 3, l. 57 – col. 4, l. 4. This disclosure in Walter of using wireless links for communication between modules of system 100 would have suggested to a person having ordinary skill in the art that a wireless link could also be used to communicate between processor 302 and a remote monitoring unit, because such an arrangement is simply the use of a known communication method for its established function to achieve predictable results. *KSR*, 550 U.S. at 417.

We also agree with the Examiner that Kaplan further demonstrates that such wireless communication between a leak detection system and a remote control station was known in the art at the time of Appellants’ invention. In particular, Kaplan discloses a moisture monitoring and control system 10 including moisture sensors 12, water control valves 16, a local control station 14 and a remotely located control station 14A, and RF

communications devices 20 at each of the sensors, control stations, and water control valve locations, respectively. Kaplan, col. 2, ll. 38–51, col. 3, ll. 8–14, Fig. 1. Kaplan describes that control station 14A may be remote from the structure being monitored where system 10 is used to monitor and control moisture in a summer home or warehouse that is not continuously occupied. *Id.* at col. 3, ll. 8–12. Appellants’ arguments that “neither reference discloses the ability to ‘communicate to a premises alarm communication device or home automation system’” (Appeal Br. 9–10) does not address the Examiner’s proposed modification of Walter with the teaching of Kaplan and does not persuade us of error in the Examiner’s obviousness rejection.

C.

Appellants further contend the Examiner erred in finding that the combined teachings of Walter and Kaplan render obvious the claimed water detector “configured to be reliably installed by an untrained installer or a homeowner and to not require the services of a plumber or electrician to perform installation, thereby permitting widespread and cost effective adoption.” Appeal Br. 9–10 (“a modular device is not the equivalent of [the claimed configuration]”).

As discussed *supra*, Appellants argue that examples of a detector so configured would have “[g]arden hose connectors or electrical plugs for home wall outlets.” Appeal Br. 8. Further, as we noted *supra*, Appellants’ Specification describes threaded connectors and battery-powered detectors. Although the “configured” limitation is vague and unclear, for the reasons

set forth above, we agree with the Examiner that Walter discloses, or at least renders obvious, the claimed configuration as interpreted and described by Appellants.⁵ In particular, Walter discloses that housing 202 of system 200 includes a battery compartment, and Walter suggests that the connecting portions for inlet 204 and outlet 206 could be threaded. Walter, Figs. 3, 20. For these reasons, Appellants have not shown error in the Examiner's finding that Walter, as modified by Kaplan, renders obvious a water detector configured to be reliably installed as recited in claim 1 and as interpreted and described by Appellants.

⁵ Although we have determined *supra* that this claim limitation is indefinite, we nonetheless use our discretion in this case to address the prior art contentions raised by Appellants based on Appellants' asserted interpretation. *See, e.g., Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. § 112 and for Treatment of Related Issues in Patent Applications*, 76 Fed. Reg. 7162, 7169 (Feb. 9, 2011) (advising examiners to interpret the claim and apply art with an explanation of how an indefinite term is interpreted under the principles of compact prosecution). In other words, although the metes and bounds of this claim language are unclear, Appellants have provided a narrow interpretation that falls within the claim language, and even under this narrow interpretation, the claim is rendered obvious in view of the prior art. As such, unlike in the case of *In re Steele*, 305 F.2d 859 (CCPA 1962), a determination of obviousness in this case does not require speculation as to the scope of the claims. *Id.* at 862–63 (holding that the Board erred in affirming a rejection of indefinite claims under 35 U.S.C. § 103(a), because the rejection was based on speculative assumptions as to the meaning of the claims).

D.

Appellants further argue that “a prima facie case of obviousness has not been established” because there is no reason, suggestion, or motivation found in the prior art to modify the system of Walter in the manner claimed and because the references are not directed to the problem solved by the claimed invention, i.e., providing a simplified flood prevention device. Appeal Br. 11–13. These arguments fail to acknowledge the guidance provided by the Court in *KSR* that “[r]igid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.” 550 U.S. at 421. The Court also held that it was error to look only to the problem the patentee was trying to solve. *Id.* at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed”). As stated in the Final Action and in the Examiner’s Answer, and as recounted herein, the Examiner specifically identified teachings in the prior art patents to Walter and Kaplan that would have suggested modifications to the water detector system of Walter in the manner claimed. These modifications are nothing more than “the predictable use of prior art elements according to their established functions.” *Id.* at 417. As such, Appellants’ arguments have not demonstrated error in the Examiner’s rejection of claim 1, and claims 2–7 and 10–20, which fall therewith, under 35 U.S.C. § 103(a) as unpatentable over Walter and Kaplan.

Appeal 2015-006416
Application 13/435,655

DECISION

The rejection of claims 1–20 under 35 U.S.C. § 112, second paragraph, as indefinite is affirmed.

The rejection of claims 1–7 and 10–20 under 35 U.S.C. § 103(a) as unpatentable over Walter and Kaplan is affirmed.

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

AFFIRMED