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Can We Just Be Reasonable?

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Introduction

One of my jobs as a patent practitioner is often that of a translator. While I am not literally tasked with translating words between two different languages, it sometimes seems that way when explaining communications from the U.S. Patent and Trademark Office (USPTO) to inventors who have, usually with high hopes and some level of excitement, staked their claim to an invention by filing a patent application. I have witnessed inventor frustration manifested in many forms – from angry red faces paired with high-volume voices, to glazed-over looks of incredulity. This is not usually caused by the disappointment of a USPTO examiner having searched the prior art and found a reference almost exactly like the invention in question. More often, it is because they cannot fathom the examiner's analysis in which their claimed invention is compared to the prior art. I could compile a client-populated thesaurus entry for the word *unreasonable*. "That's ridiculous!" is probably the most common. But words like *ludicrous*, *insane*, *mickey-mouse*, *stupid*, *harebrained*, and *moronic* have made appearances, along with several others I have omitted for the sake of tact. In these situations, I attempt to console the offended party by first voicing my agreement with their opinion, and then trying to explain the USPTO's broadest reasonable interpretation standard. And so the translation begins.

There are times, though, when I feel like abandoning my professional persona and joining the client's rant. In a recent episode, I found myself explaining to a client the examiner's reasoning for rejecting the claims in his pending application in a final office action. One aspect of his invention that distinguishes over the cited prior art is that the main functional component can be removed from the container in which it is used. We have included this feature in a dependent claim: *wherein the component is removable from the container*. This limitation seemed promising because the analogous prior art component was decidedly not removable from its container; it was illustrated and described as embedded in an over-molded polymer material from which the container is made. But the examiner asserted that the cited prior art does disclose the *removable* feature, explaining in the office action: 1) the application does not describe the manner of removability of the component from the container; 2) the prior art component could be removed from the over-molded container by cutting it out of the container; 3) the polymer wall of the prior art container could be melted away to remove the component (e.g., during disposal/recycling); and 4) the prior art does not teach *non-removability* of the component.[1] The applicant's irritation at this explanation was understandable.

In another recent case, a client was claiming an innovative processing technique that includes extracting cellulose fibers from plant stalks. In some of the claims, the multi-step process includes the step of *steaming* the plant stalks. The prior art cited in the claim rejections discloses a process that includes boiling the crushed plant stalk material in a liquid sodium hydroxide (NaOH) solution. Since the solution is heated above 100°C (presumably because the NaOH raises the boiling point of water), the examiner considers this to be *steaming* the plant stalks. Notably, one of the claims rejected under this rationale essentially recites the step of *exposing the plant material to water in vapor form, whereby the water in vapor form is steam*.[2] Cue the glazed-over look of incredulity.

Unfortunately, most patent practitioners have dozens of examples of such overly broad interpretations of claim language, as well as about the same number of examples of trying to explain the unexplainable to the patent applicant. *Physical contact* has been interpreted as disclosed by two components that do not touch – i.e., the air in the gap between the components places them into *indirect* physical contact. And *the top of a vehicle seat* has been interpreted as disclosed by the bottom of a vehicle seat – i.e., when the vehicle is in a rollover accident. I am not making these up.

A recent line of decisions by the U.S. Court of Appeals for the Federal Circuit (CAFC) seems to target this frustrating behaviour exhibited by some USPTO personnel and sometimes endorsed by the Patent Trial and Appeal Board (PTAB), offering a glimmer of hope to those of us in the trenches of patent prosecution.

The Broadest Reasonable Interpretation Standard

The broadest reasonable interpretation (BRI) standard gets its name from *In re Zletz*, where the court stated that "[d]uring patent examination the pending claims must be interpreted as broadly as their terms reasonably allow".[3] The intent of the standard is to reduce the possibility that the claims of an issued patent will be given a broader scope than is justified.[4] The reasoning for the standard is that patent prosecution, during which time the claims can be amended, is the ideal time to recognise ambiguities, explore the scope and depth of language, and impose clarity as much as possible during the administrative process.[5] The Federal Circuit has expressly recognised that the USPTO employs the BRI standard during examination of patent applications.[6] This is usually different from the standard employed during court proceedings involving infringement and validity, where a fully developed prosecution record can be relied on to help interpret the meanings of claim terms.

Under the BRI standard, examiners must give the words of a claim their plain meaning, unless such meaning is inconsistent with the specification.[7] The plain meaning of a term is the ordinary and customary meaning given to the term by those of ordinary skill in

the art at the time of the application, with deference given to the specification of the application to clarify the ordinary and customary meaning.[8] Extrinsic evidence, such as prior art, trade publications, and dictionaries, can shed light on the ordinary and customary meaning of claim terms. However, any meaning derived from extrinsic sources must be consistent with the use of the claim term in the specification; and when the specification is clear about the meaning of the claim term, extrinsic evidence is not necessary for claim interpretation.[9]

Although the Manual of Patent Examining Procedure specifically instructs USPTO examiners that "[t]he broadest reasonable interpretation does not mean the broadest *possible* interpretation", and that "the meaning given to a claim term must be consistent with the ordinary and customary meaning of the term…and…with the use of the claim term in the specification and drawings",[10] reasonableness and consistency are somewhat subjective. This inevitably leads to questionable interpretations of claim language, as in the examples above. The following Federal Circuit decisions seek to shed additional light on appropriate implementation of the BRI standard.

Is Any Body There?

The *In re Smith* court was tasked with determining the meaning of the word *body* as recited in patent claims related to a downhole drilling tool.[11] Representative claims recited an expandable downhole tool including a body and at least one movable arm having surfaces that engage the body.[12] The arm-to-body engagement was limited in different manners in different independent claims (e.g., angled surfaces, vibration-preventing, directionally guiding, etc.). The patent generally disclosed angled surfaces of the movable arm as engaging the body so that the arm would move radially outward with respect to the body when fluid pressure caused the arm to move axially with respect to the body. The arms accommodate cutting structures, resulting in a fluid-powered radially expandable drilling tool. The specification described the body of the tool as generally cylindrical with a flowbore extending through it. Other tool components are disclosed as being housed within the body, such as a piston, a drive ring, and an inner mandrel, but the independent claims did not recite any of these additional components.[13]

During *ex parte* reexamination at the USPTO, the examiner rejected the claims as anticipated by a prior art downhole tool with radially extending cutters. The prior art tool included an axially movable cam sleeve housed inside a tool body. Angled surfaces of the cam sleeve interacted with angled surfaces on radially movable cutters to translate axial cam sleeve movement to radial cutter movement. The claim rejections relied on interpretation of the claim term *body* as a broad term that can encompass other components such as a mandrel or a cam sleeve.[14] In other words, the examiner considered the prior art cam sleeve to be part of the tool body for purposes of the claim rejections. Since the cutters engaged the cam sleeve during extension in the prior art, the prior art was said to anticipate the patentee's claims.

The PTAB affirmed the examiner's interpretation of the term *body* and affirmed the rejections. While the Board's decision recognised that the patent specification described the body as "a discrete element separate from other elements", it nonetheless considered the Examiner's interpretation of the term reasonable since the specification did not specifically define the term *body*, nor did it preclude the examiner's interpretation of the term.[15] Noting that the claims did not recite any other components, such as a mandrel, the Board found it "perfectly reasonable" to interpret the term *body* as the "overall portion or portions of the downhole tool that define the bore and may include one or more other elements".[16]

On appeal to the Federal Circuit, the court reversed the Board's decision as relying on an unreasonably broad interpretation of the claim language.[17] According to the court, the Board erred by relying on the fact that the patent specification did not "in and out of itself proscribe the Examiner's construction" and then declaring the examiner's interpretation as reasonable based on that fact.[18] The court opined that "[t]he correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner. And it is not simply an interpretation that is not inconsistent with the specification. It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, i.e., an interpretation that is consistent with the specification".[19] The court warned that basing reasonableness on whether the specification precludes a particular interpretation could result in the adoption of a broadest *possible* interpretation standard rather than a proper broadest reasonable interpretation *in light of* the specification.[20]

Does This Make Sense?

At issue in *In re Hodges* was the USPTO's interpretation of the claim terms *sensor* and *signal* in the context of a claimed valve assembly.[21] In relevant part, the disputed claims recited a drain valve including a *sensor* downstream of an inlet seat of a valve body, wherein the *sensor* generates a *signal* reflective of a pressure downstream of the inlet seat.[22] The examiner rejected the claims as anticipated by a prior art drain valve that included an automatic valve and a manual valve. The automatic valve included a piston and stem that moved to unseat a valve element at a particular air pressure differential.[23] The examiner's analysis explained that the piston in the prior art assembly constituted the claimed *sensor*, which the examiner interpreted as a "pressure-responsive member",[24] because it moves "in response to the pressure applied thereto".[25] The examiner's interpretation of the recited *signal* generated by the sensor was "an act, event, or the like that causes or incites some action".[26] This claim interpretation was based on one of several dictionary.com entries for the word *signal*.[27] On appeal, the PTAB affirmed the examiner's rejections, finding that the prior art piston generates a *signal*, as required by the claims, "in the form of a mechanical force determined by the pressure in the valve chambers".[28] The Board supported its interpretation of *signal* based on an example of needle movement on a pressure gauge in response to a sensed pressure[29] – i.e., the movement of the prior art piston was considered to be the *signal* generated by the piston while functioning as a *sensor*.

The CAFC reversed the Board's decision, finding its "strained interpretation of 'signal' …unreasonably broad and inconsistent with the…application".[30] The application explained that the sensor "may transmit the signal to an indicator, such as a pressure gauge or alarm system, to provide a visual or audible indication of the operability of the drain valve" and that a controller "can compare the signal to a predetermined limit and generate a control signal based on the comparison".[31] Based on this, the court found that the *signal* "must at least be capable of being compared to 'a predetermined limit'" and that the movement of the prior art piston could not be so compared.[32] The court also reminded the Board that "[w]hile the broadest reasonable interpretation standard is broad, it does not give the Board an unfettered license to interpret the words in a claim without regard for the full claim language and the written description".[33] Notably, the court provided this analysis and opinion in spite of the fact that the USPTO essentially conceded that this particular ground of rejection was erroneous[34] to avoid providing the Patent Office with "a second chance to reject the claims on grounds that it is unwilling or unable to defend on appeal".[35]

A Couple of Different Interpretations

The outcome of *In re Power Integrations* turned on the meaning of the word *coupled* in the context of an electrical circuit.[36] The patent at issue discloses a technique for reducing EMI noise by "jittering" the switching frequency of a switched mode power supply.[37] In relevant part, the claimed "jittering circuit" includes a counter coupled to the output of an oscillator and a digital-to-analog converter (DAC) coupled to a control input of the oscillator and *coupled* to the counter, with "the counter causing the digital to analog converter to adjust the control input and to vary the switching frequency of the power supply".[38] Since 2004, the patent at issue has been the subject of infringement litigation during which its validity has been challenged on prior art grounds both in the courtroom and at the USPTO in an *ex parte* reexamination proceeding initiated by the defendants.[39] All of the allegedly invalidating prior art discloses a circuit in which oscillator frequency is varied through use of read-only memory (ROM) that, in the patentee's view, "decouples" the counter from the DAC, ensuring that no voltage, current, or control signals pass from the counter to the DAC – i.e., the frequency of the prior art oscillators is varied according to a pseudo-random code stored in the ROM.[40] The patentee's position in all proceedings was that the prior art references therefore do not disclose a DAC *coupled* to the counter in the manner required by the claims.

During claim construction in the court proceedings, the patentee convinced the court that the claim term *coupled* should be interpreted, when read in light of the specification and the surrounding claim language, as "connected in a manner such that voltage, current, or control signals pass" between the coupled elements.[41] The patent was determined to be valid in multiple decisions at the district court and at the CAFC based on this claim construction because the ROM in the prior art circuits did not permit voltage, current, or control signals to pass from the counter to the DAC.

During reexamination, employing the BRI standard for claim interpretation, the examiner and the PTAB interpreted the term *coupled* more broadly as "joined into a single circuit"[42] and rejected the claims as anticipated because the counter and the DAC were joined in the same circuit in the prior art, whether or not the ROM was interposed between them. The functional claim language related to the counter also did not distinguish the patentee's invention from the prior art, according to the Board, which considered a "counter and memory functioning together" to drive the DAC as reading on the counter of the claims at issue.[43] The patentee twice asked the Board to adopt the claim construction adopted by the courts in the parallel litigation proceedings – once when appealing the examiner's rejections, and once on remand from the Federal Circuit. But the Board declined to consider the courts' claim construction in recognition that different claim construction standards are employed by the USPTO and by the courts.

On appeal to the CAFC for the second time, the court reversed the Board's affirmation of the examiner's rejections, holding that its interpretation of the claim term *coupled* was "unreasonably broad and improperly omitted any consideration of the disclosure in the specification".[44] The court found that the Board's interpretation relied "exclusively on a definition from Webster's Dictionary"[45] and failed to properly consider "the words of the claims themselves", which require the counter to *cause* the DAC to adjust the control input and to vary the switching frequency.[46] As in its decision in *In re Smith*, discussed above, the court faulted the Board for considering a particular claim interpretation to be reasonable because the specification did not expressly preclude that interpretation.[47] Acknowledging that the patent does not expressly exclude a circuit in which a ROM is placed between the counter and the DAC to dictate the DAC's behaviour, the court found that "such an arrangement is inconsistent with both the specification", which emphasises minimisation of circuit size, "and the plain claim language which specifically requires the counter — not some other circuit element — to cause the converter to adjust the control input".[48]

The *Power Integrations* court noted another indicator that a particular claim interpretation is unreasonably broad: when "it renders claim language meaningless".[49] In this case, the claim begins by reciting a "circuit" that includes both a counter and a DAC. Under the Board's claim interpretation, in which *coupled* means only that two components are joined in the same circuit, the claim passage "the digital to analog converter *coupled* to the counter" would be superfluous, since the claim already requires that they are in the same circuit.[50] The court finally concluded that the district court's construction of the term *coupled*, twice affirmed on appeal to the CAFC, is "an interpretation firmly rooted in the plain claim language and the specification" and "comports with the broadest reasonable construction of the term",[51] indicating that there are times when a court's claim construction and the broadest reasonable interpretation in light of the specification are one and the same.

Interpreting the Interpretations

Precedential patent law opinions are often categorised as either friendly or hostile with respect to the rights of patent owners, depending on whether they tend to expand or shrink patent rights. I categorise these recent opinions from the Federal Circuit regarding the broadest reasonable interpretation standard as "practitioner friendly", because they address a day-to-day frustration encountered by all patent practitioners who prosecute patent applications at the USPTO. When first reading this line of cases, I felt an urge to pump my fist in the air in victory (and may have even done so when no one was looking). Finally, I had some ammunition to fire back at examiners when they strain the meaning of claim terms in their rejections. But, there is always a *but*.

One must tread carefully when arguing that the examiner is interpreting claim language too broadly, because it necessarily involves at least an implied disclaimer of claim scope. In some cases, this is non-problematic. For example, when your claim recites a component that *moves from a first location to a different second location*, and the examiner rejects the claim based on a *non-moving* prior art component by reasoning that the prior art component is hurtling through space along with the Earth – by all means, you should argue that this interpretation of the word *moves* is unreasonably broad. It is certainly unreasonable to require a patent applicant to specify in the claim, or in the specification, that any movement is with respect to the planet we live on (yes, this example is based on a true story).

But in many cases, the choice is not so cut and dried and requires some thought about what claim scope will be surrendered. For example, if we argue in the earlier example that the examiner's interpretation of *removable* is unreasonably broad, we will certainly have disclaimed a component that can be removed from the container by cutting or by melting away the plastic during recycling. And we will probably be disclaiming any sort of component removability that is destructive to the surrounding components. But this is the type of disclaimer that is likely to be acceptable to the applicant, making it relatively safe to argue that any interpretation of *removable* that includes cutting or melting material away is inconsistent with the specification, in which the *removable* component is illustrated as uncut and the container as unmelted when the component is removed. This is especially the case when the inventor considers the broadly interpreted feature to be a major part of his or her contribution to the art, or when the applicant is seeking to protect preferred embodiments only.

There are also times when an unreasonably broad interpretation of a claim term during prosecution could ultimately be an advantage to the patentee. Practitioners should consider whether the broadly interpreted feature is to be relied on for patentability before arguing reasonableness. Consider an example in which the examiner interprets a claimed *linear* shape to include curved shapes in the prior art, reasoning that the curved shapes are *curvilinear* and, therefore, a subset of linear shapes. We could argue that this interpretation is inconsistent with the specification, which discloses multiple embodiments, all of which include only *rectilinear* shapes. Or we could amend the claims to specify *rectilinear* instead of *linear*. Instead, we focus on a different distinction over the prior art and remain silent on the meaning of *linear*. As a result, the issued patent arguably covers embodiments with curved shapes since the examiner is on the record as considering them to be *linear* during examination.

Another reason to consider the importance of the disputed claim term to patentability before arguing about reasonableness is the possibility of winning the battle only to lose the war. The applicant in *In re Hodges*, for example, rightly won the battle regarding interpretation of the word *sensor* – it was clearly improper for the examiner to consider a piston in a prior art valve as a *sensor* that generated a *signal* in the form of moving. But a review of the Hodges application indicates that mere inclusion of the pressure sensor was probably not the inventor's main contribution to the art; rather, the manner in which the pressure sensor could be used to detect and correct valve misalignment seems to be the crux of the inventor's idea.[52] Subsequent to the Federal Circuit's above-discussed opinion, the Board issued a new obviousness rejection based on a combination of already cited references, one of which included a pressure sensor, rendering the applicant's win on claim interpretation inconsequential.[53]

Nonetheless, it is encouraging to see the Federal Circuit weigh in on a topic that continually confounds practitioners and provide us with multiple fresh precedents we can point to if necessary when our counterparts at the USPTO cross over the line to the wrong side of reasonableness.

Endnotes

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33. *Id*. (quoting *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. (2016)).
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Scott Hogan has a strong passion for helping innovators and business owners – because he has been both. With several U.S. and foreign patents to his name as an inventor, he is as comfortable on a manufacturing shop floor as he is at a research symposium and has hands-on experience across a broad spectrum of fields, from biopolymers and polymer solution chemistry to electric generators and automotive components.

Scott joined Reising Ethington in 2007 where he has developed expertise in a variety of technologies, including laser-based manufacturing processes, nanomaterials and nanotechnology, and microfabricated devices. His previous experience in the automotive industry, spanning nearly two decades, has served him well as a practitioner in metropolitan Detroit. Mr. Hogan enjoys giving back to the intellectual property community via speaking engagements, publishing patent law articles, chairing an AIPLA patent law subcommittee, and occasionally guest-teaching patent law at a local law school.

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