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PATENTS

The authors warn that patentees' reliance on claim differentiation to establish claim breadth is subject to the Federal Circuit's rulings on 35 U.S.C. § 112(d).

A Patent Law Chicken and Egg Problem: 35 U.S.C. § 112(d) and Claim Differentiation



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Dependent claims are the orphaned children of patent law—studiously ignored unless they meddle with the fortunes of the rightful heirs: the independent claims. The meddling often comes through the doctrine of claim differentiation.

Patentees use claim differentiation to broaden the scope of patents. Independent claims must be different from and broader than their dependents, according to the doctrine, resulting in an inevitable expansion of the independent claims. This mode of analysis—based directly on claim language in the patent—is endorsed by the U.S. Court of Appeals for the Federal Circuit, finds

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purchase with judges, and can be difficult for accused infringers to combat. After all, what can trump the language of a patent?

The United States Code can. Accused infringers often overlook a statute that can crush claim differentiation arguments—and dependent claims themselves. As explained below, 35 U.S.C. § 112(d) seldom gets its due, and when it does, courts wrestle with the apparent chicken and egg problem of whether to apply the statute or claim differentiation first. But there is no paradox. Section 112(d) must be applied first, or it would be rendered a nullity.

A. Background—Claim Differentiation

The doctrine of claim differentiation is a natural offshoot of the fundamental scheme for analyzing patents that the Federal Circuit enshrined in its 2005 en banc decision in *Phillips v. AWH Corp.*¹ According to that decision, “[i]t is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’”² Claims themselves—not the patent specification, dictionaries or extrinsic evidence—are “of primary importance” in defining a patent’s scope.³ In that respect, patent claims are like the plain language of a contract.⁴

Naturally, then, “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.”⁵ Namely, similarities as well as “[d]ifferences

¹ *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 U.S.P.Q.2d 1321 (Fed. Cir. 2005) (en banc) (70 PTCJ 309, 7/15/05).

² *Id.* at 1312.

³ *Id.* at 1312-1324.

⁴ *Id.* at 1315 (citing *Hogg v. Emerson*, 47 U.S. 437, 482 (1848)).

⁵ *Id.* at 1314.

among claims can also be a useful guide in understanding the meaning of particular claim terms.”⁶ As an example, the court introduces what might be called “negative” claim differentiation: “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”⁷ This is logical. The dependent claim purported to add only a single limitation to the independent claim. This addition would be redundant if the independent claim already had it. Therefore, the independent claim doesn’t have it.⁸

“Positive” claim differentiation, by contrast, is an application of the principle that independent claims are deemed to be broader than their dependents. Stated differently, if one infringes a dependent claim, infringement of its independent parent automatically follows.⁹ Through quirks of claim drafting, dependent claims sometimes appear broader than their parents in certain respects. Apply claim differentiation, and *voilà!* The parent claims must be at least that broad.

To summarize, claim differentiation essentially provides that if a dependent claim *has* a limitation, then its independent claim *doesn’t*, while if the dependent claim *doesn’t* have a limitation, then its independent claim *doesn’t* either. Claim differentiation is therefore like a wedge splitting wood—it creates an inexorable pressure to expand a patent’s coverage. In this way, claim differentiation creates an incentive for patentees to include dependent claims in their patents, even if such dependent claims appear to add little or nothing to the independent claims.

B. Claim Differentiation in the Courts

Given the “primary importance” of claims in interpreting patents, it should be no surprise that judges frequently rely upon claim differentiation to tip the scales in favor of giving patents a broader scope.¹⁰ For example, in a recent case, the court relied on claim differentiation as a key factor to construe an independent claim broadly.¹¹

⁶ *Id.*

⁷ *Id.*

⁸ Of course, this conclusion assumes that there is no redundancy in patent claims. Any practitioner can tell you that isn’t true! The implications are explored below.

⁹ See *Wright Med. Tech., Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1445, 43 U.S.P.Q.2d 1837 (Fed. Cir. 1997) (“we must not interpret an independent claim in a way that is inconsistent with a claim which depends from it”); *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552, 10 U.S.P.Q.2d 1201 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”).

¹⁰ See, e.g., *Wright*, 122 F.3d at 1445; *Robotic Vision Sys., Inc. v. View Eng’g, Inc.*, 189 F.3d 1370, 1376, 51 U.S.P.Q.2d 1948 (Fed. Cir. 1999) (58 PTCJ 555, 9/16/99) (refusing to construe independent claim as requiring a separate fabrication of index pads where it was clear that two dependent claims did not incorporate that limitation); *Laitram Corp. v. NEC Corp.*, 62 F.3d 1388, 1392, 36 U.S.P.Q.2d 1206 (Fed. Cir. 1995) (holding that printing by “strobing” expressly claimed in the dependent claim was covered by more general language in the independent claim).

¹¹ See Opinion at 19, *LMT Mercer Grp., Inc. v. Maine Ornamental, LLC*, Civ. Nos. 10-4615, -6699 (D.N.J. Jan. 16, 2014), ECF No. 94 (relying on structural limitations recited in depen-

dent claims to support position that the independent claims were not so limited); see also Memorandum Opinion and Order at 11 (rejecting defendant’s attempt to read “internal branching logic” limitation of dependent claim into its independent claim), *MacroSolve, Inc. v. Antenna Software, Inc.*, No. 6:11-cv-287 (E.D. Tex. Jan. 21, 2014).

¹² See *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1356, 2012 BL 67351, 102 U.S.P.Q.2d 1161 (Fed. Cir. 2012) (83 PTCJ 735, 3/23/12).

¹³ The Federal Circuit ultimately chose not to apply the doctrine of claim differentiation, but that outcome was by no means certain. See *id.*

¹⁴ *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 U.S.P.Q.2d 1367 (Fed. Cir. 1991); *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1332 (Fed. Cir. 2009) (“However, claim differentiation is a rule of thumb that does not trump the clear import of the specification.”); *Netcraft Corp. v. eBay, Inc.*, 549 F.3d 1394, 1400 n.1, 89 U.S.P.Q.2d 1234 (Fed. Cir. 2008) (77 PTCJ 190, 12/19/08) (“While claim differentiation may be helpful in some cases, it is just one of many tools used by courts in the analysis of claim terms.”).

¹⁵ See *Marine Polymer*, 672 F.3d at 1359 (stating that claim differentiation is “not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.”) (en banc); *Am. Calcar Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1337, 2011 BL 168019, 99 U.S.P.Q.2d 1137 (Fed. Cir. 2011) (82 PTCJ 295, 7/1/11); *Edwards Lifesciences LLC v. Cook, Inc.*, 582 F.3d 1322, 1332, 2009 BL 201887, 92 U.S.P.Q.2d 1599 (Fed. Cir. 2009) (78 PTCJ 649, 9/25/09) (“claim differentiation is a rule of thumb that does not trump the clear import of the specification”); *Anderesen v. Fiber Composites*, 474 F.3d 1361, 1370, 81 U.S.P.Q.2d 1545 (Fed. Cir. 2007) (73 PTCJ 370, 2/2/07) (prosecution history can overcome the presumption created by claim differentiation); *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 690 F.3d 1318, 1325, 2012 BL 193309, 103 U.S.P.Q.2d 1610 (Fed. Cir. 2012) (84 PTCJ 621, 8/10/12) *on reh’g*, 707 F.3d 1295, 2013 BL 6807, 105 U.S.P.Q.2d 1581 (Fed. Cir. 2013) (85 PTCJ 378, 1/18/13) (“Neither of those reasons overcomes the strong presumption created by claim differentiation in this case.”); *SunRace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1303, 67 U.S.P.Q.2d 1438 (Fed. Cir. 2003) (66 PTCJ 380, 7/25/03) (explaining that the presumption of claim differentiation “is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim.”).

Do dependent claims deserve such prominence? Do judges over-rely on the claim differentiation doctrine? An obscure provision of the patent act helps to answer that question.

C. Background—35 U.S.C. § 112(d)

While current paragraph (d) may seem to be buried and often overlooked in Section 112, the initial provision had lofty ambitions, and was subject to refinement over time. The Patent Act of 1952, which was the original codification of Section 112, drew no explicit distinction between independent and dependent claims. Rather, that section merely required that the claims, whatever their form, particularly point out and distinctly claim the applicant's invention. Some practitioners questioned the validity of dependent claims in absence of a statutory provision clearly sanctioning them.¹⁶ A financial shortfall at the Patent and Trademark Office led legislators, in 1965, to consider an amendment to Section 112 that would expressly allow dependent claiming, and raise revenue in a quid pro quo with inventors.

From 1932 through 1965, despite proposed legislation, Congress did not enact any law to significantly adjust the fees payable to the PTO. By 1964, only about 30 percent of the office's costs were recovered through fees. One of the primary contributors to the increase of costs in the three decades prior to 1965 was the additional resources needed to examine increasingly complex applications.¹⁷ Congress considered several mechanisms for aligning revenues more closely with operational costs, including incentivizing use of dependent claims which Congress recognized "may be analyzed more expeditiously in the Office," and thus examined more cheaply.¹⁸ For example, the Commissioner of Patents remarked that he believed "extensive use" of

¹⁶ The Chair of Legislative Committee of the Patent, Trademark, and Copyright Section of the Connecticut Bar, Anthony DeLio, testified before Congress that without additional statutory guidance about claim drafting, the Patent Act left open the question as to the validity of claims drafted in dependent form. *PTO Fees: Hearing before the Subcomm. on Patents, Trademarks, and Copyrights of the Comm. of the Judiciary*, 89th Cong. 46 (1965).

¹⁷ The revenue shortfall at the PTO was attributable to problems that remain today, namely "increased costs of personal services, increased numbers of applications for patents, increased complexity of such applications, and increased hirings in an effort to offset these latter factors and to handle the greater number of more complex applications." *Id.* at 13 (explanation by Secretary of Commerce Luther H. Hodges for proposed legislative changes to fix fees payable to the PTO).

¹⁸ *Id.* at 14. The proposed legislation encouraged greater use of dependent claims through different pricing treatment. Applicants were entitled to submit up to one independent claim and nine dependent claims for the \$50 filing fee. For every independent claim in excess of one, the applicant was charged \$10. And for every claim in excess of 10, regardless of whether it was independent or dependent, the applicant was charged a separate fee of \$2 per claim. Thus, for patents with fewer than 10 claims, the applicant was charged nothing for adding a dependent claim and \$10 for adding an independent claim. For patents with 10 or more claims, the applicant was charged \$2 for adding a dependent claim and \$12 for adding an independent claim. *See id.* at 14.

dependent claims would be "a great help to the overburdened examiner."¹⁹

Based on that logic, Congress added the following provision to the Patent Act: "a claim may be written in independent or dependent form, and if in dependent form, it shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim."²⁰ As is evident from the text of the amendment, the new sentence was essentially an instruction regarding how to construe a dependent claim, namely to import all the limitations of the claim from which it depended. Inventors were charged for each dependent claim, and in return, the PTO examined the application more quickly.

Section 112 went unmodified for a decade. Then, in 1975 Congress amended much of Title 35 to carry into effect provisions of the Patent Cooperation Treaty.²¹ The amendment added three paragraphs to Section 112. One of these newly inserted paragraphs, which would eventually become Section 112(d) after enactment in 2011 of the America Invents Act, added the requirement that a dependent claim "specify a further limitation of the subject matter claimed."²² The legislative history is silent on the reasoning behind the 1975 modification. The AIA introduced only minor cosmetic changes to the paragraph. The current provision reads:

(d) Reference in Dependent Forms.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

In short, Congress created Section 112(d) to permit dependent claims, with the expectation that such claims would receive little attention in the PTO.

D. 35 U.S.C. § 112(d) in Practice

Congress was prescient. Dependent claims indeed receive little attention in the PTO. In particular, little attention is paid to potential Section 112 paragraph (d) issues. Anecdotally, an experienced patent attorney reported seeing such a rejection only once in his 20 years of practice. Even then, the rejection was due to a scrivener's error—an independent claim had been amended

¹⁹ *Id.* at 27 (statement of Edward J. Brenner, Commissioner of Patents, presenting the views of the Department of Commerce on three bills drafted to fix fees at the PTO).

²⁰ After the 1965 amendment, the entire text of 35 U.S.C. § 112 read:

The specification shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. A claim may be written in independent or dependent form, and if in dependent form, it shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim.

²¹ *See* Pub. L. 94-131 § 24, 89 Stat. 685 (1975).

²² *Id.*

to include the sole limitation of a dependent claim, without cancellation of the dependent claim. He had never seen the PTO perform a substantive analysis of validity under Section 112 paragraph (d).

To confirm (or refute) this impression, we randomly selected 200 recently issued patents and tallied the number of rejections they received during examination in the PTO, as follows:

Basis for Rejection	% of Patents
35 U.S.C. § 101	13
35 U.S.C. § 102(a)	2
35 U.S.C. § 102(b)	33.5
35 U.S.C. § 102(c)	0
35 U.S.C. § 102(d)	0
35 U.S.C. § 102(e)	11
35 U.S.C. § 102(f)	0
35 U.S.C. § 102(g)	0
35 U.S.C. § 103(a)	47
35 U.S.C. § 112 paragraph 1	8
35 U.S.C. § 112 paragraph 2	22
35 U.S.C. § 112 paragraph 4	1
35 U.S.C. § 112 paragraph 6	0
Double patenting	15
Improper Markush claiming	0.5

Unsurprisingly, “bread and butter” rejections for anticipation under Section 102(b) and for obviousness under Section 103(a) predominate. Rejections for invalid dependent claiming under 35 U.S.C. § 112 paragraph 4 occurred in only two patents.²³

The PTO rejected a dependent claim of U.S. Patent No. 8,440,500 because the applicant amended the corresponding independent claim to add a limitation already present in the dependent claim. The applicant did so to overcome prior art, but did not cancel or amend the dependent claim until after the PTO pointed out the error.²⁴ The office rejected two dependent claims of U.S. Patent No. 8,440,620 because the claims simply stated properties of the composition claimed in the independent claim, without further limiting the scope of the independent claim. The applicant simply cancelled the dependent claims.²⁵

Seems simple, right? Unfortunately, the lack of time and resources to undertake more thorough patent examinations can lead to overlooking problems even this straightforward—not to mention more complex situations in which a dependent claim recites the same subject matter as its independent claim, but uses different terminology that makes the extent of overlap less clear.

Interestingly, our sample revealed a sizable number of rejections for double patenting. These rejections were based on a substantive analysis of the overlap be-

tween two sets of claims, even if the language was not identical. This shows that a similar analysis could be done for dependent claims. But it is not. Not undertaking such an analysis may well be rational.²⁶

The primary concern of the examiner and the patentee is and should be the patent’s independent claims.

E. 35 U.S.C. § 112(d) in the Courts

Despite its infrequent use, courts have applied Section 112(d) to cull improper dependent claims in a handful of cases.²⁷ There are three key Federal Circuit cases on point.

1. *Pfizer v. Ranbaxy Laboratories*

Pfizer, Inc. v. Ranbaxy Labs. Ltd., was the first Federal Circuit case to apply Section 112(d) to invalidate dependent claims.²⁸ In *Pfizer*, the patentee drafted independent claim 1 to cover two chemical compounds “or pharmaceutically acceptable salts” of either compound.²⁹ Claim 2 depended from claim 1 and recited only one of the chemical compounds in claim 1 and not its corresponding salt. Claim 6 depended from claim 2 and purported to cover the salt form of the compound in claim 2. Thus, dependent claim 6 was broader than its parent claim 2.

At trial, the district court recognized that the claims may have had a drafting error, implying that claim 6 would have been properly written if claim 2 had expressly covered both the compound *and* its salt.³⁰ After considering the legislative history of Section 112(d), which evidenced intent to increase fees generated by the PTO and expedite the prosecution of patents, the district court concluded that Congress gave no indication that paragraph (d) “was intended to be an invalidating provision.” Rather, the lower court explained its understanding that Section 112(d) is “limited to matters of form, rather than matters of substance.”³¹ On that basis, and noting that the PTO did not object to the form

²⁶ See generally Mark A. Lemley, Rational Ignorance at the PTO, 95 Nw. U. L. Rev. 1495 (2001) (explaining that society may be better off deferring more examination of patents until litigation, because few patents are actually litigated).

²⁷ Although the cases discussed may refer to paragraph 4 of Section 112, as discussed above, the text of the paragraph is substantively unchanged from the previous version. We refer to the provision according to its present statutory lettering.

²⁸ 457 F.3d 1284, 1291, 79 U.S.P.Q.2d 1583 (Fed. Cir. 2006) (72 PTCJ 394, 8/11/06). The Federal Circuit did discuss Section 112(d) prior to its decision in *Pfizer*. In *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1382, 77 U.S.P.Q.2d 1988 (Fed. Cir. 2006) (71 PTCJ 432, 2/24/06), the Federal Circuit rejected the district court’s claim construction on the grounds that the lower court improperly relied on claim differentiation to support a broad interpretation of a claim term because the specification only discussed a narrower interpretation of the limitation. The court explained that claim differentiation “works best in the relationship between independent and dependent claims,” as opposed to terms found in two independent claims. *Id.* at 1380 (citations omitted). Section 112(d) provides additional support for this conclusion, because it “stresses that a dependent claim must add a limitation to those recited in the independent claim.” *Id.*

²⁹ *Pfizer Inc. v. Ranbaxy Labs. Ltd.*, 405 F. Supp. 2d 495, 507, 79 U.S.P.Q.2d 1071 (D. Del. 2005) (emphasis added).

³⁰ *Id.* at 508.

³¹ *Id.* at 509.

²³ See U.S. Patent No. 8,440,500 (Dec. 5, 2012 Final Rejection) and U.S. Patent No. 8,440,620 (May 18, 2012 Non-Final Rejection).

²⁴ See U.S. Patent No. 8,440,500 (July 19, 2012 & Feb. 7, 2013 Amendments).

²⁵ See U.S. Patent No. 8,440,620 (Aug. 2, 2012 Amendment).

of claim 6, it found any drafting error was insufficient to invalidate claim 6.³²

On appeal, the defendant argued that the district court's refusal to invalidate claim 6 was erroneous because it did not specify a further limitation of claim 2. At the outset of its analysis, the Federal Circuit noted that claims 2 and 6 "deal with non-overlapping subject matter."³³ The court reasoned that the salt specified in claim 6 was properly within those recited in claim 1 so that claim 6 could have depended therefrom, or been written as an independent claim. But because claim 6's subject matter "is completely outside the scope of claim 2," and noting it was not a court's job to "rewrite claims to preserve [their] validity," the Federal Circuit held claim 6 invalid for failing to comply with the requirement of Section 112(d) that a valid dependent claim must "specify a further limitation of the subject matter of the claim to which it refers."³⁴ The court pointed out that its decision did not "exalt form over substance" but rather was a simple enforcement of one procedural requirement to obtaining a patent.³⁵

The lesson of *Pfizer* is that even though paragraph (d) was added to Section 112 to increase fees collected at the PTO and speed prosecution, it still erects a technical hurdle that a patentee must clear before a dependent claim can be deemed valid. Namely, the dependent claim must refer to an independent claim and further limit that claim. As the Federal Circuit noted, paragraph (d) "is consistent with the overall statutory scheme that requires applicants to satisfy certain requirements before obtaining a patent," even if some "are more procedural or technical than others."³⁶

2. *Monsanto v. Syngenta Seeds*

The next Federal Circuit case to address Section 112(d) dealt with an unusual issue. It addressed the question of how you know when a claim is dependent. In *Monsanto Co. v. Syngenta Seeds, Inc.*, the patentee argued that claim 4 of its patent, which covered a "process comprising obtaining progeny from a . . . [genetically modified] plant obtained by the process of claim 1," was an independent claim.³⁷

The patentee argued that claim 4 did not depend from claim 1 on the basis that the reference to the use of the genetically modified plant, as obtained by the performance of the steps of claim 1, was merely a reference to "novel starting material" for use in claim 4.³⁸ By the court's account, the patentee attempted to strengthen its argument against dependence by drawing "attention to the form of claim 4, which differs . . . from the customary dependent claim format." That customary dependent format would typically read "the process of claim 1 further comprising . . ."³⁹

Relying on the text of Section 112(d), the court explained that a dependent claim must "both refer[] to an

earlier claim and further limit[] that referent."⁴⁰ The court reasoned that claim 4 met the first requirement by expressly requiring a genetically modified plant "obtained by the performance of the steps in claim 1," and the second by "includ[ing] the additional step of obtaining progeny" from that plant.⁴¹ The court further addressed the patentee's form-based argument by explaining that whether a claim is truly dependent or independent "depends on the substance of the claim in light of the language of Section 112, ¶ 4 [i.e., current paragraph (d)], and not the form alone."⁴² As such, claim 4 properly depended from claim 1 because it "depend[ed] on the performance of the process comprising the three steps recited in claim 1" for obtaining a genetically engineered plant.⁴³ Thus, the court held that the claim was dependent because of the statute's substantive requirements, even if it was drafted in "a somewhat unusual format."

Syngenta shows that once the technical requirements of Section 112(d) are met, a patentee cannot disavow that a claim is dependent on the basis of form alone.

3. *Zircon v. Stanley Black & Decker*

A third Federal Circuit case is most relevant for present purposes. A claim that is in proper dependent form is sometimes used to broaden the scope of the claim from which it depends. For instance, in *Zircon Corp. v. Stanley Black & Decker, Inc.*, the Federal Circuit relied on Section 112(d) to reject a patentee's attempt to use the language in a dependent claim to broaden the scope of an independent claim.⁴⁴ The patented technology covered methods for sensing wall studs using calculations involving two measured values.

Independent claim 10 recited "computing a ratio." Its dependent claim 19 recited "comparing" two values. Claim 19's dependent claims 21 and 22 recited *computing* and *comparing* a ratio, respectively.⁴⁵ The patentee argued that claim 10's "computing a ratio" limitation must be broad enough to cover both division and subtraction, because claims 21 and 22 ultimately depended from claim 10 and must be at least as broad. This was a classic claim differentiation argument. The defendant argued that claim 10's "computing a ratio" covered only division, because otherwise claim 19 would not further limit claim 10.⁴⁶ This was a relatively novel Section 112(d) argument.

Relying on Section 112(d), the court rejected the patentee's broadening argument. The court pointed out that the patentee's argument might make sense if claims 21 and 22 depended directly from claim 10 (the computing claim). But they depended directly from claim 19 (the comparison claim). Thus, according to the court, the comparison operation of claim 19 must be a separate and distinct operation from the computation that occurred in claim 10. The court concluded that "any other reading of the claims would render them invalid under § 112, ¶ 4," thus preventing the patentee

³² *Id.* at 510.

³³ 457 F.3d at 1291.

³⁴ *Id.* at 1292 (internal quotation marks omitted).

³⁵ *Id.*

³⁶ *Id.*

³⁷ 503 F.3d 1352, 1355, 2007 BL 118821, 84 U.S.P.Q.2d 1705 (Fed. Cir. 2007) (74 PTCJ 735, 10/19/07) (all italics in this section in original).

³⁸ *Id.* at 1357.

³⁹ *Id.*

⁴⁰ *Id.* (citing 35 U.S.C. § 112, ¶ 4 (2000)).

⁴¹ *Id.* at 1358 (emphasis added).

⁴² *Id.* at 1357.

⁴³ *Id.* at 1358.

⁴⁴ 452 F. App'x 966, 2011 BL 256895 (Fed. Cir. 2011).

⁴⁵ *Id.* at 975.

⁴⁶ *Id.* at 970.

from broadening independent claim 10 to include division.⁴⁷

Zircon teaches that Section 112(d) can limit the patentee's ability to broaden claims, and that in a clash between claim differentiation and Section 112(d), Section 112(d) takes precedence.

F. The Chicken and Egg Problem

While *Zircon* does not confront it head on, the clash between claim differentiation and Section 112(d) raises an interesting doctrinal quandary. Ordinarily, claim construction precedes any validity determination. One

⁴⁷ The court bolstered its analysis by examining the specification and the prosecution history. According to the court, the specification "only uses the term 'ratio' to describe division" of one of the capacitances by another and "never uses the term 'ratio' to describe subtraction." *Id.* at 978. Furthermore, the prosecution history made clear that the patentee "knew how to broadly claim division or subtraction" computation methods, and established that the term "'ratio' mean[t] only division." *Id.*

has to know what a claim means before deciding that it's invalid.⁴⁸

But in a dependent/independent claim scenario, that can't be done. That is because applying claim differentiation first would *guarantee* the validity of the dependent claim under 35 U.S.C. § 112(d). Doing so would render the statute a nullity. It would also be contrary to the basic principle that courts should not construe claims to preserve their validity unless "the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous."⁴⁹

In other words, claim differentiation is not a golden ticket to validity. Courts and litigants should recognize that dependent claims can be invalidated under 35 U.S.C. § 112(d) and should not over-rely on claim differentiation based on a false impression that dependent claims are always well thought out and rigorously examined.

⁴⁸ See, e.g., *Amazon.com v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351, 57 U.S.P.Q.2d 1747 (Fed. Cir. 2001) (61 PTCJ 395, 2/23/01) ("A claim must be construed before determining its validity").

⁴⁹ *Phillips v. AWH*, 415 F.3d at 1327.