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# A Recent Patent Class on the Scope of IPR Estoppel at the PTAB

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## INTRODUCTION

*Inter-partes* review (IPR) has become a popular alternative for defendants to challenge the validity of patents asserted in district court infringement proceedings.<sup>1</sup> However, a primary strategic concern facing such defendants in their decision whether to initiate an IPR, is the risk that the IPR proceedings may lead to estoppel (“IPR estoppel”) that later prevents strong invalidity arguments from being made in district court.<sup>2</sup> The statutory basis for IPR estoppel is 35 U.S.C. § 315(e)(1), which states:<sup>3</sup>

The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or

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<sup>1</sup> See, e.g., U.S. PATENT & TRADEMARK OFFICE, PATENT AND APPEAL BOARD STATISTICS, (Mar. 31, 2017), [https://www.uspto.gov/sites/default/files/documents/AIA%20Statistics\\_March2017.pdf](https://www.uspto.gov/sites/default/files/documents/AIA%20Statistics_March2017.pdf).

<sup>2</sup> See *infra* notes 10–16 and accompanying text.

<sup>3</sup> 35 U.S.C. § 315(e)(1) (2012).

privity of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

This statute expressly limits estoppel to IPRs that result in a “final written decision,” and only to grounds the petitioner raised or “reasonably could have raised during” that IPR.<sup>4</sup> Hence, IPR estoppel does not apply to parties that are not the petitioner or in privity with the petitioner.<sup>5</sup> IPR estoppel also does not apply to grounds of invalidity that could not be challenged in the IPR, such as indefiniteness or invalidity over prior art that is not a printed publication (*e.g.*, prior art products).<sup>6</sup> Still, the legislative history of the America Invents Act (AIA) suggests that the statute provides “a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge.”<sup>7</sup>

The foregoing statutory provision is implemented by consistent federal regulation,<sup>8</sup> and by consistent jurisprudence at the Patent Trials and Appeal Board (“PTAB,” or “the Board”) of the U.S. Patent and Trademark Office (“USPTO”).<sup>9</sup> For example, the Board held that “[o]nce a Petitioner has obtained a final written decision, that Petitioner may not request or maintain subsequent proceedings on a ground that it ‘reasonably could have raised’

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<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*; *see also* Intellectual Ventures I LLC v. Toshiba Corp., 221 F. Supp. 3d 534, 545 (D. Del. 2016).

<sup>7</sup> 157 CONG. REC. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley).

<sup>8</sup> *See, e.g.*, 37 C.F.R. § 42.73(d) (2016).

<sup>9</sup> *See* cases cited *infra* notes 14, 16, 19, and 24.

during the prior proceeding.”<sup>10</sup> Presently there is a split among the district courts regarding whether IPR estoppel extends to grounds that were never raised by the petitioner in an IPR; most district courts find estoppel in that situation,<sup>11</sup> while some district courts do not.<sup>12</sup> A prudent petitioner will assume that estoppel may apply to all printed publications the petitioner “could have raised” in the petition, and this paper focuses on the practical scope of that estoppel.

### I. SCOPE: WHICH PRIOR PATENT PUBLICATIONS REASONABLY COULD HAVE BEEN RAISED?

A zealous patent owner might argue that the petitioner “reasonably could have raised” *any* prior patent publication in its original petition for IPR, so that the petitioner should be estopped from maintaining or raising a challenge to validity on a ground that is based on any prior patent publication that was not raised in the original petition.

But when IPR estoppel applies, could its scope properly include *all* patent publications? If not, which patent publications are swept into the scope of IPR estoppel, and which are not? Some recent PTAB jurisprudence helps answer those questions.<sup>13</sup>

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<sup>10</sup> *Praxair Distribution, Inc. v. Ino Therapeutics LLC*, No. IPR2016-00781, Paper 10 at 7–10 (P.T.A.B. Aug. 25, 2016) (citing *Dell, Inc. v. Elecs. & Telecomms. Research Inst.*, No. IPR2015-00549, Paper 10 at 4–6 (P.T.A.B. Mar. 26, 2015)).

<sup>11</sup> *See, e.g., Oil-Dri Corp. of Am. v. Nestle Purina Petcare Co.*, No. 15-cv-1067, 2017 WL 3278915 at \*1, \*3, \*4, \*6, \*7, \*10 (N.D. Ill. Aug. 2, 2017); *Milwaukee Elec. Tool Corp. v. Snap-On, Inc.*, 271 F. Supp. 3d 990, 999 (E.D. Wis. 2017), *appeal docketed*, No. 18-1516 (Fed. Cir. Feb. 5, 2018).

<sup>12</sup> *See Intellectual Ventures I LLC v. Toshiba Corp.*, 221 F. Supp. 3d 534, 553-54 (D. Del. 2016), *denying reconsideration*, 2017 WL 107980, at \*1 (D. Del. Jan. 11, 2017); *see also Verinata Health, Inc. v. Ariosa Diagnostics, Inc.*, 2017 WL 235048, at \*3–4 (N.D. Cal. Jan. 19, 2017).

<sup>13</sup> *See cases cited infra* notes 19, 20, and 22.

The PTAB has adopted a test for IPR estoppel of a printed publication that derives from statements made in the legislative history of the AIA: whether a skilled searcher conducting a diligent search reasonably could have been expected to discover the prior art reference in question.<sup>14</sup> For example, the PTAB recently noted that “[t]he legislative history of the America Invents Act [‘AIA’] broadly describes what ‘could have been raised’ to include ‘prior art which a skilled searcher conducting a diligent search reasonably could have been expected to discover.’”<sup>15</sup> The PTAB justified and followed that test again in *Johns Manville Corp. v. Knauf Insulation Inc.*, IPR2016-00130, as follows:

The plain language of section 315(e)(1) states that the estoppel applies to grounds a petitioner “*reasonably* could have raised.” [ . . . ] The word “reasonably” is not a mandatory word such as, “must,” or “shall.” The word “reasonably” is a qualifier that refers to the discretion applied by a qualified searcher in conducting an adequate search. This is consistent with the legislative history of section 315 [ . . . ] the prior art estopped is that which “a skilled searcher conducting a diligent search reasonably could have been expected to discover.” Congress easily could have broadened the estoppel provision to extend to “any ground that the petitioner raised or [] could have raised during that inter partes review,” but it did not.<sup>16</sup>

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<sup>14</sup> See *IBM Corp. v. Intellectual Ventures II LLC*, No. IPR2014-01465, Paper 32 at 5 (P.T.A.B. Nov. 6, 2015) (quoting 157 Cong. Rec. S1375 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl)).

<sup>15</sup> *Id.*

<sup>16</sup> *Johns Manville Corp. v. Knauf Insulation, Inc.*, No. IPR2016-00130, Paper 35 at 9–10 (P.T.A.B. May 8, 2017).

**II. IT DEPENDS: WHICH PRIOR PATENT PUBLICATIONS COULD A SKILLED SEARCHER CONDUCTING A DILIGENT SEARCH HAVE BEEN REASONABLY EXPECTED TO DISCOVER?**

Would the foregoing test be satisfied by *every* patent publication? After all, patents and published patent applications are readily accessible at government agencies like the USPTO.<sup>17</sup> Patent publications are also stored in other electronic databases that are text-searchable using several alternative applications – many of which are search applications that are publicly available on the Internet.<sup>18</sup>

On the other hand, the PTAB has held that “even for printed publications, a petitioner is free to explain why a reasonably diligent search could not have uncovered the newly applied prior art.”<sup>19</sup> Whether a petitioner’s explanation is persuasive has been case specific. For example, the Board in *Johns Manville* held that “the skilled searchers employed by Johns Manville conducted a reasonably diligent search.”<sup>20</sup> Even though that reasonably diligent search failed to discover the documents in question, still estoppel was not found, and so a related motion to terminate was denied in the Final Written Decision of that case.<sup>21</sup> On the other hand, the Board found estoppel in *IBM Corp. v. Intellectual Ventures II LLC*, IPR2014-01465, but in that case the Petitioner did not

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<sup>17</sup> See U.S. PATENT AND TRADEMARK OFFICE, <https://www.uspto.gov/patents-application-process/search-patents> (Apr. 24, 2018).

<sup>18</sup> See, e.g., Free Patents Online, <http://www.freepatentsonline.com/search.html> (last visited Oct. 16, 2018); Espacenet Patent Search, <https://www.epo.org/searching-for-patents/technical/espacenet.html> (Aug. 5, 2018); Google Patents, <https://patents.google.com> (last visited Oct. 16, 2018).

<sup>19</sup> Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha, Nos. IPR2016-01357-61, Paper 19 at 20 (P.T.A.B. Sept. 6, 2017).

<sup>20</sup> *Manville Corp.*, No. IPR2016-00130, Paper 35 at 12.

<sup>21</sup> *Id.* at 12–15.

dispute the Patent Owner's contention that a skilled searcher conducting a diligent search reasonably could have been expected to discover the later-asserted prior art.<sup>22</sup> Instead, the Petitioner in *IBM* argued that the later-asserted prior art could not have been reasonably raised "because Petitioner could not have anticipated that Patent Owner would make certain arguments in the Preliminary Response filed in the earlier proceeding."<sup>23</sup>

**III. APPROACH: WHICH USPC CLASSES AND SUBCLASSES REASONABLY WOULD BE INCLUDED IN A DILIGENT SEARCH CONDUCTED BY A SKILLED SEARCHER?**

Recently, the PTAB decided whether a prior U.S. patent publication was within the scope of IPR estoppel on the basis of whether its USPC class and subclass was among the USPC classes and subclasses that a reasonably diligent searcher would be expected to search.<sup>24</sup> For prior U.S. patent publication references, this approach may help guide the analysis of whether a skilled searcher conducting a diligent search reasonably could have been expected to discover the reference.

Specifically, in *Valve Corp. v. Ironburg Inventions Ltd.*, the petitioner asserted U.S. Patent 6,362,813 to Wörn et al. ("Wörn") in anticipation challenges against patent claims that it had previously challenged in earlier IPRs.<sup>25</sup> Subsequently, the Board promulgated final written decisions

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<sup>22</sup> See *IBM Corp. v. Intellectual Ventures II LLC*, No. IPR2014-01465, Paper 32 at 4 (P.T.A.B. Nov. 6, 2015).

<sup>23</sup> *Id.* at 3–4.

<sup>24</sup> See *Valve Corp. v. Ironburg Inventions Ltd.*, IPR2017-00136 and IPR2017-00137, Paper 43 at 4–5 (P.T.A.B., Jan. 25, 2018).

<sup>25</sup> See Petition for *Inter Partes* Review of U.S. Patent No. 9,089,770, *Valve Corp. v. Ironburg Inventions Ltd.*, Paper 1 at 3-4 (P.T.A.B. Oct. 25, 2016).

in the earlier IPRs, and so the patent owner moved to terminate the later-filed IPR proceedings on the basis of estoppel under 35 U.S.C. § 315(e)(1).<sup>26</sup> The patent owner argued that Wörn reasonably could have been raised in the earlier filed petitions.<sup>27</sup> The petitioner responded by arguing that prior to filing the earlier petitions, it had contracted a skilled searcher who conducted a diligent search that did not discover Wörn, and therefore estoppel should not apply under the PTAB's test.<sup>28</sup>

The petitioner argued to replace the hypothetical speculation in the PTAB's foregoing test with actual observation of historical search results, as follows:

[I]f the Board finds that either the searches commissioned by Petitioner, or the Patent Examiner's searches, had been skilled and reasonably diligent, then the Board need not speculate about whether such searches would have found Wörn. After all, those skilled and reasonably diligent searches, focused on the '525 and '770 patents, historically did not discover Wörn. Rather, Wörn was discovered incidentally by a later search focused on a different patent, using a search term that does not apply to the '525 and '770 patents.<sup>29</sup>

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<sup>26</sup> See Patent Owner Motion to Terminate, Valve Corp. v. Ironburg Inventions Ltd., Nos. IPR2017-00136 and IPR2017-00137, at 1 (P.T.A.B. Oct. 13, 2017).

<sup>27</sup> *Id.* at 3–6.

<sup>28</sup> See Petitioner Opposition to the Motion to Terminate, Valve Corp. v. Ironburg Inventions Ltd., No. IPR2017-00137 Paper 33 at 3–5 (P.T.A.B. Nov. 3, 2017).

<sup>29</sup> *Id.* at 3 (emphasis in original).



But the patent owner countered that the hypothetical aspect of PTAB's test should not be replaced by historical observation, as follows:

The inquiry is not who Petitioner hired, what their credentials are, or what the searcher did or did not do for its search. Rather, the relevant inquiry, based on the legislative history, is whether a hypothetical 'skilled searcher' conducting a diligent search reasonably could have been expected to discover Wörn. [...] Because Wörn is a U.S. patent, it is and has been readily accessible at the USPTO and online, and a skilled searcher conducting a diligent search reasonably could have been expected to discover it.<sup>30</sup>

Ultimately, in *Valve*, the patent owner's understanding of the hypothetical aspect of the PTAB's test was apparently adopted.<sup>31</sup>

**A. Which USPC classes and subclasses were searched by the examiner of the patent claims challenged in the IPR?**

The Board's analysis in *Valve* focused on the USPC classes and subclasses that a skilled and reasonably diligent searcher would be expected to search in that case.<sup>32</sup> The PTAB considered expert reports on that topic from both

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<sup>30</sup> See Patent Owner Reply in Support of Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 34 at 1–2 (P.T.A.B. Nov. 6, 2018) (emphasis omitted).

<sup>31</sup> See *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 43 at 4 (P.T.A.B. Jan. 25, 2018).

<sup>32</sup> *Id.* at 4–6.

litigants.<sup>33</sup> Perhaps a less biased indication would be which USPC classes and subclasses had been searched by the examiner who, before the possibility of any bias from subsequent litigation events, examined and allowed the patent claims being challenged in the IPR proceedings.

**B. What were the USPC classes and subclasses of the prior art patent publications of record in the challenged patent?**

The prior patent publications identified by an examiner's searches are generally made of record in the file history of the examined patent.<sup>34</sup> Importantly, however, not all those prior patent publications of record necessarily pertain to the USPC classes and subclasses the examiner searched. Rather, the examiner may find additional prior art from citations that appear in a reference identified by a USPC class search, and such additional prior art may pertain to a different (and potentially unsearched) USPC class.

The specifics of the USPC classes and subclasses that were argued in *Valve* are illustrative of the foregoing distinction between USPC classes searched, versus USPC classes represented in the list of prior art of record. The examiner of the patents challenged by the petitioner in *Valve* did not search USPC class/subclass 345/169 to which the Wörn reference pertains.<sup>35</sup> However, the examiner found three other references in the USPC 345/169 subclass via a citation search on a pertinent reference that the examiner found by searching USPC class 463.<sup>36</sup>

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<sup>33</sup> *Id.* at 3–8.

<sup>34</sup> *See* MPEP § 1302.12 (9th ed. Rev. Jan. 2018).

<sup>35</sup> Petitioner Opposition to the Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 33 at 6–7 (P.T.A.B. Nov. 3, 2018).

<sup>36</sup> *Id.*

The petitioner argued that estoppel should not extend to the Wörn reference because patentability searches conducted by the examiner were undisputedly performed by a skilled searcher, and in a reasonably diligent manner, and yet did not search USPC 345/169 or discover Wörn.<sup>37</sup>

**C. Should invalidity searches by litigants be expected to include more USPC classes and subclasses than did the patentability search by the examiner?**

The patent owner in *Valve* rationalized the examiner's choice to not search USPC 345/169, by arguing that prior art searches expected of litigants who file IPR petitions (as "invalidity" searches) should have a broader scope than examiner searches (as "patentability" searches).<sup>38</sup> However, the Board gave no indication that it had been persuaded by the patent owner's distinction,<sup>39</sup> perhaps because 37 C.F.R. § 42.104(b)(4) requires the IPR petitioner to identify how each challenged claim is "unpatentable," and 37 C.F.R. § 42.104(b)(2) limits the applicable scope of prior art more narrowly than in district court litigation proceedings.<sup>40</sup>

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<sup>37</sup> *Id.*

<sup>38</sup> See Patent Owner Reply in Support of the Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 34 at 5–6 (P.T.A.B. Nov. 6, 2018).

<sup>39</sup> See generally *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 43 (P.T.A.B. 2018) (not providing any indication in the opinion that the Board was persuaded by the patent owner's distinction).

<sup>40</sup> 37 C.F.R. § 42.104(b)(2), (b)(4) (2017).

**D. Using hindsight to identify USPC classes and subclasses for search may be unpersuasive in two ways.**

The patent owner in *Valve* offered expert testimony that the Wörn reference could be found by a particular text searching string applied to USPC class/subclass 345/169.<sup>41</sup> The petitioner countered that a skilled searcher conducting a diligent search would not search USPC class/subclass 345/169 but by using hindsight as a guide (*i.e.* using pre-existing knowledge of which prior art publication—in this case Wörn—should be discovered), and that such a hindsight guided search methodology should be considered unpersuasive by the Board.<sup>42</sup>

Specifically, the petitioner argued that the patent owner’s expert “surgically and dramatically reduced the impractically large number of patent references that would otherwise require manual review, by applying a narrowly-tailored and seemingly contrived ‘example’ search string to a single USPC subclass 345/169 – a subclass that was not even searched by the examiner.”<sup>43</sup> Ultimately, however, the Board in *Valve* was not persuaded by the petitioner’s hindsight argument.<sup>44</sup>

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<sup>41</sup> See Patent Owner Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00136 and IPR2017-00137, Paper 26 at 6 (P.T.A.B. Oct. 13, 2017).

<sup>42</sup> Petitioner Opposition to the Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, No. IPR2017-00137, Paper 33 at 3 (P.T.A.B. Nov. 3, 2017) (citing *Johns Manville Corp. v. Knauf Insulation, Inc.*, No. IPR2016-00130, Paper 35 at 15 (P.T.A.B. May 8, 2017)).

<sup>43</sup> *Id.* at 11–12.

<sup>44</sup> See *generally* *Valve Corp. v. Ironburg Inventions Ltd.*, No. IPR2017-00137, Paper 43 (P.T.A.B. Jan. 25, 2018) (remaining silent on the petitioner’s hindsight argument)).

**IV. HOW MUCH IS PRACTICAL?: HUMAN SEARCHES OF THE DRAWINGS OF PATENT PUBLICATIONS IN A USPC CLASS, VERSUS COMPUTER-AIDED TEXT SEARCHING.**

Reviewing drawings is often a practical concern when searching patent databases, especially in the mechanical arts where important features are often shown in the drawings but not well described using words in the text. For example, in *Valve*, the petitioner argued that the relevance of the Wörn reference to the claims challenged in the IPR could only be practically recognized by human inspection of Wörn's drawings, as follows:

The key distinguishing feature of the '525 and '770 patents—the relative length of a back control compared with a housing dimension—is shown only in the *drawings* of Wörn, and not mentioned anywhere in its searchable text. Hence only a human searcher's manual review of the drawings of every prior art reference in a chosen population, one reference at a time, could possibly recognize Wörn's pertinence to the '525 and '770 patents.<sup>45</sup>

The patent owner in *Valve* responded by arguing that the drawings of 700 patent publications could be reviewed by a single searcher in less than two days.<sup>46</sup>

However, often human searchers would have to review the drawings of an impractically large number of patent

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<sup>45</sup> Petitioner Opposition to the Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, No. IPR2017-00137, Paper 33 at 7 (P.T.A.B. Nov. 3, 2017) (emphasis in original).

<sup>46</sup> Patent Owner Reply in Support of Motion to Terminate, *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00137 and IPR2017-00137, Paper 34 at 6 (P.T.A.B. Nov. 6, 2017).

publications in order to identify and recognize the significance of a particular patent publication.<sup>47</sup> For example, in *Valve*, the petitioner argued that without first filtering using keyword searches that could miss relevant drawings, or choosing a particular USPC subclass based on hindsight, the drawings of many thousands of patents would need to be reviewed by human searchers to identify and recognize the significance of the Wörn reference.<sup>48</sup> As context, the petitioner pointed out that the searches conducted by the examiner for the patent challenged in the *Valve* case encompassed USPC classes that included more than 100,000 patent publications.<sup>49</sup>

Ultimately, despite the petitioner's allegations of reliance on hindsight,<sup>50</sup> the PTAB was persuaded by the patent owner in *Valve* that a particular key word search (performed afterwards by the patent owner's declarant) could have reduced the size of the group of patent publications for drawings review to only 49 patent publications.<sup>51</sup> Although this avoids rather than addresses the practical problem of drawings review versus text searching, it suggests a litigation strategy for patent owners and leaves the door open for contrary proof for future petitioners.

## CONCLUSION

The PTAB has recently interpreted the scope of IPR estoppel to include all previously-unraised prior patent publications in a broadly inclusive group of USPC classes and subclasses.

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<sup>47</sup> Petitioner Opposition to the Motion to Terminate, *Valve Corp.*, No. IPR2017-00137, Paper 33 at 7-8 (P.T.A.B. Nov. 3, 2017).

<sup>48</sup> *Id.* at 8-11.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 11-12.

<sup>51</sup> *Valve Corp. v. Ironburg Inventions Ltd.*, Nos. IPR2017-00137 and IPR2017-00137, Paper 43 at 7-8 (P.T.A.B. Jan. 25, 2018).

Hence, infringement defendants who want to include or maintain an IPR proceeding among other challenges to validity should ensure that their pre-filing prior art search includes the USPC class and subclass of the asserted patent, the USPC classes and subclasses searched by the examiner of the asserted patent, and the USPC classes and subclasses of all prior art references of record in the asserted patent.

On the other hand, patent owners facing serial challenges to validity should aggressively allege estoppel to cover all previously-unraised patent publications in the foregoing USPC classes and subclasses. Patent owners should also consider concocting and offering as evidence an example text search string that captures the patent publication(s) that petitioner relies upon for a later validity challenge, within a small subset of patent publications. Based on the recent PTAB precedent described herein, it is primarily important that the patent owner's example search string identify a small subset of patent publications—small enough that their drawings may be practically reviewable—even if the required search string becomes so specific that it provokes protests of improper hindsight.