

From: David Stein [Email Redacted]
Sent: Wednesday, May 06, 2015 2:45 AM
To: WorldClassPatentQuality
Subject: Submission of Comments Regarding Enhancing Patent Quality

USPTO Representatives:

The attached remarks are responsive to the Federal Register notice dated February 05, 2015 and entitled "Request for Comments on Enhancing Patent Quality." Please accept these comments for review and/or publication as indicated in the notice.

The comments expressed herein are strictly personal, and are not associated with any organization or client with which I am affiliated.

Sincerely,

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SUBMISSION OF COMMENTS REGARDING
ENHANCING PATENT QUALITY

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May 06, 2015

The following comments are submitted in response to the Federal Register notice dated February 05, 2015, entitled “Request for Comments on Enhancing Patent Quality” (Document Citation: 80 FR 6475; Agency/Docket Number PTO-P-2014-0043).

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I. INTRODUCTION

The efforts of the U.S. Patent & Trademark Office to issue only “high-quality” patents date back to the inception of the Office. The Patent Act of 1836, which introduced the concept of patent examination, was directly responsive to the former system of patent registration, wherein the conferral of patent rights in the absence of significant review led to widespread abuse of the process. Since then, the topic of “patent quality” has surfaced in every major period of contention in patent law, and has been cited as a motivating factor in every revision of the Patent Act.

Currently, interest in “patent quality” is promoted by strong public advocacy of patent reform and the historically unprecedented attention of the Supreme Court in the past decade. These interests, in turn, are motivated by widespread perception that the U.S. Patent & Trademark Office is issuing “low-quality” patents at an unacceptable rate, thus enabling a surge in the assertion of patents by “non-practicing entities” against productive enterprise, which many view as anti-competitive behavior that inhibits the advancement of technological progress.

Situated at the intersection of the federal courts, patent applicants, patent reform advocates, and the examining corps, the administration of the U.S. Patent & Trademark Office is certainly not in an enviable position.

II. PROBLEMS IN THE USPTO'S DEFINITION OF PATENT QUALITY

The topic of patent quality frequently arises with a specific focus on the quality of issuing patents – *i.e.*, whether the specifications are adequately detailed; whether the claims are sufficiently clear and unambiguous; and whether the claimed invention meets satisfies all of the requirements of U.S. Code Title 35 and Code of Federal Regulations Title 37.

The USPTO describes the issue of patent quality in two respects: first, the quality of issuing patents; and second, the quality of examiners' decisions to allow such patents. However, the choice of these two definitions of patent quality is problematic for several reasons.

1) The USPTO has no control over the contents of issuing patents

The contents of an issuing patent – the specification, figures, and claims – are the sole product of the applicant. The USPTO cannot directly alter or improve the quality of submitted applications, and can only participate in the editing of the disclosure during examination to correct clerical issues, such as typographical errors and violations of the technical requirements of figures.

Moreover, the USPTO cannot directly participate in setting the standards of patent quality, because it lacks legal authority to define the substantive rules of patent eligibility. The federal courts have twice rebuked attempts by the USPTO to engage in substantive rule-making - first in *Merck v. Kessler* (Fed. Cir., 1996), and more recently in *Tafas v. Dudas* (E.D. Va., 2007). Rather, the USPTO is obligated to allow applications that satisfy the statutory requirements – even if the examiner or other USPTO personnel deems some aspects of such applications to exhibit poor “quality.”

2) The USPTO operates on the presumption that quality is subjective

A significant limitation in the USPTO's pursuit of quality, both in examination and in prosecution, is the tacit presumption that quality is inherently subjective.

This presumption is apparent from the data sources for the quality metrics published by the Office of Patent Quality Assurance. The recently published Report of the Office of Inspector General (OIG), entitled "USPTO Needs to Strengthen Patent Quality Assurance Practices," noted that metrics of examiner quality are based on "supervisor ratings of patent examiners... graded on a five-point scale." There does not appear to be any objective standard for such ratings – it is solely determined by the reviewer's opinion. Such opinions are unavoidably inconsistent (both between reviewers, and of the same reviewer's responses over time), and objectively unreviewable.

The OIG Report further discussed the OPQA opinion-based quality metrics:

During the period of FY 2011 through FY 2013, over 95 percent of all patent examiners received "outstanding" or "commendable" ratings for the quality element of their annual performance evaluations, even though the Department defines commendable performance as "unusually good" and outstanding performance as "rare, high-quality performance" that "rarely leaves room for improvement." This distribution of scores does not align with the ratings descriptions contained in the Commerce Department's guidelines for performance appraisals.

Over 50 percent of patent examiner received "outstanding" quality scores in FY 2011 through FY 2013. Furthermore, although the Department defines fully successful performance as the "level of accomplishment expected of the great majority of employees," USPTO supervisors and Technology Center quality assurance specialists indicated it is often difficult to justify not giving an examiner an outstanding performance rating.

These and other sections of the OIG Report illustrate the unsuitability of reference-free opinions as a measurement of quality.

Additionally, metrics based on reviewers' opinions are necessarily time-intensive. The OPQA reviews "between 6,000 and 8,000" office actions per year, for an examining corps of 12,000 examiners collectively issuing 1.2 million office actions annually. Opinion-based reviews are thus based upon less than 1% of the per-capita and at-large annual output of the USPTO, and cannot reflect a statistically representative determination of the quality of either individual examiners or the examining corps.

3) The USPTO's focus on "patent quality" overemphasizes incorrect allowances, and underemphasizes incorrect rejections

Discussion of "patent quality," both outside and within the USPTO, often describe perceived problem in terms of incorrectly allowed applications – with only passing reference to incorrectly rejected applications.

However, the problems of incorrect rejections and incorrect allowances are interrelated. For example, an examiner may spend a significant amount of examination time on rejections that are incorrect and/or inconsequential. When these issues are addressed, the examiner may feel compelled to allow the application to satisfy the USPTO's emphasis on reducing pendency – even if substantive examination has been cursory or inadequate.

Put another way: Improper rejections divert time and resources from activities that enable persuasive rejections, and therefore contribute to improper allowances. By over-scrutinizing allowances and under-scrutinizing rejections, the USPTO exhibits a failure to recognize the inextricable relationship of these incidents.

4) The USPTO's view of patent quality overemphasizes the outcome of examination, and underemphasizes the quality of office actions

The USPTO has long viewed the examiner's "work product" as the outcome of examination. However, this perspective does not account for the fact that the actual work product of a patent examiner is the office action, as a formal statement of the examiner's decision.

For example, the recent report by the Office of Inspector General described the four elements of examiners' performance ratings as follows:

- Production: Examiners issue determinations on patentability within the assigned time frames (35 percent).
- Quality: Examiners correctly determine whether a patent application should be approved or rejected (35 percent).
- Docket management: Examiners manage respective caseloads and properly select cases for review per USPTO policies (20 percent).
- Stakeholder interaction: Examiners provide appropriate services to stakeholders (10 percent).

Notably absent from these metrics is any indication that the quality of the examiner's office actions. This absence is consistent with the USPTO's general handling of this issue – either treating the quality of the decision as synonymous with the quality of the office action, or characterizing the quality of the office action as an issue of trivial or passing importance, barely worthy of mention in discussions of "patent quality." As long as the office action is (1) timely and (2) expressing a correct outcome, the USPTO's quality review process seems to be satisfied.

Worse, in some instances, the USPTO has actively promoted a reduction in the quality of office actions. For example, when a patent application is enrolled in the First Action Interview Pilot 2.0 (FAIP) Program, the examiner no longer prepares a fully detailed First Action on the Merits, but a "Pre-Interview Communication" and a "First Action Interview Office Action" – both of which comprise a two-page checkbox-style form, in which the examiner simply lists the claims that are allowed, the claims that are rejected, and a list of cited references.

However, irrespective of the timeliness and correctness of the outcome, poor-quality office actions impose a substantial toll on all involved parties:

- Applicants who are not duly informed of the basis of a rejection cannot adequately assess the merit of the position. In some cases, the insufficiency of the office action prevents the applicant from even addressing the substance of the examiner's position.
- Misunderstanding of the examiner's position may require additional steps to clarify, such as interviews, further office actions, the attention of a primary or supervising examiner, and PTAB appeals.
- Lack of clarity in office actions prevents judges and the public from understanding the examiner's rationale in allowing a patent that appears overbroad, thus deteriorating the USPTO's reputation.

It is therefore submitted that the USPTO should regard the office action not as a scorecard of the examiner's decisions and a checkbox-style record of the result of patent examination, but as the examiner's primary and ultimate "work product."

Together, these four factors limit the USPTO's efforts to improvements in "patent quality." The consequences of lack of progress in this area are numerous:

- A consensus of both the public and the federal courts maintains that "patent quality" is a continuing and unmitigated problem.
- The persistent examination backlog and protracted examination pendency are subsiding only slowly and through great effort.
- The unprecedented rate of appeal from examiner decisions has swamped the Patent Trial and Appeal Board with a historically unprecedented appeal backlog.
- Metrics by the Patent Trial and Appeal Board revealing that 44% of appeals result in the reversal of at least one basis of rejection – in contrast with Patent Trial and Appeal Board metrics indicating a "compliance score" of 97%.

III. PROPOSALS FOR USPTO CHANGES IN SUPPORT OF PATENT QUALITY

The following suggestions are respectfully submitted in view of the specific problems noted above.

1) Redefine Examination Quality: Not Just Correct, But Persuasive

For too long, patent examination has been regarded as: the applicant files claims and arguments, and the examiner decides to allow or reject the application. However, the applicant's response – whether to amend the claims in significant or modest ways, to present arguments without amendment, to call the examiner's supervisor, or to file an appeal – depends not only on whether the examiner's position is meritorious, but on the expression of the position in the office action.

Examiners should therefore view their task as not only as reaching a decision, but authoring a persuasive explanation of that decision in the office action. In addition to evaluating the persuasiveness of the applicant's claims and arguments, examiners should actively strive to persuade the applicant (as well as the PTAB and the public) of the strength of the examiner's position. Put another way, the objective is not to state an outcome that the PTAB may support – but to state an argument in the office action that avoids appeal altogether.

The USPTO can do much to promote persuasiveness as the key to examination quality – both by identifying and promoting characteristics of patent examination that indicate persuasiveness, and by identifying and discouraging cultural obstacles to persuasiveness. For example:

- Persuasiveness should be promoted by USPTO administration as a cultural value of high-quality examination.
- Persuasiveness can be measured by the reaction of the applicant, supervisor, and PTAB. Persuasive office actions are expected to induce higher rates of applicant amendment; lower rates of traversal without amendment; lower rates of calls to the examiner's supervisor; and lower rates of appeal to the PTAB.

- The USPTO could recognize and reward examiners who routinely issue office actions that are not only sufficient, but also persuasive.
- The USPTO could implement an internal program that periodically identifies, acknowledges, and rewards an example of an exceptionally persuasive office action.
- The USPTO could offer writing workshops focusing on the process of developing written arguments.
- Tolerance for technical errors, where the examiner's interpretation of a reference is significantly at odds with the plain meaning of the reference, should be reduced. Repeated assertion of an objectively incorrect interpretation of a reference, especially contrary to applicants' arguments, should be grounds for discipline. Reversal of an examiner's position via appeal or pre-appeal conference should incur a significant penalty.
- Examiners should be encouraged not to take a firm stance on unpersuasive arguments, but to either find additional support for such arguments or to change position.
- Office actions based on objective evidence, in the form of prior art references, are always more persuasive than those based on the examiner's opinion. Accordingly, examiners should be discouraged from relying on the examiner's personal belief of subject matter within the prior art, *e.g.*, by taking "Official Notice," by "extending" the contents of a single reference under 35 U.S.C. § 103, and by over-relying on "broadest reasonable interpretation" to stretch the language of a reference beyond its plain meaning.

These and other cultural adjustments will shift patent examination from the goal of reaching a "correct" decision, to issuing a persuasive expression of such a decision that leads to progress in the examination process.

2) Reorient the Production Count System Toward Examination Quality

The USPTO's production system has been devised to measure and reward productivity – specifically, the quantity and timeliness of office actions. However, these metrics fail to account for persuasiveness of office actions. Indeed, the production count system often rewards behaviors that interfere with persuasiveness.

The production count system awards examiners for every round of prosecution: 1.5 counts for the first round of prosecution (first non-final office action + first final office action); 1.25 counts for the second round (first non-final after RCE + second final office action); and 1.0 counts for the third and subsequent rounds. Examiners are also both recognized for achieving high production, and financially rewarded with salary bonuses, as well as more significant perks such as “Primary Examiner” status and telework permission.

However, the lion's share of the work of examination – reading the specification; reviewing the Information Disclosure Statement; performing a comprehensive first search; developing an opinion of how the entire invention engages with the prior art; and preparing the entire first office action - occurs in the first action on the merits. Every subsequent office action is simply an incremental change of the preceding office action. Whereas the first action on the merits may legitimately require 20 hours of examiner time, subsequent office actions can be prepared in an hour or less – particularly where the examiner is doing little more than updating the date and application status. Yet, the production count system rewards subsequent office actions nearly as much as the first action on the merits.

Accordingly, for a given amount of examination effort, patent examiners are strongly compelled to stretch out the examination of existing matters over repeated rounds of prosecution – and to reduce the effort required in each successive office action – than to work through prosecution efficiently. The production system therefore creates perverse incentives to protract examination and not persuade applicants to make major claim amendments, in order to maximize production counts with minimal effort.

For these reasons, the USPTO's efforts to improve examination quality (as its contribution toward higher "patent quality") require a revision of the production-count compensation system. A production system should not reward volume of examiner output, but, rather, should reward persuasiveness – and should penalize examiners who manufacture production via "churn," *i.e.*, by issuing office actions that do not advance the examination process.

A quality-centric production count system might award substantial credit for office actions that (1) reflect a substantive change of position by the examiner in response to the applicant's arguments, and/or (2) prompt the applicant to change position through substantial claim amendments or a decision to abandon. Office actions that simply maintain the examiner's position without significant change – especially repeatedly – should confer minimal credit, and if issued excessively, should impose a production penalty to induce more proactive examination. More generally, the production system should penalize examiners whose office actions routinely fail to advance prosecution, or require input from a primary, supervisor, or the Patent Trial and Appeal Board to correct errors and/or to supplement unpersuasive or unclear reasoning in office actions.

3) Apply Data-Mining Techniques to Office Actions to Quantify

Examination Quality and Identify Specific Poor-Quality Behaviors

All organizations of the size and scale of the USPTO are critically dependent upon informative metrics to monitor and guide operation. However, as noted above, the USPTO's metrics for quality are exceedingly uninformative, due to their reliance on unreviewable opinions on a "1 to 5 scale," absent any objective reference points. Additionally, such opinion-based metrics cannot be scaled to cover a representative portion of the output of either any examiner or the examining corps at large – as evidenced by the fact that the OPQA is capable of reviewing less than 1% of the USPTO's total work product, and cannot even guarantee a review of one action per examiner annually.

The failure of opinion-based surveys to provide meaningful data about examination quality compels the development of an alternative model – ideally with the following properties:

- Comprehensive: A deep review of the examination behavior of every examiner, and covering a substantial portion of each examiner’s output.
- Objective: Based not on unsubstantiated and unreviewable opinion polls, but based on verifiable metrics.
- Specific: Not focused on generalized satisfaction surveys, but identifying specific examiner behaviors that assist or detract from prosecution.
- Economically scalable: Not requiring extensive new resources or budget to cover the output of the examining corps.

All of these goals can be met with currently available technology – specifically, the application of data-mining techniques to evaluate the contents of office actions. This process could be achieved as follows:

1. Apply pattern-matching techniques to office actions in order to identify sections and boilerplate. Tag each identified item with metadata to indicate the structure and contents of the document.
2. Identify examiner tactics and behaviors that are indicated by specific patterns arising within office actions.
3. For each examiner, identify the incidence of each of the identified patterns within the set of office actions issued by the examiner over a specified period. Flag patterns that arise with a significant frequency. Automatically extract a small but representative sample of these portions of the office actions for review by an OPQA representative, in order to verify and provide an example of the recurring pattern.
4. Based on this determination, assess the examiner’s proficiency according to the behaviors that the examiner does or does not exhibit. Roll up metrics for each examiner, based upon the entirety of the examiner’s work, and classify examiners according to the results of this analysis, and tie performance awards to their relative standing in the examining corps.

As for the specific patterns – here are a few examples:

- Copy-and-paste office actions.

The problem: In response to a reply to an office action, an examiner takes the previous office action, updates the date, changes the status from Non-Final to Final or vice versa, and sends it out. It gives the impression that the examiner has not spent any significant amount of time reviewing the application, considering the applicant's arguments, updating the search, or performing any other type of meaningful work.

The detectable pattern: Compare the contents of each office action with the preceding office action to detect a high degree of similarity.

- Failure to cite references with due specificity.

The problem: 37 C.F.R. § 1.104 requires examiners to cite references such that “the particular part relied on must be designated as nearly as practicable” and to “clearly explain the pertinence of each reference.” However, this requirement is routinely ignored: many examiners cite references in a blanket manner (e.g.: a claim element is rejected in view of paragraphs 0002, 0004, 0007-0014, 0026-0039, and/or 0048-0053), where the cited portion covers a dozen columns or pages of the reference. The applicant may read the entire cited portion and not find anything resembling the claim language; in some cases, it is not even clear why the examiner cited the reference at all. It is nearly impossible for the applicant to respond effectively to this type of rejection, so these cases inevitably end up before the supervisor or appeal board.

The detectable pattern: Examine the citation of prior art references to determine whether a specific citation is missing, or whether the citation covers an unreasonably extensive range of the reference.

- Frequent reliance on official notice and/or the “knowledge of one of ordinary skill in the art” to gloss over defects in references.

The problem: When presented with an argument that a reference does not teach a significant claim element, some examiners respond by simply dismissing that element as inconsequential or mundane, and may opt to take official notice of it, or treat it as having no significant weight or distinct meaning. The examiner may rely heavily on the “knowledge of ordinary skill in the art” to reject the element – thus conveying the impression that the examiner does not even consider the invention worthy of minimally adequate examination, but a trivial detail that can be disregarded.

The detectable pattern: Determine that the rationale for a prior art rejection includes many incidence of phrases such as “knowledge of person of ordinary skill in the art” and “broadest reasonable interpretation.”

- Low persuasiveness, as determined from applicants’ responses.

The problem: Persuasive office actions will prompt applicants to change position, either by amending the claims in substantive ways (e.g., moving dependent claims into the independent claims, or introducing new independent claims with a different focus), or abandoning the application. Unpersuasive office actions will push applicants to maintain position, such as presenting only arguments, requesting review by a supervisor, or filing a notice of appeal. While not much can be extrapolated from the response of a *particular* applicant in a *particular* application, interesting metrics may reveal the examiner’s overall effectiveness – i.e., how often the examiner’s office actions prompt the applicant to change position.

The detectable pattern: Classify applicants’ reactions to office actions as either changing position (significant claim amendments, or notice of abandonment) or maintaining position (argument without amendment, or clarifying amendments that only change small portions of the claim).

These are but some of the specific examiner behaviors that are detectable through the application of data mining techniques to the contents of office actions. This analysis could be reported as a quarterly summary for each examiner, and sent to the examiner's supervisor for – such as the following:

| Examination Quality Report for Examiner John Smith | |
|---|-----------------------------------|
| Report date | April 01, 2016 |
| Covered review period | January 01, 2016 – March 31, 2016 |

| Summary Metrics | | |
|---|-----------------------|-------------------------|
| Metric | Examiner Score | Art Unit Average |
| Cases reviewed | 45 | 43 |
| Office actions issued | 41 | 40 |
| Allowances issued | 3 | 4 |
| Allowance rate | 45% | 55% |
| Applicant-initiated interviews | 9 | 4 |
| Examiner-initiated interviews | 2 | 1 |
| Cases citing a rejection under 35 USC 112 ¶ 1 | 10% | 14% |
| Cases citing a rejection under 35 USC 112 ¶ 2 | 20% | 25% |
| Cases citing a rejection under 35 USC 112 ¶ 6 | 20% | 25% |
| Cases citing a rejection under 35 USC 101 | 60% | 54% |
| Cases citing a rejection under 35 USC 102 | 45% | 48% |
| Cases citing a rejection under 35 USC 103 | 75% | 80% |

| Examination Quality Metrics: Productivity and Efficiency | | |
|--|-----------------------|-------------------------|
| Metric | Examiner Score | Art Unit Average |
| Objections to application title | 0% | 5% |
| Objections to specification or abstract | 15% | 18% |
| Objections to figures | 20% | 14% |
| Inclusion of corrective recommendations in objections | 60% | 40% |
| Restriction requirements | 10% | 12% |
| Average number of office actions in pending cases | 3 | 3 |
| Cases having more than four office actions | 21% | 15% |
| Repeat office actions (similarity score > 80%) | 22% | 14% |
| Repeated use of the same references despite significant claim amendments | 24% | 12% |
| Repeated use of the same references in more than two successive office actions | 27% | 14% |
| Interviews without subsequent change of position by examiner or applicant | 40% | 35% |
| Allowance after final rejection and RCE without significant amendment | 14% | 12% |
| Consistency of production over review period | 75% | 60% |

| Examination Quality Metrics: Clarity and Completeness | | |
|---|-----------------------|-------------------------|
| Metric | Examiner Score | Art Unit Average |
| Examiner interview summaries that describe substance of interview | 100% | 75% |
| References cited in blanket manner | 6% | 14% |
| Failure to respond substantively to applicant's arguments | 5% | 16% |
| Statement of novelty included in notices of allowance | 80% | 55% |

| Examination Quality Metrics: Accuracy and Persuasiveness | | |
|---|-----------------------|-------------------------|
| Metric | Examiner Score | Art Unit Average |
| Number of references cited in more than 25% of examiner's cases | 6 | 5 |
| 35 USC 103 rejections citing three or more references | 26% | 18% |
| 35 USC 103 rejections citing Official Notice or unsupported "ordinary skill in the art" | 38% | 12% |
| Restriction traversed rather than resolved by election | 10% | 18% |
| Prior art rejections traversed without amendment | 38% | 21% |
| Examiner's change of position after repeat office actions without significant claim amendment | 60% | 23% |
| Reversal of examiner's objection or rejection by primary / supervisor / director | 16% | 9% |
| Reopening of prosecution after notice of appeal | 25% | 12% |
| Reversal of examiner's objection or rejection by PTAB | 53% | 38% |

The advantages that are achievable through data-mining of office actions are numerous and compelling:

- This report provides specific quality metrics that are indicative of the examiner's efficiency, clarity, and accuracy – precisely the kinds of information that have eluded the USPTO's review and administration to date.
- This report precisely reveals the examiner's strengths and weaknesses. For example, the examiner above demonstrates a good track record of completeness, but a poor track record of fairly considering applicants' arguments and responding in ways that are deemed persuasive.
- These metrics are not limited to a particular application, but cover the examiner's entire portfolio, and reveal the examiner's tendencies across all applications and clients. It is not a problem that an examiner relies on "broadest reasonable interpretation" in one application; *it is* a problem if the examiner routinely uses this principle to gloss over omissions in references.
- These metrics can scale to cover the entire output of the USPTO examining corps, without requiring a major increase in human labor.
- Automatically generated metrics can reduce the dependency of the OPQA on individual surveys that are prone to bias and general subjectivity.

For the foregoing reasons, it is submitted that data-mining processes may provide the USPTO with specific, detailed, and objective information about examination quality, which may inform its administrative processes to great effect.

This concludes my observations for the USPTO on the topic of patent quality. A more detailed discussion is published at the following address:

<http://www.usptotalk.com>

Respectfully submitted,
David Stein, Esq.