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# The Rescue Doctrines

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The Rescue Doctrines are a unique and interesting subsection of law. Though commonly used, these legal doctrines do not appear to be widely understood by either Examiners or Applicants. Common law has gifted Examiners with these legal doctrines which allow Examiners to form a prima facie case under either 35 USC §§ 102 or 103 even when the prior art admittedly fails to teach all the features in a given claim. These four doctrines (in no particular order) are Inherency, Routine Optimization, Design Choice, and Official Notice. As these doctrines all rescue prior art rejections which are admittedly deficient in teaching all the features of the claims, this paper will refer to them collectively as the Rescue Doctrines.

Each Rescue Doctrine is briefly defined below:

**Inherency** is used when a claimed property or functional limitation is present in a claim and not taught in the prior art. If the prior art otherwise teaches the claimed structure and there is a reasonable basis for suspecting that claimed property would be present in the prior art even though it is not taught, the Inherency Doctrine allows for the formation of a prima facie case.<sup>1</sup>

**Routine Optimization** is commonly applied in situations where the prior art fails to teach a specific claimed range but does teach a range which overlaps with the range expressed in the claims.<sup>2</sup> If the prior art also teaches a result effective variable and provides some rational underpinning explaining why a person of ordinary skill in the art would have arrived at the claimed invention, the Routine Optimization Doctrine allows for the formation of a prima facie case.<sup>3</sup>

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<sup>1</sup> See *In re Schreiber*, 128 F.3d 1473, 44 USPQ 2d 1429 (Fed. Cir. 1997); see also UNITED STATES PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2112(V) (2023), <http://www.uspto.gov/web/offices/pac/mpep/> [hereinafter MPEP].

<sup>2</sup> See *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ 2d 1379, 1382–83 (Fed. Cir. 2003); see also MPEP § 2144.05(I).

<sup>3</sup> See *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (C.C.P.A. 1977); see also MPEP § 2144.05(II)(B); see also *In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017).

**Design Choice** is used to support rejections where the differences between the teachings of the prior art and the claims do not result in a functional difference.<sup>4</sup> This most commonly occurs when the prior art teaches a different configuration of the claimed parts where the different configuration does not result in a functional difference.<sup>5</sup>

**Official Notice** allows an Examiner to assert well-known facts without documentary evidence.<sup>6</sup> These asserted facts must be capable of instant and unquestionable demonstration as being well-known.<sup>7</sup> An example would be where a reference referred to water but never taught its chemical formula. An Examiner could take Official Notice that water's chemical formula is H<sub>2</sub>O.

Rejections based on Rescue Doctrines are fundamentally different from a standard prior art rejection because the use of a Rescue Doctrine requires that the Examiner admit that the cited prior art fails to teach every feature of the claims. Rescue Doctrines are used to bridge that admitted gap in the teachings in the prior art. Therefore, if the underlying basis for reliance on the Rescue Doctrine is improper or unjustified, the rejection as a whole must fail. Additionally, all of the standard conditions for constructing a prima facie case under 35 USC §§ 102 or 103 still apply to rejections which rely on a Rescue Doctrine.

Similarly, the standards for rebutting each Rescue Doctrine is different from the ultimate question of obviousness. For example, secondary considerations such as unexpected results apply to the ultimate prima facie case of obviousness which has been presented, whereas each Rescue Doctrine has their own separate and distinct rebuttal burdens. The specific rebuttal burdens are unique for each Rescue Doctrine and, if satisfied, function to destroy the prima facie case as presented. Secondary considerations apply to a properly constructed prima facie case and, as their name suggests, offer secondary considerations for why the claims ultimately should be found non-obvious despite the existence of a proper prima facie case. A summary of each Rescue Doctrine rebuttal burden is provided briefly below:

Inherency Doctrine requires that untaught claim property always be present in the otherwise claimed structure.<sup>8</sup> This is a question of fact. Therefore, it is possible to rebut an inherency rejection by providing an example which is strictly within the claimed structure/composition but lacks the claimed property.<sup>9</sup> Providing even one such example is sufficient.<sup>10</sup>

To rebut a rejection based on Routine Optimization, Applicants must prove

<sup>4</sup> See *In re Kuhle*, 526 F.2d 553, 555 (C.C.P.A. 1975) (finding that the use of the claimed feature "would be an obvious matter of design choice" when it "solves no stated problem" and "presents no novel or unexpected result" over the disclosed alternatives).

<sup>5</sup> See MPEP § 2144.04(VI)(C).

<sup>6</sup> See MPEP § 2144.03(A).

<sup>7</sup> See *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (C.C.P.A. 1970) holding that the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute."

<sup>8</sup> See *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

<sup>9</sup> See *Ex parte Watanabe*, No. 2016-5113, 2017 BL 311735 (P.T.A.B. August 25, 2017).

<sup>10</sup> *Id.*

that the claimed range is critical to providing some desired result. This is similar but not identical to unexpected results.<sup>11</sup>

A rejection based on Design Choice requires that the differing design be functionally equivalent.<sup>12</sup> Therefore, showing a difference in functionality between the claims and the taught design is sufficient to overcome the prima facie case.<sup>13</sup> This burden is less than that which is required to show unexpected results, as the difference in functionality does not need to be unexpected.<sup>14</sup> The PTAB in its “[i]nformative” decision in *Ex parte Maeda* stated that examiners should be “discourage[d] . . . from relying on ‘design choice’ because it is generally a mere conclusion, which is no substitute for obviousness reasoning based on factual evidence.”<sup>15</sup>

Rebutting a rejection which relies on Official Notice is the easiest of all. Applicants merely need to traverse the official notice on the record.<sup>16</sup> Doing so forces the Examiner to locate a citation for fact which is wishes to assert.<sup>17</sup>

## MEASURING HOW APPLICANTS AND EXAMINERS ARE HANDLING THE RESCUE DOCTRINES

In order to properly evaluate how the Examiners and Applicants are handling rejections which use Rescue Doctrines there is a need for a method for objectively measuring this single argument type within the broader universe of prior art rejections. The method used herein relies on decisions by the Patent Trial and Appeal Board (PTAB) as a proxy for determining whether an Examiner was correct or not when rejecting a particular claim under Routine Optimization. The method compares Examiner affirmance and reversal rates in rejections which relied on the Rescue Doctrines.

The data below is a combination of research which has previously been published in the JPTOS by this author, and new research acquired by reviewing every PTAB decision from February 2019 to February 2021 which included the phrase “design choice.”<sup>18</sup> Each decision which used this phrase was reviewed to determine whether the design choice was actually at issue. In the cases where the design choice was determined to be at issue, the decision was recorded.

The data shown below obtained by the method above is grouped by Technology Centers (TCs). Because only rejections under 35 USC § 103 provided sufficient sample sizes for all Rescue Doctrines, the data below focuses only on obviousness

<sup>11</sup>“One way in which the patentee may rebut the presumption of obviousness is by showing ‘that there is something special or critical about the claimed range.’” One way in which the patentee may rebut the presumption of obviousness is by showing “that there is something special or critical about the claimed range.” *Genentech, Inc. v. Hospira, Inc.*, 946 F.3d 1333, 1341 (Fed. Cir. 2020) (citing *E. I. DuPont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996 (Fed. Cir. 2018)).

<sup>12</sup>See the holdings of *Ex parte Spangler*, Appeal No. 2018-003800 (Feb. 20, 2019) and *Ex parte Maeda*, Appeal No. 2010-009814 (Oct. 23, 2012) showing proper and improper examples of use of the doctrine.

<sup>13</sup>See *In re Gal*, 980 F.2d 717 (Fed. Cir. 1992) (finding of “obvious design choice” precluded where the claimed structure and the function it performs are different from the prior art); See also *Ex parte Maeda*, Appeal No. 2010-009814 (Oct. 23, 2012), an informative PTAB decision where the Board found that the differences between the prior art and claims were not a design choice because the prior art structures achieve different purposes.

<sup>14</sup>*Id.*

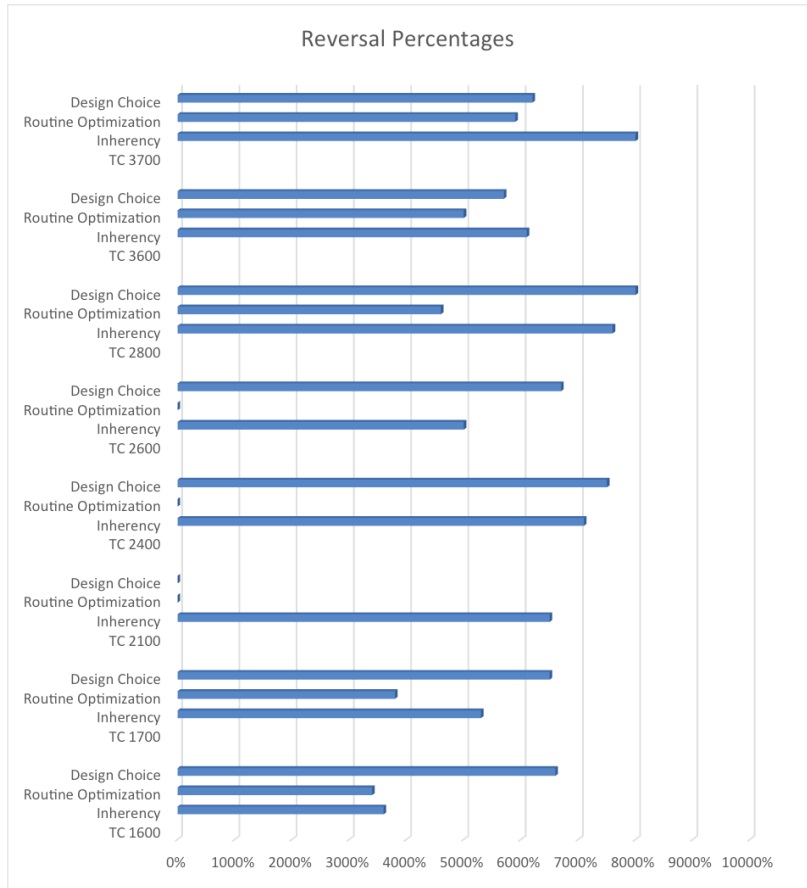
<sup>15</sup>*Id.*

<sup>16</sup>See MPEP § 2144.03(C).

<sup>17</sup>*Id.*

<sup>18</sup>See Ryan Pool, *The Inherency Doctrine: A Performance Review*, 101 PAT. & TRADEMARK OFF. SOC’Y 194 (2019).

rejections. Additionally, because Official Notice is so rarely appealed and so easily traversed, this doctrine is not included in the data below. Finally, in instances where no bar is shown, there was an insufficient amount of cases in these TCs to yield reportable data for that particular Rescue Doctrine.



*Sample Sizes*

The PTAB hears about 500 cases a year involving the Rescue Doctrines. The Rescue Doctrines are not equally used across all TCs in the USPTO. However, if a TC uses one Rescue Doctrine, they tend to use them all.

TCs 1600, 1700, and 3700 are by far the most frequent users of the Rescue Doctrines. Within these TCs, TC 3700 is the heaviest user of Routine Optimization and Design Choice and TC 1700 is the heaviest user of the Inherency Doctrine. There is a large drop off in use of the Rescue Doctrines to TC 3600 which only uses the Rescue Doctrines about half as much as those discussed above. After this drop, there is another 30% drop off in use by TC 2800 relative to TC 3600. The remaining TCs rarely use any of the Rescue Doctrines (TCs 2100, 2400, and 2600), though some use of the Rescue Doctrines can be found in every TC.

Overall, Inherency was by far the most frequently used of the Rescue Doctrines. Routine Optimization and Design Choice were used at a similar frequency with Routine Optimization being the slightly more frequently used.

### *Analysis of the Data*

On average the PTAB reverses rejections under 35 U.S.C. § 103 (obviousness) about 45% of the time.<sup>19</sup> Using this as a point of comparison the data shows that most TCs show higher reversal rates when relying on the Rescue Doctrines to support their rejections. This is not unexpected given that the use of a Rescue Doctrine provides an additional potential weak point in the prima facie case complete with its own separate rebuttal standard. This is also logical as the entire function of the Rescue Doctrines is to prop up a prima facie case which would be admittedly deficient without their support.

It appears that most TCs struggle more with Inherency and Design Choice and perform relatively better when relying upon Routine Optimization to support their rejections. However, only TCs 1600 and 1700 were able to achieve a reversal rate lower than the general obviousness reversal rate using any of the Rescue Doctrines. The variance in reversal rates between TCs is also relatively high at 20–40% depending on the doctrine used.

It is interesting that from the TCs that use the Rescue Doctrines the most we also see the extreme ends of performance. TCs 1600 and 1700 are, on average, the best performing art units and TC 3700 is the worst performing. That is, experience does not appear to always result in increased performance.

Specifically, TC 3700 has the highest reversal rates for both Routine Optimization and Inherency. While not having the highest reversal rate for Design Choice rejections, their reversal rate is still over 60%. TC 1600 is 3700's opposite. While still a frequent user of all the Rescue Doctrines, TC 1600 has the lowest rates of reversal for both Routine Optimization and Inherency. However, TC 1600 still appears to struggle with Design Choice showing a 65% reversal rate. TC 1700 is similar in performance to TC 1600, just not quite as strong.

A reasonable explanation for the difference in performance between TCs might be found in the nature of the inventions each TC examines. TCs 2800 and 3700 have some of the highest reversal rates for Rescue Doctrine rejections, even though TC 2800 does noticeably better with Routine Optimization. These TCs tend to examine tangible articles of manufacture where the claims are defined by physical structures. TC 2800 relates to "Semiconductors, Electrical and Optical Systems and Components," while TC 3700 relates to "Mechanical Engineering, Manufacturing and Products."<sup>20</sup>

TCs 1600 and 1700 have the lowest reversal rates for Rescue Doctrine rejections. These TCs tend to examine claims which are not defined by physical structures but instead chemical formulas. TC 1600 relates to "Biotechnology and

<sup>19</sup>Ryan Pool, *Should You Appeal? A Look at Success Rates Before the PTAB on an Individual Rejection Basis*, 100 J. PAT. & TRADEMARK OFF. SOC'Y 320 (2018).

<sup>20</sup>See USPTO Technology Center definitions, *Patent Technology Centers Management*, USPTO, <https://www.uspto.gov/patent/contact-patents/patent-technology-centers-management> (last accessed Feb. 11, 2019).

Organic fields,” while TC 1700 relates to “Chemical and Materials Engineering fields.”<sup>21</sup>

It appears that at least a reasonable hypothesis to be made is that the use of Rescue Doctrines is more effective when rejecting inventions of an intangible nature rather than the more tangible.

### *Differences Between Rescue Doctrines*

Routine Optimization is universally the strongest Rescue Doctrine type across all TCs. Design Choice is on average the weakest. However, for some specific art units, Inherency performs the worst, most notably in TC 3700.

One reason Routine Optimization might perform better than Design Choice and Inherency might be the procedures for rebutting a prima facie case. The specific requirements for rebuttal of each Rescue Doctrine is described above. However, the Examiner’s advantage with Routine Optimization prima facie cases is that a showing that the claimed range is critical to providing some desired result. This is very similar to what is required when showing unexpected results.<sup>22</sup> Applicants attempting to rebut a properly made Routine Optimization rejection are essentially in a similar position as they would be in a standard rejection which did not rely on the doctrine.

Both Design Choice and Inherency offer rebuttal procedures which are clearly distinct from showing unexpected results or some other secondary consideration and thereby provide additional, and in many cases, practically more easy ways of rebutting the prima facie case.

Another key difference is that that a showing of “criticality” in the context of Routine Optimization is a *subjective* determination, while the rebuttal procedures of Design Choice and Inherency require *objective* showings. Specially, if Applicants can show that prior art and claimed arraignments function differently, a rejection based on Design Choice is defeated. For Inherency, Applicants merely need to provide one example which otherwise falls within the claimed structure but does not have the claimed properties. These showings are not instances where reasonable minds can disagree. Conversely, what is “critical” under Routine Optimization is very much a sliding scale for which reasonable minds can disagree in all but the most extreme cases.

To the extent that the PTAB has any basis towards affirming the rejections of an Examiners, this effect would likely appear more heavily in Routine Optimization decisions than in Design Choice and Inherency decisions because of the subjective vs objective rebuttal standards.

### *The Oddness of Routine Optimization*

Official Notice is certainly the lesser of the Rescue Doctrines. However, of the big three, Routine Optimization also stands out from the other two. As noted

<sup>21</sup>*Id.*

<sup>22</sup>“One way in which the patentee may rebut the presumption of obviousness is by showing ‘that there is something special or critical about the claimed range.’” One way in which the patentee may rebut the presumption of obviousness is by showing “that there is something special or critical about the claimed range.” *Genentech, Inc. v. Hospira, Inc.*, 946 F.3d 1333, 1341 (Fed. Cir. 2020) (citing *E. I. DuPont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996 (Fed. Cir. 2018)).

above, the rebuttal standard for Routine Optimization is uniquely subjective. Its showing of criticality requirement seems to the cynical, like a mere renaming of the unexpected results.

In all Rescue Doctrines, the prima facie case is allowed to be supported by an assumption. The assumption of Office Notice is that of an allegedly simple and well-known fact. The assumptions of Inherency and Design Choice can be simplified to the old adage form follows function. That is, with Inherency, the assumption is that when the structures of the prior art and claims overlap, the same functions will follow. With Design Choice, the assumption is essentially the same except here the assumed distinction without a difference is the arrangements of parts. It is no surprise therefore that rebutting either of these doctrines can be done objectively by showing that function does not necessarily follow form.

Routine Optimization does not follow the pattern set by Inherency and Design Choice. If it did, the rebuttal standard for Routine Optimization would merely require Applicants to show some difference between the claimed range and broader prior art range instead of the heightened subjective criticality standard.

The question begged by the above discussion is, of course, is the standard for rebutting Routine Optimization the correct one? Is this heightened burden justified?

Those supporting the standard as it is, would likely point to the fact that Routine Optimization is unique from the other Rescue Doctrines in that the prior art in these cases teaches a overlapping range. That is, unlike with Inherency and Design Choice where the admission is that the prior art completely fails to teach a particular claim limitation, with Routine Optimization, the cited prior art actually includes teachings that overlap with the claims. Further, the prima facie case for establishing a proper Routine Optimization rejection is much more strenuous requiring overlap, a result effective variable, and some rational underpinning explaining why a person of ordinary skill in the art would have arrived at the claimed invention.<sup>23</sup>

In view of the above, it would appear that a heightened rebuttal standard could be justified. However, the subjectivity of the criticality standard is messy and unpredictable. A reasonable adjustment would be to more clearly delineate between the standards of unexpected results and criticality. For example, remove the requirement that the claims be commensurate in scope for a showing of criticality. If applicants can show that there is something special or critical that occurs within the claimed range and does not happen outside of it, this could be considered a sufficient showing of criticality. Alternatively, the requirement could be that applicants merely needed to show that the endpoints of the range are special. The end goal of both these alternative is to bring some objectivity to analysis to increase predictability and consistency between different applications.

<sup>23</sup> See *In re Peterson*, 315 F.3d at 1330 (Fed. Cir. 2003); see also *In re Antonie*, 559 F.2d 618 (C.C.P.A. 1977); MPEP § 2144.05(II)(B); and *In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017).

### *Conversion Between Rescue Doctrines*

As Design Choice and Inherency are more favorable to Applicants, it would behoove Applicants to draft claims which face these doctrines instead of Routine Optimization where possible.

Applications which are directed to some special technical effect can often be converted to Inherency rejections by directly claiming the specific technical effect. This is especially helpful to Applicants in Routine Optimization rejections where Applicants have submitted evidence of unexpected result which the Examiner has deemed insufficient for some reason.

For example, imagine facing a prima facie case of obviousness relying on Routine Optimization, *i.e.*, the prior art teaches a range which partially overlaps the claimed range. Applicants have attempted to rebut the prima facie case of obviousness by pointing to data in their specification showing that certain points within the specific claimed range have a particular property X while some points outside the claimed range do not have that particular property X. The Examiner has considered the data and alleged that the showing is not sufficient to establish criticality or unexpected results for some reason, for example, the data is not commensurate in scope with the claims.

Assuming that the prior art does not teach property X, applicants should consider amending their claims to directly claim property X. Doing so will likely illicit an Inherency rejection where the Examiner will allege that property X is inherent in the claimed range taught by the cited prior art. To rebut this prima facie case, applicants merely need to show that at least one data point within the claimed range does not have property X. Assuming the claimed range does not already include such a data point, Applicants can broaden their claimed range to include the closest counter example data point in their specification.

The combination of broadening the claimed range to encompass a data point which does not have property X while simultaneously requiring that the claims include property X should be sufficient to overcome the prior art without need to do battle in the arena of Routine Optimization or providing unexpected results against the ultimate obviousness rejection.

An alternative interesting strategy one can take in the above situation (particularly when evidence of criticality is rejected as being no commensurate in scope) is to present two independent claims where the only difference is that one claims the critical feature and one does not. If the Examiner rejects the first claim for Routine Optimization and the second claim for Inherency, then the Examiner will be forced into taking contradictory positions. This is because if the Examiner maintains that the evidence of criticality is not commensurate in scope it contradictory to say that it is also Inherent.

The Examiner is left with two awkward reasons for rejection while Applicants can more easily straddle the two Rescue Doctrines arguing that while the critical result does not always happen, it does occur over a representative portion of the claimed range.

Conversion from Routine Optimization to Design Choice is more difficult and will be applicable in far less situations. However, should such a rare opportunity



arise, Applicants should strongly consider doing so as the chances for an allowance of the application would greatly increase.

### CONCLUSION

The heighten reversal rates of Rescue Doctrine rejections before the Board suggest that additional Examiner education (particularly in certain technology units) could reduce a substantial number of yearly appeals to the Board. Applicants could also benefit by a deeper understanding of these Rescue Doctrines to utilize claim and argument strategies which put their clients in the best position to maximize their chances of allowance.

