

THE "PROBLEM SOLVED" IN RE WRIGHT AND IN RE DILLON

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I. INTRODUCTION

A. A Perennial Problem of Patentability

A perennial problem of patentability, [n1] most familiar in the chemical arts, is the weight to be given unexpected properties or advantages of an invention, particularly vis-a-vis expected properties. It is well known that the existence of unexpected properties of an invention must be considered in determining obviousness as a whole. It is likewise known that the existence of unexpected properties may not preclude a finding of obviousness. The decision-maker must decide when unexpected properties, among other factors, succeed in tipping the scales towards patentability.

Two recent Federal Circuit decisions, involving this perennial problem, have attracted much attention. In the case of *In re Wright*, [n2] where the invention involved a carpenter's level, the Federal Circuit held in effect that an unexpected property, alleged by the inventor, of increased pitch-measuring capability, outweighed the expected property, alleged by the PTO (United States Patent and Trademark Office), of increased *132 visibility. In the case of *In re Dillon*, [n3] where the invention involved a fuel composition, the Federal Circuit held in effect that an unexpected property, alleged by the inventor, of soot reduction, outweighed the expected property, alleged by the PTO, of dewatering. This paper will explain what the author considers to be the potential significance of *Wright* and *Dillon*. It is the author's opinion that the Federal Circuit, in some cases, may be giving more weight to unexpected properties in the context of its relation to the problem solved by the inventor. It is a thesis of this paper that the consideration of the problem solved in *Wright* and *Dillon* was a critical analytical element in these decisions, which resulted in (1) an inference of unobviousness in favor of the applicant, and (2) the practical result that the PTO's prima facie determination of obviousness was over-ruled and the burden of proof shifted from the applicant to the PTO.

This paper will discuss generally the significance of the "problem solved" as a consideration in patentability, beginning with the Federal Circuit's explanation and justification for its use in *Wright* and *Dillon*. The author will then address the objections, hypothetical or otherwise, raised by the PTO and a number of commentators to the Federal Circuit's consideration of the problem solved. The author will then discuss

various benefits that may be obtained by the appropriate consideration of the problem solved in the determination of obviousness under 35 U.S.C. 103 and *Graham v. Deere* [n4]. Finally, to place *Dillon* in perspective, the author will review a line of court decisions of which *Dillon* can be seen to represent a logical and, to some extent, expected culmination.

II. THE DECISIONS OF *IN RE WRIGHT* AND *IN RE DILLON*

A. Introduction

In *In re Wright*, [n5] the Federal Circuit held patentable a new structure for a carpenter's level that had the unexpected property of enhanced pitch-measuring capability. The typical carpenter's level is a rectangular elongated instrument, having embedded in its top mid-section a transparent vial containing a liquid and bubble. When the bubble is centered, the surface being measured by the level is adequately level. The *Wright* invention comprised the combination of a barrel-shaped vial, disclosed in one prior art reference, with a core pin centered in this vial. *133 The core pin was disclosed in a second prior art reference. In the latter reference, however, the core pin was centered in a cylindrical-shaped vial and used to improve the visibility of the bubble. Although *Wright's* new structure might be said to be a combination of elements that were in the prior art, there was no suggestion in the prior art that this combination, if made, would have the unexpected property discovered by *Wright*. The court held the invention patentable, with the explanation that there was no suggestion or motivation to make this combination in order to solve the problem of increasing pitch-measuring capability. [n6]

In the year following the *Wright* decision, the Federal Circuit, in *In re Dillon*, [n7] held patentable a new chemical composition, directed to hydrocarbon fuel compositions containing tetra-orthoesters for the reduction of soot emissions. Two prior art references disclosed tri-orthoesters, the first reference for dewatering hydrocarbon fuels and preventing phase separation between fuel and alcohol, and the second reference for use as water scavenging in hydraulic fluids. The PTO Board had stated that there was a "reasonable expectation" that the tri- and tetra-orthoesters would have similar properties based on "close structural and chemical similarity" and concluded that the claimed compositions would have been *prima facie* obvious. [n8] Consequently, the Board had held that unless *Dillon* showed some unexpected advantage or superiority of the claimed tetra-orthoester compositions as compared with the prior art tri-orthoester compositions, the claimed compositions were unpatentable for obviousness. [n9] The court reversed the PTO, holding that the property or use of reducing soot emissions was not taught or suggested by the prior art and "no objective teaching in the prior art would have led one of ordinary skill to make the claimed compositions in order to solve the problem that was confronting *Dillon*." [n10]

It might be surmised that the PTO and the Federal Circuit in *Wright* and *Dillon* were taking mirror opposite positions, that the court weighted unexpected properties more and

the PTO weighed expected properties more. However, whereas the Federal Circuit may have weighted both unexpected and expected properties, giving greater weight to the unexpected properties, the PTO explicitly gave no weight to the unexpected properties in the determination of prima facie obviousness. The PTO position in Wright, which the court criticized, was that since it would *134 have been obvious to make the Wright combination for the expected property of improved visibility of the bubble, it was "immaterial" [n11] to a determination of prima facie obviousness that Wright's combination improved pitch measurement. [n12] Similarly, the PTO position in Dillon was that "it is immaterial, in determining whether a prima facie case of obviousness has been made that the prior art does not teach the unexpected property of reduction in soot" [n13] and that "prima facie obviousness must be determined regardless of the properties disclosed in the inventor's application." [n14]

The PTO's reference to the inventor's unexpected properties as "immaterial" in the cases of Wright and Dillon was a mistake, contrary to what 35 U.S.C. 103 and precedent mandates. [n15] The PTO may have been over-ruled in Wright and Dillon anyway, but by such an articulated mistake of law, the PTO placed itself "behind the eight-ball" in trying to persuade the court that it was right in its ultimate determination of obviousness.

Aside from the PTO's unfortunate use of the term "immaterial," the PTO was arguably reasonable in taking the position in both Wright and Dillon that a presumption or inference of prima facie obviousness existed. In Dillon, the PTO had explicitly stated the burden of proof was on the applicant to make a comparative showing between the invention and the prior art. A comparative showing to rebut prima facie obviousness usually involves the applicant showing that the invention is actually superior or has a functional advantage compared to the prior art. [n16] This *135 involves showing that the cited prior art structure does not have the unexpected property of the claimed invention. But, if that had been properly required of the applicants in Dillon or Wright, then the applicant would have been placed in a no-win situation. Dillon could not provide evidence that the prior art compound did not actually have the unexpected property, because it did [n17] (Dillon had originally disclosed and claimed it as part of a generic class of compounds). Likewise, Wright was not able to show that the prior art combination would not have had the unexpected property of increased pitch-measuring capability. [n18]

One author [n19] has suggested that, rather than actual differences in properties, the applicants might have presented evidence that the unexpected property was more significant than the expected property. However, how could Wright have shown that pitch-measuring capability was more significant than increased visibility, or how could Dillon have shown that soot reduction was more significant than dewatering? It would be, to some extent, like comparing apples to oranges. Theoretically, the superiority or relative significance of an unexpected property might be shown by one of the so-called indicia of obviousness, such as long-felt need or commercial success, but it did not appear that such evidence was available to either Wright or Dillon.

In any case, although the PTO position in both Wright and Dillon was that prima facie obviousness existed, adequate (objective) rebuttal evidence, relating to the alleged unexpected properties, was either not available or not forthcoming. However, the Federal Circuit, in effect, turned the tables on the PTO, holding that, under the circumstances of Wright and Dillon, there was no prima facie obviousness.

B. The Controversy

The decision of *In re Wright* [n20] caused quite a stir in the PTO, as evidenced by a series of articles in the Journal of the Patent Office Society (JPOS). This adverse reaction was exacerbated by the decision of *In re Dillon*, [n21] which involved similar issues to Wright, leading the *136 PTO to seek in banc review by the Federal Circuit. [n22] Interestingly, of the four articles published in the JPOS on Wright, [n23] only one of the authors would have categorically held that Wright's invention was obvious. The other authors, although having different views on the issues involved, appeared to admit that the decision could reasonably have been decided either way. So why the big controversy?

One published reaction to Wright was quite negative. Rollins stated, "[Wright] diverges from prior precedent in a manner [which], if intentional, represents a substantial change in the law." [n24] Rollins' problem with Wright apparently derived mainly from a single sentence in the decision, in which the court stated "It is not pertinent whether Wright's new structure also has the prior art attribute of increased visibility of the bubble, for this is not his invention." [n25] Rollins was of the opinion that, if the court really meant this, then it was "indeed a startling new development in the law" [n26] and "represents a full turn of the wheel from the ancient proposition that if the art reasonably teaches or suggests what the inventor did, it is unpatentable even if unexpected results are obtained." [n27] In other words, Rollins feared the Federal Circuit was holding that the presence of an unexpected property, when it represented the solution to a problem confronting the inventor, would mandate patentability, and the expected property would then not be considered in the determination of prima facie unobviousness (i.e., the mirror image of what the PTO appeared to be saying). Nevertheless, Rollins was not espousing the view that Wright's invention was definitely unpatentable, *137 but proposed balancing the significances of the unexpected and expected properties of the claimed invention. [n28]

Rollins also disputed the Federal Circuit determining obviousness on "the basis of [the inventor's] purpose." [n29] Rollins' criticism was that the court "limited the issue of obviousness to one of ordinary skill in the art attempting to solve the problem upon which the inventor was working." [n30]

The present author's view is that the Federal Circuit's statement that the expected property of increased visibility was not "pertinent" can be reasonably interpreted merely to signify that the allegedly expected visibility aspect of the claimed structure was not pertinent to the problem solved by the inventor Wright. The court was not saying that it was not relevant or material, as a factor, to the determination of obviousness. In any case, the later decision of Dillon made clear that the problem solved is only one consideration

in the determination of obviousness, not the sole consideration, as feared by Rollins. (The issue, raised by Rollins, of the propriety of considering the problem facing the inventor in the determination of obviousness, will be discussed in section III D of this paper.)

In "Comment: Was Wright Right?" [n31] Lastova believed, like Rollins, that Wright contradicted significant statutory and case law. Also, like Rollins, she was of the opinion that Wright was contrary to 35 U.S.C. 103 because, "The Federal Circuit appears to be giving weight to thought processes of the inventor, i.e., what made him do what he did." [n32] She, like Rollins, objected to giving weight to Wright's motivation for doing what he did, finding it irrelevant to whether one of ordinary skill in the art would have found the invention obvious. She apparently considered a patent examiner's thought processes the sole appropriate determinant of what would have been obvious to the ordinary artisan. Moreover, Lastova stated, "even if structure was in the claim to support the unobvious purpose, substantial case law dictates that the intended use of a device is only limiting to the extent that the prior art device must be incapable of being used for Applicant's purpose, if patentability is to lie." [n33] Therefore, Lastova would hold that in order for Wright's invention to be patentable, the prior art core pin, which *138 resulted in a level with enhanced visibility of the bubble, must have been incapable of providing visibility in Wright's device to be patentable. Thus Lastova was not only in agreement with the PTO's mistaken opinion [n34] that the unexpected property was "immaterial" in determining prima facie obviousness, but she would have taken the more extreme position that the applicant was required to show that the expected property was not present in the claimed structure, a requirement generally contrary to the CCPA's decision in *In re Hoch* (1970). [n35]

Finally, in "Comment: The Wright Controversy," [n36] Silverberg this time sided with the Federal Circuit, but misconstrued Rollins' article, saying Rollins implied "that a novel combination with an unexpected result would have been obvious if a different rationale existed for producing the novel combination." [n37] In fact, Rollins stated he would have considered the relative significance of the unexpected and expected properties.

Silverberg believed that a significant point concerning Wright was that "there was no desired result in common between the Wright structure and the prior art." [n38] However, this statement was not precisely correct. The expected property of increased visibility, allegedly motivating the combination in the prior art, was not desired by Wright because it was not pertinent to the problem solved. In contrast, there must have been desired properties or results in common between the prior art devices and the invention, since both had the same utility as a carpenter's level.

Silverberg saw no general significance to the Wright decision, reasonably concluding as follows:

The problem of patentability when the prima facie case of obviousness is based on a rationale for an expected result that differs from applicant's desired unexpected result has not been resolved. Wright is limited to a particular factual setting. The balance between patentability and what belongs in the public domain in solving this problem needs to be addressed. [n39]

C. The Potential Significance of In re Wright and In re Dillon

It is a proposition of this paper that the potential significance of In re Wright [n40] or In re Dillon [n41] is that, when (as in Dillon) the prior art *139 involves a different utility, or when (as in Wright) the prior art involves the same utility, but is not pertinent to the problem solved by the inventor, then there may exist an inference leading to prima facie unobviousness, thereby shifting the burden of proof in patentability away from the applicant. The extent of this inference, however, will depend on the facts of the case.

In the context of the relative weight given an unexpected property relative to an expected property, the Federal Circuit in the particular circumstances of Wright and Dillon, favored the unexpected property and the applicant. The present author sees Wright and Dillon as potentially of seminal significance, if followed, for three reasons. These cases (1) may be a harbinger of a greater focus on the problem solved in patentability, (2) suggest new general inferences, although varying in weight from case to case, which inferences potentially favor the applicant, and (3) constrict, in some cases, the ability of the PTO to make a prima facie obviousness case, and hence restrict the PTO from requiring evidence of actual comparative properties. It will be seen that reasons (2) and (3) can be viewed as a consequence of the consideration, by the Federal Circuit, of the problem solved by the inventor.

III. THE "PROBLEM SOLVED" AS A CONSIDERATION IN PATENTABILITY

A. The Problem Solved Under 35 U.S.C. 103

In Wright and Dillon, the Federal Circuit appeared to place new emphasis on a factor referred to as "the problem solved," and to weigh it heavily in favor of the applicant. The Federal Circuit was apparently of the view, not only that the unexpected properties of the invention must be considered, but that the unexpected properties may be given increased significance as part of the solution of the problem faced by the inventor. The Federal Circuit, in Wright, stated that the problem solved is always relevant to the issue of obviousness:

The PTO position is that it is irrelevant that Wright's structure was for a purpose, and has properties that are neither obtainable from the prior art structures, nor suggested in the prior art. In this lies the PTO's error The determination of whether a novel structure is or is not "obvious" requires cognizance of the properties of that structure and the problem which it solves, viewed in light of the teachings of the prior art. See, e.g., In re Rinehart, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (CCPA 1976) (the particular problem facing the inventor must be considered in determining obviousness). . . Thus the question is whether what the inventor did would have been obvious to one of ordinary skill in the art attempting to solve "the problem" upon which the inventor was working. Rinehart, 531 F.2d at 1054, 189 USPQ at 149 . . . The problem upon which Wright was

working was improving the pitch-measuring capability of the level, not the visibility of the bubble. The PTO, having conceded that Wright's structure was unobvious for his intended *140 purpose, erred in holding that this was not relevant. The problem solved by the invention is always relevant. [n42]

Subsequent to the Wright decision, the PTO, in the case of Dillon, asked the Federal Circuit to review its holding in Wright with respect to the court considering the problem facing the inventor in adjudging whether a novel structure would have been obvious in terms of 35 USC § 103. [n43] Judge Newman (who also wrote the Wright opinion) spoke for the Federal Circuit and forcefully responded to this challenge, stating:

[The] decision-maker must consider the problem confronting the applicant in order to ascertain how a person of ordinary skill would view the problem and its solution. In re Gyurik, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA 1979): "An element in determining obviousness of a new chemical compound is the motivation of one having ordinary skill in the art to make it. That motivation is not abstract, but practical, and is always related to the properties or uses one skilled in the art would expect the compound to have if made." . . . Consideration of the problem facing the inventor is an element of perceptive analysis of whether the invention as a whole would have been obvious to a person of ordinary skill. It is not a new parameter in obviousness determinations. [n44]

Thus, the Federal Circuit clearly stated that, not only was consideration of the problem solved consistent with 35 USC 103, but it may be a necessary element in the determination of what would have been obvious to one of ordinary skill in the art.

Consideration of the problem solved, as one factor in the determination of obviousness, is not new. [n45] But prior to Dillon and Wright it has not been frequently or consistently mentioned in previous decisions of the CCPA or Federal Circuit in the context of what would have been obvious. Therefore, recent Federal Circuit cases, as represented by *141 Wright and Dillon, may represent a newly heightened focus on the problem solved "as an element of perceptive analysis" in the determination of patentability. [n46] Consequently, an unexpected property, in its relation to the problem solved by the inventor, may be weighed more heavily by the courts in the analysis of unobviousness, tipping the scales in some cases. Of course, that is certainly not to say that in every case, where the unexpected property of an invention is the solution to a problem, that other countervailing evidence or considerations may not counterbalance or tip the scales to a conclusion of obviousness. [n47]

B. Hypothetical Objections to Considering the Problem Solved

As mentioned above, a number of commentators have raised hypothetical objections to the consideration of the problem solved by the inventor in determining what would have been obvious. Many of these objections are based on the false assumption that consideration of the problem solved would always have dispositive weight. However, as made clear by the Federal Circuit, it is only one factor, of varying weight. In a given case, it may have very little weight. The weight given the problem solved can potentially cover

the spectrum of probativeness, depending on the facts. However, in some cases, as in Wright and Dillon, it may indeed appear to be a dispositive factor.

Of course, every invention potentially could be cast in terms of a problem solved. [n48] But it is probably true that, for maximum probativeness *142 and credibility, the applicant should commit himself early on as to what he considers the problem solved. [n49] Nevertheless, to some extent, the weight given the problem solved may depend on the truthfulness of the applicant. For example, consider the following hypothetical. Suppose an inventor was looking to patent a new carpenter's level for the very reason of increased visibility, but in studying the prior art, he realized it was an expected function or property. What if he then drafted an application stressing the problem solved as increased pitch-measuring capabilities, in reality a relatively insignificant secondary feature? Although such a hypothetical might represent an imperfection in the system, it is a remote possibility. First, an applicant will usually not be able to guess exactly what prior art an examiner will cite in a given case. Second, an applicant should not be presumed to be dishonest or fraudulent as portrayed in this hypothetical. And third, such an applicant would run the risk of such deviousness being uncovered in an inter partes proceeding or litigation. [n50]

As indicated in the last section, a common objection of some commentators to the use of the problem solved is that it is contrary to 35 U.S.C. 103, which is defined in terms of the person of ordinary skill in the art, and states that "Patentability shall not be negated by the manner in which the invention is made." Such commentators argue that the inventor's purpose is irrelevant and an invalid reference to the inventor's mind, as would be the consideration of whether a "flash of genius" was involved in the invention. [n51] One obvious answer to the latter argument is that the invalid "flash of genius" test was an improper requirement of patentability. Consideration of the problem solved does not negative patentability; it is merely evidence to be considered, not to be *143 disregarded. There is no valid reason why the problem solved (or, in other words, the problem confronting the inventor) cannot be objective evidence in the consideration of what would have been obvious to the person of ordinary skill, apart from the subjective mind of the inventor. Query: Why is the inventor's point of view, in terms of the problem confronting an inventor, which is likely objective evidence of what was obvious or unobvious to one of ordinary skill in the art, not probative? Why is an examiner's view of looking for any reason for obtaining the invention or combining references the sole measure of what would have been obvious to the person of ordinary skill? The problem facing the inventor is objective in the sense that it actually happened in commercial reality. On the other hand, the examiner's view is in some ways an artificial, theoretical rationalization made by the examiner while working in a largely paper world, for example, combining one obscure reference from 1904 with another reference, thousands of patents later, from 1965, in order to obtain the disclosed invention, and thereafter looking for any post-invention rationale for justifying the combination of references.

C. A Comparison to the European PTO "Problem and Solution Approach" to Patentability

As a comparative study, it is interesting to note that the European Patent Office (EPO) has from the beginning adopted a "problem and solution" approach to obviousness, laying considerable emphasis on the formulation of the problem to be solved. [n52] Rule 27(1)(d) EPC expressly refers to the disclosure requirement that the patent application must "disclose the invention as claimed, in such terms that the technical problem and its solution can be understood." However, the technical problem need not be expressly stated in the specification, as long as it is implied by the disclosure. [n53] On the other hand, the problem and solution *144 approach with respect to determining inventiveness (The EPO analogue to PTO unobviousness) is a judicial doctrine, not mentioned in the Convention law on inventiveness. The problem and solution approach was articulated by an Appeal Board in the first reported decision on obviousness, the Carbonless Copying Paper case, in which it was stated that, "Assessment of the inventive step of a chemical invention . . . has to be preceded by a determination of the technical problem based on objective criteria." [n54] The problem and solution approach was discussed at length shortly afterwards in Metal Refining/BASF [n55] where the Appeal Board stated:

When assessing inventive step it is not a question of the subjective achievement of the inventor. It is rather the objective achievement which has to be assessed. Objectivity in the assessment of inventive step is achieved by starting out from the objectively prevailing state of the art, in the light of which the problem is determined which the invention addresses and solves from an objective point of a view and consideration is given to the question of the obviousness of the disclosed solution to this problem as seen by the man skilled in the art and having those capabilities which can be objectively expected of him [n56]

Szabo, a member of an EPO Board, published an article in which he stated, with reference to the problem and solution approach, "Objectivity in this respect is . . . the opposite of subjectivity, that is, an unbiased, fair inquiry." [n57] Szabo further stated:

The relevant question is whether the skilled person, having studied the closest state of the art and being guided by the technical problem, would also become aware of the necessary particular modifications from his general knowledge and also from his familiarity with other related art in order to make the desired effect available. Could he have found in these direct sources a basis for all the features of the modification with a reasonable expectation of the effect as such? If the modifying features were in themselves also disclosed elsewhere, would they also, so to speak, carry with them the desired effect from their original environment? Instead of the question "is it obvious?" we should ask "obvious for what?" [n58]

Either coincidentally or not, the new emphasis by the Federal Circuit on the problem solved may be to some extent an example of international harmonization of patent laws. Of course, the "problem and solution approach" of the EPO is by no means identical to the "problem *145 solved" consideration of the Federal Circuit in Wright and Dillon. There is a critical difference; the consideration of the problem solved by the Federal Circuit is used only as one possible factor and it is never a requirement of patent law. Moreover, any comparison of the Federal Circuit's consideration of the problem solved to the EPO's problem and solution approach must be undertaken cautiously, for the effect of

considering either may very well depend on its relationships with other aspects of patentability, which may differ subtly but significantly between the EPO and the PTO. For example, differing standards of prima facie obviousness could very well affect the impact and significance of the problem solved in patentability. [n59] Nevertheless, as we shall see, there are some elements in common between the problem solved, as considered by the Federal Circuit, and the problem and solution approach taken by the EPO Board of Appeals.

D. The Benefits of Considering the Problem Solved

1. The Problem Solved in Determining What Would Have Been Obvious

Besides having basis in statute, as indicated by the Federal Circuit, the present author believes that appropriate consideration of the problem solved may have significant benefits in patent law. It is already well known and accepted that consideration of the problem solved helps in defining the pertinent art, which is the first factual inquiry of obviousness under *Graham v. Deere*. [n60] However, the *In re Wright* [n61] and *In re Dillon* [n62] decisions now focus on considering the problem solved in relation to an ultimate question of obviousness, what would have been obvious to the person of ordinary skill in the art.

a. The Problem Solved as an Antidote to Hindsight

One benefit of a decision-maker considering the problem solved by the inventor, in the determination of obviousness, is that it counters the forbidden tendency of hindsight. Hindsight is one of the most ubiquitous and insidious pitfalls in the determination of patentability. Hindsight is described by Harris as follows:

[Of] course, the determination of what the prior art would suggest to this hypothetical person [of ordinary skill in the art] is to be made by one who does know the present invention, but who is expected to, in a sense, put that knowledge momentarily aside while viewing the prior art through the eyes *146 of the person of ordinary skill, while at the same time keeping the knowledge well in mind, since he must recall clearly just what it is that the prior art must suggest, in order to render the invention obvious . . . The task of avoiding the pitfall of "hindsight" is rendered considerably more difficult because of the amorphous, unfocused nature of the inquiry . . . All of these mental acrobatics are commanded to be performed, not as some esoteric exercise for patent law scholars, but rather as a regular part of the day-to-day practice of patent law, to be carried out by thousands of patent attorneys, patent examiners, and district judges. [n63]

Once a claimed invention is in front of the decision-maker, it may be relatively easy to develop a rationale or reasons for obtaining the invention for expected properties or reasons. The problem solved approach can be viewed as an antidote to such hindsight. As possible objective evidence of what would have been obvious, it removes a possibly

undue focus on post-invention factors. It is capable of providing evidence of the pre-invention motivations of one of ordinary skill in the art, represented by the inventor, facing the problem in view of the state of the art. In this respect, consideration of the problem solved has a benefit which the EPO Board has attributed to the problem and solution approach. As stated by the EPO Appeal Board in Metal Refining/BASF,

[S]tarting out from the objectively prevailing state of the art, in the light of which the problem is determined which the invention addresses and solves from an objective point of view . . . avoids the retrospective approach which inadmissibly makes use of knowledge of the invention, as feared by the appellant. [n64]

b. The Problem Solved as a Measure of the Relative Motivation of the Person Skilled in the Art

Another benefit of considering the problem solved by the inventor, in the determination of obviousness, is that it provides evidence of the motivation (or lack thereof) of the person skilled in the art, that is, the relative motivation to obtain the claimed structure for the unexpected property versus the expected property. The Federal Circuit has stated as a general proposition that the hypothetical person of ordinary skill is presumed to have knowledge of all prior art reference that are sufficiently related to the field of the invention. [n65] This hypothetical person must be viewed as working in his shop with the prior art references, which he is presumed to know, hanging on the walls around him. [n66] *147 However, knowledge by the person of ordinary skill is to be distinguished from motivation. The knowledge of individual items or features in the prior art, although logically achieving in combination an expected result, does not necessarily mean that one of ordinary skill would have any motivation to make such a combination.

As mentioned above, an examiner, after combining references to match a disclosed invention, may be able to arrive at a very logical rationalization for why a person of ordinary skill would have obtained the claimed invention. [n67] These reasons are liable to take on an importance or persuasiveness that may not have existed in pre-invention reality, especially when several patents are looked at side by side, in isolation from thousands of other patents, as if they were the alpha and omega of the art. In hindsight, the invention may appear to flow naturally and logically from the prior art as represented by a few patents. However, in reality there may have been very little motivation for one of ordinary skill to combine items in separate patents. For example, there may in actuality have been better and/or much more likely ways, other than by means of the claimed structure, for a person of ordinary skill in the art to have achieved the alleged expected results and therefore little motivation or positive incentive to ever do it for the allegedly expected reasons. Nevertheless, a PTO rejection or rationalization for obviousness may very well make it appear more obvious than it really would have been in terms of motivation, because, as commented by others, it is very difficult, if not impossible, to gauge or even define motivation. [n68]

*148 The Federal Circuit has frequently expressed skepticism to arguments by an infringer that an invention would have been obvious, based on paper patents, when faced

with evidence of real world significance of the invention. [n69] This skepticism has often been expressed in terms of an apparent lack of motivation in the prior art to obtain the claimed invention. [n70]

*149 It is theorized that the Federal Circuit may give greater weight to the unexpected properties of an invention, particularly relative to expected properties alleged by the PTO, by means of a two-pronged approach: On the one hand, giving an unexpected property alleged by the applicant greater weight, by means of its relationship to the problem solved and, on the other hand, giving less weight to an expected property alleged by an infringer or the PTO, by means of the lack of evidence of motivation or suggestion to obtain the invention (or combine references) for the expected property. Such a two-pronged approach may, in some cases, negate prima facie obviousness and obviate the need for an applicant to make and present a comparative showing of actual differences.

Mr. Szabo has similarly discussed the relationship of the EPO's "problem and solution approach" to the motivation of the skilled artisan. Szabo stated:

The effect-centred problem and solution framework stresses the motivation of the skilled person or lack of it . . . It is the besetting sin of inexperienced tribunals, noticeable particularly in the US and Japan, to overvalue resemblances between the art and the claimed matter without considering properly why anyone would come up with it. Inventors sometimes have bright ideas, and at one time were encouraged to look for happy accidents, but usually they solve problems, and are encouraged to do that nowadays. Examiners tend to say, however, from mere resemblances, that the matter was easily thought of (Japan) or was prima facie obvious (US), on the basis of much hindsight. We have to put them off this. The effect-centred problem and solution framework gets away from this. [n71]

In the same vein, Szabo further stated that the skilled artisan in practice is motivated by the need to solve problems. Accordingly, by means of the "concrete terms" of the problem and solution approach, the determination of inventiveness is "brought down to earth":

[The] technical problem is more than a mere scientific query or search for more knowledge. It is rather a consequence of a recognition of some shortcomings or inadequacies in the available technical means, in their application or their range of choice. . . [For example, the] assumption that research chemists blindly synthesize new compounds without the slightest notions and hopes about specific applications in the field is far removed from *150 reality The consideration of the inventive step, like the recognition of the effect involved, must avoid an excessively abstract approach far removed from the practical thinking of the skilled person [citing *Production of hollow thermoplastic objects/Solvay*, Case T 05/81, Mechanical Board, OJ 7/82, Headnote II]. [n72]

2. The Problem Solved in Ascertaining the Pertinent Art

It is somewhat ironic that the PTO in *Dillon* advocated that the problem solved, or problem facing the inventor, was not a proper consideration under 35 USC 103, [n73] when in fact it has been clearly relevant since *Graham v. Deere*, as a way to ascertain the first basic factual inquiry of obviousness, namely what is "the scope and content of the prior art." In this regard, however, the role of the problem solved is generally believed to broaden the scope of the pertinent prior art, and hence may be considered as disfavoring the applicant and favoring a PTO decision of obviousness. Chisum states that "Clearly the trend is 'to widen the scope of the prior art which can be considered pertinent.'" [n74]

The statute 35 U.S.C. 103 states, in part, that a patent may not be obtained "if the differences between the subject matter sought to be patented and the prior art . . . would have been obvious . . . to a person having ordinary skill in the art to which said subject matter [of the invention] pertains." [emphasis added] Therefore, determining the patentability or unobviousness of an invention requires determining what is the prior art to which the subject matter pertains, or "the pertinent art."

Section 103 does not define what is the "art to which the subject matter [of the invention] pertains." However, there is ample justification in the case law for the view that ascertaining the pertinent prior art is a combination, or two-step, approach. Kayton states, "[A]ccording to CCPA and Federal Circuit cases, [pertinent art] is all art that is either in the field of technology of the claimed invention or deals with the same *151 problem solved by the claimed invention even though outside the field of technology of the invention." [n75]

A two-step approach to ascertaining the pertinent prior art can be implied in the Supreme Court decision of *Calmar*, [n76] part of the so-called "*Graham v. Deere* trilogy", wherein the Court rejected the patentee's argument, with respect to an insecticide spray bottle invention, that patents having to do with capping problems of containers with pouring spouts were not pertinent prior art in considering a patent on the capping of pump sprayers for insecticide containers. The Court stated:

[S]o restricted a view of the applicable prior art is not justified. The problems confronting Scoggin and the insecticide industry were not insecticide problems; they were mechanical closure problems. Closure devices in such a closely related art as pouring spouts for liquid containers are at the very least pertinent references. [n77]

The CCPA in *In re Wood* [n78] explicitly stated:

The determination that a reference is from a nonanalogous art is therefore twofold. First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved. [n79]

The Federal Circuit, in *In re Deminski*, [n80] cited *Wood* and adopted its "two-step test" for ascertaining whether two references are properly combinable *152 within the scope of the pertinent prior art. Other cases may be cited in support of this proposition. [n81]

Kayton considers the "two-pronged inquiry," as to what is the pertinent prior art, to be so difficult as to make "a non-analogous art attack on the propriety of the rejection almost always doomed to failure." [n82] Kayton cites *Pantec, Inc. v. Graphic Controls Corp.* [n83] as an example where a prior art reference was outside the field of technology, but pertinent to the problem solved. (The term "non-analogous" is derived from the so-called "doctrine of analogous and non-analogous arts." The term "analogous" may be used synonymously with "pertinent," although it is typically applied to the particular question of whether prior art references are properly combinable. [n84])

In summary of Part III D of this paper, important benefits are obtained by considering the problem solved by the invention, in the determination of obviousness. [n85]

*153 IV. THE ROLE OF THE PROBLEM SOLVED IN PATENTABILITY

A. A Line of Cases Leading to *In re Dillon*

The decision of *In re Dillon* [n86] can be placed in perspective by considering it as part of a line of cases decided by the CCPA and the Federal Circuit. In this line of cases, both expected properties and unexpected properties were considered and the invention found *prima facie* unobvious.

These cases are similar in that the Patent Office cited structurally similar prior art and alleged that a person of ordinary skill would have obtained the claimed invention for the expected properties of the structurally similar prior art. Hence, the PTO required evidence of unexpected properties, in the form of actual comparative tests, to rebut *prima facie* obviousness. [n87]

In Table A on the following page, we see this line of cases, categorized based on the utility of the closest prior art structure, *vis-a-vis* the claimed structure. In this respect, the range of prior art structures comprises "no utility," "utility as an intermediate," "different utility," and "same utility, but not pertinent to the problem solved."

*154 Table A

Cases Reviewed			
Category	Prior Art	Inference	Illustrative Case
Chemical Cases			
1	No Utility	Prima Facie Unobvious	<i>In re Steminski</i> [n88] (1971)

- | | | | |
|---|-------------------------------|--------------------------|---------------------------|
| 2 | Utility as
an Intermediate | Prima Facie
Unobvious | In re Lalu [n89] (1984) |
| 3 | Different
Utility | Prima Facie
Unobvious | In re Dillon [n90] (1989) |

Mechanical Case

- | | | | |
|---|---------------------------------------|--------------------------|---------------------------|
| 4 | Same Utility, but
not Pertinent to | Prima Facie
Unobvious | In re Wright [n91] (1988) |
|---|---------------------------------------|--------------------------|---------------------------|

Problem Solved

Each category in Table A and its relationship to the other categories will now be briefly discussed.

1. The Cited Prior Art Has No Utility

Category One in Table A is directed to chemical cases in which the prior art structure cited against the claimed novel invention has no known utility. In such cases, there is a relatively strong presumption of unobviousness. The leading case is *In re Steminski*. [n92] The invention involved a class of organotin compounds useful as antioxidants in hydraulic, heat exchange, and lubricant fluids. The PTO had considered the claimed compounds "clearly rendered obvious to one skilled in the art by the combined disclosures" of the references, in the absence "of a proper showing to negate structural obviousness raised by the reference combination." The court stated that when the prior art compounds have no utility, then such a burden of proof is not on the applicant:

[T]he Office's reliance on structural obviousness and its attendant requirement for proof of unexpected differences between appellant's claimed compounds and those of the prior art is obviously inappropriate. In circumstances *155 of the type existing here, such a burden of proof is not required on appellant. The tin II compounds of the primary references are neither homologues nor isomers of the presently claimed tin II compounds. [In view of *Lalu*, *infra*, even if the compounds in the references were a homologue or isomer would probably make no difference today] Moreover, the primary references . . . do not positively disclose any utility whatsoever for the tin II compounds disclosed therein . . . Where as here, the utility is not disclosed, taught or suggested for the prior art compounds but in fact the art is silent on any utility for the prior art compounds, the discovery of the utility itself is evidence of the unobviousness of the novel compounds . . . [W]hat on this record -- other than abstract, theoretical or academic considerations -- would lead one of ordinary skill to change the structure of the reference compounds to obtain the claimed compounds? Certainly no practical considerations which promote the progress of useful arts or are of use to society are manifest. How can there be obviousness of structure, or particularly of the subject matter as a whole, when no

apparent purpose or result is to be achieved, no reason or motivation to be satisfied upon modifying the reference compound's structure? [emphasis in original [n93], [n94]

Today, it may seem strange that the PTO rejected the invention. The PTO appeared to look only at the structure of the invention and seemed to ignore the unexpected properties altogether. However, the PTO's rationale was basically that, even though the prior art compound had no use, if any were found, the invention would have had that use, because of the expectation of the same properties.

The CCPA's decision in *Steminski*, over-ruling the PTO, can be viewed as holding that expected properties of a claimed compound are given less weight when the properties are not associated with any utility. It might also be viewed as one extreme case of the alleged expected property of an invention not being pertinent to the problem solved (anti-oxidation) by the inventor, for it was not pertinent to any problem solved.

2. The Cited Prior Art Has Utility as an Intermediate

Category Two in Table A is directed to chemical cases where the cited prior art compound has utility only as an intermediate. There appears to be a moderate presumption or inference of unobviousness. The leading case is *In re Lalu*. [n95] The invention related to perfluoroalkyl sulfoxyl chlorides and bromides having several uses, including utility as corrosion *156 inhibiting agents. The PTO rejection was "based on structural obviousness" over a prior art reference which taught homologous compounds, which compounds were useful as an intermediate or a starting compound. Moreover, there was unequivocal identification and isolation of these prior art compounds. [n96] The court, extrapolating from the decision in *Steminski*, stated:

In obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus the prima facie case of obviousness, rises from the expectation that compounds similar in structure will have similar properties. No common-properties presumption rises [emphasis added] from the mere occurrence of a claimed compound at an intermediate point in a conventional reaction yielding a specifically named prior art compound. That an intermediate/end-product relationship exists between a claimed compound and a prior art compound does not alone create a common-properties presumption. Absent that presumption or other evidence of motivation, it cannot be said it would have been obvious . . . [n97]

In this case, the court held that in such circumstances, there was no presumption of obviousness, which amounted to a presumption of unobviousness, with its practical ramification that comparative tests generally could not be required by the PTO. [n98]

Perhaps the court in *Lalu* felt that utility as an intermediate is usually not of such significance as would have motivated the person of ordinary skill in the art to obtain the claimed compound. *Lalu* might also be viewed as a case of an expected property, namely utility as an intermediate, having no pertinence to the problem solved (corrosion inhibition).

3. The Cited Prior Art Has a Different Utility

Category Three in Table A is directed to chemical cases in which the claimed novel invention has a different utility than the prior art cited against it. Although the situation in Category Two in Table A could also be said to involve a different utility (as an intermediate), this Category Three might be more accurately defined as involving two different and potentially equally significant end uses or utilities. In such a case, based on the recently decided *Dillon*, there would now appear to be a moderate presumption or inference of unobviousness. As noted earlier, *Dillon*'s invention was directed to a class of tetra-orthoester compounds useful as an additive for fuels for the purpose (unexpected property) *157 of reducing soot emissions during the combustion of fuel. There were structurally very close compounds in the prior art, however, which were useful as a fuel additive for the purpose (expected property) of dewatering the fuel. The Federal Circuit held *Dillon*'s claims to the novel composition patentable, stating:

The threshold question is whether under such circumstances, a prima facie case of unpatentability for obviousness is deemed made . . . The weight of precedent is to the effect that when the claimed subject matter is a new chemical compound or composition, a prima facie case of obviousness is not deemed made unless both (1) the new compound or composition is structurally similar to the reference compound or composition and (2) there is some suggestion or expectation in the prior art that the new compound or composition will have the same or a similar utility as that discovered by the applicant. In *re Grabiak*, 769 F.2d 729, 731, 226 USPQ 870, 871 (Fed. Cir. 1985). [n99]

Dillon can be viewed as representative of a category of cases where the alleged expected property (related to a first utility) is given less weight because it relates to a different utility. *Dillon* might also be viewed as representative of cases where the expected property has no pertinence to the problem solved because the utility was different. In effect, by considering the problem solved, the court may give greater weight to the unexpected property than to the expected property.

In *Dillon*, the evidence of the problem solved can be seen to be intrinsically highly credible and therefore probative, since clearly *Dillon* was actually motivated to obtain her novel compounds for soot reduction. There was never any suggestion, nor was it at all likely, that she had any interest or motivation in obtaining his claimed compounds for the purpose of dewatering fuel.

Dillon, considered as part of a line of cases beginning with *Steminski*, may be viewed as a logical and, to some extent, expected culmination. However, it is an interesting question whether *Dillon*, and the new inference or presumption it appears to set, follows from the "weight of precedent" [n100] as asserted by Judge Newman. If not, is it consistent with, *158 or contrary to precedent? [n101] In *re Albrecht* [n102] also involved an invention with a different utility from the prior art. Nevertheless, the invention was found prima facie obvious, although ultimately unobvious, based on comparative data. In other decisions, involving different utilities between the cited prior art and the claimed

invention, the CCPA found prima facie obviousness and required a showing of comparative actual differences to the effect that the unexpected property was not found in the prior art compound. [n103] It may reasonably be argued that such decisions were unique to the facts in each case; however, Judge Newman in Dillon appears to have made a generalization, in the previous quote, which is not limited to the facts of Dillon.

B. In re Wright and In re Dillon Compared

Wright and Dillon both involved consideration by the Federal Circuit of the problem confronting and solved by the inventor. Wright can be distinguished from Dillon, as well as the other cases in Table A, as a case where the prior art had the same utility as the invention. However, as with Dillon, the alleged expected property in Wright arguably had the same or greater significance as the unexpected property of the invention. As Dillon might be theorized to represent an inference of unobviousness that is probably generally weaker and more variable than in categories one and two in Table A, Wright might be theorized to represent *159 an inference of unobviousness that is probably generally weaker and more variable than in Dillon, because it falls in the category of what has been referred to as "common property" cases, i.e., the claimed invention in practice had useful properties in common with the cited prior art. In the kind of cases represented by Wright, the invention potentially could make use of the alleged expected property (Wright's level might have had increased visibility). Therefore, as a general matter, the significance of the unexpected property of an invention such as in Wright would intrinsically have less credibility than the unexpected property of an invention such as in Dillon. Query: Was the applicant over-emphasizing the importance of increased pitch measurement and under-emphasizing the importance of increased visibility? In Wright's case, there was no suggestion that the applicant did. However, in other fact situations, which might generically fall in the same category as Wright, it might be a closer question. Perhaps that is why Kayton stated that, "The high water mark in the law of what is and is not prima facie obvious is In re Wright." [n104]

The Federal Circuit held in Wright that prima facie obviousness was not established by a prior art rejection based on an alleged expected property "not pertinent" to the problem facing the inventor. As noted by Rollins, the court in Wright did not appear to give much weight to the expected property (visibility in Wright and dewatering in Dillon), when the unexpected property related to the problem facing the inventor (pitch-measuring capability in Wright and soot reduction in Dillon). The court did not appear to indulge in any detailed consideration of the relative significance of the properties of visibility and pitch-measuring capability and, [n105] under the court's holding, no such evidence of comparative properties could be required of the applicant. The court stated:

The PTO position that the claimed structure is prima facie obvious is not supported by the cited references. No reference shows or suggests that properties and results of Wright's claimed structure, or suggest the claimed combination as a solution to the problem of increasing pitch measurement capacity. It is not pertinent whether Wright's new structure also has the prior art attribute of increased visibility of the bubble, for that is not his invention. [n106]

Kayton has stated Wright is a "case of first impression." [n107] However, analogous sets of circumstances can be found in prior decisions, for *160 example the CCPA decision of *In re Wiseman*, [n108] involving a brake system (the expected property of dust removal and the unexpected property of steam removal) and the Supreme Court decision of *General Electric Co. v. Jewel Incandescent Lamp Co.*, [n109] involving a light bulb (the expected property of reducing glare and the unexpected property of increased durability). In the later cases, the rationale for obtaining the claimed structure from the prior art was upheld by the courts. Yet it is certainly reasonable to limit these decisions to the facts of each case. The conclusion of unobviousness in Wright might also be limited to the facts of the case, and the issues might be viewed as similar to previous cases. However, Wright probably does represent, as stated by Kayton, a high water mark, if the case is indicative of the Federal Circuit's future consideration of the problem solved as an element in the determination of unobviousness.

C. A Caveat on *In re Wright* and *In re Dillon*

The decisions of *In re Wright* and *In re Dillon*, as a basis for any generality, are to some extent tentative and theoretical at this point in time. No doubt there will be further case law developments and refinements with respect to these decisions. On information and belief, attorneys for applicants are even now citing Wright and Dillon during patent prosecution, particularly the former, to whatever extent they think it might be favorable to their client's case. Given the PTO's evident dissatisfaction with these decisions, no doubt some of these cases will reach the PTO Board and be appealed to the Federal Circuit. The law will be further evolved, explained, and distinguished.

With respect to Dillon, no doubt the PTO will run into cases where the alleged new and different utility is clearly less significant than the cited prior art utility. [n110] It will be interesting to see how the Federal Circuit might distinguish such a case from Dillon.

With respect to the Wright decision, an unexpected property may have varying degrees of pertinence to the problem solved by an inventor. An inventor may not be cognizant that an alleged expected property even exists in his invention, as appeared to be the case in *In re Wright*. In other cases, the alleged expected property may have been recognized by the inventor as existing in his invention, but the inventor may not have considered it significant. In still other cases, the alleged expected *161 property may have been considered important to the inventor, but he may have been looking for an additional unexpected property.

The Wright decision involved a mechanical invention. [n111] It is an interesting question how much relevance Wright, and its element of considering the problem solved, will have in the chemical arts when, unlike Dillon, the prior art compound has the same utility as the claimed compound. Regarding Wright, Kayton stated, "The operative facts come into play infrequently in non-chemical cases. They are commonplace in chemical applications." [n112] Consideration of the problem solved would logically apply to

inventions in the chemical arts and, in particular, to chemical compounds. (The problem and solution approach of the EPO has been extensively used in the chemical area.) On the other hand, the holding in Wright may not be as significant in its application to inventions involving chemical compounds, because chemical compounds relative to mechanical devices, are generally more amenable to the applicant offering comparative tests or objective evidence of superior properties. In contrast, what kind of comparative evidence would have been appropriate or probative in Wright? Query: Would not comparing increased visibility to increased pitch have been like comparing apples and oranges? Perhaps the court in Wright realized this and consideration of the problem solved was one way to save Wright from a no-win situation.

Regarding the inferences in Table A above, particularly with respect to the very recent decisions of Dillon and Wright, it is wise not to over-generalize, and they are certainly not representative of fixed rules. In Dillon, the Federal Circuit cautioned as follows:

[The CCPA stated,] "The question of obviousness, however, is so closely tied to the facts of each particular case that prior decisions in cases involving different facts are ordinarily of little value in reaching a decision" . . . We join the CCPA in deploring "the formal exercise of squeezing new factual situations into pre-established pigeonholes" . . . In Mills, 281 F.2d at 222-23, 126 USPQ at 517, the court cautioned again against "the observed tendency of the PTO to freeze into legal rules of general application what, at best, are statements applicable to particular fact situations." [n113]

*162 One author offered the enduring advice, that "Graham v. Deere in 1966 made a great contribution in expressing how the obviousness/non-obviousness test was to be applied . . . One lesson is to be more wary of rule proliferation . . . [T]here is no shortcut to a careful and articulated development of the full Graham v. Deere approach for each and every case" [n114]

V. CONCLUSION

The present author concluded that the Wright and Dillon decisions are of potential seminal significance for focusing on the problem solved by the inventor. In general, evidence of a problem solved may have the effect of shifting the burden of proof from the applicant for a patent in the determination of patentability and negating prima facie obviousness.

The author concluded that consideration by the decision-maker of the problem solved by the inventor is proper and helpful in determining objectively what would have been obvious to one of ordinary skill in the art. Consideration of the problem solved can be viewed as an antidote to the insidious pitfall of hindsight and as a measure of the relative motivation to obtain the claimed structure for its expected versus unexpected properties. In addition to the applicability of the problem solved as an element in perceptive analysis with respect to the ultimate issue of what would have been obvious to the skilled artisan, the consideration of the problem, solved has been established as useful in ascertaining the

scope of the pertinent prior art under the first basic factual inquiry of obviousness under *Graham v. Deere*.

The author reviewed a line of court decisions which might be viewed as leading to *Wright and Dillon*. These decisions involved the determination of prima facie obviousness when both unexpected and expected properties of the invention were alleged. Although *Dillon* might be viewed as a logical and, to some extent, expected culmination of this line of cases, it remains an interesting question whether *Dillon* followed from the weight of precedent or whether it was contrary to precedent, as asserted by the dissent and as apparently believed by the PTO in requesting an in banc review of *Dillon*.

Finally, it was observed that the significance and effect of considering the problem solved in any particular case, especially where the invention and the prior art involves the same utility, would be expected to be very fact dependent. The Federal Circuit appeared, under the facts of *Wright and Dillon*, to have favored the applicant by giving greater *163 weight to the unexpected property alleged by the applicant vis-a-vis the expected property, alleged by the PTO. It remains to be seen, however, what weight the Federal Circuit will give the problem solved in determining unobviousness in future cases. Further developments in the court's consideration of the problem solved may be expected.

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[n1] The statutory basis of patentability is Sec. 35 U.S.C. 103, Title 35(1952) United States Code, Public Law 503, 82nd Congress, 2nd Session. The relevant part of 35 U.S.C. 103 reads as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[n2] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n3] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n4] *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L. Ed. 2d 545, 148 USPQ 459 (1966). *Graham v. Deere* is the leading and landmark Supreme Court decision regarding the interpretation of 35 U.S.C. 103.

[n5] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n6] 848 F.2d at 1220, 6 USPQ2d at 1962.

[n7] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n8] 892 F.2d at 1557, 13 USPQ2d at 1338.

[n9]. *Id.*

[n10] 892 F.2d at 1568, 13 USPQ2d at 1347.

[n11] The term "immaterial" is defined as "not important or pertinent . . . without weight; of no significance." BLACK'S LAW DICTIONARY 884 (4th ed. 1968).

[n12] 848 F.2d at 1218, 6 USPQ2d at 1961. Rollins suggested that the Federal Circuit misinterpreted or mischaracterized the PTO's position. However, Rollins' subtle distinctions in the use of the word "immaterial" is not clear to this author.

[n13] 892 F.2d at 1559, 13 USPQ2d at 1340.

[n14] 892 F.2d at 1567, 13 USPQ2d at 1344.

[n15] In *Dillon*, J. Newman stated the PTO's position was contradicted by the "vast precedent", 892 F.2d at 1563, 13 USPQ2d at 1344. See also *Kayton*, at 5-21, "It is impermissible to ignore the advantages, properties, utilities, and unexpected results, flowing from the claimed invention; they are part of the invention as a whole . . ." See, e.g., *In re Chupp*, 816 F.2d 643, 2 USPQ2d 1437 (Fed. Cir. 1987); *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963). See *Helmuth Wegner*, "Prima Facie Obviousness of Chemical Compounds" 6 *AIPLA QJ* 271,271 (1978) ("What is critical is . . . the similarity of the compounds and all their properties.")

[n16] See generally Chisum, 2 PATENTS § 5.03 [5] [a] at 5-188 (Chisum, in the section entitled "Comparative Utility as Evidence of Nonobviousness," discusses evidence of comparative utility, where comparative utility is defined as "the difference between the claims and the prior art in terms of functions and advantages.")

[n17] 892 F.2d at 1557, 13 USPQ2d at 1344.

[n18] Cf. Welsh, "PTO Practice: Wright Revisited -- Was Wright Really Right After All?" 71 JPOS 568, 570 (July 1989). Welsh was of the view that the court's "implicit reasoning for rejecting" the PTO combination of references in Wright was that "all [carpenter's] levels" [emphasis added] obtained from combining the references would not "necessarily have the claimed features [related to increased pitch-measuring capability] identified by Wright."

[n19] Rollins, "PTO Practice; Was Wright Wrong?" 71 JPOS 39 (Jan. 1989).

[n20] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n21] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n22] The PTO petitioned for rehearing with a suggestion for in banc review of In re Dillon. As of the date this article was written, no decision on this petition has been made.

[n23] The four articles were: (1) Lastova, "Comment: Was Wright Right?" 70 JPOS 786 (Nov. 1988); (2) Rollins, "PTO Practice: Was Wright Wrong?" 71 JPOS 39 (Jan. 1989); (3) Welsh, "PTO Practice: Wright Revisited -- Was Wright Really Right After All?" 71 JPOS 568 (July 1989); (4) Silverberg, "PTO Practice: Was Wright Wrong?" 71 JPOS 39 (Jan. 1989).

[n24] Rollins, "PTO Practice: Was Wright Wrong?" 71 JPOS 39, 39 (Jan. 1989).

[n25] The sentence occurred in the following context: "The PTO position that the claimed structure is prima facie obvious is not supported by the cited references. No reference shows or suggests the properties and results of Wright's claimed structure, or suggests the claimed combination as a solution to the problem of increasing pitch measurement

capacity. It is not pertinent whether Wright's new structure also has the prior art attribute of increased visibility of the bubble for that is not his invention." In re Wright, 848 F.2d at 1220, 6 USPQ2d at 1962. Cf. Welsh, "PTO Practice: Wright Revisited -- Was Wright Really Right After All?" 71 JPOS 568 (1989) for another interpretation of the last quoted sentence.

[n26] Rollins, "PTO Practice: Was Wright Wrong?" 71 JPOS 39 (Jan. 1989).

[n27] Id. at 42.

[n28] Id. at 43.

[n29] Id. at 44.

[n30] Id. at 45.

[n31] Lastova, "Comment: Was Wright Right?" 70 JPOS 786 (November 1988).

[n32] Id. at 787.

[n33] Id. at 787.

[n34] See footnote 15 above.

[n35] 428 F.2d 1341, 166 USPQ 406 (CCPA 1970).

[n36] Silverberg, "Comment: The Wright Controversy," 71 JPOS 57 (July 1989).

[n37] Id. at 576.

[n38] Id. at 577.

[n39] *Id.* at 578.

[n40] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n41] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n42] 848 F.2d at 1218, 6 USPQ2d at 1961 and 1962.

[n43] 13 USPQ2d at 1342 n.3 ("The Solicitor asked the court to review its holding in *In re Wright*, 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988), wherein the court stated that it is appropriate to consider the problem facing the inventor, in adjudging whether a novel structure would have been obvious in terms of 35 U.S.C. § 103").

[n44] 892 F.2d 1557, 13 USPQ2d at 1341 and 1342.

[n45] See *re In Rhinehart*, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (CCPA 1976); *In re Gyurik*, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA 1979), cited in *Dillion and Wright*. See also, *United States v. Ciba-Geigy Corp.*, 508 F.Supp. 1157, 1167 (D.N.J. 1979) ("The proper question is whether it would have been obvious for a chemist to prepare HCT [the invention] if asked to solve the problem of finding a compound more potent than CT"); *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 485 (Fed. Cir. 1984) ("Nothing in the reference alone or together suggests the claimed invention as a solution to the problem"); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 ("Because the purposes of the two temperature ranges are entirely unrelated, [the prior art] does not teach the use of the claimed range.")

[n46] See *In re Newell*, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989) ("We discussed the need, in comparing the differences between the structure and properties taught in the prior art, and those of applicant's invention, to include consideration of the problem solved by the inventor"); *Diversitech Corp. v. Century Steps, Inc.*, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988).

[n47] See *In re Sovish*, 769 F.2d 738, 742-3, 226 USPQ 771, 774 (Fed. Cir. 1985) ("Appellants frequently advert to a 'problem' . . . This argument presumes stupidity rather than skill.")

[n48] Frank Sever, "Comment: In Search of the Lost Door -- In re Linnert Restated." 71 JPOS 762 (Sept. 1989) ("The majority of patent applications filed in the USPTO involve a problem(s) and its solution(s)"). See also G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 295 (1986). In the context of the problem and solution approach of the EPO Board (chemical), Szabo very broadly defines "problem and solution" stating:

Depending on the character of the attainment, the technical problem could refer to a need to achieve the same kind of result (when the invention extends the range of choice by alternative means), a quantitatively improved result, a modified, that is, partially different result, or an altogether different result (qualitative distinction, when compared with the closest art. . . One way of defining the technical problem states it in terms of new or comparative effects. . . While the technical problem and its solution are somewhat abstract concepts, the corresponding effect and the invention, as claimed are their concrete manifestations in an ascertainable matter form.

[n49] See *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 148 USPQ 459, 469-70. ("No such function . . . is hinted at in the specifications of the patent. If this were so vital an element in the functioning of the apparatus it is strange that all mention of it was omitted.") See generally Chisum, 2 PATENTS § 5.03 [5] regarding "After thoughts."

[n50] Rollins, 71 JPOS 39, 44-5 (1986), devised another hypothetical as follows: "Consider an application filed by applicant Wrong claiming exactly the same structure as Wright, but for the purpose of making the bubble more visible. Denying patentability to Wrong, but granting patentability to Wright, on the basis of their subjective purposes would certainly appear to be negating patentability to Wrong because of the manner in which his invention was made." The short answer to this hypothetical is that Wrong made no contribution to the art, whereas Wright discovered an unexpected property. Properties are not subjective purposes, but part of the invention as a whole.

[n51] For a comment and list of references regarding the infamous "flash of genius," see *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L. Ed. 2d 545, 148 USPQ 459, 466 n.7 (1966).

[n52] John Richards, "10 Years of Substantive Law Development in the European Patent Office," 71 JPOS 320, 329 (April 1989). G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 303 (1986) ("The practice of the Board of Appeal (Chemistry) has been relying on an effect- centred problem and solution approach to the question of the inventive step.") Mr. Szabo is a member of an EPO Board of Appeals, and is a recognized expert on the problem and solution approach. The purpose of the latter article was to outline the implications and consequences of the problem and solution approach to the inventive step. Mr. Szabo began the article, stating: "The task [explaining the principles and application of the problem and solution approach] is not

easy since it requires an open mind from any reader who may have been conditioned to approach the question of the inventive step from a different angle." *Id.* at 293.

[n53] Rule 27(1)(d) EPC.

[n54] Case T 01/80 EPOJ 7/1981, at 206, Headnotes.

[n55] Case T 24/81, EPOJ 4/1983, at 133.

[n56] *Id.* at 133.

[n57] G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 294 (1986).

[n58] G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 299 (1986).

[n59] It is the author's opinion that the EPO has a higher standard of *prima facie* unobviousness than the PTO, with respect to chemical compounds.

[n60] *Graham v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545, 148 USPQ 459 (1966).

[n61] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n62] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n63] Robert Harris, "Prospects for Supreme Court Review of the Federal Circuit Standards for Obviousness of Inventions Combining Old Elements," 68 JPOS 66, 75 (Feb. 1986).

[n64] Case T 24/81, EPOJ 4/1983 at 133.

[n65] *In re Sernmaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

[n66] *Union Carbide Corp. v. American Can Co.*, 724 F.2d 1567, 220 USPQ 584 (Fed. Cir. 1984).

[n67] John Leonard, in "The Man Skilled in the Art-or-Goodness Gracious, a Ghost," 56 JPOS 599, 599 (1974), states that, "This phantom, the man 'skilled in the art,' is exceedingly unpredictable, generally irritating, and withal dangerously misleading. He persistently infuses himself subtly into many decisions, converting mere fancy and speculation into seeming fact."

[n68] The CAFC's repeated reference to motivation or suggestion in the prior art has even led one author, Harris, to deduce a so-called "suggestion test" with regard to combination inventions, which test Harris believes is "now in the process of becoming an even more liberal standard [of patentability]." Robert Harris, "Prospects for Supreme Court Review of the Federal Circuit Standards for Obviousness of Inventions Combining Old Elements," 68 JPOS 66, 75 (Feb. 1986). Harris interprets the Federal Circuit case law as indicating that, for the purpose of proving obviousness, the prior art need not expressly suggest the claimed combination, but that two recent Federal Circuit decisions do indicate the suggestion must be plain. As noted by Harris:

There are serious difficulties in achieving practical, objective application of the suggestion test. . . The Federal Circuit has not set out guidelines for deciding whether the prior art suggests the claimed invention, except for the doctrine that the suggestion need not be express to render the invention obvious. Ordinarily, one will not find in the prior art express suggestion. . . The usual situation for application of the "suggestion test" will involve the search for a non-express suggestion. . . While one is deciding, without guidelines, the nebulous question of whether the prior art as a whole suggests (plainly suggests?) the claimed invention as a whole, one must also be quite vigilant, lest one commit the insidious sin of hindsight.

This author is of the view that the Federal Circuit statements on the need for the prior art to provide "motivation" cannot be taken too literally. The court's reference to "motivation" may be regarded as an inference based on all the facts of the case, which can be subjective to a significant extent, rather than objectively defined.

[n69] See, e.g., *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546, 221 USPQ 1, 7 (Fed. Cir. 1984):

Fatal to [the infringer's] cause is its inability at trial and here to cite anything in the prior art items, individually or together, that can be seen as suggesting [the inventor's] solution to the drifting problem. Indeed, the facts of real world experience establish the contrary . . . the objective evidence, again composed of real world facts, is worthy of great weight in this case . . . Appeals in patent cases should not be mere games played with pieces of paper called references and the patent in suit. Lawsuits arise out of the affairs of people,

real people facing real problems. So here, the technical problem out of which grew the present litigation was real. It was solved by the [inventor].

See also *In re Piasecki*, 745 F.2d 1468, 1471, 223 USPQ 785, 787 (Fed. Cir. 1984) (overturning Board decision where the Board stated "it was immaterial whether [the inventor] had made 'the greatest advance . . . in the last 40 years,' if this 'flowed logically and in an expected manner from the collective teachings of the prior art'"); *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 1095, 227 USPQ 337, 345 (Fed. Cir. 1985) ("[A] fundamental error was the refusal of the court to credit the real world environment surrounding the inventions disclosed in the reference patents and in the patents in suit.")

[n70] See, e.g., *In re Regel*, 526 F.2d 1399, 1403 n.6, 188 USPQ 136, 139 n.6 (CCPA 1975) ("As we have stated in the past, there must be some logical reason apparent from positive, concrete evidence of record which justifies a combination of primary and secondary references"); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1597, 1599 ("teachings of references can be combined only if there is some suggestion of incentive to do so"); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) ("the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification"); *In re Levitt*, 11 USPQ2d 1315, 1316 (Fed. Cir. 1989) ("no express or implied suggestion"); *In re Gyurick*, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA) (the motivation to make a specific structure "is not abstract, but practical, and is always related to the property or uses one skilled in the art would expect the [structure] to have, if made"); *Fromson v. Advance Offset Plate*, 775 F.2d 1549, 1556, 225 USPQ 26, 30 (Fed. Cir. 1985) ("the critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirability, and thus the obviousness of making the combination,'); *Carl Schenk, A.G. v Norton Corp.*, 713 F.2d 782, 787, 218 USPQ 698, 702 (Fed. Cir. 1987); *In re Sernaker*, 702 F.2d 989, 995-96, 217 USPQ 1, 6-7 (Fed. Cir. 1983).

[n71] "General Meeting," CIPA [The British Chartered Institute of Patent Agents] 350, 362 (August 1987).

[n72] G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 297, 300 (1986).

[n73] 892 F.2d 1554, 13 USPQ2d 1337, 1342 n.3 (Fed. Cir. 1989) ("The Solicitor asked the court to review its holding in *In re Wright* . . . wherein the court stated that it is appropriate to consider the problem facing the inventor, in adjudging whether a novel structure would have been obvious in terms of 35 U.S.C. sec. 103.")

[n74] *Twin Disc. Inc. v. United States*, 10 Cl. Ct. 713, 231 USPQ 417, 427 (Cl. Ct. 1986) ("the trend is clearly to widen the scope of the prior art that can be considered relevant").

[n75] Kayton, 2 PATENT PRACTICE 5-33 (4th ed. 1989). For comparison to the EPO, see G.S.A. Szabo, "The Problem and Solution Approach to the Inventive Step," 10 EIPR 293, 298 (1986):

The closest known technical disclosure is assumed to be known to the person skilled in the particular art and the features of the invention which indicate the modification of the art may then come from other known sources, if from anywhere at all. The skilled person would be familiar with the field of technique to which the invention relates but would also extend his inquiry to neighboring areas being guided in his searches by the effect to be achieved according to his technical problem. He would also be equipped with common general knowledge to find a proper solution.

[n76] 383 US 1, 15 L.Ed. 2d 545, 86 S.Ct. 684, 148 USPQ 459 (1966).

[n77] 383 U.S. at 35.

[n78] 599 F.2d 1032, 202 USPQ 171 (CCPA 1979).

[n79] 599 F.2d at 1036, 202 USPQ at 177.

[n80] 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986).

[n81] See also *In re Heck*, 699 F.2d 1331, 216 USPQ 1038, 1039 (Fed. Cir. 1983) ("It makes no difference to this case that [the prior art reference] dealt with a different specific problem . . . [The] use of patents as references is not limited to what the patentees describe as their own invention or to the problems with which they are concerned.") *In re McCarthy*, 763 F.2d 411, 226 USPQ 99 (Fed. Cir. 1985) ("Since the references all relate to . . . the solution of problems similar to that solved by appellant, we agree with the Board that they may properly be considered as part of the prior art as a whole."); Cf. *In re Horn*, 203 USPQ 969, 971 (CCPA 1979) ("there must be some basis for concluding that the reference would have been considered by one skilled in the art working on the pertinent problem to which the invention pertains."); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983) ("[the inventor] referred to a standard textbook on conductive carbon black in rubber when he began his search for a solution. Judge Boyle correctly found [the inventor's] act as acknowledgement by the problem solver of what he considered relevant prior art");

Union Carbide Corp. v. American Can Co., 724 F.2d 1567, 1576, 220 USPQ 584, 588 (Fed. Cir. 1984). See also Chisum, 2 PATENTS § 5.03 [1] 5-83 n.28 and 5-87 n.31.2.

[n82] Kayton, 2 PATENT PRACTICE 5-33 (4th ed. 1989).

[n83] 776 F.2d 306, 227 USPQ 766 (Fed. Cir. 1985).

[n84] See generally Chisum, PATENTS § 5.03 [1] [a] at 5-73.

[n85] The present author has noted several benefits from considering the problem solved. There are others. Professor Kitch has applied a "problem-solving approach" to the question of ascertaining the level of skill in the art, the third factual inquiry of obviousness according to *Graham v. Deere*. In this respect, Professor Kitch sees a benefit of the problem-solving approach to the question of the pertinent art as imposing a minimum legal standard of competence and a reasonable level of insight to the person of ordinary skill in a narrow field of endeavor which might be what Professor Kitch refers to as a "dumb art". See Kitch, "Graham v. Deere Co.: New Standards for Patents," 1966 Supp. Ct. Rev. 336 (1966). In another context, see Sever, 71 JPOS 762 (1989), for a discussion of the relationship of the problem solved to 35 U.S.C. 112, and particularly the requirement to particularly point out what the inventor considers to be the invention. Although not a requirement of 35 U.S.C. 112, a statement of the problem solved no doubt contributes to clarity.

[n86] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n87] The burden in the determination of patentability is initially on the PTO, as implied by Title 35, which states that, "a person shall be entitled to a patent unless" The PTO must state its grounds for rejecting a patent application. However, if the PTO makes a prima facie case of obviousness, typically in its first action in the case, then the applicant must rebut or overcome this prima facie position.

[n88] 44 F.2d 581, 170 USPQ 343 (CCPA 1971).

[n89] 747 F.2d 703, 223 USPQ 1257 (Fed. Cir. 1984).

[n90] 892 F.2d 1554, 13 USPQ2d 1337 (Fed. Cir. 1989).

[n91] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n92] 444 F.2d 581, 170 USPQ 343 (CCPA 1971). Cf. *Brown v. Gottschalk*, 484 F.2d 813, 817, 179 USPQ 65, 68 (D.C. Cir. 1973) ("This circuit has never adopted the principle of *Steminski*. . . and constitutional problems which would be required for careful consideration of adoption of *Steminski* is utterly inadequate to the purpose").

[n93] *Id.* at 346, 347.

[n94] The court stated, "It is not an easy matter to determine whether we have before us a case in which the evidence adduced by the PTO to establish a prima facie case of obviousness is inadequate ab initio, or whether the greater error lies in its failure to consider appellant's discovery of a new and apparently unobvious usefulness for the claimed compounds as adequate rebuttal evidence of that prima facie case in a situation where, as here, the principal prior art neither discloses nor renders obvious a usefulness for the compounds it describes." *Id.* at 347.

[n95] 747 F.2d 703, 223 USPQ 1257 (Fed. Cir. 1984).

[n96] Cf. *In re Gyurik*, 596 F.2d 1012, 201 USPQ 552 (1979).

[n97] 223 USPQ at 1259.

[n98] The alternate PTO rationale that the claimed compounds and the prior art intermediate would have both been expected to have the property of the product formed from the intermediate was considered by the court too remote to justify prima facie obviousness.

[n99] 892 F.2d 1557, 1560, 13 USPQ2d 1337, 1339, 1341 (Fed. Cir. 1989).

[n100] *Id.*

[n101] See Albert Tramposch, "The Dilemma of Conflicting Precedent: Three Options in the Federal Circuit," 17 *AIPLA QJ* 323 (1989). It is established that precedent may not be changed by a panel of the Federal Circuit, *Kingsdown Medical Consultants v. Hollister*

Inc., 863 F.2d 867, 9 USPQ2d 1384 (Fed. Cir. in banc 1988), cert. denied 109 S.Ct. 2068 (1989). However, according to Woodard v. Sage Products, Inc., 818 F.2d 841, 851, 2 USPQ2d 1641, 1656 (Fed. Cir. in banc 1987), "[A] court need not overrule a prior case in order to clarify that case . . . A court may refine holdings in its precedent which were stated or have been interpreted too broadly." Tramosch concludes: "The fine line between conflicting precedent and clarifications of the earlier precedent may be difficult for the practitioner or the district court to discern." Tramosch also concludes that the present rule, according to which earlier opinions of the Federal Circuit is controlling, may stifle the evolution of the case law in our common law system.

[n102] In re Albrecht, 514 F.2d 1385, 185 USPQ 585 (CCPA 1975). (claimed compound an antiviral agent and prior art compound a local anesthetic).

[n103] See, e.g., In re Henze 181 F.2d 196, 85 USPQ 261 (CCPA 1950). (claimed compound an anti-convulsant and prior art compound a hypnotic); In re Shetty, 566 F.2d 81, 195 USPQ 752 (CCPA 1977) (claimed compound an appetite suppressant and the prior art compound an anti-viral agent); In re Mod, 408 F.2d 1055, 161 USPQ 281 (CCPA 1969)(claimed compound an anti-microbial and the prior art compound an insecticide). Cf. In re Regel, 526 F.2d 1399, 188 USPQ 136 (CCPA 1975) (the claimed compound an antimycotic for animals and the prior art an anti-fungal for plants).

[n104] Kayton, 2 PATENT PRACTICE 5-36 (4th ed. 1989).

[n105] Rollins, "PTO Practice: Was Wright Wrong?" 71 JPOS 39, 43 (Jan. 1989).

[n106] 848 F.2d 1216, 6 USPQ2d 1959 (Fed. Cir. 1988).

[n107] Kayton, 2 PATENT PRACTICE 5-36 (4th ed. 1989).

[n108] 596 F.2d 1019, 201 USPQ 658 (CCPA 1979).

[n109] 146 F.2d 414, 64 USPQ 74 (3rd Cir. 1944) aff'd 326 U.S. 242, L.Ed. 43, 66 S.Ct. Lfoot81, 67 USPQ 155 (1945).

[n110] See, e.g., In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

[n111] Chisum, 2 PATENTS § 5.04 [6] [e] [ii]. Chisum discusses the Wright decision in his section on the patentability of chemical compounds and, in particular, in the section devoted to the question of "Can obviousness be rebutted by showing that the claimed compound has unexpected properties not possessed by the structurally-similar prior art compound where both compounds have other significant properties in common."

[n112] Kayton, 2 PATENT PRACTICE 5-36 (4th ed. 1989).

[n113] 892 F.2d 1554, 13 USPQ2d 1337, 1345, 1347, 1348 (Fed. Cir. 1989).

[n114] Homer Scheider, "Non-Obviousness, the Supreme Court, and the Prospects for Stability," 60 JPOS 304, 309, 318 (1978).