

# **USE OF RULE 132 DECLARATIONS IN TRAVERSING REJECTIONS FOLLOWING THE KSR DECISION**

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## **RECAP OF KSR SUPREME COURT HOLDING**

In the KSR Case, the Supreme Court held that the patent claim at issue was obvious, and therefore invalid. In reaching its decision, the Court found that one of ordinary skill would have had “a strong incentive to convert mechanical pedals to electronic pedals,” and that, “the prior art taught a number of methods for achieving this advance.” In this regard, the prior art disclosed both a cable-actuated (mechanical), adjustable pedal assembly with a fixed pivot point (to solve a so-called constant ratio problem) and the use of modular sensors attached to a pedal support bracket (so as to prevent chafing of the sensor wires) and engaged with the pivot shaft about which the pedal rotates.

Although the prior art did not address the specific problem with which the patent was concerned, namely, design of a less expensive, less complex and more compact pedal assembly, the Court nonetheless found the claim to be invalid.

According to the Court, the Federal Circuit, in part, erred by limiting its search for a suggestion or motivation relating to the specific problem addressed by the patentee. In contrast, the Court held that:

- Any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the matter claimed.

## **IMPACT OF THE KSR DECISION – PATENT PROSECUTION**

Although the fundamental *Graham* analysis remains the same, Examiners will have wider latitude with respect to the application of reasons to combine prior art elements.

As for “motivation to combine,” Examiners may now look to inferences (interrelated teachings of multiple patents), a need in the art (marketplace demands), or common sense (background knowledge possessed by one of ordinary skill in the art) in support of an obviousness rejection. This, in turn, may raise the bar for patentability.

Submission of test data showing unexpected results or criticality in a claimed range (as a basis for patentability) will become more important in order to rebut a *prima facie* case of obviousness (Rule 132 Declaration). Patent applications should be drafted to include a description of surprising/unexpected results achieved by the claimed invention (so as to support a future assertion of unexpected results, if needed, during prosecution).

## **KSR - NOTHING NEW TO CHEMICAL PRACTICE**

### **In re Dillon, 16 USPQ2d 1897 (Fed. Cir. 1990)**

#### **Dillon’s Invention:**

Dillon discovered that the inclusion of certain tetra-orthoester compounds in hydrocarbon fuel compositions will reduce the emission of solid particulates (i.e., soot) during combustion. On appeal were claims directed to hydrocarbon fuel compositions containing these tetraorthoesters, and to the method of using those compositions to reduce particulate emissions.

#### **Novelty and New Use:**

Tetra-ortho esters are a known class of chemical compounds. It was undisputed that their combination with hydrocarbon fuel for any purpose was not shown in the prior art and that their use to reduce particulate emissions from combustion of hydrocarbon fuel also was not shown or suggested in the prior art.

#### **Prior Art and Basis for Rejection:**

The Board upheld the rejection of the claims as being unpatentable over prior art disclosing hydrocarbon fuel compositions containing tri-orthoesters for the purpose of dewatering (primary reference), and prior art disclosing

equivalence of tri-orthoester and tetra-orthoesters when used as water scavengers in hydraulic (non-hydrocarbon) fluids (secondary reference). The rejection was ultimately upheld by the Federal Circuit sitting *en banc*.

In other words, Dillon's claims were found to be *prima facie* obvious over a combination of prior art references, which references were combinable (to achieve the claimed invention) for reasons entirely unrelated to the problem solved by Dillon's invention.

### **Relationship to the KSR Case:**

This sounds just like the *KSR* case. There, the Court combined two prior art references for reasons (strong incentive to convert mechanical pedals to electronic pedals) unrelated to the problem solved by the patent (design of a less expensive, less complex and more compact pedal assembly).

### **Dillon's Mistake:**

During prosecution, once the Examiner had established a *prima facie* case of obviousness (prior art disclosing hydrocarbon fuel compositions containing tri-orthoesters for the purpose of dewatering (primary reference), and prior art disclosing equivalence of tri-orthoester and tetra-orthoesters when used as water scavengers in hydraulic fluids (secondary reference)), the burden then shifted to Dillon to rebut the *prima facie* case of obviousness.

Dillon's mistake was that during prosecution she did not present test data showing "unexpectedly superior results" to rebut the *prima facie* case of obviousness and thereby establish patentability of her invention.

## **RULE 132 DECLARATIONS**

Rule 132 Declarations are used to submit evidence traversing a rejection. Most often, a Rule 132 Declaration is used to submit comparative test data to show unexpected results or criticality in a claimed range as a basis for patentability. Rule 132 Declarations can also be used to present an expert's opinion, for example, as to what the prior art teaches. Rule 132 Declarations may also be used to establish commercial success or satisfaction of a long felt

need (as secondary indicia of patentability). Lastly, Rule 132 Declarations can be submitted to show utility and operability, or for purposes of attribution (of inventorship).

- Used to submit evidence traversing a rejection
- Used to submit comparative test data – unexpected results or criticality in claimed range
- Used to present an expert’s opinion
- Establish commercial success or satisfaction of a long felt need
- Submitted to show utility and operability
- Attribution (inventorship)

The Rule 132 Declaration is made by a “Declarant,” which may or may not be one of the inventors, and the Declarant must verify that any statements or representations made are correct.

Most importantly, a Declaration must be supported by actual proof and/or based on factual evidence. Unsupported conclusions/opinions are given little or no weight.

- Must be supported by actual proof and/or based on factual evidence

For example, when presenting test data showing a difference in property between the invention and the prior art (unexpected results as a basis for patentability), the Declarant should preferably also explain why such difference is significant and unexpected.

- Evidence of nonobviousness (e.g., unexpected results) is irrelevant if the claims lack novelty

Lastly, the claims must be amended so as to at least define novel subject matter before evidence of nonobviousness (relative to the differences between the invention and the prior art) will be considered

## ALLEGATIONS OF UNEXPECTED RESULTS

### 1. Differences between the Claimed Invention and the Prior Art

Any differences between the claimed invention and the prior art are expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really “unexpected.”

### 2. Evidence Must Show Unexpected Results

#### a. Greater than Expected Results are Evidence of Nonobviousness

Generally, the applicant must show a greater than expected result (*i.e.*, must show that the results were greater than those which would have been expected from the prior art to an unobvious extent). For example, evidence of a greater than expected result may be shown by demonstrating an effect which is greater than the sum of each of the effects taken separately (*i.e.*, synergy). However, evidence showing greater than additive sweetness resulting from the claimed mixture of saccharin and aspartame was not sufficient to outweigh the evidence of obviousness. This is because the prior art led to a general expectation of greater than additive sweetening effects when using mixtures of synthetic sweeteners.

#### b. Superiority of a Property Shared with the Prior Art is Evidence of Nonobviousness

For example, evidence showing that aluminum containing a small amount of Ge is more effective than aluminum containing a small amount of Si in preventing electromigration may be sufficient to overcome a rejection under §103.

#### c. Presence of an Unexpected Property is Evidence of Nonobviousness

For example, evidence showing that the use of polysilicon in a capacitor provides increased breakdown voltage (unexpected property) in addition to high capacity would be evidence of nonobviousness.

### **3. Burden on Applicant**

#### **a. Burden on Applicant to Establish that the Results are Unexpected and Significant**

The evidence should establish that the differences in results are unexpected, unobvious and statistically and practically significant. There must be a basis for judging the significance of the data.

#### **b. Applicant has the Burden of Explaining the Data**

The applicant must explain why the results are significant and unexpected.

#### **c. Comparative Tests are Probative of Nonobviousness**

Compare the claimed invention with the closest prior art.

### **4. Weighing Evidence of Expected and Unexpected Results**

#### **a. Weighing Evidence**

Must show that a significant aspect of the invention would have been unexpected. For example, if the invention is directed to a display having higher luminous efficiency, evidence of an unexpected reduction in discharge current may not be sufficient to rebut the evidence of obviousness. It would make more sense to compare the luminous efficiency of the invention to the closest prior art.

### **5. Unexpected Results Must be Commensurate in Scope with the Claimed Invention**

#### **a. Commensurate in Scope**

The showing of unexpected results must show that the unexpected result occurs over the entire claimed range.

**b. Criticality of a Claimed Range**

To establish unexpected results over a claimed range, the applicant should compare a sufficient number of tests both inside and outside the claimed range (to show the criticality of the claimed range).

**6. Comparison with Closest Prior Art**

**a. Must Compare Invention with the Closest Prior Art**

A comparison of the claimed invention with the disclosure of each cited reference to determine the number of claim limitations in common with each reference (keeping in mind the relative importance of particular limitations) will usually identify the closest single prior art reference.

The closest prior art working example should be faithfully reproduced, and any deviations should be explained.

**7. Weighing Objective Evidence**

**a. If the Case of Obviousness is Strong, Submission of Comparative Test Data May not be Sufficient to Establish Patentability**

In making a final determination of patentability, evidence supporting patentability must be weighed against evidence supporting the *prima facie* case of obviousness.

Although the record may establish evidence of secondary considerations, the record may also establish such a strong case of obviousness that the objective evidence of nonobviousness is insufficient to outweigh the evidence of obviousness. In that case, the Examiner is to explain why the evidence is not convincing.

**b. Improper to Compare Invention with a Combination Suggested by the Prior Art**

This is improper because it would require the applicant to "compare the results of the invention with the results of the invention".

**8. Advantages Disclosed or Inherent**

**a. Advantage Must be Disclosed in the Specification**

The advantage (basic property or utility) must be disclosed in the specification in order for evidence of unexpected results to be offered. The policy here is public disclosure. For example, suppose that the invention concerns a transistor with a faster switching speed, and the applicant offers evidence of unexpected results with respect to input impedance and the specification is silent with respect to this parameter. The examiner may decline to give weight to this evidence (unless the unexpected input impedance "flows" (naturally results) from the switching speed).

**EXAMPLE – COMPARISON AGAINST CLOSEST PRIOR ART**

A group of investigators found that addition of a layered silicate (fluoromica mineral) as a reinforcing filler to polyamide resin containing metallic (e.g., aluminum) particles provided a molded article having both good mechanical strength and excellent metallic appearance.

**1. A resin composition comprising polyamide, a layered silicate in an amount of 20-30 wt% and metallic particles in an amount of 1 to 5 wt% selected from Al, Ni and Sn.**

The claimed invention was rejected over the combination of a first prior art reference disclosing polyamide resin containing glass fiber as a reinforcing filler and aluminum particles, and a second prior art reference disclosing polyethylene resin containing a layered silicate as a reinforcing filler and aluminum particles. The reason for rejection was that it would have been

obvious to replace the glass fiber of Prior Art A with the layered silicate of Prior Art B, with the reasonable expectation of obtaining a molded article having good mechanical strength.

**Prior Art A: exemplifies** polyamide resin containing glass fiber as a reinforcing filler and aluminum particles in an amount of 3 wt %

**Prior Art B: exemplifies** polyethylene resin containing a layered silicate in an amount of 25 wt% as a reinforcing filler and aluminum particles in an amount of 3 wt%

The rejection is reasonable, such that the Examiner has made out a *prima facie* case of obviousness. The burden then shifts to the applicant to rebut the *prima facie* case, for example, by demonstrating that the claimed invention is unexpectedly superior over the prior art relied upon by the Examiner.

The applicant prepares various samples for evaluation including:

- A sample of the invention, containing polyamide resin, a layered silicate in an amount of 25 wt% and Al particles in an amount of 3 wt%
- Prior Art A (working example)
- Prior Art B (working example)

and evaluates these samples with respect to metallic appearance and mechanical strength (both of these are performance criteria discussed in applicant's specification).

The applicant reports both the experimental procedure and results in a Rule 132 Declaration, noting that only the sample of the invention provided both good metallic appearance and good mechanical strength, whereas the closest prior art working examples perhaps provided one but not the other property.

The applicant then explains why he considers the difference in result to be significant and unexpected.

The Examiner issues a final rejection, pointing out that “the comparative testing is not commensurate in scope with the invention as claimed,” noting that the applicant showed unexpected results for aluminum powder only, yet the claims encompass Ni and Sn as well.

The applicant submits a second Rule 132 Declaration, this time including a second sample of the invention containing Ni powder in an amount of 3 wt% and a third sample of the invention containing Sn powder in an amount of 3 wt%. The test results show that like aluminum powder, Sn and Ni powder also provide good results.

The Examiner declines entry of the second Rule 132 Declaration as evidence that could have been submitted earlier.

The applicant files a RCE to force entry of the second Rule 132 Declaration. The Examiner allows the case.

### **EXAMPLE – CRITICALITY IN CLAIMED RANGE**

U.S. practice recognizes certain situations as “automatically” giving rise to a *prima facie* case of obviousness. For example, a prior art range overlapping in scope with a claimed range is said to give rise to a *prima facie* case of obviousness. Once the examiner has set forth a *prima facie* case of obviousness, the burden then shifts to the applicant to *rebut* the *prima facie* case of obviousness. For the case of an overlapping range, various court decisions instruct that this can be done by:

- (i) establishing that the claimed range achieves unexpected results relative to the prior art range, and that the claimed range is therefore critical to achieving the effects of the invention.

Suppose that applicant claims:

**1. A fluoro-resin composition comprising PTFE compounded to a terpolymer comprising TFE, HFP and PAVE, wherein the PTFE content is 10 to 25 parts by weight based on 100 parts of the terpolymer.**

Applicant's specification discloses that compounding PTFE to the subject terpolymer within a range of 10 to 25 parts provides a fluoro resin composition which provides a molded article having excellent crack resistance.

The Examiner cites prior art which discloses a similar fluoro resin composition where PTFE may be compounded to the terpolymer of TFE, HFP and PAVE in a broad amount ranging from 1 to 60 parts by weight based on 100 parts of the terpolymer so as to provide for melt processability. None of the working examples of the prior art exemplify a PTFE content within the scope of the claimed range.

The overlapping range establishes a *prima facie* case of obviousness.

In rebuttal, the applicant submits test data, in Declaration form, showing that the effects of the invention (i.e., excellent crack resistance) are obtained at both the lower and upper limits of 10 and 25 parts, respectively, and that the effects of the invention are not obtained at either 1 part or at 60 parts outside the claimed range.

Although the applicant could have shown that the effects of the invention are also not obtained at 8 and 27 parts respectively, the applicant chose not to in a first response to the rejection. This is because submission of test data showing that the effects of the invention are not obtained at 8 and 27 parts, respectively, is a disclaimer of 8 parts and below and 27 parts and above, for any "equivalent" scope to which the claims may be entitled.

If the Examiner does not find the first Declaration to be convincing (in that test data at 1 and 60 parts does not show criticality in the claimed range of 10 to 25 parts), a second Declaration may be submitted, for example, showing that the effects of the invention are also not obtained at 8 and 27 parts.