

A PATENT ENTIRELY AND EXCLUSIVELY FOCUSED ON AN ART-ADDITIVE HITS THE VALIDITY BULL'S EYE

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Introduction

As Abraham Lincoln, himself an inventor in a U.S. Patent¹, said, “The patent system . . . added the fuel of interest to the fire of genius.”² Every country’s patent system is the incentive for the continuing creation of wealth, which inures to the benefit of that country. A reliable patent system provides an incentive for inventors to spend long hours in their garrets, laboratories, and workshops, and for companies to support and invest in such inventors. As the world becomes more global economically, there is a need, based upon the natural order of societies, to provide more specific guidance in preparing a patent application for universal acceptance and enforcement in all countries of the world. This paper is a synthesis of various U.S. and European patent cases, and will present guidelines in preparing a patent application that is not "obvious" in the United States³ and "involve[s] an inventive step" in Europe.⁴ The courts have relied upon facts to determine whether the inventor made an art-additive, which deserves the exclusive right of a patent. When the facts prove an art-additive, the court will then deem it to

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¹ Manner of Bouying Vessels, U.S. Patent No. 6,469 (issued May 22, 1849).

² Abraham Lincoln, Second Lecture on Discoveries and Inventions (Feb. 11, 1859).

³ 35 U.S.C. § 103(a) (2004).

⁴ European Patent Convention, art. 52(1) (2000).

be a non-obvious inventive step. However, the entire patent, from the introduction to the claims, must be focused on the art-additive to hit the validity bull's eye. A patentee can ensure that a patent grant and enforcement are more reliable in all jurisdictions by focusing a patent application using the guidelines gleaned from the case law and presented in this paper.

I. **An Art-Additive to Support the Non-Obvious Inventive Step**

Although the courts use various expressions and phrases to define an invention, the courts generally evaluate a patent according to the policies expressed by Thomas Jefferson:

Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the **profits arising from them**, as an encouragement to men to pursue **ideas which may produce utility**, but this may or may not be done, according to the will and convenience of the society, without claim or complaint from anybody.⁵

The courts are more likely to positively evaluate a patent for "ideas which may produce utility" and "profits arising from them," as suggested in Jefferson's quote above. The U.S. Supreme Court reemphasized Jefferson's policy by stating:

The patent monopoly was not designed to secure to the inventor his natural right in his discoveries. Rather, it was a reward, an inducement, to bring forth new knowledge. The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not to be freely given. Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly.⁶

This policy encompasses a useful and valuable art-additive to human knowledge. The term "art-additive" is collectively and generically used herein to encompass the meaning of well

⁵ Letter from Thomas Jefferson to Isaac M'Pherson (Aug. 18, 1813), in 6 THE Writings of Thomas Jefferson, 180-181 (Henry A. Washington ed., Taylor & Maury, 1854) (emphasis added).

⁶ *Graham v. John Deere Co.*, 383 U.S. 1, 9 (1966).

known and elusive terms such as: "invention or discovery," "flash of genius," "new function," "advance in the art," "unexpected result," "new element," "increment," "contribution to the art," as well as all other expressions and phrases that courts have historically relied upon as deserving the exclusivity of a patent as envisioned by Thomas Jefferson and the U.S. Supreme Court. The common thread running through the use of all of these terms that define an art-additive is that the terms are derived from, or are dependent upon, the facts, and there is no universal terminology in the law to define such an art-additive deserving of a patent.

The legal definition used herein to justify a patent in exchange for an art-additive is a "non-obvious inventive step," and is derived from the word "obvious"⁷ in the U.S. and the phrase "involves an inventive step"⁸ in Europe. As the cases reviewed in this paper will illustrate, a patent claim will cover a non-obvious inventive step if the facts positively support an art-additive to justify an exclusive patent right.

II. The Futility of Using a "Non-Obvious Inventive Step" as a Guide in Patent Preparation

As all of the well known and elusive terms recited above illustrate, every patent jurisdiction in the western world has struggled to put into words a legal definition of a non-obvious inventive step that the patent jurisdiction could use repeatedly in preparing and judging patents. Legislators and courts have expended huge amounts of time, money and talent in pursuit of such a universal and useful legal definition, but without success. The U.S. Supreme Court in

⁷ 35 U.S.C. § 103(a) (2004).

⁸ European Patent Convention, art. 52(1) (2000).

Graham v. Deere, verifies this struggle in commenting upon the law prior to the 1952 statute introducing non-obviousness. The Court stated that the word "invention" could not "be defined in such a manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not."⁹ The *Graham* decision provides three well-known factual inquiries,¹⁰ but does not provide a guideline of facts that save "non-obviousness" from being but another elusive term.

A universal definition of a non-obvious inventive step necessary to justify a patent is not likely to be developed in the future if the efforts of the architects of patent systems, including a multitude of great jurists, legislators, and academics, have not established one such universal definition over the past one hundred and fifty years. This ongoing lack of such a workable definition makes it very difficult for a patent drafting novice to know where a patent application begins and ends. A mentor of patent preparation cannot simply instruct a novice to prepare a patent application that sets forth a "non-obvious inventive step." A reading of all the treatises on obviousness will not provide a mechanism or procedure for a novice to follow in drafting a patent application—the treatises will only suggest conceptual dos and don'ts.

III. A Variety of Cases Suggest Guidelines to Hit the Validity Bull's Eye

The cases reviewed herein will reveal that the courts look for an art-additive that brings a benefit to society to justify the grant of an exclusive patent right. As the cases will reveal, the courts read patents as if they were contracts, and expect all of the terms to focus on an art-

⁹ *Graham*, 383 U.S. at 11-12, quoting *McClain v. Ortmyer*, 141 U.S. 419 at 427 (1891).

¹⁰ *Id.* at 6 (the scope and content of the prior art, differences between claims and prior art, and the level of ordinary skill in the art).

additive. The cases evidence that, if the terms are not consistent with, or do not support, the art-additive, odds of the patent being upheld are substantially decreased. The cases also reveal that the courts look for facts that support and prove an art-additive and expect those facts to be recited in the original patent application. This review of various litigated patents establishes a framework under which patent applications can be prepared with the objective of making it more difficult for courts to find facts negating validity. This framework includes guidelines for focusing the patent's claims, introductory section, and specification on a specific art-additive.

The guidelines for focusing the patent preparation within this framework suggested by the cases are:

- No Benefit: A naked aggregation, catalog or combination of old elements from the prior art with no new function or unexpected result will not be enough to justify the exclusive right of a patent.
- Art-Additive: An art-additive resulting from a combination of elements, all independently old or at least one new element, to produce a new function and/or unexpected result justifies the exclusive right of a patent and will be deemed a non-obvious inventive step.
- Art-Additive Claim: The broadest claim should be directly attendant to the art-additive by reciting the combination of elements, all independently old or at least one new element, to produce a new function and/or unexpected result upon which the art-additive depends.
- Art-Additive Facts: The introductory section of the patent application should focus on facts proving the art-additive resulting from the combination of elements recited in the broadest claim. Conversely, the art-additive and supporting facts should not be withheld from the application for submission during prosecution or litigation where they will likely be regarded as advocacy instead of fact.

IV. No Benefit to Society-Back to the Future from *KSR* to *Hotchkiss*

Both of these Supreme Court cases, separated by over 150 years, verify the No Benefit guideline that a naked aggregation, catalog, or combination of old elements from the prior art will not be enough to justify the exclusive right of a patent.

A. *Hotchkiss v. Greenwood*¹¹

The plaintiffs argued for a jury instruction wherein the clay knob, the shank, and the spindle were admittedly independently old in the prior art, but that these elements had never been combined, and the combination resulted in "an article better and cheaper than the knobs made of metal or other materials."¹² Basically, the patentee Hotchkiss argued that merely selecting independently old elements from various prior art references and combining them together with no new function or unpredictable result was sufficient to justify the exclusive rights in a patent just because it was "better and cheaper."

The Supreme Court held that, although the "mode of fastening the shank to the clay knob" resulted in a knob that "was made firm and strong, and more durable," the result was predictable and thus expected, because the same phenomenon was known in knobs made of other materials.¹³ Therefore, the Supreme Court found the facts did not evidence an art-additive, applied the No Benefit guideline, and held the patent invalid because one skilled in the art could use mere common sense to select and combine known elements with no new function or unpredictable result.

B. *KSR Int'l v. Teleflex, Inc.*¹⁴

In addition to hearing the appeals of patent cases from all of the U.S. District Courts, a major function of the Circuit Court for the Federal Circuit (CAFC) is to hear appeals from

¹¹ *Hotchkiss v. Greenwood*, 52 U.S. 248 (1850).

¹² *Id.* at 252.

¹³ *Id.* at 267.

¹⁴ *KSR Int'l v. Teleflex, Inc.*, 127 S.Ct. 1727 (2007).

rejections of patent applications by the USPTO.¹⁵ As the Supreme Court noted, "[s]eeking to resolve the question of obviousness with more uniformity and consistency, the Court of Appeals for the Federal Circuit has employed an approach referred to by the parties as the 'teaching, suggestion, or motivation' test (TSM test)."¹⁶ The positive application of the TSM test remains valid at the USPTO.¹⁷ Therefore, it remains obvious to combine old elements if the prior art teaches, suggests, or motivates one skilled in the art to make the combination.

In the author's view, the negative application of the TSM test produced the unintended consequence of effectively lowering the standard of patentability in the USPTO. When the USPTO rejected claims, the reverse, or negative, application of the test was argued, i.e., if the prior art lacked a teaching, suggestion, or motivation, the claims were simply argued as non-obvious, and hence patentable. In other words, the applicant would simply argue that the claim was patentable because no one had previously combined the known elements. As a result, the USPTO granted patents wherein the claims merely recited elements selected from various pieces of the prior art, with each element performing the function for which it was selected and the overall combination producing nothing more than what was expected or predicted. In *KSR*, the Supreme Court held that this reverse application "limits the obviousness inquiry" and rejected the reverse proposition that the lack of TSM ipso facto overcame a rejection based upon obviousness.¹⁸ The Supreme Court accepted the finding of the District Court that the patent

¹⁵ 28 USC § 1295 (a) (4) (A) (1982).

¹⁶ *KSR*, 127 S.Ct. at 1734.

¹⁷ MPEP § 2141 III (2007).

¹⁸ *KSR*, 127 S.Ct. at 1741.

claim in *KSR* merely combined an old adjustable brake pedal with an old electronic sensor.¹⁹ Therefore, the court in *KSR* followed *Hotchkiss* and affirmed that it is merely a matter of common sense by one skilled in the art to select and combine known elements with no unexpected results, and there is no requirement of a teaching, suggestion or motivation of which elements to select.

C. *KSR also Affirms the Examiner's Duty to Reject a Mere Selection of Prior Art and Expands the Available Prior Art on Judge Rich's Wall*

In the opinion *In re Winslow*, Judge Rich²⁰ stated that "the proper way to apply the 103 obviousness test . . . is to first picture the inventor as working in his shop with the prior art references-which he is presumed to know-hanging on the walls around him."²¹ The opinion continued, "[w]e see no 'hindsight reconstruction' here, but only selection and application by the examiner of very pertinent art. That is his duty."²² In other words, when the elements of the combination are selected to obtain an identified or expected result, there is no benefit to society.

The court in *KSR* affirmed Judge Rich's mere selection concept and expanded the inventor's wall by stating that "modern technology counsels against" a finding of non-obviousness based on a lack of "discussion" in the prior art literature.²³ Logic dictates that the inventor's wall now includes all of the information available by searching the Internet, including technical databases as well as prior art patents. Therefore, one skilled in the art would not benefit

¹⁹ *Id.* at 1732

²⁰ A member of the predecessor CCPA to the CAFC after being a primary architect in 1952 of 35 U.S.C. § 103 to include obviousness.

²¹ *In re Winslow*, 365 F.2d 1017, 1020 (C.C.P.A. 1966).

²² *Id.*

²³ *KSR*, 127 S.Ct. at 1731-32.

society nor produce an Art-Additive by searching the Internet and selecting and combining known elements to produce a known or predictable result.

The Supreme Court in *KSR*, while eliminating the "lack of TSM" argument, effectively applied the No Benefit guideline and stated that the statutory language of 35 U.S.C. § 103 was based upon the logic of the *Hotchkiss* decision.²⁴ Both decisions verify the long held proposition that a naked aggregation, catalog of parts, or combination of old elements from the prior art is not enough to justify the exclusive right of a patent. Both *Hotchkiss* and *KSR* presented a combination of independently old elements devoid of any art-additive beneficial to society.

V. Fact Finding to Satisfy the Art-Additive Guidelines

A. The Courts Look for an Art-Additive

The courts have suggested a framework that a successful patent application should employ. However, the implementation of the framework is not found in the law, but in the facts and their presentation. A common thread of fact finding for a non-obvious inventive step runs through most significant judicial decisions in the United States and Europe. The courts have sought facts to evaluate whether the inventor made an art-additive which deserves the exclusive right of a patent under the ideals of Jefferson and the principles of Rich. In other words, the courts rely upon facts set forth in the patent to prove that an art-additive is sufficient to justify a patent. When the art-additive is sufficient, it is deemed to be a non-obvious inventive step. More simply, if the facts support and prove an art-additive deserving of a patent, the art-additive will be judged a "non-obvious inventive step."

²⁴ *Id.* at 1734.

The various tests and sub-tests used in evaluating a non-obvious inventive step by the courts are based upon, and commingled with, the facts in each case. As a result, it is very difficult for a new patent preparer to separate the various statements of the law from facts in order to develop objective guidelines within a framework for preparing a patent application. However, when court decisions are divided into fact finding and the subsequent application of one of various statements of the law, it becomes evident that the presence of an “art-additive” is a question of fact and drives the application of the law. As the decisions will evidence, the judges first decide, based upon all of the facts, and most heavily upon the facts set forth in the entire patent document, whether an art-additive is presented from a patent claim that deserves an exclusive patent. The judges subsequently select a rule of law to support their decisions. The patent claims define the inventive step, but frequently the facts proving an art-additive resulting exclusively from the claims impact the validity and enforceability of the patent. Consequently, the preparation of a patent application must be driven by finding and framing the art-additive in the patent application as filed.

B. The Patent Preparer Should Find the Art-Additive

A novice in patent preparation should be advised not to be intimidated by the law of "obviousness" or "inventive step," but instead to prepare a patent application with facts that prove an art-additive. The patent preparer should thoroughly question the inventor in an effort to ascertain facts that prove an art-additive resulting from a combination of elements, all independently old or at least one new element to produce a new function and/or an unpredictable result, thereby making the combination a non-obvious inventive step. The patent preparer should find facts supporting an art-additive resulting from the combination recited in a patent claim to avoid invalidating the claim under the No Benefit guideline. In the U.S., this means that the

claim will be held obvious to one skilled in the art. Finding a claim obvious is tantamount to finding that it already exists, and that there is no art-additive because one skilled in the art could apply mere common sense to combine that which is old. In Europe, the claim would be held to lack an inventive step.

On the other hand, when the fact finder does find an art-additive, it will fall under the instructive Art-Additive guideline, which states that a combination²⁵ which produces the art-additive is presumed²⁶ patentable. That presumption can be rebutted by facts leading to the combination and the art-additive based on cogent and logical reasoning that is unequivocally independent of hindsight.²⁷ In other words, the facts should prove an art-additive resulting from a combination of elements, all independently old or at least one of which is new, to produce a new function and/or unexpected result in order to be deemed a non-obvious inventive step. The patent application should focus on the art-additive to prevent the connection of facts leading to the invention based on cogent reasoning that is unequivocally independent of hindsight, supposition, inferred intuitiveness, speculation, or random testing. The art-additive must be exclusive to the claimed combination, i.e., the art-additive cannot be achieved by the prior art, because the art-additive would then be viewed as providing no new benefit to society. A novice preparer of patent applications can be instructed to prepare claims meeting this Art-Additive guideline, to

²⁵ *Id.* at 1741 ("[A] patent is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.").

²⁶ The presumption of patentability can be reinforced by all of the recognized secondary tests, including the invention's commercial success, a long felt but unresolved need, the failure of others, and copying of the invention by competitors. (*Allen Archery, Inc. v. Browning Mfg. Co.*, 819 F.2d 1087, at 1092 (CAFC 1987), *quoting Graham*, 383 U.S. at 1718.).

²⁷ *KSR*, 127 S.Ct. at 1747 (the selection of elements cannot be distorted "by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning").

which the No Benefit guideline cannot be applied.

In most instances, when the patent preparer is finished with the patent application, the preparer will know the "invention" better than the inventor. The inventor knows what he did and its commercial advantages but does not understand how it will be compared and judged in relationship to the prior art. Invariably, an inventor attributes too much knowledge to the patent preparer and the patent preparer all too often merely accepts as gospel the initial presentation of the inventor. The patent preparer must mentally integrate with the inventor to thoroughly understand in minute detail all facets of the preferred embodiment and then understand that embodiment in relationship to the prior art. That prior art most often includes art which the inventor is not aware of, but which the patent office will use against the patent claims.

Many new patent preparers are frequently intimidated by, or do not have access to, the inventor and end up acting as a mere scribe of the initial disclosure from the inventor. However, it is critical for the patent preparer to dig deeply into the original disclosure from the inventor to find an art-additive. An invention that might appear to be but a mere combination of independently old elements is just that without further digging to find a new function or unpredictable result. A patent preparer that merely reacts to the disclosure of the inventor and speculates as to the scope of the claims in reality acts as a tech-writer or scribe and not as a patent attorney.

VI. Cases Suggesting the Art-Additive Guidelines

The following survey of well-known, historical, decisions will show how courts review the entire patent for facts in support of an art-additive, and then apply either the Art-Additive guideline when an art-additive is found or the No Benefit guideline when no art-additive is

found. More specifically, the courts frequently consider the introductory section and specification of the patent application for expression of an art-additive resulting from the combination recited in the broadest claim.

A. *An Art-Additive-Webster Loom Co. v. Higgins*²⁸

In contradistinction to *Hotchkiss* and *KSR*, a combination of independently old elements can be deemed a non-obvious inventive step when they result in an art-additive. The art-additive resulting from the claimed new combination should be focused upon in the introductory section of the patent application to avoid leaving the claims as a naked combination of elements.

In *Webster Loom*, the Supreme Court noted that the patent described a complex weaving loom that was made up of independently old elements from prior art assemblies, and that a known pusher was substituted for a latch riding on a wire-bar.²⁹ The Court said,

It is further argued . . . that the combination set forth in the fifth claim is a mere aggregation of old devices, already well known; and therefore it is not patentable. . . . It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a **new and beneficial result**, never attained before, it is evidence of invention. **It was certainly a new and useful result to make a loom produce fifty yards a day when it never before had produced more than forty; and we think that the combination of elements by which this was effected, even if those elements were separately known before, was invention sufficient to form the basis of a patent.**³⁰

As the above quote makes clear, the Court found that a combination of independently old elements was patentable because the combination produced an unpredictable result, i.e., a 25%

²⁸ *Webster Loom Co. v. Higgins*, 105 U.S. 580 (1881).

²⁹ *Id.* at 589.

³⁰ *Id.* at 591-592 (emphasis added).

increase in weaving production from 40 to 50 yards per day. Evidently, an unpredictable result is proof of an art-additive sufficient to justify the exclusive right of a patent even when the combination is of independently old elements from the prior art. In summary, the Supreme Court found facts showing an art-additive, reversed the lower court, and held the patent valid.

The primary difference between the *Webster Loom* patent and the patents in *Hotchkiss* and *KSR* is that the introductory section of the *Webster Loom* patent precisely recited the combination the Supreme Court relied upon as the combination of independently old elements covered by the patent claim. In fact, the Supreme Court quoted this entire section of the patent in its opinion. Even though the 25% increase in weaving production was not specifically recited in the patent, the introductory section recited the operational advantages or differences of the combination, which in turn resulted in the unpredicted result. The introductory section of the patent did not broadly allude to inventing a new loom, but precisely recited the new combination and operation of independently old elements that provide the unpredicted result. However, as other cases suggest, the 25% increase in weaving production should have been presented in the introductory section and not left to advocacy during litigation.

The principle from *Webster Loom* is that when the entire patent is precisely focused on the art-additive in the introduction, as well as in the claims, it is more likely to be deemed a non-obvious inventive step.

*B. A Significant Art-Additive Lost in a Totally Unfocused Patent-Great Atlantic and Pacific Tea Co. v. Supermarket Equip. Corp.*³¹

³¹ The Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147 (1950).

The patent in question in this *A&P* case was U.S. Patent No. 2,242,408, issued to E. D. Turnham on October 28, 1938, and the invention was an open, three-sided, U-shaped frame or rack on an elongated counter at a cashier's checkout stand, used to pull groceries from a waiting customer to the cashier.³² The U-shaped frame is unloaded when it is pushed back to its original position for the next customer to fill, while leaving the groceries being checked out in front of the cashier.³³ The prior art relied upon was a closed, three-sided or triangular, pool-ball frame or rack. The lower court upheld the patent by finding that the triangular pool-ball frames "are closed and not self-unloading, as is the U-shaped rack."³⁴ The Supreme Court reversed the lower court and found that a three sided rack was found in the prior art.

A scholar who believes that this case was wrongly decided by the Supreme Court, Paul Cole,³⁵ took the author herein to task for summarily citing this decision as standing for the No Benefit guideline.³⁶ The apparent error stems from the fact that the U-shaped rack in *A&P* involved a significant art-additive in the cashier's checkout stand that could not be attained by a closed, triangular, pool-ball frame. Therefore, the No Benefit guideline was applied because of the presentation in the patent contract. Although an art-additive existed, the art-additive was not focused upon in the claims nor in the introductory section of the patent.

Notwithstanding the structural and functional differences between an open check-out frame and a closed, triangular-pool-ball frame, facts that a jury could appreciate, the Supreme

³² *A&P*, 340 U.S. at 149.

³³ *Id.*

³⁴ *The Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.* 179 F.2d 636, 639 (6th Cir. 1950).

³⁵ Paul Cole, *Supermarket Check-Outs Revisited*, Patent World, March 1988, at 12.

³⁶ Hal Milton & Patrick R. Anderson, *The KSR Standard for Patentability*, 89 J. PAT. & TRADEMARK OFF. SOC'Y. 615 (2007).

Court reversed the lower court and found as a fact that the elements of the combination were found in the prior art, to wit, three sides forming a frame. The Court noted, "[n]either court below has made any finding that old elements which made up this device perform any additional or different function in the combination than they perform out of it."³⁷ The Supreme Court held that the combination was obvious, and therefore not patentable, because a "patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men."³⁸ The Court, in effect, applied the No Benefit guideline that is also supported by both *Hotchkiss* and *KSR*.

Contrary to the opinion, the open, U-shaped frame was not of the same arrangement of elements as the elements in a closed, triangular frame, and the open frame did produce a new function and an unpredictable result. The open, U-shaped frame was hugely successful at reducing the time customers spent at the checkout line, and it was widely accepted and adopted. The lower court found that the invention "handled 30% more customers, took in 30% more money than formerly, and thus generally improved their efficiency."³⁹ These are facts supporting and proving an art-additive. As a matter of fact, an open frame includes a different combination of elements than a closed, triangular frame and the two frames function differently. Pool balls are packed into the triangular frame for tight-knit placement on a spot on the pool table. The U-shaped frame in *A&P* scoops in and drags randomly placed groceries along a counter for selective one-by-one removal by the cashier. Yet the Supreme Court opinion delivered by Justice

³⁷ *A&P*, 340 U.S. at 152.

³⁸ *Id.* at 152-153.

³⁹ *A&P*, 179 F.2d at 637.

Jackson expressly disavowed any review of the facts by stating, "[w]e set aside no finding of fact" and the "defect . . . is . . . a standard of invention"⁴⁰

It is submitted that the defect was not in the law, but in the facts as presented in the patent contract. The application of the No Benefit guideline by the Supreme Court becomes rational when the patent is analyzed as a contract for an art-additive. As alluded to above, courts frequently read and rely upon the entire patent, often like a contract, and the court often appears to rely as much on the specification as on the claims of a patent. The *A&P* patent satisfies none of the Art-Additive guidelines. To begin with, the claims of the *A&P* patent recited the equivalent of "a bottomless three sided frame on said portion and within which the merchandise is deposited and arranged" and only one claim recited, "said frame being open at the end adjacent the cashier's stand."⁴¹ All claims but one were met by merely placing the closed triangular pool-ball frame on a "portion" of a grocery checkout counter. In addition, the introduction of the *A&P* patent broadly recites that an "object of the invention is to provide a frame whereby the goods of a customer may be grouped together and moved along the counter as a unit."⁴² This is a result that can be achieved by the prior art pool ball frame. Accordingly, the patent contract can easily be interpreted to submit as the invention a bottomless frame to move groceries along a counter in the same fashion pool balls are moved on a pool table.

As the Supreme Court read the patent in *A&P*, it was for a combination of independently old elements each performing its intended function; to wit, a frame having three sides combined

⁴⁰ *A&P*, 340 U.S. at 153-154.

⁴¹ U.S. Patent No. 2,242,408 col. 4 l.65, col. 6 l.2 (issued May 20, 1941).

⁴² '408 Patent, col. 2, l. 7.

with a counter for moving articles over the counter. However, the *A&P* patent specification did support an art-additive by stating in "actual practice the arrangement . . . has substantially reduced the time per customer for checking the goods purchased and has resulted in a substantial reduction in the number of registers required and the number of cashiers" These unexpected results could not have been attained without the open, U-shaped frame, which is a new combination of elements and produced a new function, yet the application did not focus on this new combination of U-shaped elements, neither in the claims nor in the introduction. Had the patent drafter proactively applied the No Benefit guideline, the patent drafter might have realized that the application was focused on the mere combination of a three-sided rack on a counter. Using the No Benefit guideline, the application could have been more focused on the U-shaped rack or frame, with more embellishment of the function of the U-shape which allows the return of the rack or frame for unloading and a second loading of groceries as the first load is being checked out by the cashier. An art-additive sufficient to justify a patent existed in *A&P*, but it was not clearly presented.

. The only difference between *Webster Loom* and *A&P* is in the presentation of the art-additive in the patent contract. *Webster Loom* was focused on, and conformed to, the art-additive guidelines, whereas the patent in *A&P* was totally unfocused and adhered to none of the art-additive guidelines. More specifically, the claims and introduction in *Webster Loom* were specific to the combination that resulted in the art-additive of increased output, whereas the claims in *A&P* did not recite the specific combination that resulted in the art-additive, nor did the introduction recite the specific combination or connect all of the benefits in checkout efficiency to that specific combination.

Clearly, a patent preparer should draft a patent application with the objective of proving an art-additive by reciting a combination that includes something new or produces a new function or unpredictable result so as to be presumed patentable, i.e., a non-obvious inventive step. The lesson reinforced by this decision is that the entire patent should focus on the art-additive and present facts that satisfy the Art-Additive guideline. A subtlety is that even if a scintilla of an art-additive is presented in the introduction, it will not render claims valid that can be interpreted to cover the prior art.

C. *Where is the Benefit? - Graham v. Deere*⁴³

U.S. Patent No. 2,627,798 was the second patent issued to W.T. Graham directed to a mechanism for dragging a tiller or plow shoe over the ground while allowing the shoe to move up and down in response to hitting rocks, etc. A shank supported the shoe and extended upwardly in a semi-circle and then forwardly to a hinge plate which was pivotally supported to allow the shank to move up and down. The shank was supported on the bottom surface of the hinge plate in the second '798 patent before the U.S. Supreme Court, whereas the shank was supported on the top surface of the hinge plate in the first '811 patent. In the purportedly new combination, the shank was bolted to the bottom surface of the lower hinge plate at the forward end of the hinge plate. The shank ran from the bolted forward end under the length of the hinge plate rearward through a stirrup attached to the bottom of the hinge plate and into several feet of curving down to the tiller shoe or plow.⁴⁴ The presentation in the second '798 patent was not

⁴³ *Graham.*, 383 U.S. 1.

⁴⁴ *Id.* at 19-21.

focused on the structural differences over the inventor's own prior '811 patent.

The new combination was to move the shank to the bottom of the lower hinge plate, but the only two claims in the new '798 patent were very long and detailed, and required study to ferret out structural distinctions over the inventor's prior '811 patent. The claims of the '798 patent did not clearly set forth the distinguishing structure and used terminology not found in the description, e.g., the "lower hinge plate" referred to in the appeal was designated the "movable part" in the description and the "attaching member" in the claims. The clearest recitation in the claims of the new combination resides in "whereby the plate portion of the shank attaching member is between the shank and the fixed member," wherein the "attaching member" is the lower hinge plate and the "fixed member" is the upper hinge plate.

In addition to having deficient claims, the attributes set forth in the introductory section of the '798 patent provided by the new structure were sufficiently broad to also apply to the structure of the previous '811 patent. In fact, the introductory sections of the two Graham patents could be exchanged one for the other. The '798 patent did not present art-additive facts attributable only to the new structure. In an effort to correct this during the trial and on appeal, the patentee argued that the new structure permits the shank to flex under stress for its entire length. The Court commented:

Petitioners' argument basing validity on the free-flex theory raised for the first time on appeal is reminiscent of *Lincoln Engineering Co. of Illinois v. Stewart-Warner Corp.*, 303 U.S. 545, 58 S.Ct. 662, 82 L.Ed. 1008 (1938), where the Court called such an effort 'an afterthought. 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.**' At p. 550, 58 S.Ct. at p. 665. No 'flexing' argument was raised in the Patent Office. Indeed, the trial judge specifically found that 'flexing is not a claim of the patent in suit * * * and would not permit interrogation as to flexing in the accused devices.

Moreover, the clear testimony of petitioners' experts shows that the flexing advantages flowing from the '798 arrangement are not, in fact, a significant feature in the patent.⁴⁵

The Court regarded the "flexing" issue to be one of advocacy instead of fact, and inferred that if the flexing issue had been submitted in the original patent application, then the flexing issue could have been deemed a fact. Accordingly, the Court found all of the elements to be known in the prior art, which included a second reference not before the USPTO. The second reference showed a stirrup, and the only difference was the re-arrangement of the elements, i.e., repositioning the shank from the top surface of the lower hinge plate to the lower surface without a new function. The Supreme Court stated, "[a] person having ordinary skill in the prior art, given the fact that the flex in the shank could be utilized more effectively if allowed to run the entire length of the shank, would immediately see that the thing to do was what Graham did, i.e., invert the shank and hinge plate."⁴⁶

The second Graham '798 patent claimed a new combination of elements, but the patent provided absolutely no new art-additive beneficial to society. The presentation of an art-additive in the patent contract that was also achieved in the prior art allowed the Court to hold that it would be common sense to use a bolt to retain the shank to the lower surface hinge plate. One skilled in the art would merely have to apply common sense to select and combine known elements with no new function, i.e., a predictable result. The first sentence of the Art-Additive Facts guideline is verified by this decision, to wit: The introductory section of the patent application should focus on facts proving the specific art-additive resulting from the combination

⁴⁵ *Id.* at 25 (emphasis added).

⁴⁶ *Id.* at 25.

of elements recited in the broadest claim. The facts should not prove an art-additive that has already been attained in the prior art and should be devoid of extraneous material.

The author suggests that the second sentence of the Art-Additive Facts guideline is verified by the *Graham* decision and in Europe by Paul Cole. To repeat, that sentence from above is: “Conversely, the art-additive and supporting facts should not be withheld from the application for submission during prosecution or litigation, where they will likely be regarded as advocacy instead of fact.” Paul Cole makes these points, confirming the importance of the facts proving an art-additive in the patent application as distinguished from being withheld and presented later in litigation.⁴⁷

It is apparent that judges, and especially non-specialist judges such as those in the U.S. District Courts and the Supreme Court, are markedly unimpressed with features whose ingenuity is not mentioned in the patent specification.⁴⁸

and

A further source of unanimity between the US and the UK courts is a dislike of features given no prominence in the specification of the granted patent, but seized on during litigation as the key to inventive step. At the least, every feature from which an advantage flows should find its way into main or subsidiary claims. Very preferably the new functions, new results or other advantages should be highlighted and explained in the supporting description, because their credibility at the priority or filing date is many times greater than it is at [sic] if first identified post-grant. US courts have in recent years emphasized the public notice function of patents. Compliance with the public notice requirement, it is submitted, includes explaining what features contribute to the invention in its broadest and more specific aspects, and why they do so.⁴⁹

⁴⁷ Paul Cole, *Fundamentals of Patent Drafting*, The Chartered Institute of Patent Attorneys (2006). ED.NOTE: I have been unable to obtain this source.

⁴⁸ Cole, *supra* note 47, at 27.

⁴⁹ Cole, *supra* note 47, at 37.

and the following quote referring to the “Windsurfer” patent, which will be discussed below,

The positive indications that we can derive from the Graham and the Windsurfer tests as applied in practice are that judges are much more impressed with the underlying **technical facts** than they are with the surrounding circumstances, that they are looking for real advantages of an **unexpected** character, and that alleged **advantages unsupported** in the patent application as filed and only identified by hindsight lack persuasive power.⁵⁰

The emphasized portions of the quote acknowledge the art-additive, and the importance of finding the art-additive and focusing upon it in the original patent application. The case law is stacked against a patent resulting from an application sent to the patent office on a fishing expedition without being focused on an art-additive, which is first presented later in litigation. "To await litigation is-for all practical purposes-to debilitate the patent system."⁵¹

Clearly, not only must an art-additive be identified and distinctly claimed, but none of the facts supporting and proving the art-additive can safely be withheld from the originally prepared and filed patent application.

*D. An Entire Patent Focused on an Art-Additive - In re Adams*⁵²

This *Adams* decision resulted from an appeal from a rejection by the USPTO that was reversed by the CCPA and resulted in U.S. Patent 3,286,477 to Harold W. Adams on November 22, 1966. Prior to Adams, round containers were moved in a helical path about an axis in a cooler while spraying liquid water radially onto the containers for cooling by evaporation of the water.⁵³ The new combination of independently old elements substituted aerated cooling water

⁵⁰ Cole, *supra* note 47, at 29 (emphasis added).

⁵¹ *Graham*, 383 U.S. at 18.

⁵² *In re Adams*, 356 F.2d 998 (C.C.P.A. 1966).

⁵³ *Id.* at 999.

by introducing a gaseous medium into a cooling liquid to form a foam coolant to cover the surface of the cans without splashing. As distinguished from the totally liquid water of the prior art, the cans were cooled 26% more efficiently with aerated water.⁵⁴ A first prior art reference disclosed an apparatus for cooling containers by directing a spray of totally liquid water radially onto the containers.⁵⁵ The secondary prior art reference disclosed a water aerator to be connected to a faucet to prevent running water from splashing when it hits the user's hands,⁵⁶ but says nothing about using aerated water for cooling. The USPTO argued that heat transfer is inherent in an aerated spray, making it obvious to substitute an aerated spray for a liquid spray. However, no references were found that showed aerated water being used in a heat transfer application.

Although all of the elements in the combination were found to be independently old in the prior art, the use of the aerated water produced a new and unpredicted result, i.e., a 26% increase in the cooling rate. In fact, the first prior art reference even taught that the splashing, which naturally occurs with totally liquid water, was desirable because it increased evaporation of the water, thereby increasing the heat transfer. Judge Rich effectively acknowledged that the combination including aerated water produced a new function or unpredictable result and was patentable because the USPTO rejection did not contain facts leading to the combination based on cogent reasoning unequivocally independent of hindsight.

The significance of this case is that the patent application was entirely and exclusively focused on the art-additive. The claims were clearly and distinctly directed to cooling round

⁵⁴ *Id.* at 1000.

⁵⁵ *Id.* at 999.

⁵⁶ *Id.* at 1000.

containers with a foam coolant generated by introducing a gas into water. The introductory section of the patent set forth the prior art of cooling by spraying round containers with water, specifically stating that "[i]t has been discovered that replacement of fan-type spray nozzles with aerating or foam nozzles greatly improves the cooling efficiency."⁵⁷ Clearly, the introductory section acknowledged a substitution of one element for another, i.e., an aeration nozzle for a spray nozzle. In addition, the specification recites test data to support the improved cooling efficiency and specifically recites the 26% increase in the cooling rate.⁵⁸

The presumption of a non-obvious inventive step is very difficult to overcome when the art-additive is surprisingly spectacular and/or unexpected. When the factual evidence supports an art-additive that is sufficiently beneficial to deserve an exclusive patent, the odds are that the patent will be deemed to be directed to a non-obvious inventive step. Most persuasively, administrative instructions to USPTO examiners require facts, not speculation or personal views, by stating that "impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art."⁵⁹

The successful Adams patent masterfully framed all three art-additive guidelines. In fact, the patent preparer found a combination of independently old elements, which produced a new function and/or an unexpected result to provide an art-additive. The claims clearly and distinctly pointed out that specific combination of elements, and the supporting art-additive facts were specifically and exclusively presented in the introduction of the application. This opinion

⁵⁷ U.S. Patent No. 3,286,477 col.1, 1.27-30 (issued November 22, 1966).

⁵⁸ '477 Patent, col.3, 1.3-37.

⁵⁹ MPEP § 2142 (2007).

reinforces the use of all of the art-additive guidelines to prepare a patent which clearly and distinctly claims a combination that results in an art-additive that is also supported and proved in the introduction of the application. Such a patent application hits the validity bull's eye to maximize the odds of being granted and successfully enforced.

E. The Gamble of Getting the Right Court for an Unfocused Patent

The validity of a patent sent to the patent office on a fishing expedition, without being focused on an art-additive, may be dependent upon the expertise and patience of the court. If the ultimately allowed claims recite a combination that results in an art-additive but the art-additive is buried in extraneous and overbroad material, the court may not have the patience to isolate only the terms of the patent contract which support and prove the art-additive, but instead seize upon all of the extraneous material that diminishes the art-additive. Extraneous material in a patent that is outside the art-additive increases the odds against the patent being granted and successfully enforced.

A paper was delivered in October 2007 at the AIPLA Annual Meeting in Washington D. C. by Dr. Frank van Bouwelen of the European law firm of Hoffmann-Eitle of Munich and London.⁶⁰ The paper analyzes the polymer/taxol-coated stent patent (EP 0706376) that was litigated post grant in 1997 by the EPO in both the UK and in the Netherlands, with opposite results, which can only be explained by the differences in the fact finding by the courts. The No Benefit guideline is applicable to the UK decision, in which the court picked facts out of the

⁶⁰ Dr. Frank van Bouwelen, *Comparison of Inventive Step Tests in Different European Countries*, 1-21, (October 2007), http://www.aipla.org/Content/ContentGroups/Speaker_Papers/Annual_Meeting_Speaker_Papers/200717/VanBouwelen-paper.pdf

unfocused and extraneous material in the patent specification that could be interpreted in a logical fashion to lead to the claimed combination. The claimed combination was found to be a mere use of common sense by one skilled in the art to select and combine and test known elements to obtain the desired or predictable result. On the other hand, the Art-Additive guideline is applicable to the Dutch decision, in which the court isolated facts out of the unfocused and extraneous material in the patent specification whereby the claimed combination produced unexpected results.

1. The EPO Patent Application

The broad claim originally filed in the application merely recited:

A composition comprising:
a) an anti-angiogenic factor; and
b) a polymeric carrier.⁶¹

This claim was narrowed because of prior art in the name of Wolff, which disclosed a vascular stent coated with a composition comprising any one of a few anti-angiogenic agents and a polymer, but did not specifically recite taxol. The EPO granted the patent based upon taxol being substituted into the known broad combination. The exemplary focused claim litigated in the UK and the Netherlands recited:

A vascular stent coated with a composition comprising taxol and a polymeric carrier for treating or preventing recurrent restenosis.⁶²

The patent specification was over-broadly directed toward the use of any one of a group of known anti-angiogenic factors on known stents. The Technical Field recites:

⁶¹ van Bouwelen, *supra* note 60, at 4.

⁶² van Bouwelen, *supra* note 60, at 6.

The present invention relates generally to compositions and methods for treating cancer and other angiogenic-dependant diseases, and more specifically, to compositions comprising anti-angiogenic factors and polymeric carriers, stents, which have been coated with such compositions as well as methods for utilizing the stents and compositions.⁶³

The specification is very voluminous, and as the U.K. court said, “the disclosure in respect of taxol-eluting vascular stents is slight.”⁶⁴ As Dr. van Bouwelen's article summarizes, the application presents the coated stents in extensive unrelated matter, taxol as one of many anti-angiogenic agents (some that do not work), and no mention of a polymer/taxol-coated stent being effective against restenosis. The application was indecisive and eventually settled on claims specific to the vascular stent coated with taxol and a polymeric carrier, but the application made no specific case for this combination to produce the art-additive of restenosis prevention. The application contained no cogent or persuasive art-additive in terms of new function or unpredictable result from this specific combination. In contradistinction, the application sets up the polymer/taxol-coated stent as one of many combinations of old elements, which could, and should, be combined to treat cancer, including some that did not work.

2. The UK Opinion

The UK court was not impressed with the scattered approach to the patent application. The patent application paid no attention to specifying an art-additive commensurate with the specific polymer/taxol-coated stent. The UK court stated:

In my judgment, this question is to be answered by assessing the **contribution to the art** disclosed by the specification. For the reasons that I have given above, I am satisfied that the disclosure of the

⁶³ European Patent No. 0706376, 2, 1.5 (February 2, 1995).

⁶⁴ van Bouwelen, *supra* note 60, at 8.

specification is that taxol may be incorporated in a stent. It does not suggest that such a stent would be safe or that such a stent would work to prevent restenosis. I think it is fair to say that the sum of the disclosure of the specification is that taxol should be incorporated in a drug-eluting coating on a stent with a view to seeing whether it works to prevent restenosis and whether it is safe. If it is obvious to the skilled person that taxol should be incorporated in a drug-eluting coating on a stent with a view to seeing whether it prevents restenosis and is safe, then the claim is invalid, the specification having made **no contribution to the art**.⁶⁵

The UK court found facts in the patent that the polymer/taxol-coated stent resulted from a mere selection of elements from the prior art with no urgency of an art-additive based upon the unpredictable result of preventing restenosis. The pivotal fact between the No Benefit and Art-Additive guidelines is addressed in an important caveat by the UK court:

Things would be different of course, if Patentee had disclosed that in some way "taxol" was different, or better, or one of only a few anti-proliferative that would work. His contribution to human knowledge would then be of value. He would have made and disclosed a valuable selection from the range of possible antimitotics. As things stand, however, the skilled team would, having read the patent, really know no more than it would having read Wolff.⁶⁶

In short, the UK court would have sustained the patent if the application had presented a "contribution to human knowledge," i.e., the art-additive that the polymer/taxol-coated stent combination prevents restenosis. The problem, of course, was that the entire application was not focused on the specific polymer/taxol-coated stent eventually claimed, and that there was no mention of a polymer/taxol-coated stent being effective against restenosis.

3. The Dutch Opinion

On the other hand, the Dutch court sustained the patent because the court found a

⁶⁵ van Bouwelen, *supra* note 60, at 10-11 (emphasis added).

⁶⁶ van Bouwelen, *supra* note 60, at 11-12 (emphasis omitted).

"contribution to the state of the art,"⁶⁷ i.e., an art-additive. The Dutch court commented upon the UK decision:

However, in the view of this court there is no speculation by the patentee, as assumed above by the English court. In fact the patentee sufficiently clearly indicates in the patent that it is advantageous to use taxol (inter alia but also specifically for restenosis) and states as reason for this that taxol scores well in the CAM assay to demonstrate its anti-angiogenic [sic] effect, bearing in mind that the patentee saw the solution for restenosis in the use of an anti-angiogenic [sic] factor. The circumstance that other anti-angiogenic factors are also suggested in the patent (and are [sic] also specifically claimed in the original documents) does not alter this. After all, this does not deprive the specific unambiguous choice to use the taxol-stent upon restenosis from its inventive character. It is sufficient that by applying the teaching of the patent the claimed advantage can be effected, and so use of a taxol-stent to prevent restenosis after an angioplasty intervention can be considered to be the **contribution to the state of the art** ("technical contribution").⁶⁸

Instead of holding negative facts in the patent against the patent, the Dutch court found enough positive facts to support an art-additive attendant to the patent claim, and the claim was held to be valid. The Dutch court held that the elements were old, but that the new combination of old elements produced the unpredictable result of preventing restenosis:

It is legitimate to conclude that the selection of taxol from this large group did not produce an expectable optimal effect but rather **a precisely surprising effect**. Contrary to the other medicines proposed by Wolff... the taxol-stent precisely does have an effect on prevention of restenosis.⁶⁹

The Dutch court relied heavily on the unexpected result, "a precisely surprising effect", to conclude that the prevention of restenosis by the taxol-stent was a sufficient art-additive to justify a patent even though the unexpected result was not specifically mentioned in the patent.

⁶⁷ van Bouwelen, *supra* note 60, at 16.

⁶⁸ van Bouwelen, *supra* note 60, at 16 (emphasis added).

⁶⁹ van Bouwelen, *supra* note 60, at 15 (emphasis added).

4. The Appeal to the House of Lords in the UK

Long after the UK and Dutch opinions discussed above, the House of Lords overruled the lower UK court and upheld the patent in the UK⁷⁰ Lord Hoffman wrote the opinion and basically held:

[T]he invention is the product specified in a claim and the patentee is entitled to have the question of obviousness determined by reference to his claim and not to some vague paraphrase based upon the extent of his disclosure in the description.⁷¹

The opinion went on to state "the correct question is 'whether it was obvious to use a taxol-coated stent to prevent restenosis.'" The opinion held that there was nothing in the prior art that indicated that a taxol-coated stent would prevent restenosis, i.e., nothing that rendered the claimed taxol-coated stent obvious. The House of Lords held the Obvious to Try test is only applicable in a case where there is a fair expectation of success and nothing in the patent or the prior art demonstrates that a taxol-coated stent actually works to prevent restenosis.

The effect of the decision of the House of Lords is that an art-additive justifies a patent so long as it is attendant to the claim and regardless of whether it is focused upon in the application. The danger in such an approach to patent preparation is that a court may view an art-additive urged after the patent is granted as mere advocacy, not fact. According to Lord Walker's concurring opinion, this danger is a legitimate risk to the patentee:.

So the patent has finally been upheld in your Lordships' House. I have to say that in my view the inventors and those who drafted the specification

⁷⁰*Conor Medsystems Inc v Angiotech Pharmaceuticals Inc.l*, [2008] All E.R. 621 (UKHL) (Approved judgment).

⁷¹*Id.* at ¶19. ED.NOTE: Please check this pin point.

have to some extent brought the tribulations of this litigation on themselves. . . .

The inventors were carrying on research work with various substances which held out the prospect of exciting medical advances, not only in preventing restenosis but also in the treatment of cancer. They understandably wished to cover as much ground as possible in the specification. But in doing so they risked making it so unfocused as to end up with nothing capable of resisting a challenge to its validity.⁷²

The lower UK court found "that the sum of the disclosure of the specification is that taxol should be incorporated in a drug-eluting coating on a stent with a view to seeing whether it works to prevent restenosis."⁷³ The UK court combined facts from the patent and the Wolff prior art which led along a logical path to the combination and the results, expected or not. On the other hand, the House of Lords and the Dutch courts were driven by the art-additive of preventing restenosis even though it was not mentioned in the patent. In upholding the patent, these courts focused on the combination and the attendant unexpected results. They were not deterred by the extraneous, divergent and overbroad recitations in the patent, none of which addressed the art-additive. Obviously, reasonable patent experts can differ over these decisions, but their differences would be resolved if the patent had focused on the art-additive of restenosis prevention as inferred by the lower court in the UK.

F. The Missed Art-Additive of the Windsurfer Patents

Paul Cole⁷⁴ expertly analyzes in detail the history of the Windsurfer patents and suggests lessons to be learned in patent preparation, which are consistent with the art-additives suggested herein.

⁷² *Id.* at ¶52. (emphasis added). ED.NOTE: Please check this pin point.

⁷³ van Bouwelen, *supra* note 60, at 10.

⁷⁴ Cole, *supra* note 47.

One inventor was an aeronautical engineer and recreational sailor, and the other was a computer analyst and recreational surfer. The unfocused patent was drafted too broadly; the introductory section stated that "the invention pertains" to "ships, particularly sailboats and iceboats, and . . . land vehicle with sail propulsion."⁷⁵ In the description of the prior art in the patent, there was an admission that sail propulsion had been suggested for surfboards, which Paul Cole believes was unintentional. The claims, as filed, recited a "wind-propelled vehicle . . ."⁷⁶ Although the invention was only applicable to a watercraft, more particularly a surfboard, there was no description to distinguish the structure of a surfboard, upon which a user could stand, from the hull of an ordinary sailboat. Again the patent application was not focused from the claims to the introductory section. The independently old elements that the Windsurfer combined are a surfboard, a universally supported mast, a sail on the mast, a wishbone boom used to control the sail, and the shape and position of the sail. Each of these elements functioned as expected, but as will be clear, the combination produced unexpected results.

Since all of these elements were independently old and appeared to fall under the No Benefit guideline, it was incumbent upon the patent attorney to question the inventors to understand entirely, and in minute detail, how the invention functioned. During this critical stage in the preparation of a patent application, the attorney should understand the reason for every single element and the operational relationship between the elements. The identification and framing of the art-additive was not thorough enough in this case.

In a thorough interrogation, the inventors would have likely revealed that the very

⁷⁵ European Patent No. GB-A-1258317, 1, 1.13 (filed Feb. 28, 1969).

⁷⁶ '317 Patent, 3, 1.27.

unexpected and extraordinary speed and exhilaration of surfing without a wave was accomplished by standing on a surfboard-like hull to control a sail with a wishbone boom about a mast universally attached to the hull. The enthusiasm of the inventors would have conveyed the unimaginable or unexpected results of darting about on a relatively smooth body of water using wind power, combined with weight distribution and mast-sail manipulation via the boom. The shape and position of the sail would have been ferreted out in these discussions, along with the operational cooperation between the surfboard, the universally movable mast, the two-sided boom and the sail. The inventors would have pointed out that the skills necessary to dart about on the Windsurfer were completely different from those applied to any known craft. This art-additive should have been set forth in word-picture form in the patent application.

The Windsurfer invention illustrates a combination of independently old elements, but it produces a new function or unpredictable result that must be presumed to be a patentable non-obvious inventive step. However, the original application did not focus enough on the unexpected results produced by the specific combination. The art-additive of darting about on smooth water is analogous to the 26% increase in cooling of *In re Adams*.

As Paul Cole states, "[j]udges have the recurring characteristic that they treat ill-prepared documents dismissively and patent specifications are no exception, as the . . . U.S. Supreme Court . . . demonstrates."⁷⁷ The presentation in the Windsurfer patents created hurdles to overcome for enforcing the patent in litigation in different countries with different outcomes and necessitating a re-issue patent, Re. 31,167, in the U.S. to re-focus the invention in the claims.

⁷⁷ Cole, *supra* note 47, at 243.

SUMMARY

The courts read the entire patent as a contract, looking for an art-additive in exchange for the exclusivity of the claimed combination, which results in that art-additive.

In response, the task of the patent preparer is to 1) find the art-additive in relationship to the prior art,⁷⁸ 2) draft the broadest claim that produces the art-additive, and 3) focus the entire application around the art-additive, while making sure there are no facts which can be logically connected in a path from the prior art to the broadest claim.

A patent application hits the validity bull's eye and provides the maximum number of validity points when it contains claims that recite a combination of elements producing a new function and/or an unexpected result, and when the art-additive is focused upon in the introduction of the patent to support and prove a non-obvious inventive step. The least number of validity points are provided in the outermost ring of the target, in which the patent application is overly broad in the claims and in the introduction, and is sent to the patent office on a fishing expedition in search of a claim defining a difference over the prior art.

An increasing number of validity points are provided in the centric rings of the validity target from the outermost ring to the bull's eye. To score any validity points at all, the claims must meet the Art-Additive guideline and recite a new combination of elements, all independently old or least one new element. The validity points increase from the outermost ring to the bull's eye, in proportion to the degree that a patent focuses on an art-additive that is based upon a new function and/or an unexpected result. The validity points also increase from larger to

⁷⁸ Milton, *supra* note 36 (wherein the author suggests the U.S. case law requires a prior art search).

smaller target rings, proportionately to the exclusivity of the facts supporting the art-additive, i.e., exclusive of extraneous material including results that can be achieved by the prior art and/or which can be logically connected in a path to the broadest claim. On the other hand, some courts may save the patent from its own demise so long as there is a scintilla of an art-additive, even if it is first presented in litigation where it could be regarded as advocacy instead of fact. A prudent patentee should not risk drawing such a court.

When a patent application hits the validity bull's eye, examiners and judges and/or juries have more difficulty finding facts in the prior art that can be logically connected with common sense in a path to unequivocally overcome the presumption of being a patentable non-obvious inventive step.