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Inherent Anticipation

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I. INTRODUCTION

The doctrine of inherent anticipation has received substantial attention from the courts recently. At least one trial court has expressed frustration over an apparent split of authority in the case law, and the United States Court of Appeals for the Federal Circuit has responded with its most recent pronouncements for governing inherency disputes. This article summarizes the apparent inconsistencies in the case law and suggests that the various notions of inherency can be harmonized under the Federal Circuit's decision in *Continental Can Co. v. Monsanto Co.* n1

Recently, in the case of *Fenton Golf Trust v. Cobra Golf, Inc.*, n2 the U.S. District Court for the Northern District of Illinois perceived a split of authority in the law of inherent anticipation. n3 The court expressed concern that two Federal Circuit decisions articulate inconsistent standards for inherency. n4 In particular, the district court stated that *Continental Can* and *In re Graves,* n5 together with their progeny, have left trial courts without sufficient guidance for resolving inherency disputes. n6 According to the district court, *Continental Can* announces a narrow scope of inherency limited to the technological facts of the reference, while *In re Graves* offers a much broader scope of inherency that resembles an obviousness determination. n7

[*298] In the 1999 case, *In re Robertson*, n8 the Federal Circuit established *Continental Can* as the governing law for inherency disputes. n9 The court did not attempt to resolve the apparent inconsistencies between *Continental Can* and *In re Graves*. n10 This article agrees that *Continental Can* is the proper standard for inherency and goes beyond the language of *Robertson* in an attempt to integrate the Federal Circuit's various rulings into a unified notion of inherency.

The Federal Circuit has applied the doctrine of inherent anticipation in at least three kinds of factual circumstances: 1) inherent physical properties of prior art references; n11 2) inherent methods of practicing an art; n12 and 3) inherent ways of using prior art references. n13 This article argues that these three notions of inherency are all properly governed by the *Continental Can* standard.

Part II of this article gives a general discussion of inherent anticipation and the perceived split in governing standards. Part III presents the three notions of inherency that the Federal Circuit has recognized and attempts to harmonize the various holdings of the court under the *Continental Can* standard.

II. AN OVERVIEW OF INHERENT ANTICIPATION

Inventions have to be novel to qualify for patent protection. n14 This common sense notion is codified at *35 U.S.C. § 102* and bars patentability of inventions that have been anticipated by prior art. n15

The Federal Circuit has recognized two general kinds of anticipation: express anticipation and inherent anticipation. First, a claimed invention is unpatentable if it is expressly anticipated by a prior art reference. n16 "It is hornbook law that anticipation must be found in a

[*299] single reference . . . ." n17 To find express anticipation, the reference must expressly disclose every limitation of the claimed invention. n18

The Federal Circuit has also stated, consistent with the rulings of its predecessor court, that a prior art reference may "inherently" anticipate a claimed invention, even if the reference does not expressly disclose the later invention. n19 The doctrine of inherency serves to create a penumbra of structural and functional language around prior art claims, and its scope can change substantially under different circumstances. n20 Although inherent anticipation has long been a recognized doctrine, its contours are as yet unresolved. Two leading cases provide insight as to the competing theories of inherent anticipation.

A. *Continental Can*

Continental Can Co. v. Monsanto Co., n21 issued by the Federal Circuit in 1991, summarizes the holdings of a series of earlier Federal Circuit and Court of Customs and Patent Appeals ("CCPA") cases. n22 The issue in *Continental Can* was whether the district court had properly invalidated a patent for anticipation on summary judgment. n23 The patent at issue

[*300] claimed a plastic bottle with hollow support ribs. n24 A prior art bottle claimed plastic ribs, but did not specify whether the ribs were hollow or solid. n25 The challenger pointed to expert testimony indicating that the manufacturing process for the prior art bottles would inherently produce hollow ribs and therefore argued that the newly patented bottle was inherently anticipated by this reference. n26

The Federal Circuit ruled that summary judgment was improper. n27 There was contradictory evidence as to whether the cited manufacturing process would produce hollow ribs and such uncertainty could not support a finding of inherent anticipation. n28 The prior art reference did not expressly claim the missing element of hollow ribs, and it was not clear that such hollow ribs were inherently present as a by-product of the manufacturing process. n29

The court announced that in order to find inherent anticipation, the undisclosed element of the prior art--here, the allegedly hollow ribs produced in manufacturing--had to be a necessary technological fact of the prior art. n30 The court maintained that it is inadequate to show that the prior art process would probably, or possibly, produce the undisclosed element. n31 Rather, the undisclosed element had to flow as a natural consequence from the technological constraints of the prior art. n32

The court added a second prong to the test by requiring persons of ordinary skill in the art to recognize the undisclosed element as a natural characteristic of the prior art. n33 The court, however, narrowly circumscribed the scope of insight that experts might bring to an anticipation analysis. n34 The court stated that artisans should restrict their scrutiny to determine only the undisclosed technological facts of the prior art. n35 Broader speculation of the characteristics of the prior art was deemed

[*301] inappropriate for an anticipation analysis and was instead reserved for an obviousness inquiry. n36

The court summarized the test for anticipation as whether
the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing . . . would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient. n37

Thus, the *Continental Can* test establishes a narrow scope of inherency. It is a retrospective test, asking whether a reasonably skilled artisan can look back at a prior art reference and determine that an undisclosed element is a technological fact of the art.

B. *In re Graves*

In re Graves n38 is recognized as offering the broadest articulation of the doctrine of inherent anticipation. n39 In contrast to *Continental Can*, *Graves* has been interpreted as supporting a wide scope of inherency. n40

The patent in *Graves* concerned a method for testing electrical systems. n41 Graves, the applicant, claimed a diagnostic method for applying signals to electrical systems and then monitoring the continued presence of those signals to detect errors. n42 One element of a claim in dispute disclosed "simultaneously monitoring the selected multiple connection points or wires for presence of the test signal." n43 The Board of Patent Appeals and Interferences ("BPAI") adopted a broad construction of this element, ruling that it required simultaneous monitoring of the input point and a single output point, i.e., a series circuit, but not necessarily the simultaneous monitoring of an input point and multiple output points, i.e., a parallel circuit. n44 The dissent construed the claim

[*302] more narrowly, stating that it was limited to simultaneous monitoring of the input point and multiple output points, i.e., a parallel circuit. n45

Patentee Rockwell disclosed a similar invention. n46 Rockwell's invention indisputably taught all the elements of Graves' application except for, depending on the construction of Graves' claim, the above-quoted element. n47 Rockwell did disclose the simultaneous monitoring of the input point and a single output point. n48 As such, the BPAI found that Rockwell expressly anticipated Graves' claim and therefore denied Graves' application. n49 Under the dissent's construction of Graves' claim however, there was no express anticipation since Rockwell's invention did not explicitly disclose the simultaneous monitoring of multiple output points. n50 The majority, in what might be termed dicta, refuted the dissenting judge's opinion on the grounds of inherent anticipation. n51 The majority argued that Rockwell inherently taught a method for monitoring a parallel circuit by teaching a method for monitoring a series circuit. n52 The majority noted that Graves had admitted that "one with knowledge of 'basic electronics and simple logic' would understand the difference between the operation of the series circuit of Rockwell and the parallel circuit of the claimed invention." n53

The majority then articulated its test for inherent anticipation. n54 Adopting the rhetoric of the CCPA's opinion in *In re LeGrice*, n55 the court reasoned that Rockwell inherently anticipated Graves because "a skilled artisan could take Rockwell's teachings in combination with his own knowledge and be in possession of the device of applicant's claim." n56

Graves can be construed as a far broader conception of inherency than that articulated in *Continental Can*. The *Graves* test appears to

[*303] espouse a prospective view of inherency that resembles an obviousness determination. *Graves* asks whether a prior art device teaches subsequently claimed inventions when taken in the context of the common knowledge of skilled artisans. Furthermore, *Graves* draws no limits to restrict the scope of background knowledge that might be used to assess the novelty of a new claim.

C. *Fenton Golf*

The contradictory articulations of the inherency doctrine in *Continental Can* and *Graves* created confusion in the 1998 case, *Fenton Golf Trust v. Cobra Golf, Inc.*. *n57* *Fenton Golf* is a patent infringement case concerning golf club hosels. n58 A hosel is the socket in the head of a golf club into which the shaft is inserted. n59 Patentee Fenton asserted two claims against Cobra: Claims 4 and 7. n60 Claim 4 of Fenton's patent claimed a hosel with an elliptically shaped cross-section. n61 Fenton's Claim 7 claimed a wood-type golf club head comprising the hosel invention. n62

As prior art, Cobra presented a golf club known as the Hammerhead club. n63 The Hammerhead club has an iron-type head with a cylindrically shaped hosel. n64 Cobra moved for summary judgment based on its argument that the Hammerhead club anticipated Fenton's invention. n65

The court noted that there was no express anticipation of either claim. n66 The cylindrical hosel of the Hammerhead club did not expressly anticipate the elliptical hosel, nor did the iron-type head of the reference expressly teach the use of the hosel in a wood-type head. n67 Fenton produced expert testimony that those of ordinary skill in the art would

[*304] not have understood that elliptical hosels could be used in place of cylindrical hosels. n68

The court declined to find on summary judgment that Cobra's invention inherently anticipated Claim 4 of Fenton's patent, stating that Fenton had created a material issue of fact as to whether cylindrical hosels could be interchanged with elliptical hosels. n69 The court did, however, enter summary judgment for invalidity of Claim 7 under a theory of inherent anticipation. n70 The court noted that Fenton had not addressed whether hosel artisans, as a matter of common knowledge, would view hosels in wood-type heads as substitutable with hosels in iron-type heads. n71

In reaching its conclusion, the court grappled with the legal standards announced in *Continental Can* and in *In re Graves*. n72 Fenton argued that the court should apply the more restrictive standard for inherent anticipation articulated in *Continental Can*. n73 Cobra sought application of the broader standard established in *In re Graves*. n74 The court, faced with these apparently divergent legal standards, found no grounds to reconcile the two cases. n75 Judge Zagel wrote that "after reviewing these decisions, I find myself facing a puzzling question of law and having a difficult time finding meaningful consistency in the distinct rules Fenton and Cobra ask me to apply." n76 He added that the rule of *In re Graves* is clearly "different from the one in *Continental Can*, which requires that missing elements in a prior art reference must be inherent or necessarily present in a claimed invention to permit a finding of anticipation." n77 Judge Zagel construed the *In re Graves* standard to be "whether one skilled in the art would understand that the Hammerhead club could be made with an elliptically shaped hosel or with a wood club head." n78

[*305] In the end, *Fenton Golf* adopted the broader *In re Graves* standard. n79 The court reasoned that it is impossible to cleanly distinguish between prior art and common knowledge and therefore courts must inevitably view prior art references in light of the common knowledge of artisans at the time of invention. n80 In the words of the court, prior art and common knowledge seem to reside on the same spectrum, and the line between them blurs at a point. Common knowledge must often times be nothing more than that which is disclosed by prior art references that have been known for a substantial amount of time or extensively used. n81

The court found that since reasonably skilled artisans would commonly know that the hosels and head types could be interchanged, the Hammerhead club inherently anticipated Fenton's club. n82

While the *Fenton Golf* court relied on the broad language of *Graves* to suggest that the common knowledge of artisans can be brought into an anticipation analysis, it is not clear that the court thereby reached a sound result. The weight of Federal Circuit case law, as will be shown, holds that inherent properties of prior art should be limited to the technological facts of the references. Once it is determined that an undisclosed property is an inherent technological fact of a reference, then *Continental Can* provides that it is proper to ask whether reasonably skilled artisans would recognize the property as a fact. n83 But until it is determined that an unexpressed characteristic of a reference is a necessary technological fact, Federal Circuit case law holds that the common knowledge of artisans should not be introduced into an anticipation analysis. n84 Rather, the common knowledge of those reasonably skilled in the art is appropriately introduced in an obviousness determination under § 103. n85 The Federal Circuit has repeatedly emphasized the distinction between the legal standards for anticipation and obviousness. n86 While an obviousness query requires a court to view a prior art reference in light of the common knowledge of those reasonably skilled in the art, n87

[*306] an anticipation analysis should be restricted to the technological facts of the reference. n88 Expert testimony may be introduced to state what these facts are, but experts may not "read into the prior art reference teachings that are not there." n89 This limitation will be discussed in the following recitation of the different notions of inherent anticipation recognized by the Federal Circuit. The three types of inherency discussed below may be properly governed by the *Continental Can* standard.

III. THREE NOTIONS OF INHERENCY AND A SINGLE LEGAL STANDARD

The Federal Circuit has found inherent anticipation to lie in three distinct factual circumstances. First, the doctrine covers inherent physical properties and characteristics of prior art references. n90 Second, the doctrine applies to inherent methods of practicing an art. n91 And third, the doctrine recognizes that prior art references have inherent uses. n92 This article presents cases that illustrate these three notions of inherency, as well as cases that limit the application of the doctrine.

[*307] A. *Inherent Physical Properties*

A common notion of inherency is that prior art references have certain inherent physical properties that are part of the anticipatory scope of the references, even if these properties are not expressly disclosed. It is not necessary for all of the physical characteristics of a reference to be expressly described in order for the art to anticipate a subsequently claimed invention.

1. *In re Donohue*: Basic Physical Properties

Solubility characteristics and melting points are inherent properties of chemical compounds. n93 A prior art reference, though not disclosing these characteristics, may inherently anticipate a subsequently claimed invention that specifies these characteristics as claim limitations. n94 In *In re Donohue*, n95 the Federal Circuit affirmed the Board's rejection of Donohue's claims to certain chemical compounds that were disclosed in the prior art. n96 Two of Donohue's dependent claims specified the solubility characteristics and melting point range of the chemicals. n97 The court ruled that the prior art references, although silent on their solubility characteristics and melting point ranges, inherently anticipated Donohue's invention. n98 The court reasoned that the properties of the prior art compounds were "inherently the same as those of the claimed invention." n99

2. *Hazani v. ITC*: Complex Physical Properties

Inherent physical characteristics are not limited to simple properties such as the melting point of a chemical. The Federal Circuit has ruled that more complex properties, such as the overall capacitance of semiconductor circuitry, are also inherent characteristics that need not be

[*308] expressly disclosed. n100 *Hazani v. United States International Trade Commission* n101 concerned a patent for a semiconductor memory cell known as an electrically erasable programmable read-only memory ("EEPROM"). n102 EEPROM cells include field-effect transistors ("FETs") which serve as electronic gates. n103 Patentee Hazani filed a complaint with the International Trade Commission ("ITC") alleging that importers of electronic products were engaging in unfair trade practices by importing infringing goods. n104 The ITC found Hazani's patent invalid for anticipation, and the Federal Circuit affirmed. n105

Hazani defended its patent on the grounds that a prior art reference by Kuo did not expressly disclose the claim limitations of the Hazani patent. n106 Hazani's patent claimed a capacitor comprising two plates of electrically conductive material which sandwiched several layers of insulation material with different dielectric constants. n107 The patent expressly claimed such a structure to increase capacitance and reduce charge transport capacity. n108 The Kuo invention disclosed the use of a multi-layer insulator between two plates, where the insulator consisted of an oxide-nitride-oxide layered dielectric insulator. n109 Kuo did not disclose that the structure would be a capacitor, nor that it would exhibit increased capacitance or reduced charge transport capacity. n110 The Federal Circuit ruled that the Kuo invention, despite not having expressly disclosed these properties, inherently anticipated the Hazani device. n111 The court reasoned that it was not necessary to label the Kuo device as a capacitor because a structural description was sufficient. n112 Moreover, the court cited expert testimony from both sides to support its conclusion that the layered structure of the insulating material in the Kuo invention would

[*309] inherently yield increased capacitance and reduced charge transport characteristics. n113 The court ruled that Kuo did not have to expressly disclose these properties in order to anticipate the Hazani device. n114

In both *Donohue* and *Hazani*, the characteristics deemed inherent to the prior art were technological facts of the references. The melting point and solubility characteristics in *Donohue*, and the overall capacitance of the FET device in *Hazani*, are physical properties that flow naturally from the structural limitations of the art. As such, the holdings of these cases are consistent with the *Continental Can* standard.

3. *Continental Can*: A Limiting Case

Continental Can established a limit to the notion of inherent physical properties. n115 As described above, in *Continental Can* an alleged infringer sought to invalidate a patent for hollow-ribbed bottles, asserting that a prior art bottle inherently had hollow ribs as a by-product of the manufacturing process. n116 For the Federal Circuit, it was insufficient that there was a possibility or probability that the prior art bottle had hollow ribs. n117 Absent a showing that the manufacturing process for the prior art bottle would naturally produce hollow ribs, the court ruled that a finding of inherent anticipation would be improper. n118

4. Summary of Inherent Physical Properties

The *Continental Can* test governs questions of inherent physical properties. When a characteristic of a prior art reference flows naturally from its structural limitations, that characteristic need not be expressly disclosed to anticipate a subsequently-claimed invention. Melting points and solubility characteristics, as in *Donohue*, and circuitry capacitance, as in *Hazani*, are such inherent characteristics. *Continental Can*, however, stands for the proposition that certain characteristics such as hollow plastic ribs, although they are possibly or probably a property of a

[*310] reference, are not inherent to that reference. Such characteristics are insufficient to support a ruling of inherent anticipation.

B. *Inherent Consequences of Disclosed Methods*

The Federal Circuit has recognized that claimed methods of practicing an art may be anticipated when they recite inherent consequences of disclosed methods. This notion of inherency is not limited to method and process claims. Apparatus claims may also disclose relationships between structural elements in a method-type fashion. Inherent anticipation will lie when a prior art method naturally produces a result that is claimed in a subsequent invention. Anticipation may be avoided when the claimed invention discloses outcomes of the method not covered by the prior art. *Leinhoff v. Louis Milona & Sons, Inc.* n119 articulates standards for finding inherent anticipation by prior art methods, while *In re Rijckaert* n120 limits the doctrine.

1. *Leinhoff v. Louis Milona & Sons, Inc.*: Inherent Results of a Method

A method disclosed in the prior art may inherently anticipate a subsequently claimed invention when the method, as a natural consequence of its structural limitations, results in an outcome claimed by the later inventor. n121

Leinhoff concerns a method for leathering animal pelts. n122 Leathering, a technique commonly known to furriers, involves inserting strips of leather into incisions in a fur pelt. n123 The use of these leather strips increases the surface area of hide over which the hairs of the fur lie, allowing the fur to look much longer and flatter than when untreated. n124 This technique is especially useful for long haired pelts, such as badger, which otherwise appear bulky. n125 A prior art reference by Schirmer teaches that Japanese badger may be leathered to lengthen its pelt. n126

[*311] Another reference by Kaplan recommends that badger be leathered, with no restriction as to type of badger, and designates Japanese badger as appropriate. n127

David Leinhoff devised a method for producing unique design effects in fur coats. n128 His method specifically relates to pelts, such as badger, whose hairs are light colored at the base and darker at the tip portion. n129 The light-colored "underground" is not generally visible in unleathered pelts. n130 By interspacing sections of the pelt with strips of leather, Leinhoff developed a method for exposing portions of the lighter underground, resulting in a striped effect. n131 Leinhoff's patent recites apparatus and method claims. n132

Judge Nies, in her *Leinhoff* dissent, argued that the Schirmer reference inherently anticipated Leinhoff's claims. n133 She noted that Schirmer did not expressly disclose that performing the leathering process on badger would result in a striped pelt. n134 This result, however, need not be disclosed for Schirmer to inherently anticipate Leinhoff's claims. If an artisan practicing one of the conventional techniques must, in doing so, produce a striped pelt, then inherent anticipation lies. The trial judge had found that use of a conventional practice would not produce one of Leinhoff's leathered pelts. n135 Judge Nies disagreed, stating that the trial evidence clearly demonstrated that practicing the conventional methods inherently produces a striped pelt. n136 The majority found that the evidence supported the trial judge's findings and therefore affirmed. n137 The majority, however, did not dispute Judge Nies' articulation of the law. n138

[*312] 2. *In re Rijckaert*: A Limiting Case

A method claim that specifies a relationship between structural elements is inherently anticipated only when the limitations of a prior art reference necessarily satisfy the claimed relationship. Moreover, inherent anticipation does not lie when persons of ordinary skill in the art do not recognize the claimed relationship as governing prior art methods. These two propositions underlie the holding of *In re Rijckaert*. n139

Rijckaert concerns a patentability rejection over a tape recording apparatus. n140 The tape recorder claimed comprises a circuit that generates a time expansion factor. n141 An algorithm determines the expansion factor as a function of a number of mechanical parameters. n142 In particular, the algorithm provides that the expansion factor is calculated by the following formula: (A*n)/[180*(M + 1)], where A is the wrapping angle of the record carrier around the head drum, n is the number of head pairs, and M is a variable reflecting the relationship between signal time and recording time. n143 A value of zero for M in the preceding formula would reflect exact matching of signal time and recording time. n144

Prior art disclosed a number of tape recorders, including a reference by Awamoto. n145 Awamoto expressly discloses a time expansion factor of two. n146 Awamoto discloses the use of one head pair, with a head pair structure such that the wrapping angle of the tape apparently is approximately 360 degrees. n147 Awamoto did not expressly disclose the ratio of signal time to recording time, but an optimal setting apparently would exactly match signal time and recording time, giving an M value of zero. n148 Entering the values of A equals 360, n equals one, and M equals zero into the algorithm claimed by Rijckaert gives an expansion factor of two.

[*313] The PTO Commissioner argued that Awamoto inherently anticipates Rijckaert's claimed invention. n149 The Commissioner asserted that both tape recorders disclose essentially the same structure, and that the algorithmic circuit claimed by Rijckaert merely discloses a relationship applicable to Awamoto's invention. n150 According to the Commissioner, the relationship between the time expansion factor and the three variables is inherent in the prior art, and Rijckaert failed to claim patentable subject matter by claiming a known structure governed by this algorithmic relationship. n151

The Federal Circuit disagreed, citing a number of factors to distinguish Rijckaert's invention from the prior art. First, the court intimated that the algorithmic relationship is not inherent to the art. n152 Awamoto, the court noted, did not disclose the use of an exact match between signal time and recording time. n153 Although this may have been an optimal configuration, the use of this optimal value is not "inherent" to Awamoto. n154 Since an M value of zero cannot be presumed, when the parameters disclosed by Awamoto are entered into Rijckaert's algorithm, the time expansion factor of two that Awamoto expressly disclosed would not necessarily be yielded. The court concluded it would be improper to assign a value of zero for M and retroactively determine that Awamoto's device functioned according to Rijckaert's algorithm. n155

Second, the court reasoned that Rijckaert claimed embodiments not disclosed by Awamoto. n156 The court stated it was improper for the Commission to assume values for Rijckaert's algorithm similar to those used by Awamoto. n157 Since Rijckaert claimed a generalized tape recorder, Rijckaert's claims were necessarily broader than the invention disclosed by Awamoto and were therefore not limited to the common configurations embodied in Awamoto. n158

Third, the court ruled that the relationship claimed by Rijckaert was not recognized by those skilled in the art, and therefore Rijckaert's

[*314] invention was patentable. n159 The court reasoned that absent recognition by reasonably skilled artisans that the claimed relationship governs the prior art, a claimed invention may be distinguished from anticipatory references by claiming newly discovered relationships. n160

3. Summary of Inherent Method Cases

Both *Leinhart* and *Rijckaert* can be reconciled under the *Continental Can* test. When a prior art method will naturally produce the result claimed in a subsequent invention, that invention is inherently anticipated. It is not enough that the method disclosed in the prior art possibly or probably functions according to the method disclosed by the applicant, or even that the optimal configuration of the prior art be that claimed by the applicant. Moreover, the "inherent" characteristics of the prior art method must be recognized by those reasonably skilled in the art.

The primary distinction between *Leinhart* and *Rijckaert* is that Leinhart claimed no more than what the prior art already disclosed. He simply claimed the result of a process that was already well known in the art. That prior art process would inevitably yield the striped pelts that Leinhart claimed as his invention. Rijckaert's method for calculating a time expansion factor, on the other hand, disclosed more than the prior art. Rijckaert's algorithm allows the computation of expansion factors that differed from those used by prior art devices when uncommon head configurations were employed. Rijckaert's generalized apparatus, as governed by his method for computing expansion factors, extended the art beyond what had been previously disclosed. The use of prior art processes would not inevitably lead to the embodiments disclosed by Rijckaert as a natural consequence of the structural limitations of the prior art. Moreover, Rijckaert disclosed a relationship that was not recognized by those reasonably skilled in the art. As such, Rijckaert claimed a patentable invention.

C. *Inherent Uses of Prior Art Structures*

As a third notion of inherency, the Federal Circuit has recognized that prior art structures have inherent uses. An artisan need not disclose every potential use of his device for it to inherently anticipate a subsequently claimed invention that exploits structural properties of the

[*315] prior art device. However, inherent anticipation will not lie when use of the prior art structure will not necessarily function in the same way as the subsequently claimed invention. *In re Schreiber* n161 provides an example of an inherent use of a prior art structure, while *In're Robertson* n162 shows that a prior art structure capable of performing an undisclosed use will not anticipate claims of a structure expressly designed for that use when the structures are dissimilar.

1. *In re Schreiber*: Inherent Uses of Prior Art Structures

Schreiber holds that one cannot patent a new use of an already disclosed structure. n163 Schreiber concerns claims made to a conical device useful for dispensing popped popcorn kernels. n164 The claimed device sits upon an open ended popcorn container, allowing popcorn to be shaken through an opening at the end of the cone. n165 The taper of the cone causes the popcorn to "jam up," thereby allowing only a few kernels to pass through upon a shake of the container. n166

The Federal Circuit affirmed the patentability rejection of the BPAI. n167 A prior art reference, Harz, disclosed the use of a similar cone that directed its utility towards dispensing liquids such as oil. n168 There was no dispute that the structural limitations recited in Schreiber's application were all found in the Harz reference. n169 Although Harz did not disclose use of the structure for dispensing solids like popcorn, the court affirmed that reciting a new use for an old product does not make a claim to that old product patentable. n170 Based on an extensive line of case law, the court concluded that Schreiber's claims do not have patentable weight given that the claimed structure was already known, "regardless of whether it has ever been used in any way in connection with popcorn." n171

[*316] Under the rubric of *Continental Can*, the utility of the liquid dispenser for dispensing popcorn is an inherent characteristic that need not be disclosed for purposes of anticipation because such utility is a natural consequence of its structural limitations.

2. *In re Robertson*: A Limiting Case

A prior art structure capable of performing a use will not anticipate a subsequently claimed invention directed to that use when the new claims disclose a dissimilar structure. This concept underlies the holding of *In re Robertson. n172 Robertson* concerns a patent application for a mechanical fastening system for diapers. n173 Applicant Robertson claimed a diaper with three fasteners: two to secure the diaper to a baby, and a third used for rolling and securing the diaper for disposal. n174 Prior art revealed a diaper by Wilson claiming two fasteners that could be used either for securing the diaper to the baby, or for securing the diaper for disposal. n175 The BPAI had ruled that Robertson's diaper was anticipated by the Wilson diaper. n176 The BPAI found that one of the fasteners for securing the Wilson diaper to a baby could be used in the manner disclosed by Robertson for closing the diaper for disposal. Therefore, the BPAI concluded that Wilson's diaper inherently anticipated Robertson's claims. n177

The Federal Circuit reversed the BPAI's ruling and concluded that Wilson's fasteners did not necessarily disclose Robertson's third fastener. n178 Although it might have been probable or possible that Wilson's fasteners could be intermingled to close and secure the diaper, it was not technologically necessary that the fasteners would be so used. n179 Although the fasteners could be reconfigured in this useful way, it was not inherent to the product that the fasteners be so used. n180

The *Robertson* court, citing *Continental Can*, adhered to a narrow view of inherency. The court limited its analysis to the design of the

[*317] product itself and considered only whether the technical characteristics of the product naturally lead to the conclusion that the prior art necessarily anticipates the challenged product. n181 The *Robertson* court did not take into consideration the way in which a person reasonably skilled in the art would view the prior art. Although it may be reasonable that a user of the product would use the fasteners of the Wilson diaper to close and secure the garment for disposal, it is not a necessary consequence of the design of the product that the fasteners would be so used. As such, the court found that the Wilson diaper failed to anticipate the Robertson diaper. n182

3. *In re Graves*: Interpreted as Consistent with *Continental Can*

The foregoing discussion shows that the *Continental Can* test governs inherency disputes arising in the three factual contexts described. Although the district court in *Fenton Golf* found the standards for inherency articulated in *Continental Can* and *Graves* to be inconsistent, this distinction is unnecessary. *Graves*, like the other cases discussed above, can be reconciled with *Continental Can*.

As described above, the *Graves* court found a device for testing parallel circuits to be inherently anticipated by a device for testing circuits in series. The court explained its holding by noting that because an artisan with a basic knowledge of electronics could take the prior art's teachings regarding the series circuit device and be in possession of the device for testing parallel circuits, the claimed invention was inherently anticipated. n183 As noted above, this language has been interpreted as allowing the common knowledge of skilled artisans to be included in the anticipatory scope of prior art references. n184 This interpretation essentially asks whether the claimed invention is obvious in light of a single prior art reference.

Although the language of the holding is open to liberal interpretation, the underlying facts permit a much narrower ruling. The laws of physics establish a well-known relationship between the behavior of series and parallel circuits. Pursuant to these natural laws, a device useful for testing series circuits can necessarily be configured to test parallel circuits.

[*318] As the liquid dispenser disclosed by Harz could inherently be used to dispense popcorn, the device for testing series circuits can inherently be used for testing parallel circuits. Admittedly, a more complex reconfiguration might be necessary to make the series circuit tester useful for testing parallel circuits than would be necessary for modifying the liquid dispenser to dispense popcorn. The laws of physics, however, dictate that such a modification can inherently be performed. It is not merely a possibility or probability that the series circuit tester could be used for testing parallel circuits. It is a technological fact that the prior art device can be modified to accomplish the new use. As such, *Graves* is consistent with *Continental Can*.

IV. CONCLUSION

The law of inherent anticipation falls within the holding of *Continental Can*. Since patent cases routinely involve issues of anticipation, and since prior art reference often do not expressly disclose their full anticipatory scope, it is crucial to have a consistent legal standard in place for governing disputes over inherent anticipation. As the district court's opinion in *Fenton Golf* shows, the outcome of patent cases can readily turn on the legal standard applied for resolving questions of inherency. It is the author's contention that only one standard for inherency need be considered. *Continental Can*, not *Graves*, provides a sound, comprehensive test for determining whether a prior art reference inherently anticipates a subsequently claimed invention. The undisclosed characteristic of the prior art must be a technological fact of the device that flows naturally as a consequence of its structural limitations in order for that characteristic to be inherent to the device.

n1 *948 F.2d 1264, 20 U.S.P.Q.2d (BNA) 1746 (Fed. Cir. 1991).*

n2 *48 U.S.P.Q.2d (BNA) 1198 (N.D. Ill. 1998).*

n3 *See id. at 1201.*

n4 *See id.*

n5 *69 F.3d 1147, 36 U.S.P.Q.2d (BNA) 1697 (Fed. Cir. 1995).*

n6 *Fenton Golf, 48 U.S.P.Q.2d at 1201.*

n7 *See id.*

n8 *169 F.3d 743, 49 U.S.P.Q.2d (BNA) 1949 (Fed. Cir. 1999).*

n9 *See id. at 745, 49 U.S.P.Q.2d at 1951.*

n10 *See id.*

n11 *See In re Donohue, 766 F.2d 531, 534, 226 U.S.P.Q. (BNA) 619, 622 (Fed. Cir. 1985).*

n12 *See Leinhoff v. Louis Milona & Sons, Inc., 726 F.2d 734, 745, 220 U.S.P.Q. (BNA) 845, 853 (Fed. Cir. 1984)* (Nies, J., dissenting).

n13 *See In re Schreiber, 128 F.3d 1473, 1479, 44 U.S.P.Q.2d (BNA) 1429, 1433 (Fed. Cir. 1997).*

n14 *See 35 U.S.C. § 102* (1994).

n15 *Id.*

n16 *See Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 U.S.P.Q.2d (BNA) 1051, 1053 (Fed. Cir. 1987).*

n17 *Studiensgesellschaft Kohle, M.B.H. v. Dart Indus., 726 F.2d 724, 726-27, 220 U.S.P.Q. (BNA) 841, 842 (Fed. Cir. 1984)* ("It is hornbook law that anticipation must be found in a single reference . . . [and combining the teachings of several references to build anticipation] would be contrary to settled law."); *see also Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 U.S.P.Q. (BNA) 193, 198 (Fed. Cir. 1983)* ("Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.").

n18 *See In re Schreiber, 128 F.3d 1473, 1477, 44 U.S.P.Q.2d (BNA) 1429, 1431 (Fed. Cir. 1997); Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 1047, 34 U.S.P.Q.2d (BNA) 1565, 1567 (Fed. Cir. 1995).*

n19 *See Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 U.S.P.Q.2d (BNA) 1051, 1053 (Fed. Cir. 1987)* ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.").

n20 *See* Bradford J. Duft & Eric P. Mirabel, *Principles of Inherency*, 77 J. PAT. & TRADEMARK OFF. SOC'Y 539, 540 (1995).

n21 *948 F.2d 1264, 20 U.S.P.Q.2d (BNA) 1746 (Fed. Cir. 1991).*

n22 *See id. at 1268, 20 U.S.P.Q.2d at 1749* (citing *Jamesbury Corp. v. Litton Indus. Prod., Inc., 756 F.2d 1556, 1563 (Fed. Cir. 1985)* (stating that a missing element must be inherent in a prior art reference to show anticipation); *In re Oelrich, 666 F.2d 578, 581 (C.C.P.A. 1981)* (stating that the missing elements must be necessarily present in the thing described in the reference for it to prove anticipation) (citing *Hansgrig v. Kemmer, 102 F.2d 212, 214 (C.C.P.A. 1939))).*

n23 *See id.* at 1265, 20 U.S.P.Q.2d at 1747.

n24 *See id.* at 1266, 20 U.S.P.Q.2d at 1748.

n25 *See id.* at 1268, 20 U.S.P.Q.2d at 1749.

n26 *See id.*

n27 *See id.* at 1273-74, 20 U.S.P.Q.2d at 1753.

n28 *See id.* at 1268, 20 U.S.P.Q.2d at 1749.

n29 *See id.* at 1268-69, 20 U.S.P.Q.2d at 1749-50.

n30 *See id.*

n31 *See id.* at 1269, 20 U.S.P.Q.2d at 1749.

n32 *See id.*

n33 *See id.* at 1269, 20 U.S.P.Q.2d at 1749-50.

n34 *See id.* at 1268-69, 20 U.S.P.Q.2d at 1749-50.

n35 *See id.*

n36 *See id.* at 1269, 20 U.S.P.Q.2d at 1749-50.

n37 *Id.* at 1268-69, 20 U.S.P.Q.2d at 1749 (citations omitted).

n38 *69 F.3d 1147, 36 U.S.P.Q.2d (BNA) 1697 (Fed. Cir. 1995).*

n39 *See, e.g., Fenton Golf Trust v. Cobra Golf, Inc., 48 U.S.P.Q.2d (BNA) 1198, 1200-01 (N.D. Ill. 1998).*

n40 *See, e.g., id.*

n41 *Graves, 69 F.3d at 1149, 36 U.S.P.Q.2d at 1698.*

n42 *See id.*

n43 *Id. at 1151, 36 U.S.P.Q.2d at 1700.*

n44 *See id. at 1152, 36 U.S.P.Q.2d at 1701.*

n45 *See id. at 1153, 36 U.S.P.Q.2d at 1702* (Nies, J., dissenting-in-part).

n46 *See id. at 1149, 36 U.S.P.Q.2d at 1698.*

n47 *See id. at 1151-52, 36 U.S.P.Q.2d at 1700.*

n48 *See id.*

n49 *See id. at 1152, 36 U.S.P.Q.2d at 1700-01.*

n50 *See id. at 1154, 36 U.S.P.Q.2d at 1702.*

n51 *See id.*

n52 *See id. at 1152, 36 U.S.P.Q.2d at 1700-01.*

n53 *Id. at 1152, 36 U.S.P.Q.2d at 1701* (quoting Graves' request for reconsideration).

n54 *See id.*

n55 *301 F.2d 929, 936, 133 U.S.P.Q. (BNA) 365, 372 (C.C.P.A. 1962)* (stating that a reference anticipates a claim if it discloses the claimed invention "such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention").

n56 *Graves, 69 F.3d at 1152, 36 U.S.P.Q.2d at 1701.*

n57 *48 U.S.P.Q.2d (BNA) 1198 (N.D. Ill. 1998).*

n58 *Id. at 1199.*

n59 *See id.*

n60 *See id. at 1200.*

n61 *See id.*

n62 *See id.*

n63 *See id.*

n64 *See id.*

n65 *See id. at 1199-1200.*

n66 *See id. at 1200.*

n67 *See id. at 1201.*

n68 *See id. at 1202.*

n69 *See id.*

n70 *See id.*

n71 *See id. at 1201.*

n72 *See id.*

n73 *See id. at 1200.*

n74 *See id. at 1201.*

n75 *See id.*

n76 *Id.*

n77 *Id.*

n78 *Id.*

n79 *See id.*

n80 *See id.*

n81 *Id.*

n82 *See id. at 1202.*

n83 *See Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1269, 20 U.S.P.Q.2d (BNA) 1746, 1749-50 (Fed. Cir. 1991).*

n84 *See id.*

n85 *See id., 20 U.S.P.Q.2d at 1750.*

n86 *See, e.g., Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 U.S.P.Q. (BNA) 193, 198 (Fed. Cir. 1983).*

n87 See *35 U.S.C. § 103* (1994 & Supp. III 1997) which provides:

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 sought to be patented and the prior art are such that 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 negatived by the manner in which the invention was made.

n88 See *35 U.S.C. § 102* (1994) which provides:

A person shall be entitled to a patent unless--

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent.

n89 *Motorola, Inc. v. Interdigital Tech. Corp., 121 F.2d 1461, 1473, 43 U.S.P.Q.2d (BNA) 1481, 1490 (Fed. Cir. 1997).*

n90 *See In re Donohue, 766 F.2d 531, 534, 226 U.S.P.Q. (BNA) 619, 622 (Fed. Cir. 1985).*

n91 *See Leinhoff v. Louis Milona & Sons, Inc., 726 F.2d 734, 745, 220 U.S.P.Q. (BNA) 845, 853 (Fed. Cir. 1984)* (Nies, J., dissenting).

n92 *See In re Schreiber, 128 F.3d 1473, 1479, 44 U.S.P.Q.2d (BNA) 1429, 1433 (Fed. Cir. 1997).*

n93 *See In re Donohue, 766 F.2d 531, 534, 226 U.S.P.Q. (BNA) 619, 622 (Fed. Cir. 1985).*

n94 *See id.*

n95 *766 F.2d 531, 226 U.S.P.Q. (BNA) 619 (Fed. Cir. 1985).*

n96 *See id. at 534, 226 U.S.P.Q. at 622.*

n97 *See id.*

n98 *See id.*

n99 *Id.*

n100 *See Hazani v. United States Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 U.S.P.Q.2d (BNA) 1358, 1362 (Fed. Cir. 1997).*

n101 *126 F.3d 1473, 44 U.S.P.Q.2d (BNA) 1358 (Fed. Cir. 1997).*

n102 *See id. at 1475, 44 U.S.P.Q.2d at 1359.*

n103 *See id.*

n104 *See id. at 1475, 44 U.S.P.Q.2d at 1360.*

n105 *See id. at 1475-76, 44 U.S.P.Q.2d at 1360.*

n106 *See id. at 1476, 44 U.S.P.Q.2d at 1360.*

n107 *See id.*

n108 *See id.*

n109 *See id. at 1477-78, 44 U.S.P.Q.2d at 1362.*

n110 *See id. at 1476, 44 U.S.P.Q.2d at 1360.*

n111 *See id. at 1477-78, 44 U.S.P.Q.2d at 1362.*

n112 *See id. at 1478, 44 U.S.P.Q.2d at 1362.*

n113 *See id.*

n114 *See id.*

n115 *Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 20 U.S.P.Q.2d (BNA) 1746 (Fed. Cir 1991).*

n116 *See id. at 1267, 20 U.S.P.Q.2d at 1748.*

n117 *See id. at 1269, 20 U.S.P.Q.2d at 1749.*

n118 *See id.*

n119 *726 F.2d 734, 220 U.S.P.Q. (BNA) 845 (Fed. Cir. 1984).*

n120 *9 F.3d 1531, 28 U.S.P.Q.2d (BNA) 1955 (Fed. Cir. 1993).*

n121 *See Leinhoff, 726 F.2d at 744, 220 U.S.P.Q. at 852* (Nies, J., dissenting).

n122 *Id. at 737, 220 U.S.P.Q. at 847.*

n123 *See id.*

n124 *See id.*

n125 *See id.*

n126 *See id. at 738, 220 U.S.P.Q. at 848.*

n127 *See id. at 744, 220 U.S.P.Q. at 852.*

n128 *See id. at 737, 220 U.S.P.Q. at 847.*

n129 *See id.*

n130 *See id.*

n131 *See id.*

n132 *See id.*

n133 *Id. at 743, 220 U.S.P.Q. at 852* (Nies, J., dissenting).

n134 *See id. at 744, 220 U.S.P.Q. at 852* (Nies, J., dissenting).

n135 *See id. at 745, 220 U.S.P.Q. at 852-53* (Nies, J., dissenting).

n136 *See id., 220 U.S.P.Q. at 853* (Nies, J., dissenting).

n137 *See id. at 738-39, 220 U.S.P.Q. at 849-50.*

n138 *See id. at 738-40, 220 U.S.P.Q. at 848-49.*

n139 *9 F.3d 1531, 28 U.S.P.Q.2d (BNA) 1955 (Fed. Cir. 1993).*

n140 *See id. at 1532, 28 U.S.P.Q.2d at 1955.*

n141 *See id., 28 U.S.P.Q.2d at 1955-56.*

n142 *See id.*

n143 *See id.*

n144 *See id.*

n145 *See id. at 1532, 28 U.S.P.Q.2d at 1956.*

n146 *See id.*

n147 *See id. at 1532-33, 28 U.S.P.Q.2d at 1956.*

n148 *See id. at 1533-34, 28 U.S.P.Q.2d at 1957.*

n149 *See id. at 1533, 28 U.S.P.Q.2d at 1957.*

n150 *See id.*

n151 *See id. at 1533-34, 28 U.S.P.Q.2d at 1957.*

n152 *See id. at 1534, 28 U.S.P.Q.2d at 1957.*

n153 *See id.*

n154 *See id.*

n155 *See id.*

n156 *See id. at 1533, 28 U.S.P.Q.2d at 1957.*

n157 *See id.*

n158 *See id., 28 U.S.P.Q.2d at 1956-57.*

n159 *See id.*

n160 *See id.*

n161 *128 F.3d 1473, 44 U.S.P.Q.2d (BNA) 1429 (Fed. Cir. 1997).*

n162 *169 F.3d 743, 49 U.S.P.Q.2d (BNA) 1949 (Fed. Cir. 1999).*

n163 *128 F.3d at 1477, 44 U.S.P.Q.2d at 1431.*

n164 *See id. at 1474, 44 U.S.P.Q.2d at 1430.*

n165 *See id., 44 U.S.P.Q.2d at 1429-30.*

n166 *See id. at 1476, 44 U.S.P.Q.2d at 1430.*

n167 *See id. at 1479, 44 U.S.P.Q.2d at 1433.*

n168 *See id. at 1475, 44 U.S.P.Q.2d at 1430.*

n169 *See id. at 1477, 44 U.S.P.Q.2d at 1431.*

n170 *See id.*

n171 *See id., 44 U.S.P.Q.2d at 1432.*

n172 *169 F.3d 743, 49 U.S.P.Q.2d (BNA) 1949 (Fed. Cir. 1999).*

n173 *Id. at 744, 49 U.S.P.Q.2d at 1950.*

n174 *See id.*

n175 *See id.*

n176 *See id. at 745, 49 U.S.P.Q.2d at 1950.*

n177 *See id., 49 U.S.P.Q.2d at 1951.*

n178 *See id.*

n179 *See id.*

n180 *See id.*

n181 *See id.*

n182 *See id.*

n183 *See In re Graves, 69 F.3d 1147, 1152, 36 U.S.P.Q.2d (BNA) 1697, 1701 (Fed. Cir. 1995).*

n184 *See Fenton Golf Trust v. Cobra Golf, Inc., 48 U.S.P.Q.2d (BNA) 1198, 1201 (N.D. Ill. 1998).*