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Articles

INTERPRETING CLAIM PREAMBLES: AN ANALYTIC FRAMEWORK

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**Table of Contents**

I.	An Overview of <i>Kropa v. Robie</i>	119
II.	Preamble Interpretation Post- <i>Kropa</i>	121
III.	<i>Kropa's Two-Step Claim Preamble Interpretation Procedure</i>	122
V.	An Analytical Framework for Preamble Interpretation	124
VI.	An Analysis of the Preamble Cases	126
	A. The Introductory Modifier Cases	127
	B. The Posterior Modifier Cases	129
	C. Combination Claims	135
	D. Jepson Claims	136
VII.	Writing and Interpreting Claim Preambles	137
VIII.	Conclusion	137
	Appendix: Representative Preamble Interpretation Cases	138
	A. Cases Involving a Generic Subject with the Introductory Modifier Given Effect (8)	138
	B. Cases Involving a Generic Subject with the Introductory Modifier Not Given Effect (4)	140
	C. Cases Involving a Specific Subject with the Introductory Modifier Given Effect (10)	140
	D. Cases Involving a Specific Subject with the Introductory Modifier Not Given Effect (3)	142
	E. Cases Involving a Posterior Modifier Given Effect (17)	144
	F. Cases Involving a Posterior Modifier Given Effect in Part (7)	150

G. Cases Involving a Posterior Modifier Not Given Effect (15)	152
H. Cases Involving Combination Claims (5)	156
I. Cases Involving Jepson Claims (10)	158

**\*118** Determining the extent to which a claim’s preamble is a substantive limitation on the patent’s breadth has been called “one of the most perplexing questions in patent law.”<sup>1</sup> Judge Rich admitted that the courts knew of “no general rule for deciding the weight to be given preambles,” and on at least one occasion avoided the question by relying on a Latin quotation to conclude that the “claims as a whole” had to be analyzed to determine whether a patent was distinguishable over the prior art.<sup>2</sup> More recently, Judge Michel indicated merely that a reviewing court must “construe the preamble and the remainder of the claim . . . as one unified and internally consistent recitation of the claimed invention.”<sup>3</sup> Both of these holdings also quoted from the 1951 C.C.P.A. holding in *Kropa v. Robie*,<sup>4</sup> which has been referred to as “the dominant decision used in determining whether a preamble constitutes a limitation.”<sup>5</sup> Despite frequent reference by subsequent courts and commentators, the *Kropa* court’s holding did not provide specific, well-supported guidance on the approach courts and patent holders should take in determining claim preamble significance vis-à-vis the remainder of the claim.

Though courts and commentators have generally concluded that there is neither a simple solution<sup>6</sup> nor a litmus test<sup>7</sup> for the claim preamble interpretation question, this article argues that an analytic framework can be extracted from the holdings which followed *Kropa*. More specifically, this article argues that prior **\*119** attempts to determine the significance of preambles in claim interpretation have been mis-focused in the sense that the question that has continually been posed has been “whether the preamble constitutes a limitation distinguishing the claim in question over the prior art.”<sup>8</sup> It is argued herein that claim preambles should be considered to define the subject matter of the claim (and thereby specify the field of art of the invention), and the body of the claim (i.e., the words which follow “comprising”) should be considered to be the language which both defines the nature of the invention within that subject matter and distinguishes that invention from the prior art. This argument shows that only in the sense that the defining of the invention’s subject matter is implicitly limiting on the breadth of the claim does the preamble become a limitation on the claim. In contrast to commentators who argue that “one cannot determine the significance of a preamble by its form,”<sup>9</sup> the framework presented below relies on both the form of and the words that comprise the preamble, and will be shown to have a basis in relatively straightforward, grammatical principles. An analysis of sixty-nine frequently cited preamble-related cases shows substantial consistency with this grammar-based framework.

The need for an analytic framework which considers both a claim’s preamble and its body in a consistent manner is mandated by the fact that the courts have long indicated that the process of claim interpretation begins with the language of the claims themselves.<sup>10</sup> To interpret that language, the court is constrained to the “ordinary and accustomed meaning” of the words used, and, absent the presence of “a term in need of definition,” may not rely on the written description to limit the scope of a claim’s breadth.<sup>11</sup> The framework presented below provides a basis from which the words in both the preamble and the body can be understood not only in the sense of their ordinary and accustomed meaning, but also in the sense of their grammatical use. The framework will allow the courts to more clearly establish the need and the extent of reliance on the written description to determine a claim’s breadth.

## I. An Overview of *Kropa v. Robie*

*Kropa v. Robie* was an appeal from a Board of Patent Appeals and Interferences decision awarding Robie priority for claims disclosing an “abrasive **\*120** article” and a related manufacturing method.<sup>12</sup> *Kropa* had attempted to obtain priority via a constructive reduction to practice based on the filing date of co-pending parent applications. The parent applications did not expressly disclose an “abrasive article.” Rather, they were focused on resinous compositions which, when mixed with various disclosed fillers, were argued to disclose the substance of the interference count when the preamble term “abrasive article” was not given weight.<sup>13</sup>

The court had to consider the question: “Does the phrase ‘An abrasive article’ (and the similar term in the process counts) introduce a limitation into the counts?”<sup>14</sup> It reviewed thirty-seven prior cases in which it had considered the preamble limitation question and reached an affirmative answer, stating:

[I]t appears that the preamble has been denied the effect of a limitation where the claim or count was drawn to a structure and the portion of the claim following the preamble was a self-contained description of the structure not depending for completeness upon the introductory clause; or where the claim or count was drawn to a product and the introductory clause merely recited a property inherent in the old composition defined by the remaining part of the claim. In those cases, the claim or count apart from the introductory clause completely defined the subject matter, and the preamble merely stated a purpose or intended use of that subject matter. On the other hand, in those *ex parte* and interference cases where the preamble to the claim or count was expressly or by necessary implication given the effect of a limitation, the introductory phrase was deemed essential to point out the invention defined by the claim or count. In the latter class of cases, the preamble was considered necessary to give life, meaning, and vitality to the claims or counts.<sup>15</sup>

An appendix to the court's decision summarizes the thirty-seven prior cases and includes excerpted justifications for the decisions made in those cases. The court concluded that the preambles were generally considered to be limitations where **\*121** there inhered in the article specified in the preamble a problem which transcended that before prior artisans and the solution of which was not conceived by or known to them. The nature of the problem characterized the elements comprising the article, and recited in the body of the claim or count following the introductory clause, so as to distinguish the claim or count over the prior art.<sup>16</sup>

## II. Preamble Interpretation Post-Kropa

The C.C.P.A.'s Kropa decision gave subsequent courts and commentators quotable words and phrases to rely upon ("life, meaning, and vitality to the claims" in particular) but otherwise left a number of claim interpretation challenges which have not been overcome. For example, it is difficult, if not impossible, to deduce from what basis the court's conclusions derive from the thirty-seven summarized cases. The appendix includes excerpts from certain cases, but the court made no attempt to show how individual examples are consistent with the standard on which it based its decision. The lack of a correlation between that standard and the prior cases has allowed subsequent courts to rely on words excerpted from Kropa on an unclear, and arguably somewhat inconsistent, basis. In particular, subsequent courts have frequently stated that a claim preamble relates to a structure, a property, or a use to justify their holdings. The Kropa opinion provides no rigorous basis on which any such statements can be challenged, while arguably at the same time providing no clear basis from which such statements can be supported.

Second, the lack of a correlation between the prior cases and the Kropa ruling left subsequent courts with an analytic approach which can be argued to be unstructured. That unstructured approach has allowed preamble interpretation questions to be raised which could have been avoided if a clearer rule of the case had been presented. In rare cases, this ambiguity has allowed arguments to be made to which courts should not have had to respond.

Third, the paragraph from the Kropa opinion reproduced above, which became the focal point of courts subsequently relying on Kropa for guidance, refers to structures and products but not to methods. The Kropa court thus gave no guidance on how the "life, meaning, and vitality" of a method claim's preamble was to be determined, if any such claim's preamble were to become the focus of a claim limitation analysis.

Fourth, the phrase "there inhered in the article specified in the preamble a problem which transcended that before prior artisans" suggests that either the preamble or the body of claim, or both, is intended to provide an indication of the problem which the invention solves.<sup>17</sup> Any such suggestion is inconsistent with the **\*122** statutory mandate, which only requires that the patent distinctly claim "the subject matter which the applicant regards as his invention."<sup>18</sup>

Finally, the unclear rule of the Kropa decision has allowed subsequent courts to state merely that "each case must be judged on its own facts" in support of their decisions.<sup>19</sup> Such generalized conclusions do not provide the preamble claim interpretation analytic rigor that the patent litigation bar would prefer, nor the rigor that gives clear guidance to the patent prosecution bar.

### III. Kropa's Two-Step Claim Preamble Interpretation Procedure

What has been overlooked in claim preamble discourse since the Kropa decision has been the language that the Kropa court used in making its decision on the facts at issue. Despite the quotability of such phrases as “life, meaning, and vitality,” it is the language directly supporting the court’s decision which provides a clearer indication of the court’s analytical approach. That language provides an insight into the Kropa court’s claim interpretation process that has generally been overlooked.

Specifically, in referring to the specific claim preamble at issue, the court stated that the words “an abrasive article” were “essential to point out the invention defined by the counts. . . . [I]t is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article.”<sup>20</sup> Only after a further discussion does the court come to the conclusion that the preamble is therefore “a limitation which is material” to the issue.<sup>21</sup>

This language suggests that the court was looking first at how the preamble defined the invention and the invention’s subject matter, and only thereafter did it conclude that the preamble was a limitation. The court’s analysis was therefore at least an implicit, and arguably an explicit, two-step process, with the result of the second step--the determination of whether the preamble was limiting--directly deriving from the conclusion reached from the first step. Subsequent court holdings have not explicitly addressed this two-step process, generally focusing merely on the limitation step. This focus on Kropa’s second step has been a \*123 significant factor behind the unclear language that has been used in preamble interpretation jurisprudence since the Kropa decision.<sup>22</sup>

A review of sixty-nine cases in which claim preamble interpretation has been at issue, beginning with Kropa, indicates that, though the language used is often less than clear on the analytic approach being applied, the courts have implicitly applied a generally consistent standard. Furthermore, that standard is consistent with Kropa’s first step--the cases indicate that the courts require the preamble to state a self-contained definition of the invention, but no more. In other words, the language which precedes “comprising” must state the “subject matter defined by the claims.”<sup>23</sup> In the language of Kropa’s second step, these cases indicate that courts hold claim preambles to be claim limitations only to the extent that the words of the preamble define that subject matter. To the extent that words are included in a preamble which go beyond the words required to define the subject matter of the invention, these cases indicate that courts do not generally give effect to those words.

An analytical framework that has its roots in relatively simple grammatical principles provides logical evidence in support of this conclusion. The framework focuses on the form of the typical claim preamble-- the placement of the words and the words that are used,<sup>24</sup> both of which are found to be important in interpreting a preamble. An analysis of typical claim preamble formats using these grammatical principles provides an explanation for the preamble interpretation problems which have faced the courts in the past, and provides a basis for patent practitioners to avoid these problems in the future.

### IV. A Brief Grammatical Interlude

From a grammatical perspective, claim preambles have at least one, and no more than three, components. The fundamental, and mandatory, grammatical component is the claim noun, which also is the principal reference for the claim elements which follow “comprising.” Claim nouns may be either of two types. “Generic” claim nouns--apparatus, device, machine, article, composition, etc.--provide only a minimal indication of the subject matter of the claim, and generally will be accompanied by other preamble words or phrases. “Specific” claim nouns--centrifuge, knife, etc.--provide at least an initial indication of that subject matter.<sup>25</sup> Specific claim nouns may be interpreted as defining the subject matter of \*124 an invention without further language, or may be combined with either of the following two optional claim preamble components.

The second, and optional, component of a claim’s preamble is the introductory modifier. The introductory modifier is an adjective word or phrase that precedes the claim noun. Because the grammatical purpose of adjective words and phrases is to describe or to make more definite the meaning of a noun,<sup>26</sup> the effect of the introductory modifier is to define the subject matter of the invention more clearly. Consistent with this grammatical principle, introductory modifiers are generally given effect by the courts in interpreting the breadth of the claim.

The third, also optional, component of a claim’s preamble is the posterior modifier. Posterior modifiers follow the claim noun, are more difficult to analyze than introductory modifiers, and are the principal cause of the difficulties courts have historically had in defining a standard for claim preamble interpretation disputes. The problem from a grammatical perspective lies in the fact that posterior modifiers may take any of a number of different grammatical forms,<sup>27</sup> and no single

grammatical rule exists to determine whether or not the form at issue is intended to be a descriptive modifier of the claim noun. Furthermore, these different forms can be very similar in structure, and determining which form is being used, or what grammatical purpose is intended, is difficult to all but the grammar expert.<sup>28</sup> As a result of this grammatical complexity, courts historically have been much less clear on the principles used to interpret the role of posterior modifiers in claim preamble interpretation, as compared to introductory modifier interpretation.

## **V. An Analytical Framework for Preamble Interpretation**

The tables attached to this article summarize eighty-one examples, derived from a review of sixty-nine court holdings beginning with *Kropa* in 1951, in which claim preamble interpretation has been at issue.<sup>29</sup> Although a mere reliance on \*125 language from *Kropa* does not allow a clear analytic process to be simply stated, the following claim interpretation process is both consistent with the conclusions of the courts, and, more importantly, provides a rigorous, principled basis for claim preamble interpretation. As noted above, the process implicitly being followed by the courts is one which looks to determine a clear statement in the preamble of the subject matter of the invention, and to disregard words which go beyond those needed to define that subject matter.

As between introductory and posterior modifiers, the introductory modifier is more important to preamble interpretation. The courts generally give an introductory modifier effect as defining, in combination with the claim noun, the field of art that is the subject matter of the claim.<sup>30</sup> This conclusion holds whether the claim noun is generic or specific. The cases suggest that a specific claim noun may in itself be sufficient to define the field of art of the claim without either an introductory or a posterior modifier, whereas that outcome is less likely with a generic claim noun.

Where both an introductory and a posterior modifier are present in a claim, the introductory modifier will be given effect, in preference over the posterior modifier.<sup>31</sup> This result follows from the grammatical principles noted above--introductory modifiers are intended, and have no grammatical role other than, to modify the claim noun in a descriptive manner and thus logically should be given effect as defining the claim's subject matter. Since posterior modifiers have other grammatical roles, for example suggesting uses or purposes in a manner that may not be fundamentally descriptive, the practical result is that these phrases are less likely to be given effect.

Where the claim noun is modified by a posterior modifier only, the posterior modifier will be given effect only to the extent necessary to define the nature of the subject matter of the claim.<sup>32</sup> To the extent that the posterior modifier does not relate to the nature of that subject matter, but can be interpreted to relate to a characteristic, purpose, or use of the subject matter, it will not be given effect.

Finally, if claim formats exist in which the courts have been particularly unclear in their interpretation of preambles, those formats include combination and Jepson claims.<sup>33</sup> Nevertheless, even in these claims the above principles are broadly consistent with the courts' holdings.

## **\*126 VI. An Analysis of the Preamble Cases**

The attached table of Representative Preamble Interpretation Cases is subdivided into categories consistent with the analytic framework summarized above.<sup>34</sup> The first twenty-five examples involve interpretation of introductory modifiers. Forty-one examples follow that involve posterior modifier interpretation. The next fifteen examples involve five combination claims and ten Jepson claims.<sup>35</sup>

### **\*127 A. The Introductory Modifier Cases**

The twenty-five introductory modifier-related cases involve twelve claims having generic claim nouns,<sup>36</sup> and thirteen involving specific claim nouns.<sup>37</sup> A total of eighteen of these introductory modifiers were given effect by the court.<sup>38</sup>

The language from the court holdings in a number of these cases explicitly support the view that the court is analyzing the claim from the perspective of requiring the preamble to define the subject matter of the invention.<sup>39</sup> The other \*128 cases in which the introductory modifier was given effect fall generally into two categories. The first are holdings in which a "necessary limitation to the claims" concept deriving from *Kropa* is referenced.<sup>40</sup> The second are holdings in which the court

references “factual” or “structural” aspects of the preamble in determining the breadth of the claim.<sup>41</sup> In all eighteen cases, however, the result of the court’s holding is that the combination of the introductory modifier language and the claim noun clearly defines the subject matter of the claim, and thus the field of art of the invention. This result is derived from the fundamentally descriptive nature of the language used, and is consistent with the grammatical intent of that language.<sup>42</sup>

The seven examples in which the court did not give effect to the introductory modifiers are also generally consistent with this analytic approach.<sup>43</sup> Pearson<sup>44</sup> and Ex parte Cullis,<sup>45</sup> for example, both involve introductory modifiers that are not descriptive of the subject matter of the invention.<sup>46</sup> Although the court’s language in these cases indicates that the preamble defines a use of the invention, or does not define a structural difference vis-à-vis the prior art, an implicit conclusion in that language is that the claim noun itself sufficiently defines the subject matter of the claim.

The Neugebauer, Tomlinson, Casey and Tuominen cases provide evidence that a grammatical analysis of the preamble will not necessarily be sufficient to interpret a claim, and that the language in the specification may also need to be \*129 considered.<sup>47</sup> Although the introductory modifier in Neugebauer could at first glance be considered to be subject matter-defining, the court concludes that the elements of the claim, interpreted in light of the written description, fully define the subject matter of the claim in a manner that the introductory modifier does not more specifically characterize.<sup>48</sup> The analysis of the Tomlinson and Casey courts follow this approach, with the same result.<sup>49</sup>

Tuominen, a case demonstrating the importance of language choice by the claim-drafter, cannot be resolved in a manner consistent with the approach argued in this article. The majority interprets the introductory modifier as a use limitation, and analyzes the claim in comparison to a broad family of prior art compositions.<sup>50</sup> The dissent, on the other hand, would have given effect to the introductory modifier “sunscreen,” correctly noting that not all compositions are sunscreen compositions and arguing that the relevant portion of the prior art is that more limited group.<sup>51</sup> The dissent, therefore, would give effect to the introductory modifier as subject-matter defining.<sup>52</sup>

## B. The Posterior Modifier Cases

Of the cases involving posterior modifiers, seventeen are given effect in whole,<sup>53</sup> seven in part,<sup>54</sup> and fifteen are not given effect.<sup>55</sup> Although these \*130 examples support the argument that the court looks to the preamble to define the subject matter of the invention, the examples also indicate that the varied grammatical purposes of posterior modifiers make these claims more difficult for courts to analyze.

Six of the seventeen posterior modifier examples which were given effect by the court include language clearly suggesting a subject matter-defining focus.<sup>56</sup> Four additional cases involve language in the preamble that is specifically \*131 referenced in a subsequent element of the claim.<sup>57</sup> The court’s conclusion in these cases is essentially that the presence of the cross-reference to the preamble is evidence that the subject matter of the claim cannot be defined without giving effect to the preamble language.<sup>58</sup> The holdings in Rohm<sup>59</sup> and Rockwell<sup>60</sup> are consistent with that conclusion.

The language of the Northern Telecom holding provides evidence of the analytic challenge which has faced the courts, or perhaps is evidence of the challenge courts have in clearly documenting their analysis of claim preambles.<sup>61</sup> On one hand, the court’s language “What is claimed in claim 1 is . . .” would appear to have a subject matter-defining focus.<sup>62</sup> On the other hand, the court later refers to the preamble as setting forth “the utility of the claimed invention,” a reference that is use or purpose-focused.<sup>63</sup> Though the correct result was reached in this instance, the subtle inconsistencies in the language used by the court is indicative of the lack of clarity in the courts’ preamble interpretation holdings.

Although both Duva<sup>64</sup> and Zierden<sup>65</sup> are holdings in which the significance the courts give to the preamble language can only be deduced, one explicit difference between the claims at issue is worth noting. Specifically, the Duva claim used the conjunction “for” in its posterior modifier, whereas the Zierden claim used “of.”<sup>66</sup> Although both words are commonly used in posterior modifiers, dictionary definitions of the two prepositions suggest that “of” is preferable when one wishes to ensure that effect is given to the posterior modifier. Specifically, dictionary definitions corresponding to “for” are “with the aim or purpose of,” “suitable to,” \*132 and “appropriate to.”<sup>67</sup> In the patent preamble context, each of these definitions suggest that the phrase which follows relates to a use or purpose of the claim noun, but not to its fundamental nature. On the other hand, dictionary definitions corresponding to “of” include “having,” “possessing,” “as a kind of,” and “having as a distinguishing quality or attribute; characterized by.”<sup>68</sup> Each of these definitions suggests that the phrase which is to follow relates more fundamentally to the subject matter of the claim noun. From a grammatical point of view, therefore, a patent drafter may be

better advised to use “of” as the conjunction introducing a posterior modifier.

The analyses of the composition claims in Walles<sup>69</sup> and Union Oil<sup>70</sup> are consistent with the dissent in Tuominen,<sup>71</sup> and demonstrate that in many cases either a posterior or an introductory modifier may be used in a claim preamble. For example, the Walles opinion, in interpreting “composition for setting hair,” specifically states that “the subject matter . . . is a hair setting composition.”<sup>72</sup> The Walles opinion also demonstrates that using a subject matter-defining focus to interpret the significance of a claim preamble does not foreclose the arguments against the claim which would otherwise be presented in arguing that a claim is not patentable over the prior art.<sup>73</sup> Specifically, the Walles court states that a court’s first focus should be to “determine independently precisely what the subject matter is” and thereafter consider whether that subject matter is “patently indistinct” from other presented references.<sup>74</sup> This subject matter-defining focus thus provides a clear mechanism for a court to define the scope of the subject matter of a claim based on the preamble language, and then to evolve to an analysis of the claim as a whole, focusing on anticipation or obviousness for example, to resolve the patentability or other issues presented to it.

\*133 The fifteen cases in which the posterior modifier was not given effect provide clear evidence of the risk to the patent drafter of including posterior modifiers in claim preambles.<sup>75</sup> Seven of these claim preambles include both introductory and posterior modifiers, and in each case the introductory modifier was given effect by the court, but not the posterior modifier.<sup>76</sup> In Myers<sup>77</sup> and Amphenol,<sup>78</sup> the posterior modifier repeated information specified in the introductory modifier, and only the latter appears to have been given effect by the court.<sup>79</sup> In Allen,<sup>80</sup> Wikdahl,<sup>81</sup> and Heidelberg,<sup>82</sup> the posterior modifier was held to relate to the use of the subject matter, but not to its definition.<sup>83</sup> In Lemin,<sup>84</sup> Loctite,<sup>85</sup> and Titanium,<sup>86</sup> the conjunction used to introduce the posterior modifier suggests the non subject matter-defining holding of the court. Specifically, the verbal phrases of Loctite and Titanium suggest properties of the subject matter of the claims.<sup>87</sup> The conjunction “suitable” in Lemin is defined as “suited for a given purpose,”<sup>88</sup> and \*134 thus is also not subject matter oriented. The language from the court in these latter six cases supports the view that the court wants the preamble to define the invention--and these modifiers do not do so.

The Tomlinson,<sup>89</sup> Hirao,<sup>90</sup> Wertheim,<sup>91</sup> Purdue,<sup>92</sup> and Embrex<sup>93</sup> cases offer a mix of justifications by the courts, but in each case the result is that the modifier is not determined to be related to the subject matter of the claim.<sup>94</sup> These five cases provide further evidence that claims can be properly drafted without use of either an introductory or a posterior modifier.

Of the claims in which the posterior modifiers were given effect in part, only one involved clear and explicit language from the court.<sup>95</sup> The language in Sinex,<sup>96</sup> Struthers,<sup>97</sup> and DeGeorge<sup>98</sup> is unclear as to the extent to which the posterior modifier was given effect, but the result in each case was that the modifier at least in part was not given effect, thus further evidencing the risk of use of posterior modifiers in claim preamble drafting.<sup>99</sup> The Intervet opinion also suggests that part, but not all, of the posterior modifier should be given effect.<sup>100</sup>

From a grammatical perspective, the posterior modifier is frequently a more complex phrase than is the typical introductory modifier, and thus the court faces a more difficult task in merely understanding the interrelationships among the words in the posterior modifier than it does with introductory modifiers. The result, such as in Roshong, DeGeorge, and Vaupel, is that certain phrases are found to modify \*135 other phrases within the posterior modifier, and not the claim noun itself.<sup>101</sup> This further suggests that simply stated claim noun modifiers, and preferably introductory modifiers, are better practice if predictability in the interpretation of the scope of the claim is the patent drafter’s goal.

## C. Combination Claims

Holdings in the five cases in which the claim is considered to relate to a combination are consistent with the analysis approach summarized above.<sup>102</sup> Of these five cases, and although the court’s result is correct from a subject matter-defining point of view, the frequently-cited Stencel opinion once again provides evidence of the difficulty courts have historically had interpreting complex claim preambles. The combination in this claim involved a joint-setting driver and a collar having deformable lobes.<sup>103</sup> Judge Newman’s opinion referred to both the structure of those two components and to the applicant “claiming his driver, limited by the statement of its purpose.”<sup>104</sup> The former reference is consistent with the court’s precedents and has a subject matter-defining focus, whereas the latter reference is inconsistent with both those precedents and that focus. The mixed message of this opinion makes it less useful from a principle-defining basis, and is symptomatic of the difficulty the courts have had in documenting their analyses of claim preambles.

Marston<sup>105</sup> is also cited frequently, and again involved a complex claim, although in this case the complexity was present in the language which followed “comprising.”<sup>106</sup> In essence, the court looked at that language first and concluded that the subject matter was therein fully defined.<sup>107</sup> The introductory modifier was then analyzed, and deemed, in essence, as describing the characteristics, i.e., \*136 properties, of the subject matter, and not the subject matter in itself.<sup>108</sup> That introductory modifier was, therefore, not given effect.<sup>109</sup> The analytic approach followed by this court limits its usefulness from the perspective of defining preamble interpretation principles.<sup>110</sup>

#### **D. Jepson Claims**

The ten examples of Jepson claim preamble interpretations are perhaps the most difficult to analyze,<sup>111</sup> but can be argued to follow a subject matter-defining focus.<sup>112</sup> In Dean<sup>113</sup> and Rowe,<sup>114</sup> the court is clearly looking to determine the subject matter of the invention, and giving effect only to that language.<sup>115</sup> With language that is less explicit, the court apparently has the same focus in California Car Wash Systems,<sup>116</sup> Porter,<sup>117</sup> and Applied Materials.<sup>118</sup> Pritchard<sup>119</sup> involved a poorly written claim, and would otherwise be considered incorrectly decided from a subject matter point of view. Attwood also involved a poorly written claim, but with weight given to the fact that language from the preamble was repeated in the elements of the claim, the court’s focus remained on the subject matter of the \*137 claim.<sup>120</sup> Diamond International is distinguishable on the basis of the presence of testimony weighing against interpreting the preamble as subject matter-defining.<sup>121</sup>

### **VII. Writing and Interpreting Claim Preambles**

The analytic framework presented in this article offers greater reliability in consistent interpretation of claim scope than do the broad principles that derive from Kropa, and can be briefly summarized. First, a claim preamble consisting solely of a claim noun, either generic or specific, may sufficiently define the subject matter of the claim and is preferred in claim drafting. Such a simple, straightforward claim preamble eliminates the likelihood of a preamble interpretation dispute. Second, if additional preamble words are deemed necessary, an introductory modifier is preferable over a posterior modifier. Both the claim drafter and the claim interpreter should presume that introductory modifiers will be given effect by a court as defining the subject matter of the claim.

Third, posterior modifiers are preferably avoided, and should not be used in claim preambles that also contain introductory modifiers. If a posterior modifier is used, the conjunction “of” should be preferred over “for.” In addition, the posterior modifier should contain language which, when interpreted in light of the specification, suggests the subject matter of the claim, and not a use or purpose of that subject matter. In such a case, a cross-reference in an element of the claim to the language in the posterior modifier will increase the likelihood that a court will interpret the claim preamble consistent with the intent of the claim drafter.

### **VIII. Conclusion**

Prior commentary and most court opinions have tended to address claim preamble interpretations from a strict patent law perspective, relying on Kropa and its progeny for language referencing an invention’s properties, use, or structure to conclude whether or not a claim preamble was limiting. That approach has overlooked a fundamental aspect of claim interpretation--if, as is often stated, claim interpretation is to begin with the words themselves, the analysis must look at how the words are used in a grammatical sense, not merely at what the words may mean in a definitional sense. The approach argued herein, that the analysis of claim preambles must take into account both the inherent meanings of the words that are used and the grammatical manner in which they are used, provides this additional logical component to the preamble interpretation issue. Reliance on this approach provides a structure on which future courts, and the patent community, can more clearly, and more consistently, determine patent claim preamble significance.

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

#### **Footnotes**

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author thanks colleagues Gary D. Lawson and J. Paul Plummer for helpful comments on an earlier draft of this paper. The opinions expressed in this paper are those of the author and do not necessarily reflect the opinions of ExxonMobil Corporation.

<sup>1</sup> Willis E. Higgins, *The Significance of Preambles in Chemical Composition Claims*, 49 J. Pat. Off. Soc'y 337 (1967).

<sup>2</sup> And thus not addressing the preamble interpretation issue. *In re Neugebauer*, 330 F.2d 353, 356, 141 U.S.P.Q. (BNA) 205, 208 (C.C.P.A. 1964) (emphasis in original) (“*In verbis, non verba, sed res et ratio, quaeranda est.* (“In the construction of words, not the mere words, but the thing and the meaning, are to be inquired after.”)”).

<sup>3</sup> *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1306, 51 U.S.P.Q.2d (BNA) 1161, 1166 (Fed. Cir. 1999).

<sup>4</sup> *Kropa v. Robie*, 187 F.2d 150, 88 U.S.P.Q. (BNA) 478 (C.C.P.A. 1951).

<sup>5</sup> Vincent Millin, *PTO Practice: Preamble-Prelude to Patentability*, 72 J. Pat. & Trademark. Off. Soc'y 348 (1990).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.* at 358.

<sup>8</sup> *Id.* at 348.

<sup>9</sup> Willis E. Higgins, *The Significance of Preambles in Chemical Composition Claims*, 49 J. Pat. Off. Soc'y 337 (1967).

<sup>10</sup> *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 U.S.P.Q.2d (BNA) 1161, 1165 (Fed. Cir. 1999) (“The starting point for any claim construction must be the claims themselves.”).

<sup>11</sup> *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248, 48 U.S.P.Q.2d (BNA) 1117, 1121 (Fed. Cir. 1998).

<sup>12</sup> *Kropa v. Robie*, 187 F.2d 150, 150-51, 88 U.S.P.Q. (BNA) 478, 479-80 (C.C.P.A. 1951). Representative claims on which Kropa initiated the interference were:

1. An abrasive article comprising abrasive grains and a hardened binder comprising the additive reaction product of a substantially neutral unsaturated monomeric material and an unsaturated esterification product of an aliphatic alcohol and a polybasic acid.  
10. The method of making a dense abrasive article which is substantially free from porosity which comprises commingling an unsaturated polyester, a substantially neutral unsaturated monomeric material reactive with the said polyester and abrasive grains, shaping an article from the mixture thus prepared, and heating the article to solidify the binder to an infusible state by bringing about an additive reaction between the monomeric material and the polyester to cross-link polyester molecules.

<sup>13</sup> *Id.* at 151, 88 U.S.P.Q. at 480.

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

<sup>15</sup> *Id.* at 152, 88 U.S.P.Q. at 480-81.

<sup>16</sup> *Id.*

<sup>17</sup> Kropa, 187 F.2d at 152, 88 U.S.P.Q. at 480-81.

<sup>18</sup> 35 U.S.C. §112 (2000). Kropa arose prior to the 1952 revisions to the patent statute; however, as to this issue, the substantive obligation on a patent applicant did not change with those revisions. The analogous section of the prior statute, 35 U.S.C. §33, stated that the applicant “shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.” See also *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 55 U.S.P.Q. (BNA) 381 (1942).

<sup>19</sup> *In re Van Lint*, 354 F.2d 674, 680, 148 U.S.P.Q. (BNA) 285, 289 (C.C.P.A. 1966).

<sup>20</sup> Kropa, 187 F.2d at 152, 88 U.S.P.Q. at 481.

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

<sup>22</sup> The Kropa excerpt reproduced at note 15 references the fact that the introductory phrase may be “deemed essential to point out the invention defined by the claim or count.”

<sup>23</sup> Kropa, 187 F.2d at 152, 88 U.S.P.Q. at 481.

<sup>24</sup> Both Judge Rich’s “verbis” and his “verba.” See *In re Neugebauer*, 330 F.2d 353, 356, 141 U.S.P.Q. (BNA) 205, 208 (C.C.P.A. 1964).

<sup>25</sup> Grammar primers distinguish nouns as either common or proper. See J.E. Warriner et al., *English Grammar and Composition*, Fifth Course 5 (Heritage Ed., Harcourt Brace Jovanovich 1977). The phrases “generic” and “specific” are used here as more representative of the legal significance of the noun within a claim’s preamble.

<sup>26</sup> *Id* at 9.

<sup>27</sup> Broadly speaking, posterior modifiers may be prepositional phrases or verbal phrases. Prepositional phrases include adjective phrases and adverb phrases. Verb phrases include participial, gerund, or infinitive phrases. *Id.* at 43-54.

<sup>28</sup> Because adverb phrases and verbal phrases are based on verb forms, and in general grammatical use are intended to modify the action expressed by a verb, courts have difficulty in patent preamble use of these phrases in determining whether such phrases are descriptive modifiers of the claim noun, or merely state a use or purpose of the invention defined by the claim noun.

<sup>29</sup> Certain of the sixty-nine cases involved both introductory and posterior modifiers, thus resulting in more claim preamble examples for review than the number of cases that were involved. Furthermore, this review was not limited to those instances in which the substantive holding of the court explicitly interpreted all or part of a claim preamble, but also includes instances in which the court’s words (in addition to the holding) implicitly concluded whether or not preamble words were subject matter-defining.

<sup>30</sup> See *infra* p.12, notes 32-35.

<sup>31</sup> See *infra* pp. 14-19.

<sup>32</sup> See *infra* pp. 14-19.

<sup>33</sup> See *infra* pp. 19-21.

<sup>34</sup> Each subcategory of the table lists cases in chronological order. The representative claims omit introductory words such as “a” “an,” or “the,” and also omit all words beginning with the “comprising” word or phrase. The preambles are subdivided into the introductory modifier, the claim noun, the posterior modifier, and the conjunction separating the latter two. The final column reproduces excerpts from the court’s holding which relate to preamble interpretation.

<sup>35</sup> Even with modern technology it would probably be impossible to unearth all preamble interpretation cases since *Kropa*. The cases referenced herein derive, first, from the cases cited by 3 Chisum on Patents, §8.06(1)(d) (2001), Higgins, *supra* note 1, and Millin, *supra* note 5. Second, Alton D. Rollins, *Is It New or Not?* 68 J. Pat. & Trademark Off. Soc’y 89 (1986) was also reviewed, as were internal cites to cases from these four sources. Finally, the Federal Circuit’s preamble-related cases, as summarized in Donald S. Chisum, *Patent Law Digest*, §2430 (2001) were reviewed. A number of cases reviewed in this process, though often quoted as relating to preamble interpretation, did not relate to the introductory/posterior modifier interpretation issue that is the subject of this article. Among those are:

- (1) relating to the interpretation of Jepson claims generally (*Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 227 U.S.P.Q. (BNA) 766 (Fed. Cir. 1985), *Sjolund v. Musland*, 847 F.2d 1573, 6 U.S.P.Q.2d (BNA) 2020 (Fed. Cir. 1988), and *Kegel Co. v. AMF Bowling, Inc.*, 127 F.3d 1420, 44 U.S.P.Q.2d (BNA) 1123 (Fed. Cir. 1997));
- (2) focusing primarily on language in the body of the claim (*Pac-Tec, Inc. v. Amerace Corp.*, 903 F.2d 796, 14 U.S.P.Q.2d (BNA) 1871 (Fed. Cir. 1990), *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 26 U.S.P.Q.2d (BNA) 1018 (Fed. Cir. 1993), *Thermalloy, Inc. v. Aavid Eng’g, Inc.*, 121 F.3d 691, 43 U.S.P.Q.2d (BNA) 1846 (Fed. Cir. 1997), *Hazani v. U.S. Int’l Trade Comm’n*, 126 F.3d 1473, 44 U.S.P.Q.2d (BNA) 1358 (Fed. Cir. 1997), and *O.I. Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 42 U.S.P.Q.2d (BNA) 1777 (Fed. Cir. 1997));
- (3) interpreting the claim noun but not the modifiers (*In re Paulsen*, 30 F.3d 1475, 31 U.S.P.Q.2d (BNA) 1671 (Fed. Cir. 1994), *Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Corp., Inc.*, 123 F.3d 1445, 43 U.S.P.Q.2d (BNA) 1650 (Fed. Cir. 1997), and *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 54 U.S.P.Q.2d (BNA) 1129 (Fed. Cir. 2000)) and
- (4) considering but not deciding whether preamble language was subject matter defining or not (*Interactive Gift Express, Inc. v. Compuserve, Inc.*, 231 F.3d 859, 56 U.S.P.Q.2d (BNA) 1647 (Fed. Cir. 2000), and *In re Freeman*, 474 F.2d 1318, 177 U.S.P.Q. (BNA) 139 (C.C.P.A. 1973)). In addition, *In re Higbee*, 527 F.2d 1405, 188 U.S.P.Q. (BNA) 488 (C.C.P.A. 1976), is often cited as relating to preamble interpretation, but due to its focus on an unusual (and arguably specious) claim interpretation argument intended to overcome a new matter rejection, it does not relate to the analysis of this article.

<sup>36</sup> See *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 228 U.S.P.Q. (BNA) 90 (Fed. Cir. 1985); *Titanium Metals v. Banner*, 778 F.2d 775, 227 U.S.P.Q. (BNA) 773 (Fed. Cir. 1985); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 221 U.S.P.Q. (BNA) 669 (Fed. Cir. 1984); *In re Tuominen*, 671 F.2d 1359, 213 U.S.P.Q. (BNA) 89 (C.C.P.A. 1982); *In re Bulloch*, 604 F.2d 1362, 203 U.S.P.Q. (BNA) 171 (C.C.P.A. 1979); *In re Casey*, 370 F.2d 576, 152 U.S.P.Q. (BNA) 235 (C.C.P.A. 1967); *In re Duva*, 387 F.2d 402, 156 U.S.P.Q. (BNA) 90 (C.C.P.A. 1967); *In re Tomlinson*, 363 F.2d 928, 150 U.S.P.Q. (BNA) 623 (C.C.P.A. 1966); *In re Van Lint*, 354 F.2d 674, 148 U.S.P.Q. (BNA) 285 (C.C.P.A. 1966); *In re Neugebauer*, 330 F.2d 353, 141 U.S.P.Q. (BNA) 205 (C.C.P.A. 1964); *Kropa v. Robie*, 187 F.2d 150, 88 U.S.P.Q. (BNA) 478 (C.C.P.A. 1966); *Plastic Container Corp. v. Continental Plastics of Okla., Inc.*, 525 F. Supp. 834, 214 U.S.P.Q. (BNA) 530 (W.D. Okla. 1981).

<sup>37</sup> See *Heidelberg Harris v. Mitsubishi Heavy Ind., Ltd.*, 56 U.S.P.Q. (BNA) 1714 (Fed. Cir. 2000); *C.R. Bard v. M3 Sys., Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 1998); *Philips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 48 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 1998); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 U.S.P.Q.2d (BNA) 1962 (Fed. Cir. 1989); *In re Pearson*, 494 F.2d 1399, 181 U.S.P.Q. (BNA) 641 (C.C.P.A. 1974); *In re Myers*, 410 F.2d 420, 161 U.S.P.Q. (BNA) 668 (C.C.P.A. 1969); *In re Allen*, 343 F.2d 482, 145 U.S.P.Q. (BNA) 147 (C.C.P.A. 1965); *Amphenol Corp. v. Maxconn, Inc.*, 52 U.S.P.Q.2d (BNA) 1178 (N.D. Cal 1998); *Shure Bros., Inc. v. Korvettes, Inc.*, 198 U.S.P.Q. (BNA) 283 (N.D. Ill. 1978); *Arshal v. United States*, 621 F.2d 421, 208 U.S.P.Q. (BNA) 379 (Ct. Cl. 1980); *Ex parte Cullis*, 11 U.S.P.Q.2d (BNA) 1876 (Bd. Pat. App. & Int’f 1989); *Ex parte Kristensen*, 10 U.S.P.Q.2d (BNA) 1701 (Bd. Pat. App. & Int’f 1989); *Ex parte Wikdahl*, 10 U.S.P.Q. (BNA) 1546 (Bd. Pat. App. & Int’f 1989).

<sup>38</sup> See *Heidelberg Harris v. Mitsubishi Heavy Ind., Ltd.*, 56 U.S.P.Q. (BNA) 1714 (Fed. Cir. 2000); *C.R. Bard v. M3 Sys., Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 1998); *Philips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 48 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 1998); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 U.S.P.Q.2d (BNA) 1962 (Fed. Cir. 1989); *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 228 U.S.P.Q. (BNA) 90 (Fed. Cir. 1985); *Titanium Metals v. Banner*, 778 F.2d 775, 227 U.S.P.Q. (BNA) 773 (Fed. Cir. 1985); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d

888, 221 U.S.P.Q. (BNA) 669 (Fed. Cir. 1984); *In re Bulloch*, 604 F.2d 1362, 203 U.S.P.Q. (BNA) 171 (C.C.P.A. 1979); *In re Myers*, 410 F.2d 420, 161 U.S.P.Q. (BNA) 668 (C.C.P.A. 1969); *In re Duva*, 387 F.2d 402, 156 U.S.P.Q. (BNA) 90 (C.C.P.A. 1967); *In re Van Lint*, 354 F.2d 674, 148 U.S.P.Q. (BNA) 285 (C.C.P.A. 1966); *In re Allen*, 343 F.2d 482, 145 U.S.P.Q. (BNA) 147 (C.C.P.A. 1965); *Kropa v. Robie*, 187 F.2d 150, 88 U.S.P.Q. (BNA) 478 (C.C.P.A. 1966); *Amphenol Corp. v. Maxconn, Inc.*, 52 U.S.P.Q.2d (BNA) 1178 (N.D. Cal 1998); *Plastic Container Corp. v. Continental Plastics of Okla., Inc.*, 525 F. Supp. 834, 214 U.S.P.Q. (BNA) 530 (W.D. Okla. 1981); *Shure Bros., Inc. v. Korvettes, Inc.*, 198 U.S.P.Q. (BNA) 283 (N.D. Ill. 1978); *Ex parte Kristensen*, 10 U.S.P.Q.2d (BNA) 1701 (Bd. Pat. App. & Int’f 1989); *Ex Parte Wikdahl*, 10 U.S.P.Q. (BNA) 1546 (Bd. Pat. App. & Int’f 1989).

<sup>39</sup> See, e.g., *Bulloch*, 604 F.2d at 1365, 203 U.S.P.Q. at 174; *Perkin-Elmer Corp.*, 732 F.2d at 896, 221 U.S.P.Q. at 675; *Titanium Metals*, 778 F.2d at 782, 227 U.S.P.Q. at 779; *Allen*, 343 F.2d at 485, 145 U.S.P.Q. at 149; *Myers*, 410 F.2d at 426, 161 U.S.P.Q. at 673; *Corning Glass Works*, 868 F.2d at 1257, 9 U.S.P.Q.2d at 1966; *Amphenol Corp.*, 52 U.S.P.Q.2d at 1180.

<sup>40</sup> See, e.g., *Loctite Corp.*, 781 F.2d at 868, 228 U.S.P.Q. at 94.

<sup>41</sup> See, e.g., *Duva*, 387 F.2d at 407, 156 U.S.P.Q. at 94.

<sup>42</sup> This result is also consistent with the courts’ analysis of the determination of whether 35 U.S.C. §112, P 6 (1994) is invoked when an introductory modifier precedes the word “means” in an element of a claim. Specifically, the courts have generally held that the use of an introductory modifier in that context adds a structural context to the means element, and thus prevents application of §112, P 6. See *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 41 U.S.P.Q.2d (BNA) 1001 (Fed. Cir. 1996), *Rodime PLC v. Seagate Tech., Inc.* 174 F.3d 1294, 50 U.S.P.Q.2d (BNA) 1429 (Fed. Cir. 1999), and *Sage Prods., Inc. v. Devin Indus., Inc.*, 126 F.3d 1420, 44 U.S.P.Q.2d (BNA) 1103 (Fed. Cir. 1997). But see *Unidynamics Corp. v. Automatic Prods., Int’l, Ltd.* 157 F.3d 1311, 48 U.S.P.Q.2d (BNA) 1099 (Fed. Cir. 1998).

<sup>43</sup> See *In re Tuominen*, 671 F.2d 1359, 213 U.S.P.Q. (BNA) 89 (C.C.P.A. 1982); *In re Pearson*, 494 F.2d 1399, 181 U.S.P.Q. (BNA) 641 (C.C.P.A. 1974); *In re Casey*, 370 F.2d 576, 152 U.S.P.Q. (BNA) 235 (C.C.P.A. 1967); *In re Tomlinson*, 363 F.2d 928, 150 U.S.P.Q. (BNA) 623 (C.C.P.A. 1966); *In re Neugebauer*, 330 F.2d 353, 141 U.S.P.Q. (BNA) 205 (C.C.P.A. 1964); *Arshal v. United States*, 621 F.2d 421, 208 U.S.P.Q. (BNA) 379 (Ct. Cl. 1980); *Ex parte Cullis*, 11 U.S.P.Q.2d (BNA) 1876 (Bd. Pat. App. & Int’f 1989).

<sup>44</sup> 494 F.2d 1399, 1403, 181 U.S.P.Q. (BNA) 641, 644 (1974).

<sup>45</sup> 11 U.S.P.Q.2d (BNA) 1876, 1878 (Bd. Pat. App. & Int’f 1989).

<sup>46</sup> These introductory modifiers relate to “what the invention does” or “what the invention is used for” as opposed to “what the invention is,” and could equally easily have been written as posterior modifiers. For example, Cullis’ preamble could also have been written “centrifuge assembly for separating blood components,” and in that form more clearly does not relate to the fundamental nature of the subject matter of the claim.

<sup>47</sup> *Neugebauer*, 330 F.2d at 356, 141 U.S.P.Q. at 208; *Tomlinson*, 363 F.2d at 934, 150 U.S.P.Q. at 628; *Casey*, 370 F.2d at 579, 152 U.S.P.Q. at 238-39; *Tuominen*, 671 F.2d at 1361, 213 U.S.P.Q. at 90.

<sup>48</sup> *Neugebauer*, 330 F.2d at 356, 141 U.S.P.Q. at 208. This analysis suggests that claim preamble interpretation issues can be avoided merely by using a claim noun and the word “comprising,” and allowing the elements that follow to fully define the invention, e.g., “an apparatus comprising...”

<sup>49</sup> *Tomlinson*, 363 F.2d at 934, 150 U.S.P.Q. at 628; *Casey*, 370 F.2d at 579, 152 U.S.P.Q. at 238-39.

<sup>50</sup> *In re Tuominen*, 671 F.2d 1359, 1360, 213 U.S.P.Q. (BNA) 89, 90 (C.C.P.A. 1982). Referenced prior art compositions included an

analgesic agent and a composition used in the treatment of vascular thromboses. One wonders what the majority holding would have been had the specific claim noun “lotion” been used instead of the generic noun “composition.”

<sup>51</sup> Id. “If ‘sunscreen composition’ is given the interpretation urged by Tuominen and supported by the specification, the ‘other compounds’ must be suitable for topical application and must of the type commonly found in sunscreen compositions.”

<sup>52</sup> Id (Miller, J., dissenting). *Arshal v. United States*, 621 F.2d 421, 208 U.S.P.Q. (BNA) 379 (Ct. Cl. 1980), a case relating to the patentability of computer-related technology, is similar, and, from the perspective of preambles as being subject matter-defining, reaches a result that cannot be supported. However, the opinion can also be read as one in which the court grappled more with the issue of the patentability of computer-related technology than with the significance of the preamble to the claimed subject matter, and is distinguishable on that basis.

<sup>53</sup> *Northern Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 55 U.S.P.Q.2d (BNA) 1065 (Fed. Cir. 2000); *Union Oil of Calif. v. Atlantic Richfield Co.*, 208 F.3d 989, 54 U.S.P.Q.2d (BNA) 1227 (Fed. Cir. 2000); *Gen. Elec. Co. v. Nintendo Co.*, 179 F.3d 1350, 50 U.S.P.Q.2d (BNA) 1910 (Fed. Cir. 1999); *Pitney Bowes Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 51 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 1999); *Rockwell Int'l Corp. v. United States*, 147 F.3d 1358, 47 U.S.P.Q.2d (BNA) 1027 (Fed. Cir. 1998); *Rohm and Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 44 U.S.P.Q.2d (BNA) 1459 (Fed. Cir. 1997); *Strattec Security Corp. v. Gen. Auto. Specialty Co.*, 126 F.3d 1411, 44 U.S.P.Q.2d (BNA) 1030 (Fed. Cir. 1997); *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 34 U.S.P.Q.2d (BNA) 1816 (Fed. Cir. 1995); *London v. Carson Pirie Scott & Co.*, 946 F.2d 534, 20 U.S.P.Q.2d (BNA) 1456 (Fed. Cir. 1991); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 7 U.S.P.Q.2d (BNA) 1315 (Fed. Cir. 1988); *Stewart-Warner Corp. v. City of Pontiac, Mich.*, 717 F.2d 269, 219 U.S.P.Q. (BNA) 1162 (6th Cir. 1983); *In re Szajna*, 422 F.2d 443, 164 U.S.P.Q. (BNA) 632 (C.C.P.A. 1970); *In re Zierden*, 411 F.2d 1325, 162 U.S.P.Q. (BNA) 102 (C.C.P.A. 1969); *In re Duva*, 387 F.2d 402, 156 U.S.P.Q. (BNA) 90 (C.C.P.A. 1967); *In re Walles*, 366 F.2d 786, 151 U.S.P.Q. (BNA) 185 (C.C.P.A. 1966); *Freund Ind. Co. v. Driam Metallprodukt GmbH & Co., KG*, 12 U.S.P.Q.2d (BNA) 1641 (S.D.N.Y. 1989); *Chemcast Corp. v. Arco Indus. Corp.*, 5 U.S.P.Q.2d (BNA) 1225 (S.D. Mich. 1988).

<sup>54</sup> *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 1998); *Vaupel Textilmaschine n KG v. Meccanica Euro Italia s.p.a.*, 944 F.2d 870, 20 U.S.P.Q.2d (BNA) 1056 (Fed. Cir. 1991); *Intervet America, Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 12 U.S.P.Q.2d (BNA) 1474 (Fed. Cir. 1989); *DeGeorge v. Bernier*, 768 F.2d 1318, 226 U.S.P.Q. (BNA) 758 (Fed. Cir. 1985); *In re Sinex*, 309 F.2d 488, 135 U.S.P.Q. (BNA) 302 (C.C.P.A. 1963); *In re Roshong*, 285 F.2d 819, 128 U.S.P.Q. (BNA) 401 (C.C.P.A. 1961); *Struthers Patent Corp. v. Nestle Co.*, 558 F. Supp. 747, 211 U.S.P.Q. (BNA) 1023 (D.N.J. 1981).

<sup>55</sup> *Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 55 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 2000); *Heidelberg Harris, Inc. v. Mitsubishi Heavy Indus., Ltd.*, 56 U.S.P.Q.2d (BNA) 1714 (Fed. Cir. 2000); *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 228 U.S.P.Q. (BNA) 90 (Fed. Cir. 1985); *Titanium Metals v. Banner*, 778 F.2d 775, 227 U.S.P.Q. (BNA) 773 (Fed. Cir. 1985); *In re Wertheim*, 541 F.2d 257, 191 U.S.P.Q. (BNA) 90 (C.C.P.A. 1976); *In re Hirao*, 535 F.2d 67, 190 U.S.P.Q. (BNA) 15 (C.C.P.A. 1976); *In re Pearson*, 494 F.2d 1399, 181 U.S.P.Q. (BNA) 641 (C.C.P.A. 1974); *In re Myers*, 410 F.2d 420, 161 U.S.P.Q. (BNA) 668 (C.C.P.A. 1969); *In re Tomlinson*, 363 F.2d 928, 150 U.S.P.Q. (BNA) 623 (C.C.P.A. 1966); *In re Allen*, 343 F.2d 482, 145 U.S.P.Q. (BNA) 147 (C.C.P.A. 1965); *In re Lemin*, 326 F.2d 437, 140 U.S.P.Q. (BNA) 273 (C.C.P.A. 1964); *Purdue Pharma L.P. v. Boehringer Ingelheim GmbH*, 98 F. Supp.2d 362, 55 U.S.P.Q.2d (BNA) 1168 (S.D.N.Y. 2000); *Amphenol Corp. v. Maxconn, Inc.*, 52 U.S.P.Q.2d (BNA) 1178 (N.D. Cal. 1998); *Dotolo v. Quigg*, 12 U.S.P.Q.2d (BNA) 1032 (D.C. Cir. 1989); *Ex parte Wikdahl*, 10 U.S.P.Q.2d (BNA) 1546 (Bd. Pat. App. & Int'l 1989). Two other cases, *Schering Corp. v. Precision-Cosmet Co.*, 614 F. Supp. 1368, 227 U.S.P.Q. (BNA) 278 (D. Del. 1985), and *Syntex (USA), Inc. v. Paragon Optical, Inc.*, 7 U.S.P.Q.2d (BNA) 1001 (D. Ariz. 1987), both presumably involving posterior modifiers, are distinguishable due to the infringement setting in which other evidence weighed against the party challenging the subject patents. One can't help but wonder to what extent these results are indicative of the refrain “bad facts make bad law.”

<sup>56</sup> See *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 U.S.P.Q.2d (BNA) 1315, 1317 (Fed. Cir. 1988); *Chemcast Corp. v. Arco Indus. Corp.*, 5 U.S.P.Q.2d (BNA) 1225, 1233 (S.D. Mich. 1988); *Freund Ind. Co. v. Driam Metallprodukt GmbH & Co., KG*, 12 U.S.P.Q.2d (BNA) 1641, 1643-44 (S.D.N.Y. 1989); *London v. Carson Pirie Scott & Co.*, 946 F.2d 534, 1539, 20 U.S.P.Q.2d (BNA) 1456, 1459 (Fed. Cir. 1991); *Strattec Security Corp. v. General Auto. Specialty Co.*, 126 F.3d 1411, 1418, 44 U.S.P.Q.2d (BNA) 1030, 1036 (Fed. Cir. 1997); *Gen. Elec. Co. v. Nintendo Co.*, 179 F.3d 1350, 1361-62, 50 U.S.P.Q.2d (BNA) 1910, 1919 (Fed. Cir. 1999).

<sup>57</sup> See *In re Szajna*, 422 F.2d 443, 447, 164 U.S.P.Q. (BNA) 632, 636 (C.C.P.A. 1970); *Stewart-Warner Corp. v. City of Pontiac*,

Mich., 717 F.2d 269, 278, 219 U.S.P.Q. (BNA) 1162, 1170 (6th Cir. 1983); Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620, 34 U.S.P.Q.2d (BNA) 1816, 1820 (Fed. Cir. 1995); Pitney Bowes Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1306, 51 U.S.P.Q.2d (BNA) 1161, 1166 (Fed. Cir. 1999).

<sup>58</sup> See Szajna, 422 F.2d at 447, 164 U.S.P.Q. at 636; Stewart-Warner, 717 F.2d at 278, 219 U.S.P.Q. at 1170; Bell Communications Research, 55 F.3d at 620, 34 U.S.P.Q.2d at 1820; Pitney Bowes, 182 F.3d at 1306, 51 U.S.P.Q.2d at 1166.

<sup>59</sup> Rohm and Haas Co. v. Brotech Corp., 127 F.3d 1089, 1091, 44 U.S.P.Q.2d (BNA) 1459, 1461 (Fed. Cir. 1997).

<sup>60</sup> Rockwell Int'l Corp. v. United States, 147 F.3d 1358, 1362, 47 U.S.P.Q.2d (BNA) 1027, 1030 (Fed. Cir. 1998).

<sup>61</sup> Northern Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281, 1287, 55 U.S.P.Q.2d (BNA) 1065, 1069 (Fed. Cir. 2000).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *In re Duva*, 387 F.2d 402, 156 U.S.P.Q. (BNA) 90 (C.C.P.A. 1967).

<sup>65</sup> *In re Zierden*, 411 F.2d 1325, 162 U.S.P.Q. (BNA) 102 (C.C.P.A. 1969).

<sup>66</sup> *Duva*, 387 F.2d at 403, 156 U.S.P.Q. at 90; *Zierden*, 411 F.2d at 1326-27, 162 U.S.P.Q. at 103.

<sup>67</sup> Webster's New World Dictionary of the American Language, (David B. Guralink ed., 2d. College Ed., World Publishing Co. 1976).

<sup>68</sup> *Id.*

<sup>69</sup> *In re Walles*, 366 F.2d 786, 790, 151 U.S.P.Q. (BNA) 185, 190 (C.C.P.A. 1966).

<sup>70</sup> *Union Oil of Calif. v. Atlantic Richfield Co.*, 208 F.3d 989, 995, 54 U.S.P.Q.2d (BNA) 1227, 1231 (Fed. Cir. 2000).

<sup>71</sup> See, *supra*, p.13 and note 51.

<sup>72</sup> *In re Walles*, 366 F.2d 786, 790, 151 U.S.P.Q. (BNA) 185, 190 (C.C.P.A. 1966). By analogy, Tuominen's claim could have been written "composition for screening the sun," or "composition for preventing sunburns," whereas Union Oil's claim could have been written "unleaded automotive engine gasoline." Given that the analysis herein suggests that introductory modifiers are much more consistently given effect by the courts, correctly so from a grammatical point of view, Tuominen's claim was correctly drafted, notwithstanding the court's holding, and Union Oil's claim should perhaps have been written in this alternate format.

<sup>73</sup> *Walles*, 366 F.2d at 790, 151 U.S.P.Q. at 190.

<sup>74</sup> *Id.*, 151 U.S.P.Q. at 189.

75 See *supra* note 55. “Risk” is used here in the sense that a court may not interpret the language consistent with the intent of the claim drafter. Specifically, one might presume that the typical patent claim drafter intends all words in both the preamble and the elements of the claim to have substantive effect. The cases in which the courts did not interpret the posterior modifier to be subject matter-defining demonstrate that the interpretation of claim preambles is not always consistent with that presumption.

76 Heidelberg Harris, Inc. v. Mitsubishi Heavy Indus., Ltd., 56 U.S.P.Q.2d (BNA) 1714 (Fed. Cir. 2000); Loctite Corp. v. Ultraseal, Ltd., 781 F.2d 861, 228 U.S.P.Q. (BNA) 90 (Fed. Cir. 1985); Titanium Metals v. Banner, 778 F.2d 775, 227 U.S.P.Q. (BNA) 773 (Fed. Cir. 1985); *In re Myers*, 410 F.2d 420, 161 U.S.P.Q. (BNA) 668 (C.C.P.A. 1969); *In re Allen*, 343 F.2d 482, 145 U.S.P.Q. (BNA) 147 (C.C.P.A. 1965); Amphenol Corp. v. Maxconn, Inc., 52 U.S.P.Q.2d (BNA) 1178 (N.D. Cal. 1998); *Ex parte Wikdahl*, 10 U.S.P.Q.2d (BNA) 1546 (Bd. Pat. App. & Int’f 1989).

77 *In re Myers*, 410 F.2d 420, 161 U.S.P.Q. (BNA) 668 (C.C.P.A. 1969).

78 Amphenol Corp. v. Maxconn, Inc., 52 U.S.P.Q.2d (BNA) 1178 (N.D. Cal. 1998).

79 Myers, 410 F.2d at 424-26, Amphenol Corp., 52 U.S.P.Q.2d at 1179-80. In *In re Pearson*, 494 F.2d 1399, 181 U.S.P.Q. (BNA) 641 (C.C.P.A. 1974), neither the introductory nor the posterior modifier was given effect, the only example of both modifiers being present with neither being given effect that was found.

80 *In re Allen*, 343 F.2d 482, 145 U.S.P.Q. (BNA) 147 (C.C.P.A. 1965).

81 *Ex parte Wikdahl*, 10 U.S.P.Q.2d (BNA) 1546 (Bd. Pat. App. & Int’f 1989).

82 Heidelberg Harris, Inc. v. Mitsubishi Heavy Indus., Ltd., 56 U.S.P.Q.2d (BNA) 1714 (Fed. Cir. 2000).

83 Allen, 343 F.2d at 485, 145 U.S.P.Q. at 149; Wikdahl, 10 U.S.P.Q.2d at 1548; Heidelberg, 56 U.S.P.Q.2d at 1719-20. These results, along with the use of the preposition “for,” implicitly supports the difference between “of” and “for” noted above.

84 *In re Lemin*, 326 F.2d 437, 140 U.S.P.Q. (BNA) 273 (C.C.P.A. 1964).

85 Loctite Corp. v. Ultraseal, Ltd., 781 F.2d 861, 228 U.S.P.Q. (BNA) 90 (Fed. Cir. 1985).

86 Titanium Metals v. Banner, 778 F.2d 775, 227 U.S.P.Q. (BNA) 773 (Fed. Cir. 1985).

87 Loctite, 781, F.2d at 864, 228 U.S.P.Q. at 91; Titanium Metals, 778 F.2d at 782, 227 U.S.P.Q. at 779.

88 Webster’s, *supra* note 37.

89 *In re Tomlinson*, 363 F.2d 928, 150 U.S.P.Q. (BNA) 623 (C.C.P.A. 1966).

90 *In re Hirao*, 535 F.2d 67, 190 U.S.P.Q. (BNA) 15 (C.C.P.A. 1976).

91 *In re Wertheim*, 541 F.2d 257, 191 U.S.P.Q. (BNA) 90 (C.C.P.A. 1976).

92 Purdue Pharma L.P. v. Boehringer Ingelheim GmbH, 98 F. Supp.2d 362, 55 U.S.P.Q.2d (BNA) 1168 (S.D.N.Y. 2000).

93 Embrex, Inc. v. Serv. Eng'g Corp., 216 F.3d 1343, 55 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 2000).

94 Tomlinson, 363 F.2d at 934, 150 U.S.P.Q. at 628; Hirao, 535 F.2d at 70, 190 U.S.P.Q. at 17-18; Wertheim, 541 F.2d at 269-70, 191 U.S.P.Q. at 102; Purdue, 98 F. Supp. 2d at 376-77, 55 U.S.P.Q.2d at 1177-78. Although the preposition "of" was used in Tomlinson, the analysis of the court was consistent with the Walles analysis.

95 In re Roshong, 285 F.2d 819, 822, 128 U.S.P.Q. 401, 403 (C.C.P.A. 1961).

96 In re Sinex, 309 F.2d 488, 135 U.S.P.Q. (BNA) 302 (C.C.P.A. 1963).

97 Struthers Patent Corp. v. Nestle Co., 558 F. Supp. 747, 211 U.S.P.Q. (BNA) 1023 (D.N.J. 1981).

98 DeGeorge v. Bernier, 768 F.2d 1318, 226 U.S.P.Q. (BNA) 758 (Fed. Cir. 1985).

99 See Sinex, 309 F.2d at 492, 135 U.S.P.Q. at 305; Struthers, 558 F. Supp. at 850, 211 U.S.P.Q. at 1110; DeGeorge, 768 F.2d at 1322, 226 U.S.P.Q. at 761-62.

100 Intervet America, Inc. v. Kee-Vet Labs., Inc., 887 F.2d 1050, 1054-55, 12 U.S.P.Q.2d (BNA) 1474, 1478 (Fed. Cir. 1989).

101 See e.g., In re Roshong, 285 F.2d 819, 822, 128 U.S.P.Q. (BNA) 401, 403, (C.C.P.A. 1961); DeGeorge, 768 F.2d at 1322, 226 U.S.P.Q. at 762; Vaupel Textilmaschine n KG v. Euro Italia s.p.a., 944 F.2d 870, 880, 20 U.S.P.Q.2d (BNA) 1045, 1053 (Fed. Cir. 1991).

102 See In re Stencel, 828 F.2d 751, 4 U.S.P.Q.2d (BNA) 1071 (Fed. Cir. 1987); Marston v. J.C. Penney Co., 353 F.2d 976, 148 U.S.P.Q. (BNA) 25 (4th Cir. 1965); Entec Plastics Eng'g Corp. v. Gales Rubber Co., 206 U.S.P.Q. (BNA) 524 (D. Colo. 1980); Shure v. Korvettes, Inc., 198 U.S.P.Q. (BNA) 283 (N.D. Ill. 1978); Ex parte Wolters, 214 U.S.P.Q. (BNA) 735 (Pat. & Tm. Off. Bd. App. 1979). Note that the term "combination" appears to have a variety of definitions in these cases. In Marston the combination arises in the elements of the claim. In Shure the combination is of the components specified in the introductory and the posterior modifiers. In Stencel the combination is of the claim noun and the components specified in the posterior modifier.

103 Stencel, 828 F.2d at 752-53, 4 U.S.P.Q.2d at 1072.

104 Stencel, 828 F.2d at 754-55, 4 U.S.P.Q.2d at 1073.

105 Marston v. J.C. Penney Co., 353 F.2d 976, 148 U.S.P.Q. (BNA) 25 (4th Cir. 1965).

106 Id. at 977, 148 U.S.P.Q. at 26.

107 Id. at 986, 148 U.S.P.Q. at 33.

108 Id.

<sup>109</sup> See *id.*

<sup>110</sup> This result is consistent with the Neugebauer, Tomlinson, Casey holding, see the text supra at note 42.

<sup>111</sup> This complexity suggests support for the message often given to new patent attorneys: “Don’t write Jepson claims.”

<sup>112</sup> *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 57 U.S.P.Q.2d (BNA) 1057 (Fed. Cir. 2000); *Rowe v. Dror*, 112 F.3d 473, 212 U.S.P.Q.2d (BNA) 1550 (Fed. Cir. 1997); *Applied Materials v. Advanced Semiconductor Materials*, 98 F.3d 1563, 40 U.S.P.Q.2d (BNA) 1481 (Fed. Cir. 1986); *Gerber Garment Tech., Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 16 U.S.P.Q.2d (BNA) 1436 (Fed. Cir. 1990); *Porter v. Farmers Supply Serv., Inc.*, 790 F.2d 882, 229 U.S.P.Q. (BNA) 814 (Fed. Cir. 1986); *In re Attwood*, 354 F.2d 365, 148 U.S.P.Q. (BNA) 203 (C.C.P.A. 1966); *Pritchard and Schroeder v. Loughlin* 360 F.2d 250, 149 U.S.P.Q. (BNA) 676 (C.C.P.A. 1966); *In re Dean*, 291 F.2d 947, 130 U.S.P.Q. 107 (C.C.P.A. 1961); *Cal. Car Wash Sys. v. Danco, Inc.*, 387 F. Supp. 1345, 184 U.S.P.Q. (BNA) 13 (D. Colo. 1974); *Diamond Int’l Corp. v. Md. Fresh Eggs, Inc.*, 374 F. Supp. 1223, 182 U.S.P.Q. (BNA) 147 (D. Md. 1974).

<sup>113</sup> *In re Dean*, 291 F.2d 947, 130 U.S.P.Q. (BNA) 107 (C.C.P.A. 1961).

<sup>114</sup> *Rowe v. Dror*, 112 F.3d 473, 212 U.S.P.Q.2d (BNA) 1550 (Fed. Cir. 1997).

<sup>115</sup> *Dean*, 291 F.2d at 951, 130 U.S.P.Q. at 110-12; *Rowe*, 112 F. Supp. at 479, 212 U.S.P.Q. at 1553.

<sup>116</sup> See *Cal. Car Wash Sys. v. Danco, Inc.*, 387 F. Supp. 1345, 1347, 184 U.S.P.Q. (BNA) 13, 15 (1974).

<sup>117</sup> See *Porter v. Farmers Supply Serv., Inc.*, 790 F.2d 882, 883-85, 229 U.S.P.Q. (BNA) 814, 816 (Fed. Cir. 1986).

<sup>118</sup> See *Applied Materials v. Advanced Semiconductor Materials*, 98 F.3d 1563, 1571-73, 40 U.S.P.Q.2d (BNA) 1481, 1488 (Fed. Cir. 1986).

<sup>119</sup> *Pritchard and Schroeder v. Loughlin* 360 F.2d 250, 149 U.S.P.Q. (BNA) 676 (C.C.P.A. 1966).

<sup>120</sup> *In re Attwood*, 354 F.2d 365, 374, 148 U.S.P.Q. (BNA) 203, 210-11 (C.C.P.A. 1966).

<sup>121</sup> *Diamond Int’l Corp. v. Md. Fresh Eggs, Inc.*, 374 F. Supp. 1223, 1237, 182 U.S.P.Q. (BNA) 147, 156-58 (D. Md. 1974).