

In re Bigio: Brushing Your Hair with a Toothbrush? The Interplay Between the Broadest Reasonable Interpretation Rule and the Analogous Art Doctrine

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|---------------------------------|-----|
| I. INTRODUCTION | 313 |
| II. BACKGROUND..... | 313 |
| III. THE COURT’S DECISION | 319 |
| IV. ANALYSIS..... | 322 |

I. INTRODUCTION

Albert Lee Bigio filed a patent application for a hairbrush with a shape he claimed was unique.¹ The patent examiner rejected several of the claims as obvious under 35 U.S.C. § 103(a) in view of three prior art toothbrush references.² The United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board) affirmed the examiner’s rejections.³ On appeal, Bigio argued that the toothbrush references were not analogous prior art that could be applied against the hairbrush claims.⁴ Reading representative Claim 1 according to its broadest reasonable interpretation, the court determined that the toothbrush references were analogous art because they fell within the same field of endeavor as the claimed hairbrush.⁵ The United States Court of Appeals for the Federal Circuit subsequently *held* that the disputed claims were invalid under 35 U.S.C. § 103(a) as obvious over the toothbrush references. *In re Bigio*, 381 F.3d 1320, 1327 (Fed. Cir. 2004).

II. BACKGROUND

Although a claim may not be anticipated under 35 U.S.C. § 102, it will be rendered invalid under 35 U.S.C. § 103 if there are only obvious

1. *In re Bigio*, 381 F.3d 1320, 1322-23 (Fed. Cir. 2004). Bigio’s application disclosed an “anatomically correct hairbrush” for brushing scalp hair. *Id.* at 1325. The allegedly unique shape was an hourglass configuration for both the bristle substrate and the overall bristle array. *Id.* at 1322-25.

2. *Id.* at 1323.

3. *Id.* at 1322. The Board affirmed the examiner’s rejections based on only one of the three references. *Id.* at 1324.

4. *Id.* Bigio did not dispute that his invention would be rendered obvious if these three references were analogous art. *Id.*

5. *Id.* at 1327. Bigio stipulated that all of the rejected claims stood or fell with Claim 1. *Id.* at 1323.

differences between the claimed invention and the prior art.⁶ When making a determination of obviousness, a court can only consider references that are analogous to the claimed invention.⁷ If the scope of any particular reference is too remote to that of the claimed invention, that reference will not be used as prior art because it is nonanalogous to the claimed invention.⁸ The nonanalogous art limitation relieves the inventor from the impossible burden of being knowledgeable of every teaching in every art.⁹ It is a common sense approach that considers only those fields in which a person having ordinary skill in the art would reasonably look for a solution to the problem facing the inventor.¹⁰ Whether a reference in the prior art is analogous is a question of fact reviewed on appeal under the clearly erroneous standard.¹¹ Obviousness, on the other hand, is a question of law to be reviewed under a de novo standard.¹²

Prior art is deemed to be analogous if one of two tests is satisfied: (1) if the art is from the same field of endeavor, regardless of the problem addressed or (2) when the reference is not within the field of the inventor's endeavor, if it is reasonably pertinent to the particular problem with which the inventor is involved.¹³ Whether prior art will be analogous, and thus available to apply against patent claims for an obviousness rejection, often depends on how broadly the examiner defines the "field of endeavor."¹⁴ If the prior art references are not in the same field of endeavor, they may still be applied against patent claims when they are reasonably pertinent to the problem addressed by the claimed invention.¹⁵ While each case involves a fact-specific

6. 35 U.S.C. § 103 states, in relevant part:

(a) 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.

7. See *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979).

8. See, e.g., *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992).

9. *In re Wood*, 599 F.2d at 1036.

10. See *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992); *In re GPAC, Inc.*, 57 F.3d 1573, 1578 (Fed. Cir. 1995).

11. *In re Clay*, 966 F.2d at 659.

12. *Stevenson v. Int'l Trade Comm'n*, 612 F.2d 546, 549 (C.C.P.A. 1979) (citations omitted).

13. *In re Clay*, 966 F.2d at 658-59 (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *In re Wood*, 599 F.2d at 1036).

14. See generally K. Dobies, *New Viability in the Doctrine of Analogous Art*, 34 IDEA 227, 242-43 (1994) (discussing the policy directives behind the analogous art doctrine).

15. *In re Clay*, 966 F.2d at 659.

determination, “[i]f a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem” because it “logically would have commended itself to an inventor’s attention in considering his problem.”¹⁶ Further, similarities and differences in the “structure and function” of the claimed invention and prior art reference must be considered to determine if the prior art reference is analogous.¹⁷

Examiners must first interpret claims before comparing them to prior art references.¹⁸ During patent prosecution, claims are given their broadest reasonable interpretation consistent with the specification.¹⁹ This is done to prevent, insofar as possible, uncertainties of claim scope by compelling patentees to fashion claims that are “precise, clear, correct, and unambiguous” while the claims are subject to amendment.²⁰ If a patentee wishes to deviate from the ordinary and accustomed meaning of a claim term, such intent must be shown through “expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”²¹ Even if a patent describes only a single embodiment, the claim terms are not limited to that embodiment absent an express limitation.²²

In re Wood articulated the two-part test for determining analogous art.²³ The disputed claims were drawn to a variable venturi apparatus for use in carburetors, which reduced levels of pollutants in the exhaust by maintaining sonic velocity through the venturi throat.²⁴ The Board rendered the claims obvious over subsonic variable venturi carburetors.²⁵ On appeal, Wood asserted that subsonic carburetors were not analogous

16. *Id.*

17. *Stevenson*, 612 F.2d at 550; *see also In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *In re Clay*, 966 F.2d at 660; Dobies, *supra* note 14, at 229-30.

18. *See, e.g., In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

19. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989). When interpreting claims of issued patents during litigation, the meaning of claims are interpreted in light of the specification, prosecution history, prior art, and other claims, as well as through extrinsic evidence including testimony of witnesses. Claims are construed more broadly during prosecution. *Id.*; *Tandon Corp. v. United States Int’l Trade Comm’n*, 831 F.2d 1017, 1021 (Fed. Cir. 1987) (citations omitted).

20. *In re Zletz*, 893 F.2d at 322.

21. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1365 (Fed. Cir. 2004) (quoting *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)). *But cf. Astrazeneca AB, Aktiebolaget Hassle, KBI-E, Inc. v. Mut. Pharm. Co.*, 384 F.3d 1333, 1340 (Fed. Cir. 2004) (finding that a clear disavowal may be implied where the written description of the invention describes a feature of the invention and criticizes other products that lack that same feature).

22. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004).

23. *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979).

24. *Id.* at 1034-35. The application disclosed an improvement over a commonly assigned patent. *Id.* at 1034.

25. *Id.* at 1036-37.

art, and, therefore, they could not be properly combined to support a holding of obviousness.²⁶ The court indicated that it must first decide whether this prior art was within the field of the inventor's endeavor, and if not, then consider whether it was reasonably pertinent to the particular problem with which the inventor was involved.²⁷

The Background of Invention defined the field of art as "the art of internal combustion engines and more particularly to such art as it applies to fuel and air induction systems therefor."²⁸ Adopting this statement as the field of endeavor, the court found that the subsonic variable venturi carburetors clearly fell within this field.²⁹ The court also agreed with the Board that the claims were obvious in light of these references, and thus affirmed the Board's decision to reject the claims.³⁰

In re Clay was a seminal analogous art case in which the Federal Circuit narrowed the field of endeavor that had been defined by the Board.³¹ There, the inventor devised a process for storing refined liquid hydrocarbon product in a storage tank having a dead volume between the tank bottom and its outlet port.³² This was accomplished by preparing and injecting a gelatin solution into the dead volume of the tank.³³ Two prior art references were cited against the claims by the Board: the Hetherington patent, which disclosed an apparatus for displacing dead space liquid using impervious bladders, or large bags, formed with flexible membranes; and the Sydansk patent, which disclosed a process that used gelatin to reduce permeability of hydrocarbon bearing formations, thereby enhancing oil production.³⁴ The Board concluded that one skilled in the art would appreciate that the gelatin system would be impervious to hydrocarbons and that the "cavities" filled by Sydansk were sufficiently similar to the "volume or void space" being filled by the Hetherington patent.³⁵ In doing so, it indicated that the references

26. *Id.* at 1035-36.

27. *Id.* at 1036.

28. *Id.*

29. *Id.*; see also *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986) (finding pumps to be analogous to compressors because they both had "essentially the same function and structure," and fell into the same field of "horizontally reciprocating, double-acting piston devices for moving fluids").

30. *In re Wood*, 599 F.3d at 1037.

31. See, e.g., *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

32. *Id.* at 657-58.

33. *Id.*

34. *Id.* at 658.

35. *Id.*

were in the same field of endeavor as Clay's invention—the field of “maximizing withdrawal of petroleum stored in petroleum reservoirs.”³⁶

The court stated that the references were not in the same field of endeavor simply because they both related to the petroleum industry.³⁷ It then defined Clay's field of endeavor as “*storage* of refined liquid hydrocarbons” and Sydansk's field of endeavor as “*extraction* of crude petroleum.”³⁸ Because the references were not in the same field of endeavor, the court then evaluated whether Sydansk's patent was reasonably pertinent to the problem that Clay attempted to solve, finding that the problem of preventing loss of stored product in dead tank volume was not the same as recovering oil from a porous rock matrix.³⁹ Because the Sydansk patent was not analogous art under either of the two prongs, the court reversed the Board's rejection of the claims.⁴⁰

In re GPAC involved patent claims that were rendered obvious using the second prong of the *Wood* test.⁴¹ The disclosed invention was a system for controlling airborne asbestos contamination during the course of asbestos removal from an existing building.⁴² The Board rejected the claims over a book entitled *Asbestos* in combination with twelve secondary references.⁴³ The court identified the field of endeavor as “asbestos removal with attendant asbestos contamination control.”⁴⁴ It then found that although each of the secondary references were not within this field of endeavor, they were reasonably pertinent to the problem solved because each addressed a specific problem addressed in the GPAC invention.⁴⁵ It then upheld the Board's rejection of GPAC's claims over the *Asbestos* book in view of the secondary references.⁴⁶

36. *Id.* at 659.

37. *Id.*

38. *Id.* (emphasis in original).

39. *Id.* at 659-60. The court also emphasized the importance of the similarities and differences in structure and function. It found that Sydansk's patent and Clay's process were not structurally similar, did not operate under the same temperature and pressure, and did not function in the same way. *Id.* at 660.

40. *Id.*

41. 57 F.3d 1573, 1578-79 (Fed. Cir. 1995); see also *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979) (defining the two-part test for determining analogous art).

42. *In re GPAC*, 57 F.3d at 1575.

43. *Id.* at 1576, 1578.

44. *Id.* at 1578.

45. *Id.* at 1578-79. The secondary references fell into four distinct sets of art: backdraft dampers in ventilation systems, camping tent ventilation flaps, an equilibrium door that maintains the pressurized state of enclosures while allowing for human ingress and egress, and an ultraclean room that circulated a high air flow rate to remove contaminants. The court identified the problems as preventing objectionable backflow of contaminated air, oversizing the flaps so as to overlap the opening and seal off the inside air from the outside air, maintaining a pressurized

In re Hyatt was an appeal of the Board's decision rendering four claims invalid as anticipated, after interpreting the claims broadly during prosecution.⁴⁷ Hyatt's invention was an illumination system containing multiple display devices, in which a defect in one of the devices is compensated for by using surrounding devices to generate the intensity that was supposed to be generated by the defective device.⁴⁸ The claims at issue concerned a "sharing generator" that produced "shared intensity signals" and "shared illumination intensity display signals."⁴⁹ The controversy centered on the meaning of the term "shared."⁵⁰ Hyatt argued that intensity signals must be received by more than one display device at the same time in order to be "shared."⁵¹ The Board, however, interpreted the term to mean only that the intensity signal be available to more than one correction circuit, even if only one of the correction circuits transmits the signal to its corresponding display device.⁵² Under this interpretation, Hyatt's claims were anticipated by the prior art.⁵³ The court upheld the definition of the term "shared" when it read Hyatt's claims according to their broadest reasonable interpretations.⁵⁴ The court specifically noted that, although the Board's interpretation was broad, it was not unreasonable.⁵⁵

The broadest reasonable interpretation rule also applies to reexamination and reissue proceedings.⁵⁶ A particular feature of an invention will be outside the reach of the claims if the specification

environment while allowing for human ingress and egress, and drawing a substantial air flow to cleanse and remove contaminants, respectively. *Id.*

46. *Id.* at 1376-77. The Board also rejected the claims over a MICRO-TRAP document that allegedly buttressed the final rejection of all claims. Because the court affirmed the Board's rejection on other grounds, it did not address whether the MICRO-TRAP document was an analogous prior art reference. *Id.*

47. 211 F.3d 1367, 1370 (Fed. Cir. 2000).

48. *Id.* at 1369.

49. *Id.* at 1369-70, 1372.

50. *Id.* at 1370.

51. *Id.* at 1372.

52. *Id.*

53. *Id.* at 1373.

54. *Id.* at 1372-73. The specification was lengthy but it did not contain a definition of "shared" or "sharing" that would require the Board to construe Hyatt's claims in a narrower manner. *Id.*

55. *Id.* at 1373.

56. See *In re Yamamoto*, 740 F.2d 1569, 1570-71 (Fed. Cir. 1984) (approving the Board's use of the broadest reasonable interpretation rule during a reexamination proceeding, after the patent owner filed suit for infringement); *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983) ("It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification.").

makes clear that the invention does not include that particular feature.⁵⁷ However, the claims will not be limited absent “words or expressions of manifest exclusion or restriction,” even if the specification describes only a single embodiment.⁵⁸

In re Wolfe was an early proceeding involving a situation similar to the noted case, in which the court ruled that claims directed to a dental massage device were invalid over a prior art massage appliance.⁵⁹ The claimed device described a one-piece handle with a small roller, constructed entirely of resinous plastic.⁶⁰ A British patent disclosed a larger massage appliance for use upon the surface of the body with a two-piece handle and a metal roller.⁶¹ The court concluded that characterizing the device for dental use, as opposed to use on other parts of the body, was not a patentable distinction because it pointed to no structural difference.⁶² Further, the all-plastic construction limitation was only a difference in material that was well within the skill in the art, and the one-piece handle was an obvious change from the two-piece handle.⁶³ When rejecting the claims, it reasoned that “[t]he differences are mere change of size and substitution of material of the most obvious kind, on a par with the differences between a hairbrush and a toothbrush.”⁶⁴

III. THE COURT’S DECISION

In the noted case, Bigio attempted to narrow the scope of analogous art by challenging the broad interpretation that the Board had given to the disputed claims.⁶⁵ The Federal Circuit devoted much of its analysis to summarizing and affirming the Board’s decision. The preamble of representative Claim 1 stated that the claim was for a “hair brush,” while

57. *SciMed Life Sys., Inc. v. Advanced Cardio Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001).

58. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002)).

59. 251 F.2d 854, 854-56 (C.C.P.A. 1958).

60. *Id.* at 854-55.

61. *Id.*

62. *Id.* at 855.

63. *Id.* at 855-56. The court also disagreed with additional alleged distinctions offered by *Wolfe*. *Id.*

64. *Id.* at 856. Although the court ruled that *Wolfe*’s invention was anticipated, it used concepts of anticipation and obviousness to reach that conclusion. Under an anticipation analysis, a claimed invention will be rendered invalid only if a single prior art reference discloses each and every element of the claimed invention, either explicitly or inherently. *See* 35 U.S.C. § 102. Thus, in a contemporary anticipation analysis, *Wolfe*’s claims would have been invalid only if the prior art covered the all-plastic construction and one-piece handle limitations. The court did not specifically identify the scope of the prior art.

65. *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004).

the body of the claim discussed “hair brush bristles” and a “hair brush bristle system.”⁶⁶ Bigio argued that, because the specification disclosed hairbrushes for use on scalp hair, the hairbrush disclosed in the claims should be limited to that narrow construction.⁶⁷ The Board disagreed, defining the term “hair brush” as “not only brushes that may be used for human hair on [a] scalp, but also brushes that may be used for hairs [o]n other parts of animal bodies (e.g. human facial hair, human eyebrow hair, or pet hair).”⁶⁸ Under this broad claim interpretation, the Board defined a broad field of endeavor and found that toothbrushes fell within this field.⁶⁹ The patent examiner had rejected Bigio’s claims over three toothbrush patents.⁷⁰ The Board found that the claims were invalid based on the Flemming patent alone.⁷¹

On appeal, Bigio did not dispute that the three toothbrush patents, when combined together, rendered his invention obvious.⁷² Rather, he claimed that the toothbrush patents were nonanalogous art that could not be used to invalidate the claims.⁷³ The Federal Circuit began its analysis by construing representative Claim 1, noting that claim construction is a matter of law to be reviewed without deference and that the broadest reasonable interpretation rule applied.⁷⁴ Bigio again advocated for limiting the definition of “hair brush” because the specification discussed an “anatomically correct hairbrush” for brushing scalp hair.⁷⁵ The court discussed the Board’s finding that there was nothing in the patent application that expressly disclaimed the broader definition.⁷⁶ The court then agreed that it was not proper to narrow the interpretation of the claim by importing a limitation from the specification.⁷⁷ It therefore upheld the Board’s interpretation of “hair brush.”⁷⁸

Based on this interpretation, the Board broadly defined the field of endeavor as the “field of hand-held brushes having a handle segment and

66. *Id.* at 1323.

67. *See id.* at 1325.

68. *Id.* at 1323-24.

69. *Id.* at 1324.

70. *Id.* at 1323. Specifically, the examiner rendered the claims obvious over British Patent No. 17,666 (Flemming) in combination with either United States Design Patent No. 424,303 (Tobias) or United States Design Patent No. 140,438 (Cohen). *Id.*

71. *Id.* at 1324.

72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.* at 1325.

76. *Id.*

77. *Id.*

78. *Id.*

a bristle substrate segment.”⁷⁹ It found that toothbrushes fell within this field of endeavor because “the structural similarities between toothbrushes and small brushes for hair would have led one of ordinary skill in the art working in the specific field of hairbrushes to consider all similar brushes including toothbrushes.”⁸⁰ The Board then asserted that Flemming’s toothbrush could be used for brushing hair, such as human facial hair, due to the size of the bristle segment and arrangement of its bristle bundles.⁸¹

Bigio argued that the “field of endeavor” test was unworkable because it was too subjective and lacked clear guidelines for application.⁸² The court disagreed, noting that although the field of endeavor will vary with any given factual situation, “the field of endeavor test is neither wholly subjective nor unworkable” and that “variability does not equate with ambiguity.”⁸³ The Board must consider the full disclosure of the application, applying common sense, and support its findings by substantial factual evidence.⁸⁴ The Federal Circuit then agreed that the Board’s factual findings were supported by substantial evidence.⁸⁵ Quoting dicta in *Wolfe* that the differences between a hairbrush and toothbrush are of the most obvious kind, the court adopted the Board’s interpretations and affirmed the Board’s rejections of the disputed claims.⁸⁶

In a rather heated dissenting opinion, Judge Pauline Newman proclaimed that “[a] brush for hair has no more relation to a brush for teeth than does hair resemble teeth.”⁸⁷ She focused on the “mode and mechanics” of brushing teeth and brushing hair, finding them to be nonanalogous because toothbrushes are used for cleaning purposes, whereas hair brushes are used to shape and texture hair.⁸⁸ She further asserted that the specification and claims explicitly limited the definition of “hair brush” to hair of the head.⁸⁹ “The panel majority’s inapt

79. *Id.*

80. *Id.* at 1326 (quoting *In re Bigio*, No. 2002-0967, slip. op. at 7 (Bd. Pat. App. & Interf. Jan. 24, 2003)).

81. *Id.* (quoting *In re Bigio*, No. 2002-0967, slip op. at 5).

82. *Id.* at 1325.

83. *Id.* at 1325-26.

84. *Id.* at 1326.

85. *Id.*

86. *Id.* at 1327 (quoting *In re Wolfe*, 251 F.2d 854, 856 (C.C.P.A. 1958)).

87. *Id.* (Newman, J., dissenting).

88. *Id.* (Newman, J., dissenting) (“To state the obvious: teeth require a brush that penetrates around the edges of relatively large and hard substrates, a brush that administers a soapy abrasive, a brush that works in the up-and-down and circular motion needed to scrub teeth; a brush for hair must serve entirely different shapes and textures and purposes.”).

89. *Id.* (Newman, J., dissenting).

determination that limiting ‘hair brush’ to ‘a brush for brushing hair’ involves an inappropriate importation of limitations from the specification” failed to consider that the specification is useful as a primary source for construing the claims.⁹⁰ This was not a case, in Newman’s opinion, to apply the broadest reasonable interpretation, as was done during examination.⁹¹ However, even if the claims did encompass facial hair, they did not encompass teeth or justify the use of toothbrushes as prior art because “teeth are not bodily hair.”⁹²

IV. ANALYSIS

In re Bigio illustrates the correlation between the broadest reasonable interpretation rule and the analogous art doctrine. The construction of the claims, which may be broadened beyond the intent of the drafter through the broadest reasonable interpretation rule, lays the foundation for determining the field of endeavor. Thus, the broader the claim interpretation, the broader the field of endeavor, and the more likely that a given prior art reference will be applied against the claims as analogous art.

For example, Bigio’s specification disclosed a hair brush for brushing scalp hair.⁹³ The claims and the specification, however, did not expressly limit the scope of the invention to scalp hair but rather, when construed broadly, included any type of hair.⁹⁴ Based on this interpretation, the Board defined a wide field of endeavor to encompass a variety of analogous art—the “field of hand-held brushes having a handle segment and a bristle substrate segment.”⁹⁵ This rather broad definition would include numerous devices, for example, metal wire brushes and paint brushes. Clearly, toothbrushes fall within this field.

Bigio’s argument that the field of endeavor test was too subjective to be workable was properly rejected by the court because it is not a doctrine with unprincipled application. However, even though the definition of the field must be supported by substantial factual evidence, there is nevertheless a degree of subjectivity to its definition. For instance, the Board could have defined the field as pertaining only to hairbrushes, rather than further expanding the field to all handheld brushes with a handle segment and bristle substrate segment. In that

90. *Id.* at 1327-28 (Newman, J., dissenting).

91. *Id.* at 1328 (Newman, J., dissenting).

92. *Id.* at 1327-28 (Newman, J., dissenting).

93. *Id.* at 1325.

94. *Id.*

95. *Id.*

event, toothbrushes would likely not have fallen into this field of endeavor (although the Board's assertion that toothbrushes can be used to brush facial hair could have brought them into the field). It is quite possible that the examiner would have also found that toothbrushes were not reasonably pertinent to hairbrushes because the two types of brushes have different purposes, i.e., cleaning and grooming, respectively, as suggested by Judge Newman in her dissenting opinion. Bigio's hairbrush claims could not then have been ruled obvious over the nonanalogous toothbrush patents. Clearly, then, the subjective view of the examiner may affect the ultimate determination of patentability. However, the field of endeavor test is confined within practicable boundaries.

A better approach for Bigio would have been to expressly limit the claims. The Board would have been required to define a field of endeavor that was consistent with the narrower claim scope, such as a field that corresponds to devices used on scalp hair. Since the use of toothbrushes on scalp hair stretches the limits of common sense, the toothbrush patents would not be analogous art under the "field of endeavor" test; rather, they could only be used as analogous art under the second test—if they were reasonably pertinent to the problem solved by Bigio. Therefore, the narrower field of endeavor would have increased the likelihood that the prior art would be considered nonanalogous so that the claims would be allowed to issue.

Judge Newman's dissent was based partially on the proper method of claim construction on appellate review from the Board. There are two standards of claim construction, depending on the context of the patent dispute. When reviewed for patentability, "claims are to be given their broadest reasonable interpretations."⁹⁶ Although the claims may be read in light of the specification, a clear disavowal of scope is required to narrow the claims.⁹⁷ In an infringement context, courts also read claims in light of the specification but they "can neither broaden nor narrow the claims to give the patentee something different than what he has set forth [in the claim]."⁹⁸ The difference in the two methods of evaluation is essentially one of degree—a shifting of the enigmatic line between

96. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

97. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1365 (Fed. Cir. 2004) ("This court has recognized that a patentee 'may demonstrate an intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.'" (quoting *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)); see also *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) ("Claims must be read in view of the specification, of which they are a part.").

98. *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 396 (Ct. Cl. 1967).

reading the claims “in light of the specification” and improperly importing limitations from the specification. Claims are given their broadest reasonable interpretation during prosecution to clarify their scope while they are still subject to amendment by the patentee.⁹⁹ This also reduces the possibility for the patentee to get broader protection than the claims justify by later attempting to enforce monopoly rights in an area that would have rendered the invention invalid for anticipation or obviousness.¹⁰⁰ Therefore, claims are assumed to cover any subject matter that they can reasonably be deemed to claim. In the noted case, for example, it would have been undesirable to grant monopolistic protection to Bigio over all hair brushes, of whatever type, that fell within the claim construction when he had only designed a hair brush for use on a human scalp. In infringement litigation, on the other hand, the specification may have more import on claim construction because courts drop the bias in favor of broadening the scope of the claims. This approach prevents the patentee from asserting more rights than what was realistically claimed in the application. The majority in *Bigio* was correct to apply the broadest reasonable interpretation rule at an appellate review of patent validity, because it is essentially an extension of the prosecution stage. Judge Newman’s assertion that the majority was overzealous when “mak[ing] the leap from facial hair to teeth”¹⁰¹ may have some bite, however. As discussed above, such determinations are influenced by the subjective analysis of the evaluator.

When drafting patent applications, the goal of the drafter is generally to obtain the widest scope of protection possible for the invention. If the claims are drafted unnecessarily narrow, there is a potential for competitors to introduce products that would infringe the intended, but not actual, scope of protection. This desire for wider protection must be balanced, however, against the likelihood of patentability. Therefore, it is common practice to draft broad independent claims and narrower dependent claims. The broad claims offer a wide scope of patent protection but are more likely to be anticipated or rendered obvious over prior art under 35 U.S.C. §§ 102-103. The narrow claims, although offering a more limited scope of patent protection, are less likely to be rejected. However, since narrow claims with limited protection are better than no protection at all, it is often desirable to include the dependent claims.

99. *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989).

100. *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000).

101. *In re Bigio*, 381 F.3d at 1328 (Newman, J., dissenting).

In certain cases, it is predictable that an invention is likely to be found obvious or anticipated over prior art references. This is of particular concern with inventions, as in *Bigio*, of a relatively low level of complexity, or where similar prior art is likely to exist. Although “[s]implicity is not inimical to patentability,”¹⁰² it does introduce some practical concerns, namely that devices in other fields are likely to be similar to the claimed device. The patent drafter should be aware of the effect that the broadest reasonable interpretation rule, which the examiner is required to apply during prosecution, may have on the final scope of the claims. Open-ended claims that are given a broad interpretation will lead to a higher likelihood of anticipation of the claims, or a broader field of endeavor, which in turn will influence the scope of prior art that may be cited against the claims in an obviousness determination.

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102. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992) (citations omitted).

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