

# United States Court of Appeals for the Federal Circuit

03-1358  
(Serial No. 09/451,747)

IN RE ALBERTO LEE BIGIO

Robert C. Kain, Jr., Fleit, Kain, Gibbons, Gutman, Bongini & Bianco P.L., of Fort Lauderdale, Florida, argued for appellant.

Thomas W. Krause, Associate Solicitor, United States Patent and Trademark Office, of Arlington, Virginia, argued for the Director of the United States Patent and Trademark Office. With him on the brief were John M. Whealan, Solicitor, and William LaMarca, Associate Solicitor. Of counsel was Cynthia C. Lynch, Associate Solicitor.

Appealed from:      United States Patent and Trademark Office  
                                 Board of Patent Appeals and Interferences

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DECIDED: August 24, 2004

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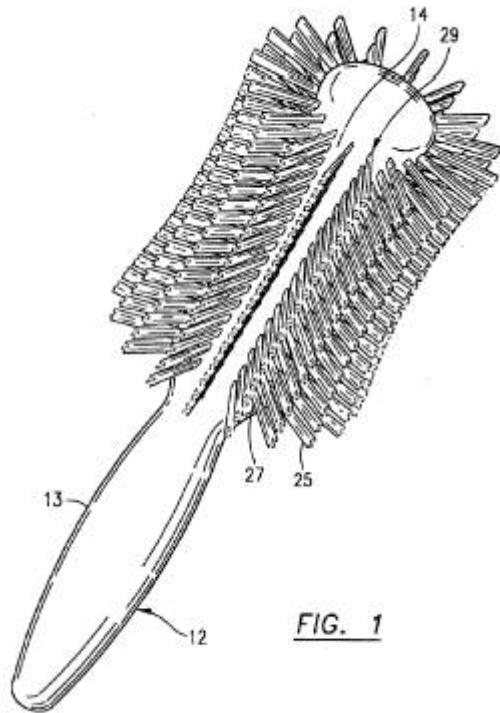
Before NEWMAN, RADER, and SCHALL, Circuit Judges.

Opinion for the court filed by Circuit Judge RADER. Dissenting opinion filed by Circuit Judge NEWMAN.

During prosecution of Alberto Lee Bigio's (Bigio's) patent application Serial No. 09/451,747 (the '747 application), the patent examiner rejected claims 1, 2, and 4-7 as obvious under 35 U.S.C. § 103(a). The United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board) affirmed the examiner's rejections. In re Bigio, No. 2002-0967 (Bd. Pat. App. & Interf. Jan. 24, 2003). Because the Board reasonably construed the disputed claim term, this court affirms.

## I.

Bigio's patent application claims a hair brush. This claimed hair brush features an allegedly unique shape, namely an hourglass configuration for both the bristle substrate and the overall bristle array. Figure 1 depicts a preferred embodiment of the claimed hair brush:



Bigio stipulates that all of the rejected claims stand or fall with representative claim 1. Claim 1 states:

A hair brush comprising

an elongated member element having handle segment and a bristle substrate segment on a common axial centerline,

said bristle substrate defining an hourglass shape with a core segment having along its longitudinal extent, a smoothly curved progressively radially smaller central region and progressively radially larger end regions,

said bristle substrate carrying a plurality of hair brush bristles,

said hair brush bristles segregated into groups of small bundles disposed over said bristle substrate in a series of axially aligned and radially distributed linear bristle rows,

each bristle bundle in a respective linear row spaced axially apart along said bristle substrate and extending substantially radially with respect to said axial centerline and forming an hourglass shaped hair brush bristle system for said hair.

(phrasing and emphases added).

The examiner rejected claim 1 of Bigio's application as obvious in view of British Patent No.

17,666 (Flemming) in combination with either U.S. Design Patent No. 424,303 (Tobias) or U.S. Design Patent No. 140,438 (Cohen). Fleming, Tobias, and Cohen each claim a particular configuration for a toothbrush. On appeal, the Board rejected Bigio's interpretation of "hair brush" as limited to brushes only for scalp hair. Instead, the Board broadly construed "hair brush" to encompass "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)." Bigio, slip op. at 4.

Under this interpretation of the claim term "hair brush," the Board determined that toothbrushes fell within Bigio's field of endeavor and therefore constituted analogous art. The Board affirmed the examiner's rejection based on the Fleming reference alone. Bigio does not dispute that the combination of these three toothbrush references would render his invention obvious but rather disputes that these three toothbrush references constitute analogous art for evaluation of his hair brush invention.

## II.

Claim construction is a matter of law that this court reviews without deference. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc). During prosecution, however, the PTO gives claims their "broadest reasonable interpretation." In re Hyatt, 211 F.3d 1367, 1372 (Fed. Cir. 2000). Accordingly, this court reviews the "reasonableness" of the PTO's disputed claim term interpretations. In re Morris, 127 F.3d 1048, 1055 (Fed. Cir. 1997).

This court reviews the ultimate conclusion of obviousness without deference and the factual predicates for that legal conclusion for substantial evidence. In re Gartside, 203 F.3d 1305, 1315 (Fed. Cir. 2000). The identification of analogous prior art is a factual question. In re GPAC, 57 F.3d 1573, 1577 (Fed. Cir. 1995).

## III.

Bigio's challenge to the Board's determination that the toothbrush references are analogous art requires this court to review the Board's construction of the disputed claim term "hair brush." Cf. In re

Paulsen, 30 F.3d 1475, 1479 (Fed. Cir. 1997) (“[T]o properly compare the [prior art] reference with the claims at issue, [this court] must construe the [disputed] term . . . to ascertain its scope and meaning.”).

As discussed above, the PTO gives a disputed claim term its broadest reasonable interpretation during patent prosecution. Hyatt, 211 F.3d at 1372. The “broadest reasonable interpretation” rule recognizes that “before a patent is granted the claims are readily amended as part of the examination process.” Burlington Indus. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Thus, a patent applicant has the opportunity and responsibility to remove any ambiguity in claim term meaning by amending the application. In re Prater, 415 F.2d 1393, 1404-05 (CCPA 1969). Additionally, the broadest reasonable interpretation rule “serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.” In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting In re Yamamoto, 740 F.2d 1569, 1571-72 (Fed. Cir. 1984)).

In this case, the Board construed the term “hair brush” to include “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).” Bigio, slip op. at 4. At the outset, the word “hair” preceding “brush” throughout the body of the claim does not alone limit the claim to brushes for scalp hair. At best, the word “hair” carries the meaning that the claimed invention involves brushing some kind of hair. The claim, however, does not specify or limit the claim to any particular kind of hair.

In examining the term “hair brush,” the Board correctly declined to import from the specification a limitation that would apply the term only to hairbrushes for the scalp. The application in this case, specifically the “Objects of the Invention,” discusses an “anatomically correct hairbrush” for brushing scalp hair. ‘747 application at p. 1, ll. 14-15, ll. 16-18; p. 2, ll. 4-6, ll. 7-8. Nevertheless, this court counsels the PTO to avoid the temptation to limit broad claim terms solely on the basis of specification passages. In re Zletz, 893 F.2d 319, 321 (Fed. Cir. 1989). Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when

those sources expressly disclaim the broader definition. See, e.g., Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906-09 (Fed. Cir. 2004) (explaining requirement for an express disclaimer in either the specification or prosecution history).

In this case, the term “hair brush” alone does not specify the kind of hair to be groomed by the claimed invention. Thus, the term may reasonably encompass not only scalp hair brushes but also facial hair brushes. The Board correctly declined to accept Bigio’s invitation to narrow the interpretation only to scalp hair by importing a limitation from the specification. Moreover, the Board’s interpretation does not strain the bounds of the “broadest reasonable interpretation” of the term “hair brush.” Indeed that term may reasonably encompass more than a grooming device for scalp hair. This court therefore affirms the Board’s interpretation of “hair brush.”

#### Analogous Art

Having affirmed the Board’s reasonable interpretation of “hair brush,” this court now reviews the use of toothbrush references as art analogous to Bigio’s invention. References within the statutory terms of 35 U.S.C. § 102 qualify as prior art for an obviousness determination only when analogous to the claimed invention. In re Clay, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. In re Deminski, 796 F.2d 436, 442 (Fed. Cir. 1986); see also In re Wood, 599 F.2d 1032, 1036 (CCPA 1979).

In this case, the Board determined that the first test governed the scope of analogous art. Specifically, the Board found that “Flemming relates to the same field of invention as the appellant’s claimed invention.” Bigio, slip op. at 6. More specifically, the Board determined that Bigio’s claimed invention relates to the “field of hand-held brushes having a handle segment and a bristle substrate segment.” Id. at 6-7. This court therefore reviews that finding.

Bigio argues that the “field of endeavor” test for analogous art is unworkable because the lack of

clear guidelines leaves the application of this test to an examiner's subjective judgment. To the contrary, the field of endeavor test is neither wholly subjective nor unworkable. This test for analogous art requires the PTO to determine the appropriate field of endeavor by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention. See Wood, 599 F.2d at 1036 (confining the field of endeavor to the scope explicitly specified in the background of the invention); see also Deminski, 796 F.2d at 442 (determining that the cited references were within the same field of endeavor where they "have essentially the same function and structure").

In this case, the Board reached its assessment of the field of the invention with reference to the function and structure of the invention. Specifically, the Board concluded that Flemming's toothbrush was in Bigio's 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." Bigio, slip op. at 7. The Board thus correctly set the field of the invention by consulting the structure and function of the claimed invention as perceived by one of ordinary skill in the art.

Again emphasizing the correct "ordinary skilled artisan" standard, the Board then observed that the toothbrush art could function as well for brushing facial hair: "[W]e determine that it would have been readily apparent to one of ordinary skill in the art that Flemming's toothbrush may easily be used for brushing hair (e.g., human facial hair) in view of the size of the bristle segment and arrangement of the bristle bundles described in the reference." Id. at 5. Based on these findings, the Board determined that the Flemming reference fell within the scope of arts analogous to the claimed invention. Because substantial evidence supports the Board's factual findings regarding the function and structure of the toothbrush art, this court affirms those findings.

Moreover, this court detects nothing unworkable about the "field of endeavor" test. Although the majority of the case law precedent for analogous arts hinges on the second test, this court detects no ambiguity in the "field of endeavor" test. While the scope of any field of endeavor will vary with the

factual description of each invention, that variability does not equate with ambiguity and absence of a neutral standard. To the contrary, substantial evidence must support the PTO's factual assessment of the field of endeavor. Gartside, 203 F.3d at 1315. In other words, the PTO must show adequate support for its findings on the scope of the field of endeavor in the application's written description and claims, including the structure and function of the invention.

This test does not make the assessment of the field of endeavor a wholly subjective call for the examiner. The examiner and the Board must have a basis in the application and its claimed invention for limiting or expanding the scope of the field of endeavor. In that vein, this court has previously "reminded . . . the PTO that it is necessary to consider 'the reality of the circumstances' – in other words, common sense – in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor." In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992) (quoting In re Wood, 599 F.2d 1032, 1036 (CCPA 1979)) (emphasis added). Accordingly, the examiner and the Board must consider the "circumstances" of the application – the full disclosure – and weigh those circumstances from the vantage point of the common sense likely to be exerted by one of ordinary skill in the art in assessing the scope of the endeavor. Those factual determinations are neither unbridled nor wholly subjective. Instead this test rests on an assessment of the nature of the application and claimed invention in addition to the level of ordinary skill in the art.

In this case, both the examiner and the Board found that toothbrush art is analogous to Bigio's hair brush invention. In support of that finding, the Board referred to the structure and function of the claimed invention in the application. The Board further assessed the field that one of skill in this art would consider within the same endeavor as the claimed invention. In other words, the Board applied the test for analogous art in keeping with the counsel of this court's predecessor: "The 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." In re Wolfe, 251 F.2d 854, 856 (CCPA 1958) (emphasis added). Thus, on this record, this court affirms the findings of the Board and upholds its traditional tests for determining the scope of prior art analogous to the claimed invention.



Because there is no dispute that the combination of the three toothbrush references renders Bigio's invention obvious, this court's affirmance of the Board's finding that toothbrush art is analogous to Bigio's invention disposes of all remaining issues in this appeal.

#### CONCLUSION

Because the Board reasonably construed "hair brush" and substantial evidence supported its factual finding that toothbrush art was analogous to Bigio's application, this court affirms.

#### COSTS

Each party shall bear its own costs.

#### AFFIRMED

## **United States Court of Appeals for the Federal Circuit**

03-1358

(Serial No. 09/451,747)

IN RE ALBERTO LEE BIGIO

NEWMAN, Circuit Judge, dissenting.

I respectfully dissent. The toothbrush art is not analogous to the hair brush art. Bigio's patent

application is directed to a hair brush, and his claims are limited to a hair brush. A brush for hair has no more relation to a brush for teeth than does hair resemble teeth.

The mode and mechanics of brushing teeth cannot reasonably be viewed as analogous to the mode and mechanics of brushing hair. 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. Neither the PTO nor my colleagues on this panel points to any ground on which a person seeking to design an improved hairbrush would deem the toothbrush art to be a source of usable technology, and thus "analogous," whereby that source is relevant to a determination of obviousness. See In re GPAC Inc., 57 F.3d 1573, 1578 (Fed. Cir. 1995) (analogous art is a field of technology whose selection and adaptation would be suggested or motivated or taught, by sources in the prior art, as relevant to the problem facing this inventor).

The panel majority affirms the Board's finding that the Bigio claims are not limited to a brush for the hair of one's head, but includes other bodily hair. Whether or not that is a supportable view of Bigio's claims is irrelevant, for teeth are not bodily hair. Also, the specification and claims are explicit that this is a brush for the hair of the head. See Glaxo Wellcome, Inc. v. Andrx Pharms., Inc., 344 F.3d 1226, 1229 (Fed. Cir. 2003) ("In determining the meaning and scope of patent claims, the primary sources are the specification and the prosecution history").

The panel majority's inapt determination that limiting "hair brush" to "a brush for brushing hair" involves an inappropriate importation of limitations from the specification is irrelevant to the ground of rejection on which the Board and the panel majority rely. This is not a case of application of the rule that permits the PTO to give claims their broadest reasonable interpretation during examination, as discussed in, e.g., Burlington Indus., Inc. v. Quigg, 822 F.2d 1581, 1583 (Fed. Cir. 1987). Whether or not "the term [hair brush] may reasonably encompass not only scalp hair brushes but also facial hair brushes," as the majority finds, does not make the leap from facial hair to teeth and thereby render the brushing of teeth analogous to the brushing of hair.<sup>[1]</sup> The purpose of the "broadest reasonable

interpretation" protocol is to permit the applicant to add precision to vague or deficient claims while they are subject to amendment; the protocol does not convert remote fields of technology into "analogous art."

The scope of the claims sought by Bigio is fully commensurate with the specification; Bigio is not seeking a broader scope than that authorized by statute whereby the claims must "particularly point out and distinctly claim [what] the applicant regards as his invention." 35 U.S.C. §112 ¶2. Toothbrushes are not analogous to hair brushes and the record is devoid of suggestion of any substantive relationship between them. From my colleagues' contrary holding, I must, respectfully, dissent.

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[1] The majority states that "Bigio does not dispute that the combination of these three toothbrush references would render his invention obvious . . . ." That is an inaccurate statement of Bigio's position. Bigio stresses that the "unique and distinct functions [set forth in the claims] are radically different than the toothbrush technology identified by the PTO examiner." Discussing the features of the claimed hairbrush, Bigio states that "none of these features are shown, taught or suggested by the toothbrush prior art." These are not concessions of obviousness.