

2015-1680

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

In re: THE PROCTER & GAMBLE COMPANY,
Appellant

Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board in No. IPR2013-00505.

**BRIEF FOR INTERVENOR - DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE**

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Representative Claim for U.S. Patent 6,974,569

1. A shampoo composition comprising:
 - a) from about 5% to about 50%, by weight, of an anionic surfactant;
 - b) from about 0.01% to about 10%, by weight, of a non-volatile conditioning agent;
 - c) from about 0.1% to about 4%, by weight, of an anti-dandruff particulate;
 - d) from about 0.02% to about 5%, by weight, of a cationic polymer,
 - e) water;
 - f) from about 0.1% to about 10%, by weight of the composition, of a suspending agent;wherein said composition:
 - i. has a bioavailability/coverage index value, of at least about 1.25;
 - ii. has a first conditioning index value, of less than or equal to about 1.0;
 - iii. has a second conditioning index value, of at least about 1.5; and
 - iv. has a minimal inhibitory concentration index value, of at least about 0.125.

A564.

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RELATED CASES STATEMENT

(a) No other appeal from the Patent Trial and Appeal Board in connection with this *inter partes* review proceeding has previously been before this or any other court.

(b) There is no known related case pending in this or any other court.

I. STATEMENT OF THE ISSUES

U.S. Patent 6,974,569 (“the ’569 patent”) is directed to hair shampoo compositions and owned by The Procter and Gamble Company (“P & G”). A542.¹ Representative claim 1² comprises certain ingredients in specified percentages wherein the shampoo confers anti-dandruff and conditioning properties. A564, col. 44, lines 44-64.

The USPTO Patent Trial and Appeal Board (“Board”) interpreted claim 1 to require a composition including the ingredients in the specified amounts, wherein the composition achieves the claimed properties. A5-8. However, P & G argues that the Board construed claim 1 too broadly, asserting that the patent’s specification columns 33-43 (A559-64) define the claim’s four wherein clauses (A564, col. 44, lines 57-64). Br. at 20-34.³ Accordingly, the first issue on appeal is whether the Board’s interpretation of claim 1 was reasonable.

¹ Reference to the Joint Appendix is made by “A__.”

² Claim 1 has been representative for the ’569 patent (A2471) and P & G’s principal brief focuses on claim 1, almost-exclusively.

³ Reference to P & G’s principal brief is made by “Br. at __.”

In the alternative, P & G makes several factual arguments as to the Board's obviousness determination under its construction: anti-dandruff and clean-hair testing methods, i.e., indices recited in wherein clauses one and three, were not known in the prior art; a skilled artisan would not have selected or optimized the four wherein clauses as part of claim 1; and its secondary consideration evidence shows nonobviousness. Accordingly, the second set of issues on appeal concerns whether substantial evidence supports the Board obviousness findings challenged on appeal by P & G.

II. STATEMENT OF THE CASE

Conopco, Inc., d.b.a. Unilever ("Unilever") petitioned for *inter partes* review ("IPR") of claims 1-33 of the '569 patent. A38. The Board instituted IPR on several claims and issued a final written decision (A1-32) adverse to P & G, which appealed to this Court. Unilever dropped out of this appeal, this Court re-captioned the appeal as an *ex parte* case, and the USPTO Director intervened to defend the Board's decision.

A. Claimed Invention: Shampoo Chemical Composition

The '569 patent discloses hair shampoo compositions for achieving anti-dandruff and conditioning benefits. A542. The compositions have at least five ingredients in particular amounts, expressed in weight percentages. A542, Abstract; A543, col. 1, lines 10-13; A544, col. 4, lines 14-18; A564, col. 44, line 44 - A565, col. 46, line 31. Specifically, the compositions comprise: an anionic surfactant; a conditioning agent; an anti-dandruff agent; a cationic polymer; water; and a suspending agent. A564-66 (claims). The '569 patent teaches that such compositions possess certain anti-dandruff and conditioning properties. A544, col. 3, lines 6-18.

Representative claim 1 reads:

A shampoo composition comprising:

- a) from about 5% to about 50%, by weight, of an anionic surfactant;
- b) from about 0.01% to about 10%, by weight, of a non-volatile conditioning agent;
- c) from about 0.1% to about 4%, by weight, of an anti-dandruff particulate;
- d) from about 0.02% to about 5%, by weight, of a cationic polymer,
- e) water;
- f) from about 0.1% to about 10%, by weight of the composition, of a suspending agent;

wherein said composition:

- i. has a bioavailability/coverage index value, of at least about 1.25;
- ii. has a first conditioning index value, of less than or equal to about 1.0;
- iii. has a second conditioning index value, of at least about 1.5; and
- iv. has a minimal inhibitory concentration index value, of at least about 0.125.

A564, col. 44, lines 44-64. Thus, claim 1 has two distinct passages:

ingredients a-f; and wherein clauses i-iv.

Related to the Board's obviousness determination in view of Kanebo, *infra*, are example-ingredients set forth in P & G's specification. That is, the specification states that for "Anionic Surfactant" (i.e., above claim 1 ingredient a), there are many examples (A544, col. 4, line 19 - A546, col. 7, line 12) including "ammonium lauryl sulfate" (A545, col. 5, line 21). For "Conditioning Agent" (i.e., above claim 1 ingredient b), there are numerous examples (A546, col. 7, line 13 - A551, col. 17, line 61) including "polydimethylsiloxane" (A549, col. 14, line 26).

For "Anti-Dandruff Agent" (i.e., above claim 1 ingredient c), there are many examples (A551, col. 17, line 62 - A552, col. 19, line 4) including "pyridinethione . . . formed from . . . zinc" (A551, col. 18, lines 22-23).

For "Cationic Polymer" (i.e., above claim 1 ingredient d), there are numerous

examples (A552, col. 19, line 5 - A554, col. 24, line 47) including “cationic cellulose derivatives” (A552, col. 20, lines 48-49). “Water” (i.e., above claim 1 ingredient e) is a large component of the composition. A554, col. 24, lines 48-53. And, for “Suspending Agent” (i.e., above claim 1 ingredient f), many examples (A555, col. 26, line 3 - A556, col. 27, line 27) are given including “ethylene glycol di-stearate” (A555, col. 26, line 34).

The '569 patent also states that claim 1's four wherein clauses concern “(1) bioavailability and coverage of the anti-dandruff active . . . ; (2) comb-ability of wet hair and (3) clean hair feel . . . ; and (4) the inherent ability of the anti-dandruff active to inhibit the growth of microorganisms.” A543, col. 2, lines 28-33. The specification discusses, over the course of many pages, an elaborate method associated with each of claim 1's wherein clauses. A559-64 (columns 33-43).

Per the above, and to summarize as to the below prior art, claim 1 and the '569 patent's specification have the following express correlations:

Claim 1 Ingredient	Specification Examples Include
anionic surfactant	ammonium lauryl sulfate
conditioning agent	polydimethylsiloxane
anti-dandruff agent	pyridinethione from zinc
cationic polymer	cationic cellulose derivatives
water	water
suspending agent	ethylene glycol di-stearate

B. Kanebo Example 10

The Board instituted review of several claims in the '569 patent for obviousness over Japanese Publication 9-188614, dated July 22, 1997, (English translation) from Applicant Kanebo, Ltd. ("Kanebo"). A954-66. For P & G's '569 patent, the most relevant part of Kanebo is Example 10, an anti-dandruff shampoo composition. A963-64.

Like the above-examples for the six ingredients, Kanebo discloses:

ammonium lauryl sulphate

dimethyl polysiloxane

zinc pyrithione

cationized cellulose derivative

water

ethylene glycol dimyristate.

A964. And with the above ingredients, Kanebo discloses weight percentages that fall within claim 1's weight-percent ranges for the ingredients. Id. Significantly, P & G does not dispute that Kanebo Example 10 discloses claim 1's six ingredients in the claimed ranges.⁴

Kanebo also states that for Example 10:

The anti-dandruff shampoo of the above composition was prepared according to the conventional method and evaluation was conducted for its spreadability and running of the fingers through the hair upon application, usability upon rinsing, feeling of the finish and dispersing stability whereupon any of those characteristic properties was excellent showing good results.

A964. Thus, Kanebo expressly concerned anti-dandruff, spreadability, fingers running through hair, usability upon rinsing, finish feel, and dispersing stability. Id.

C. IPR Proceeding

Unilever petitioned the USPTO for IPR of P & G's '569 patent claims 1-33 on the basis of many grounds, including obviousness under 35 U.S.C. § 103 in view of Kanebo. A38. The Board instituted IPR of claims 1-12, 15, 17-19, 23, 26, 28-30, and 32 for obviousness in view of

⁴ The Director herein focuses on the issues that P & G raised in its principal brief.

Kanebo and denied institution for those claims on all other grounds in Unilever's petition. A179. The Board also denied institution for claims 13, 14, 16, 20-22, 24, 25, 27, 31 and 33. Id.

As to claim 1's construction of the properties recited in wherein clauses i-iv, P & G argued:

the Board should construe the four claimed indices as explicitly described in the '569 patent The '569 patent specification explains the methods for assessing each index in detail, specifically describing the principle behind each index, the equipment and materials needed to analyze each index, the procedure to follow to perform each test, and the procedure for analyzing the results of each test. See Exh. 1001, '569 patent at 33:26-43:11.

A134-35 (Patent Owner's Preliminary Response).⁵ Subsequently, P & G similarly urged:

The '569 patent specification [] explains in detail the methods for assessing each index, specifically describing the principle behind each index, the equipment and materials needed to analyze each index, the procedure to follow to perform each test, and the procedure for analyzing the results of each test. See Exh. 1001, '569 patent at 33:26-43:11.

A252 (Patent Owner's Response).

⁵ The Director's discussion of the Board decision focuses on the Board's rulings relating to the issues raised by P & G on appeal.

At the oral hearing before the Board, P & G emphasized that “The specification says these index values as defined herein, and gives very detailed test procedures for each of these indices.” A486, lines 1-3. P & G also urged that in order to practice claim 1, one has “to run the test in the patent because there is no test for that index value anywhere in the art. I have to run the test in the patent and determine does my shampoo meet that range for all four indices, assuming it falls within A through F?” A488, line 22 - A489, line 3. P & G additionally argued that “nobody has run the test in the patent So if I have a shampoo that has the components A through F in those ranges and I have tested using the tests in the patent and it falls within those four values, yes, it meets the claim.” A490, line 15-18.

The Board issued a final written decision and construed claim 1 according to its express claim language, i.e., the six ingredients with corresponding weight-percent ranges along with the four wherein clauses specifying particular shampoo properties. A7-8. In rejecting P & G’s proposed claim construction, the Board refused to import the particular tests disclosed in the specification (spanning specification columns 33-43) into the four wherein clauses (8 lines of text). Id. Given P & G’s representations at the oral hearing, the Board reasoned that P & G’s construction was untenable

because, under it, knowing whether the claim was infringed was not possible.

A8.

Under its construction of claim 1, the Board found that the four parameters of anti-dandruff efficacy, comb-ability, clean hair feel, and microorganism growth inhibition would have been obvious goals for shampoo and that optimizing Kanebo Example 10 to achieve these goals would have been within the practice of a person having ordinary skill in the shampoo art. A10-21. Finally, as to P & G's evidence concerning nonobviousness, the Board found that P & G did not show a nexus between the commercial success and the claimed invention, i.e., that the invention was the driving force for the success. A27. Accordingly, the Board concluded that Unilever showed by a preponderance of the evidence that the instituted claims are unpatentable over Kanebo under 35 U.S.C. § 103. A30-31.

III. SUMMARY OF THE ARGUMENT

The Board reasonably construed representative claim 1's wherein clauses as not being defined by specification columns 33-43. P & G's proposed construction of incorporating eleven specification columns into claim 1's wherein clauses totaling eight lines of text is unreasonable. No claim should ever be that long and, thus, open to interpretations of many words therein. Rather, the Board was on solid footing in staying with the words of the claim for its construction.

Similarly, P & G's attack on the prior art as to wherein clauses one and three is also unavailing. After proper construction, one learns that those limitations are broad and primarily concern anti-dandruff efficacy and clean-hair feel.

Finally, P & G's challenge to a few fact-findings made by the Board is not persuasive, due to the Board's rationale for such findings and the substantial evidence of record supporting them. In sum, P & G has shown no reversible error by the Board.

IV. ARGUMENT

A. Standard of review

When the Board construes claims of an unexpired patent in a post-grant proceeding, the Board applies the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b). This Court reviews the Board's claim construction under a mixed rubric. In re Cuozzo Speed Techs., 793 F.3d 1268, 1279-80 (Fed. Cir. 2015), cert. granted, 84 U.S.L.W. 3218 (U.S. Jan. 15, 2016) (No. 15-446). The Court applies *de novo* review to the Board's ultimate construction of a claim. Id. If the Board makes any factual determinations on extrinsic evidence, this Court reviews that portion of the Board's analysis for substantial evidence. Id. If the intrinsic record fully resolves the proper construction, this Court applies *de novo* review. Microsoft Corp. v. Proxyconn, Inc., 789 F.3d 1292, 1297 (Fed. Cir. 2015). Even under this mixed rubric, however, the USPTO submits that this Court should consider whether the Board's construction is reasonable in light of the broadest-reasonable-interpretation standard and the agency context in which the Board conducts claim construction. In re Morris, 127 F.3d 1048, 1053-54 (Fed. Cir. 1997).

This Court reviews Board legal conclusions *de novo* and Board factual findings for substantial evidence. In re DBC, 545 F.3d 1373, 1377 (Fed. Cir. 2008). While the ultimate conclusion of obviousness is a legal conclusion, it is based on underlying factual findings. In re Gartside, 203 F.3d 1305, 1316 (Fed. Cir. 2000). “Substantial evidence . . . means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” Consol. Edison Co. v. Nat’l Labor Relations Bd., 305 U.S. 197, 229 (1938). “If the evidence in record will support several reasonable but contradictory conclusions,” this Court “will not find the Board’s decision unsupported by substantial evidence simply because the Board chose one conclusion over another plausible alternative.” In re Jolley, 308 F.3d 1317, 1320 (Fed. Cir. 2002). And, when a record before the Board includes asserted secondary considerations evidence, the Court “give[s] the Board broad deference in its weighing of the evidence before it.” In re Inland Steel, 265 F.3d 1354, 1366 (Fed. Cir. 2001). Finally, P & G bears the burden to show that the Board committed reversible error. In re Watts, 354 F.3d 1362, 1369 (Fed. Cir. 2004).

B. The Board reasonably construed representative claim 1's wherein clauses as not "defined" by specification columns 33-43

The primary dispute below was whether the scope of claim 1 is limited by its express terms or also further limited by the '569 patent's specification columns 33-43, as argued by P & G. Br. at 23-25. Without excluding any portion of these eleven specification-columns, P & G expects claim 1 to be re-written by construction to contain the extensive method discussions disclosed across much of the specification. Such a construction is simply not reasonable.

The Director agrees with P & G that lexicography is a well-established claim construction tool permitting specification language clearly defining a term to be imported into a claim as the definition for that term. See, e.g., Irdeto Access, Inc. v. Echostar Satellite Corp., 383 F.3d 1295, 1300 (Fed. Cir. 2004) ("It is well-established that the patentee can act as his own lexicographer, so long as he clearly states any special definitions of the claim terms in the patent specification or file history") (part of P & G's long lexicography discussion in its principal brief). However, employing lexicography is not at stake here.

That is, the specification does refer to the indices “as defined herein.” A542 Abstract; A543, col. 1, lines 13-19, col. 2, lines 58-65; A544, col. 3, lines 15-17; A565, col. 46, lines 33-41 (claim 29). However, the specification does not contain a definition for the indices. Instead, the specification sets forth a lengthy, detailed method for measuring each of the indices. Each disclosed method is massive, on the order of two-and-a-half specification columns for each wherein clause/index. A short wherein clause simply cannot balloon into two or three specification columns by casting specification language as a “definition.” P & G argued to the Board, *supra*, and argues to this Court (Br. at 19-34), that the method for measuring each index defines each index and P & G excludes no specification language from each of the four lengthy methods.

Below, the Director sets forth *just one example* of a method corresponding to one index to illustrate the significant problem with P & G’s proposed construction. Claim 1 reads in-part wherein said composition “has a first conditioning index value, of less than or equal to about 1.0.” A564, col. 44, lines 59-60. Then, under P & G’s proposed construction, the below specification passage (A560, col. 36, line 11 - A561, col. 38, line 58) “defines” the above wherein clause.

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B. Method for Assessing First Conditioning Index

The first conditioning index value relates to conditioning, as realized by consumers of the shampoo composition. Generally, the lower the index value of the composition, the better its conditioning, due to easier to comb and less tangled wet hair.

1. Principle

Samples of product are applied to ponytail hair switches, which are then lathered and rinsed. Conditioning is graded by the force required to pull a comb through the hair switch. Such force is measured using a force transducer or a load cell. Hair switches are attached to hang vertically from the force transducer. When a force, here combing, is applied to the force transducer, the force units are represented by a voltage that is proportional to the force applied. The voltage signal from the load cell is transferred to a computer via a commercially available analog-digital interface. The voltage signal is converted to a numeric value by commercially available computer software. Each time a force is applied to the force transducer, a force/time curve is generated. Within a single sample run of multiple applied forces, the value generated is the sum of the integration of these force/time curves. This value is called combing force. Because the apparatus is not calibrated to the computer, all tests with multiple samples are evaluated by relative comparison. The conditioning of a sample is then reported as an index versus a control.

2. Equipment

Hair switches	Dark brown, European, blended virgin hair; weight = 4 grams workable hair; length = 8 inches; available from International Hair Importers and Products; 15 switches per product to be tested (6 for products and 9 for controls)
Sink	conventional lab sink with a horizontal bar in place about 20 inches above it
Water	temperature = 100° F., fed through a flexible hose
Combs	1 per hair switch tested; plastic barber's comb, about 9 teeth/inch
Timer	Able to measure seconds
Product	3 cc product/switch
Computer	Capable of running Dash-8 ® software, or equivalent
Force Transducer	1000 g load cell, Model #FTD-G-1000, available from Schaevitz Company, or equivalent
Analog/Digital Interface	Dash-8 ®, available from Metrabyte Company, or equivalent
Software	Dash-8 ®, available from Metrabyte Company, or equivalent

3. Reagents

A. Control Composition

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Raw Material	(weight %)
Ammonium Laureth-3 Sulfate	15.00
Ammonium Lauryl Sulfate	5.00
Sodium Lauroyl Sarcosinate ¹	1.50

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-continued

Raw Material	(weight %)
Ethylene Glycol Distearate	1.50
Polyquat 10 ²	0.025
Zinc Pyridinethione ³	1.00
Polyethylene Glycol ⁴	0.125
Sodium Sulfate	0.875
DMDM Hydantoin	0.2035
Lauryl Alcohol	0.15
Water ⁵	QS

¹Hamposyl L-30, as a 30% active solution, available from Hampshire Chemical Company.

²UCARE Polymer JR 30M, available from Amerchol.

³ZPT having an average particle size of about 2.5 μ m, available from Arch/Olin.

⁴Carbowax 600 (known as PEG 12), available from Sentry Company.

⁵Adjust to pH from about pH 5 to about pH7, using conventional pH modifiers.

B. Initial Hair Ranking Composition

Raw Material	weight %
Ammonium Laureth-3 Sulfate	51.24
Ammonium Lauryl Sulfate	36.38
Cocamide DEA	2.30
Ammonium Xylenesulfonate	3.50
Perfume	0.50
Water	quantity sufficient

4. Experimental Procedure

A. Initial Hair Ranking the Hair Switches

- 1) All hair switches must be cleaned and ranked prior to conducting each test to determine the first conditioning index in order to adjust for uncontrollable performance variables between each untreated hair switch within a given set. This ranking procedure groups specific hair switches into sub-sets or groups, so that the performance of all groups together will be uniform.
- 2) Assemble all the hair switches to be used in the testing.
- 3) Treat the hair switches according to the protocol detailed in Part B below, using the Initial Hair Ranking composition in lieu of test products, however, still use the control composition where designated.
- 4) Select hair switches that have combing forces within some range of the mean combing force (typically 2 standard deviations from the mean).
- 5) Arrange the hair switches into groups such that the baseline combing force is spread uniformly across all of the treatment groups. For example, if 12 switches are to be used in 3 testing groups, then rank them according: the hair switch with the highest combing force is put in Group 1, the hair switch with the second highest into Group 2, the hair switch with the third highest into Group 3, the hair switch with the fourth highest into Group 1, etc.

B. Treating the Hair Switches

- 1) Hang a hair switch above a sink from a horizontal bar, and thoroughly wet it using water at 100° F. and a flow rate of 1.5 gallons/minute.
- 2) Squeeze out excess water with the hand.
- 3) Apply 0.4 cc of test or control sample evenly down the hair switch, using at least 8 hair switches per product to be tested. Apply samples to the hair switches in a round-robin fashion, i.e. switch #1 of each set—sample #1, then switch #1 of each set, sample #2, etc. An

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example is to apply in the following order: 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, 3C, etc., wherein letters refer to a product to be tested, and numbers refer to a replicate number.

- 4) Using the thumb and forefinger, milk sample into the hair switch for 30 seconds.
- 5) Rinse the hair switch with 100° F. water for 30 seconds. Support back of hair switch with one hand, while allowing water to pulse down the entire hair switch.
- 6) Squeeze out excess water with the hand.
- 7) Apply 0.4 cc of test or control sample evenly down the hair switch, again in round-robin fashion.
- 8) Work the product into the hair while tangling the hair switch, using a side-to-side motion, for 30 seconds.
- 9) Rinse with 100° F. water for 60 seconds.
- 10) Squeeze out excess water with the hand.
- 11) After all treatments are completed, detangle the hair switch while still wet, using a comb, in the manner described below (Part C).

C. Detangling and Collecting Data

- 1) Use a force transducer, interfaced with a computer software program via an analog/digital interface to cumulate and integrate the force/time data.
- 2) Tightly secure the hair switch in the transducer clamp, such that the hair switch hangs vertically.
- 3) When the measuring apparatus is ready for a test run, begin combing the hair switch by feathering out the tangles, starting at the bottom of the hair switch. Be cautious not to grasp the hair with the other hand as this may be registered as detangling force or may block force from being registered. Work the comb gradually toward the top of the hair switch as tangles are removed.
- 4) When the hair switch can be combed without catching any tangles, do three more combing strokes and then stop combing.
- 5) Indicate to the software that the testing is complete for that sample.
- 6) Remove the hair switch from the transducer clamp.
- 7) Perform steps 1–6 (above) for each switch, conduct the combing in a round-robin order across the total set of switches.
- 8) Calculate average values and statistical difference using the Fisher's Least Significant Difference (LSD) procedure, with a P value of less than or equal to 1.0. The tested products must be significantly different at this level.

5. Determining Index Value

Compare the average combing force of each test product versus the average combing force of the control and calculate a ratio by dividing the combing force of a test product by the combing force of the control. For example, if the test product receives a combing force of 1500 force/time units and the control receives a combing force of 1300 force/time units, then the test product's index value is 1500/1300, which is equal to an index value of 1.15.

For the above lengthy specification passage, P & G excludes none of it as falling outside of P & G's "definition" for the earlier-recited wherein clause. Br. at 19-34. Thus, all of the above comprises P & G's definition for the associated wherein clause. Similarly, under P & G's construction, the above-illustrated significant expansion of a wherein clause is repeated three more times for the other wherein clauses. Likewise, the eleven specification columns are imported into each of claims 1-33 for the '569 patent. Such long claims with their expansive re-writing would be unwieldy and unworkable. P & G's proposed construction is far from lexicography.

Instead, the Board reasonably chose to follow the words of representative claim 1 and not expand the claim to include multiple specification columns. If P & G really wanted to claim its specification test methods, it could have recited in a claim the method steps of its choice instead of attempting to read multiple specification columns now into a claim. In re Hiniker Co., 150 F.3d 1362, 1369 (Fed. Cir. 1998) ("the name of the game is the claim") (citation and quotes omitted).

P & G argues that the Board "read express limitations out of the claims." Br. at 30-32. First, the Director notes that by arguing strenuously for lexicography (Br. at 20-30), P & G is urging that claim 1 fails to have

sufficient express limitations for its position to prevail and needs the claim construction tool of lexicography for construing this claim. Thus, to “read express limitations out of the claims” is facially inconsistent with lexicography, which involves non-express limitations.

Second, as discussed above, the Board looked to the words of the claims in construing them, instead of importing several columns of the specification into multiple “wherein” clauses. The Board gave the wherein clauses their due, which was not to import lengthy parts of the patent into them. Cf. Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. ___, ___, 132 S.Ct. 1289, 1297 (2012) (“wherein” clauses were not “sufficient to transform the nature of the claim”); Griffin v. Bertina, 285 F.3d 1029, 1033-34 (Fed. Cir. 2002) (first “wherein” clause gives “meaning and purpose” and “expresses the inventive discovery”). Whether or not P & G’s proposed construction could possibly be considered to be reasonable, and we respectfully submit that it is not, the Board’s construction of relying on the words of representative claim 1 is at least reasonable and, as broader than P & G’s construction, is wholly permissible.

P & G also argues that the Board did not understand how infringement affects these claims. Br. at 32-34. However, the Board determined that P & G's claim construction representations made to the Board at its oral hearing (A488-90) make it impossible to know whether compositions in use infringe the patent (A8). The Director submits that in showing that infringement by compositions could not be determined, the Board correctly rejected P & G's narrow construction, premised on importing a significant part of the specification into claim 1.

Moreover, P & G's argument that its tests are patentable as part of claim 1 runs counter to the policy behind new and nonobvious compositions being patentable, not *claimed* compositions associated with *unclaimed* tests. The tests, spanning eleven specification columns, are unclaimed in the present case. They simply cannot make known compositions patentable. No matter how a composition may be made or tested, e.g., by particular processes, if the composition is all that is required by the claims, then that is what is viewed for patentability. See Hiniker, 150 F.3d at 1369.

Significantly, P & G's position of inventing new tests—which as new were never used before and therefore would not be reported in the prior art—should not be rewarded. If this were a viable manner to overcome prior

art which discloses the ingredients of a composition, it would introduce great uncertainty into the patent system and result in patents being granted on compositions that were in the prior art, but for which the new tests had not been used.

C. The Board properly handled the wherein clauses

P & G challenges the Board's handling of wherein clauses one and three (but not clauses two and four). Br. at 38-46. Wherein clause one concerns "anti-dandruff efficacy" and wherein clause three concerns "clean hair feel." A543, col. 2, lines 28-31. However, the Board's handling of these clauses was wholly proper.

Specifically, the Board viewed the specification-tests as not required by representative claim 1. A5-8. Significantly, specification columns 33-43 do not indicate that the claimed ingredient weight-percent ranges are altered in any way by the specification-tests. A559-64. Accordingly, the full breadth of the claim corresponds to the full ranges of ingredients a-f found therein.

In addressing P & G's repeated emphasis on the specification-tests, the Board responded that even though the tests are not part of the claims, the goals of preventing dandruff and producing a clean-hair feel along with

tests for measuring those properties were nevertheless known prior to the '569 patent. A13-15. As the Board found, the goal of dandruff suppression was known. A1110-15 (U. S. Patent 5,886,031, hereafter "Shin"). Shin addresses "Skin Disc Diffusion" testing. And Disk Diffusion testing was well-known even prior to Shin. A1142-58 (article by "Woods"). Kanebo itself notes many beneficial hair-feel and conditioning characteristics, such as "Running of the fingers through the hair," "Feeling upon rinsing," and "Feeling upon finish" (A961) and sets forth tests for evaluating these characteristics (A959-63). Accordingly, the Board properly analyzed how dandruff and clean hair tests already existed and Kanebo fell within the scope of claim 1.

The Director notes that to the extent that wherein clauses one and three recite specific numerical values, each clause sets forth only a minimum low value (floor), thereby creating open-ended broad ranges: at least 1.25; at least 1.5. A564, col. 44, lines 57-62. It is therefore highly likely that any claim 1 composition will satisfy these open-ended ranges. Specification columns 33-43 (A559-64) do not state otherwise. In fact, the specification provides nine example-compositions, three of which were tested (Examples III, VI and VII). A564, col. 43, line 58 - col. 44, line 41. Each of

those tested has numbers meeting these open-ended ranges. A564, col. 44, lines 37-64. Thus, all of the examples selected for testing met each open-ended range. Similarly, the '569 patent's Abstract and Summary of the Invention section recite the ingredient weight-percent ranges and then state unequivocally that "[t]he composition" has the open-ended ranges. A542; A543, col. 2, lines 50-65. Accordingly, the specification provides no reason to believe that any composition exists which meets the ingredients' ranges, but not the open-ended properties' ranges recited in the wherein clauses.

Finally, the Board expressly credited Unilever's expert testimony over P & G's expert testimony. A13-15, 17 (discussing testimony for Unilever over testimony for P & G). In doing so, the Board found that the relevant evidence demonstrated that earlier known tests were similar to P & G's specification-tests for anti-dandruff efficacy and clean-hair feel. A13-17.

D. The challenged obviousness findings are supported by substantial evidence

In a manner similar to its specification-tests claim construction argument, P & G attacks the *prima facie* case of Kanebo rendering claim 1 obvious. Br. at 49-56. Specifically, P & G continues to focus on the specification-tests and wherein properties as allegedly-distinguishing the claim. They do not.

Significantly, Kanebo Example 10 falls within the broad weight-percent ranges for all of the ingredients recited in representative claim 1, as P & G conceded to the Board and has not argued otherwise in its blue brief. Given its broad ingredients' ranges, the claim cannot avoid prior art such as Kanebo. As discussed above, specification columns 33-43 do not indicate that the claimed ingredient ranges are altered or narrowed at all by the tests described therein. Thus, the wherein properties cannot alter claim 1's wide ranges, as far as the patent teaches.

And, as the Board found, selecting the wherein properties for the composition would have been obvious. The characteristics are, in large part, described in Kanebo. A964; A17 (Board noting characteristics discussed in Kanebo). Because the characteristics for good shampoo products were

known in the art prior to the subject patent, a skilled shampoo artisan would have been motivated to use the teachings of Kanebo to make a product such as Kanebo Example 10 which falls within the breadth of claim 1.

See, e.g., In re Kubin, 561 F.3d 1351, 1359 (Fed. Cir. 2009) (exercising merely ordinary skill leads to an obviousness conclusion); In re Sovish, 769 F.2d 738, 743 (Fed. Cir. 1985) (skill is presumed, not something less).

As the Board found:

even in the 1960s, practitioners in the field recognized that the conditioning and anti-dandruff properties of a shampoo needed to be balanced against each other, and that certain “tradeoffs” were required between those properties.

A19 (citing to Nandagiri second declaration ¶¶ 43-49, A1296-1300).

As far as allegedly-optimizing the wide ranges in claim 1, the patent does not do that. Specification columns 33-43 do not indicate that the wide ranges for the claimed ingredients are altered by the tests described therein. Again, if P & G wanted any such optimizing or altering as part of claim 1, it should have been in the claim. See Hiniker, 150 F.3d at 1369. Like not being in the claim, such optimizing or altering is also not in the specification.

Given Kanebo Example 10, the question becomes was there criticality for the wide ranges found in claim 1. See, e.g., In re Woodruff, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (when claiming a range, the inventor “must show that the particular range is *critical* [or has] unexpected results”) (emphasis in original). However, P & G does not attempt to show evidence of criticality on appeal.

Rather, P & G attempts to rely on commercial success evidence to show nonobviousness (Br. at 56-58), despite Kanebo’s disclosure of an anti-dandruff shampoo composition comprising ingredients at weight percentages that fall within the ranges recited in claim 1. As the Board explained (A25-26), for evidence of commercial success, the patentee must establish a nexus between the evidence presented and the claimed invention. See In re GPAC Inc., 57 F.3d 1573, 1580 (Fed. Cir. 1995) (“For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.”). Accord Tokai Corp. v. Easton Enters., Inc., 632 F.3d 1358, 1369 (Fed. Cir. 2011) (“If commercial success is due to an element in the prior art, no nexus exists.”).

Before the Board, P & G attempted to show the required nexus by relying on paragraph 98 of the Lochhead Declaration. A296. That paragraph states in-full:

Based on my training and nearly 40 years of experience, it is my opinion that the commercial success of P&G's Head & Shoulders® products that embody the claims of the '569 patent is due to the claimed features of the '569 patent, which represent the consumer desired properties of the superior combination of anti-dandruff efficacy and conditioning performance.

A2338, ¶ 98. The above evidence merely states in a conclusory manner that the claimed features caused commercial success, which falls short of what is required. See DBC, 545 F.3d at 1384 (discussing the “evidence does not reveal in any way that the driving force behind those sales was the claimed combination”). Significantly, Unilever presented to the Board evidence of Dr. Lochhead's admissions during his deposition. A318 (Unilever's Reply to Patent Owner's Response). For the Board's consideration, and this Court's, was Dr. Lochhead's testimony that he did not consider factors other than the claimed invention (e.g., other patents, marketing, advertising, market share) as possible causes for commercial success. A1508-9, A1519-20. Accordingly, the Board appropriately exercised its discretion in giving

Lochhead Paragraph 98 little weight. See Inland Steel, 265 F.3d at 1366.

Accord Henkel Corp. v. Procter & Gamble Co., 560 F.3d 1286, 1290

(Fed. Cir. 2009) (“our task is to determine whether the Board’s interpretation is supported by substantial evidence”).

V. CONCLUSION

Because the Board’s construction of representative claim 1 was reasonable and the challenged-obviousness findings are supported by substantial evidence, this Court should affirm the Board’s decision.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on January 27, 2016, I electronically filed the attached **BRIEF FOR INTERVENOR - DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE** using the Court's CM/ECF filing system. Appellant was electronically served via e-mail through the Court's CM/ECF system per Fed. R. App. P. 25 and Fed. Cir. R. 25.

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