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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HUA DU, YAN LI, TAO LIU, and YINGXIN MA

Appeal 2019-006344
Application 14/863,600
Technology Center 1600

Before ERIC B. GRIMES, FRANCISCO C. PRATS, and MICHAEL A. VALEK, *Administrative Patent Judges*.

VALEK, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant[1] submits this appeal under 35 U.S.C. § 134(a) involving claims to methods of improving the barrier function of skin and for moisturizing the skin. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies Johnson & Johnson Consumer, Inc. as the real party in interest. Appeal Br. 2. Herein, we refer to the Final Action mailed January 2, 2019 ("Final Act."); Appellant's Appeal Brief filed June 3, 2019 ("Appeal Br."); and Examiner's Answer mailed June 21, 2019 ("Ans.").

STATEMENT OF THE CASE

The Specification states that "the present invention relates to compositions comprising extracts of *Ampelopsis grossedentata* and *Albizia julibrissin* for improving the condition and appearance of the skin, such as by improving skin barrier protection, improving hydration and moisturization of the skin and reducing inflammation of the skin, and providing anti-aging properties to the skin." Spec. 1.

Claims 1, 2, 6–11, 13, 14, 16–21, 25–30, and 32–38 are on appeal and can be found in the Claims Appendix of the Appeal Brief. Claim 1 is illustrative. It reads as follows:

> 1. A method of improving the barrier function of skin by promoting the generation of sodium L-pyrrolidone carboxylate, said method comprising applying to the skin a topical composition comprising an extract of *Ampelopsis grossedentata* leaves, an extract of *Albizia julibrissin* flowers and a topical carrier, wherein the weight ratio in the composition of the extracts of *Ampelopsis grossedentata* leaves to *Albizia julibrissin* flowers is between 1:7 to 7:1, the total amount of the combination of the *Ampelopsis grossedentata* leaves extract and the *Albizia julibrissin* flowers extract is from about 0.0005% to about 30% by weight of the composition and the total amount of the extracts is effective to promote sodium L-pyrrolidone carboxylate generation in skin.

Appeal Br. 11.

Examiner's obviousness-type double patenting rejections were withdrawn in the Answer. Ans. 3. Accordingly, the only rejection remaining in this appeal is Examiner's rejection of claims 1, 2, 6–11, 13, 14, 16–21, 25–30, and 32–38 under 35 U.S.C. § 103 as unpatentable over

Fournial[2] and Kishida.[3] Appeal Br. 6. Appellant does not argue claims 2, 6–11, 13, 14, 16–21, 25–30, and 32–38 separately from claim 1. We focus on claim 1 for our analysis and the other claims stand or fall with that claim. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The issue is: Does the preponderance of evidence of record support Examiner's conclusion that the cited prior art renders the method of claim 1 obvious?

Findings of Fact

FF1. Fournial teaches the application of cosmetic formulations to the skin comprising an extract of *Albizia julibrissin* "for treating cutaneous fatigue, in particular for improving the radiance of skin and eye contour (under eye bags and dark circles) and for treating the loss of skin suppleness." Fournial, Abstr., ¶¶ 35–38, 82–88. Fournial teaches the extract is preferably obtained from *Albizia julibrissin* flowers and/or seeds, using ethanol or a similar solvent. *Id.* ¶¶ 47, 77, 108–110, claim 2.

FF2. Fournial teaches that an effective amount of *Albizia julibrissin* extract is an amount ranging "from 0.0001% to 25%, and furthermore particularly from 0.001% to 10% based on the total weight of the composition." Fournial ¶ 74. Fournial further teaches that a "person skilled in the art is able to adjust the amount of extract depending on the desired effect." *Id.*

FF3. Fournial teaches that the *Albizia julibrissin* extract compositions applied in its methods may include topical carriers (*see* Fournial ¶¶ 97, 106)

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[2] Fournial et al., US 2015/0017269 A1; published Jan. 15, 2015 ("Fournial").

[3] Kishida et al., JP2002370962 A (English abstract); published Dec. 24, 2002 ("Kishida").

as well as additional active ingredients such as skin-lightening, moisturizing, and anti-aging agents (*id.* ¶¶ 52, 97, claim 4).

FF4. Kishida teaches that extracts made from the leaves of *Ampelopsis grossedentata* contain tyrosinase, elastase and collagenase inhibitors and have "excellent fairness improving property (pigmentation inhibitory effect), aging prevention property, and moisturizing property." Kishida, 2.

FF5. Kishida teaches that a lotion containing 1% wt of 50% ethanol extract from *Ampelopsis grossedentata* leaves as an active ingredient "showed excellent wrinkle improvement and moisturizing effect" over a control group treated with conventional lotion. Kishida, 3.

Analysis

Examiner finds that Fournial teaches methods of "topically applying an effective amount of *Albizia Julibrissin* extract to the skin of a subject" to improve "brightness and complexion of skin and . . . dark circles." Final Act. 4. Examiner further determines that Fournial teaches compositions of *Albizia julibrissin* flower extract comprising pharmaceutical carriers and other agents such as skin-lightening agents. *Id.* Examiner finds Kishida teaches that "*Ampelopsis grossedentata* leaf extracts have excellent whitening/depigmenting properties plus provide good moisturizing and anti-aging properties" and therefore a skilled artisan would have been motivated to add them as a whitening agent to the *Albizia julibrissin* compositions applied in Fournial's methods. *Id.* at 5.

Regarding the ranges recited in claim 1, Examiner determines that "the modified Fournial teaches and suggests ratios [that] overlap [with] the claimed ratios of 1:1, 1:5, 1:7 . . . given the [amount of] *Albizi juilibrissin*" flower extract taught "in Fournial for inclusion in cosmetics [is] from .001-

10% and Kishida suggests about 1% by weight" of *Ampelopsis grossedentata* leaf extract is effective. *Id.* at 6. Moreover, Examiner determines "the modified Fournial teaches the active method steps equivalent to the instant claims in that the extracts are applied to the skin in a topical formulation, thus the barrier and moisturization of the skin [and promotion of sodium L-pyrrolidone carboxylate (PCA) generation] would necessarily follow from topical administration." *Id.*

We adopt the Examiner's findings of fact and reasoning regarding the scope and content of the prior art (Final Act. 2–7; FF1–FF5) and agree that the claims are rendered obvious by the combination of Fournial and Kishida as articulated by Examiner. We address Appellant's arguments below.

We not persuaded by Appellant's argument that the rejection fails to "raise a prima facie case of obviousness" because Fournial "does not have the botanicals cited in the claims" and "there is no direction or suggestion provided to one of skill in the art to use *Ampelopsis grossedentata* leaf extract as an additional agent." *See* Appeal Br. 6–7. Fournial teaches cosmetic formulations comprising one (*Albizia julibrissin* flower extract) of the two recited botanical extracts. FF1. Kishida teaches lotions comprising the other recited extract. FF4–FF5. Examiner has articulated a rationale for combining them premised on Fournial's teaching that other active agents, such as skin lightening and moisturizing agents, can be included in its formulations and Kishida's teaching that an extract taken from *Ampelopsis grossedentata* leaves is such an agent. *See* Final Act 5. The record supports that finding. FF3–FF5. Thus, the references provide a reason to combine their teachings. *Arctic Cat, Inc. v. Bombardier Recreational Prods., Inc.*, 876 F.3d 1350, 1359 (Fed. Cir. 2017) ("Motivation to combine is

a factual determination as to whether there is a known reason a skilled artisan would have been motivated to combine elements to arrive at a claimed combination.").

In addition, as Examiner determined, each reference discloses an amount of their respective extracts (FF2, FF5) that when combined overlaps with the weight ratio and total weight percentage ranges recited in claim 1. *See In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) ("[W]e and our predecessor court have consistently held that even a slight overlap in range establishes a prima *facie case* of obviousness."). Thus, Examiner has met the burden to establish a prima facie showing.

Appellant asserts that "Examiner relies on information gleaned solely from Applicant's specification" because only the Specification shows a combination of extracts that is effective to improve barrier function of skin. *See* Appeal Br. 7–8. Again, we are not persuaded. Both Fournial (*see* FF1) and Kishida (*see* FF4–FF5) teach that their respective extracts provide a number of benefits when applied to the skin. As Examiner determined, it is those teachings in the prior art that provide a sufficient rationale for combining the references. *See* Final Act. 5. Accordingly, the rationale for combining the references in Examiner's rejection is premised on the prior art—not the Specification.

Appellant urges that Fournial teaches away from the claimed invention because it "teaches a preference to provide a range of wider cosmetic properties [0052] rather than selecting an additional agent that has the same properties (i.e., tyrosinase inhibitor)." Appeal Br. 7. Appellant's argument, however, is both legally and factually in error. As a legal matter, a reference does not teach away if it "does not criticize, discredit, or

otherwise discourage investigation into the invention claimed." *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013) (quotations omitted). Here, Fournial merely states that "preferably" additional agents are chosen "to provide a range of wider cosmetic properties." Fournial ¶ 52. Thus, Fournial does not teach away from the use of two tyrosinase inhibitors. Second, Kishida teaches that in addition to inhibiting tyrosinase its extract, in fact, provides a range of wider cosmetic properties. FF4. These additional properties include the skin lightening, moisturizing, and anti-aging properties recited in Fournial. *See* FF3. Thus, Kishida teaches that its extract contains exactly the type of additional active agents that Fournial says are "preferably" combined with its botanical extract. *See* Fournial ¶ 52.

Finally, Appellant relies on Examples 3–6 and 8 of the Specification to argue that the combination of the recited botanical extracts provides an unexpected, synergistic effect over the individual extracts in various assays. *See* Appeal Br. 9. However, evidence of unexpected results must be "commensurate in scope with the degree of protection sought by the claim[s]" to demonstrate non-obviousness. *See In re Harris*, 409 F.3d 1339, 1344 (Fed. Cir. 2005).

We agree with Examiner that Appellant's evidence of unexpected and synergistic results is not reasonably commensurate with the scope of claim 1. *See* Final Act. 7; Ans. 8–10. Examples 3, 5, 6 and 8 show results for the combination of one type of *Ampelopsis grossedentata* leaf extract (E1) with one type of *Albizia julibrissin* flower extract (E2) in a 1:1 ratio. *See* Spec. 36, 38–41 (Tables 1 and 3–6). Thus, these examples do not demonstrate synergistic results for either the weight ratio range, i.e., "1:7 to 7:1," or the

weight percentage range for the total amount of the extracts, "about 0.0005% to about 30%," recited in claim 1.

The only example that provides results for a range of weight ratios, Example 4, is also not reasonably commensurate with claim 1. Example 4 shows PCA promotion results for combinations at 1:1, 3:1, 7:1, and 1:7 weight ratio of E1 to E2. Spec. 36–37 (Table 2). But claim 1 recites a 1:7 to 7:1 weight ratio range with a total weight percentage of the two extracts ranging from "about 0.0005% to about 30%." Thus, as Examiner points out, claim 1 "encompasses embodiments having amounts of .000072% of one extract and .0005% of another . . . . However, Example 4 . . . does not disclose any amounts lower than .00025% for each of the individual extracts." Final Act. 7. Accordingly, the data in Example 4 does not demonstrate synergy for 7:1 and 1:7 weight ratio combinations at the lower limit of the recited weight percentage range.

Moreover, Example 4 does not evidence synergistic results at the upper end of the recited weight percentage range. The highest concentration of any extract tested in Example 4 is 0.002%. Spec. 37. Example 4 reports results for a 1:1 combination of E1 and E2 at that concentration, i.e., a total weight percentage of 0.004%. *Id.* But a weight percentage of 0.004% is 7500 times less than the upper end (30%) of the range in claim 1. Data for a narrower range may demonstrate unexpected results over a broader range where one of skill in the art "would be able to determine a trend in the exemplified data which would allow the artisan to reasonably extend the probative value thereof." MPEP § 716.02(d)(I). However, Appellant has not sufficiently demonstrated such a trend here, particularly given the magnitude of the difference between the ranges recited in claim 1 and the

ranges tested in Example 4. Indeed, Appellant's briefing fails to address Examiner's rationale for finding that the data in these examples is not reasonably commensurate with the scope of its claims. Accordingly, we agree with Examiner that Appellant's results are not reasonably commensurate with the breadth of the weight ratio and weight percentage ranges recited in claim 1.[4] Thus, given the breadth of the claims at issue, Appellant's results are not sufficiently probative of nonobviousness to overcome Examiner's prima facie showing. *See Harris*, 409 F.3d at 1344.

For these reasons, we determine that the preponderance of the evidence supports Examiner's rejection of claims 1, 2, 6–11, 13, 14, 16–21, 25–30, and 32–38 as obvious over Fournial and Kishida. Accordingly, we affirm.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 6–11, 13, 14, 16–21, 25–30, 32–38	103	Fournial, Kishida	1, 2, 6–11, 13, 14, 16–21, 25–30, 32–38	

[4] In addition, Examples 3–6 and 8 only report results for E1 and E2, i.e., extracts prepared in "95% ethanol/water" according to Examples 1 and 2. *See* Spec. 34–35. Appellant's claims, however, encompass extracts prepared using a wider range of solvents. *See* Appeal Br. 11 (claim 2 reciting that "the extracts are polar extracts prepared using polar solvents selected from" a Markush group of solvents). Indeed, claim 1 is not limited to polar extracts and thus encompasses extracts prepared with non-polar solvent systems. Appellant has not shown that the single combination of extracts demonstrated in Examples 3–6 and 8 is reasonably commensurate with the much broader scope of extracts encompassed by claim 1.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED