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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SUNDAR BALASUBRAMANIAN,
BRYAN WILLIAM HITCHCOCK, MONGJAN HSIEH,
RACHEL LISA JORDAN, JEFFREY DAVID MATHEWS,
TEODORO RIVERA, JIN-E SHIN, and WILLIAM B. SMALL II

Appeal 2019–003368
Application 14/766,828
Technology Center 1700

Before MICHAEL P. COLAIANNI, GEORGE C. BEST, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the
Examiner’s decision to reject claims 1–4, 6, 7, 11, and 44–46 of Application

¹ In our Decision, we refer to the Specification filed August 10, 2015 (“Spec.”) of Application 14/766,828 (“the ’828 Application”); the Final Office Action dated July 2, 2018 (“Final Act.”); the Appeal Brief filed December 3, 2018 (“Appeal Br.”); the Examiner’s Answer dated February 21, 2019 (“Ans.”); and the Reply Brief filed March 28, 2019 (“Reply Br.”).

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Tropicana Products, Inc. as the real party in interest. Appeal Br. 2.

14/766,828. *See* Appeal Br. 4; Final Act. 1. We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we REVERSE.

BACKGROUND

The '828 Application relates to a beverage comprising juice and a co-product derived from juice extraction. Spec. ¶ 5. The '828 Application describes that juice extraction excludes portions of a whole fruit or vegetable that would otherwise be consumed if the fruit or vegetable were to be eaten in its whole form. *Id.* at ¶ 3. According to the Specification, fruit and vegetable juices lack nutrients, such as fiber, phytonutrients, and vitamins, which are contained in these excluded portions. *Id.* The '828 Application describes that use of co-products obtained from fruit or vegetable juice extraction imparts nutrition and sensory characteristics to the beverage. *Id.* ¶ 2.

Claim 1 is representative of the '828 Application's claims and is reproduced below from the Claims Appendix of the Appeal Brief.

1. A beverage comprising:

juice; and

a co-product from juice extraction, wherein the co-product comprises a number average particle size of between 0.1 and 2000 microns, a total polyphenol content of at least 2500 parts 5 per million, a moisture content of between 70% and 85% by weight, and a combined peel and seed content between 0.01% and 20% by weight; and

wherein a viscosity of 8 ounces of the beverage comprising at least 10 wt% of the co-product is at least 300 cps at 25°C.

Appeal Br. 13 (Claims Appendix).

REFERENCES

The Examiner relies on the following prior art in rejecting the claims on appeal:

Name	Reference	Date
Paeschke et al. (“Paeschke”)	US 2012/0135109 A1	May 31, 2012
Ames et al. (“Ames”)	WO 2012/045045 A1 ³	April 5, 2012
M.J. Fallourd et al., “1—Ingredient selection for stabilisation and texture optimisation of functional beverages and the inclusion of dietary fibre,” in <i>Functional and Speciality Beverage Technology</i> , Woodhead Publishing Series in Food Science, Technology and Nutrition, edited by P. Paquin (Woodhead Publishing, 2009), p. 24 (hereinafter “Paquin”).		

REJECTIONS

The Examiner maintains the following rejections⁴: (1) claims 1–4, 6, 7, 11, and 44–46 under 35 U.S.C. § 112, second paragraph, as indefinite; (2) claims 4, 45, and 46 under 35 U.S.C. § 112, fourth paragraph, for improper dependent form;⁵ and (3) claims 1–4, 6, 7, 11, and 44–46 under 35 U.S.C. § 103(a) as unpatentable over Paeschke in view of Ames, and further in view of Paquin. Final Act. 2–17.

³ The Examiner cites to US 2014/0308389 A1, a national stage publication of Ames. Appellant has not objected to the Examiner’s reliance on US 2014/0308389 A1.

⁴ Because this application claims priority to an application filed before the March 16, 2013 effective date of the America Invents Act, we refer to the pre-AIA version of the statutes.

⁵ In the Answer, the Examiner withdrew the rejection of claim 2 under 35 U.S.C. § 112, fourth paragraph, for improper dependent form. Ans. 3.

Claims 32–35, 42, and 43 are withdrawn from consideration. Final Act. 1; Appeal Br. 2. Claims 5, 8–10, 12–31, and 36–41 are canceled. Appeal Br. 2.

DISCUSSION

Ground 1: Rejection claims 1–4, 6, 7, 11, and 44–46 as indefinite

Appellant argues claims in subgroups, which we adopt for the purposes of this Discussion regarding Ground 1. *See* Appeal Br. 5–7. Appellant does not argue in support of claim 3, but this claim is included in the list of appealed claims. *Id.* 2. We, thus, view Appellant’s omission of claim 3 from the argued subgroups as a clerical error. Claim 3 will stand or fall with claim 1, from which it depends. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Subgroup A: Claims 1, 2, 4, 6, 7, 11, and 44–46

Appellant selects claim 1 as representative of the claims in Subgroup A. Appeal Br. 5.

The Examiner finds that claim 1 “is confusing” because “it is unclear as to what the scope of the claimed [co-product’s] average particle size, polyphenol content, moisture content, peel and seed content, [and viscosity] contribute to the [beverage] composition as a whole.” Final Act. 3.

Appellant argues that paragraph 56 of the Specification explains how the co-product’s features are specific to the particular fruits and/or vegetables, which form the claimed co-product. Appeal Br. 6. As an example, Appellant argues that the “Specification describes how moisture content can be used to select the suitable fruits and/or vegetables” for subsequent extraction and formation of the claimed co-product. *Id.* (citing Spec. ¶ 56). Appellant argues that because “claim 1 recites the limitation of

a beverage that comprises at least 10 wt% of the co-product,” the skilled artisan is informed regarding what the claimed beverage actually comprises. Reply Br. 2–3.

We are persuaded by Appellant’s arguments that the Specification’s disclosure reasonably apprises the skilled artisan of the scope of the invention. Appellant’s relied-upon passage adequately describes to one of skill in the art that the limitations directed to the co-product also contribute to the beverage composition as a whole. *See* Spec. ¶ 56. Appellant, therefore, shows that the Examiner reversibly errs in finding claims 1, 2, 4, 6, 7, 11, and 44–46 are unclear as to what the scope of the claimed co-product’s features contribute to the beverage composition.

Subgroup B: Claims 1, 4, and 45

Appellant selects claim 1 as representative of the claims in Subgroup B. Appeal Br. 6.

With respect to claim 1, the Examiner finds that the limitation “wherein a viscosity of 8 ounces of the beverage comprising at least 10 wt% of the co-product is at least 300 cps at 25°C” to be indefinite. Final Act. 3; Appeal Br. 13 (Claims Appendix).

According to the Examiner, because the limitation is directed to “any amount of a beverage having any amount of co-product at any temperature,” the limitation reciting “8 ounces of the beverage do[es] not further limit the claim.” Final Act. 3. The Examiner finds that the limitation is indefinite because it is directed “toward the intended use of the product that requires portioning the beverage to 8 ounces, wherein a specific amount of co-product is adjusted to 10, 15 or 20 wt%, and further adjusting for this made product to have a specific temperature.” *Id.*

Appellant argues “the viscosity limitation *is* directed to the beverage” and “viscosities are characteristics of beverages irrespective of volume.” Reply Br. 3. Appellant argues the “[t]he claimed temperature of 25°C is a common, acceptable temperature at which skilled artisans typically measure viscosities.” *Id.*

These arguments are persuasive. We, thus, agree with Appellant that the skilled artisan would understand that claim 1 is directed to a beverage with limitations regarding the amount of the co-product present in a specified beverage volume when the beverage’s viscosity is measured at a standardized temperature. Appeal Br. 7. Appellant, therefore, shows the Examiner reversibly errs in finding that the limitations regarding beverage viscosity measurement, as recited in claims 1, 4, and 45, are indefinite.

Subgroup C: Claim 2

Claim 2 is reproduced below from the Claims Appendix of the Appeal Brief.

2. The beverage of claim 1, wherein the co-product comprises citrus pomace co-product.

Appeal Br. 13 (Claims Appendix).

The Examiner finds that claim 2 is indefinite because the claim “recites the broad recitation of pomace, however, the base claims already recite the species of peel and seed, which is the narrower statement of the range/limitation.” Final Act. 4.

We note that the Examiner withdrew the rejection of claim 2 under 35 U.S.C. § 112, fourth paragraph, for improper dependent form based on Appellant’s arguments, which we find are also dispositive as to whether claim 2 is indefinite. Appellant argues dependent claim 2 was not in improper form because the Specification describes that the claimed co-

product can include peel and seed from a variety of fruits and/or vegetables, such as berries and/or citrus pomace. Appeal Br. 7 (citing Spec. ¶¶ 15–18). As explained by Appellant, “claim 1 recites a co-product with a particular peel and seed content, irrespective of source, and dependent claim 2 recites a co-product that comprises citrus pomace . . . from a particular source.” Appeal Br. 7. Appellant argues that these recitations are consistent with the Specification. *Id.* (citing Spec. ¶¶ 15–18).

We find these arguments are similarly persuasive for reversal of the Examiner’s rejection of claim 2 under 35 U.S.C. § 112, second paragraph, as indefinite. Appellant, therefore, shows the Examiner reversibly errs in finding that the limitation “wherein the co-product comprises citrus pomace co-product,” as recited in claim 2, is indefinite.

Subgroup D: Claims 6 and 7

Appellant selects claim 6 as representative of the claims in Subgroup D. Appeal Br. 7. Claim 6 is reproduced below from the Claims Appendix of the Appeal Brief.

6. The beverage of claim 1, wherein the co-product comprises between about 6% and about 20% by weight fiber, wherein the fiber of the co-product comprises both insoluble fiber and soluble fiber.

Id. at 13 (Claims Appendix).

The Examiner finds that claim 6 is indefinite because “it is unclear if the claimed fiber is further/other than the fiber presented in ingredients already claimed, like the seeds and peel, or the same.” Final Act. 4.

However, we agree with Appellant that the claim language, as presently drafted, would be clear to the skilled artisan. Appeal Br. 7. We find that the claim is directed to fiber present in the co-product, regardless of

whether the fiber originated from a previously recited ingredient. Appellant, therefore, shows the Examiner reversibly errs in finding that the limitations recited in claims 6 and 7 regarding the amounts of fiber in the co-product are indefinite.

We do not sustain the rejection of claims 1–4, 6, 7, 11, and 44–46 under 35 U.S.C. § 112, second paragraph, as indefinite. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Ground 2: Rejection of claims 4, 45, and 46 for improper dependent form

Appellant argues claims in subgroups, which we adopt for the purposes of this discussion with respect to Ground 2. *See* Appeal Br. 8–9.

Subgroup A: Claims 4 and 45

Appellant selects claim 4 as representative of the claims in Subgroup A. *Id.* at 6. Claim 4 is reproduced below from the Claims Appendix of the Appeal Brief.

4. The beverage of claim 1, wherein the viscosity of 8 ounces of the beverage comprising about 15 wt% of the co-product is about 1100 cps at 25°C.

Id. at 13 (Claims Appendix).

The Examiner finds that claim 4 is in improper dependent form because it “fail[s] to further limit the claim of any amount of beverage having any amount of co-product being at any temperature.” Final Act. 5.

For the reasons set forth above and in Appellant’s Briefs, we are not persuaded that claim 1 is directed to any amount of beverage having any amount of co-product at any given temperature. Claim 4, furthermore, limits claim 1 by increasing: (i) the amount of co-product comprising the beverage

from 10 wt% to 15 wt% and (ii) the viscosity of the beverage from at least 300 cps to about 1100 cps. Appeal Br. 15 (Claims Appendix).

Claim 45 similarly limits claim 1 by reciting limitations requiring further such increases. Claim 45 is reproduced below from the Claims Appendix of the Appeal Brief.

45. The beverage of claim 1, wherein the viscosity of 8 ounces of the beverage comprising about 20 wt% of the co-product is about 3400 cps at 25°C.

Id. (Claims Appendix).

Appellant, therefore, shows the Examiner reversibly errs in finding that the limitations recited in claims 4 and 45 are in improper dependent form.

Subgroup B: Claim 2

Appellant’s arguments for reversal of the rejection of Subgroup B: Claim 2 are moot. *See* Ans. 3; *supra* fn.5.

Subgroup C: Claim 46

Claim 46 is reproduced below from the Claims Appendix of the Appeal Brief.

46. The beverage of claim 45, wherein 8 ounces of the beverage comprising about 20 wt% of the co-product further comprises at least 5 grams of fiber.

Appeal Br. 15 (Claims Appendix).

The Examiner finds that claim 46 is in improper dependent form because “it is unclear as to how” claim 46 “further limits claim 45.” Final Act. 5. Appellant, however, argues persuasively that the disputed claim “*specifies the amount of fiber* present in the 8-ounce beverage having the

claimed amount of co-product, a feature not recited in claim 45.” Appeal Br. 9 (emphasis added).

Appellant, therefore, shows the Examiner reversibly errs in finding that the limitations recited in claim 46 are in improper dependent form.

We reverse the rejection of claims 4, 45, and 46 under 35 U.S.C. § 112, fourth paragraph, for improper dependent form.

Ground 3: Rejection of claims 1–4, 6, 7, 11, and 44–46 as obvious over Paeschke in view of Ames, and further in view of Paquin

The Examiner determines that claims 1–4, 6, 7, 11, and 44–46 would have been rendered obvious over Paeschke in view of Ames, and further in view of Paquin. Final Act. 7–13. Appellant argues the claims as a group. Appeal Br. 9–11. We select claim 1 as representative. Claims 2–4, 6, 7, 11, and 44–46 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant argues that a prima facie case of obviousness has not been established “because the Examiner’s rejection of claim 1 fails to consider all” of the limitations recited in the instant claim. Appeal Br. 9. Specifically, Appellant argues that the Examiner has failed to consider two limitations: (i) “a combined peel and seed content between 0.01 % and 20% by weight” and (ii) “wherein a viscosity of 8 ounces of the beverage comprising at least 10 wt% of the co-product is at least 300 cps at 25°C.” *Id.* at 10, 13 (Claims Appendix).

Appellant does not contest the Examiner’s findings with respect to the obviousness of the remaining limitations recited in claim 1. *See id.* at 9–11; Final Act. 7–10. Appellant, thus, does not contest the Examiner’s findings regarding Ames. *See* Appeal Br. 9–11. Accordingly, our discussion

regarding Ground 3 will focus on whether Paeschke in view of Paquin would have rendered the disputed limitations obvious.

A. The claimed co-product comprising “a combined peel and seed content between 0.01 % and 20% by weight”

Appellant argues, “[t]he Examiner has not considered Appellant’s claimed co-product that comprises a combined peel and seed content between 0.01 % and 20% by weight.” *Id.* at 10.

The Examiner, however, makes reasoned findings that Paeschke’s process for providing a beverage from juice extraction byproducts discloses or suggests the disputed limitation: a combined peel and seed content between 0.01 % and 20% by weight. In particular, the Examiner finds

Paeschke teaches that the process used results in fiber (i.e. byproduct particles, i.e. pomace, i.e. seeds and peel, i.e. co-product), and illustrates that said fiber is used in quantities of:

about 5 wt% solids . . . , which encompasses at least 10 wt% of between 0.01 and 20 wt% of peel and seed content as in claim 1;

about 4 wt% solids . . . , which encompasses at least 10 wt% of between 0.01 and 20 wt% of peel and seed content, as in claim 1;

about 15 to 30 wt% of certain embodiments . . . , which encompasses the claim of at least 10 wt% of between 0.01 and 20 wt% of peel and seed content as in claim 1; and

wherein the weight ratio of byproduct particles to liquid may range between about 1:99 to about 3:1 . . . , which means the amount of pomace is from about 1 to 75 wt% of the amount of liquid used in the composition as a whole, which also encompasses at least 10 wt% of between 0.01 and 20 wt% of peel and seed content, as in claim 1.

Final Act. 11 (citing Paeschke ¶¶ 32, 33, 50; Table 1, 2; Figs. 3, 4). We are not persuaded that the Examiner fails to consider the first of two disputed limitations recited in claim 1. We, furthermore, find that Appellant’s

assertion fails to substantively argue or identify reversible error in the Examiner’s findings.

B. The claimed beverage “wherein a viscosity of 8 ounces of the beverage comprising at least 10 wt% of the co-product is at least 300 cps at 25°C.”

The Examiner finds that Paeschke describes that the viscosity of the juice extraction byproduct is between 500 and 9,000 cp, thereby encompassing the claimed viscosity of at least 300 cps. Final Act. 12 (citing Paeschke Fig. 5). The Examiner finds that Paeschke further describes the fiber’s viscosity as a result effective variable, which can be altered by the fiber’s molecular weight. Final Act. 12 (citing Paeschke ¶ 19).

Although Paeschke is silent with respect to modifying the fluid’s viscosity, the Examiner finds “Paeschke opens the door” to such modifications “by teaching that the beverages disclosed may have any of numerous different specific formulations or constitutions . . . , including formulations that vary the mouthfeel.” Final Act. 12 (citing Paeschke ¶¶ 67, 68).

The Examiner finds Paquin teaches that “some types of hydrocolloids produce a shear thickening effect which results in a higher viscosity (e.g. coated mouth feel), while other produce a shear thinning effect which results in a lower viscosity (e.g. non-coated mouth feel).” Final Act. 12. According to the Examiner, Paquin teaches that “shear thickening of a juice beverage is result effective based on the type of hydrocolloid selected.” *Id.* at 13. The Examiner concludes

it would have been obvious to one with skill in the art at the time of the invention to determine the optimal value for the viscosity (i.e. shear thickening) and type of hydrocolloid used in the process of Paeschke in view of Paquin, through routine

experimentation, to impart the material with the desired viscosity properties, as claimed, associated with juice beverage because the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness.

Id. The Examiner finds that it would have been reasonable for one of ordinary skill in the art to expect that a beverage produced from the use of shear force to adjust beverage viscosity would have resulted in a viscosity of at least 300 cps. *Id.*

Appellant argues that the Examiner’s reliance on Paeschke is misplaced because Paeschke’s Figure 5 provides the viscosities of byproduct prior to mesh filtration. Appeal Br. 10 (citing Paeschke ¶ 93 (“viscosity readings were taken . . . on the samples prior to passing the mixture through a 20 mesh screen”)). Appellant contends that post-filtration, Paeschke’s filtered byproduct *liquid* is added to a beverage in order to *prevent* an increase in the beverage’s viscosity from the byproduct. Appeal Br. 10 (citing Paeschke ¶ 62).

Appellant asserts that the Examiner’s proposed modification would have increased the beverage’s viscosity. Appeal Br. 10. Appellant argues that such an increase would have rendered Paeschke’s beverage unsuitable for its intended purpose of forming a beverage having a low molecular weight fiber extract without a concomitant significant increase in viscosity. *Id.*; *see also* Reply Br. 7.

In response, the Examiner finds that Paeschke discloses: (i) the composition comprises a co-product having a viscosity in the claimed range (*see* Paeschke Fig. 5) and (ii) claim 1 does not require the viscosity to be directed toward the composition as a whole. Ans. 29.

The Examiner reversibly errs because the viscosity limitation recited in the claim is directed to the beverage, not to the co-product. *See* Appeal Br. 13 (Claims App.).

The Examiner reiterates that Paquin teaches that hydrocolloids produce a shear thickening effect, which results in a higher viscosity. Ans. 30. However, Paquin teaches that hydrocolloids provide “higher viscosities (i.e. 30 mPa s),” which equates to a viscosity value of only 30 cps. Paquin 24. We find that Paquin’s disclosure of a viscosity an order of magnitude less than what claim 1 requires would have failed to teach or suggest raising a beverage’s viscosity to at least 300 cps.

“After evidence or argument is submitted by the applicant in response, patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992); *see also In re Sullivan*, 498 F.3d 1345, 1352 (Fed. Cir. 2007) (“Whether the composition would have been obvious cannot be determined without considering evidence attempting to rebut the prima facie case.”); *In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976) (“When prima facie obviousness is established and evidence is submitted in rebuttal, the decision-maker must start over.”).

On the record before us, Appellant’s contention that the Examiner’s proposed modification would have rendered Paeschke’s beverage unsuitable for its intended purpose of forming a beverage having a low molecular weight fiber extract without a concomitant significant increase in viscosity is persuasive of reversible error by the Examiner. *See* Appeal Br. 10; *see also* Reply Br. 7.

We do not sustain the rejection of claim 1 as obvious over Paeschke in view of Ames, and further in view of Paquin. For the same reasons, we do not sustain the rejection of claims 2–4, 6, 7, 11, and 44–46 as obvious over the same combination of references.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–4, 6, 7, 11, 44–46	112	2 nd paragraph, indefiniteness		1–4, 6, 7, 11, 44–46
4, 45, 46	112	4 th paragraph, improper dependent form		4, 45, 46
1–4, 6, 7, 11, 44–46	103(a)	Paeschke, Ames Paquin		1–4, 6, 7, 11, 44–46
Overall Outcome				1–4, 6, 7, 11, 44–46

REVERSED