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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BENJAMIN HALL, DEAN A. LIPPOLD, and
BRYAN C. SHIPLETT

Appeal 2019-006357
Application 14/745,131
Technology Center 1700

Before ADRIENE LEPIANE HANLON, CATHERINE Q. TIMM, and
MICHAEL G. MCMANUS, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–24. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Dean Foods Company. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to a high-protein dairy product composition (*see, e.g.*, claim 1) and a method for producing it (*see, e.g.*, claim 21). The composition is a homogenized mixture of at least one curd component and at least one softening agent. *See, e.g.*, claim 1. According to the Specification, the softening agent may be one or more of fruit juice, fruit preparation, milk, flavored milk, oils, and fats. Spec. ¶ 8.

The claims require the homogenized mixture contain curds with particle sizes of less than 100 µm and an overrun less than 50%. *See, e.g.*, claims 1 and 21. According to the Specification, the desired particle sizes and overrun are obtained by milling the mixture to form a fully homogenized product. Spec. ¶¶ 6, 43. Overrun refers to the percentage of air incorporated into the mixture. Spec. ¶ 14. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A high-protein dairy product composition comprising:

a homogenized mixture of at least one curd component comprising curds with particle sizes between 0.1 mm to 3.0 mm in diameter, and a protein content greater than 10% by weight; and

at least one softening agent having a viscosity of less than 300,000 centipoise;

wherein the homogenized mixture of the at least one curd component and the at least one softening agent has a protein content greater than 5% by weight, curds with particle sizes of less than 100 µm, and an overrun less than 50%.

Appeal Br. 10.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Myfitnesspal	<i>Strawberry Cheesecake Smoothie</i> , http://community.myfitnesspal.com/en/discussion/192775 (accessed March 24, 2017)	Mar. 14, 2011
Engelen	Engelen et al., <i>Relating particles and texture perception</i> , <i>Physiology & Behavior</i> 86 (2005) 111–117	June 29, 2005
Darigold	Darigold, <i>Fat Free Cottage Cheese</i> , https://www.darigold.com/products/fat-free-cottage-cheese (accessed March 24, 2017)	Accessed Mar. 24, 2017
Bakshi	Bakshi et al., <i>Effect of Fat Content and Temperature on Viscosity in Relation to Pumping Requirements of Fluid Milk Products</i> , <i>Journal of Dairy Science</i> , June 1984 Volume 67, Issue 6, pp. 1157–1160 (abstract only)	June 1984
USDA	USDA Specifications for Cottage Cheese and Dry Curd Cottage Cheese, USDA, effective February 13, 2001, pp.1–3	Eff. Feb. 13, 2001
Berk	Berk, Z., <i>Mixing - Chapter 7, Food Process Engineering and Technology</i> , Elsevier 2009, pp.175–194	2009

REJECTIONS

Claims 1–23 are rejected under 35 U.S.C. § 103 as being unpatentable over Myfitnesspal in view of Engelen, and as evidenced by Darigold, Bakshi and USDA. Final Act. 3.

Claim 24 is rejected under 35 U.S.C. § 103 as being unpatentable over Myfitnesspal in view of Engelen and as evidenced by Darigold, Bakshi and USDA, and further in view of Berk. Final Act. 7–8.

OPINION

Claims 1–23

For the rejection of claims 1–23 as obvious over Myfitnesspal in view of Engelen, as evidenced by Darigold, Bakshi and USDA, the issues are the same for all the claims as Appellant does not argue any claim apart from the others. Appeal Br. 6–8. We select claim 1 as representative for resolving the issues on appeal.

As a first matter we determine that a number of facts are not in dispute. For instance, there is no dispute that Myfitnesspal discloses a recipe for making a strawberry cheesecake smoothie. *Compare* Final Act. 3, *with* Appeal Br. 6–8, *and* Reply Br. 2–5. Or that the recipe calls for 1/2 cup skim milk (i.e. about 122 g), 1/2 cup non-fat cottage cheese (i.e. about 113 g. cottage cheese), 1 cup strawberries (i.e. about 152 g), 6 packets sweetener, and 1/2 tsp vanilla extract. *Compare* Final Act. 3, *with* Appeal Br. 6–8, *and* Reply Br. 2–5. Nor is there any dispute that Myfitnesspal’s non-fat cottage cheese has particles of sizes between 0.1 mm and 3.0 mm diameter or that it has the required protein content. *Compare* Final Act. 3, 6 (citing Darigold and USDA), *with* Appeal Br. 6–8, *and* Reply Br. 2–5. Or that skim milk is a softening agent with the viscosity required by claim 1. *Compare* Final Act. 4 (citing Bakshi), *with* Appeal Br. 6–8, *and* Reply Br. 2–5. Lastly, there is no dispute that blending according to Myfitnesspal’s recipe results in a homogenized mixture with a protein content of greater than 5% by weight. *Compare* Final Act. 3, *with* Appeal Br. 6–8, *and* Reply Br. 2–5.

Myfitnesspal’s recipe is directed to the home cook and it directs the home cook to “combine all ingredients in blender, blend until smooth.” The question on appeal is whether it is reasonable to conclude that arriving at the

particle sizes and overrun of claim 1 is a matter of routinely blending Myfitnesspal's ingredients to obtain a desired smoothness. *Compare* Final Act. 3–4, and Ans. 9–11, *with* Appeal Br. 6–8, *and* Reply Br. 2–5.

For the following reasons, we agree with the Examiner that a preponderance of the evidence supports such a determination.

First, and foremost, Myfitnesspal specifically directs the home cook to blend the mixture until smooth. Blending until smooth, by definition requires blending until the curds are reduced in size so they are not visible and cannot be perceived when drinking. The photograph in Myfitnesspal shows such a smooth beverage with no visible particles.

Second, other evidence supports the Examiner's finding. Engelen provides evidence that increased particle size contributes to perceived grittiness, which is the anathema of smoothness. Engelen 112. Appellant's own Specification indicates that curds milled to sizes of, e.g., less than about 100 μm , are not visible and that particles of sizes not distinguishable in the final dairy product composition result in a smooth, creamy, homogenous texture. Spec. ¶ 43.

Third, contrary to Appellant's argument that more is involved than routine optimization and there is no reasonable expectation of success because there are too many parameters to vary (Appeal Br. 4–8; Reply Br. 2–3), there are only two parameters here: time of blending and blender speed. The ordinary home cook would blend at the speed and for the time that would result in the desired smoothness. Although we agree with Appellant that other factors can influence the perceived grittiness/smoothness (Appeal Br. 6–7), it is blending time and speed that are the variables available to the home cook following the Myfitnesspal recipe.

Fourth, contrary to Appellant’s argument, the Examiner’s rationale here is not analogous to that reversed in *In re Stepan Co.*, 868 F.3d 1342, 1345 (Fed. Cir. 2017). Here, a preponderance of the evidence shows a known straightforward relationship between particle size and smoothness. Myfitnesspal directs one to “blend until smooth,” which reduces curd particle size to produce the smooth beverage. The ordinary artisan, i.e., the home cook, in blending until smooth would conduct blending for the time and at the speed necessary to obtain the desired level of smoothness. Smoothness means the particles are not visible and cannot be perceived during drinking. Engelen Abstr. A preponderance of the evidence indicates that when the smoothie particles are reduced to less than 100 μm , the smoothie will be “smooth” within the meaning of Myfitnesspal. There is no lack of explanation or picking and choosing amongst a number of different components to reach a property higher than that disclosed by the prior art — cloud point in *Stepan*—in the present case.

Fifth, as to overrun, the claimed range of overrun encompasses percentages of air within the smoothie of up to 50%. This range is large and, given the ingredients (cottage cheese, milk, sweetener, and frozen fruit) and the method of mixing in a home blender, a preponderance of the evidence supports the finding that less than 50% of the smoothie product of Myfitnesspal would be air.

Claim 24

Claim 24 further requires the milling step of claim 21 occur at a pressure between 100 psi and 5,000 psi, a level of pressure not taught by Myfitnesspal, and, thus, the Examiner turns to Berk. Final Act. 8.

The Examiner finds that Berk teaches that there are many types of mixing devices and that the fundamental objective of mixing is to increase the homogeneity of material in bulk and other objectives include changing the texture. Final Act. 8. The Examiner further finds that, according to Berk, homogenization involves the reduction in size of dispersed particles by the action of shearing forces. *Id.* Berk supports the Examiner's findings. Berk §§ 7.1, 7.6.1.

The Examiner's finds, and Appellant does not dispute, that high pressure homogenizers that operate at pressures between about 3,000 psi to about 10,000 psi were known in the art. *Compare* Final Act. 8, *with* Appeal Br. 8, *and* Reply Br. 5. Based on this undisputed finding, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to have used a high pressure homogenizer of the type known in the art to blend the mixture of Myfitnesspal because "doing so would amount to nothing more than using a known mixing device for the intended purpose of obtaining a homogenous mixture wherein the particle size has been reduced to change the texture (i.e. make less gritty and more creamy)." Final Act. 8.

In the Appeal Brief, Appellant's only new argument against the rejection of claim 24 is that Berk provides no motivation to alter the blending conditions of Myfitnesspal. Appeal Br. 8. But Appellant's argument does not address the Examiner's specifically articulated motivation, which is based on using a known device for its known purpose.

Such reasoning is sufficient to support obviousness. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

In the Answer, the Examiner finds that the ordinary artisan is a home cook using a blender. Ans. 11. In the Reply Brief, Appellant contends that this finding illustrates an additional reason why claim 24 is patentable: because high pressure homogenizers would not have been within the purview of the home cook using a blender. Reply Br. 5. The problem is that although the home cook is one ordinary artisan that can follow a recipe, so too is an industrial food maker. The Examiner’s evidence supports a finding that high pressure homogenizers, which operate at pressures of 3,000 to 10,000 psi, a range overlapping the 100 to 5,000 psi range of claim 24, were known in the art for blending to obtain a homogeneous mixture. A preponderance of the evidence supports the Examiner’s obviousness conclusion.

CONCLUSION

The Examiner’s decision to reject claims 1–24 is AFFIRMED.

DECISION SUMMARY

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-23	103	Myfitnesspal, Engelen, Darigold, Bakshi, USDA	1-23	
24	103	Myfitnesspal, Engelen, Darigold, Bakshi, USDA, Berk	24	
Overall Outcome			1-24	

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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED