Filed: June 1, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTIF FOODWORKS, INC.,
Petitioner,

v.

IMPOSSIBLE FOODS, INC.,
Patent Owner.

Case IPR2023-00206
Patent No. 9,943,096

PATENT OWNER IMPOSSIBLE FOODS'
MOTION PURSUANT TO BOARD ORDER

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I. INTRODUCTION

The Board granted Patent Owner Impossible Foods' motion for leave to file a request for a certificate of correction to correct the priority claim for each of the challenged patents in IPR2023-00206, IPR2023-00207, IPR2023-00208, and IPR2023-00209. *See* Paper 15. In granting Impossible Foods' motion, the Board authorized the parties to file a brief "to address the effect, if any, on the present proceedings of Patent Owner's requested corrections to the challenged patents, particularly whether the challenged claims are entitled to claim the benefit of the filing date of the '069 application, Brown, and the '205 provisional, as well as what the earliest effective filing date properly should be." *Id.*, 8.

As explained more below, for two of the four challenged patents, U.S. Patent No. 11,013,250 (the "'250 patent") and U.S. Patent No. 10,039,306 (the "'306 patent"), a correction to both patents' priority chain is not related to the issues raised by Petitioner in the relevant proceedings, and thus, the Board need not address the challenged claims' earliest effective filing date in order to reach a decision on institution. For the remaining two patents, U.S. Patent No. 9,943,096 (the "'096 patent") and U.S. Patent No. 11,224,241 (the "'241 patent"), while it is Impossible Foods' position that Petitioner has failed to show that Brown discloses each of the elements of the challenged claims, to the extent the Board adopts Petitioner's logic on why Brown discloses the elements and therefore anticipatory

or obvious to the ’096 and ’241 patents, then Brown must also provide written description support for those same elements. In this event, the challenged claims would be entitled to claim the benefit of the filing date of at least Brown, and thus, Brown would not qualify as prior art to the challenged claims.

II. EFFECT OF CORRECTED PRIORITY ON IPR2023-00208 AND IPR2023-00209

As noted in its motion seeking leave to file a request for a certificate of correction, claims to the benefit of the filing date of U.S. Provisional Application 61/671,069 (the “’069 provisional,” EX2012), International Application PCT/US2012/046560 (“Brown,” EX1012), and U.S. Provisional Application 61/572,205 (the “’205 provisional,” EX1161) were unintentionally omitted from the priority claim of each of the challenged patents, and Impossible Foods sought to correct this unintentional omission for all affected patents and patent applications, including the four patents currently subject to an IPR. Paper 9, 1-3.

For the patents involved in IPR2023-00208 and IPR2023-00209, the ’250 and ’306 patents, respectively, a corrected priority claim is not related to the grounds raised by Petitioner in the proceedings. Petitioner did not raise a priority challenge in its petitions against the ’250 and ’306 patents. *See* IPR2023-00208 Pet., 7-8; IPR2023-00209 Pet., 7-9. Moreover, neither of the petitions against the ’250 and ’306 patents in these proceedings relies on Brown as part of an asserted ground and the references that are asserted as part of a ground all predate the

earliest priority date, July 12, 2011, that Impossible Foods seeks to correct. *See* IPR2023-00208 Pet., 10; IPR2023-00209 Pet., 12; Paper 9, 8.

Thus, regardless of what the earliest effective filing date of the challenged claims for the ’250 and ’306 patents may be, Petitioner’s grounds will be unaffected, and the Board need not determine the earliest effective filing date for these claims in order to reach a decision on the merits of Petitioner’s grounds. *See* Paper 11, 9-10 (Petitioner asserting correction will affect only grounds raised in IPR2023-00206 and IPR2023-00207 and requesting briefing only with respect to the ’096 and ’241 patents); *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1305 n.4 (Fed. Cir. 2008) (“There would be no reason for the PTO to undertake what could be a very time consuming written description analysis simply to pronounce the effective filing date of each claim, absent some dispute over it during prosecution.”).

III. EFFECT OF CORRECTED PRIORITY ON IPR2023-00206 AND IPR2023-00207

For IPR2023-00206 and IPR2023-00207, a corrected priority chain for the ’096 and ’241 patents, if granted, is relevant to some of the grounds asserted by Petitioner. In both IPR2023-00206 and IPR2023-00207, Petitioner asserts, *inter alia*, that the subject matter of certain challenged claims of the ’096 and ’241 patents are disclosed by Brown. *See* IPR2023-00206 Pet., 13; IPR2023-00207 Pet., 22. As described below, if Petitioner’s impermissible reading of the

challenged claims and application of Brown is applied, then Brown would also provide written description support and priority for the same challenged claims.

A. The Challenged Claims in IPR2023-00206

In IPR2023-00206, Petitioner asserts that claims 1-5, 7-9, 23, and 24 are anticipated by Brown. Pet., 13. Petitioner also asserts that claims 1-12, 14-17, and 20-24 are rendered obvious over Giacino and Brown, and claims 18-19 are rendered obvious over Giacino, Brown, and MacLeod. *Id.*, 14.

To be clear, Impossible Foods simply seeks to correct the ’096 patent’s priority claim in order to complete reference to prior-filed applications that were unintentionally omitted in the ’096 patent’s priority claim, but were included in the ’211 application already referenced in the priority claim. This includes Brown, of which the ’211 application claims the benefit of filing as a continuation-in-part. *See* Paper 9, 1-2. Impossible Foods maintains its position set forth in its preliminary response that if Brown were to be considered prior art, it fails to anticipate the subject matter of the challenged claims of the ’096 patent because Petitioner relies on an erroneous interpretation of a “food flavor additive composition” as recited in the challenged claims. *See* POPR, 4-9, 11-12. As such, under the correct interpretation of the claimed subject matter, Brown, as a continuation-in-part and as a non-anticipatory reference, does not disclose the elements of the challenged claims.

Nevertheless, Petitioner advances the erroneous position that a "food flavor additive composition" covers "meat substitutes that are end products *directly* consumed by the consumer (not just additives to meat substitutes)." *See* Pet., 11-12 (original emphasis). Petitioner also argues that a claimed compound is disclosed simply through the disclosure of an ingredient (*e.g.*, pea flour) that may contain the claimed compound as a subcomponent. *See* Pet., 12, 22-23. If Petitioner's logic is applied, then Brown in fact provides written description support for the challenged claims because it discloses meat substitute products that may include ingredients having the claimed compounds as subcomponents, and thus, with the corrected claim of priority, is not prior art.

For instance, under Petitioner's theory, Brown's muscle replica, and even its meat substitute products more broadly, provide written description for a "food flavor additive composition" as recited in the preamble of independent claim 1. *See* Pet., 11-12, 20-22; EX1012, Abstract, [00364]. Further, as Petitioner advances, Brown discloses that the product can contain "an isolated heme-containing protein" as claimed in element 1[a]. Pet., 22 (citing EX1012, [00364], [00376]-[00377], [00380]-[00381]).

Brown also describes that its meat substitute products can contain ingredients that include the sugar compounds recited in element 1[b]. For example, Petitioner relies on Brown's use of glucose in its muscle replica. Pet., 22

(citing EX1012, [00364]). Glucose, fructose, glucose-6-phosphate, and maltose are also sugars present in plant-based ingredients,[1] including pea flour disclosed in Brown, which contains the sugars maltose, glucose, and fructose as supported by the evidence made of record by Petitioner. EX1012, [00364]; EX1106, 2 (USDA food data for peas); *see also* Pet., 22-23 (relying on EX1106 for disclosure of claimed sulfur-containing compounds). Further, glucose, glucose-6-phosphate, ribose, and fructose are also sugars present in meat (*see* EX1026, 499 (Table 3), 503, 517), and Brown describes the use of such sugars from both plants and meat to produce meat-like flavors. EX1012, [00362] ("[I]n some embodiments, the characteristic flavor and fragrance components are mostly produced during the cooking process by chemical reactions involving one or more amino acids, fats, peptides, nucleotides, organic acids, sulfur compounds, ***sugars and other carbohydrates found in plants as well as meat***." (emphasis added)). Similarly, according to Petitioner's expert, Dr. McGorrin, ribose is also included in Brown's description as a nucleotide for inclusion in its meat substitute products.[2] *See* EX1012, [00362]; EX1005, ¶51 (stating "nucleotides are potential sources of

[1] https://onlinelibrary.wiley.com/doi/10.1111/pbi.12002.

[2] Ribose is also present in pea flour. *See* https://pubag.nal.usda.gov /download/40052/pdf (Table 2).

reducing sugars, in particular free ribose and ribose phosphate—well-known Maillard reaction participants").

Further applying Petitioner's logic, Brown discloses additional ingredients that contain sugar compounds recited in the challenged claims. For example, Brown discloses the inclusion of starches, such as cornstarch, in its products. *See, e.g.*, EX1012, [00308], [00321], [00332]. Maltodextrin, which is "comprised of chains of glucose units" (EX1005, ¶64), is commonly produced from plant starches, such as cornstarch. EX1057, 106 ("Maltodextrins are generally produced from starch by partial hydrolysis"). Brown further describes the inclusion of guar gum and locust bean gum, which contain galactose as a subcomponent,[3] and the inclusion of pectin, which contains arabinose, xylose, and galactose as subcomponents.[4] *Id.*, [00308], [00321], [00332]; EX1071, 4441, FIG. 2 (sugars galactose, arabinose, and xylose are contained in pectin). Brown also discloses the use of various plant sources, including "beans such as . . . mung beans, pinto beans, lentils" and others. EX1012, [0300]. Legumes, such as pinto beans, mung beans

[3] https://www.fao.org/3/at962e/at962e.pdf (guar gum); https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3425165/ (locust bean gum).

[4] https://openbiotechnologyjournal.com/contents/volumes/V3/TOBIOTJ-3-9/TOBIOTJ-3-9.pdf (pectin).

and fava beans, contain sugars such as glucose and galactose,[5] which are components of the sugar lactose. *See* EX1136, 73.

Brown also describes the remaining limitations of claim 1 under Petitioner's logic. According to Petitioner, Brown's pea flour contains the claimed sulfur compounds of element 1[c]. Pet., 12, 20, 22-23 (Brown's pea flour contains cysteine, cystine, thiamine, and methionine) (citing EX1050/EX1059, 39, Table 2, 41; EX1057, 86, Table 2; EX1106, 3, 6-7); *see also* EX1057, 85 (pea flour contains cysteine and methionine). Also, per Petitioner, Brown describes that its products "contain[] no animal products" (element 1[d]) and "result[] in the production of at least two volatile compounds which have a meat-associated aroma" (element 1[e]). *Id.*, 23. Thus, applying Petitioner's logic, Brown provides written description support for the subject matter claimed in claim 1 of the '096 patent and, with a corrected priority claim, the challenged claims would be entitled to the benefit of Brown's filing date. And, for similar reasons, Brown provides support for the dependent claims that Petitioner asserts are disclosed by Brown. *See id.*, 24-26.

[5] https://www.cerealsgrains.org/publications/cc/backissues/1979/Documents/chem56_45.pdf (legume flours).

Support for the claimed subject matter also continues through the corrected priority chain. Petitioner does not dispute that written description support for the challenged claims exists through the chain to the ’634 provisional, which includes the PCT application that claims the benefit of filing to the ’211 application. *See id.*, 7 n.6; EX1001, (63). Further, to the extent Petitioner contends that the ’211 application (and its ’069 provisional) fails to provide written description support for the claimed subject matter, the ’211 application (and its ’069 provisional) describe meat substitute products containing the same ingredients described above for Brown. *See* EX1161, [00300], [00308], [00321], [00332], [00362], [00364], [00376]-[00377], [00380]-[00381]; EX2012, [00300], [00308], [00321], [00332], [00362], [00364], [00376]-[00377], [00380]-[00381]. Thus, as with Brown, the ’211 application (and its ’069 provisional) also provide written description support for the claims under Petitioner’s reasoning.

Accordingly, applying Petitioner’s approach to the claimed subject matter, the challenged claims are supported by the description in Brown and therefore are entitled to the benefit of the filing date of at least Brown’s filing date of July 12, 2012. Therefore, Brown is disqualified as prior art. As a result, to the extent Petitioner relies on Brown for disclosing the subject matter of the challenged claims of the ’096 patent, Brown cannot be applied as prior art.

B. The Challenged Claims in IPR2023-00207

In IPR2023-00207, Petitioner challenges claims 1-23 of the ’241 patent based on obviousness grounds that apply Brown as a primary reference. IPR2023-00207 Pet., 22. More specifically, Petitioner contends that Brown discloses the elements of independent claims 1 and 22 based on the theory that certain claim limitations (*e.g.*, claimed weight percentage of the heme-containing protein and claimed concentration of a sulfur-containing compound) are not entitled to any patentable weight. *Id.*, 18-21, 27-29. In addition, Petitioner asserts that Brown discloses the elements of the claims based on Brown’s disclosure of an ingredient (*i.e.*, pea flour) as satisfying two separate elements of the claims (*i.e.*, one or more plant proteins and a sulfur-containing compound). *Id.*, 21-22, 28-29. In this respect, Impossible Foods maintains the arguments raised in its preliminary response—specifically, that the express limitations of the challenged claims do have patentable weight and Petitioner’s reliance on Brown’s pea flour to satisfy two separate claims elements is improper, and thus Petitioner failed to show that Brown discloses the subject matter of the challenged claims. POPR, 5-12, 15-17.

Nevertheless, like with the ’096 patent, under Petitioner’s logic that disclosure of an ingredient also supports disclosure of any subcomponents that may be present in that ingredient, Brown provides written description support for the challenged claims for the same reasons described above. In particular, the claims

of the ’241 patent recite substantially the same sugar compounds as those recited in the ’096 patent (*i.e.*, glucose, ribose, fructose, lactose, xylose, arabinose, glucose-6-phosphate, maltose, and galactose) and the same sulfur-containing compounds as those claimed by the ’096 patent (*i.e.*, cysteine, cystine, thiamine, and methionine). Thus, for the same reasons outlined above, Brown provides written description support for the challenged claims under Petitioner’s theory, and as such, the earliest effective filing date for the challenged claims of the ’241 patent is at least July 12, 2012, and Brown fails to be prior art.

IV. CONCLUSION

Patent Owner Impossible Foods merely seeks to complete the priority chain for the challenged patents by referencing prior-filed applications that were unintentionally omitted. Impossible Foods maintains that Petitioner’s application of Brown to the challenged claims relies on erroneous and impermissible interpretations of the claims. Nevertheless, to the extent Petitioner’s expansive approach to Brown’s disclosure is applied, its disclosure also provides written description support to the challenged claims and thus fails to qualify as prior art.

Respectfully submitted,

Date: June 1, 2023

/ Michael T. Rosato /
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CERTIFICATE OF SERVICE

I certify that this paper was served on this 1st day of June, 2023, on the Petitioner at the following electronic service addresses:

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