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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KUIDE QIN and RAYMOND E. BOUCHER JR.¹

Appeal 2018-000731
Application 12/653,987
Technology Center 1600

Before JEFFREY N. FREDMAN, DEBORAH KATZ, and JOHN G. NEW,
Administrative Patent Judges.

NEW, *Administrative Patent Judge.*

DECISION ON APPEAL

¹ According to Appellants, the real party in interest is Dow AgroSciences LLC (Appeal Br. 3).

SUMMARY

Appellants file this appeal under 35 U.S.C. § 134(a) from the Examiner’s Final Rejection of claims 1–6, 9, 11, and 16–18 as unpatentable under 35 U.S.C. § 103(a) as being obvious over Loso et al. (US 7,687,634 B2, March 30, 2010) (“Loso”), Babcock (US 2009/0023782 A1, January 22, 2009) (“Babcock”), Huang et al. (US 2007/0299264 A1, December 27, 2007)² (“Huang”), Ballany et al. (WO 84/00095, January 19, 1984) (“Ballany”), Lojek et al. (US 6,586,470 B1, July 1, 2003) (“Lojek”), and Siegler et al. (US 1,589,866, June 22, 1926) (“Siegler”).³

Claims 1–6, 9, 11, and 16–18 also stand rejected under the nonstatutory doctrine of obviousness-type double patenting as being obvious over claims 1–5 of Loso and Ballany.

We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

² The Examiner interchangeably cites the PCT Publication of Huang et al. (WO 2007/149134 A1, December 27, 2007).

³ The Examiner also rejected claims 1–6, 9, 11, and 16–18 as unpatentable under 35 U.S.C. § 103(a) as being obvious over Babcock and as unpatentable under the non-statutory doctrine of obviousness-type double patenting over claims 1–5 of US 8,178,500 B2 (May 15, 2012) (the “500 patent”) and Ballany. Final Act. 9, 17. The Examiner has withdrawn these rejections. Ans. 2.

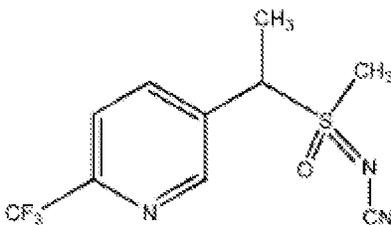
NATURE OF THE CLAIMED INVENTION

Appellants' invention is directed to insect-controlling compositions containing a sulfoximine compound (*e.g.* sulfoxaflor) and stabilizing amount of an organic acid. Abstr.

REPRESENTATIVE CLAIM

Claim 11 is representative of the claims on appeal and recites:⁴

11. A composition, comprising:
a compound having the following structure:



and an organic acid or a salt thereof in an amount effective for promoting stereochemical stability of the compound,

wherein the organic acid is selected from the group consisting of citric acid, phthalic acid, malic acid, tartaric acid, maleic acid, malonic acid, lactic acid and succinic acid.

ISSUES AND ANALYSIS

We adopt the Examiner's findings and conclusions that Appellants' claims are *prima facie* obvious over the cited prior art under both §103(a)

⁴ Independent claim 1 recites sulfoximine compounds of formula (I) which encompass the specific compound of claim 11, commonly known as sulfoxaflor. *See* Spec. 14.

and the nonstatutory doctrine of obviousness-type double patenting. We address the arguments raised by Appellants on appeal below.

Issue 1

Appellants argue that the Examiner erred by failing to establish *prima facie* obviousness as there is no reason for a person of skill in the art to combine the cited references. *See* App. Br. 16, 18, 20.

Analysis

The Examiner finds that a person of skill in the art would have been motivated to combine the prior art insecticidal compounds and acids to make stable compositions with improved insect control. *See* Final Act. 9. The Examiner concludes that it would have been *prima facie* obvious to a person of ordinary skill in the art to combine two compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition that is to be used for that very same purpose. *Id.* Specifically, the Examiner finds that the idea of combining the references flows logically from their having been individually taught in the prior art. *Id.* (citing *In re Kerkhoven*, 626 F.2d 846, 850 (C.C.P.A. 1980)).

Appellants argue that a person of ordinary skill in the art would have had no basis to modify Loso, Huang, and Babcock (“the primary references”) with citric acid or malic acid, as taught by Lojek, in order to provide composition with additional insecticidal activity. App. Br. 20. Specifically, Appellants assert that Lojek teaches that citric acid alone exhibits “meager” insecticidal properties and does not teach that malic acid exhibits any insecticidal properties. *Id.* As such, Appellants argue that there

is no “basis for narrowing potential modifications to the primary references” with citric or malic acid from “an almost infinite number of other insecticidal compounds.” *Id.*

Appellants argue that Ballany is limited to preventing the decomposition of cypermethrin in the presence of levamisole with an organic acid. App. Br. 15–16 (citing Ballany 8). Appellants contend that Ballany does not indicate that an organic acid will prevent decomposition of any other compound in any other setting and therefore, a person skilled in the art would not seek to modify the primary references with Ballany. *See* App. Br. 16.

Appellants argue that Siegler “does not teach that succinic acid exhibits any insecticidal properties.” App. Br. 17. Appellants assert that Siegler teaches monobasic aliphatic acids containing more than five carbons as insecticidal compounds, and instead merely lists succinic acid as an example of a polybasic acid. App. Br. 17–18 (citing Siegler, col. 1, ll. 55–63). Therefore, Appellants argue, Siegler provides no basis for modifying the primary references to include succinic acid. App. Br. 18.

We are not persuaded by Appellants’ arguments regarding the prior art combination.⁵ The primary references teach combining insecticide compositions containing compounds of formula (I), including sulfoxaflor, with other insecticides. *See* Final Act. 6 (citing Loso col. 45, ll. 44–53).

⁵ We agree with Appellants that Siegler does not teach the use of succinic acid as an insecticidal compound. Instead, Siegler lists succinic acid as an example of a “polybasic acid” in contrast with insecticidal monobasic fatty acids. *See* Siegler, col. 1, ll. 26–63, col. 2, ll. 25–39.

Lojek teaches insecticidal combinations of acetic acid with at least one of citric and malic acid. Appellants highlight Lojek's sample 19 for indicating citric acid alone is a poor insecticide for controlling corn root worms. *See* App Br. 20. However, when viewed as a whole, Lojek teaches that the combination of acetic acid and citric acid are effective insecticides, specifically against aphids. *See* Lojek col. 5–6, Examples III, V. Likewise, Lojek's Example VII specifically teaches the insecticidal effectiveness of acetic acid and malic acid against aphids. *See* Lojek, col. 6, Example VII. As noted by the Examiner, the primary references teach that the compounds of formula (I) are effective at controlling aphids. Final Act. 6. Because both the primary references' compositions and Lojek's compositions are useful for the same purpose, *e.g.* as an insecticide to control aphids, we agree with the Examiner that it would have been obvious to combine the compositions to create a third composition containing sulfoxaflor in combination with acetic and citric or malic acid. "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. . . . [T]he idea of combining them flows logically from their having been individually taught in the prior art." *Kerkhoven*, 626 F.2d at 850.

Appellants argue that Lojek does not teach the effectiveness of citric acid or malic acid in the absence of acetic acid. *See* App. Br. 20. However, Appellants' claims recite the transition "comprising" which does not exclude additional, unrecited elements, such as acetic acid, in addition to citric and/or malic acid. *See Crystal Semiconductor Corp. v. Tri Tech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001).

Therefore, the prior art teachings are not limited to compositions containing citric acid or malic acid alone.

As to the combination including Ballany, the primary references list cypermethrin as a specific pesticide that can be combined with the compounds of formula (I). *See* Loso col. 47, ll. 63; Huang ¶ 130; Babcock ¶ 146. Moreover, Babcock further teaches using organic acid preservative agents for preventing spoilage. Final Act. 12 (citing Babcock ¶ 198); Ans. 7. Taken together, the references teach that organic acids, including citric acid, are known stabilizing agents for insecticides that may be used in combination with sulfoxaflor.

Appellants further argue that the Examiner has relied on impermissible hindsight reasoning. App. Br. 20. However, Appellants point to no evidence that any claim limitation could have been gleaned only by using knowledge obtained from Appellants' Specification, and not from the teachings of the cited prior art. *See In re McLaughlin*, 443, F.2d 1392, 1395 (C.C.P.A. 1971). Rather, Appellants' allegation of hindsight reasoning is unsupported by any evidence of record. We accord such arguments little probative weight. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (holding that attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value). In the absence of any evidence of hindsight reasoning, we agree with the Examiner's conclusion that the claims would have been *prima facie* obvious to a person of ordinary skill in the art in order to make stable compositions with improved insect control.

Issue 2

Appellants argue that the claimed subject matter yields unexpected results that would overcome a finding of *prima facie* obviousness. App. Br. 13–14.

Analysis

Appellants argue that the “[S]pecification describes the surprising discovery that the addition of an organic acid or salt thereof to a composition which includes a compound according to formula (I) provides a stabilizing effect between stereoisomers of the compound.” App. Br. 13. Appellants point to Example X on pages 50–52 of the Specification that exemplifies the stereochemical stabilization of sulfoxaflor in the presence of the claimed organic acids. *Id.* Appellants summarize their results as follows:

[A]fter initial synthesis of sulfoxaflor, the first and second diastereomer groups are present in an approximate 1:2 mixture (see, page 42, lines 6-8). Table 2 on page 50 shows that after two weeks storage at 54 °C there is only 1.5% of the second diastereomer group and 98.5% of the first diastereomer group; *i.e.*, almost all of the second diastereomer group has converted to the first diastereomer group. In contrast, Table 5 illustrates that the presence of an organic acid or a salt thereof identified in independent claim 1 results in the prevention or substantial prevention of conversion of the second group of diastereomers to the first group of diastereomers since after two weeks storage at 54 °C the first and second diastereomer groups are still generally present in an approximate 1:2 mixture.

App. Br. 14 (citing Spec. 42, 50–52).

Appellants argue “the subject matter of independent claim 1 yields results which are not expected based on the cited references so any

purported case of obviousness would be obviated by these results.” App. Br. 17.

We are not persuaded by Appellants’ arguments and evidence with respect to the allegedly unexpected results. We agree that the Specification provides evidence of improved stability of sulfoxaflor diastereomers when combined with the claimed organic acids. However, claim 1 is much broader in scope and encompasses compounds that would not necessarily include the stereochemical configuration stabilized by the claimed acids. In other words, as identified by the Examiner, the data in the specification is not commensurate with the scope of claims. *See* Final Act. 14; *see also* Ans. 19, (*citing In re Harris*, 409 F.3d 1339, 1344 (Fed. Cir. 2005)). Therefore, we find that even if the results were unexpected, they would not be sufficient to support the patentability of claim 1 and its dependent claims.

Unlike claim 1, claim 11 specifically recites sulfoxaflor used in the stability test. However, in order to overcome *prima facie* obviousness, the evidence must show both substantially improved and unexpected results. *See In re Soni*, 54 F.3d 746, 751 (Fed. Cir. 1995). As discussed below, we find that Appellants do not provide persuasive evidence of either requirement.

Appellants argue that the Specification teaches liquid forms of pesticide compositions can solidify and impede application as the result of instabilities in the compositions. *See* App. Br. 6 (*citing* Spec. 2). The Specification also teaches that physical and chemical instabilities may lead to a reduction in pesticidal activity of a composition. Spec. 2, ll. 5–9. However, these statements apply to insecticide formulations generally and do not appear to have any particular connection to sulfoxaflor. The test

results show that the claimed organic acids stabilize the initial sulfoxaflozole diastereomeric ratio when exposed to high temperatures. However, there is no evidence that this is a substantial improvement over a composition which contains 98.5% of the A diastereomeric group. *See Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1371 (Fed. Cir. 2007) (“Creating a product or process that is more desirable ... to enhance commercial opportunities ... is universal—and even common-sensical”).

Likewise, the Specification states that the stabilization with organic acids was “surprising.” Spec. p. 42, ll. 14–16. However, the record is devoid of any evidence of what the skilled artisan would have expected. *See Pfizer*, 480 F.3d at 1371. Appellants did not offer evidence of unexpected results in the form of a statement to that effect from the inventors or any third party, or any objective evidence from a respected third source. *See In re Geisler*, 116 F.3d at 1470. In the absence of any such evidence, we are not persuaded that the results of the stability testing were unexpected. Because Appellants do not provide persuasive evidence of substantially improved and unexpected results, we do not find the evidence sufficient to overcome the Examiner’s determination of *prima facie* obviousness.

Appellants do not argue the dependent claims separately, relying on their arguments for claims 1 and 11. We consequently affirm the Examiner’s rejection of claims 1–6, 9, 11, and 16–18.

Issue 3

Claims 1–6, 9, 11, and 16–18 also stand rejected under the non-statutory doctrine of obviousness-type double patenting over claims 1–5 of Loso and Ballany. Ans. 4.

Appellants make no argument with respect to this rejection. *See, e.g.*, App. Br. 9. We consequently summarily affirm the Examiner's rejection of claims 1–6, 9, 11, and 16–18. *See* 37 C.F.R. § 41.37(c)(iv) (“[A]ny arguments or authorities not included in the appeal brief will be refused consideration by the Board for purposes of the present appeal”).

DECISION

The Examiner’s rejection of claims 1–6, 9, 11, and 16–18 under 35 U.S.C. § 103(a) is affirmed.

The Examiner’s rejection of claims 1–6, 11, and 16–18 under the non-statutory doctrine of obviousness-type double patenting is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED