UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/790,794	07/02/2015	Stephen Davison	035216.54797	8703

104982 7590 02/01/2019

Waller Lansden Dortch & Davis, LLP
511 Union Street
Suite 2700
Nashville, TN 37219

EXAMINER
KASSA, TIGABU

ART UNIT	PAPER NUMBER
1619	

NOTIFICATION DATE	DELIVERY MODE
02/01/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@wallerlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEPHEN DAVISON and CORY S. HAMMOCK

Appeal 2018-000789
Application 14/790,794
Technology Center 1600

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

KATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] seek our review, under 35 U.S.C. § 134(a), of the Examiner's decision to reject claims 1–7 and 11–18. (*See* Appeal Brief, filed May 8, 2017 ("App. Br.") 4–6.) We have jurisdiction under 35 U.S.C. § 6(b). We reverse and enter a new ground of rejection.

---

[1] Appellants report that the real party-in-interest is Clean Control Corporation. (App. Br. 2.)

Appellants' invention is directed to reducing the perceptible odor of the insect repellent Picaridin [2-(2-hydroxyethyl)-1-piperidine carboxylic acid 1-methylpropyl ester] by co-applying the compound with the odor-reducer zinc ricinoleate. (*See* Abstract.) Appellants report that zinc ricinoleate reduces the odor of Picaridin without reducing its effectiveness as an insect repellent. (*See* Specification ("Spec.") ¶ 11.)

Appellants' claim 1 recites:

> A method for reducing the perceptible odor of a Picaridin insect repellent composition, comprising:
>
> applying the Picaridin insect repellent composition to an area of a substrate; and
>
> applying zinc ricinoleate to the area of the substrate.

(App. Br. 18, Claims App'x.)

Like independent claim 1, Appellants' independent claim 11 recites reducing the perceptible odor of a Picaridin insect repellent composition by applying Picaridin and zinc ricinoleate to a substrate, but further includes a concentration range of zinc ricinolate and an amount range of both compounds. (App. Br. 18–19, Claims App'x.)

The Examiner rejected claims 1–7 and 11–18 under 35 U.S.C. § 103 over Sweeney,[2] Conte,[3] and Lawshe.[4] (*See* Ans. 2.)

Findings of Fact

1. Sweeney teaches Picaridin-based insect repellents (20% cream and 20% spray) provide a high degree of repellency against tick species. (*See* Sweeney 1, 5.)

2. Sweeney teaches "[f]or the spray product each subject received 0.97 µl/cm^2 of product" and "[f]or the cream product, the volumetric dose rate was 1.94 µl/cm^2." (Sweeney 2.)

3. Conte teaches a water-based insect repellent spray containing Picaridin as the active ingredient. (*See* Conte 176–177.)

4. Conte teaches the initial iterations of the Picaridin containing spray were not satisfactory due to the "too strong scent of Picaridin," and "[t]he scent was not pleasant since the Picaridin odor was still dominant." (*See* Conte, Table 6, 179–180.)

5. Conte teaches solving Picaridin's scent problem by increasing the amount of linalool (fragrance) in combination with Picaridin. (*See* Conte 180–181 ("Only the 4% linalool prototype showed a satisfactory scent after the evaporation of the solvent mixture.").)

---

[2] Memorandum from Kevin J. Sweeney, Senior Entomologist, Insecticides Branch EPA, to Marion Johnson, Chief, Insecticides Branch EPA (May 24, 2010).
[3] Conte et al., *Design of Formulated Products: Experimental Component*, 58 AIChE J. 173–189 (2012).
[4] Lawshe et al., WO 2007/053790 A1, published May 10, 2007.

6. Lawshe teaches applying zinc ricinoleate and a cationic softener on a non-woven substrate to provide a fabric softener dryer sheet that softens fabrics, is stable, and effectively controls malodor. (*See* Lawshe 2:18–23.)

7. Lawshe teaches "[z]inc ricinoleate controls malodors selectively through a chemical binding of low molecular weight organic compounds containing the osmogene functional groups. On the other hand, zinc ricinoleate generally has no effect on carbonylic groups, such as aldehydes and ketones, which comprise typical perfume and fragrance components." (Lawshe 4:8–12.)

8. Lawshe teaches

> zinc ricinoleate may stably complex with malodor molecules. . . . the zinc acts as a catalyst to bind the malodor molecules, complexing it with the fatty acid side chains of the zinc ricinoleate molecule. In this way, the zinc ricinoleate neutralizes the malodors—that is, it reduces the level of undesirable malodors available for human perception.

(Lawshe 4:13–19.)

9. Lawshe teaches

> The activation of zinc ricinoleate is typically achieved by solubilizing the compound prior to deposition onto the non-woven substrate. . . . [O]nce combined with a liquid cationic surfactant, the reaction sites on the zinc atoms are available to form bonds with nitrogen and sulfur atoms thereby bonding with the malodor.

(Lawshe 4:30–5:5.)

Analysis

The Examiner determines that it would have been obvious for one of ordinary skill in the art to incorporate zinc ricinoleate in the Picaridin of Sweeney[5] because Lawshe teaches applying zinc ricinoleate onto a substrate to reduce malodors. (*See* Final Act. 7, citing Lawshe Abstract.) The Examiner finds that one of ordinary skill in the art would have been motivated to add zinc ricinoleate as an odor reducing agent by following Conte's methodology for the design and verification of chemical-based products. (*Id.*) According to the Examiner, Conte shows that "one of ordinary skill in the art will recognize that [Sweeney's] picaridin has an unpleasant odor and based on that knowledge would look to reduce or remove that bad odor utilizing for instance the knowledge provided by Lawshe et al. [that] zinc ricinoleate can remove or reduce malodor." (Ans. 7.) As such, the Examiner finds "[a]n ordinary skilled artisan would have had a reasonable chance of success" in combining the teachings of Sweeney, Lawshe, and Conte, because Sweeney and Conte teach Picaridin while zinc ricinoleate is used for odor control. (*See id.*)

Appellants argue "that one of ordinary skill in the art would not have expected zinc ricinoleate to successfully reduce the odor of Picaridin, a relatively large molecule, or at least, would not have expected zinc ricinoleate to do so without destroying the insect repellent properties of Picaridin." (App. Br. 10.) Appellants base this argument on the teaching of Lawshe that zinc ricinoleate works on low molecular weight organic

[5] The Examiner refers to Sweeney as Carroll in the Final Rejection. (*See* Examiner's Answer mailed September 6, 2017 ("Ans.") 2).

compounds by binding to and forming a stable complex with the malodor molecule. (App. Br. 8, citing Lawshe 4.) Appellants further cite to Flexicare[6] and Kuhn[7] for supporting their argument that "even if zinc ricinoleate did reduce the odor of Picaridin, it would do so by trapping or inactivating the molecule and thereby destroying its insect repellent characteristics." (App. Br. 9.)

The Examiner responds that Lawshe teaches zinc ricinoleate controls malodors selectively through a chemical binding of low molecular weight organic compounds containing osmogene functional groups. (Ans. 4.) As to the combination of the art, the Examiner finds that the teachings are "drawn to the malodor causing molecules within a given compound . . . not [] to the release or activity of the total compound." (Ans. 5.)

We agree with Appellants that the Examiner has not shown a reason to combine the references in the cited prior art with a reasonable expectation of success in the combination. *See In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991) ("[b]oth the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure").

Conte teaches the problem of the unpleasant scent of Picaridin in spray formulations. (FF 4.) Conte solves this problem by increasing the amount of linalool fragrance. (FF 5.) Appellants argue that even though one of ordinary skill in the art reading Conte might have thought to include a

---

[6] Innovative Chemical Tech., Inc., Technical Data Sheet Flexicare™ ZR-P.
[7] Kuhn et al., *Mechanism of the Odor-Absorption Effect of Zinc Ricinoleate. A Molecular Dynamics Computer Simulation*, 3 J. Surfactants and Detergents 335–343 (2000).

fragrance to mask Picaridin's odor, there would not have been a reason to try something entirely different, like zinc ricinoleate. (App. Br. 12.)

We are persuaded by Appellants' argument because the Examiner has not shown that a person of ordinary skill in the art would have sought to reduce the odor of Picaridin rather than mask the odor with additional fragrance. Rather than substitute one element for another known in the field, the Examiner substitutes one element, a fragrance, for a different functional compound, an odor reducer. *Cf. KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). Furthermore, Lawshe teaches using zinc ricinoleate on a very different type of product (dryer sheets) from the Picaridin solutions taught in Sweeney and Conte.

The Examiner argues that "Conte is merely included in the rejection to show [] why one of ordinary skill in the art will recognize that Sweeney's picaridin has an unpleasant odor. . . ." (Ans. 7.) However, Conte must be considered as a whole. It is impermissible to pick and choose from any one reference only so much of it that supports a given position, to the exclusion of other parts necessary to the full appreciation of what the reference suggests. *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986). Because Conte teaches both the problem of Picaridin's scent and the solution of increasing the amount of fragrance to overpower the scent and Lawshe relates to a different mechanism for reducing odors, used in a very different product, we find that the prior art cited by the Examiner does not provide a reason to combine Picaridin with an odor reducing compound.

Accordingly, we agree with Appellants that the Examiner erred in rejecting claims 1 and 11.

New Ground of Rejection

We here enter a new ground of rejection. We reject independent claims 1 and 11 under 35 U.S.C. § 103 as obvious over Sweeney, Conte, Lawshe, and Parekh.[8]

As we explained above, Sweeney and Conte teach Picaridin is a known insect repellent with an unpleasant smell that a person of ordinary skill in the art would have addressed when preparing Picaridin formulations.

Findings of Fact

10. Parekh teaches a process for reducing a malodor emanating from a solid or liquid malodorous source including an insect repellent composition by providing a counteracting quantity and concentration of a zinc ricinoleate-containing composition. (Parekh claims 1, 9, and 13, ¶ 37.)

11. Parekh teaches that the zinc ricinoleate compositions may include compatible functional compositions including insect repellents and fragrance components. (Parekh ¶¶ 41, 64, 76.)

Analysis

Parekh teaches that zinc ricinoleate reduces malodors emanating from an insect repellent and that zinc ricinoleate is compatible with insect repellents and fragrances. (FF 11–12.) Therefore, given the problem of the Picaridin of Sweeney having an unpleasant scent as taught in Conte, one of ordinary skill in the art would have had reason to look to Parekh for the solution of using zinc ricinoleate to reduce the perceptible odor of insect repellents, while maintaining their function. Given the success in Parekh

[8] Parekh et al., US 2005/0106192 A1, published May 19, 2005.

with insect repellants in general, the ordinarily skilled artisan would have had a reasonable expectation of success with Picaridin.

Having established prima facie obviousness over the prior art, we examine Appellants' assertion that the claimed method produced unexpected results and acclaim within the industry. (App. Br. 14–15.) Appellants contend that the data presented in Table 1 of the Specification "showed that the combination of Picaridin and zinc ricinoleate was surprisingly more effective than Picaridin alone." (App. Br. 15, citing Spec. ¶ 25) However, in the absence of any data regarding the insect repelling effects of zinc ricinoleate alone, there is no indication that the reported increase is not merely the additive effect of the obvious combination set forth above. As to the reference cited by Appellants for industry acclaim, the document appears to merely indicate that a patent was granted to Appellants and nothing more. Therefore, we find neither of Appellants' submissions to be persuasive evidence of nonobviousness.

We conclude that the combination of Sweeney, Conte, Lawshe, and Parekh teaches all of the elements and limitations of the independent claims and renders the claimed methods obvious. We consequently reject independent claims 1 and 11 under 35 U.S.C. § 103 as being obvious over Sweeney, Conte, Lawshe, and Parekh.

We have entered new grounds for only the independent claims and leave it to the Examiner to evaluate the patentability of the other claims, particularly those individually argued by Appellants, in view this combination with other newly found or previously cited references.

Conclusion

Upon consideration of the record and the reasons given, the rejection of claims 1–7 and 11–18 is not sustained.

Therefore, we reverse the decision of the Examiner.

We have also entered a new ground of rejection for independent claims 1 and 11 pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that "[a] new ground of rejection . . . shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner….
>
> (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record….

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

REVERSED

37 C.F.R. § 41.50(b)