United States Court of Appeals for the Federal Circuit

2006-1542
(Interference No. 105,174)

HENKEL CORPORATION,

Appellant,

v.

THE PROCTER & GAMBLE COMPANY,

Appellee.

Rudolf E. Hutz, Connolly Bove Lodge & Hutz LLP, of Wilmington, Delaware, argued for appellant. With him on the brief were Robert G. McMorrow, Jr., and Aaron R. Ettelman. Of counsel was Mark E. Freeman.

Mark A. Charles, The Procter & Gamble Company, of Cincinnati, Ohio, argued for appellee.

Appealed from: United States Patent and Trademark Office, Board of Patent Appeals and Interferences

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HENKEL CORPORATION,

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THE PROCTER & GAMBLE COMPANY,

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DECIDED: May 11, 2007

Before GAJARSA, LINN, and MOORE, Circuit Judges.

LINN, Circuit Judge.

Henkel Corporation ("Henkel") appeals from a judgment by the United States Patent & Trademark Office Board of Patent Appeals and Interferences ("Board") awarding priority in Interference No. 105,174 to the Procter & Gamble Company ("Proctor & Gamble"). Because the Board legally erred in imposing a requirement for reduction to practice not warranted by the language of the interference count, and because the Board's factual findings support reduction to practice under the correct requirements of the count, we vacate and remand.

I. BACKGROUND

Henkel and Procter & Gamble are competing manufacturers of dishwashing detergent tablets. This appeal concerns detergent tablets that are divided into two regions: a "compressed" region, and a "solidified solution or melt" region, wherein the

compressed region dissolves "at a faster rate" than the solidified region. Henkel Corp. v. Proctor & Gamble Co., Paper No. 115, Patent Interference No. 105,174, slip op. at 1–2 (B.P.A.I. May 3, 2006) ("Interference Opinion"). Procter & Gamble's U.S. Patent No. 6,339,564 (the "'564 patent") and Henkel's U.S. Patent Application Nos. 09/446,434 and 09/446,578 (respectively, the "'434 application" and "'578 application") all claim such tablets, also known as "ring tabs."

A. Henkel's Development of Two-Region Detergent Tablets

As we discuss below, see infra Part I.B, the outcome of this appeal depends on Henkel's activities towards the development of ring tabs prior to Procter & Gamble's priority date of November 26, 1997. The activities relevant to this appeal are summarized as follows.

By April 1997, Dr. Thomas Holderbaum, one of the inventors named on Henkel's applications, had conceived of a melt-filled ring tab and had directed a laboratory technician, Oliver Kurth, to make and test a series of "eighteen melt compositions to be used as a filling." Kurth formulated each composition, tested the physical properties of each, and designated four samples as suitable for testing as a melt filling in a ring tab. Holderbaum then directed another laboratory technician, Thomas Schliwka, to fill ring tabs with one of the melt compositions Kurth had identified. In a declaration submitted to the Board, Holderbaum averred that he "supervised Mr. Kurth and Mr. Schliwka and conferred with them on virtually a daily basis and was well aware of their activities and results."

At Holderbaum's direction, Schliwka tested the ring tabs by putting them in a dishwasher, running the prewash and wash cycles, and periodically recording the

weights of the tabs. Schliwka visually observed that the melt region of the tablet he tested "does not dissolve in the prewash cycle" of the dishwasher. The compressed region of the same tablet lost approximately 8 grams out of 29 grams. Schliwka recorded his observations in a laboratory notebook, the relevant portions of which were submitted to the Board.

Another Henkel employee, Mrs. Marica Nejtek, performed additional testing. On April 15, 1997, Nejtek tested the solubility of four types of detergent tablets, including ring tabs of the type Schliwka tested, as well as similar ring tabs formed without a melt region. Nejtek found that ring tabs with a melt region lost a smaller percentage of their weight than those without a melt region during a prewash cycle of fixed length and temperature. Nejtek's supervisor, Dr. Peter Jeschke, testified that he reported the results of Nejtek's testing in a meeting in late April or May 1997 that was attended by three of the named inventors.

B. Procedural History

On November 5, 2003, the Board declared an interference between Procter & Gamble's patent and Henkel's applications. The interference designated Procter & Gamble as the senior party based on its patent's priority date of November 26, 1997; it designated Henkel as the junior party based on an accorded priority date of December 30, 1997, the date of Henkel's corresponding German patent applications. Count 2 of the interference[1] reads as follows:

[1] Count 2 is the sole count in the interference. The Board redeclared the interference with Count 2 substituted for the original Count 1. See Interference Opinion, slip op. at 5, ¶ 9 & n.1.

A tablet according to claim 1 of U.S. Patent No. 6,339,564
or
A tablet according to claim 41 of U.S. Application No. 09/446,434
or
A tablet according to claim 44 of U.S. Application No. 09/446,578.

Id., slip op. at 5, ¶ 9. Claim 1 of the '564 patent reads as follows:

> A detergent tablet comprising a compressed portion and a non-compressed portion wherein:
>
> a) said compressed portion comprises a mould and dissolves at a faster rate than said non-compressed portion on a weight by weight basis, measured using a SOTAX dissolution test method;
>
> b) said non-compressed portion is in solid, gel or liquid form;
>
> c) said non-compressed portion is delivered into said mould of said compressed portion; and
>
> d) said non-compressed portion is partially retained within said mould; and wherein said non-compressed portion is affixed to said compressed portion by forming a coating over the non-compressed layer to secure it to the compressed portion or by hardening.

'564 patent, claim 1. Claim 41 of Henkel's Application No. 09/446,434 reads as follows:

> A detergent tablet comprising a compressed region and solidified solution or melt region wherein:
>
> a) the compressed region comprises a recess and the dissolution rate of the compressed region is greater than the dissolution rate of the solidified solution or melt region;
>
> b) the solution or melt region is delivered onto the recess and the solidified solution or melt region is at least partially retained within the recess;
>
> c) the solidified solution or melt region is affixed to the compressed region by hardening; and
>
> d) the solidified solution or melt region comprises no more than 40% of the surface of the detergent tablet.

Interference Opinion, slip op. at 6, ¶ 11. Claim 44 of Henkel's Application No. 09/446,578 reads as follows:

> A detergent tablet comprising (a) a compressed region containing an active detergent ingredient, and (b) a solidified melt or solution region comprising an active detergent ingredient, wherein the tablet as a whole dissolves in less than 40 minutes in a dishwashing machine, wherein the dissolution rate of the compressed region is greater than the dissolution rate of the solidified melt or solution region, wherein the solidified melt or solution region is solidified in a recess formed in the compressed portion,

> and wherein the solidified melt or solution region comprises no more than 40% by volume of the detergent tablet.

Id., slip op. at 6, ¶ 12.

On May 3, 2006, the Board issued its decision and awarded priority against Henkel. In the interference proceeding, Henkel did not attempt to allege conception coupled with reasonable diligence to a reduction to practice; rather, it argued that it had both conceived and reduced the invention to practice before Procter & Gamble's constructive reduction to practice date of November 19, 1997. See 35 U.S.C. § 102(g).

The parties disputed one aspect of the construction of the interference count, the meaning of the term "dissolution rate." Procter & Gamble argued that in order to measure the comparative dissolution rates, samples of the compressed and non-compressed regions had to be apportioned into equal weights and tested at a constant temperature in separate compartments. Henkel argued that it was sufficient to demonstrate that a greater weight of the compressed region dissolved than of the melt region, a method that the Board characterized as "calculat[ing]" the dissolution rate "on a weight-by-weight basis." See Interference Opinion, slip op. at 38.

For purposes of the interference, the Board applied Henkel's methodology, but it nonetheless concluded that Henkel had failed to carry its burden of showing that it had conceived and reduced to practice before Procter & Gamble. Id., slip op. at 39 & n.10. In particular, it concluded that Henkel had failed to demonstrate that its named inventors had "appreciate[d] that which [t]he[y] ha[d] invented" contemporaneously with their conception and reduction to practice. Invitrogen Corp. v. Clontech Labs., 429 F.3d 1052, 1063 (Fed. Cir. 2005), quoted in Interference Opinion, slip op. at 40.

Accordingly, the Board denied Henkel's Substantive Motion No. 4 for judgment on priority, awarded priority to Procter & Gamble, and denied Procter & Gamble's substantive motions regarding priority and inventorship as moot.

Henkel appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

II. DISCUSSION

A. Standard of Review

"Priority, conception, and reduction to practice are questions of law which are based on subsidiary factual findings." Cooper v. Goldfarb, 154 F.3d 1321, 1327 (Fed. Cir. 1998). "Accordingly, we review de novo the Board's legal conclusions with respect to priority, conception, and reduction to practice . . . , and we review factual findings by the Board for substantial evidence." Singh v. Brake, 317 F.3d 1334, 1340 (Fed. Cir. 2002) (citing Dickinson v. Zurko, 527 U.S. 150 (1999)).

"To succeed in an interference proceeding . . . , a party that does not have the earliest effective filing date needs only to demonstrate by a preponderance of the evidence that it was the first to invent if the two patents or applications at issue were co-pending before the PTO," as they were in this case. Eli Lilly & Co. v. Aradigm Corp., 376 F.3d 1352, 1365 (Fed. Cir. 2002).

B. Priority

On appeal, Henkel challenges the Board's findings as to reduction to practice, which were largely adopted from the Board's consideration of conception. As the Board recognized, one requirement for a showing of actual reduction to practice is that "an inventor must prove that he contemporaneously appreciated an embodiment that met all the limitations of the interference count." Interference Opinion, slip op. at 51 (citing

Cooper v. Goldfarb, 240 F.3d 1378, 1386 (Fed. Cir. 2001)). The specific question presented in this appeal is whether Henkel's inventors appreciated that their sample detergent tablets met the dissolution rate limitation of the interference count.

The parties first dispute the scope of the count. As the Board explained, Proctor & Gamble advocates a construction of the count in which "the compressed and non-compressed regions tested must be of equal weight and tested at constant temperature in separate compartments." Interference Opinion, slip op. at 38. As for Henkel, the Board summarized Henkel's position as "allow[ing] for the dissolution rate to be calculated on a weight-by-weight basis." Id. For purposes of its decision, the Board stated that it accepted Henkel's purported definition. Id., slip op. at 38–39. However, the Board burdened Henkel with showing that its inventors and lab technicians had tested or calculated specific dissolution rates. E.g., id., slip op. at 19–20, ¶ 59 ("Mr. Schliwka's observation that the core did not dissolve in the prewash appears to be a visual observation and is not construed as implying that he specifically measured the rate of dissolution of the compressed portion and the melt region before and directly after the prewash cycle."); id., slip op. at 45 ("Neither Dr. Holderbaum nor Mr. Schliwka testify that they understood in 1997 that the data reported on page 104 of Mr. Schliwka's notebook indicates that the compressed region of the tablet dissolved at a faster rate than the non-compressed region.").

We agree with Henkel that an explicit calculation or measurement of quantitative dissolution rates is unnecessary.[2] The count itself does not require specific ranges of dissolution rates; it simply requires that the dissolution rate of the compressed region be "greater" than the dissolution rate of the other region. Id., slip op. at 5–6. This accords with the descriptions of the invention in both the Procter & Gamble patent and Henkel applications. Both documents describe a multicomponent tablet with components that dissolve during different parts of a dishwasher cycle. E.g., '564 patent, col. 3, ll. 2–6 ("This difference in rate of dissolution means that components of the compressed and non-compressed portions can be delivered to the wash water at different points in the washing or rinsing cycle of the washing machine."); '464 application at 8, ll. 16–19 ("By adopting . . . measures for delaying dissolution [of one region of a tablet], certain ingredients, for example, are only released in the final rinse cycle which affords further advantages in regard to cleaning performance."). By imposing a requirement to show appreciation of specific dissolution rates, the Board incorrectly held Henkel to a more stringent standard than warranted by the interference count. This constitutes legal error. The correct requirement of the count calls for a showing of an appreciation by the inventors simply that the dissolution rate of the compressed region is greater than the dissolution rate of the other region.

Examining the record under the correct standard, the Board's findings establish that Henkel had produced two-region tablets in which one region dissolved more than the other after the same period of time in the same dishwasher. Indeed, Schliwka's

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[2] Although Henkel's Substantive Motion No. 4 before the Board includes a rough calculation of dissolution rates, Henkel does not concede that a quantitative calculation of dissolution rates is required.

tests indicated that at least one of Henkel's sample tablets had a melt region that did not dissolve at all during a prewash cycle in which the compressed region had lost 8 out of 29 grams. Without further measurement, this is sufficient to demonstrate that Henkel made a tablet meeting the limitations of the count.

Moreover, Schliwka's observations, coupled with the record evidence of his interactions with Holderbaum, suffice to demonstrate appreciation of the different dissolution rates. As a matter of law, we do not require that a junior party in an interference demonstrate that it recognized the exact language of the ultimate count—only the subject matter of the invention. See Mycogen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1336 (Fed. Cir. 2001) (holding that there was sufficient appreciation when an inventor recognized a process in terms of codons—groups of three nucleotides—instead of the ultimately claimed nucleotides). This is not a case in which there is a significant danger that the inventors unwittingly and accidentally created something new; rather, they set out to design detergent tablets with a particular structure and did so, and the only question is whether they appreciated that the tablets met one limitation of the interference count. Schliwka's direct visual observation is enough to demonstrate that the tablet met the "faster rate" limitation.

Schliwka, of course, is not an inventor. However, Holderbaum's statements demonstrate that he was aware of Schliwka's results. In his own words, he "supervised . . . Mr. Schliwka and conferred with [hi]m on virtually a daily basis and was well aware of [his] activities and results." Interference Opinion, slip op. at 11, ¶ 29 (emphasis added). Holderbaum made this statement in the specific context of Schliwka's recognition of the dissolution rates: "[Schliwka] tested the Ring tabs . . . and found that

the Ring tab partially dissolved, but that the solidified melt filling did not dissolve." Id. It is true that the declarations submitted to the Board do not detail a specific conversation or explicitly aver that the inventors appreciated the specific limitation at the time of Schliwka's experiments, but such a formulaic affirmation is unnecessary under the facts of this case. The limitation in question is a discernible property of the invention that was directly observed by a technician working under the close supervision of one of the inventors. To require a more specific declaration than Henkel has proferred would be to undermine our holding in Mycogen that an inventor can demonstrate appreciation without enunciating the precise language of the interference count. See 243 F.3d at 1336.

C. Corroboration

We have held that because appreciation depends on "an inventor's subjective beliefs about his invention," an inventor claiming priority must put forward "objective evidence to corroborate [his] testimony concerning his understanding of the invention." Invitrogen, 429 F.3d at 1065. In other words, "it is not enough that a party adduce evidence that objective test results comport with an inventor's testimony concerning his state of mind. Rather, there must also be evidence that the junior party timely interpreted or evaluated the results, and understood them to show the existence [of] the invention." Id.

Here, the objective test results that Schliwka contemporaneously recorded in his notebook suffice to show that Schliwka understood the existence of the invention. As discussed above, Schliwka made and recorded a direct visual observation that the tablets met the limitations of the count; there was no need for additional "interpret[ation]

or evaluat[ion]" of the test results. Moreover, the evidence shows that Schliwka communicated his understanding to Holderbaum. Both Schliwka and Holderbaum testified that they worked closely together and that Holderbaum was aware of Schliwka's results. In addition, Nejtek's testing confirms the existence of the invention, and Dr. Jeschke testified that he reported her results to a group of inventors, including Holderbaum, no later than May 1997. This non-inventor testimony corroborates Dr. Holderbaum's statement that

> I recall Dr. Jeschke's report to our weekly meeting no later than May 1997, that his laboratory results indicated that the tablets possessed the expected solubility and cleaning characteristics and I recognized at that time that not only were solubility and physical properties of the Ring tabs and their components as we had conceived, but that the inventions worked for their intended purpose. I have reviewed the laboratory notebook pages of Marica Nejtek . . . , and I have determined that the recorded results confirm my recollection.

Interference Opinion, slip op. at 12, ¶ 32. Thus, the objective evidence and inventor testimony, taken together, confirm that the named inventors were aware of their technicians' test results and thereby appreciated the disputed limitation of the count prior to the critical date.

III. CONCLUSION

For the foregoing reasons, we conclude that the Board erred when it held that Henkel failed to demonstrate that the inventors appreciated a detergent tablet having a compressed region that dissolved faster than a non-compressed region. Accordingly, we vacate the Board's denial of Henkel's Substantive Motion No. 4, the dismissal as moot of Procter & Gamble's motions, and the entry of judgment against Henkel. We remand to the Board for further proceedings consistent with this opinion.

VACATED and REMANDED

COSTS

Costs are awarded to Henkel.