

**United States Court of Appeals  
for the Federal Circuit**

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**INEOS USA LLC,**  
*Plaintiff-Appellant*

**v.**

**BERRY PLASTICS CORPORATION,**  
*Defendant-Appellee*

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2014-1540

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Appeal from the United States District Court for the Southern District of Texas in No. 3:13-cv-00017, Judge Gregg Costa.

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Decided: April 16, 2015

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DONALD ROBERT DUNNER, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, argued for plaintiff-appellant. Also represented by ALLEN MARCEL SOKAL.

DEBORAH POLLACK-MILGATE, Barnes & Thornburg LLP, Indianapolis, IN, argued for defendant-appellee. Also represented by JESSICA M. LINDEMANN.

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Before DYK, MOORE, and O'MALLEY, *Circuit Judges*.

MOORE, *Circuit Judge*.

Ineos USA LLC accused Berry Plastics Corporation of infringing U.S. Patent No. 6,846,863. Ineos appeals from the district court's summary judgment that the '863 patent is invalid as anticipated under 35 U.S.C. § 102 (2006). *We affirm*.

#### BACKGROUND

The '863 patent is directed to polyethylene-based compositions which can be used to form shaped products, such as screw caps for bottles. '863 patent col. 1 ll. 5–8. Prior art polyethylene bottle caps incorporated a lubricant to optimize the cap's slip properties and to facilitate unscrewing of the cap. *Id.* col. 1 ll. 9–14. However, these compositions suffered the disadvantage of imparting bad odor and flavor to food products stored in contact with the compositions. *Id.* col. 1 ll. 15–17. The '863 patent explains that its compositions having specific amounts of polyethylene, lubricants, and additives solve this problem. *Id.* col. 1 ll. 24–35. Claim 1 is the only independent claim and is illustrative:

1. Composition comprising at least [1] 94.5% by weight of a polyethylene with a standard density of more than 940 kg/m<sup>3</sup>,

[2] 0.05 to 0.5% by weight of at least one saturated fatty acid amide represented by CH<sub>3</sub>(CH<sub>2</sub>)<sub>n</sub>CONH<sub>2</sub> in which n ranges from 6 to 28[,]

[3] 0 to 0.15% by weight of a subsidiary lubricant selected from fatty acids, fatty acid esters, fatty acid salts, mono-unsaturated fatty acid amides, polyols containing at least 4 carbon atoms, mono- or poly-alcohol monoethers, glycerol esters, paraffins, polysiloxanes, fluoropolymers and mixtures thereof, and

[4] 0 to 5% by weight of one or more additives selected from antioxidants, antacids, UV stabilizers, colorants and antistatic agents.

For ease of reference, we refer to the various limitations by the respective bracketed numbers inserted into the claim.

Ineos alleged that Berry Plastics infringes claims 1–7 and 9–11 of the '863 patent. Berry Plastics moved for summary judgment that the asserted claims are anticipated independently by various prior art references, including U.S. Patent No. 5,948,846. The parties do not dispute that the '846 patent discloses 94.5% by weight of a polyethylene with a standard density of more than 940 kg/m<sup>3</sup> as described in limitation 1 of claim 1 of the '863 patent. *Ineos USA LLC v. Berry Plastics Corp.*, No. 13-cv-0017, slip op. at 11 (S.D. Tex. Apr. 15, 2014), ECF No. 101 (*Summary Judgment Order*). Likewise, there is no dispute that stearamide, disclosed in the '846 patent, is a compound within the class of saturated fatty acid amides represented by CH<sub>3</sub>(CH<sub>2</sub>)<sub>n</sub>CONH<sub>2</sub> in which n ranges from 6 to 28 (“primary lubricant”) described in limitation 2. The court found that the '846 patent’s disclosure of a lubricant, which could be stearamide, in amounts from 0.1 to 5 parts by weight,<sup>1</sup> and more specifically of “at least 0.1 part by weight per 100 parts by weight of polyolefin, in particular of at least 0.2 parts by weight, quantities of at least 0.4 parts by weight being the most common ones” describes specific values (e.g., 0.1 part by weight) along with the broader disclosure of the full range (0.1 to 5 parts by weight). *Id.* at 13–14. It therefore concluded that the '846 patent’s disclosure of stearamide in these amounts met limitation 2. *Id.* at 11–14. It then deter-

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<sup>1</sup> The parties agree for purposes of this appeal that measurements in “% by weight” are equivalent to measurements in “parts by weight.”

mined that the subsidiary lubricant of limitation 3 and the additive of limitation 4 are optional in the claimed composition because limitations 3 and 4 set forth ranges beginning with 0%. *Id.* at 14–16. It therefore found that the '846 patent's disclosure of an optional subsidiary lubricant and an optional additive satisfied limitations 3 and 4. *Id.* The court concluded that the '846 patent anticipates the asserted claims. Ineos appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

We review the grant of summary judgment under the law of the relevant regional circuit. *See Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1340 (Fed. Cir. 2013). The Fifth Circuit reviews grants of summary judgment de novo. *Triple Tee Golf, Inc. v. Nike, Inc.*, 485 F.3d 253, 261 (5th Cir. 2007). Summary judgment is appropriate when there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). To anticipate a patent claim under 35 U.S.C. § 102, “a reference must describe . . . each and every claim limitation and enable one of skill in the art to practice an embodiment of the claimed invention without undue experimentation.” *Am. Calcar, Inc. v. Am. Honda Motor Corp.*, 651 F.3d 1318, 1341 (Fed. Cir. 2011) (citing *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009)).

#### I. Independent Claim 1

Ineos argues that the court erred in finding claim 1 of the '863 patent anticipated by the '846 patent and in concluding that Ineos failed to raise a genuine dispute of material fact in opposing summary judgment. Ineos asserts that the '846 patent discloses no single species within the genus of claim 1. It asserts that although the '846 patent discloses stearamide—one of the primary lubricants of limitation 2—the '846 patent does not disclose or suggest that stearamide or any other primary

lubricant “should be included as a lubricant in an amount between 0.05 and 0.5% by weight while entirely excluding or severely limiting any other lubricant to no more than 0.15% by weight.” Appellant’s Br. 28. Ineos argues that, contrary to the court’s conclusion, the ’846 patent discloses ranges for amounts of lubricants, not particular individual point values. Relying on *Atofina v. Great Lakes Chemical Corp.*, 441 F.3d 991 (Fed. Cir. 2006), Ineos argues that because the ranges concerning the amounts of lubricants disclosed in the ’846 patent only slightly overlap with the ranges of limitations 2 and 3 in claim 1 of the ’863 patent, the ’846 patent does not disclose these limitations. Appellant’s Br. 28–32. Ineos contends that, at the very least, under *OSRAM Sylvania, Inc. v. American Induction Technologies, Inc.*, 701 F.3d 698, 706 (Fed. Cir. 2012), the court should not have granted summary judgment in light of Ineos’s proffered testimony that the ranges claimed in the ’863 patent are critical. Appellant’s Br. 33–35.

Berry Plastics responds that the court properly granted summary judgment. It argues that the description in the ’846 patent of stearamide in amounts of “at least 0.1 part by weight per 100 parts by weight of polyolefin, in particular at least 0.2 parts by weight, quantities of at least 0.4 parts by weight being the most common ones” discloses particular points (i.e., 0.1, 0.2, and 0.4 parts by weight) within the range claimed in limitation 2 of claim 1 of the ’863 patent (i.e., 0.05 to 0.5% by weight). Similarly, Berry Plastics argues that the court correctly concluded that because the compositions of the ’846 patent contain “one or more lubricating agents,” the ’846 patent discloses that a subsidiary lubricant is optional. Berry Plastics asserts that the court therefore correctly found that the ’846 patent met limitation 3 of claim 1 of the ’863 patent. Finally, Berry Plastics asserts that the court did not err in declining to consider the purported criticality of the claimed ranges in limitations 2 and 3 because such in-

quiry is not necessary where, as here, the prior art discloses particular points within the later claimed range.

We hold that the district court correctly granted summary judgment of anticipation. When a patent claims a range, as in this case, that range is anticipated by a prior art reference if the reference discloses a point within the range. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 782 (Fed. Cir. 1985). If the prior art discloses its own range, rather than a specific point, then the prior art is only anticipatory if it describes the claimed range with sufficient specificity such that a reasonable fact finder could conclude that there is no reasonable difference in how the invention operates over the ranges. *Atofina*, 441 F.3d at 999; *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1345 (Fed. Cir. 2012). Limitation 2 is met by the disclosure of the '846 patent. The '846 patent specification states:

The composition according to the invention includes the lubricating agent in a total quantity of *at least* 0.1 part by weight per 100 parts by weight of polyolefin, in particular of at least 0.2 parts by weight, quantities of at least 0.4 parts by weight being the most common ones; *the total quantity of lubricating agents does not exceed* 5 parts by weight, more especially 2 parts by weight, *maximum values* of 1 part by weight per 100 parts by weight of polyolefin being recommended.

'846 patent col. 2 l. 66–col. 3 l. 7 (emphasis added). The phrases “at least” and “does not exceed” set forth corresponding minimum and maximum amounts for the primary lubricant. This portion of the specification clearly discloses ranges, not particular individual values. As we stated in *Atofina*, “the disclosure of a range . . . does not constitute a specific disclosure of the endpoints of that range.” 441 F.3d at 1000. The court therefore erred in

concluding that the '846 patent discloses particular points within the range recited in limitation 2.

This conclusion is not fatal to Berry Plastics' case, however, because Ineos failed to raise a genuine question of fact about whether the range claimed is critical to the operability of the invention. Ineos has not demonstrated that *Atofina* or *OSRAM* requires reversal in this case.

In *Atofina*, we reversed the district court's finding of anticipation where the patent-in-suit claimed a temperature range that was critical to the operability of the invention and the range disclosed in the prior art was substantially different. *Atofina* involved a patent claiming a method of synthesizing difluoromethane at a temperature between 330–450 °C. *Atofina*, 441 F.3d at 993; U.S. Patent No. 5,900,514 col. 3 ll. 61–62. *Atofina*'s patent and its prosecution history described the claimed temperature range as critical to the invention, and stated that the synthesis reaction would not operate as claimed at a temperature outside the claimed range. *See Atofina*, J.A. 1304, 1306, 1311–12; '514 patent col. 3 ll. 61–65; *see also ClearValue*, 668 F.3d at 1344–45. The prior art at issue in *Atofina* disclosed a broad temperature range of 100–500 °C. *Atofina*, 441 F.3d at 999. The patent-in-suit was not anticipated because there was a “considerable difference” between the prior art's broad disclosure and the claimed “critical” temperature range, such that “no reasonable fact finder could conclude that the prior art describes the claimed range with sufficient specificity to anticipate this limitation of the claim.” *Id.* at 999; *see also ClearValue*, 668 F.3d at 1345. Key to this conclusion was the fact that the evidence showed that a person of ordinary skill in the art would have expected the synthesis reaction to operate differently, or not all, outside of the temperature range claimed in the patent-in-suit. *Atofina*, 441 F.3d at 999; *see also ClearValue*, 668 F.3d at 1345.

In *ClearValue*, we further explained the importance of establishing the criticality of a claimed range to the claimed invention in order to avoid anticipation by a prior art reference disclosing a broader, overlapping range. The patent at issue in *ClearValue* claimed a method “for clarification of water of raw alkalinity *less than or equal to 50 ppm* by chemical treatment.” 668 F.3d at 1342 (emphasis added). After a jury found ClearValue’s patent not anticipated by prior art disclosing clarifying water with alkalinity of “150 ppm or less,” we reversed and held the patent invalid as anticipated. *Id.* at 1342–46. Notably, ClearValue did not argue that the claimed range was critical to the invention or that the claimed method would work differently within the prior art range of 150 ppm or less. *Id.* “[U]nlike *Atofina* where there was a broad genus and evidence that different portions of the broad range would work differently,” in *ClearValue* “there [was] no allegation of criticality or evidence demonstrating any difference across the range.” *Id.* at 1345. There was no considerable difference between how the method would operate within the claimed range and within the range disclosed in the prior art. *Id.*

We have, however, reversed a grant of summary judgment of anticipation where the patentee raised a genuine dispute of material fact concerning the criticality of a claimed range. In *OSRAM*, the patentee argued that the claimed pressure range “less than 0.5 torr” was critical to the operation of its claimed lamp assembly. *OSRAM*, 701 F.3d at 701, 705–06. There, the patentee presented expert testimony and evidence supporting its assertion that the “less than 0.5 torr” limitation was “central to the invention claimed” and “that a lamp would operate differently at various points within the range disclosed” in the prior art reference at issue. *Id.* at 706. This evidence was unrebutted. *Id.* We emphasized that “how one of ordinary skill in the art would understand the relative size of a genus or species in a particular technolo-

gy is of critical importance.” *Id.* Noting the district court’s failure to justify its rejection of OSRAM’s expert testimony and the lack of support for the court’s conclusion that the claimed range was narrowly encompassed within the prior art range, we reversed. *Id.*

In this case, Ineos argues that because the prior art ’846 patent discloses a range that overlaps with the range recited in limitation 2, the court should not have found claim 1 anticipated. Ineos asserts that it presented un rebutted evidence that the range recited in limitation 2 is critical to the invention and therefore, under *OSRAM*, the court erred in granting summary judgment in Berry Plastics’ favor.

The court’s conclusion that limitation 2 was met by the ’846 patent was correct because Ineos did not raise a genuine question of fact about whether the range recited in limitation 2 is critical to the invention. The ’863 patent specification indicates that the lubricants included in the invention function to improve the caps’ slip properties and ability to be unscrewed from a bottle. ’863 patent col. 1 ll. 10–12. It then describes the novelty of the invention as eliminating the odor and taste problems associated with prior art bottle caps while still maintaining good slip properties. *Id.* col. 1 ll. 20–23, col. 3 l. 66–col. 4 l. 2. Ineos has not established that any of these properties would differ if the range from the prior art ’846 patent is substituted for the range of limitation 2.

Ineos relies on the testimony of one of the inventors of the ’863 patent stating that the range claimed in limitation 2 is critical to avoid unnecessary manufacturing costs and the appearance of undesirable blemishes on the bottle caps. Appellant’s Br. 33–34. But even if true, this has nothing to do with the operability or functionality of the claimed invention. Ineos has not established any relationship between avoided cost and prevention of undesirable blemishes, and the claimed invention’s slip

properties or elimination of odor and taste problems. Ineos does not suggest that the claimed invention's slip properties or improved odor and taste properties would not have been expected based on the prior art. While we do not rule out the possibility that testimony concerning reduced manufacturing costs could be relevant where a method of manufacture claim is at issue, this is not the case before us.<sup>2</sup>

Ineos is correct that with regard to limitation 2, the '846 patent discloses a range, and not a point within the range. Ineos is also correct that when the prior art discloses a range, rather than a point, the court must evaluate whether the patentee has established that the claimed range is critical to the operability of the claimed invention. Here, however, Ineos failed to put forth facts in opposition to summary judgment that created a genuine issue of material fact about the criticality of the range of limitation 2. There is no evidence that the operability of the bottle cap would be improved by the claimed range.

Limitation 3 is also met by the '846 patent and Ineos's argument concerning the criticality of limitation 3 does not save the claim. The '846 patent discloses compositions containing a single lubricating agent ("one") and allows for additional lubricating agents. '846 patent col. 1 ll. 48–50. We, like the district court, interpret this language as expressly disclosing a composition with only one lubricating agent—the primary lubricant—and zero subsidiary lubricant. Limitation 3 requires a subsidiary lubricant present in an amount between 0 and 0.15% by weight. Because the '846 patent discloses 0% of subsidi-

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<sup>2</sup> Ineos also cited an expert who testified about criticality, but Ineos agrees that expert testimony was limited to the criticality of the range recited in limitation 3. Oral Arg. at 33:15–28, *available at* <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2014-1540.mp3>.

ary lubricant, limitation 3 is satisfied. Ineos's criticality evidence is not relevant because that inquiry is appropriate only where the prior art discloses a range, not a particular value within the later claimed range. We see no error in the district court's analysis on this point.<sup>3</sup>

## II. Dependent Claim 3

Claim 3, which depends from claim 1, specifies that the primary lubricant is the saturated fatty acid amide behenamide. The court found that because behenamide is one of a few common saturated fatty acid amide lubricating agents, the '846 patent's disclosure of the genus of saturated fatty acid amides anticipates claim 3. *Summary Judgment Order* at 19–20 (citing *In re Petering*, 301 F.2d 676 (C.C.P.A. 1962)).

Ineos argues that the court erred in finding claim 3 anticipated. It argues that the '846 patent does not explicitly disclose behenamide and that the court incorrectly concluded that the genus of saturated fatty acid amides disclosed in the '846 patent describes behenamide. It asserts that the court incorrectly concluded that behenamide is a common saturated fatty acid amide lubricating agent. It asserts that the only pertinent record evidence is Ineos's inventor declaration stating that behenamide was not recognized as "as one of the more effective lubricants for products."

We affirm the court's conclusion that claim 3 is anticipated. With respect to claim 3, the '846 patent specification discloses the genus of saturated fatty acid amides

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<sup>3</sup> Dependent claim 10 recites the composition of claim 1 that is free of a subsidiary lubricant (i.e., 0% subsidiary lubricant). The court concluded that the '846 patent's disclosure of an optional subsidiary lubricant anticipates claim 10. *Summary Judgment Order* at 21–22. We *affirm*.

and states that good results are achieved with the narrower genus of saturated fatty acid amides having 12 to 35 carbon atoms. '846 patent col. 2 ll. 48–52, 59–61. Behenamide falls within the narrower preferred genus because it is a saturated fatty acid amide with 22 carbon atoms. Berry Plastics asserted that behenamide is a common lubricating agent, and supported that contention with an expert declaration stating that behenamide is a common fatty acid amide used in the packaging industry. From this evidence we cannot conclude that the court erred in finding that the '846 patent discloses behenamide. Ineos has not demonstrated that it raised a genuine dispute of material fact with respect to claim 3. Verbatim disclosure of a particular species is not required in every case for anticipation because disclosure of a small genus can be a disclosure of each species within the genus. *See Atofina*, 441 F.3d at 999 (citing *In re Petering*, 301 F.2d at 682). Ineos does not dispute that behenamide falls within the narrow genus of saturated fatty acid amides having 12 to 35 carbon atoms. And Ineos provided no detailed information on how large this genus is to support its contention that this genus does not disclose behenamide. Ineos's inventor declaration does not state that behenamide is not a common lubricant within this species. We conclude that Ineos did not raise a genuine dispute of material fact with respect to claim 3.

#### CONCLUSION

We *affirm* the grant of summary judgment of anticipation.

#### **AFFIRMED**

#### COSTS

No costs.