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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICHARD D. BERTRAM, DANIEL WHYTE, and
MATTHEW D. IRVING

Appeal 2018-003197
Application 13/075,223
Technology Center 1700

BEFORE JEFFREY T. SMITH, LINDA M. GAUDETTE, and
MONTÉ T. SQUIRE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL¹

The Appellant² appeals under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1, 5–8, 10, and 13.³

We AFFIRM.

¹ This Decision includes citations to the following documents: Specification filed March 30, 2011 (“Spec.”); Final Office Action dated August 11, 2016 (“Final Act.”); Appeal Brief filed June 8, 2017 (“Br.”); and Examiner’s Answer dated August 7, 2017 (“Ans.”).

² We use the word “Appellant” to refer to the “Applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant identifies the real party in interest as Infineum International Limited. Appeal Br. 1.

³ We have jurisdiction under 35 U.S.C. § 6(b).

CLAIMED SUBJECT MATTER

The claims are directed to a lubricating oil composition. Claims 1 and 10, reproduced below, are illustrative of the claimed subject matter:

1. A heavy duty diesel (HDD) engine lubricating oil composition meeting the performance requirements of both the AP1-CJ4 specification and the ACEA E6 specification, said composition having a phosphorus content of up to 0.08 wt%: a sulfated ash content of up to 1.0 wt%; and a total detergent soap content of from about 0.7 wt% to about 1.0 wt%; and comprising:

- (a) a major amount of an oil of lubricating viscosity;
- (b) an alkali metal or alkaline earth metal alkyl salicylate lubricating oil detergent providing from about 8 to about 11 mmol salicylate soap per kilogram of lubricating oil composition;
- (c) ashless, nitrogen-containing dispersants, including at least one low molecular weight dispersant having a polymeric hydrocarbon backbone having a number average molecular weight of about 500 to 1700, and at least one high molecular weight dispersant having a polymeric hydrocarbon backbone having a number average molecular weight of about 1800 to about 3000, wherein said dispersants provide the lubricating oil composition with from at least about 0.12 wt% to about 0.20 wt% atomic nitrogen, based on the weight of the lubricating oil composition, and wherein said low molecular weight dispersant comprises less than about 35 wt% of the total amount of dispersant in the lubricating oil composition; and
- (d) a dispersant-viscosity modifier.

10. A method of lubricating a heavy duty diesel (HDD) engine comprising an exhaust gas recirculation (EGR) system comprising use in that engine of a lubricating oil composition according to claim 1.

Br., Appendix.

REJECTIONS

1. Claims 1, 5–8, and 10 are rejected under 35 U.S.C. § 103(a) as unpatentable over Irving (US 2006/0276353 A1, published Dec. 7, 2006) in view of Arrowsmith (US 2006/0116300 A1, published June 1, 2006). Ans. 2.

2. Claims 10 and 13 are rejected under 35 U.S.C. § 103(a) as unpatentable over Irving in view of Arrowsmith and Khair (US 6,467,257 B1 issued Oct. 22, 2002). Ans. 6.

OPINION

The Appellant argues claims 1, 5–8, and 10 as a group. *See generally* Appeal Br. 4–7. Accordingly, we decide the appeal as to the claims subject to the first ground of rejection on the basis of claim 1. *See* 37 C.F.R. § 41.37(c)(iv) (2016).

The Examiner found that Irving discloses a composition as recited in claim 1 with the exceptions that “i) [s]ome of the ranges of Irving overlap or encompass the claim[ed] ranges rather than falling within them[,] ii) Irving does not disclose the soap content of the composition in terms of weight percentage[, and] iii) Irving does not specifically disclose the use of a low molecular weight and a high molecular weight succinimide dispersant mixture.” Final Act. 4. As to the claimed ranges, the Examiner correctly stated that a prima facie case of obviousness exists when a prior art range overlaps or encompasses the claimed range. *Id.*; *see In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003).

As to the soap content, the Appellant does not dispute the Examiner’s reasoning, *see* Final 4–5, in determining that Irving discloses a composition comprising a salicylate detergent content that encompasses the claimed

weight percentage range for the total detergent soap content. *See* Appeal Br. 4–5. The Appellant argues, however, that Irving’s composition “may also contain [other] detergents . . . , and there is no limit on the amount of detergent that the composition[] may contain (other than the limit imposed by limit on the overall sulfated ash content).” *Id.* at 5. In other words, the Appellant contends that although Irving’s salicylate detergent content encompasses the claimed range, Irving contemplates a total detergent soap content that exceeds the claimed range of “about 0.7 wt% to about 1.0 wt%.” Irving, however, clearly discloses that the composition may contain only one or two detergents, *see, e.g.*, Irving ¶¶ 62–63, and suggests that the sole detergent may be a salicylate detergent that is present in amounts that the Appellant does not dispute fall within the claimed range of “about 0.7 wt% to about 1.0 wt%,” *see, e.g., id.* ¶¶ 8, 64, claim 23.

The Appellant asserts that Irving discloses that the composition is useful not only in heavy duty diesel engine oils, but also in transmission fluids and passenger car motor oils. Appeal Br. 6. The Appellant argues that one of ordinary skill in the art would have been aware that heavy duty diesel engine oils would require a higher degree of piston deposit control as compared to passenger car motor oils. *Id.* The Appellant thus contends the ordinary artisan would have used the higher, preferred amounts of salicylate soap in a heavy duty diesel engine lubricating oil composition, and those amounts, *e.g.*, “at least 18 mmols,” exceed the claimed total detergent soap content. *Id.* As explained by the Examiner, *see* Ans. 8, this argument is unpersuasive because it is not supported by evidence. *See In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997) (explaining that argument by counsel cannot take the place of evidence).

As to the claimed dispersant mixture, Irving discloses that “[t]he dispersant(s) are preferably non-polymeric (e.g., are mono- or bis-succinimides), Irving ¶ 46, but does not describe the claimed combination of dispersants, *see* Final Act. 4. The Examiner found Arrowsmith discloses a lubricating oil composition for use in diesel engines comprising a combination of low and high molecular weight succinimide dispersants that meet the limitations recited in claim 1. Final Act. 5–6. The Examiner found that one of ordinary skill in the art would have used “the dispersant mixture of Arrowsmith as the succinimide dispersant of Irving, as Arrowsmith teaches that it is a preferred combination for use in lubricating compositions for diesel engines, including heavy duty diesel engines.” *Id.* at 6; *see* Arrowsmith ¶ 66 (“The dispersant(s) of the present invention are preferably non-polymeric (e.g., are mono- or bis-succinimides).”), ¶ 67 (“To provide adequate suspension insoluble oxidation products, sludge flocculation and precipitation, and deposits on metal parts, it is preferable to use the low molecular weight dispersant in combination with an amount of a high molecular weight nitrogen-containing dispersant.”).

The Appellant argues that the Examiner reversibly erred in determining that one of ordinary skill in the art would have combined the teachings of Irving and Arrowsmith to achieve a reduced SAPS (sulfated ash, phosphorus, sulfur (*see* Irving ¶ 1)), high performance heavy duty diesel engine oil as claimed. Appeal Br. 6. More specifically, the Appellant argues that although Arrowsmith “may suggest that the inclusion of a low molecular weight dispersant (together with other components) may improve top ring wear protection,” Arrowsmith fails to disclose or suggest that “a combination of a low molecular weight dispersant, a high molecular weight

dispersant, and a dispersant-viscosity modifier will compensate for the expected reduction in piston deposit control associated with the use of a reduced level of salicylate soap.” *Id.* As explained by the Examiner, the Appellant’s argument is not persuasive because it fails to identify error in the facts and reasons relied on by the Examiner in determining one of ordinary skill in the art would have used Arrowsmith’s dispersant combination in Irving’s composition. Ans. 8–9 (citing *Ex parte Obiaya*, 227 USPQ 58, 60 (BPAI 1985) (“The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the difference would otherwise have been obvious.”)); *see also Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1368 (Fed. Cir. 2012) (“[M]otivation to modify a prior art reference to arrive at the claimed invention need not be the same motivation that the patentee had.”); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007) (explaining that a reference’s teachings and its obvious variants are relevant prior art, even if the reference addresses a problem which differs from that addressed by a patent applicant).

As further noted by the Examiner, although the Appellant suggests that one of ordinary skill in the art would not have expected that the “necessary piston posit control and anti-wear performance (as well as the necessary soot dispersing properties) [could] be achieved using only moderate levels of detergent soap” as claimed, Appeal Br. 4, the Appellant has not provided persuasive evidence of unexpected results, Ans. 9. *See In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972) (noting that the burden of analyzing and explaining data to support nonobviousness rests with the appellant).

Accordingly, for the reasons stated above, in the Final Office Action, and in the Answer, we sustain the rejection of claims 1, 5–8, and 10.

Turning now to the rejection of claims 10 and 13, the Examiner found “Irving does not specifically disclose engines having EGR systems or selective catalytic reduction devices” as recited in claims 10 and 13, respectively. Final Act. 7. The Examiner found one of ordinary skill in the art would have included Khair’s integrated EGR system and selective catalytic reduction device in the system of Irving, as modified by Arrowsmith, based on Khair’s teaching that the integrated system/device reduces both nitrogen oxide and particulate emissions from diesel engines. *Id.* (citing Khair 8:60–64).

The Appellant does not dispute the Examiner’s findings as to Khair or reasons for modifying Irving’s system based on Khair’s teaching. *See* Appeal Br. 7. Rather, the Appellant argues Khair does not cure the alleged deficiencies in the Examiner’s combination of Irving and Arrowsmith. *See id.*

Accordingly, for the reasons stated above, in the Final Office Action, and in the Answer, we sustain the rejection of claims 10 and 13.

ORDER

Claims Rejected	Basis	Affirmed	Reversed
1, 5–8, and 10	§ 103(a) – Irving and Arrowsmith	1, 5–8, and 10	
10 and 13	§ 103(a) – Irving, Arrowsmith, and Khair	10 and 13	
Overall Outcome		1, 5–8, 10, and 13	

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