

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KIM B. PEYTON and SOPHIA L. WANG

Appeal No. 96-2898
Application No. 08/340,998¹

ON BRIEF

Before METZ, JOHN D. SMITH and LIEBERMAN, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 1, 2, 18, 19, and 34-36.

Claims 1 and 35 are representative and are reproduced below:

1. An additive composition for reducing the pour point and wax haze in a lubricating oil, said composition comprising

¹ Application for patent filed November 17, 1994.

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A) an esterified styrene-maleic anhydride copolymer wherein the number of repeating units ranges from about 60 to about 400, and wherein said polymer is a reaction product of a styrene-maleic anhydride copolymer and a mixture of C_{20} - C_{28} linear alcohols and C_{22} alcohol wherein the alcohols are in a 3 to 1 ratio for C_{20} - C_{28} linear alcohols to C_{22} alcohol; and B) an esterified alpha-olefin maleic anhydride copolymer wherein the number of repeating units ranges from about 20 to about 220, and wherein the alpha-olefin maleic anhydride copolymer is the reaction product of maleic anhydride and an alpha-olefin having 6 to 36 carbon atoms, and wherein the esterified alpha-olefin-maleic anhydride copolymer is a reaction product of an alpha-olefin-maleic anhydride copolymer and one or more alcohols having from about 9 to about 18 carbon atoms in a ratio of about 3 to 1 to about 1 to 3 of either esterified copolymer to the other esterified copolymer.

35. A lube oil composition comprising:
a naphthenic lube oil displaying a wax haze at room temperature and a quantity of an additive sufficient to reduce the haze, said additive comprising a mixture of an esterified styrene-maleic anhydride copolymer and an esterified alpha-olefin maleic anhydride copolymer in a ratio of about 1 to 3 and about 3 to 1 of either copolymer to the other copolymer.

The references of record relied upon by the examiner are:
Gee et al. (Gee) 3,574,575 April 13, 1971
Bridger 4,548,725 October 22, 1985

The appealed claims stand rejected under 35 U.S.C. § 103 in view of Gee and Bridger.

We affirm.

The subject matter on appeal is directed to an additive composition for reducing the pour point and wax haze in a

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lubricating oil such as a naphthenic lube oil. The additive composition is comprised of two polymers; an esterified styrene-maleic anhydride copolymer (SMA) and an esterified alpha-olefin maleic anhydride copolymer (OMA). In a blended combination in lube oils, the two copolymers are said to provide an unexpected synergistic effect with respect to pour point reduction of the lubricating oil when compared to the pour point reduction effected by either copolymer used alone.

By way of background, appellants acknowledge that two problems encountered with hydrocarbon lubricating oils are visible wax particles and the need for pour point improvement (specification, page 2, lines 6 and 7). Appellants further state at page 2, lines 7-14 that

[W]ax particles in lubricating oils can cause blockage of filters and delivery lines on equipment and engines, thus interfering with the flow of oil to moving parts. Wax particles in lubricating oils also cause the oil to look hazy. This is especially a problem in those oils such as automotive oils, turbine oils and the like which are desirably bright and clear in appearance at room temperature. These oils typically include fractions taken from paraffinic or naphthenic crude oils or crude oil blends from Pennsylvania, Mid-Continent, Gulf Coast and West Coast regions.

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Appellants' additive composition, as noted above, is said to address both prior art problems in that it simultaneously effects a reduction of wax haze and an alleged unexpected synergistic reduction of pour point in lubricating oils.

As evidence of obviousness of the claimed subject matter on appeal, the examiner relies on Gee and Bridger. Gee discloses that esterified styrene-maleic anhydride copolymers are useful as pour point depressants and fluidity improvers for liquid hydrocarbon mineral oil compositions. See column 1, lines 31-41; column 1, line 63 to column 2, line 10; and examples 1-5 of Gee. Gee also teaches that such oil compositions "may contain other additive materials intended to enhance the value of such compositions in certain well-defined and specific aspects". See column 6, lines 63-66 of the reference.

The examiner relies on Bridger for the disclosure that certain esterified maleic anhydride-olefin copolymers act to reduce low temperature micro-crystalline wax formation in mineral oils. See Bridger generally at column 1, line 66 to column 3, line 44.

The examiner's factual finding (answer,

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page 3) that Gee's esterified styrene-maleic anhydride copolymers are identical to appellants' claimed SMA copolymer component is not disputed. Likewise, the examiner's factual finding (answer, page 3) that Bridger's esterified maleic anhydride-olefin copolymers are identical to appellants' claimed OMA copolymer component is not challenged by appellants.

Based on the combined teachings in the relied upon references, the examiner argues, and we agree (particularly when faced with the dual prior art problems encountered with certain lubricating oils having visible wax particles and a need for pour point improvement), that one of ordinary skill in this art would have been led to have combined the copolymer additives described in Gee and Bridger in a lubricant composition based on a reasonable expectation of reducing the lubricant pour point, improving the lubricant fluidity, and reducing the low temperature micro-crystalline wax formation in the lubricant.

Appellants' fundamental argument on appeal is that the evidence of record shows the performance of the claimed composition "to be greater than that of the known performances

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of the individual components of said invention (brief, page 4)." Appellants characterize the data in Tables II and III of their specification as a dramatic illustration of synergism with respect to pour point reduction of certain lubricants when the claimed additive combination is added. However, we point out that while synergism is one factor to be considered in the ultimate determination of obviousness of a composition, "no magic status" should be attributed to synergism per se "because it may be expected or unexpected". In re Huellmantel, 324 F.2d 998, 1002, 139 USPQ 496, 500 (CCPA 1963). Here, appellants have failed to establish a factual basis for determining whether the reported data actually represents unexpected synergism² in this art. It is well

² In Smalheer et al. (Smalheer), LUBRICANT ADDITIVES, The Lezius-Hiles Co., Cleveland, Ohio, copyright 1967, pp. 1-11 (copy attached) at page 8, it is indicated that even the small amount of wax remaining after dewaxing of "paraffin wax present in almost all heavy mineral oil fractions" can raise "by tens of degrees Fahrenheit the temperature at which an oil will flow freely as measured by suitable "pour point" tests. Thus, it is questioned whether the use of a composition comprised of a blend of a copolymer known to disperse or solubilize wax with a copolymer known to reduce pour point would have been expected by a person of ordinary skill in this art to simply demonstrate an additive effect in reducing the pour point of a given lubricant.

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settled that it is an appellants' burden to demonstrate that the difference in results obtained through a claimed invention and those obtained by the prior art would not have been expected by one skilled in the art. Here, appellants have not met this burden.

In any event, we agree with the examiner that no claim on appeal is reasonably commensurate in scope with the limited showing of alleged unexpected results. In this regard, the tested compositions referred to in appellants' specification involve the blends of very specific copolymers including, for example, an esterified alpha-olefin maleic anhydride copolymer prepared by reacting a C₁₀ to C₁₈ blend³ of linear alpha olefins with maleic anhydride. The appealed claims, however, are much broader in scope, covering numerous other OMA copolymer components, e.g., an esterified olefin-maleic anhydride copolymer prepared from a 1-octadiene olefin as exemplified in the example of Bridger. Thus, we find no adequate basis for concluding that the great number of

³ Appellants do not report the relative proportions of the specific linear alpha olefins in this blend. See the specification at page 11, line 1.

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compositions included by the appealed claims would behave in the same manner as the tested compositions.

In light of the above, we agree with the examiner that the subject matter defined by the appealed claims would have been obvious within the meaning of 35 U.S.C. § 103.

The decision of the examiner is affirmed.

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

AFFIRMED

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	Administrative Patent Judge)	
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)	BOARD OF PATENT
	JOHN D. SMITH)	APPEALS
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