

The opinion in support of the decision being entered today was **not** written for publication and 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 ROBERT C. RICHARDSON and DONALD J. MARN

Appeal No. 1998-1369
Application No. 08/622,620

ON BRIEF

Before KIMLIN, WALTZ, and KRATZ, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 46 and 50 through 52. Claims 47 through 49, the only other claims pending in this application, stand objected to by the examiner as allowable if rewritten in independent form and thus are not before us in this appeal (Brief, page 2; Final Rejection dated Aug. 27, 1996, Paper No. 12, paragraph bridging pages 3-4).

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According to appellants, the invention is directed to compositions, lubricants, concentrates, and methods of using the composition of (A) at least one antiwear or extreme pressure (EP) agent containing sulfur, at least one basic nitrogen compound, or a mixture thereof; and (B) at least one hydrocarbyl mercaptan; with the proviso that when (A) is an organic polysulfide, then the composition further comprises (C) at least one phosphorus containing antiwear or EP agent, at least one overbased composition, or mixtures thereof, wherein (A) is different than (C). See the Brief, page 2. Appellants state that this combination of components provides beneficial results in solving problems of seal degradation caused by lubricants (*id.*).

Appellants request that the claims be considered individually (Brief, page 4). However, appellants only provide specific, substantive reasons for the separate patentability of claims 1, 4, 9, 16, 17, 19-21, 22, 40, 41, 42-44, 45-46 and 50 (e.g., see the Brief, pages 7-8). Accordingly, we will discuss each claim to the extent that it is argued separately by appellants, with all other claims standing or falling together. See 37 CFR § 1.192(c)(7)(1995).

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A copy of illustrative independent claim 1 is reproduced
below:

1. A composition comprising (A) at least one antiwear or extreme pressure agent containing sulfur, at least one basic nitrogen compound, or a mixture thereof; and (B) at least one hydrocarbyl mercaptan; with the proviso that when (A) is an organic polysulfide, then the composition further comprises (C) at least one phosphorus containing antiwear or extreme pressure agent, at least one overbased composition, or mixtures thereof, wherein (C) is different from (A).

The examiner has relied upon the following references as evidence of obviousness:

Eby	2,382,700	Aug. 14, 1945
Hill	2,738,330	Mar. 13, 1956
Michaelis	4,260,503	Apr. 7, 1981

All of the claims on appeal stand rejected under 35
U.S.C.

§ 103 as unpatentable over Eby or Hill or Michaelis (Answer, page 3). We *affirm* these rejections essentially for the reasons in the Answer and those reasons set forth below.

OPINION

The examiner finds that each of Eby, Hill and Michaelis disclose aliphatic mercaptans as additives for lubricating oils (Answer, pages 3-4). Eby discloses that his particular

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class of mercaptans contain about five to thirty carbon atoms and reduces the tendency of mineral lubricating oils to deteriorate in the presence of oxygen while greatly inhibiting the normal corrosiveness of such lube oils towards copper bearings widely used in automotive engines (page 1, left col., ll. 6-23). Hill discloses that long chain (about 10 to about 30 carbon atoms), primary aliphatic mercaptans act as lead dispersants in lubricants and also demonstrate potent bearing corrosion inhibiting properties (col. 1, ll. 30-37 and 54). Michaelis discloses mercaptans of formula (I) with 8 to 30 carbon atoms useful as antiwear or extreme pressure agents for addition to lubricants (col. 1, ll. 7-11; col. 1, l. 58-col. 2, l. 17).

The examiner further finds that each reference teaches that the mercaptan additive may be combined with other well-known lubricating oil additives (Answer, pages 3-4). See Eby, page 3, right col., ll. 30-61, where Eby teaches the advantageous combination of the mercaptan additives with other addition agents, specifically listing several classes of

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agents and representative examples of each class.¹ Eby further teaches the addition of other agents such as sulfurized fatty oils, antioxidants, thickeners, etc., at page 4, left col., ll. 42-55.

Hill teaches that additives in addition to the mercaptan agent may include heat thickened fatty oils, sulfurized fatty oils, organo-metallic compounds, sludge dispersers, etc. (col. 2, ll. 12-17). Michaelis teaches that the lubricating oil can contain still further additives to improve the performance properties, such as antioxidants, rust inhibitors, and dispersants (col. 4, ll. 32-36). Michaelis further teaches that the mercaptans can also be used in combination with other EP/antiwear additives (col. 4, ll. 36-38). The reference then lists specific representatives from each class of additives (col. 4, l. 39-col. 6, l. 2), including specific wear-resisting additives within the scope of component (A) of the

¹ Although not limited to the representative materials, we note that Eby discloses, *inter alia*, an overbased composition (calcium mahogany sulfonates) and a sulfur-containing antiwear/EP agent (zinc methyl cyclohexyl dithiophosphate). See the specification, page 8, ll. 28-29; page 11, ll. 10-14; and page 44, l. 12.

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claimed compositions (e.g., "sulfurised" vegetable oils and zinc dialkyldithiophosphates; see col. 5, l. 51-col. 6, l. 2).

The examiner also finds that the individual components of appellants' claimed composition were "notoriously" well-known lubricant additives (Answer, page 5). From these findings, the examiner concludes that the combination of known additives for their well-known function or property would have been *prima facie* obvious to one of ordinary skill in the lubricating art at the time of appellants' invention (Answer, pages 4-5). We agree.

Appellants have not contested the examiner's statement that the individual components of the claimed composition were well-known in the art with well-known properties as additives for lubricating compositions. Appellants argue that Eby does not relate to or suggest the use of the hydrocarbyl mercaptan together with a sulfur-containing antiwear or EP agent and/or a basic nitrogen compound (Brief, page 6). Appellants' argument is not well taken since Eby specifically suggests combination of the mercaptan with sulfur-containing antiwear and EP agents, e.g., sulfurized fatty oils (see Eby, page 4,

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left col., l. 45; compare with appellants' specification, page 3, l. 31-page 4, l. 19).

Appellants also argue that Eby does not teach or suggest appellants' problem or a means for its solution (Brief, page 6). This argument is not persuasive since the motivation to combine or modify the reference does not have to be identical to that of appellants to establish obviousness. See *In re Kemps*, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1311 (Fed. Cir. 1996).

Appellants consequently argue that there is no reason of record or basis in the reference which leads a person of ordinary skill in the art to select the components from Eby to form the claimed compositions (Brief, page 7). Appellants cite *In re Geiger*², purportedly rejecting the reasoning of *In re Kerkhoven*³, for the holding that *prima facie* obviousness of a combination composition is not established even though the individual components are known, absent some teaching or

² Appellants have not provided a citation for this decision but it is presumed, since there is more than one decision of this name, that the citation is 815 F.2d 686, 2 USPQ2d 1276 (Fed. Cir. 1987).

³ 626 F.2d 846, 205 USPQ 1069 (CCPA 1980).

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suggestion supporting the combination (Brief, page 7). Appellants' argument is not persuasive because the examiner has identified the teaching or suggestion within each reference which would have led one of ordinary skill in the art to the claimed combination. See the Answer, page 5, where the examiner has stated "[t]he motivation to make the combination stem[s] from the express disclosure in each of the references to combine each [mercaptan] additive with the known lubricant oil additives...".

Appellants similarly argue that Hill contains no teaching to any specific additives and the only example of Hill is directed to a combination of two mercaptans (Brief, page 9). This argument is not persuasive for the same reasons as noted above with respect to Eby, namely that the reference to Hill specifically suggests the incorporation of other additives with the mercaptan additive (see col. 2, ll. 12-17). It is noted that these additives are as specific as the well-known additives recited in the claims on appeal, e.g., component (A). Additionally, the examples in a reference are merely exemplary of the broader disclosure, all of which is available

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for what it clearly teaches. See *In re Widmer*, 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965).

Appellants also argue that Michaelis contains no example to any specific combination of the mercaptan with another component and that the reference fails to provide any motivation to combine a mercaptan with component (A) as required by the claims on appeal (Brief, page 11).

Appellants' arguments are not well taken. As noted above, a reference disclosure is not limited to its working examples. See *Widmer, supra*. With regard to motivation, Michaelis specifically suggests the combination of the mercaptan additive with other EP/antiwear additives (see col. 4, ll. 32-38).

Appellants specifically argue the limitations of claims 4, 9, 16, 17, 19-21, 22, 40, 41, 42-44, 45-46, and 50 (Brief, pages 7-11).⁴ With regard to components (A) through (E) as found in claims 4, 9, 16, 17, 19-21, and 22, the examiner has

⁴ Appellants argue the limitation of additive component (E) as in "page 22" but apparently mean "claim 22." See the Brief, page 8. It is also noted that claims 45-46 and 50 are only separately argued with respect to the rejection under section 103 over Eby. *Id.* Accordingly, we only discuss these limitations with respect to the Eby reference.

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stated "[t]he individual compositions [sic, components] of the composition are notoriously well known lubricant additives." Answer, page 5. Appellants have not contested this statement. Furthermore, appellants admit that many of these additives were well known in the art (e.g., see the specification, page 47, ll. 18-23). Additionally, many specific additives such as dispersants and EP agents are disclosed by the applied prior art (see Michaelis, col. 4, l. 39-col. 6, l. 2; Eby, page 3, right col., ll. 30-61; page 4, left col., ll. 42-54; Hill, col. 2, ll. 12-17). Accordingly, the use of well known additives for their attendant properties with the compositions of the applied references would have been well within the ordinary skill in the art. Each reference also discloses the use of the additives in lubricating oils as claimed in claims 41 and 42, including various types of lube oils (e.g., see Eby, page 4, right col., ll. 9-17). It was also well known in the lubricating oil art to employ concentrates as recited in claims 42-44 for economical purposes (i.e., to reduce shipping charges).

With regard to claims 45-46, appellants argue that there is no teaching or suggestion within Eby which would have led

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one of ordinary skill in the art to expect the mercaptan additive would have the beneficial property of controlling seal degradation (Brief, page 8). This argument is not persuasive for reasons noted by the examiner on page 6 of the Answer, namely that the lubricant composition envisioned by Eby would have been used in an engine environment where it would have necessarily contacted elastomeric seals. Accordingly, the steps of combining a mercaptan with a lubricating fluid and contacting the seal with the lubricant composition as recited in claims 45-46 would have been suggested by Eby to one of ordinary skill in the art at the time of appellants' invention.

Appellants argue that Eby does not teach the specific organic polysulfide, the specific TBN, or the specific amounts of the components in claim 50 (*id.*). This argument is not persuasive since, as previously discussed, the organic polysulfides and amines recited as component (A) of claim 50 were well known in the art as lubricant additives, and the amount of each additive would have been a result-effective

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variable depending on the properties desired. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

For the foregoing reasons and those set forth in the Answer, we determine that the examiner has presented a *prima facie* case of obviousness in view of the reference evidence. Based on the totality of the record, giving due consideration to appellants' arguments as discussed above, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103. Accordingly, the examiner's rejections of claims 1-46 and 50-52 under 35 U.S.C. § 103 as unpatentable over Eby, Hill or Michaelis are affirmed.

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

AFFIRMED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
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