

The opinion in support of the decision being entered today is  
*not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PHILIPPE VANECKHOUTTE,  
YVES LECLAIRE AND  
ANNE ROBERT

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Appeal 2007-1679  
Application 11/041,470  
Technology Center 1700

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Decided: July 30, 2007

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Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and JEFFREY T.  
SMITH, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 18-47. A copy of  
illustrative claim 18 is appended to this decision.

The Examiner relies upon the following references as evidence of obviousness:

Suzuki	US 4,211,823	Jul. 8, 1980
Fujioka	US 4,405,679	Sep. 20, 1983

Appellants' claimed invention is directed to a hardenable composition consisting essentially of a hydrolysate of a silane containing an epoxy group and three alkoxy groups, a hydrolysate of a silane of recited Formula (I), colloidal silica and an aluminum compound, such as an aluminum chelate. The hydrolysate of a silane of Formula (I) comprises 8-16% by weight of the theoretical dry content of the composition. The hardenable composition can be used to form an abrasion resistant coating on, for example, an ophthalmic lens substrate.

Appealed claims 8-47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujioka in view of Suzuki.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we find ourselves in complete agreement with the Examiner's reasoned analysis and application of the prior art, as well as his cogent and thorough disposition of the arguments raised by Appellants. Accordingly, we will adopt the Examiner's reasoning as our own in sustaining the rejection of record, and we add the following for emphasis only.

There is apparently no dispute that Fujioka, like Appellants, discloses a hardenable, abrasion resistant coating that may comprise the presently claimed hydrolysate of a silane containing an epoxy group and three alkoxy groups, such as  $\gamma$ -glycidoxypropyltrimethoxysilane, a hydrolysate of a silane in accordance with Appellants' Formula (I), such as dimethyldiethoxysilane,

colloidal silica and an aluminum compound, such as aluminum acetylacetone.

Although Fujioka does not exemplify a composition comprising the claimed hydrolysate of Formula (I) and colloidal silica, such exemplification is not necessary for a finding of obviousness under § 103. As pointed out by the Examiner, Fujioka expressly teaches that the combined use of the hydrolysate and a colloidal silica "enables the formed article to exhibit improved appearance and rigidity after a weather test" (col. 6, ll. 6-8). Furthermore, Suzuki also discloses a coating composition with high scratch resistance and tensile strength, as well as resistance to cracking, comprising hydrolysates of epoxy group-containing silane compounds, such as  $\gamma$ -glycidoxypropyltrimethoxysilane, hydrolysates of dialkoxy silanes, such as dimethyldiethoxysilane, colloidal silica particles and an aluminum chelate. Hence, we agree with the Examiner that Suzuki provides additional evidence of the obviousness of including colloidal silica in the hardenable composition of Fujioka.

Also, the hydrolysate of Fujioka which corresponds to Appellants' Formula (I) is present in an amount of from 7.9% by weight to 85% by weight, which range totally encompasses the claimed range of 8-16% by weight and renders it *prima facie* obvious. *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974). In addition, Examples 12, 15, and 16 of Fujioka employ hydrolysates in accordance with claimed Formula (I) in amounts of 15.3%, 16.0% and 12.1%, which amounts fall directly within the claimed range.

Appellants contend that the Examiner's conclusion of obviousness "is incorrect because it is undisputed that Fujioka fails to disclose Appellant's claimed 8% to 16% range" (Principal Br. 8, penultimate para.). However, it is by now axiomatic that a reference need not specifically disclose the claimed range, *per se*, to establish the obviousness of the claimed range. A prior art range which totally encompasses or overlaps the claimed range is sufficient to establish a *prima facie* case of obviousness within the meaning of § 103.

Appellants rely upon Specification examples and four Declarations provided by an employee of the assignee of the present application as evidence of unexpected results with respect to the claimed range of 8-16% by weight for the hydrolysate of Formula (I). However, we concur with the Examiner's reasoning that Appellants' evidence is not commensurate in scope with the degree of protection sought by the appealed claims,<sup>1</sup> and does present a comparison with the closest prior art.<sup>2</sup>

Appellants cite Examples 1-4 of their Specification which comprise a hydrolysate of the dialkyldialkoxysilane (DMDES) in amounts of 5%, 10%, 13%, and 20%, respectively. Hence, the examples comprising 10 and 13% of DMDES are within the claimed range and the examples comprising 5% and 20% of DMDES are outside the claimed range. Appellants stress that the compositions within the claimed range exhibit superior rupture energies, and, therefore, establish the criticality of the claimed ranged. Appellants

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<sup>1</sup> *In re Grasselli*, 713 F.2ds 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980).

<sup>2</sup> *In re Johnson*, 747 F.2d 1456, 1461, 223 USPQ 1260, 1263-64 (Fed. Cir. 1984).

submit that "[t]his superior property disappears when the percentage is decreased below or increased above the claimed range [and] is strong evidence of unexpected results, and consequently, non-obviousness" (Principal Br. 10, first para.).

We concur with the Examiner that, although the Specification examples demonstrate superior rupture energies when the hydrolysate of Formula (I) is within the claimed range, the examples do not provide a true side-by-side comparison with compositions of Fujioka having amounts of the hydrolysate outside the claimed range. Appellants have not refuted the Examiner's finding that "the examples employ different amounts of  $\gamma$ -glycidoxypipropyltrimethoxysilane, 0.1N hydrochloric acid, ethylcellosolve, colloidal silica and aluminum acetylacetone" (Answer, 10, first para.). In the face of such a welter of unfixed variables, no reasonable conclusion can be drawn regarding the effect of the amount of hydrolysate on the rupture energies of the composition. *In re Dunn*, 349 F.2d 433, 439, 146 USPQ 479, 483-84 (CCPA 1965). Appellants' statement that "the Examiner's requirement to hold the 'other components' constant is improper" is totally without merit (Principal Br. 11, first para.). Contrary to Appellants' argument, the Examiner has hardly "created his own heightened standard which is contrary to well-settled U.S. patent law" (Principal Br., sentence bridging pages 10-11).

Also, these Specification examples do not provide a comparison with the closest prior art which is Example 2 of Fujioka that contains 7.0% of DMDES. Certainly, 7.0% is considerably closer to the claimed 8.0% than the 5% of Appellants' Example 1. Moreover, the Specification examples are

not commensurate in scope with the claimed subject matter since the examples are limited only to DMDES as the hydrolysate in accordance with Formula I of the claimed invention, which embraces a plethora of distinct compounds. For example, T<sup>1</sup> and T<sup>2</sup> are alkoxy groups having from 1 to 10 carbon atoms that are not necessarily the same, and Z<sup>1</sup> and Z<sup>2</sup> are alkyl groups with 1 to 10 carbon atoms and alkyl groups with 6 to 10 carbon atoms. Appellants have not established on this record that the single hydrolysate chosen for the Specification examples is truly representative of the large number of compounds encompassed by the appealed claims.

The four declarations submitted by Appellants are similarly deficient in demonstrating unexpected results. As correctly pointed out by the Examiner, the sole declaration relevant to Fujioka, the primary reference, is the one filed on October 7, 2002 (Appendix 3). The other three declarations provide meaningless comparisons with Suzuki, which is cited by the Examiner only for the obviousness of using colloidal silica and aluminum chelates in the hardenable composition of Fujioka. Like the Specification examples, the Declaration of Appendix 3 does not offer a true side-by-side comparison to Example 2 of Fujioka since "different amounts of  $\gamma$ -glycidoxypolytrimethoxysilane, and 0.1N hydrochloric acid are used in Example 1 vs. the comparative examples" (Answer 11, last sentence). Also, since the Declaration is limited to the use of DMDES, for the reasons set forth above, it is not commensurate in scope with the claimed subject matter on appeal. In addition, the Examiner lodges other valid criticisms of the probative value of the Declaration at page 12 of the Answer, first paragraph, pertaining to the differences in the composition of Example 1 representing

the invention and the compositions of the comparative Examples, as well as the differences in the heat treatments used. In the words of the Examiner, "due to the presence of diverse amounts and types of components in Example 1 vs. the comparative examples as well as the different treatments of the lenses, any difference in results cannot be singly attributable to the claimed proportion of dimethyl- diethylsaline" (Answer, 12, second para.).

*In re Dunn*, 349 F.2d at 439, 146 USPQ at 483-84.

We also find no merit in Appellants' argument that the "consistently essentially of" language of claim 18 renders the subject matter unobvious over the cited prior art. The Examiner properly explains that Fujioka requires only the claimed components in the hardenable composition. Appellants' argued exclusion of Fujioka's *optional* ingredients does not make the claimed composition nonobvious. Clearly, Fujioka does not require the presence of optional components in the disclosed composition. Moreover, Appellants have not demonstrated that the inclusion of Fujioka's optional components in the claimed composition would materially affect the basic nature of the claimed composition as a hardenable, abrasion resistant coating. *In re De Lajarte*, 337 F.2d 870, 873-74, 143 USPQ 256, 258 (CCPA 1964).

Similarly, the "consisting of" language of claims 45 and 47 does nothing to make compositions within the scope of the claims nonobvious over the cited prior art. Manifestly, one of ordinary skill in the art would have found it obvious to exclude the optional components of Fujioka to formulate compositions within the scope of claims 45 and 47.

As for the requirement of claims 30 and 43 that the "hardening of the composition on an ophthalmic lens substrate results in an abrasive resistant coating that is also shock resistant," the claim recitation is simply one of intended use that does not further distinguish the claimed hardenable composition from the composition of Fujioka.

The remaining separately argued claims have been adequately addressed by the Examiner.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

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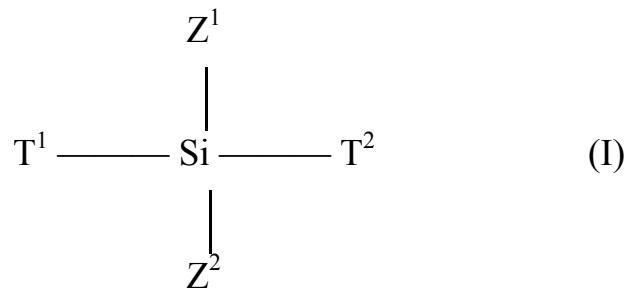
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APPENDED CLAIM

18. A hardenable composition for an abrasion resistant coating consisting essentially of the following constituents:

a hydrolysate of a silane prepared by hydrolysis of a silane containing an epoxy group and three alkoxy groups, the alkoxy groups being directly bonded to the silicon atom;

a hydrolysate of a silane prepared by hydrolysis of a silane having formula (I):



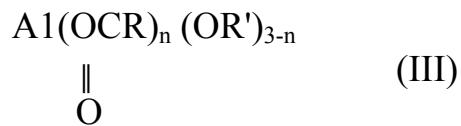
where  $T^1$  and  $T^2$  are alkoxy groups with 1 to 10 carbon atoms which will each react to give a PH group o hydrolysis of the silanes of formula (I), and  $Z^1$  (sic,  $Z^1$ ) and  $Z^2$  are selected from the group consisting of alkyl groups with 1 to 10 carbon atoms and aryl groups with 6 to 10 carbon atoms and do not contain group capable of reacting with the hydrolyzed silanes present in the compositions;

colloidal silica; and

an aluminum compound selected from the group consisting of:

aluminum chelates, and

compounds having formula (III) or (IV),



wherein R and R' are linear or branched alkyl groups with 1 to 10 carbon atoms,

R'' is a linear or branched alkyl group with 1 to 10 carbon atoms, a phenyl group, a -OCR group where R is as defined above, and



n is a whole number from 1 to 3;

wherein the hydrolysate of a silane prepared by hydrolysis of silane having formula (I) constitutes 8% to 16% by weight of the theoretical dry content of the composition.