

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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ATSUHIRO TODO,
KAORI OKADA, TOSHIHIRO SEKIGUCHI
and KAZUO HIROTA

Appeal No. 2003-1969
Application 09/690,731

HEARD: January 8, 2004

Before WARREN, WALTZ and DELMENDO, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellants, in the brief and reply brief, and based on our review, find that we cannot sustain the rejections of appealed claims 4 through 7,¹ all of the claims in the application, under 35 U.S.C. § 103(a) as being unpatentable over Kondo et al. (Kondo) in view of Kato, Smith et al., Hu, Miller et al. (Miller) or Van Rheenen et al.²

¹ See the appendix to the brief (Paper No. 22).

² Answer, pages 4-5.

We find that when considered in light of the written description in the specification as interpreted by one of ordinary skill in this art, *see, e.g., In re Thrift*, 298 F.3d 1357, 1364, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997), *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), the plain language of appealed independent claim 4 specifies that the claimed dental glass ionomer cement composition comprises, *inter alia*, a coloring matter whose color is specified as having an “L* value . . . in a standard illuminant D₆₅” of “60 or less” and is selected from the stated Markush group of “coloring matter.”

The examiner correctly recognizes that Kondo does not disclose a coloring agent that falls within the Markush group of “coloring matter” in appealed claim 4, for use in the disclosed dental glass ionomer cement composition taught in the reference. In this respect, the examiner takes the position that one of ordinary skill in the art would have recognized that other coloring agents, such as the coloring agents in the secondary references characterized by the examiner as “pH sensitive,” can be used in the dental glass ionomer composition of Kondo because Kondo teaches “employing coloring agents which are pH sensitive.” Thus, the examiner alleges that one of ordinary skill in the art would have combined the specified coloring agents of the secondary references, which fall within the Markush group of “coloring matter” in claim 4, with the teachings of Kondo in order to obtain a glass ionomer cement within the teachings of the reference, and accordingly, arrive at the claimed invention (answer, pages 4-5).

Appellants point out that the coloring agent used in the composition of Kondo must change “its color tone with the change in pH so that the color tone of the cement composition can change upon initial setting of the cement composition” such that the “color change is relied upon for visual observation of the degree of setting of the cement composition,” and submit that the “coloring matter” specified in appealed claim 4 “is not a pH indicator” as required by Kondo (brief, page 4; *see also* reply brief, page 2). Appellants further point out that while the coloring agent alizarin is disclosed in their specification and in Kondo, it is not encompassed by appealed claim 4, and submit that “[t]he fact that the disclosure is broader than the claims now present in the case manifestly cannot be relied upon by the Examiner for a holding of obviousness of the

now claimed invention, not including such broader disclosure,” relying on the authority of *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (brief, page 5; *see also* reply brief, page 3).

The examiner responds that the disclosure of alizarin establishes that appellants’ “assertion based on no change in the color has no probative value since . . . alizarin changes color in [Kondo], and it would change color in the instant composition due to the same composition,” and that “many of the instant coloring matters are known to the pH indicators as evidenced by the secondary references” (answer, page 5; emphasis in original deleted).

We agree with appellants’ position. Even assuming that the secondary references establish that the dyes encompassed by appealed claim 4 that the examiner points to therein (see answer, page 4, fourth full paragraph) are in fact pH sensitive dyes, there still must be some basis for combining such disclosures with the teachings of Kondo. In other words, there must be some suggestion, motivation or knowledge in the prior art applied by the examiner that would have led one of ordinary skill in this art to combine such teachings in the reasonable expectation of obtaining a color-changeable cement composition which has the properties taught by Kondo. *See generally, In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002); *Smith Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1420-21 (Fed. Cir. 1999); *In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *In re Mayne*, 1043 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 9292, 933 (Fed. Cir. 1984); *In re Keller*, 642 F.2d 413, 425-26, 208 USPQ 871, 881-82 (CCPA 1981).

We find that Kondo teaches that “[g]enerally, the pH of a mixed dental cement slurry changes from acidic to neutral according to its setting process” and “the color-changeable substances have a discoloring characteristic at a pH or 7 or less” (col. 3, lines 19-23). Kondo discloses that the glass ionomer cement composition must be “highly aesthetic after setting” and the “addition of a color-changeable substance thereto gives rise to no appreciable influence on the color of the cement after setting” (col. 1, lines 50-64, and col. 2, lines 4-8).

The examiner has not identified any teaching in any of the secondary references which would have suggested or motivated one of ordinary skill in the art to use the dyes identified therein in the dental glass ionomer cements taught by Kondo. The only teachings in this respect

that we have found is in Miller, wherein a dye which is colorless at a low pH in an undercolor aqueous coloring composition, changes to the color state upon the addition of a base containing composition (e.g., col. 3, lines 13-27), and the “dyes in the low pH undercolor coloring composition are dyes which are in a colorless state in the presence of a pH of about 3.5 or less” (col. 9, lines 3-5), which include “phthalocyanine [*sic*, phthalocyanine] dyes” (col. 9, line 7) identified by the examiner (answer, page 4, fourth full paragraph). It is apparent from such teachings that the phthalocyanine dyes change to the color state at a pH above 3.5. Thus, on this record, we determine that one of ordinary skill in this art would not have reasonably believed that such phthalocyanine dyes falling within the teachings of Miller can provide the discoloring characteristic during the curing of the dental glass ionomer cements and the aesthetic appearance in the set cement as required by Kondo, as the examiner contends.

Accordingly, we conclude that the examiner has not pointed to some teaching, suggestion or motivation in the applied prior art which would have led one of ordinary skill in the art to combine Kondo with the particular dyes relied on in the secondary references. Accordingly, because the examiner has not established a *prima facie* case of obviousness, we reverse the ground of rejection.

The examiner’s decision is reversed.

Reversed

CHARLES F. WARREN)	
Administrative Patent Judge)	
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THOMAS A. WALTZ)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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