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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(2) is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AKIHIRO SUZUKI, NORIO SHIBATA
SHINSUKE TAKAHASHI and MIKIO TOMARU

Appeal No. 1997-0488
Application 08/306,584

HEARD: March 7, 2000

Before JOHN D. SMITH, WARREN and LIEBERMAN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 2 through 8. Subsequent to the final rejection, appellants amended claims 2 through 5 and 7 and cancelled claims 6 and 8. Thus, amended claims 2 through 5 and 7 remain for consideration on appeal, which are all of the claims in the application. Claim 2 is illustrative of the claims on appeal:

2. An application method of sequentially forming a precoat and forming at least one coat in a wet condition on an application face of a support, in which said precoat and said coat contain different solvents and are formed with a non-pressurizing coating head having a front edge and a back edge respectively disposed upstream and downstream to one another with respect to a direction of movement of the support and forming a slot therebetween, in which the front edge and back edge each

has a slot surface along said slot meeting a top surface opposite said support forming a front edge tip and back edge tip respectively, wherein the back edge tip forms an acute-angle tip, and the back edge tip recedes in a direction opposite to the support from the front edge tip, and wherein a difference between solubility parameter values at application temperature of said different solvents contained in said precoat and said coat is less than or equal to 1.5.

The appealed claims as represented by claim 2¹ are drawn to a method of sequentially forming a precoat and at least one coat in a wet condition on a support, which precoat and coat contain different solvents, with a non-pressurizing head as specified in this claim, wherein the difference between the solubility parameter values at application temperature of said different solvents in the respective precoat and coat is less than or equal to 1.5. Appellants provide two different expressions of the solubility parameter of a solvent at application temperature (specification, pages 8-9). Appellants disclose that the “solubility parameters are an index indicating solubility of solvents” which, when “close to each other in value, mutual solubility is raised,” but if different, the lack of affinity may cause the “so-called ‘runaway phenomenon’” (*id.*, pages 5-6; see also, e.g., pages 10-11).

The references relied on by the examiner are:

Shibata et al. (Shibata)	4,907,530	Mar. 13, 1990
Tanaka et al. (Tanaka)	4,968,528	Nov. 6, 1990

The examiner has rejected appealed claims 2 through 5 and 7 under 35 U.S.C. § 103 as being unpatentable over Shibata in view of Tanaka. We affirm.

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the examiner’s answer and to appellants’ brief for a complete exposition thereof.

Opinion

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the examiner that the claimed application method encompassed by appealed claim 2 would have been obvious over the combined teachings of Shibata and Tanaka to one of ordinary skill in this art at the time the claimed invention was made. We agree with the position advanced by the examiner for essentially the reasons stated in her answer, including her response to

¹ Appellants state in their brief (page 4) that the appealed claims “stand or fall together.” Thus, we decide this appeal based on appealed claim 1. 37 CFR § 1.192(c)(7) (1995).

appellants' arguments, adding the following only for emphasis.

As discussed by the examiner, the dispositive issue in this appeal is whether one of ordinary skill in this art would have found a reasonable suggestion in the combined teachings of Shibata and Tanaka to modify the application method of Shibata by using different solvents in the precoat and the magnetic recording coat solutions applied by a *non-pressurizing* coating head, as exemplified in this reference, in view of the teachings that the same or different solvents can be used in such precoat and magnetic recording coat solutions applied by a *pressurizing* coating head in the application method of Tanaka, with the reasonable expectation of wet coating the magnetic recording coat solution over the precoat on a support (answer, pages 4-5 and 7-9). Appellants submit that one of ordinary skill in this art would not have combined the teachings of Shibata and Tanaka in view of the difference in the type of coating head used in the application methods disclosed therein because of the “degree of occurrence of the runaway phenomenon” (brief, pages 5-6). In support of their position, appellants allege that this phenomenon “is not likely to occur” with a pressurizing coating head “because the coat layer is strongly pushed against the precoat layer” and “more readily occurs” with a non-pressurizing coating head “since the coating fluid has little pressure when applied” (*id.*, page 6). Thus, appellants contend that because the phenomenon is “unique . . . only . . . [where] a non-pressure type coating head is used” and not mentioned in Tanaka, one of ordinary skill in this art “would never recognize that the runaway phenomenon could be eliminated by following the teachings of [Tanaka]” (*id.*, pages 6-7). The examiner, noting the similarities in the application methods of Shibata and Tanaka, including the precoat and magnetic recording coat solutions used therein, submits that one of ordinary skill in the art would have been motivated to use the conventional coating materials of Tanaka in the method of Shibata with the expectation of “similar coating results” even if this person did not recognize the problem of the “runaway phenomenon” (answer, pages 7-9).

We must agree with the examiner that the coating materials taught in Shibata and Tanaka are conventional and we find from reviewing these references that there is little, if any, difference in such materials and that pressure is used to apply these materials regardless of the type of coating head employed. Indeed, one of ordinary skill in this art would have reasonably expected that the coat

material must be wet coated with some pressure on the precoat even with the so-called non-pressurizing coating head and Shibata discloses in this respect that the “coating composition C is applied to the support W by means of the high discharge pressure of the coating composition itself,” which pressure is regulated at least in part by the tapering of the slot in the coating head (col. 6, lines 35-56; see also, e.g., col. 4, line 26, to col. 5, line 58). Shibata teaches that

prior to coating the composition C, the support W is coated with a *precoat layer B soluble in the coating composition C* by a suitable coating method (not shown). The precoat layer B doubly functions to prevent the involvement of the air and to *blend with the coating composition C when the coating composition C is applied*. [Col. 4, lines 62-68; emphasis supplied.]

We find no disclosure in Shibata which would have reasonably suggested to one of ordinary skill in this art that the requirement that the precoat layer B must be soluble in or blend with coating composition C would limit the selection of solvents useful in these two layers to the *same* solvent as in the exemplified solvent precoat and the magnetic recording coat solution in the sole Shibata example. Indeed, there is *no* other limitation on the precoat and coat compositions, including the solvents used therein, taught in this reference for use with the coating head disclosed therein. We find that Tanaka discloses the *same* parameter for the solvents selected for the precoat and magnetic recording coat solution for a pressurizing coating head:

In the preparation of the precoat layer . . . *any solvent* can be used as long as its has . . . *good compatibility with the solvent used in preparation of the magnetic coating solution*. Solvents having the *same composition as or a similar composition* to that of the solvent for use in preparation of the coating solution are preferably used. [Col. 3, lines 58-65; emphasis supplied; see also, e.g., col. 2, lines 13-28, col. 3, line 66, to col. 4, line 3, and col. 4, lines 40-43.]

Accordingly, based on this evidence, we must agree with the examiner that the combined teachings of Shibata and Tanaka would have reasonably suggested to one of ordinary skill in this art to use precoat and magnetic recording coat solutions containing different but compatible solvents as taught by Tanaka with the coating head of Shibata in the reasonable expectation of obtaining “similar coating results” because the *same* requirements for solvent compatibility is taught in each of these references. *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988) (“Both the suggestion and the reasonable expectation of success must be found in the prior art and not in

applicant's disclosure."); *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."); *see also In re O'Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988) ("Obviousness does not require absolute predictability of success. . . . There is always at least a possibility of unexpected results, that would then provide an objective basis for showing the invention, although apparently obvious, was in law nonobvious. [Citations omitted.] For obviousness under § 103, all that is required is a reasonable expectation of success. [Citations omitted.]"). We further agree with the examiner that one of ordinary skill in this art would have been reasonably motivated by the combined teachings of Shibata and Tanaka to select conventional precoat and coat compositions containing different solvents even though neither reference recognizes the problem of the "runaway phenomenon" advanced by appellants as their reason for utilizing the same combination of compositions. *See, e.g., In re Kemps*, 97 F.3d 1427, 1429-30, 40 USPQ2d 1309, 1311-12 (Fed. Cir. 1996); *In re Dillon*, 919 F.2d 688, 692-94, 16 USPQ2d 1897, 1901-02 (Fed. Cir. 1990)(*in banc*).

Accordingly, based on our reconsideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Shibata and Tanaka with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 2 through 5 and 7 would have been obvious as a matter of law under 35 U.S.C. § 103. *See generally, In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be

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