

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte CHARLES W. SPEHRLEY
and PAUL A. HOISINGTON

Appeal No. 2006-2178
Application No. 08/432,783

HEARD: August 9, 2006

Before KRASS, JERRY SMITH, and BLANKENSHIP, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 46-55.

The invention pertains to high resolution multicolor ink jet printers. In particular, a set of hot melt inks is provided, one hot melt ink for use with another ink of the same color, having different density levels for use in a hot melt ink jet printer to provide variable tonal range when used in combination. A hot melt ink is an ink which is solid at room temperature but liquefied for jetting at an elevated temperature.

Representative independent claim 46 is reproduced as follows:

46. A set of hot melt inks for use in a hot melt ink jet printer to provide variable tonal range when used in combination comprising at least two hot melt inks of the same color having different density levels.

The examiner relies on the following references:

Matsumoto et al. (Matsumoto)	4,860,026	Aug. 22, 1989
Sato et al. (Sato)	4,880,324	Nov. 14, 1989

Claims 46-55 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Sato with regard to claims 46, 47, and 50-55, adding Matsumoto with regard to claims 48 and 49.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

It is the examiner's position, with regard to the independent claims 46 and 50, that Sato teaches ink layers having the same ink color but different density levels for use in a thermal printer (referring to column 5, lines 13-16 and claim 6), rather than an ink jet printer. The examiner contends that Sato further suggests that the ink color can be fused or liquefied by heat associated with the hot melt method (referring to column 14, line 30-35).

The examiner recognized that Sato did not describe a hot melt ink having the same color but different densities for use in a hot melt ink jet printer, but the examiner

takes the position that since hot melt ink for use with an ink jet printer is “notoriously well known in the ink jet art” (answer-page 3), it would have been obvious to adapt the hot melt ink having the same color but different densities, in Sato, for use with an ink jet printer “for the purpose of obtaining an [sic, a] color image having high reflection density” (answer-page 3).

Appellants, after describing the heat transfer method of Sato, at pages 6-14 of the brief, argue that Sato fails to disclose or suggest any hot melt ink, i.e., one which is solid at room temperature and liquefied for jetting at an elevated temperature. Rather, Sato’s use of the term “hot melt” refers to one of several possible coating methods for preparing the heat-sensitive transfer medium but the heat transfer inks disclosed in Sato are not hot melt inks (brief-pages 23-24). In fact, argue appellants, Sato’s “heat transfer inks necessarily are not liquefied in use, as required for a hot melt ink, but instead must remain solid since they would no longer be capable of being maintained in position during transfer under pressure...” (brief-page 24). Appellants also point to column 6, lines 40-45 and 63-68, and column 7, lines 6-8, of Sato, as well as Figures 4 and 6, as evidence that the inks in Sato are in a completely solid condition. Appellants maintain that inks such as hot melt inks “must be liquid at the time of application” (brief-page 24) and cannot be maintained as separate layers. Thus, appellants question why one would have modified Sato’s inks to satisfy the claim requirements.

The mere fact that a “so-called hot melt coating method” might be used to prepare the ink layers of Sato...does not constitute a suggestion that the disclosed heat transfer inks, which must be solid for transfer, be replaced with hot melt inks which must be liquid at the application temperature. This is confirmed by the description at Col. 6, lines 65-20 of Sato..., which states that the second heat transfer

layer must be cut in order to transfer a dot, thereby completely negating any liquid condition which is the hallmark of a hot melt ink (brief-page 24).

“The name of the game is the claim.” In re Hiniker, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Thus, our analysis must begin with the claim language. Taking claim 46, the claim calls for a “set of hot melt inks.” The claim does not require an ink jet printer, but merely that the hot melt inks are “for use in a hot melt ink jet printer to provide variable tonal range when used in combination.” Thus, this last quoted section of the claim is merely a statement of intended use. Other than this statement of intended use, the claim merely calls for a set of hot melt inks comprising at least two hot melt inks of the same color having different density levels.

The examiner has pointed to column 5, lines 9-10, of Sato, for a teaching of two ink layers of the same color (hue) but different in density from each other. With regard to whether these layers constitute “hot melt inks,” the examiner points to column 14, line 24, which indicates that a “so-called hot-melt coating method” may be adopted. Thus, the examiner concludes that the claim language is met by Sato, but for the use of hot melt inks in an ink jet printer, which the examiner contends is “notoriously well known.” In addition, as the examiner points out, at page 7 of the answer, the fact that the claimed hot melt inks are “for use in a hot melt ink jet printer” is merely a statement of intended use and does not patentably distinguish from the hot melt inks having the same color but different densities of the prior art.

Statements of intended use in a preamble do not distinguish a claimed structural apparatus from a reference disclosing the structure but not the intended use. In re Sinex, 309 F.2d 488, 492, 135 USPQ 302, 305 (CCPA 1962). If a prior art structure is capable of performing the intended use as recited in the preamble, then it meets the claim. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

Thus, the first question is whether the claimed structure, viz., the hot melt ink, is taught in Sato. Appellants would have the definition of this term mean “one which is solid at room temperature and liquefied for jetting at an elevated temperature” (brief-page 23). However, not only have appellants not cited any authority for this definition, the instant specification fails to provide such a definition, indicating only, for example, at page 4, that the printer uses hot melt inks and that spreading of the ink drops deposited on a substrate is controlled “prior to solidification.”

The examiner has contended that hot melt ink for use in an ink jet printer is “notoriously well known” (answer-page 3) and appellants have not denied it, so we will take this allegation as true.

Moreover, the alternative disclosure of Sato, at column 14, line 24, of employing the “so-called hot-melt coating method” seems to suggest that any ink this method is applied to is a “hot melt ink,” as claimed. Thus, as far as this embodiment is concerned, Sato appears to disclose a set of hot melt inks comprising at least two hot melt inks of the same color having different density levels, as claimed. The only thing missing from Sato

is the intended use language of “for use in a hot melt ink jet printer to provide variable tonal range when used in combination.”

Since this is merely a statement of intended use, and the structure of the “hot melt inks” is the same, we do not find the claim language to distinguish over that disclosed by Sato. Alternatively, to the extent an ink jet printer is needed to meet the instant claim language, we have already noted appellants’ silence with regard to the examiner’s assertion that the use of such hot melt inks in ink jet printers is “notoriously well known.” Therefore, the skilled artisan would have recognized that when applying inks as disclosed in Sato, viz., inks of the same hue (color) but different in density from each other, to an ink jet printer, the inks must be solid at room temperature (i.e., when the ink is on the paper or other substrate), but liquefied for jetting at the elevated temperature inside the printer. Therefore, although the ink layers in Sato are not described as being used in an ink jet printer, but rather for a thermal printer with a heat sensitive medium, the artisan would have recognized that this prior art structure of two hot melt inks of the same color having different density levels is “capable” of performing the intended use recited in the preamble of the instant claim, i.e., of being used in an ink jet printer, so long as the artisan recognized, as we think he/she would, that the inks would need to be in liquid form at elevated temperatures inside the printer and in solid form on the paper.

With regard to appellants’ assertion that Sato’s inks do not provide “variable tonal range,” it appears to us that the use of two inks of the same color but different densities will, in fact, result in a tonal range. By choosing different densities, this tonal range will

be “variable.” Again, however, this provision of a variable tonal range is part of the “intended use” clause in the preamble of the claim. There is nothing in the claim directed to actually providing a variable tonal range. But, to the extent one might argue that a variable tonal range must be provided or capable of being provided, this is clearly suggested by Sato. Since Sato discloses two inks of the same color but different densities, the mixture of these inks will result in a certain tone. If one were to follow the directions in Sato but, this time, use inks of the same color as before, but different densities than before, this would result in a completely different tone. Thus, depending on the densities of the same color inks one employs, the tone will differ. Therefore, Sato does suggest a “variable tonal range,” as claimed.

Accordingly, we will sustain the rejection of claims 46 and 50 under 35 U.S.C. §103.

We also will sustain the rejection of claims 51-55 under 35 U.S.C. §103 since the disclosure by Sato of two inks of the same color but different densities meets the limitations of claims 51 and 52 calling for a low density hot melt ink and a high density hot melt ink. Clearly, one of the inks in this embodiment of Sato has a higher density than the other one if the densities are different.

With regard to claims 53-55, the particular color of the ink, be it black, magenta, or cyan, would have been an obvious design choice for the artisan, as no cited advantage is obtained by using a particular color.

We decide differently with regard to claims 47-49 since these claims require a plurality of inks including at least two or three inks of different colors with at least two different density levels. Sato only shows two inks of the same color and different density with no provision for the pluralities recited in these claims and it is not clear why the artisan would have increased the number of inks based on Sato's disclosure. Matsumoto is of no help in this regard. Thus, we will not sustain the rejection of claims 47-49 under 35 U.S.C. § 103.

Since we have sustained the rejection of claims 46 and 50-55 under 35 U.S.C. § 103 but have not sustained the rejection of claims 47-49 under 35 U.S.C. § 103, the decision of the examiner is affirmed-in-part.

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

AFFIRMED-IN-PART

Errol A. Krass)
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