

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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TATSURU SATO, KATSUHIKO SATO, MASAYOSHI SHIRAIISHI
and HIROSHIGE IKENO

Appeal No. 1997-3959
Application No. 08/183,693

HEARD: April 10, 2001

Before THOMAS, LALL and BLANKENSHIP, Administrative Patent Judges.

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection¹ of claims 45-99. However, Appellants have withdrawn from appeal the final rejection of claims 45-51, 55-57, 61, 62, 64, 82, 88, 90-95 and 96 (brief at page 1). The appeal as to these claims is therefore

¹ An amendment after the final rejection was filed as Paper No. 11, and its entry was approved by the Examiner; see Paper No. 13.

Appeal No. 1997-3959
Application No. 08/183,693

dismissed. Claims 1-44 have been canceled. Claims 52, 58-60, 63, 65, 66, 72, 73, 81, 83-87, 89, and 97-99 remain on appeal.

The disclosed invention is directed to an inkjet recording apparatus. The conventional inkjet recording apparatus typically suffers from inferior recording quality due to bleeding and/or flowing of the ink, which often results in contamination of the recording apparatus. The present invention overcomes this problem by providing a heating element in each of the passages for heating the recording ink and the coating material. Other aspects of the invention include making the inkjet recording head with an integer multiple number of orifices of the coating head, and providing a gas supply device which supplies the gas to the coating material supply device to supply the coating material onto the recording medium as a fine mist. Further understanding of the invention can be had by the following claims.

45. An inkjet recording apparatus comprising:
inkjet recording means for discharging recording ink according to a recording signal and for recording on a recording medium,
the inkjet recording means comprising at least one first orifice for discharging the recording ink on the recording

Appeal No. 1997-3959
Application No. 08/183,693

medium and a first passage in communication with the first orifice for receiving a supply of the recording ink; and

coating means for coating a coating material on the recording medium prior to recording by the inkjet recording means, the coating means comprising at least one second orifice for discharging the coating material on the recording medium and a second passage in communication with the second orifice for receiving a supply of the coating material.

52. An inkjet recording apparatus according to claim 45; wherein the inkjet recording means further comprises first heating means for heating the recording ink supplied to the first passage, and the coating means comprises second heating means for heating the coating material supplied to the second passage.

The Examiner relies on the following references:

Uchiyama	4,538,160	Aug. 27, 1985
Senoo et al. (Senoo)	4,877,688	Oct. 31, 1989

Claims 52, 63, 83-86, 89 and 97 stand rejected under 35 U.S.C. § 102² as being anticipated by Uchiyama. Claims 52-54, 58-60, 65, 66, 72, 73, 81, 83-87, 89, 97-99 stand rejected under

² The Examiner on page 4 of the Examiner's answer has not listed claim 81 and 87 as being rejected under 35 U.S.C. § 102, which were rejected in the final rejection at page 4. It is presumed that the Examiner has withdrawn the rejection of claims 81 and 87 under 35 U.S.C. § 102.

Appeal No. 1997-3959
Application No. 08/183,693

35 U.S.C. § 103³ over Uchiyama. Claims 67-71 stand rejected under 35 U.S.C. § 103⁴ over Uchiyama and Senoo.

Rather than repeat in verbatim the arguments of Appellants and the Examiner, we make reference to the briefs⁵ and the answer for their respective details thereof.

OPINION

We have considered the rejections advanced by the Examiner and the supporting arguments. We have, likewise, reviewed Appellants' arguments set forth in the briefs.

We affirm in part.

In our analysis, we are guided by the precedence of our reviewing court that the limitations from the disclosure are not to be imported into the claims. In re Lundberg, 244 F.2d 543, 113 USPQ 530 (CCPA 1957); In re Queener, 796 F.2d 461, 230

³ These claims remain on appeal after Appellants have withdrawn the appeal of the other claims listed on page 5 of the Examiner's answer.

⁴ Claims 47-51 listed on page 6 of the Examiner's answer under this rejection have been withdrawn by Appellants from appeal.

⁵ A reply brief was filed on October 24, 1997, and was entered by the Examiner on April 3, 2000.

Appeal No. 1997-3959
Application No. 08/183,693

USPQ 438 (Fed. Cir. 1986). We are also mindful of the requirements of anticipation under 35 U.S.C. § 102. We must point out, however, that anticipation under 35 U.S.C. § 102 is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of a claimed invention. See RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984), cert. dismissed, 468 U.S. 1228 (1984). Furthermore, only those arguments actually made by Appellant have been considered in making this decision. Arguments which Appellant could have made but chose not to make in the briefs have not been considered

[37 CFR § 1.192(a)].

Appeal No. 1997-3959
Application No. 08/183,693

Furthermore, in an appeal involving a rejection under 35 U.S.C. § 103, we are guided by the general proposition that an Examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

ANALYSIS

At the outset, we note the grouping elected by Appellants at pages 13 and 14 of the brief. We will discuss the rejections under the two grounds of rejection separately.

Rejections under 35 U.S.C. § 102

Claims 52, 63, 83-86, 89 and 97 stand rejected under

Appeal No. 1997-3959
Application No. 08/183,693

35 U.S.C. § 102 as being anticipated by Uchiyama. With respect to claim 52, we agree with Appellants that Uchiyama does not show the claimed first and second heating means. Despite the assertions by the Examiner that Uchiyama teaches an on-demand voltage excited-type nozzle with a proper exciting system and may include a heating means (Examiner's answer, page 10), we are not persuaded that the nozzles in Uchiyama contain any heating means for the purposes of drying the ink or drying the coating fluid. Therefore, we cannot sustain the anticipation rejection of claim 52 by Uchiyama. Since claims 84-86 depend on claim 52 their anticipation rejection by Uchiyama is also not sustainable.

With respect to claim 63, which depends on claim 62 which in turn depends on claim 56, we agree with the Examiner that Uchiyama does show respectively the ink jet nozzles and the coating fluid nozzles at 2 and 3 in Figures 1 and 3. Also, Uchiyama shows the delay means at 7 in Figure 4. Furthermore, we find that Uchiyama discloses the teaching of the recording signals providing signals to the orifices via the delay means and the control means to supply the ink fluid and the coating

Appeal No. 1997-3959
Application No. 08/183,693

fluid to the two types of nozzles. Therefore, we sustain the anticipation rejection of claim 63 by Uchiyama.

With respect to claim 83, which depends on claim 82, which in turn depends on claim 45, Uchiyama does show the teaching of having a plurality of coating nozzles (column 4, lines 60-65). Furthermore, Figure 3 of Uchiyama clearly shows that there are four nozzles for dispensing the ink, and there is one nozzle for the coating fluid. Therefore, Uchiyama shows the first orifices being an integer multiple of the second orifice as claimed. Therefore, we sustain the anticipation rejection of claim 83 by Uchiyama. For the same rationale, we sustain the anticipation rejection of claims 89 and 97 by Uchiyama.

Rejections under 35 U.S.C. § 103

Claims 52-54, 58-60, 65, 66, 72, 73, 81, 83-87, 89, and 97-99 are rejected as being obvious over Uchiyama as explained by the Examiner at pages 5-6 of the Examiner's answer. The Examiner asserts that even though Uchiyama does not teach the specific thermal and spray type nozzles, it would have been obvious at the time of the invention "to control the amount of heat to the different types of heating means because differing

Appeal No. 1997-3959
Application No. 08/183,693

sizes of heating areas require different amounts of heat in order to successfully jet the liquid." (See page 6 of the Examiner's answer). We are not convinced by this assertion by the Examiner because no heating means are shown by Uchiyama in the first place. Therefore, all the claims which recite the first and second heating means for the ink jet and the coating nozzle,

Appeal No. 1997-3959
Application No. 08/183,693

i.e., claims 52, 53, 58, 59, 65, 66, 72, 73, 84-87, 98 and 99 are not rejectable as being obvious over Uchiyama.

With respect to claims 54, and 60 which essentially contain the same limitation, that is, the claimed limitation of one orifice being of larger area than the second orifice, we agree with the Examiner that an artisan would have found obvious to make the nozzles in Uchiyama of any desirable size applicable to a particular application. Therefore, we sustain the obviousness rejection of 54 and 60 over Uchiyama.

With respect to claims 83, 89 and 97, which all call for the number of one type of nozzle being an integer multiple of the nozzle of the other type, this is also shown by Uchiyama, see the number of the ink nozzles and the coating nozzle in Fig. 3 and our discussion above regarding claim 83 rejected under section 102. Therefore, we sustain the obviousness rejection of claims 83, 89 and 97 over Uchiyama.

With respect to claim 81, the recited means of "coating material supply means for supplying the coating material on the recording medium, and gas supply means for supplying a gas to the coating material supply means to supply the coating material as a fine mist" is not shown or suggested by Uchiyama

Appeal No. 1997-3959
Application No. 08/183,693

as argued by Appellants at page 33 of the brief. The coating nozzle 3 of Uchiyama is disclosed to be of any known nozzle of the voltage excited type, or ultrasonic pressure excited type, but does not have a structure of the type claimed in claim 81 (see Uchiyama at column 5, lines 29-45).

Rejection of claims 67-71

These claims are rejected under 35 U.S.C. § 103, as being unpatentable over Uchiyama in view of Senoo. Each of these claims depends on claims 65 and 66 and hence contains the first heating means and second heating means which were claimed in claim 65. We noted above that Uchiyama does not disclose or teach the heating means, and Senoo does not cure that deficiency. Therefore, the rejection of claim 67 through 71 is also not sustained.

In conclusion, we have sustained under 35 U.S.C. § 102 the rejection of claims 63, 83, 89 and 97; however, we have not sustained the rejection of claims 52 and 84-86. We have also sustained under 35 U.S.C. 103 the rejection of claims 54, 60, 83, 89 and 97 over Uchiyama, while we have not sustained the rejection of claims 52, 53, 58, 59, 65, 66, 72, 73, 81, 84-87,

Appeal No. 1997-3959
Application No. 08/183,693

98 and 99 over Uchiyama. Furthermore, we have not sustained the obviousness rejection of claims 67-71 over Uchiyama and Senoo. Accordingly, we affirm-in-part.

Appeal No. 1997-3959
Application No. 08/183,693

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

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
PARSHOTAM S. LALL)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
HOWARD B. BLANKENSHIP)	
Administrative Patent Judge)	

jg

Appeal No. 1997-3959
Application No. 08/183,693

ADAMS & WILKS
50 BROADWAY-31ST FLOOR
NEW YORK, NY 10004