Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN F. DEFOSSE,
GANESH V. PHATAK
and MATTHEW C. SAUERS

Appeal No. 1999-1577
Application No. 08/537,060

ON BRIEF

Before KRASS, BARRY, and GROSS, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 6 and 7, the only claims pending.

The invention is directed to a multi-color liquid ink jet print head best illustrated by reference to independent claim 6 reproduced as follows:

> 6. An ink jet print head body comprising sidewalls and a bottom defining an interior

> space within said sidewalls and said bottom, two interior walls dividing the interior space into first, second, and third ink chambers, said second ink chamber being in the center of said print head body, the bottom of said print head body being formed to define first, second and third exit ports generally centrally located in said bottom entirely under said second chamber and spaced from all areas under said first chamber and under said third chamber, the bottom of said print head body being formed to define a first crossflow channel communicating with said first ink exit port and with an opening in the bottom of said first ink chamber and to define a second crossflow channel communicating with said third ink exit port and with an opening in the bottom of said third ink chamber, said second exit port communicating with an opening in the bottom of said second ink chamber.

The examiner relies on the following references:

Baker et al. (Baker)	5,025,271	Jun. 18, 1991
DeFosse et al. (DeFosse)	5,497,178	Mar. 5, 1996 (filed Dec. 10, 1993)
Ishinaga et al. (Ishinaga)	5,502,479	Mar. 26, 1996 (filed Jun. 16, 1996)

Claims 6 and 7 stand rejected under 35 U.S.C. § 103 as unpatentable over Baker in view of Ishinaga. Additionally, claims 6 and 7 stand rejected under obviousness-type double patenting over claims 1-3 of DeFosse in view of Ishinaga and Baker.

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

OPINION

We reverse.

Turning first to the obviousness-type double patenting rejection, the examiner recognizes that claims 1-3 of DeFosse fail to disclose that first, second and third exit ports are "generally centrally located in said bottom entirely under said second chamber." The examiner relies on the teaching of Baker to provide for the deficiency of the claims in this regard.[1]

A review of Baker makes it clear that the plurality of groups of orifices, 30, 32 and 34 are not all located "entirely under the second chamber," as claimed. To the extent one might consider the orifices to be, technically,

[1]The examiner relies on Ishinaga for a teaching of downwardly sloped crossflow channels, as per instant claim 7. However, we question the necessity of Ishinaga in this regard since claim 3 of DeFosse, itself, discloses such downwardly sloped channels.

"entirely under the second chamber" because they are located below the chamber, albeit some orifices are off to the side, continuance of the instant claim language requires the exit ports also to be "spaced from all areas under said first chamber and under said third chamber." This claim language precludes any of the orifices, or exit ports, of Baker from being located in an area below the first and/or third chambers. Since at least the leftmost and rightmost orifices of Baker are, indeed, located beneath areas of the first and third chambers, Baker does not suggest the exit ports "generally centrally located in said bottom entirely under said second chamber and spaced from all areas under said first chamber and under said third chamber," as claimed. Ishinaga is of no help in this regard.

Accordingly, we will not sustain the rejection of claims 6 and 7 under obviousness-type double patenting.

We now turn to the rejection of claims 6 and 7 under 35 U.S.C. § 103.

We also will not sustain this rejection since the examiner's reasoning is similar to the reasoning applied in the obviousness-type double patenting rejection. That is, reliance is placed on Baker for the teaching of exit ports "generally centrally located in said bottom entirely under said second chamber and spaced from all areas under said first chamber and under said third chamber," as claimed. For the reasons supra, we do not agree that Baker suggests this claimed limitation.

The examiner also reasons, in applying Baker in both rejections, that it would have been obvious to modify the exit ports of Baker to locate entirely under the second chamber for the purpose of providing ink flow during recording "since applicant has not disclosed that having the ports entirely under the second chamber solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the ports [sic, ports'] position taught" by Baker and that "rearranging parts of an invention involves only routine skill in the art." [Answer, page 6]

The examiner's reasoning is faulty as it provides no proper rationale for modification. No evidence of motivation to modify Baker's exit port structure is shown by the examiner's merely stating that appellants have not shown any stated problem to be solved. In fact, appellants do disclose that their arrangement places the exit ports closer together, allowing a single heater chip to be used (see the top of page 2 of the specification, wherein, in the discussion of the prior art, appellants state that "[f]or reasons of nozzle assembly manufacture, it is preferred to have the three nozzle arrays for the three colors of ink closely adjacent one another using a single heater chip").

While we need not reach a discussion of the Ishinaga reference because it does not supply the deficiencies of Baker (Ishinaga was used by the examiner to show a downwardly sloped channel as per instant claim 7), we note that even if we were to reach this reference, it would not teach or suggest the claimed downward slope of the first and second crossflow channels. Ishinaga is concerned only with a single ink chamber, not the three that are claimed. Therefore, Ishinaga

has no need for the crossflow channels claimed nor does Ishinaga disclose such crossflow channels. Moreover, element 20 of Ishinaga, on which the examiner relies, is a diverging communication port of the ink supply passage 18. While the element certainly has a slope to it, as shown in Ishinaga's Figure 2, Ishinaga has no crossflow component. Accordingly, it is beyond reason to conclude that this sloped element of Ishinaga would, in any way, suggest to the artisan a downwardly sloped crossflow channel or would suggest any modification to any crossflow channel of Baker.

The examiner's decision rejecting claims 6 and 7 under 35 U.S.C. § 103 and under obviousness-type double patenting is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)	
LANCE LEONARD BARRY	)	BOARD OF PATENT APPEALS

Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
ANITA PELLMAN GROSS	)	
Administrative Patent Judge	)	

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REVERSED

Prepared: October 24, 2001