

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte SEIZOU SUZUKI

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Appeal No. 1999-1341  
Application No. 08/542,323

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HEARD: May 10, 2001

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Before KRASS, BARRETT and BLANKENSHIP, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 3-10, 14, 15, 17, 21-25 and 27-31, all of the pending claims.

The invention is directed to an image forming system comprising a plurality of light emitting diode (LED) arrays, a photoconductive surface for receiving light from the LEDs, and a plurality of lenses which correspond one-to-one with the LED arrays. The

LEDs are aimed at and direct their light towards the center of the lenses, allowing the maximum luminous flux from each LED to be condensed in the center of the corresponding lens. Also, by emitting light towards the center of the lens, the LEDs emit a majority of light towards the lens in varying directions.

Representative independent claim 21 is reproduced as follows:

21. An image forming system, comprising:

a plurality of light emitting diode (LED) arrays, each including a plurality of LEDs;

a photoconductive surface which receives light from the LEDs; and

a plurality of lenses which correspond one-to-one with the LED arrays which focuses light from the LEDs onto the photoconductive surface, said plurality of lenses being directly connected to form a unitary device,

wherein the LEDs emit a maximum luminous flux towards the corresponding lens in varying directions.

The examiner relies on the following references:

Taniguchi et al. (Taniguchi)	5,023,442	Jun. 11, 1991
Kessler et al. (Kessler)	5,475,416	Dec. 12, 1995 (filed Jun. 03, 1992)

Claims 3-10, 14, 15, 17, 21-25 and 27-31 stand rejected under 35 U.S.C. § 103 as unpatentable over Taniguchi in view of Kessler.

Reference is made to the briefs and answers for the respective positions of appellant and the examiner.

### OPINION

We reverse.

At the outset, we note, in passing, that 37 CFR 1.193(b)(1) does not permit for a supplemental examiner's answer as was provided by the examiner in the present case.

Turning to the substantive issues, with regard to the independent claims, it is the examiner's position that Taniguchi discloses the claimed LED arrays, photoconductive surface and plurality of lenses. We agree. These elements can be seen in Figure 1 of Taniguchi.

However, the claims also require that the LEDs emit a majority of light towards the corresponding lens "in varying directions." The examiner recognizes this deficiency in Taniguchi and relies on Kessler for the missing teaching. More specifically, the examiner contends that Kessler, at columns 5-7 and Figure 5, "suggests that each one of the light emitting elements (12a, b) can be arranged at an angle such that the light beams being [sic, are] directed into the center of an optical correction system" (principal answer-page 4) and concludes that it would have been obvious "to modify the angle of the LEDs in Taniguchi...as suggested by Kessler...thereby enabling a greater amount

Appeal No. 1999-1341  
Application No. 08/542,323

of light beams of a greater spaced apart light emitting elements to reach the center of the single lens” (principal answer-page 5).

It is our view that the examiner has not established a prima facie case of obviousness with regard to the instant claimed subject matter.

The light emitting elements in Kessler are laser diodes while the light emitting elements in Taniguchi are LEDs. We agree with appellant that the two types of light sources are unrelated as “LEDs ordinarily do not emit light which is highly focused like light from lasers, and there is no motivation to combine the references” (principal brief pages 7-8). Moreover, Kessler simply does not provide the deficiency of Taniguchi. That is, there is nothing in Kessler which suggests that a greater amount of luminous flux is obtained by varying the angles of the lasers. Kessler is merely interested in precisely aiming a laser beam. Thus, there would appear to have been no reason, other than hindsight knowledge gained from appellant’s disclosure, for the skilled artisan to have taken any teaching of Kessler related to lasers emitting light in varying directions and apply that teaching to modify Taniguchi in order to vary the directions of the light emitted from the LEDs of Taniguchi.

Appellant also makes a convincing argument that the examiner’s rationale for combining the references is flawed. Since one would generally desire to reduce

spacing between LEDs (because this increases resolution of the printer), it would be contrary to general knowledge to desire to increase the spacing of the LEDs. Yet, the examiner's rationale for combining the references is to enable "a greater amount of light beams of a [sic] greater spaced apart light emitting elements to reach the center of the single lens" (principal answer-page 5). There is certainly no teaching in either of the applied references of a desire to enable a greater amount of light beams of "greater spaced apart light emitting elements to reach the center" of a single lens.

There is no suggestion, in either Taniguchi or Kessler, that there was any need for improvement in Taniguchi by increasing luminous flux by having the LEDs emit a majority of light towards the corresponding lens "in varying directions." If there is no suggestion by the applied prior art that there was any problem with Taniguchi's apparatus, what would have led the artisan to aim the LEDs towards the centers of the lenses by having the light from the LEDs emitted "in varying directions," as claimed? Clearly, Kessler's teaching of combining a plurality of angularly separated output laser light beams and relaying the beams at a stop plane to a light sensitive print medium to form a spot for each laser light beam would not have led the artisan to modify Taniguchi to arrive at the instant claimed subject matter.

Appeal No. 1999-1341  
Application No. 08/542,323

The examiner's decision rejecting claims 3-10, 14, 15, 17, 21-25 and 27-31 under  
35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
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	)	
	)	BOARD OF PATENT
LEE E. BARRETT	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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	)	
HOWARD B. BLANKENSHIP	)	
Administrative Patent Judge	)	

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Appeal No. 1999-1341  
Application No. 08/542,323

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