

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VISHAL MARKANDEY and ROBERT J. GOVE

Appeal No. 1997-1981
Application No. 08/298,547¹

ON BRIEF

Before THOMAS, FLEMING, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-6², which are all of the claims pending in this application.

We AFFIRM.

¹ Application for patent filed August 30, 1994.

² The examiner indicates on page 1 of the answer that claims 2-4 are now allowable over the prior art of record and withdrew the rejection of these claims leaving only claims 1, 5 and 6 rejected.

BACKGROUND

The appellants' invention relates to a process for forming image scaling filters which may be used to scale an image either up or down in size. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A method of forming an image scaling filter for converting a plurality input elements to a different plurality of output elements comprising the steps of:

estimating a close to ideal frequency response without short cut-offs,

determining a set of filter coefficients based on the estimated close to ideal frequency response,

scaling said filter coefficients so each set sums to 1;

multiplying input elements by said scaled filter coefficients; and

summing the multiplied input elements to achieve an output element.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Niehaus

5,422,827

June 6, 1995
(filed Feb. 12, 1993)

Hartnett et al. (Hartnett), "On the Use of Cyclotomic Polynomial Prefilters for Efficient FIR Filter Design," 41 IEEE TRANSACTIONS ON SIGNAL PROCESSING, no. 5, 1766-79 (May 1993).

Nakamura et al. (Nakamura), "Fast Calculation of the Coefficients of the Generalized McClellan Transform in 2-D FIR Filter Design", IEEE 918-21 (1993).

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Claims 1, 5 and 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hartnett in view of Nakamura and Niehaus.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 13, mailed Dec. 23, 1996) for the examiner's reasoning in support of the rejections, and to the appellants' brief (Paper No. 12, filed Nov. 13, 1996) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

"To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness. **See In re Deuel**, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. **See In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On appeal to the Board, an applicant can overcome a rejection by showing

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insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.” **In re Rouffet**, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1455 (Fed. Cir. 1998). Here, we find that appellants have not overcome the *prima facie* case of obviousness by showing insufficient evidence by the examiner of obviousness or by rebutting the *prima facie* case with secondary evidence. Therefore, we will sustain the rejection of process claims 1 and 5 and dependent claim 6.

As pointed out by our reviewing court, we must first determine the scope of the claim. “[T]he name of the game is the claim.” **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). The examiner has addressed the language of the claims in the rejection of independent claims 1 and 5 with citations to the applied references.

Appellants argues that the prior art reference to Hartnett does not teach or suggest image scaling and appends diagrams to the brief contrasting the results of the image scaling of the filters. (See brief at pages 5-6.) The examiner states that this argument does not address the limitations in claim 1. (See answer at page 5.) We agree with the examiner, and we note that the language of claim 1 recites a “method of forming an image scaling filter” rather than a method of filtering. Therefore, this argument is not persuasive.

Appellants argue that Hartnett does not suggest multiplying the input elements by the scaled filter coefficients and then summing the multiplied inputs to get the output elements. (See brief at page 6.) The examiner argues that appellants are arguing the references individually rather than the combined teachings of the references.

(See answer at pages 5 and 6.) We agree with the examiner. The examiner relies on Niehaus for this teaching. Niehaus clearly discloses that the Infinite Impulse Response (IIR) filter and the Finite Impulse Response (FIR) filters use the weighted sums of present and previous inputs. (See Niehaus at col. 2.) Since the filters of Hartnett and Nakamura are FIR filters, the use thereof would similarly be a sum of weighted values. (See answer at pages 6-7.)

Appellants argue that there is no suggestion in Hartnett or Nakamura that the scaled coefficients are based on the close to ideal frequency response estimate. (See brief at page 6.) The examiner relies on the disclosure of Hartnett at page 1768 to disclose the use of the ideal filter frequency response. (See answer at page 6.) Also, Niehaus discloses the use of various filters depending on the desired characteristics. Clearly these filter characteristics must be derived from ideal or close to ideal frequency responses. Furthermore, depending on the use of the filters, the skilled artisan would have been motivated to use the ideal or close to ideal filter frequency response with image scaling in

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a manner which would not detrimentally affect the image quality. Niehaus teaches the use of a total unity gain (sum of the weights equals 1.00). (See Niehaus at col. 10.)

Appellants argue that Nakamura “only discusses calculation of the coefficients of the generalized Parks-McClellan transform. It doesn’t even discuss image scaling or determining coefficients based on estimated close to ideal frequency response.” (See brief at page 6.) In our view, the specific coefficients and algorithm would have depended on the specific filter and the use of that filter. Here, the language of claim 1 only sets forth the broad area of image scaling which is taught by Niehaus.

Appellants argue that “[n]othing like this is found in any of these cited and applied references.” (See brief at page 7.) The examiner responds with citations to the appropriate applied references at page 7 of the answer and states that “[w]hile appellant may not agree that these sections do not teach these limitations, the appellant has offered no other interpretation of the references that may be valid.” We agree with the examiner. The language of claim 1 is directed to a broad method of “forming an image scaling filter” and the examiner has pointed out the relevant teachings in the prior art references and motivation to combine the relevant teachings and suggestions. Appellants have not provided any evidence to rebut this *prima facie* case of obviousness set forth by the examiner. Therefore, we will sustain the rejection of claim 1.

Appellants argue that claim 5 is deemed allowable for the same reason as claims 1 and 2 and merely paraphrases claim language. We note that claim 5 differs from claim 2, but does refer to a frequency response with a determined number of taps per line. The examiner has not addressed the claim language with respect to the number of taps in claim 5, but we note that the frequency response would have had a number of taps per line. Moreover, the language of claim 5 does not require a step that the number of taps be determined or computed. Since no further arguments have been presented by appellants, we will sustain the rejection of claim 5.

Appellants argue that claim 6 should be allowable for the same reasons as claim 5 and that the prior art references do not suggest “the use of the Park-McClellan algorithm in connection with generating filter components based on optimal frequency response or in connection with an image scaling filter.” (See brief at pages 9-10.) We disagree with appellants. The examiner has set forth a ***prima facie*** case of obviousness and appellants have not rebutted it with evidence or shown error in the ***prima facie*** case. Therefore, we will sustain the rejection of claim 6.

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CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 5 and 6 under 35 U.S.C. § 103 is affirmed.

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

AFFIRMED

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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