The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KUNIO KAWAGUCHI
and TETSUJIRO KONDO

_____

Appeal No. 1999-0858
Application 08/562,429

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ON BRIEF[1]

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Before THOMAS, KRASS and BLANKENSHIP, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's final rejection of claims 17, 18, 20-28, 30-38, 40-48, 50-58, 60-68 and 70-76, the answer having with-drawn the rejection as to claims 19, 29, 39, 49, 59 and 69.

[1] The oral hearing in this appeal set forth April 10, 2001 was waived by appellants in a facsimile communication received on March 7, 2001.

Representative claim 17 is reproduced below:

17. An apparatus for converting a first image signal having a first resolution into a second image signal having a second resolution greater than the first resolution by producing pixels of the second image signal in accordance with pixels of the first image signal, said apparatus comprising:

means for detecting an amount of a characteristic near a picture element of the second image signal to be produced using picture elements of the first image signal near the picture element to be produced;

means for selecting surrounding picture elements corresponding to the detected amount of the characteristic, the surrounding picture elements of the first image signal being adjacent to the picture element of the second image signal to be produced;

means for determining a class corresponding to the picture element to be produced in accordance with the selected surrounding picture elements;

means for generating predicted data from the determined class and a reference image signal having the second resolution; and

means for producing the picture element of the second image signal to be produced in accordance with the predicted data.

The following reference is relied on by the examiner:

Coward et al. (Coward)	5,363,213	Nov. 8, 1994

Claims 17, 18, 20-28, 30-38, 40-48, 50-58, 60-68 and 70-76 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Coward.

For the examiner's position, we make reference to the final rejection of May 27, 1997 and the answer, and appellants' brief and reply brief for appellants' positions.

OPINION

We reverse.

Each independent claim, 17, 27, 37, 47, 57 and 67 requires in part a means or step for “detecting an amount of a characteristic near a picture element” as well as a means or step for “selecting surrounding picture elements corresponding to the detected amount of the characteristic.”

The examiner's reasoning in the final rejection and the answer relies most heavily upon the discussion in Coward at columns 5-7 to justify the position that the claims on appeal are anticipated by this reference. As the abstract and summary of Coward reveals, this reference is capable of converting a first bitmap image resolution to a second bitmap resolution by means of interpolation as generally expressed in the preamble of each independent claim on appeal. As shown in Figure 1 of this reference and revealed in the abstract and summary of the invention in the most succinct manner, there exists first a prefiltering step which, in accordance with Figure 2, in part selects one of a plurality of filters, there listed as filters A-C. Because this filter selection operation occurs in a prefiltering operation, it can not be said to meet the step of selecting surrounding picture elements since there had been no previous determination in the reference to rely on an amount of a characteristic in accordance with the first major clause of each independent claim on appeal.

The second step of the Figure 1 process is depicted beginning in Figure 3 where unquantized scaling of this prefiltered image is performed using a given pixel window to identify a set of neighboring input pixels surrounding a single output pixel. Each pixel in this window contributes input pixel density information to generate a scaled grey output pixel and each pixel in the window is assigned a weighting factor to establish a density contribution to the output pixel. This is discussed briefly in the abstract, the middle of the summary of the invention at column 3 and again in the paragraph bridging columns 3 and 4 of the summary of the invention. At most, these grey scale determinations may be construed to meet the claimed feature of detecting an amount of a characteristic near a picture element. As expressed at this later portion, the grey level values are determined as a function of a predefined neighborhood of overlapped and non-overlapped input pixels about the output pixel. There is thus no selection of the surrounding picture elements corresponding to the detected amount of the characteristic as also required in each independent claim on appeal.

According to the showing in Figure 5, for example, and the discussion in the middle of column 7, an exemplary 3 X 3 neighborhood of pixels has been predefined as the set of neighboring pixels. The discussion at column 7, lines 47-49 indicates that any set size may be utilized and that such size has no relation to the input and output resolutions. In accordance with the discussion of Figure 7 at column 8 and the showing in this figure, the

so-called 3 X 3 interpolation window 710 moves through an input image 720. Our understanding of this reference from our study of it leads us to agree with appellants' views that there is no claimed selection surrounding picture elements corresponding to the detected amount of the characteristic previously determined in the first clause in the body of each independent claim on appeal.

On this basis alone, the rejection must be reversed. We therefore see no need to arbitrate whether appellants explicitly or implicitly admitted that Coward teaches flatness determinations or any degree of a flatness determination. Flatness determinations per se are not pertinent to the issue because each independent claim recites in a broader way what appellants disclose as a flatness determination by the recited determination of detecting an amount of a characteristic. The examiner's “micro-structure” analysis beginning at page 8 of the answer goes well beyond a fair reading of the teachings and suggestions of this reference regarding this feature since it is not discussed to any meaningful extent in the reference itself. We therefore cannot agree with the examiner's apparent views that this “micro-structure” discussion beginning at the middle of column 5 is a measure of an indication of a degree of flatness and thus provides an ability to detect an amount of a characteristic as broadly claimed, let alone the additional claimed feature of selecting surrounding picture elements corresponding to the detected amount of the characteristic.

In view of the foregoing, because we have concluded that the examiner has not set forth a prima facie case of anticipation of each independent claim on appeal, we will also not sustain the rejection of their respective dependent claims. Accordingly, the decision of the examiner rejecting all the claims on appeal under 35 U.S.C. § 102 is reversed.

REVERSED

James D. Thomas Administrative Patent Judge	))))) BOARD OF PATENT
Errol A. Krass Administrative Patent Judge	)) APPEALS AND)) INTERFERENCES)
Howard B. Blankenship Administrative Patent Judge	))

JDT/cam

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