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. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN O. G. VIETH

Appeal No. 1997-0017
Application No. 08/188,365

ON BRIEF

Before THOMAS, HAIRSTON and DIXON, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 2, 4, 9, 10, 12 through 14, 16 and 17. In an Amendment After Final (paper number 27), all of the claims were amended.

The disclosed invention relates to a method and system for compressing non-transposed data.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method of compressing non-transposed data comprising
the steps:

(a) receiving successive non-transposed columns of binary pixels representing data on a document using a document scanner, with said successive non-transposed columns of binary pixels including a first non-transposed column of binary pixels and a last non-transposed column of binary pixels to be processed, said successive non-transposed columns of binary pixels being derived from the same document;

(b) using an examining window to extend over a predetermined number of said successive non-transposed columns along a direction which is perpendicular to the direction of said columns so as to present a row of said binary pixels, with said using step using only one binary pixel from each of said non-transposed columns of binary pixels for said row of binary pixels;

(c) generating a change of color bit for each of the binary pixels in the examining window, starting with said first non-transposed column of binary pixels while said examining window is moved towards said last non-transposed column of binary pixels;

(d) examining a pixel in a target row under consideration in said window with regard to a reference row and designating coding according to a predetermined code which uses said reference row for compressing pixels in said target row, with said reference row and said target row being perpendicular to said successive non-transposed columns of binary pixels;

(e) compressing said target row starting with said first non-transposed column of binary pixels while said examining window is moved towards said last non-transposed column of

binary pixels, with said compressing step (e) being initiated after receiving said first non-transposed column of binary pixels but before said last non-transposed column of binary pixels is received;

(f) repeating steps (b), (c), (d), and (e) for the remaining non-transposed columns of binary pixels on the document.

The references relied on by the examiner are:

Rohrer	4,590,606	May 20, 1986
Kaku et al. (Kaku)	4,807,043	Feb. 21, 1989
D'Aoust et al. (D'Aoust)	5,007,100	Apr. 9, 1991
Chatterjee	5,317,652	May 31, 1994

(filed June 5, 1991)

Claims 1, 2, 4, 9, 10, 12 through 14, 16 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over D'Aoust in view of Kaku, Chatterjee and Rohrer.

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

OPINION

The obviousness rejection of claims 1, 2, 4, 9, 10, 12 through 14, 16 and 17 is reversed because the applied references neither teach nor would have suggested to the skilled artisan a compressing step or a compressing means that

uses an examining window that extends over and is perpendicular to a predetermined number of successive columns of binary pixel data received from a document scanner to form a target row of pixels, and that initiates the compressing of the target row of pixels after receiving the predetermined number of successive columns of binary pixels but before the last column of binary pixels has been generated by the document scanner.

The examiner is of the opinion (Supplemental Answer, paper number 29, page 4) that:

> D'Aoust '100 strongly suggests that the compression steps may take place while further image data is being input (i.e., "before said last column of binary pixels is received"). See column 16, lines 29-31 and column 18, lines 50-53 of D'Aoust '100. Note also that column 4, lines 23-31 state that "entities 48, 52, 56, 60 and 64 represent a single document image pipelined processing assembly . . ." This indicates that *at least* the image digitization (48) and compression (60) are being performed at the same time for different parts of the image (i.e., the first columns of data would be processed by the compressor before the last column is digitized.)

Appellant argues (Reply Brief, page 3) that "it is clear from reading the detailed specification of D'Aoust '100 that image digitizing of a document occurs before compression of

data associated with the same document begins." According to the appellant (Reply Brief, page 4):

> None of the prior art including D'Aoust '104 discloses or suggests a combination of elements in which a standard compression algorithm like the CCITT compression algorithm is applied to compressing non-transposed pixel data scanned from a document using a document scanner wherein compression begins after the first non-transposed scan line of pixels is generated but before the last non-transposed scan line of pixels is derived from scanning the same document using the document scanner and such that reference and target rows of pixels defined by the compression algorithm extend in a direction which is perpendicular to the non-transposed scan lines of pixels.

We agree with appellant's arguments. The mere fact that D'Aoust's "entities 48, 52, 56, 60, and 64 represent a single document image pipelined processing assembly" (column 4, lines 23 through 26; Figure 2) does not mean that "the compression steps may take place while further image data is being input (i.e., 'before said last column of binary pixels is received')." Although "[t]ransposer buffers 300 and 302 [in the transposer compressor assembly 60] are substantially always ready to accept image data associated with document 16" (column 16, lines 29 through 31), this buffer readiness does not translate into compression of pixel data while the image

data is being input by the scanner. D'Aoust's teaching (column 18, lines 50 through 53) that "buffers 418, 420, 422 and 424 allow for up to three images to be packed while one is being read by the communications processor 74" is irrelevant to the claimed invention because the buffers 418, 420, 422 and 424 that form the compressed data buffer 64 (Figures 2 and 7) receive image data after the compression operation in transposer compressor assembly 60.

When the teachings of D'Aoust are considered in toto, it is very clear that the document 16 is completely scanned before the initiation of the compression operation (column 5, line 3 through column 6, line 46).

Even if we assume for the sake of argument that it would have been obvious to one of ordinary skill in the art to modify D'Aoust with the disparate teachings of Kaku, Chatterjee and Rohrer, the initiation of compression while the document is still being scanned would not have been taught nor would it have been suggested by the combined teachings of the references. In summary, the obviousness rejection of claims 1, 2, 4, 9, 10, 12 through 14, 16 and 17 is reversed.

DECISION

The decision of the examiner rejecting claims 1, 2, 4, 9, 10, 12 through 14, 16 and 17 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)	
KENNETH W. HAIRSTON Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH L. DIXON Administrative Patent Judge	)	

jg

Michael Chan
NCR Corporation
Law Department
Intellectual Property Section, ECD-2
101 West Schantz Avenue
Dayton, OH 45479-0001