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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FILIP J. YESKEL

Appeal No. 96-3635
Application 08/209,096[1]

ON BRIEF

Before URYNOWICZ, JERRY SMITH and CARMICHAEL, Administrative Patent Judges.

URYNOWICZ, Administrative Patent Judge.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1, 4, 5, 9 and 13-15, all the claims pending in the application.

The invention pertains to a document image processing method. Claim 1 is illustrative and

[1] Application for patent filed March 10, 1994.

reads as follows:

1. A machine-based document archival method for processing one or more digital images of each of a plurality of documents and digital data that is associated with said documents, comprising the steps of;

machine scanning a document and forming one or more digital images and associated data that correspond to said document,

machine detecting anomalous conditions that may occur during said scanning and/or during subsequent image processing,

defining a plurality of image quality parameters,

machine computing a suspiciousness value for each of said plurality of digital images as a function of said defined image quality parameters and said detected anomalous conditions,

continuing said machine scanning of said plurality of documents independent of the results of said machine computation of suspiciousness value,

making a machine recommendation to archive based upon said machine computer suspiciousness values for each of said plurality of digital images,

machine archive storing said one or more digital images and said associated data in a digital storage device only when a recommendation to archive has been made,

providing machine temporary storage of digital images and associated data prior to said machine archive storing step, and

machine erasing said temporary storage after said machine archival storing step,

machine converting into visual images the digital images of a document having one or more digital images that are of suspect quality,

providing human visual review of said visual digital images,

making a human document accept/reject decision based upon said human visual review, and

changing said image quality parameters in a manner to produce future correspondence between said machine computation of suspiciousness value and said human document accept/reject decision.

The references relied upon by the examiner as evidence of obviousness are:

Dinan et al. (Dinan)	4,888,812	Dec. 19, 1989
Spence et al. (Spence)	4,947,321	Aug. 07, 1990
Behera	5,187,750	Feb. 16, 1993

Claims 1 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dinan and Spence.

Claims 4, 5 and 13-15 stand rejected under 35 U.S.C. § 103 as unpatentable over Dinan, Spence and Behera.

The respective positions of the examiner and the appellant with regard to the propriety of these rejections are set forth in the final rejection (Paper No. 10) and the examiner's answer (Paper No. 16) and the appellant's brief (Paper No. 15).

Appellant's Invention

The invention involves machine scanning of documents to form digital images thereof and the detection of anomalous conditions that occur during scanning. The images are machine-judged for image quality by using the detected anomalous conditions, and by using image quality parameters that were previously defined for the machine by the user. Document scanning continues independent of the

machine's accept/reject judgment of image quality.

After document scanning has ended, machine-unacceptable digital images are converted to visual images. These images are then reviewed by a person to determine whether or not the machine's image quality decision conforms to an image-quality decision made by the reviewer. Based on this review of the machine's operation, the user may change the previously-defined image quality parameters so that in the future the machine will make image quality decisions that are more in line with the image quality decision that a person would have made.

Archival storing of digital images and associated data occurs only when the machine makes a recommendation to archive.

The Prior Art

Dinan discloses a machine based document archival method which scans a document and forms one or more digital images and associated document data (the encoded information taught at column 5, lines 1-5). The method detects anomalous conditions that may occur during document scanning and/or subsequent processing and defines a plurality of image quality parameters in the form of gray scale values. Unit 24 of Figure 1 may monitor the distribution of gray scale values in the image data and create a histogram, which is a distribution of gray scale values which has prescribed limits. If the distribution falls outside of the limits, a malfunction signal is generated, which signal may be utilized to

stop document transport for scanning.

Following image quality monitoring, image data is transferred for temporary storage in an image buffer 40. At convenient times, such as periods of low processing demands, the image data from buffer 40 is transferred to a longer term storage device 54.

Spence teaches magnetic ink character recognition (MICR) scanning of checks. Checks are rejected whose MICR characters cannot be read after a plurality of scans, including a low speed scan. A visual inspection of rejected checks is made in an attempt to find the correct checking account number, and the customer and the check's printer are notified that the MICR characters that are on this particular customer's checks cannot be read by the bank's MICR reader/sorters.

Behera assembles index files that carry information about check images and associated data of accepted documents into a data group that contains a storage-location index. Column 6, line 46-49 and column 8, lines 18-35.

The Rejection under 35 U.S.C. §103
Claims 1 and 9

With respect to independent method claims 1 and 9, appellant contends that the examiner has not provided a prima facie showing whereby the prior art anticipates or renders obvious appellant's

method claim requirements defining;

(1) machine computing of a suspiciousness value for each of a plurality of digital images as a function of the image quality parameters and detected anomalous conditions,

(2) continuing machine scanning of a plurality of documents independent of the results of a machine computation of suspiciousness values,

(3) making a machine recommendation to archive based on the machine computed suspiciousness values,

(4) providing visual review of visual digital images, and

(5) changing image quality parameters in a manner to produce future correspondence between the machine computation of suspiciousness value and a document accept/reject decision by a person.

It is urged that Dinan's production of low-quality digital images produces immediate corrective action, such as stopping document scanning. Spence on the other hand, continues check scanning independent of whether or not a check's MICR characters can be read but Spence then visually inspects the not-read checks in order to tell the bank's customer and the check's printer that the characters are bad. Appellant asserts that neither Dinan or Spence adjust user-defined parameters in a manner to make a machine's future document accept/reject decision correspond to the current accept/reject decision made by a human.

In response, the examiner asserts with respect to requirement (1), above, that appellant broadly claims the computation of a suspiciousness value and draws attention to the fact that at page 9, lines 3-9, of Paper No. 9, appellant indicated that the computation of the suspiciousness value is not defined in detail because it can take many forms which are not critical to the spirit and scope of the invention. Thus, the examiner contends Dinan's computed histogram meets requirement (1).

As to the second requirement (2), it is urged that Dinan teaches that his malfunction signal may be utilized to stop document transport, not that the signal must stop document transport.

Concerning the third requirement (3), the examiner states that Dinan makes a recommendation to archive in image storage device 54 based upon whether the histogram (or suspiciousness value) has a gray scale distribution within prescribed limits.

With respect to the fourth requirement (4), the examiner asserts that Dinan teaches at column 2, lines 35-40, that corrective action can be taken if image quality from documents becomes unacceptable and that Spence teaches that an operator can view display of a list of previous rejected items for an account under review. It is urged that it would have been obvious to provide human visual review as taught by Spence of the document images in Dinan's system so as to facilitate the corrective action suggested by Dinan.

Addressing the last requirement (5), above, the examiner contends that "changing said image quality parameters in a manner to produce future correspondence between said machine computation

of suspiciousness value and said human document accept/reject decision" is "…precisely what will happen for both Dinan and Spence when correction is provided for the images and the images rescanned."

After consideration of the positions and arguments presented by both the examiner and the appellants, we have concluded that the rejection should not be sustained. We agree with appellant's positions with respect to at least items (2) and (5), above.

As to item (5), neither Dinan nor Spence teach or suggest changing image quality parameters. Dinan broadly discloses taking appropriate corrective action if image quality from documents becomes unacceptable (column 2, lines 32-38). Spence teaches that specific recommendations may be made to a customer and/or check printer for correction of defects (column 3, lines 60-68), and this is an appropriate corrective action. However, there is no suggestion in the references of changing image quality parameters, such as the prescribed limits of Dinan's gray scale distribution or histogram, in a manner to produce future correspondence between the machine computation of suspiciousness value and a document accept/reject decision by a human.

With respect to item (2), the examiner is correct that Dinan teaches that his malfunction signal may be utilized to stop document transport (column 5, lines 52-54). However, Dinan teaches away from continuing machine scanning when a malfunction signal occurs. For example, at column 3, line 39 to column 4, line 3, Dinan teaches the stopping of document transport when unacceptable quality image

data is being generated. Dinan does not discuss

continuing document transport even though unacceptable quality image data is being generated. A prior art reference that teaches away from the claimed invention is a significant factor to be considered in determining obviousness. In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).

Whereas the rejection of independent claims 1 and 9 will not be sustained, the rejection of dependent claims will also not be sustained.

REVERSED

STANLEY M. URYNOWICZ, JR Administrative Patent Judge	)))
JERRY SMITH Administrative Patent Judge	) BOARD OF PATENT)) APPEALS AND)
JAMES T. CARMICHAEL Administrative Patent Judge	) INTERFERENCES))

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