

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALAN N. COOPER

Appeal No. 96-3640
Application No. 08/184,794¹

ON BRIEF

Before URYNOWICZ, FLEMING and RUGGIERO, Administrative Patent Judges.

URYNOWICZ, Administrative Patent Judge.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-16, all the claims pending in the application.

The invention pertains to apparatus and method for image centering. Claim 1 is illustrative and reads as follows:

1. Apparatus for image centering, comprising:

¹ Application for patent filed January 21, 1994.

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horizontal adjust value indicative of the amount of adjustment needed for centering the image. A timing controller 24 is coupled to the image sensor 26 and the vertical and horizontal adjust input devices 12 and 14 to generate the image area gate, storage area gate, serial register gate and display timing signals, and also to determine the timing relationships between the signals in response to the vertical and horizontal adjust values.

As illustrated in Figure 2, the image data in the image sensor 26 is transferred to a serial register 36 from image area 32 via storage area 34 in response to image and storage area gate signals, and the image data is then serially read from the serial register 36 to a video processor 28 in response to a signal register gate signal. The image data is then displayed in response to display timing signals. The image centering input is received in the form of the aforementioned vertical and horizontal adjust values. The timing relationship between the image data transferring step and the displaying step for shifting the image in the vertical axis is then altered in response to the vertical adjust value. In response to the horizontal adjust value, the timing relationship between the step of serially reading image data and the displaying step is modified for shifting the image in the horizontal axis.

The Prior Art

Gage discloses a method and apparatus for removing the background of a scene of an optical tracking system. As illustrated by the steps 70-88 of Figure 5, an analog video signal from a camera is converted to a 6-bit byte digital bit stream, and top and bottom scanning lines representative of the background are stored. Scanning lines containing target data are compared to the stored lines and are converted to a serial digital bit stream having a ZERO base line representative of the background and variable width ONES representative of the target. The centroid of the target is calculated and utilized to generate a tracking error between the centroid and the camera boresight. See Figure 5, steps 94, 96.

The Rejection under 35 U.S.C. §103

Appellant's arguments with respect to the independent claims appear at pages 3 and 4 of the brief and are as follows:

Claim 1 includes "... said timing controller generating said image area gate, storage area gate, serial register gate signals, a plurality of display timing signals, and determining timing relationships therebetween in response to said vertical and

horizontal adjust signals." The centering processing in Gage does not manipulate the image area gate signal or any other signals that control the image area. Claim 8 includes "... transferring said image data in said image sensor to a serial register in response to a first clock signal; ... altering the timing relationship between said image data transferring step and said displaying step for centering said image in the vertical axis in response to said vertical adjust value...". Claim 14 includes "... transferring a second predetermined number of consecutive lines of image data from said image sensor in response to said vertical adjust signal, said second predetermined number being less than said first predetermined number, said read image data composing a vertically shifted and centered image...". The centering processing in Gage does not involve controlling the timing of the transfer of image data from the image sensor. The Gage reference does not show, teach, or suggest controlling the timing relationship of the image sensor gate signal or any other signals which control the image sensor. All of the centering processing in Gage is done outside the image sensor.

At pages 3 and 4 of the answer, the examiner's position

is as follows:

Although exact "gating" signals are not specified, timing controller 36 (Fig. 6) directly controls passage of the various signals, including display (Fig. 4), in an orderly fashion. It would have therefore have [sic] been readily obvious to the skilled artisan to either consider the signal timings as being gated, or to actually include additional elements or steps to provide appropriate gating. Gage does in fact include some logic gates for signal passage (e.g. elements 64, 114, 115, 122, 125, 130 etc.), thereby meeting claim 1.

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Applicant in essence argues that his system distinguishes from Gage because the centering processing of Gage is outside of and subsequent to the camera pickup structure, whereas applicant provides such processing within a composite camera apparatus.

However, nothing either explicitly or implicitly is recited in the claims to provide such distinction.

Moreover, the skilled artisan could reasonably consider the processing of Gage as being included with his camera pickup section, as a composite camera unit.

After consideration of the positions and arguments presented by both the examiner and the appellant, we have concluded that the rejection of the independent claims 1, 8 and 14 should not be sustained. With respect to claim 1, the examiner admits that the specific gating signals are not disclosed in Gage. There is simply no teaching of image area or storage area gate signals or serial register gate signals. Nor is there a teaching of determining timing relationships between gate signals, including display timing signals, in response to vertical and horizontal adjust signals. Furthermore, the examiner has provided no motivation why one of ordinary skill in the art would have modified Gage to determine timing relationships between gating signals in response to vertical and horizontal adjust signals.

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With respect to Figures 5 and 6 of Gage, although it might be argued that after the error between the centroid and boresight are measured (Figure 5, step 96), vertical and horizontal adjust signals are inherently generated to provide the disclosed image centering, there is no suggestion to utilize adjust signals to determine timing relationships of gate and display timing signals.

Independent claims 8 defines two distinct steps of altering timing relationships for centering an image in response to vertical and horizontal adjust values. The first alteration is between an image data transferring step and a displaying step and the other is between a reading step and the displaying step. There is no showing that Gage teaches or suggests utilizing adjust values for altering timing relationships between the above steps for centering an image.

Independent claim 14 requires advancing or delaying serial transfer with respect to horizontal line display timing signals for composing a horizontally shifted and centered image in response to a horizontal adjust signal. There is no showing that Gage teaches or suggests this subject matter.

Whereas we will not sustain the rejection of the independent claims 1, 8 and 14 as obvious over Gage, we will not sustain the rejection of dependent claims 2-7, 9-13, 15 and 16 over the same reference.

REVERSED

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Administrative Patent Judge)	
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)	BOARD OF PATENT
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Administrative Patent Judge)	AND
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REVERSED

Prepared: September 27, 1999