

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AGE J. VAN DALFSEN

Appeal No. 2001-2416
Application No. 08/843,978

ON BRIEF

Before HAIRSTON, KRASS, and DIXON, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-8.

The invention is pertains to cathode ray tubes. More particularly, a spot position indication signal in a cathode ray tube display is generated. The invention seeks to generate a spot position indication signal which is independent of the amplitude and frequency of a vertical deflection.

Representative independent claim 7 is reproduced as follows:

7. A cathode ray tube display apparatus in which displays are realized by line-by-line scanning of a display screen of a cathode ray tube by an electron beam spot, the cathode ray display apparatus comprising:

a deflection circuit receiving a horizontal or a vertical position signal for generating a deflection current for deflecting the electron beam spot in a first direction, wherein the deflection current has a shape for obtaining an approximate linear scan on the display screen in said first direction; and

a circuit for generating a spot position indication signal for indicating a position of said spot on the display screen, characterized in that the circuit for generating a spot position indication signal comprises:

means for generating, in a certain scan period, a position information related to the deflection current;

means for measuring a first instant as an instant at which the position information has a first value;

means for measuring a second instant as an instant at which the position information has a second value; and

means for calculating, in a later scan period, the spot position indication signal as a linear function in time whereby, in a steady state situation, the spot position indication signal has predetermined position indication values at instants in this later scan period corresponding to the first and the second instants, respectively, and the spot position indication signal is independent of a width of the scan or the number of scanning lines.

The examiner relies on the following references:

Hintze	4,499,457	Feb. 12, 1985
Kii	5,016,095	May 14, 1991
Kawashima	5,463,427	Oct. 31, 1995
Tanaka et al. (Tanaka)	5,504,496	Apr. 02, 1996

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Claims 1-8 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Kii, Hintze and Tanaka with regard to claims 1, 6 and 7, adding Kawashima with regard to claims 2-5 and 8.

Reference is made to the brief, the answer and the final rejection for the respective positions of appellant and the examiner.

OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ

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929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR 1.192 (a)].

In the instant case, the examiner points to Figures 5, 6, 12 and 13 of Kii for a disclosure of the claimed cathode ray tube, deflection circuit and circuit for generating a spot indication signal, the examiner finding that Kii's counter 8 corresponds to the claimed circuit for generating a spot position indication signal because the counter 8 provides an address that corresponds to a RAM memory location of the stored correction waveform data for the adjustment points in the vicinity of the image screen.

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The examiner points to column 8, lines 24-64, column 9, line 66 through column 10, line 13, for support for a means for calculating the spot position correction signal as a linear function in time that has predetermined position indication values at instants corresponding to a first and second instant. The examiner further considers that the claimed feature of the spot position indication signal being independent of a width of the scan or the number of scanning lines is met by Kii, at column 9, line 66 through column 10, line 13, where Kii teaches that addresses (i.e., the spot position indication signal) are called out for reading the store adjustment and arranged in a 9 x9 data map format which is scanned in both the x and y directions.

The examiner recognizes that Kii does not teach or suggest the generation of position information related to the deflection current, the measurement of first and second instances as instants at which the position information has first and second values, respectively, or the calculation of the spot position indication signal wherein such signal has predetermined position indication values at instants in a later scan period corresponding to the first and the second instants.

The examiner turns to Tanaka for a teaching of an improved interpolation technique which determines a correction value of the designated point by use of a linear relation corresponding to reference points, at column 3, lines 34-66, and to Hintze

for a teaching of a resistive element provided between the deflection coils for providing an indication of deflection current to determine displacement.

The examiner then takes these teachings and alleges that since Kii uses stored correction waveforms of reference lines in the determination of a correction value of a line therebetween, and since Tanaka teaches that fewer reference values are needed when specific reference points of known correction values are used in the calculation of the correction value for the designated point, it would have been obvious to employ Tanaka's interpolation method with Kii's invention for a more efficient method of interpolation [see final rejection-page 4].

Moreover, the examiner considers it obvious to have realized the claimed means for generating position information related to the deflection current with the system of Kii and Tanaka "so the exact displacement on a screen is known in determining where scan raster is in relation to the reference points and the designated point" [final rejection- page 5].

Further, the examiner alleges that it would have been obvious "to recognize the claimed means for measuring a first moment in time at which the position information has a first value and the claimed means for measuring a second moment in time at which the position information has a second value with the system of Kii, Tanaka, and

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Hintze to determine the exact locations of the reference points” [final rejection-page 5].

Still further, the examiner takes Official notice “that a raster scanning of a cathode tube under consistent timing will repetitively hit the same point at the same moment of time each scan” [final rejection-page 6] and concludes that

[a]fter the accurate timing associated with the reference points is determined it would be [sic, have been] obvious to base further calculations of the present beam position on the present timing as it corresponds to the timing of the reference timing because the continual sampling of the spot positions deflection current would waste resources by requiring a continual comparisons between sampling of the deflection currents and the reference deflection currents. The timing of the television is conventionally taken by other systems in the display system, such as for horizontal and vertical timing, and it would be easier to just use that timing system and compare a measured timing to the reference timing values rather than [sic, than] have to have a current sampling for each spot position, thus the current sampling would only have to be done once for each reference point, additionally means for timing are less complicated than [sic, than] accurate current sampling means [final rejection-page 6].

The examiner states that “if the correction values are based on position of the spot on the screen and the spot on the screen is a function of time, and there is a linear relationship between correction values and the spot on the screen, then there would be a linear relationship between the timing of the spot and the correction values” [final rejection-pages 6-7] and, therefore, “it would have been obvious...to realize the claimed means for calculating the spot position indication signal has predetermined position

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indication values at instants in a later scan period corresponding to the first and the second instants with the system of Kii, Tanaka, and Hintze because by using the later scan period instants of the beam spot in comparison to the instants of the reference positions an accurate correction value can be calculated without the need of sampling the deflection current every single beam spot position” [final rejection-page 7].

We will not sustain the rejection of claims 1-8 under 35 U.S.C. § 103 as, in our view, the examiner has not established a prima facie case of obviousness.

For all the many words and twists and turns used by the examiner to explain how the instant claimed subject matter is deemed obvious over the combinations of references, and the reliance on Official notice, it appears to us that the examiner’s rationale is really based on hindsight.

Each of the claims on appeal requires the limitation that the “spot position indication signal is independent of a width of the scan or the number of scanning lines.” The examiner’s rationale is unconvincing as to where any one of the applied references discloses or suggests that a spot position indication signal is “independent” of a width of the scan or the number of scanning lines. It appears that the examiner relies on Kii for this teaching or suggestion but it is clear that Kii does not, in fact, teach this limitation.

As appellant points out, at pages 4-6 of the brief, Kii generates a correction waveform for digital convergence or digital focusing wherein a correction waveform is

generated from the position information indicating the horizontal and vertical position on the screen. As indicated by appellant, and in which we concur, the horizontal and vertical positions on the screen are obtained from reading out the RAM 7 in synchronization with the horizontal/vertical synchronization signal (column 6, lines 31-35). Appellant submits that in Kii's system, not only the spot position indication signal, but also the quadrants are locked to instants of occurrences of the synchronizing pulses, and not to the actual position on the screen. This appears to be a reasonable assessment and the examiner has not convinced us otherwise. If there is a clear relationship between Kii's spot position indication signal and the width of a scan or the number of scanning lines, then, clearly, Kii does not suggest that the spot position indication signal is "independent" of these things.

The examiner's response is to note that appellant's arguments are directed against the references individually, rather than as a combination. We disagree. The examiner has indicated that it is Kii which is relied on for the teaching of the spot position indication signal being independent of the width of the scan or the number of scanning lines (see page 3 of Paper No. 14). Accordingly, appellant correctly directs the bulk of his argument towards showing that Kii does not, in fact, teach the independence claimed. Moreover, appellant points out (brief-page 6) that neither

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Hintze nor Tanaka provides for this deficiency. So, appellant does argue the combination rather than individual references since, if no individual reference teaches or suggests a claimed limitation, how can it be that the combination of these references would magically teach or suggest the limitation?

Since an important limitation of the claims is not taught or suggested by the applied references, the examiner has not met his burden of establishing a prima facie case of obviousness under 35 U.S.C. § 103 and we will not sustain the rejections of the claims.

Moreover, the instant claims also specifically recite the apparatus and steps taken in order to achieve the independence of the spot position indication signal from the width of the scan or the number of scanning lines. That is, the measurement of first and second instances when position information has first and second values and calculation, in a later scan period, of the spot position indication signal as a linear function in time, wherein the spot position indication signal has predetermined position indication values in this later scan period, results in the spot position indication signal being independent of a width of the scan or the number of scanning lines.

While the examiner agrees that Kii does not disclose these limitations regarding the measurement of first and second instances and calculating the spot position indication signal wherein the means has predetermined position indication values at

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instants in a later scan period corresponding to the first and second instants, the examiner relies on Tanaka for an interpolation method which is somehow to be employed by Kii. The examiner has not convinced us of any reason, other than hindsight, for the artisan to have turned to Tanaka for any modifications to be made in Kii. First, since Kii does not appear to have any need for an interpolation method, the artisan would not be looking for such a technique. Moreover, as pointed out by appellant, at page 6 of the brief, since Tanaka is directed to a laser display device, which is not subject to the same problems as the raster scan of a cathode ray tube, there would have been no reason for the artisan to have considered Tanaka when seeking any modification to the Kii system. As stated by appellant, at page 6 of the brief, Tanaka is a vector scan system in which the coordinates of the signal samples are already known so “there is no need for the generation of a spot position indication signal.” Hintze is of no help in this regard. Accordingly, there would have been no reason to combine Tanaka with Kii.

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For at least the reasons set forth supra, the examiner has not set forth a prima facie case of obviousness regarding the instant claimed subject matter.

The examiner's decision rejecting claims 1-8 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON
Administrative Patent Judge

ERROL A. KRASS
Administrative Patent Judge

JOSEPH L. DIXON
Administrative Patent Judge

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