

Ex parte Cooper

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Paper No. 50

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte J. CARL COOPER

Appeal No. 93-2012
Reexamination No. 90/002,107¹

SEP 21 1994

BOARD OF PATENT APPEALS
AND INTERFERENCES

ON BRIEF

Before THOMAS, HAIRSTON and CARDILLO, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 2, 4 through 6, 8, 9, 12 through 22, 24 and 28 through 38. Claims 3, 7, 10, 11, 23 and 25 through 27 have been confirmed by the examiner.

¹ Reexamination application filed August 13, 1990. According to applicant, this application is a Reexamination of Patent No. 4,305,091, issued to J. Carl Cooper on December 8, 1981, based on Application 06/030,288 filed April 16, 1979, which is a Continuation-in-part of application 05/763,904 filed January 31, 1977, now abandoned.

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The disclosed invention relates to a delay circuit for reducing noise in an electronic signal.

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

1. Apparatus for reducing noise on an input electronic signal, including in combination, delay means for delaying said input electronic signal to produce a delayed input signal, comparison means responsive to said input electronic signal and said delayed input signal which has the same bandwidth as said input electronic signal which comparison means may always determine if the difference between said signals is greater than a reference and processing means responsive to said comparison means and said delayed input signal to generate an output signal which is either an average of said input and delayed signals when said difference is less than said reference or said delayed signal otherwise, as determined by said comparison means.

The references relied on by the examiner are:

Graham	3,009,016	Nov. 14, 1961
Rossi	4,050,084	Sept. 20, 1977

Spencer et al. (Spencer) ² (German patent publication ³)	2,413,799	Oct. 17, 1974
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Rossi, "Digital Techniques for Reducing Television Noise," SMPTE Journal, Volume 87, March 1978, pages 134 through 140.

² A copy of the translation of this reference is attached. The translation in the file is a replacement for the original translation that was somehow removed from the file. After reviewing the briefs and the answers, it appears that the only difference between this translation and the first translation is the pagination of the two translations.

³ Appellant's arguments in the briefs to the contrary notwithstanding, the Spencer patent publication was laid open to public inspection on October 17, 1974, and this date makes the publication a proper prior art reference against the claims in this reexamination.

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Claims 31/28-29, 35, 36/28-29, 37/28-29 and 38/30 stand rejected under the second paragraph of 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

Claims 31, 35, 36/28-29, 37/28-29 and 38/30 stand rejected under the first paragraph of 35 U.S.C. 112 as lacking written description support in the originally filed application.

Claims 12 through 16, 30 and 31-38/30 stand rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103 as being unpatentable over the Rossi publication.

Claims 28 and 29 stand rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103 as being unpatentable over the Rossi publication.

Claims 29, 33/29, 34/29 and 35/29 stand rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103 as being unpatentable over Spencer.

Claims 1, 2, 4 through 6, 8, 9, 17 through 22 and 24 stand rejected under 35 U.S.C. 103 as being unpatentable over Spencer in view of either Graham or the Rossi patent.

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Reference is made to the briefs⁴ and the answers for the respective positions of the appellant and the examiner.

OPINION

We have carefully considered the entire record⁵ before us, and we will sustain the 35 U.S.C. 112, second paragraph, rejection of claims 31/28 and 31/29, the 35 U.S.C. 112, first paragraph, rejection of claim 31, the 35 U.S.C. 102(b)/103 rejections of claims 12 through 16, 28 through 30, 33/29, 34/29, 35/29 and 31/30, 32/30, 33/30, 34/30, 35/30, 36/30, 37/30, 38/30, and the 35 U.S.C. 103 rejection of claims 1, 4, 5, 8, 9, 17 through 22 and 24. On the other hand, we will reverse the 35 U.S.C. 112, second paragraph, rejection of claims 35, 36/28, 36/29, 37/28, 37/29 and 38/30, the 35 U.S.C. 112, first paragraph, rejection of claims 35, 36/28, 36/29, 37/28, 37/29 and 38/30, and the 35 U.S.C. 103 rejection of claims 2 and 6.

Prior to turning to the rejections of record, we wish to point out that the examiner's objection to the drawings under 37 CFR 1.183 is a petitionable matter under 37 CFR 1.181, and not an appealable matter under 37 CFR 1.191. The same holds true for the appellant's arguments throughout the briefs that a third reexamination of the Cooper U.S. Patent 4,305,091 is improper.

⁴ The supplemental reply brief (paper number 38) was not entered.

⁵ Dependent claims 32/28, 33/28, 34/28, 38/28, 32/29 and 38/29 are not listed in any of the rejections of record.

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Under 35 U.S.C. 303, the Commissioner makes the determination whether a "substantial new question of patentability" exists, and therefore whether reexamination may be had. See In re Etter, 756 F.2d 852, 225 USPQ 1 (Fed. Cir. 1985). The Board's jurisdiction under 37 CFR 1.191 only extends to reviewing the propriety of the rejections made by the examiner in the reexamination. With respect to the affidavit/declaration discussed by appellant throughout the briefs, the record indicates the affidavit/declaration was not entered. According to page 2 of the answer, and the paper attached to paper number 27, the request for reconsideration was entered, but not the affidavit/declaration.

Turning to the rejection of claims 31/28 and 31/29 under the second paragraph of 35 U.S.C. 112, and the rejection of claim 31 under the first paragraph of 35 U.S.C. 112, we agree with the examiner that the limitation in claim 31 that "said difference is combined with said delayed signal to generate said equivalent to said input video signal when said difference is greater than said reference" is misdescriptive because the disclosure as filed clearly states that only the delayed signal or the input signal serve as the output signal "when said difference is greater than said reference." The specification as filed is silent as to how and where such a combining of the difference and the delayed signal is done to generate an

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"equivalent" to the input video signal. The paragraph bridging columns 9 and 10 of Cooper '091 states that the output can be the "equivalent of the input signal," but Cooper never explains how this equivalent signal is generated. A newly added claim is not the place to provide such an explanation. The rejection of claims 31/28 and 31/29 under the second paragraph of 35 U.S.C. 112 is sustained, and the rejection of claim 31 under the first paragraph of 35 U.S.C. 112 is sustained.

The rejections of claims 35, 36/28, 36/29, 37/28, 37/29 and 38/30 under the second and first paragraphs of 35 U.S.C. 112 are reversed because the Cooper '091 specification as filed adequately explains: periodicity or integral cycle lengths (claim 35) at column 6, lines 50 through 54 and column 10, lines 40 through 43; previously noise reduced signals (claim 36) in the recursive system described at column 10, lines 2 through 22; previously compared signals (claim 37) in the recursive system described at column 10, lines 2 through 22; and weighting (claim 38) at column 8, line 63 through column 9, line 11.

Turning next to the prior art rejections based upon the teachings of the Rossi publication, we agree with the examiner that the claims read directly on the teachings of this publication. Independent claims 12 and 28 through 30 all state in one form or another that the output signal is an average of the input signal and a delayed signal when the difference is less

than the reference or threshold, or is equal or equivalent to the input signal otherwise. Figure 10 in the Rossi publication discloses an averager circuit in which input signal A and the stored or delayed signal B are compared (i.e., subtracted) in the subtractor. The difference between the two signals is compared with the reference R in the absolute value subtractor, and the output thereof is to the averager weighting factors selecting logic with memory block which will produce as an output either an average of the input signal and the delayed signal when the difference is less than the reference, or the input signal when the difference is greater than the reference. The operation of the Figure 10 digital averager circuit is explained on page 137, column 3 through page 138, column 1. We agree with appellant's arguments on pages 24 through 37 of the main brief that the operations of the respective circuits in the Cooper '091 patent and the Rossi publication are different, but the limitations of claims 12 and 28 through 30 still read on the teachings of this publication. In summary, the limitations of claims 12 and 28 through 30 are anticipated by the teachings of Rossi. Even if the limitations of claims 12 and 28 through 30 are found to not read directly on the teachings of the publication to Rossi, then we agree with the examiner's contentions on pages 8 through 12 of the answer that claims 12 and 28 through 30 would have been obvious to one of ordinary skill in the art based upon the

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teachings and suggestions found in the Rossi publication. The 35 U.S.C. 102(b)/103 rejections of claims 12 and 28 through 30 are sustained. The 35 U.S.C. 102(b)/103 rejections of claims 13 through 16 and 31-38/30 are likewise sustained because appellant has not argued the patentability of these claims apart from the patentability of claims 12 and 28 through 30.

In the 35 U.S.C. 102(b)/103 rejections of claims 29 and 33-35/29, we find that the Spencer patent publication discloses in Figures 3(b) and 6 a comparator 20 that compares a direct input signal DR to a delayed input signal DL to determine the difference between the two signals. The difference signal is compared to a reference established by the potentiometer 22 in Figure 6 which may allow the larger of the difference or the reference to always be determined. The Figure 6 circuit processes the delayed input signal in response to the comparisons to generate a signal which may be changed from an average of the input signal DR and the delayed input electronic signals DL to a signal equivalent to the input electronic signal in response to the comparisons. On page 15 of the translation, Spencer states that in Figure 6:

...A comparator 23 compares the signals at both ends of the potentiometer so that a difference or error signal occurs which drives the slider wire over a servomotor shown in dotted lines 23a.... If the error signal increases above the threshold value, the effect is that the slider wire moves more

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and more to the right so that there is an increasing contribution by the direct signal and finally the delayed signal is completely accepted [sic, excluded]⁶. Emphasis added.

The quoted excerpt from Spencer clearly demonstrates that an average of the input and delayed signals serves as an output signal until the average value increases above the threshold/reference value. When the threshold value is exceeded, the output signal changes to a signal equivalent to the input signal by completely excluding the delayed signal. Appellant's arguments at pages 40 through 48 of the main brief to the contrary notwithstanding, the Spencer circuit clearly allows the "larger of said difference or said reference to always be determined." The circuit operation in Spencer differs from the circuit operation disclosed by Cooper '091, but claim 29 still reads on the circuit operation found in Spencer. Even if the limitations of claim 29 are found to not read directly on the teachings of Spencer, then we agree with the examiner's contentions on pages 12 and 13 of the answer that claim 29 would have been obvious to one of ordinary skill in the art based upon the teachings and suggestions found in the Spencer patent publication. The 35 U.S.C. 102(b)/103 rejections of claim 29 are

⁶ With respect to the alternative embodiment in Figure 8, Spencer states on page 16 of the translation that "[t]he transition from delayed to direct signal is dependent on the characteristic curve of the diodes."

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sustained. The 35 U.S.C. 102(b)/103 rejections of claims 33/29, 34/29 and 35/29 are sustained because appellant has not argued the patentability of these claims apart from the patentability of claim 29.

Turning lastly to the 35 U.S.C. 103 rejection of claims 1, 2, 4 through 6, 8, 9, 17 through 22 and 24, we agree with the examiner's statement on page 13 of the main answer that Spencer teaches that when the difference is above the threshold, the output can be either the input signal or the delayed signal. In the paragraph bridging pages 17 and 18 of the translation, Spencer indicates that the direct or input signal is always handled as the main signal when any of the delayed signals deviates from it. On the other hand, Spencer recognizes that one of the delayed signals can also be considered the main signal in Figure 11. In the concluding sentence of this paragraph, Spencer states that the delayed signal S_3 is used as an output signal if the difference after comparison increases over a threshold value. Such a teaching on page 18 of the translation proves that appellant's argument on page 52 of the main brief that "Spencer's comparator 23 is not a difference producing circuit" is without merit. With respect to appellant's argument on page 53 of the main brief that the examiner admitted that Spencer does not have

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a difference producing circuit by citing the secondary patents to Graham and Rossi, we find that the examiner merely presented the secondary reference teachings of difference circuits in case Spencer is found to not have a difference producing circuit. In view of our findings, the difference producing circuits in the secondary references are merely cumulative to the difference producing circuit discussed throughout Spencer. The 35 U.S.C. 103 rejection of claim 1 is sustained. The 35 U.S.C. 103 rejection of claim 4 is sustained because the processor means in Spencer necessarily operates in response to the comparison means "to allow detail in said input electronic signal to be present on said output signal." In other words, if the noise is greater than the threshold in Spencer, then the noise and all other detail on the input signal passes to the output. The 35 U.S.C. 103 rejection of claims 8 and 18 through 22 is sustained because it would have been manifestly obvious to one of ordinary skill in the art to implement Spencer with digital processing signals and/or circuits. The 35 U.S.C. 103 rejection of claims 5, 9, 17 and 24 is sustained because the appellant has not presented any specific arguments for the patentability of these claims. The 35 U.S.C. 103 rejection of claims 2 and 6 is reversed because Spencer neither teaches nor would it have suggested means to determine the presence of "detail" in the input signal.

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Appellant's discussion in the main brief of the U.S. patent counterpart to the Spencer reference is not pertinent to the rejections of record and the issues presented on appeal. The file history of the Spencer reference is likewise not pertinent to the rejections and issues on appeal.

DECISION

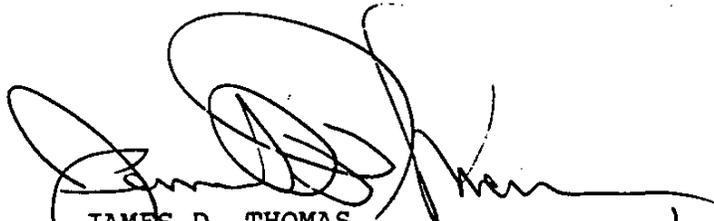
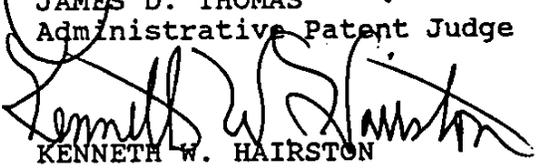
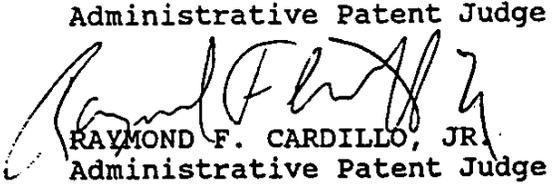
The decision of the examiner is affirmed as to the 35 U.S.C. 112, second paragraph, rejection of claims 31/28 and 31/29, the 35 U.S.C. 112, first paragraph, rejection of claim 31, the 35 U.S.C. 102(b)/103 rejections of claims 12 through 16, 28 through 30, 33/29, 34/29, 35/29 and 31/30, 32/30, 33/30, 34/30, 35/30, 36/30, 37/30, 38/30, and the 35 U.S.C. 103 rejection of claims 1, 4, 5, 8, 9, 17 through 22 and 24. The decision of the examiner is reversed as to the 35 U.S.C. 112, second paragraph, rejection of claims 35, 36/28, 36/29, 37/28, 37/29 and 38/30, the 35 U.S.C., first paragraph, rejection of claims 35, 36/28, 36/29, 37/28, 37/29 and 38/30, and the 35 U.S.C. 103 rejection of claims 2 and 6. Accordingly, the decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR

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1.136(a). See the final rule notice, 54 F.R. 29548 (July 13, 1989), 1105 O.G. 5 (August 1, 1989).

AFFIRMED-IN-PART


JAMES D. THOMAS
Administrative Patent Judge)
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KENNETH W. HAIRSTON)
Administrative Patent Judge)
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RAYMOND F. CARDILLO, JR.)
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