

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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 DANIEL J. KANE
and RICK P. TREBINO

Appeal No. 95-1409
Application 07/966,644¹

ON BRIEF

Before HAIRSTON, MARTIN and FLEMING, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 3 through 5, 7, 8, 10 and 14 through 19.

The invention relates to the measurement of phase and intensity of ultrashort light pulses using an induced-grating

¹ Application for patent filed October 26, 1992.

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autocorrelation technique employing an instantaneously responding medium.

Independent claim 1 is reproduced as follows:

1. A method for measuring the intensity and phase of a light pulse, comprising the steps of:

inputting said light pulse to form a probe pulse;

providing a gate pulse having a variable time delay;

combining said gate pulse and said probe pulse within an instantaneously responding nonlinear medium to form a signal pulse functionally related to a temporal slice of said probe pulse corresponding to the time delay between said probe pulse and said gate pulse;

inputting said signal pulse to a wavelength selective device to output signal pulse field information comprising signal intensity vs. frequency for a first value of said time delay; and

varying said time delay over a range of values effective to yield an intensity plot of signal intensity vs. frequency and delay.

The reference relied on by the Examiner is as follows:

Rick Trebino et al. (Trebino), "Chirp and self-phase modulation in induced-grating autocorrelation measurements of ultrashort pulses," Optics Letters, Vol. 15, No. 19, (October 1, 1990), pp. 1079-1081.

Claims 1, 3 through 5, 7, 8, 10 and 14 through 19 stand rejected under 35 U.S.C. § 102 as being anticipated by Trebino.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the brief and the answer for the details thereof.

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OPINION

After a careful review of the evidence before us, we do not agree with the Examiner that the claims are anticipated under 35 U.S.C. § 102 by Trebino.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138, (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485, (Fed. Cir. 1984).

Appellants' claim 1 recites "combining said gate pulse and said probe pulse within an instantaneously responding nonlinear medium to form a signal pulse functionally related to a temporal slice of said probe pulse corresponding to the time delay between said probe pulse and said gate pulse." Appellants' claim 14 recites "an instantaneously responding medium located for receiving said combined pulses and outputting a signal pulse functionally related to said combined pulses; and a wavelength-selective device for receiving said signal pulse and spectrally resolving said signal pulse into signal intensity vs. wavelength." Appellants argue on pages 3-6 of the brief that the

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Examiner has failed to establish that Trebino teaches the above limitations.

Upon a careful review of Trebino, we fail to find that Trebino teaches an induced-grating ultrashort-pulse auto-correlation technique that uses slowly responding media to determine instantaneous frequency information. We fail to find that Trebino teaches combining said gate pulse and said probe pulse within an instantaneously responding nonlinear medium to form a signal pulse functionally related to a temporal slice of said probe pulse corresponding to the time delay between said probe pulse and said gate pulse, inputting the signal pulse to a wavelength selective device to output signal pulse field information comprising signal intensity vs. frequency for a first value of the time delay and varying the time delay to yield an intensity plot of signal intensity vs. frequency and delay as set forth in Appellants' claims. We do note that in the second to the last paragraph in column 1 of page 1081, Trebino does suggest further research using instantaneously responding media, but this invitation by itself fails to provide a teaching of Appellants' claimed invention. Therefore, we find that Trebino fails to teach all of the limitations of claims 1, 3 through 5, 7, 8, 10

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and 14 through 19, and thereby the claims are not anticipated under 35 U.S.C. § 102 by Trebino.

In view of the foregoing, the decision of the Examiner rejecting claims 1, 3 through 5, 7, 8, 10 and 14 through 19 is reversed.

REVERSED

KENNETH W. HAIRSTON)
Administrative Patent Judge)
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JOHN C. MARTIN) BOARD OF PATENT
Administrative Patent Judge) APPEALS
) AND
) INTERFERENCES
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