

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. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** DAVID R. IRVIN, RAJARAM RAMESH  
and KARL MOLNAR

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Appeal No. 2000-0672  
Application 08/838,027

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ON BRIEF

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Before KRASS, FLEMING, and LALL, **Administrative Patent Judges**.  
FLEMING, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on appeal from the final rejection of claims 1 through 26.

The invention relates to a positioning system that improves positioning accuracy by measuring and pre-storing signal delays associated with positioning radio receivers. See Appellants' Specification Page 4, lines 8-11. Positioning accuracy is

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improved by measuring and pre-storing signal delays associated with one or more stages of positioning radio receivers. See Appellants' Specification Page 8, lines 29-32.

Independent Claim 1 present in the application is reproduced as follows:

1. An apparatus for locating a mobile unit using a plurality of positioning radio receivers, comprising:

a detector that detects a received radio signal from the mobile unit at a corresponding positioning radio receiver;

a timing device that determines a detection time associated with the received signal;

a storage device that stores a signal delay associated with one or more receiver stages of the corresponding positioning radio receiver; and

a processor that determines a time-of-arrival for the received radio signal based on the detection time and the signal delay, and

a mobile unit locator that processes time-of-arrivals at the plurality of positioning radio receivers to determine the position of the mobile unit.

#### **References**

The reference relied on by the Examiner is as follows:

Drebinger et al.	3,848,254	Nov. 12, 1974
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### **Rejections at Issue**

Claims 1-26 stand rejected under 35 U.S.C. § 102/103 allowed. Rather than repeat the arguments of the Appellants or the Examiner, we make reference to the briefs<sup>1</sup> and the answer<sup>2</sup> for the details thereof.

### **OPINION**

After a careful review of the record before us, we do not agree with the Examiner that claims 1 through 26 are properly rejected under 35 U.S.C. § 102 or alternatively, under 35 U.S.C. § 103. Thus, we will reverse the rejection of these claims for the reasons set forth *infra*.

Appellants argue that Drebinger does not teach every element of the claimed invention. Specifically, Appellants argue that rather than storing signal delay associated with one or more receiver stages of the corresponding positioning radio receivers,

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<sup>1</sup>Appellants filed an appeal brief on June 11, 1999. We will refer to this appeal brief as simply the Brief. Appellants filed a Reply Brief on August 11, 1999. We will refer to this reply brief as Reply Brief.

<sup>2</sup>The Examiner responded to the brief with an Examiner's answer dated June 24, 1999. We will refer to the Examiner's answer as simply the Answer.

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the stored values disclosed by Drebinger relate to a relative value delays between two receivers. See Brief, page 3, lines 2-5 and page 4, lines 9-10.

The Examiner, in reference to Drebinger's Figure 5, argues that Drebinger teaches a stored correction value ( $k = tf2 - tf1$ ) that is a function of  $tf2$  and  $tf1$ , which are transit time delays in the receiving station and in the lines or cables. See Answer, page 5, lines 2-4. The Examiner argues that the value of  $k$  is associated with a corresponding receiver stage delay since it is a function of both the transit time delays associated with both receivers. See Answer, page 5, lines 5-6.

Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **Lindermann Mashinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

We find that Drebinger does not teach the limitation of storing a "signal delay associated with one or more receiver stages of the corresponding positioning radio receiver," as being claimed by the Appellants. Appellants refer to signal delay

associated with the receiver stages included in a positioning radio receiver. See Appellants' Specification page 6, lines 30-32. Signal delay of the received signal includes both a transmission-line delay and a group-delay introduced by a filter included in one of the receiver stages. See Appellants' Specification page 7, lines 10-12. Drebinger teaches a correction memory KOR which stores a correction value  $k$  that compensates for transit time fluctuations in the evaluation and transmission devices. See Drebinger's Specification column 9, lines 39-42. The correction value  $k$  is equal to a difference between  $tf_1$  and  $tf_2$ , where  $tf_1$  is the transit time delay in the receiving station and in the transmission lines of a first receiving station, and  $tf_2$  is the transit time delay in the receiving station and in the transmission lines of a second receiving station. See Drebinger's Specification column 10, lines 27-29.

We note that Drebinger's pre-stored correction value  $k$  corresponds to a relative difference of transit time delays between two receivers. We find that the pre-stored correction value  $k$  is not "signal delay associated with one or more receiver

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stages of the corresponding positioning radio receiver", since it is associated with one or more receiver stages of two positioning radio receivers.

Upon a careful review of the record, we fail to find that Drebinger teaches the limitation requiring storing "a signal delay associated with one or more receiver stages of the corresponding positioning radio receiver," as recited in Appellants' claim 1. Therefore, we find that Drebinger fails to teach all of the limitations of claim 1, and, therefore, the claims 1-26 are not anticipated by Drebinger.

The Examiner also makes a rejection of claims 1 through 26 under 35 U.S.C. § 103. Specifically, the Examiner states:

The storage of the correction information at the main office, or alternatively, at the individual receiving stations is suggested and/or is obvious to the skilled artisan in view of the intent to make more accurate time measurements by compensating for receiver transit time delays.

See Answer Page 4, lines 12-15.

The Examiner bears the initial burden of presenting prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1143, 1444 (Fed. Cir. 1992). It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the

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reasonable teachings or suggestions found in the prior art. **In re Sernaker**, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). The mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification, and hence the claimed invention, obvious unless desirability of such modification is suggested by prior art. **In re Fritch** 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992)

We find that the Examiner has not met the burden of establishing why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in Drebinger. The Examiner has not provided a convincing line of reasoning for modifying Drebinger that can establish a **prima facie** case of obviousness. Therefore, we do not sustain the Examiner's rejection of claims 1 through 26 under U.S.C. §103.

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In view of the foregoing, the decision of the Examiner  
rejecting claims 1 through 26 is reversed.

**REVERSED**

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
PARSHOTAM S. LALL	)	
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