

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(2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FUMIO KIMURA, TATSUO MIYOSHI, TAKASHI KAMIMOTO,
YOSHIO INOKOSHI, SEIJI KUWAHARA and HITOSHI YOSHIDA

Appeal No. 1998-0225
Application No. 08/503,817

ON BRIEF¹

Before THOMAS, KRASS and BLANKENSHIP, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 2 and 4-14. Claim 3
has been indicated by the examiner as allowable.

¹ A request for hearing was made by appellants on October 14, 1997 (Paper No. 13) and hearing was set for July 10, 2000, however, the hearing was waived by appellants in a notice filed June 2, 2000, (paper no. 16).

Appeal No. 1998-0225
Application No. 08/503,817

The invention pertains to a wireless communication system. More particularly, in a short range communication system employing a magnetic field induced between terminal devices, the invention utilizes a magnetic impedance element (MI) in the data reception circuit. The MI element has an impedance component which varies substantially in response to an applied alternating magnetic field. The use of the MI element is said to facilitate accurate reception over a wide range of frequencies.

Representative independent claim 2 is reproduced as follows:

2. A wireless communication system for communicating using only a magnetic field component, comprising: a transmission portion having a magnetic field generating system and a magnetic field modulating mechanism for converting data into a magnetic field which changes in strength in accordance with the data; and a reception portion having a magnetic impedance element for detecting the modulated magnetic field generated by the transmission portion, the magnetic impedance element having an impedance which changes in accordance with the detected modulated magnetic field.

The examiner relies on the following references:

Takeuchi et al. (Takeuchi)	3,898,565	Aug. 05, 1975
Albee	3,953,799	Apr. 27, 1976
Salisbury	4,363,137	Dec. 07, 1982

Claims 2 and 4-14 stand rejected under 35 U.S.C. § 103 as unpatentable over Takeuchi and Salisbury in view of Albee.

Reference is made to the briefs and answer for the respective positions of

Appeal No. 1998-0225
Application No. 08/503,817

appellants and the examiner.

OPINION

The examiner takes the position that Takeuchi discloses the subject matter of the independent claims but for the specific details of the transmitter for sending magnetic/electromagnetic waves and that the magnetic impedance element has an impedance which changes in accordance with the detected modulated magnetic field. The examiner then relies on Salisbury for the teaching of the specifics of a transmitter portion of a magnetic field generating system and concludes that it would have been obvious to combine Takeuchi and Salisbury to provide the undisclosed modulated magnetic field of Takeuchi with a modulated magnetic wave. Finally, the examiner relies on Albee for a teaching of a variable negative reactance circuit 24 and contends that it would have been obvious to add the negative reactance circuit of Albee to the reception portion of the modified Takeuchi wireless data transfer system for the purpose of obtaining a frequency independent transmission system.

Appellants contend that none of the applied references discloses the claimed use of an MI element.

The examiner indicates that neither Takeuchi nor Salisbury discloses the claimed MI element in a receiver wherein impedance is varied in accordance with a modulated characteristic of the magnetic field, relying on Albee for providing this claim limitation.

Appeal No. 1998-0225
Application No. 08/503,817

Thus, the issue before us is whether Albee does, indeed, disclose a magnetic impedance element, as claimed.

We hold, contrary to the examiner, that Albee's negative inductor element 26 does not constitute a magnetic impedance element, as claimed. Specifically, we find ourselves in agreement with appellants' reasoning, at pages 9-10 of the reply brief, that while claims 2 and 7 each requires a magnetic impedance element for detecting a magnetic field, Albee's negative inductor 26 does not detect a magnetic field. Rather, Albee's element 26 is connected in parallel with antenna 18 "for the purpose of eliminating the frequency response of the antenna..." and that "the negative inductor 26 is responsive to the voltage across the antenna...and not to a magnetic field (which is detected by the antenna)." [emphasis in original] Since Albee offers no suggestion of the negative inductor 26 detecting a magnetic field, we see no reason why the skilled artisan would have been led to provide the negative inductor 26 of Albee in the receiver portion of a modified Takeuchi/Salisbury device in order to detect a magnetic field, as claimed.

Accordingly, we will not sustain the examiner's rejection of claims 2 and 4-14 under 35 U.S.C. § 103.

Having said that, we note that we are uncomfortable with the breadth of the independent claims. It appears that the well known magnetic impedance element, as

Appeal No. 1998-0225
Application No. 08/503,817

described in the Mohri article cited by appellants, exhibits exactly the functions (detecting a magnetic field and changing impedance in accordance with the detected magnetic field) as those recited in the claims. Therefore, it is not clear whether the instant claimed subject matter would have been obvious thereover or whether it is appellants' discovery of the problem of the use of an electromagnetic coil in the receiver and the substitution therefor of the magnetic impedance element, i.e., a new and unobvious use of the MI element, which constitutes the invention. This issue does not seem to have been fully addressed by either the briefs or the answer.

Moreover, since it would appear that loop antennas exhibit the property of detecting magnetic fields and changing impedance in accordance with the frequency of a detected magnetic field [even appellants admit, at page 10, lines 5-6 of the reply brief, that an antenna would detect a magnetic field], it is not clear why the use of a loop antenna, alone, would not meet the claim limitations. For example, while Albee is concerned with eliminating the frequency response of the antenna 18, impliedly "teaching away" from the instant claimed invention, the reference would seem to imply [column 2, lines 4-10] that without Albee's improvement of the negative inductor, the system would operate conventionally wherein the antenna 18 would be responsive to detect a magnetic field and change impedance in accordance with the frequency of a detected magnetic field. If that is the case, the antenna 18 might be considered to be functionally equivalent to the claimed

Appeal No. 1998-0225
Application No. 08/503,817

“magnetic impedance element.” However, again, the examiner’s answer never explored this possibility and we have insufficient evidence and/or input from both the examiner and appellants in order to make an informed decision as to whether a new ground of rejection might be feasible.

Accordingly, we will leave it to appellants and the examiner as to whether further prosecution and/or explanation is deemed necessary. We, however, decline to institute a new ground of rejection under 37 CFR 1.196(b) and we make our decision solely on the propriety of the examiner’s rejection which is before us. Because that rejection was flawed, for reasons indicated supra, we will not sustain the examiner’s rejection of claims 2 and 4-14 under 35 U.S.C. § 103.

The examiner’s decision is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
ERROL A. KRASS)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
)	

Appeal No. 1998-0225
Application No. 08/503,817

)
)
HOWARD B. BLANKENSHIP)
Administrative Patent Judge)

eak/vsh

Appeal No. 1998-0225
Application No. 08/503,817

ADAMS & WILKS
50 Broadway
31st Floor
New York, NY 10004