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D E C I S I O N
of 19 January 2000

Case Number: T 0098/99 - 3.5.1

Application Number: 93910517.7

Publication Number: 0641449

IPC: G01S 13/74

Language of the proceedings: EN

Title of invention:
Transponder system

Applicant:
WESTMAN, Tony, et al

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 52(1), 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-



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Boards of Appeal

Chambres de recours

Case Number: T 0098/99 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 19 January 2000

Appellant: WESTMAN, Tony
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 28 August 1998
refusing European patent application
No. 93 910 517.7 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
P. H. Mühlens

Summary of Facts and Submissions

I. This is an appeal against the decision of the Examining Division to refuse application No. 93 910 517.7 on the ground that the subject-matter of claim 1 did not involve an inventive step. In their decision the Examining Division referred to the following documents:

D1: US-A-5 051 741

D2: US-A-4 908 629.

II. In the statement of grounds of appeal the appellant put forward a revised set of claims and argued that the essence of the invention lay in the combination of a pager, which by virtue of its low power consumption had a stand-by time of several months, and a transponder triggered by the pager.

III. In a communication the rapporteur, on behalf of the Board, expressed the preliminary view that the subject-matter of claim 1 did not involve an inventive step having regard to the disclosure of D1 or D2, considered separately. In response to this communication the appellant filed claims containing further, editorial, amendment.

IV. Oral proceedings were held on 19 January 2000. In the course of these proceedings the appellant amended his request by filing a new page 1 of a set of claims, the page comprising claims 1 and 2, and the start of claim 3. Grant of a patent on the basis of the amended claim 1, the sole independent claim, was requested.

V. In the course of the oral proceedings the appellant argued that the discussion before the Examining Division had concentrated on a secondary aspect of the invention; the important difference over the prior art, now brought out in the revised claim 1 before the Board, was the ability of the transponder system to remain in stand-by mode for months or even years. The system was to be distinguished from a mobile phone system such as the GSM system, in which each mobile unit was in regular contact with a base station, so that the stand-by period was comparatively short, being at the priority date of the application only a matter of hours. By the use of a pager connected to an existing radio pager network stand-by operation could be restricted to the radio pager itself, the remaining parts of the system being in effect switched off. Only when the pager's unique call was received was it necessary to activate the rest of the system, thus maintaining a very low power consumption. One advantageous embodiment coupled a radio pager to a GSM telephone module so that when the pager was actuated by means of an authorization code the GSM transmitter could be caused to respond by dialling a predetermined phone number with information as to which particular GSM cell the transponder system was located in. Thus, if a valuable object to which the transponder system was affixed were to be stolen, it was only necessary to call the pager number and the GSM module would then respond with the identity of the particular cell in which it was located and indeed with additional technical information enabling the distance between the transponder system and the cell base station to be approximately determined. The claimed system could not be compared with a GSM phone since the pager was

strictly a receiving device, giving one-way communication, there being no transmitted signal from the system until the pager was itself activated.

VI. Claim 1 reads as follows

"A transponder system (B) for localization of an object being provided with a transponder for this system comprising antenna device and a pager receiver (1) having an unique call, normally in form of a phone number accessible via an existing radio pager network,

a built-in marker transmitter (10) working on a frequency different from the frequency of the pager receiver (1), a unit (2) for decoding of an authorization code and a control information obtained via the pager receiver (1),

an electronic logic unit (3) preferably in form of a microprocessor for processing of control information obtained from the decoder (2),

a power supply (11) to permit the transponder system (B) and its marker transmitter (10) to operate during a certain minimum time period also after the enabling of its marker transmitter, and

that the operation mode of the marker transmitter (10) is controlled by the logical unit (3) based on control information obtained from the pager receiver (1) via the unit (2) for decoding, characterized in further providing:

being in standby, and not transmitting any information when in standby, whereby the power consumption will be very small as only the pager receiver (1) needs to be in a receiving state, and

being enabled by the pager receiver through said call to operate said minimum time period."

Reasons for the Decision

1. At the oral proceedings the primary issue addressed was whether claim 1 complied with Article 56 EPC as to inventive step.

2. One of the tasks of the security industry is maintaining surveillance of valuable objects. The application acknowledges as known the use of cassettes to transport for example banknotes, the cassettes including anti-theft systems serving for example to stain the banknotes in the event of theft. The application is concerned with tracking such a cassette in the event of theft. The use of a transponder for tracking is acknowledged as known and various tracking systems are described which all have disadvantages. Although not clearly brought out in the application as filed, the appellant argued convincingly that the problem solved by the invention was that of providing a transponder system with a very low power consumption so that the system could remain operational and enable tracking for a matter of months if not years without replacement of the batteries.

3. It was common ground at the oral proceedings that the single most relevant prior art document is D1. D1 concerns the localisation of an object provided with a transponder of unspecified kind, but which according to column 8, lines 67 and 68 can be either active or passive; the former requires a source of power and the latter re-radiates the received power. In the case of an active transponder it is necessary to provide both a receiver and a responding transmitter; referring to

Figure 6 of D1 and the associated text at column 7, lines 9 to 32, the transmitter works at a frequency different from the frequency of the receiver. This transmitter serves to notify the outside world of the location of the transponder system and in the Board's view it constitutes a "marker" transmitter within the meaning of claim 1. D1 refers at column 7, lines 20 to 25 to comparing a coded signal with an internally stored identification code using a comparator circuit; this implies both the presence of an authorization code and its decoding, for example by demodulation, from the received signal. The comparator circuit thus serves as an electronic logic unit for processing of control information obtained from the decoder; it is noted that the electronic logic unit of claim 1 of the application is only preferably in the form of a microprocessor.

The embodiment of D1 employing an active transponder will, as noted above, require a power supply to permit the transponder system and its marker transmitter to operate. Since the D1 system is portable and power is therefore limited, it follows that the transmitter will only operate for a certain time period after being enabled. As noted, the operation of the marker transmitter is controlled by the logic unit based on control information obtained from the receiver of the transponder.

4. The characterising part of claim 1 specifies that the system does not transmit any information when in stand-by, whereby the power consumption will be very small as only the (pager) receiver needs to be in a receiving state. This would appear to be an essential characteristic of any active transponder which relies

on batteries. As noted in the above-quoted passage from column 7 of D1, a transmission signal is sent when the correct identification code is received by the transponder; the implication of this statement is that no signal is transmitted when no identification code is received. The D1 system accordingly operates, in effect, in a stand-by mode which in the case of an active transponder will have a comparatively low power consumption in comparison to the transmitting mode. As discussed at point 3 above, in order to conserve power such a device will only transmit for a set time period.

5. The claimed transponder system accordingly only differs from that known from D1 in that the claimed system uses a pager receiver; the Board accepts that the use of the expression "pager receiver" would be understood by the person skilled in the art to refer to a specific kind of device which enables an individual to be contacted with a message using for example the so-called POCSAG data transmission protocol. The question to be answered by the Board is accordingly whether at the priority date of the application it would have been obvious for the skilled person to make use of such a pager as the front end of a transponder system.

6. The appellant argued that the invention was in effect the advantageous combination of a pager receiver with a GSM transmitter, thereby avoiding the known disadvantage of the GSM system that a mobile unit must periodically communicate with a base station in order to be recognised by the system. However, the Board notes that the originally filed application contains no mention of the GSM system and indeed only passing mention of mobile telephones in connection with the

"further embodiment" described at pages 12 and 13. The Board does not therefore consider that it is correct to consider the invention in the light of the disadvantages of the GSM system, but rather to consider how the skilled person, wishing to provide long battery life in an active transponder, would solve the problem.

7. Although it was argued by the appellant that the D1 device was not relevant since it was primarily concerned with finding missing children in an amusement park, the Board notes that claim 1 is not restricted to any specific use and merely refers to "localisation of an object being provided with a transponder". Moreover, the introduction to D1 specifically refers not only to the location of persons but to the location of stock in a warehouse complex or the location of personnel or vehicles in industrial or transport areas. The appellant also argued that D1 differed from what was claimed in that it did not provide for the very small power consumption of a pager receiver. As has already been noted, D1 does not discuss power consumption. Given the reference at column 8, lines 67 and 68 to the use of active transponders, the Board considers that the provision of an extended battery life would be an essential goal if an active transponder were to be used in the D1 system. A paging receiver would appear to have all the necessary characteristics for such a transponder: individually addressable and with an extended battery life. These are the known characteristics of a pager and the Board takes the view that the skilled person, looking for a receiver which has these characteristics, would not require to exercise inventive skill in selecting a pager simply for these characteristics. It follows that the subject-

matter of claim 1 lacks an inventive step.

8. The Board would observe that although the mere collocation of a pager receiver with a mobile phone transmitter in order to provide a prolonged stand-by time does not of itself involve an inventive step, the technical details involved in marrying a pager receiver to a mobile phone transmitter may well involve the exercise of inventive skill; the application however contains no technical details of problems involved in the combination or of the technical features required to solve these problems.

9. There being no other requests, it follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg