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Case Number: T 1495/14 - 3.4.03

Application Number: 09712665.0

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Language of the proceedings: EN

Title of invention:
A VEHICLE RECORDING AND BILLING SYSTEM

Applicant:
Arçelik Anonim Sirketi

Headword:

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

Keyword:
Inventive step - (no)

Decisions cited:
T 0641/00

Catchword:

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Case Number: T 1495/14 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 30 August 2018

Appellant: (Applicant)	Arçelik Anonim Sirketi E5 Ankara Asfalti Uzeri, Tuzla 34950 Istanbul (TR)
Representative:	Louis Pöhlau Lohrentz Patentanwälte Postfach 30 55 90014 Nürnberg (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 17 January 2014 refusing European patent application No. 09712665.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Eliasson
Members:	S. Ward
	C. Heath

Summary of Facts and Submissions

I. The appeal is against the decision of the Examining Division refusing European patent application No. 09 712 665 on the grounds that the claimed subject-matter did not involve an inventive step within the meaning of Article 56 EPC.

II. The appellant requested in writing that the decision under appeal be set aside and that a patent be granted based on the main request, or one of auxiliary requests 1 or 2, all filed with letter dated 13 July 2018.

III. In a letter dated 28 August 2018 the Board was informed that the appellant would not be represented at the scheduled oral proceedings. Oral proceedings before the Board were therefore held in the absence of the appellant.

IV. The following documents are referred to:

D1: WO 2008/004755 A
D6: WO 97/24689 A

V. (a) Claim 1 of the main request reads as follows:

"A vehicle recording and billing system (1) used in fuel stations; comprising at least one RFID-tag (2) which is located on the vehicle (A) by being fixed thereto at a point which will allow electronic reading and includes information related to the vehicle (A) by storing vehicle (A) information that might be used in customer follow-up and sales control; at least one reader (3) which reads the vehicle (A) information included in the RFID-tag (2) and transmits the read

information the RFID-tag comprises in a wireless manner in radio frequency interrogations; and at least one cash register (4) which functions in integration with the fuel pump (P) provided at the fuel station; wherein the reader (3) is a portable reader (3), which is used in reading the vehicle (A) information provided in the RFID tag (2) and in wireless transmission of the information to the cash register (4), wherein the vehicle information stored in said RFID-tag (5) is including previous transaction records, and wherein the cash register (4) upon receiving the vehicle (A) information coming from the reader (3), prints a sales slip in accordance with the said vehicle information."

(b) The text of claim 1 of auxiliary request 1 comprises the text of claim 1 of the main request, plus the following (final) feature:

"and wherein, owing to the automatic reading of the vehicle (A) information and wireless transmission thereof to the cash register (4), the right amount of fuel is delivered to the right vehicle (A) in a controlled manner and the sales is controlled by being documented by a slip."

(c) The text of claim 1 of auxiliary request 2 comprises the text of claim 1 of auxiliary request 1, plus the following (final) feature:

"and wherein the portable reader (3) comprises a Zigbee module (6) that enables wireless transmission of the vehicle (A) information to the cash register (4) and that the vehicle recording and billing system (1) comprises a cash register (4) which is used in integration with the fuel pump (P) and which has another Zigbee module (7) that communicates with the

Zigbee module (6) located in the reader (3) and enables the vehicle (A) information sent by the reader (3) to be received, a microprocessor (8) that prepares a sales slip in accordance with the received vehicle (A) information and sends the said slip to the printer, and a printer (9) that prints out the sales slips onto paper."

VI. With the summons to oral proceedings, the Board sent the appellant a communication under Article 15(1) RPBA setting out its provisional views. In this communication, the Board expressed *inter alia* the preliminary view that the subject-matter of the requests on file did not involve an inventive step in the sense of Article 56 EPC.

VII. (a) The appellant's arguments in the statement of grounds of appeal, insofar as they are relevant to the present decision, may be summarised as follows:

Document D1 was the closest prior art and did not disclose that the information stored in the RFID-tag included previous transaction records, nor that "the cash register (4) upon receiving the vehicle (A) information coming from the reader (3), prints a sales slip in accordance with the said vehicle information".

The Examining Division's view that the term "upon" included any later point in time following receipt of the vehicle information was incorrect. D1 did not disclose any terminal to print a sales slip immediately or very soon after receiving the vehicle information coming from the reader, but rather necessitated a prior authentication. The advantage of the claimed feature was that the sales slip was provided without complex proceedings. The person skilled in the art starting

from D1 would not foresee this advantage since document D1 had its focus on authentication.

An advantage of the RFID-tag including previous transaction records was that the fueling station could recognize customers who repeatedly took fuel at the fueling station and offer, for example, a reduction in price or other benefits to such customers. The system of D1 was not suited for sending information back to the RFID-tag, hence, additional equipment would be needed.

Concerning claim 1 of auxiliary request 1, the Examining Division had failed to show that, starting from D1, the person skilled in the art would foresee the terminal/mobile terminal of the customer controlling the amount of fuel being delivered and to which vehicle it was delivered. That was not at all hinted at by D1.

Concerning claim 1 of auxiliary request 2, there was no hint or disclosure in D1 or D6 of the use of Zigbee modules.

(b) The appellant's arguments in the letter dated 13 July 2018, insofar as they are relevant to the present decision, may be summarised as follows:

The term "transaction records" not only referred to the flow of money (as assumed by the Board of Appeal) but also to the flow of goods. Accordingly, in the context of the invention, the amount of fuel filled into the respective vehicle on previous fuelling processes was included in the "previous transaction records".

The advantage mentioned in the statement of grounds of appeal of offering regular customers a reduction in price or other benefits was only a possible advantage of storing transaction records. The focus of the invention was on an amount of fuel filled on previous occasions. This was a technical feature and the corresponding objective technical problem consisted in providing an effective fuelling process.

Furthermore, the skilled person was an expert in developing fuel pumps, and had no knowledge in developing RFID-tags.

Re-writeable RFID-tags were available at the priority date, but had not been used in the technical field of fuel pumps in communication with a portable reader.

Combining the documents D1, D6 or any other remaining prior art document, the skilled person would not solve the above problem according to the invention, i.e. to store previous transaction records as vehicle information in the RFID-tag.

According to claim 1 of auxiliary request 1, the amount of fuel was controlled based on the amount of fuel which had been filled into the respective vehicle on previous fuelling processes and stored in the RFID-tag 5. For example, a vehicle which previously had been filled with 30 litres most likely was to be filled with 30 litres again. The control of the right amount of fuel was a technical effect and provided an effective fuelling process.

Furthermore, and as a further advantage, a user could choose a certain amount of fuel in advance and the control device controlled the delivery.

According to claim 1 of auxiliary request 2, the Board of Appeal alleged that the Zigbee based technology was well-known and available at the priority date. However, the Bord of Appeal did not mention a basis for this assumption. In fact, Zigbee based technology was known at the priority date in terms of industrial process control and in building control ("smart home"). The skilled person, being an expert in developing fuel pumps, had no motivation to employ technologies used in industrial plants or in "smart" buildings for providing an effective fuelling process.

Reasons for the Decision

1. The appeal is admissible.

2. *Main Request: Inventive Step*

2.1 The appellant regards D1 as the closest prior art; the Examining Division considered D6 to be the suitable choice. In the Board's view a plausible case can be made for either of these documents, and it has no objection to starting the discussion from D1, in particular, the embodiment of Fig. 1, which is described starting at page 10, line 23.

2.2 In this embodiment, D1 discloses: A vehicle recording and billing system (Fig. 1) used in fuel stations; comprising at least one RFID-tag (1) which is located on the vehicle by being fixed thereto at a point which will allow electronic reading and includes information related to the vehicle (fuel type, see e.g. page 3,

lines 14-21; claim 10) by storing vehicle information that might be used in customer follow up and sales control (the fuel type "might be used" for these purposes); at least one reader (2) which reads the information included in the RFID-tag and transmits the read information the RFID-tag comprises in a wireless manner in radio frequency interrogations (see page 12, line 21 to page 13, line 1), wherein the reader is a portable reader (as shown in Fig. 1 or described in lines 4-7 on page 12), which is used in reading the vehicle information provided in the RFID tag (2) and in wireless transmission of the information.

2.3 The Board sees claim 1 differing from the embodiment of Fig. 1 of D1 as follows:

(a) there is provided a cash register which functions in integration with the fuel pump such that the cash register prints a sales slip;

(b) the vehicle information stored in the RFID-tag and read by the reader includes previous transaction records; and

(c) the portable reader provides wireless transmission of this information to the cash register, and the cash register upon receiving this information coming from the reader, prints the sales slip in accordance with this information.

2.4 Concerning feature (a), the Board points out that although the term "cash register" may conjure up an image of a device with a drawer holding notes and coins of various denominations for facilitating cash transactions, the "cash register (4)" of the present application (see paragraph [31]; Figs. 1 and 2) merely

comprises means for receiving information relating to a transaction (Zigbee module 7), means for preparing a sales slip on the basis of that information (microprocessor 8), and means for printing the sales slip (printer 9). The claimed term "cash register" is therefore interpreted in this sense, as essentially a device adapted to receive sales data and to output a corresponding sales slip (receipt).

2.5 Providing a customer with a paper record of the transaction (receipt or sales slip) is not only commonplace, but a legal requirement in many jurisdictions. In a fuel station a "cash register" issuing such a record would have to function "in integration with the fuel pump" to obtain the data on the amount of fuel delivered. Moreover, the fact that feature (a) is known in the prior art is acknowledged in the description (paragraph [4]), and issuing a fuel receipt is also disclosed in D1 in relation to the embodiment of Fig. 2 (see page 22, lines 1-3; page 26, lines 14-16). Thus no inventive step can be seen in feature (a).

2.6 Concerning feature (b), the question arises what the purpose is of storing information on previous transaction records. According to claim 1, and paragraph [29] of the description, this information "might be used in customer follow-up and sales control", but it must be asked what this rather vague phrase means in the present context.

The Board can accept that it may be useful for an enterprise to harvest and store data on transactions and customers. However, claim 1 does not define any storage of this data by the fuel station, but rather that the data relating to a particular vehicle is

stored on an RFID tag mounted in that vehicle, and this data is therefore only available to the fuel station at the moment when that vehicle is refueling.

2.7 In the statement of grounds of appeal the appellant suggested that a record of previous transaction records would enable the fueling station to "recognize customers who repeatedly take fuel at the fueling station and offer, for example, reduction in price or other benefits to such customers". Since vendors routinely provide such benefits to frequent customers in order to promote commercial loyalty, this appears to the Board to be a plausible suggestion for how to interpret "customer follow-up and sales control" within the context of the claimed subject-matter. This interpretation would also be consistent with feature (c), with the sales slip showing a discount or similar benefit "in accordance with the vehicle information". The Board is therefore prepared to accept this interpretation, and hence the problem may be seen as promoting customer loyalty.

2.8 While the manner in which information is stored may involve technical considerations, storing information on previous transaction records is not *per se* a technical feature, but merely reflects a business decision based on commercial considerations; similarly the problem of promoting customer loyalty is not a technical problem.

2.9 Claim 1 therefore comprises a mixture of technical and non-technical features, and it is appropriate to apply the principles set out in T 641/00, according to which, features which do not contribute to the technical character of the invention cannot support the presence of inventive step, but may legitimately appear in the

formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

In the present case the technical problem might be formulated as *suitably implementing* the storage of a customer's previous transaction records.

2.10 D1 discloses that the customer's personal identification details are stored in RFID tag 1, and hence an obvious possibility which would occur to the skilled person would be to store the customer's previous transaction records there also. As the appellant explicitly acknowledged, re-writable RFID-tags were available at the priority date of the present application (letter of 13 July 2018, page 3, sixth paragraph), allowing stored data to be regularly updated, as were the means for writing such data to the RFID-tag. It would therefore be obvious to the skilled person to employ such known means to solve the above problem. Feature (b) does not therefore involve an inventive step.

2.11 In relation to feature (c), the choice of data to be included on the sales slip is a business decision (and may also be governed by applicable law), and therefore ensuring that the sales slip is "in accordance with" the information reflecting the customer's previous transaction records is not a technical feature.

2.12 Again applying the principles set out in T 641/00, this feature does not contribute to the technical character of the invention or support the presence of inventive step, but may legitimately appear in the formulation of the problem. The technical problem may be formulated as *suitably implementing* the sales slip being "in

accordance with" the information reflecting the customer's previous transaction records.

Since the Board has decided that it would be obvious to store these transaction records in the RFID tag mounted in the vehicle, an obvious way to solve the posed problem would be to read these records using the reader (as with the other data stored on the RFID tag), and to transmit the data from the reader to the cash register for preparation of the sales slip. Wireless transmission would be an obvious possibility (either directly to the cash register or via the POS system 3), since a reader capable of wireless transmission is disclosed in D1 (page 18, lines 21-23).

D1 discloses that personal data is stored on the RFID tag, read by a reader and wirelessly transmitted to the fuel delivery system, and it has never been asserted that the skilled person would have any difficulty putting this arrangement into practice. The Board is therefore satisfied that implementing a similar arrangement, where the data concerns previous transaction records, would be equally straightforward for the skilled person. Feature (c) does not therefore involve an inventive step.

The Board makes the following comments on the arguments of the appellant:

2.13 The appellant argued that "upon" means that the sales slip is printed directly on receipt of the vehicle information with no other intervening actions, and that this was not disclosed in D1.

The Board, however, is of the view that "upon receiving" means merely that receiving the vehicle

information (including the previous transaction records) is a necessary condition to be fulfilled prior to the printing of the receipt, which follows shortly afterwards.

In fact, according to the most concrete suggestion put forward by the appellant, the system may provide a reduced price for frequent customers, in which case it would be implicit that there must be intervening actions between receipt of the vehicle information and the printing of sales slip. Having received the vehicle information, it would have to be determined whether, on the basis of the previous transaction records, the customer qualified for a discount. If so, the final (reduced) cost of the sale would have to be determined and only when that was known could the transaction be processed (e.g. by debiting a card). Furthermore, only after it had been determined whether the transaction had been successful could the receipt be printed. It is therefore clear from the logic of the claim that "upon" is not to be interpreted in the manner suggested by the appellant.

2.14 The appellant argued that "transaction records" was a term which "not only refers to the flow of money (as assumed by the Board of Appeal) but also to the flow of goods". The Board did not, and does not, assume this, and none of the Board's arguments depend on any such assumption.

2.15 The appellant suggested that the advantage mentioned in the statement of grounds of appeal (see point 2.7, above) was "only a possible advantage" of the invention, and proposed the alternative problem of "providing an effective fuelling process". The Board can find nothing in the submissions of the appellant

explaining what precisely is meant by "effective", nor how the fueling process would be rendered effective in any technical sense by keeping transaction records. The Board therefore maintains its view that any advantages provided by keeping transaction records are purely commercial.

2.16 The appellant's arguments concerning the skilled person are also not accepted. In the context of the problem-solution approach, the starting point for defining the appropriate skilled person is the technical problem to be solved. Where the problem is to implement the storage of previous transaction records, the skilled person must be assumed to be skilled in the field of data storage, and would be fully conversant with the technology of RFID-tags, including rewritable RFID-tags.

2.17 The Board therefore concludes that the subject-matter of claim 1 of the main request does not involve an inventive step within the meaning of Articles 52(1) and 56 EPC.

3. *Auxiliary Request 1*

3.1 In claim 1 of the auxiliary request 1, the feature noted under point V(b), above, has been added. The basis is the final sentence of the description.

3.2 The Board pointed out in its communication that it is not unambiguously clear what is meant by "the right amount of fuel", or "in a controlled manner". For the purposes of evaluating inventive step, this feature can only be interpreted as meaning that the amount of fuel dispensed is "controlled" by the system to be the same (or alternatively to have the same monetary value) as

the amount dispensed in previous transactions as stored in the RFID-tag and read by the reader. This also appears to be the interpretation of the appellant.

There is no explanation in the application why it is considered advantageous to limit a driver to purchasing exactly the same amount of fuel on each visit to the fuel station, nor does the Board find any comprehensible explanation in the appellant's submissions.

3.3 The appellant argues that, as a result of the invention, "a user can choose a certain amount of fuel in advance". However, as set out above, the only reasonable interpretation of the claimed subject-matter is that the amount of fuel is automatically determined by previous transactions, offering no choice to the customer.

Even a problem such as limiting a driver's expenditure on fuel would not appear to be suitable. There is no restriction on the frequency with which the driver can purchase the same amount of fuel, and so this problem would not be solved by the claimed subject-matter.

3.4 Hence, the additional feature of claim 1 of auxiliary request 1 does not represent the solution to any technical problem which can be identified by the Board, and appears to have only the foreseeable and disadvantageous effect of restricting the freedom of choice of the customer. Such a feature cannot confer an inventive step on the claimed subject-matter (see *Case Law of the Boards of Appeal, 8th edition 2016, I.D. 9.18.1*).

3.5 The Board therefore concludes that the subject-matter of claim 1 of auxiliary request 1 does not involve an inventive step within the meaning of Articles 52(1) and 56 EPC.

4. *Auxiliary Request 2*

4.1 Claim 1 of auxiliary request 2 corresponds to claim 1 of auxiliary request 1 plus the additional feature noted under point V(c), above.

4.2 Significant parts of this additional subject-matter are merely repetitions of features already introduced in the claim (e.g. "comprises a cash register", "used in integration with the fuel pump", "wireless transmission"). Moreover, since it is already established that the cash register "prints a sales slip in accordance with the said vehicle information", it is implicit that the cash register has a means (which, realistically, would involve a microprocessor) to prepare data for printing on the sales slip, and a printer. Hence, in the opinion of the Board, the only new feature in the additional subject-matter is the use of Zigbee modules for putting into effect the wireless communication, and the associated problem may be seen as selecting a suitable type of wireless communication.

4.3 Zigbee is an IEEE specification related to wireless personal area networks (hence, somewhat similar to Bluetooth). Technology based on the Zigbee specification was well-known and available at the priority date of the present application, and the selection of Zigbee modules for wireless communication would be an obvious possibility and cannot be considered inventive.

4.4 The appellant argues against this conclusion as follows:

"the Board of Appeal compares ZigBee with Bluetooth and alleges that the ZigBee based technology was well-known and available at the priority date. However, the Bord (sic) of Appeal does not mention a basis for this assumption.

"In fact, ZigBee based technology was known at the priority date in terms of industrial process control and in building control ('smart home'). The skilled person being an expert in developing fuel pumps has no motivation to assume technologies used in industrial plants or in 'smart' buildings for providing an effective fuelling process."

It is somewhat curious that the appellant argues that the Board did not provide evidence for the "assumption" that Zigbee based technology was known at the priority date, while acknowledging in the next line that this was in fact the case. The appellant then goes on to assert that it was only known in industrial process control and in building control, without citing any evidence.

4.5 The main point, however, is that, as already pointed out under point 2.16, above, the appropriate skilled person is defined by the technical problem to be solved, and where the problem is to select a suitable type of wireless communication, the skilled person would be one well versed in wireless communication technology, and not "an expert in developing fuel pumps".

4.6 The Board accepts the appellant's point that Zigbee and Bluetooth differ technically, but fails to see the relevance of this to the present discussion. The point is that Zigbee was, at the priority date, one of a limited number of known solutions to the posed problem (Bluetooth would have been another), and the skilled person would have selected from among them, according to requirements. The Board does not find, either in the application or in the appellant's submissions, any persuasive argument why Zigbee would have represented an inventive choice, or even any reason why Zigbee is used in preference to other wireless communication standards.

4.7 The Board therefore concludes that the subject-matter of claim 1 of auxiliary request 2 does not involve an inventive step within the meaning of Articles 52(1) and 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

S. Sánchez Chiquero G. Eliasson

Decision electronically authenticated