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**Datasheet for the decision
of 9 November 2010**

Case Number: T 1529/09 - 3.4.03

Application Number: 01951708.5

Publication Number: 1347422

IPC: G07D 7/20

Language of the proceedings: EN

Title of invention:

System for recognizing and validating banknotes

Patentee:

INVESTRONICA S.A.

Opponent:

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Headword:

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Relevant legal provisions:

EPC Art. 123(2)

Relevant legal provisions (EPC 1973):

EPC Art. 56

Keyword:

"Main request: inventive step (no)"

"Auxiliary request: not disclosed by the application as filed"

Decisions cited:

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Catchword:

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Case Number: T 1529/09 - 3.4.03

D E C I S I O N
of the Technical Board of Appeal 3.4.03
of 9 November 2010

Appellant:

INVESTRONICA S.A.
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E-28009 Madrid (ES)

Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 9 March 2009
refusing European patent application
No. 01951708.5 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: R. Q. Bekkering
Members: V. L. P. Frank
P. Mühlens

Summary of Facts and Submissions

- I. This is an appeal from the refusal of application 01 951 708.5 for the reasons that claims 1 and 3 had been amended in such a way that they contained subject-matter which extended beyond the content of the application as filed (Article 123(2) EPC) and that the device of claim 1 was not clear (Article 84 EPC 1973).
- II. At oral proceedings before the board, the appellant applicant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 and 2 of the main request filed with the grounds of appeal or on the basis of claims 1 and 2 of the auxiliary request filed with letter dated 7 October 2010.
- III. Claim 1 of the main request reads:
- "1. Bank notes recognition/validation system of the kind which is based on the digital study of analog signals seized in the note (2) intended to be recognized/validated through a multiple sensor arrangements (3, 4) which include transmission arrangements and reflection arrangements wherein emitters (4) radiate in the infrared spectrum, characterized in that said system comprises:
a microcontroller (5) connected to said sensors (3) which further comprises a preinstalled firmware (6),
a display (7) with adjustable bias lighting which further comprises a block of buttons (8) in ergonomic position for the user,
a standard communication port,

an internal memory storing unrecognizable data obtained from the note (2),
a note driving and alignment means further comprising a motor (10) connected to at least two pulleys (11) each of said pulleys connected to several friction wheels (12) wherein only one of said wheels is inclined (12') in relation to a side edge (13),
an encoder (14) connected to said microcontroller (5) and moved by several of said friction wheels (12) in a synchronized manner vis-à-vis the speed of the motor (10),
and being said system embodied in an autonomous device."

Claim 1 of the auxiliary request reads:

- "1. Bank notes recognition/validation system of the kind which is based on the digital study of analog signals seized in the note (2) intended to be recognized/validated through a multiple sensor arrangements (3, 4) which include transmission arrangements and reflection arrangements wherein emitters (4) radiate in the infrared spectrum, characterized in that said system comprises:
a microcontroller (5) connected to said sensors (3) which further comprises a preinstalled firmware (6),
a display (7) with adjustable bias lighting whose main function, although not the exclusive one, is to give the validation result and which further comprises a block of buttons (8) in ergonomic position for the user,
a standard communication port,

an internal memory storing data (2),
a note driving and alignment means further
comprising a motor (10) connected to at least two
pulleys (11) each of said pulleys connected to
several friction wheels (12) wherein only one of
said wheels is inclined (12') in relation to a
side edge (13),
And (sic) being said system embodied in a simple,
portable, self-governing an (sic) autonomous
device which does not need to be connected to an
additional system or device to perform its
function."

IV. The following documents are mentioned in this decision:

D1: GB 2 107 911 A

D3: EP 0 848 357 A

D4: WO 90/07165 A.

V. The examining division rejected the application, since *inter alia* the expression "said system offering an autonomous character" was not clear. Despite the appellant's argument that the autonomous character was one of the essential features of the invention, the only reference to autonomous in the original application referred to the autonomy of the apparatus allowing it to be integrated into a larger money operation system. It was thus not clear which technical features were referred to by this expression.

VI. The appellant applicant argued essentially as follows:

- The present bank notes recognition/validation system was a small, portable and autonomous device. This represented the most essential feature of the present invention. In contrast, the device according to D1 was a module, part of a larger equipment, in which the information of whether a bank note was or was not validated was transferred to the equipment for taking further action. In the present system this information was directly displayed on the system's own display. Neither D1 nor D4 disclosed an autonomous device.
- In contrast to the alignment system of D4, the present invention employed only a single inclined wheel to align the bank note. This was much simpler than what was disclosed in D4.
- Finally, there was no hint in D1, D3 and D4 that incited the skilled person to combine these documents. Three documents had to be combined to reach the present invention.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 Document D1 discloses a currency note validator controlled by a microprocessor. The validator comprises infrared emitters and identifies the currency note by

taking infrared and visible color reflectance readings and opacity (i.e. transmission) readings along several tracks on the note extending along its longitudinal direction (Abstract; page 1, lines 39 to 44). The validator of D1 further comprises a bezel 20 with a width adapted to the width of the largest currency note to be tested. Lesser width notes are handled by providing guide rails at appropriate locations at either side of the channel 18 and by substituting the entrance bezel by one having the appropriate width (page 2, lines 37-40 and 54-59; Figures 1 and 2). According to D1 the note length measurement is performed by timing the passage of the leading edge of the note from the scanning station to an exit sensor 88 and by timing the complete passage of the full length of the note under the scanning station (page 4, lines 29 - 37; Figure 2). The validator also comprises a panel of flashing indicators that display in code the detected failure leading to an out-of service status (page 1, lines 54 to 57).

The validator of D1 can be interconnected to other modules to provide ticket dispensing equipment, entrance or exit gates for mass transit systems, or can be interconnected with other automated systems which accept payment in the form of paper currency in return for goods or services (page 1, lines 9 to 14).

- 2.2 Claim 1 of this request specifies that the validator system comprises an internal memory which stores "unrecognizable" data. The board interprets this feature as that the information corresponding to an unrecognized bank note is stored in the internal memory,

allowing further action to be taken (page 3, lines 26 to 31).

Document D1, however, discloses that **all** the results from the validation tests, ie the information corresponding to the recognized and the not recognized bank notes, are stored in its internal memory (page 7, line 46).

2.3 The system of claim 1 of this request is further specified as being "embodied in an autonomous device".

2.3.1 The appellant applicant argued that this was the most essential aspect of the invention, as it was the invention's aim to provide an autonomous device for recognizing/validating bank notes that could be easily used and transported.

2.3.2 The application as filed discloses that "The use of the system is directed to a segment of the market which does not have an intermediate, reliable and economical device for recognizing and validating bank notes/money, **without discarding its application for being able to be integrated in more complex systems of handling bank notes, such as automatic teller machines, vending, recycling, sorting machines, etc.**" (page 1, lines 18 to 24, emphasis added).

2.3.3 The application states further that "Finally, it is important to mention that due to the special features in reference to size and **autonomy** of the apparatus, **it can be integrated in a larger money operation system, for example in automatic teller machines, vending,**

- recycling, sorting machines, etc."** (page 7, lines 24 to 28; emphasis added).
- 2.3.4 The purpose of the bank note validating system is disclosed as that "The proposed invention is directed to the segment of the market which does not have an intermediate device which is reliable and economical, and conceived for filling the gap existing in the field of recognizing and validating bank notes" (page 2, lines 24 to 27). For this purpose however there is no recognizable need that the bank note validating system is autonomous, since it is also achieved by a bank note validating system that is integrated in a larger money operation system.
- 2.3.5 Finally, as the examining division already remarked, the sole reference to "autonomy" is found on page 7, lines 24 to 28 (mentioned above in point 2.3.3), stating that due to this feature the apparatus can be integrated in a larger system. This disclosure corresponds to the claim's feature that the system is embodied **in** an autonomous device, ie part of a larger system, and not **as** an autonomous device.
- 2.3.6 Claim 1 as originally filed specifies that the bank notes recognition/validation system is "foreseen for **independently** performing the recognition and validation of bank notes". However, the system of D1 performs this task also in an independent manner, ie without help from any other system.
- 2.3.7 The board considers, for these reasons, that the system disclosed in D1 is an autonomous device in the sense disclosed in the application and that the more

restricted meaning that the appellant applicant wishes to give to the concept of "autonomous" was not disclosed in the application as filed.

2.4 Document D1 thus discloses in the wording of claim 1 (reference signs according to D1 were added by the board):

A bank notes recognition/validation system of the kind which is based on the digital study of analog signals seized in the note (32) intended to be recognized/validated through multiple sensor arrangements (68, 70, 72) which include transmission arrangements and reflection arrangements wherein emitters (74) radiate in the infrared spectrum, said system comprising:

a microcontroller (100) connected to said sensors which further comprises a preinstalled firmware (104),
a display (118),
a standard communication port (114),
an internal memory storing unrecognizable data obtained from the note (102),
a note driving and alignment means further comprising a motor (30) connected to at least two pulleys (26) each of said pulleys connected to several friction wheels (22),
and being said system embodied in an autonomous device.

2.5 The system of claim 1 therefore differs from the device of D1 by the following three features:

(a) the display has an adjustable bias lighting and comprises a block of buttons in ergonomic position for the user,

- (b) only one of the friction wheels of the note driving and alignment means is inclined in a relation to a side edge,
- (c) the system comprises an encoder connected to said microcontroller and moved by several of the friction wheels in a synchronized manner vis-à-vis the speed of the motor.

2.6 The appellant argued that the problem addressed by the invention is to provide an autonomous, simple and easy to use device which is reliable and economical.

The board considers, however, that it is not apparent that the device of D1 does not have these attributes or that features (a) to (c) produce these attributes.

The board considers therefore that the problem addressed by the invention has to be reformulated to a less ambitious aim.

2.7 The three features which differentiate the claimed system from the system known from D1 address different partial problems:

2.7.1 Feature (a): The use of a display with a block of buttons is an alternative to using a mere display, as it allows the user to input orders or information. However, to replace a mere output device by an output/input device is obvious for a skilled person.

2.7.2 Feature (b): Document D3 has the title "Bill alignment device for bill handling machine" and discloses the use

of inclined wheels for aligning bills (column 1, lines 5-9 and 40-44; Figure 1). Although the appellant's argument that D3 does not disclose a note-validating device is correct, note-validating devices are a specific form of "bill handling machines" and are therefore comprised by the disclosure of D3.

In the board's view the skilled person would consider using inclined wheels for aligning banknotes when devising an alternative alignment system to the one used in D1. The advantage of doing so is self evident, as D1 discloses that for notes with a lesser width the entrance bezel 20 has to be changed accordingly. This becomes unnecessary when using inclined wheels. To limit the number of inclined wheels to only one is a simplification of the more sophisticated system used in D3. The present application however does not disclose any further details on how this simplification is accomplished. The board considers that it is obvious to the skilled person to reduce the number of inclined wheels in the alignment system disclosed in D3 by just using the necessary minimum number of wheels, ie only one.

2.7.3 Feature (c): The board agrees with the examining division that the use of an encoder driven by friction wheels is an alternative way of measuring lengths which was at the disposal of the skilled person, in this case an engineer specialized in designing electro-mechanical devices, in particular bank-note handling machines, at and before the priority date of the present application (see eg D4, page 9, lines 6-27; Figure 4).

The replacement of one manner of achieving a technical effect by another known manner which was disclosed as achieving the same effect does not involve in principle an inventive step. The board cannot recognize therefore in feature (c) any inventive activity.

2.8 The solution to each partial problem is an alternative obvious to the skilled person. In the board's view, the combination of these features does not produce any effect that is more than the addition of the individual effects of each feature and cannot be seen therefore as involving an inventive step.

2.9 The board finds for these reasons that the bank notes recognition/validation system of claim 1 does not involve an inventive step (Article 56 EPC 1973).

3. *Auxiliary request*

3.1 Claim 1 of this request was amended to comprise the feature that the system is embodied in a simple, portable, self-governing and autonomous device which does not need to be connected to an additional system or device to perform its function.

3.2 The application as filed however does not disclose that the bank note validation system is portable neither explicitly nor implicitly, as there is no information on its size or weight.

The disclosed use of the bank note validating system is "directed to the segment of the market which does not have an intermediate device which is reliable and economical, and conceived for filling the gap existing

in the field of recognizing and validating bank notes" (page 2, lines 24 to 27). For this purpose there is no recognizable need that the bank note validating system be portable, since it is also achieved when the validating system is integrated in a larger money handling system.

The board finds therefore that the feature that the bank note validating system is embodied in a portable device is not directly and unambiguously derivable from the application as filed. The appellant applicant has not provided any basis in the application as filed supporting this feature.

- 3.3 The board finds therefore that the auxiliary request is not allowable, as it contains subject-matter which extends beyond the content of the application as filed (Article 123(2) EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

Registrar

Chair

S. Sánchez Chiquero

R. Q. Bekkering