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**Datasheet for the decision
of 21 August 2008**

Case Number: T 0853/06 - 3.4.01

Application Number: 97116652.5

Publication Number: 0814439

IPC: G06K 9/00, G07D 7/00

Language of the proceedings: EN

Title of invention:

Method and apparatus for discriminating, authenticating and/or counting documents

Patentee:

Cummins-Allison Corp.

Opponent:

DE LA RUE INTERNATIONAL LIMITED

Headword:

-

Relevant legal provisions (EPC 1973):

EPC Art. 54(1)(2), 56

Keyword:

-

Decisions cited:

-

Catchword:

-



Case Number: T 0853/06 - 3.4.01

D E C I S I O N
of the Technical Board of Appeal 3.4.01
of 21 August 2008

Appellant: DE LA RUE INTERNATIONAL LIMITED
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
28 March 2006 concerning maintenance of
European patent No. 0814439 in amended form.

Composition of the Board:

Chairman: B. Schachenmann
Members: F. Neumann
P. Fontenay

Summary of Facts and Submissions

- I. The appeal lies from the interlocutory decision of the opposition division to maintain the European patent number EP 0 814 439 in amended form.
- II. The appellant (opponent) has requested that the decision be set aside and the patent be revoked in its entirety. The respondent (proprietor) requested, as a main request, that the appeal be dismissed or, alternatively, that the patent be maintained in amended form with claims as set out in one of auxiliary requests I to VII filed with letter of 19 December 2006 or one of auxiliary requests Ia, IIa, Va, VIIa and VIII filed with letter of 21 July 2008.

Both parties have requested oral proceedings as an auxiliary measure.

- III. During the appeal proceedings, the following citations were taken into account:

E1: US-A-4 313 598
E2: US-A-4 420 153.

Further documents and a prior use were referred to in the grounds for appeal, but were not relied upon in connection with the main request.

- IV. Independent **claim 1** of the respondent's **main request** reads as follows:

"A currency counting and discrimination machine (10) for receiving currency bills (17) in an input

receptacle (12;209), rapidly counting and discriminating said currency bills (17), and then discharging said currency bills (17) to an output receptacle (20;217), comprising:

- a sensing device (18a, 18b) for scanning and counting said currency bills;
- a controller (30) coupled to said sensing device (18a, 18b);
- a transport mechanism (16) engaging and transporting said currency bills (17), one at a time, along a transport path from said input receptacle (12; 209) to said output receptacle (20;217), a segment of said transport path being adjacent said sensing device (18a, 18b);

characterised in that it further comprises:

- means (26a, 26b, 293, 294, 32, 42), for detecting when a currency bill is jammed along said transport path, said detecting means being coupled to said controller (30) and producing a jam signal upon detection of a jammed currency bill (17);
- means coupled to said controller (30) for interrupting the operation of said transport mechanism (16) in response to said jam signal from said detecting means, and
- means (297) for adjusting a portion (280) of said transport mechanism (16) to a retracted position wherein additional space is provided for said jammed currency bill (17) in said transport mechanism, so that said transport mechanism (16) can still move said jammed currency bill (17) to one of said two receptacles (12, 20;20, 217) to release said jammed currency bill in said transport mechanism."

Independent **claim 11** of the respondent's **main request** reads as follows:

"A method for clearing a jammed currency bill from a transport path in a currency counting and discrimination machine (10), said machine (10) receiving currency bills (17) in an input receptacle (12; 209), rapidly counting and discriminating said currency bills (17), and then discharging said currency bills (17) to an output receptacle (20; 217), said machine (10) including a transport mechanism (16) for transporting said currency bills (17) from said input receptacle (12; 209) to said output receptacle (20; 217) along said transport path, said machine (10) further including a sensing device (18a; 18b) adjacent said transport path, said method comprising the steps of:

detecting said jammed currency bill (17) in said transport path;

interrupting the operation of said transport mechanism (16);

adjusting a portion (280) of said transport mechanism (16) from an operational position to a retracted position to relieve pressure on said jammed currency bill (17);

activating said transport mechanism (16) while said transport mechanism (16) is in said retracted position to dislodge and move said jammed currency bill (17) to one of said input and output receptacles (12, 209; 20, 217); and

returning said portion (280) of said transport mechanism (16) to said operational position."

The wording of the auxiliary requests is not relevant to the present decision.

- V. The arguments of the parties, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

Reasons for the Decision

1. The appeal is admissible.
2. In view of the entry into force of the EPC 2000, reference is made to Article 7(1), 2nd sentence of the Revision Act of 29 November 2000 ("Act revising the Convention on the Grant of European Patents (European Patent Convention) of 5 October 1973, last revised on 17 December 1991"), and the transitional provisions for the amended and new provisions of the EPC (Decision of the Administrative Council of 28 June 2001), from which it may be derived which Articles of the EPC 1973 are still applicable to the contested patent and which Articles of the EPC 2000 shall apply.
3. It is noted that, contrary to the understanding of the opposition division, the Board understands the term "jammed" in the claims referred to above to be a condition in which currency bills or documents actually block in the transport mechanism and form an obstruction in the transport path. This is not only the common understanding of the word "jam", but is also consistent with the meaning provided in the contested patent itself. This understanding was shared by the parties.

4. **Main Request - Novelty (Article 52(1) EPC, Article 54(1) and (2) EPC 1973) with respect to the disclosure of E2:**

4.1 It was not contested that all features of the preamble of claim 1 are known from E2.

In addition, as submitted by the opponent, E2 also discloses a means which is suitable for detecting when a currency bill is jammed along the transport path. In particular, the post gate sensors 261,262 and 260,264 can be considered to fulfil this function. The absence of an expected signal from either of these sensors is indicative of the fact that a document which should have passed by the sensor has been prevented from doing so (column 14, line 61 to column 15, line 1). This could either be because the document was mis-directed at the gating roller 250 or, indeed, it could be because the document has become blocked upstream of the sensor.

This detecting means 261,262 and 260,264 in E2 is coupled to a controller 280 (Figure 1) and produces a "signal" upon detection of a condition which could be indicative of a jammed currency bill (column 14, line 61 to column 15, line 5). This "signal" is in fact an *absent* signal. In the case in which a document is prevented from reaching the sensor, the expected positive identification of a passing document will be missing. So the "jam signal" in this specific situation is not a positive signal, but instead it is the absence of a signal which indicates that the expected document has not arrived at the sensor. In addition, means are provided coupled to said controller for interrupting

the operation of said transport mechanism in response to this "jam" signal from the detecting means (column 15, lines 1-10). In particular, the opponent noted that although the lower portion of the transport mechanism continues to run in E2 (column 15, lines 8-10), the operation of the transport mechanism is nevertheless interrupted in the upper portion between rollers 158,168 and gating roller 250. The system of E2 also has a means (176,178) for adjusting a portion of said transport mechanism to a retracted position (column 14, lines 47-55).

The opponent submitted that the adjustment means provides additional space for the jammed currency bill, so that the transport mechanism can still move the jammed bill to one of the output trays. For the reasons set out below, the Board cannot agree with this final point.

4.2 The system of E2 gives rise to two "jam" scenarios which will each trigger a jam signal at the post gate sensor, this signal being indicative of a jam upstream of the sensor. In the assessment of novelty, each of these independent scenarios has to be considered separately.

4.2.1 In the first scenario, the error signal is triggered by the fact that the documents have proceeded along the wrong channel at the gating roller. This reflects the situation which the system of E2 is really intended to detect. Nevertheless, E2 makes it clear that a "jam condition" could arise in the nip between rollers 164,190 or 170,192 at the top of each of the two channels. Thus the error signal from the post gate

sensor could, in this first scenario, not only be indicative of a wrongly-directed document, but also of a wrongly-directed and "jammed" document. However, in accordance with the view of the proprietor, for the reasons set out below, an actual jam cannot be seen to occur at the nip formed between the rollers 164,190 (or 170,192). Indeed, the very teaching of E2 is that the arms 176, 178 are free to swing in an over-centre fashion to provide an automatic arrangement for clearing a (potential) jam (column 14, lines 51-55). The Board is aware of the fact that E2 refers explicitly in column 14, lines 51 to 55 to a "jam", the expressions "the clearing of any jam condition", "in the event of a jam" and "clearing of a jam" being used. However, due to the manner of operation of E2, no jam actually occurs at the nip. Thus, despite the use of the same terminology, the disclosure of D2 is nevertheless to be distinguished from the jam condition referred to in the contested patent.

The opponent argued that a jam does occur - albeit for a very short time - and it is this "jam" which triggers the retraction of the arms 176,178. The Board cannot share this view. At best, a *potential* jam is cleared: the resilient mounting of the swingable arms 176,178 means that as soon as a situation arises which would normally give rise to a jam (in the sense of a blockage of the mechanism and the resultant obstruction of the transport path) the situation is defused in that the respective arm opens to accommodate the potentially problematic documents and to allow them to pass. A jam cannot be seen to occur, even for a very short time.

Thus, although the (potentially jammed) documents in this situation will travel to the output tray 216 by virtue of the fact that the lower transport mechanism continues to operate (column 15, lines 1-10), it cannot be said that additional space is provided for "said *jammed* currency bill" in the transport mechanism or that the transport mechanism can still move "said *jammed* currency bill" to the output tray "to release said *jammed* currency bill in said transport mechanism" since there is no jammed currency bill. Thus, in this first scenario, E2 does not disclose all features of claim 1.

4.2.2 This analysis leads on to the second scenario. Since no jam can occur at the nip between rollers 170,192 or 164,190, any blockage upstream of the sensor will occur at or upstream of the gating roller 250. In this second scenario, the absence of an expected signal at the sensor 261,262 or 260,264 will have as a consequence the halting of the feed motor and the gating motor (column 15, lines 1-8) with the result that the entire transport mechanism between pulley 158 and the gating roller 250 is stopped. As pointed out by the proprietor, any documents jammed in this region will therefore not be transported any further. Consequently, in the second scenario, although a means for adjusting a portion of said transport mechanism to a retracted position is provided (the swingable arms 176,178), the retraction of these arms does not have the effect that additional space is provided for "*said* jammed currency bill" in said transport mechanism, so that the transport mechanism can still move "*said* jammed currency bill" to one of said two receptacles to release "*said* jammed currency bill" in the transport mechanism. This is

because the jam is located above the swingable arms in a section of the transport mechanism which has been deactivated as a result of the sensor signal. Thus, also in this second scenario, E2 does not disclose all features of claim 1.

4.2.3 To summarise, the final feature of claim 1 does not just define a means for adjusting a portion of the transport mechanism to a retracted position. This feature is further qualified by the fact that the retraction provides additional space for *said jammed currency bill* in the transport mechanism, so that the transport mechanism can still move *said jammed currency bill* to one of said two receptacles to release *said jammed currency bill* in said transport mechanism. It is therefore significant for the definition of the means for adjusting a portion of the transport mechanism to a retracted position that a jam really has occurred. Although a resilient retraction arrangement is provided in E2, it does not fulfil the specific function set out in claim 1. In particular, in the first scenario set out above, the retraction means does not provide additional space for *said jammed* currency bill in the transport mechanism, since there is no jammed bill; the swingable arm 176 or 178 prevents a jam from forming. In the second scenario, the jam occurs in the region above the gating roller. Here, the swingable arm 176 or 178 does not provide additional space for *said jammed* currency bill since the jammed bill is located at an entirely different place: this jammed currency bill is therefore not released by the retraction means.

4.3 Claim 1 is therefore novel with respect to E2 in both of the jam scenarios discussed above.

4.4 The opponent indicated that method claim 11 was equivalent to claim 1, the minor differences in wording not amounting to any difference in practical terms.

Therefore, for reasons corresponding to those presented above, claim 11 is also novel with respect to E2.

5. **Main Request - Novelty (Article 52(1) EPC, Article 54(1) and (2) EPC 1973) with respect to the disclosure of E1:**

5.1 It was not disputed that E1 discloses all features of the preamble of claim 1 of the main request.

5.2 Following a first line of argument, the opponent submitted that in the specific situation in which a stack of documents becomes wedged between the feed roller 17 and the stripper unit 30 with the front end of the wedged stack protruding beyond the nip and extending as far as the doubles detector 20, it may be said that the doubles detector is suitable for detecting when a currency bill is jammed along the transport path. It was submitted that the doubles detector of E1 was coupled to a controller and produced a "jam" signal upon detection of (in this specific situation) a jammed currency bill (column 5, lines 5-10 and 25-28). In addition, means were provided in the system of E1 for interrupting the operation of the transport mechanism in response to the "jam" signal (column 5, lines 8 to 10).

The proprietor disagreed with this argument, submitting that the doubles detector of E1 sensed the optical density of the document(s) passing by it and that such

density measurements could never provide an unambiguous indication of a document jam.

The Board however agrees that in the specific case defined by the opponent, the doubles detector is indeed *suitable for* detecting a jam condition.

- 5.3 The opponent further submitted that E1 discloses that means (50 or 62) for adjusting a portion of the transport mechanism to a retracted position is provided wherein additional space is created for the jammed currency bill, so that the transport mechanism can still move the jammed bill to the input or output tray. In particular, the opponent submitted that there are two mechanisms by which the blocked documents may be released: either the fine-tuning knob 50 may be twisted in order to provide more space between the feed rollers 17,17' and the stripper members 31,31' or the arm 62 may be manipulated in order to lift the stripper members 31,31' away from the feed rollers 17,17'.

The proprietor pointed out that the final feature of claim 1 required that the adjustment of the transport means was such that the transport mechanism can still move the jammed currency bill to one of the input or output trays.

- 5.3.1 With respect to the first of the above-mentioned retraction mechanisms, the Board is of the opinion that E1 does not disclose that the knob 50 and the associated mechanism can provide additional space for the jammed currency bill so that the transport mechanism can still move the jammed currency bill to one of the receptacles.

The knob 50 is provided as a precision adjustment to allow sheets of various thicknesses to be accommodated in the assembly and to assure a good stripping operation (column 10, lines 24-34). The Board acknowledges that by twisting the knob 50, a portion of the transport mechanism (the stripper members 31, 31') is adjusted to a retracted position wherein extra space is provided between the stripper members 31,31' and the feed rollers 17,17'. However, it is nowhere suggested that the adjustment achieved by the knob 50 is sufficient to allow a jammed bill to be released enough so that it may still be transported through the assembly by the transport mechanism.

- 5.3.2 The only jam-clearing mechanism which E1 discloses is that of the retractable arm 62. E1 teaches that in the event of a jam, stripper members 31,31' are manually rotated upwards and the blocked documents are cleared (col. 10, lines 35-46).

In the absence of any indication in E1 of how the sheets are cleared once the arm 62 has been manipulated, the Board does not see any direct and unambiguous disclosure that the means for retracting a portion of the transport mechanism is such that the transport mechanism can still move the jammed bills. All that is disclosed in E1 is that the stripper members 31,31' are rotated away from the feed rollers 17,17'. Whether the transport mechanism can still transport the jammed currency bill through the machine once the counterforce has been removed is not unambiguously derivable from E1.

5.4 A second line of argument, set out as follows, was pursued by the opponent during the written procedure.

E1 teaches that, in the event of a jam, stripper members are manually rotated upwards and the blocked documents are cleared (column 10, lines 35-46). The opponent argued that once the stripper members 31,31' have been rotated upwards, the documents could be removed either by manually pulling on their tail end, thereby forcibly retracting them back into the input tray, or by activating the feed roller 17,17' in order to cause them to be fed out of the assembly.

The Board notes that there is no indication in E1 of exactly how the blocked documents are cleared. Hence, there is no direct and unambiguous disclosure that the transport mechanism is activated (either forcibly or otherwise) to move the jammed documents to the input or output tray. It is therefore not clear whether the transport mechanism is still capable of transporting the jammed currency bill through the machine once the counterforce provided by the stripper members has been removed. The opponent argued that the disclosure of a document was not limited to what was literally described in the document, but also extends to any features which become apparent during normal operation of the disclosed device. Whether or not this opinion is correct, the Board cannot see that this approach would lead to the subject-matter of claim 1 anyway. No indication is given in E1 as to how sheet retrieval would proceed under "normal operation" and so it cannot be assumed that the sheet retrieval will occur in one particular (desired) manner: it could be that once the stripper members are lifted, the operator can simply

lift the documents out without having to interfere with the transport mechanism at all.

5.5 Consequently, neither of the above lines of argument could convince the Board that claim 1 - and correspondingly claim 11 - lacks novelty with respect to E1.

6. **Main Request - Inventive step (Article 52(1) EPC, Article 56 EPC 1973):**

6.1 For the assessment of inventive step, E2 was considered by the opponent to represent the closest prior art.

As explained above, claim 1 is distinguished from the disclosure of E2 in both of the above-identified scenarios in that the retraction of the portion of the transport mechanism provides additional space for the jammed currency bill in said transport mechanism, *so that the transport mechanism can still move the jammed currency bill to one of the two receptacles to release the jammed currency bill in said transport mechanism.*

6.2 Starting from the second scenario in E2 (see section 4.2.2 above), the opponent submitted that the problem to be solved would be how to release the documents blocked in the upper part of the transport mechanism, i.e. in that portion of the transport mechanism located between the pulleys 158,168 and the gating roller 250. The opponent argued that in order to solve this problem, the skilled person would apply the same arrangement as is already employed in the lower portion of the transport path in E2 and provide retractable means in the upper portion of the transport path. In other words,

the skilled person would mount the pulleys in the upper region on swingable arms which would enable them to automatically retract in order to clear a jam. It was argued that the system of claim 1 of the contested patent employed exactly the same system as that of E2: the fundamental teaching of E2 was the use of a swingable arm to allow the passage of documents which would otherwise become blocked. Thus, at any location at which a jam is likely to occur, the skilled person would know from E2 to provide retractable means to allow the blocked documents to pass. It was submitted that the subject-matter of claim 1 could therefore not be considered to involve an inventive step.

- 6.3 The Board does not agree that the skilled person would consider providing retractable means in accordance with the definition of claim 1 in the upper portion of the transport path of E2 in order to clear a jam in that section. The arrangement proposed by the opponent foresees an automatic clearance of a *potential* jam. This situation has been discussed in section 4.2.1 above and corresponding remarks apply analogously. In particular, claim 1 defines that a means for adjusting a portion of the transport mechanism to a retracted position is provided, whereby the adjustment is made to provide additional space for "*said jammed* currency bill" so that the transport mechanism can still move "*said jammed* currency bill" to one of the receptacles to release "*said jammed* currency bill". The consequence of providing retractable pulleys in the upper portion of the transport path would be that a jam would not occur at the pulleys, the resilience of the pulleys preventing an obstruction forming at the specific locations at which they are positioned. Thus, if the

signal from the post gate sensors 261,262 and 260,264 is really caused by the occurrence of a jam upstream of the gating roller 250, the jam will have occurred elsewhere along the transport path and not at the retractable pulleys. The provision of retractable pulleys in the upper portion does not allow *this* (actual) jam to be cleared. Hence, even with the provision of retractable pulleys in the upper portion, the additional conditions defining the retraction means of claim 1 would still not be provided: additional space would not be created for the *jammed* currency bill, because it would be located elsewhere. If a real blockage occurs, the documents will remain blocked because the retractable pulleys would not be provided at the location of this actual blockage.

Consequently, even if the skilled person were to provide retractable pulleys in the upper portion of the transport mechanism in E2 in order to *avoid a jam occurring*, the pulleys would not fulfil the specific function set out in claim 1 of the contested patent in view of the fact that they would only prevent bills becoming jammed instead of serving to clear an actual jam.

6.4 The arguments of the opponent could therefore not convince the Board that claim 1 lacks an inventive step.

6.5 The opponent submitted no additional comments or arguments with respect to claim 11 which, he submitted, was equivalent to apparatus claim 1 with only minor differences in wording. Therefore for the same reasons as presented above, the arguments of the opponent could

not convince the Board that the subject matter of claim 11 is not inventive.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

R. Schumacher

B. Schachenmann