BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS | BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE | CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal Yes / ~~No~~

File Number: T 854/90 - 3.4.1

Application No.: 84 114 432.2

Publication No.: 0 146 812

Title of invention: Automatic self-service machine and method

Classification: G07F 7/10

# D E C I S I O N
of 19 March 1992

Applicant: International Business Machines Corporation

Headword: Card Reader/IBM

EPC 52(1), (2), (3), 56

Keyword: "Method of reading and authorising cards using a machine" - "method of doing business" - "not an invention" - not patentable subject-matter " - "also no inventive step"

## Headnote

Headnote follows

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number** : T 854/90 - 3.4.1

# D E C I S I O N
## of the Technical Board of Appeal 3.4.1
## of 19 March 1992

**Appellant** : International Business Machines Corporation
Old Orchard Road
Armonk, NY 10504 (US)

**Representative** : Burt, Roger
IBM United Kingdom Limited
Intellectual Property Department
Hursley Park
Winchester
Hampshire SO21 2JN (GB)

**Decision under appeal** : **Decision of Examining Division 063 of the European Patent Office dated 22 June 1990 refusing European patent application No. 84 114 432.2 pursuant to Article 97(1) EPC.**

**Composition of the Board** :

**Chairman** : G.D. Paterson
**Members** : Y. van Henden
R.K. Shukla

## Summary of Facts and Submissions

I. European patent application No. 84 114 432.2 (publication No. 0 146 812) was refused by the Examining Division in respect of independent Claims 1 and 2 filed on 7 July 1989.

The subject-matter of the application as filed concerns an automatic self-service machine operable upon presentation of a card carrying identification data which is presented to the machine, as well as a method of operation of such a machine.

The application explains that in accordance with the invention it is not necessary for a user to be supplied with a special card governing his access to the machine for the performance of transactions, because a user may employ any machine-readable card already in his possession as the identification card or "key" for gaining access to the machine and performing transactions on it.

Thus if the machine does not recognise the identification data on a card presented to it as relating to an authorised user, it nonetheless stores the identification data and other credit information supplied by the prospective user. The owner of the machine then may decide to authorise the user for future transactions, in which case the data for the user are stored in the machine. The system thus avoids authorised users having to be provided with special cards, and enables an unauthorised user to have an existing card in his possession authorised by the machine so that the user is thereafter authorised to use such an existing card.

II. The reason given for the refusal was that Claims 1 and 2 were not allowable under Articles 52(1) and 56 EPC for

lack of inventive step with regard to the disclosure in document

D1: GB-A-1 458 646.

III. The Examining Division based its decision substantially on the following grounds:

Document (D1) discloses an automatic self-service machine comprising: storage means for storing data identifying authorised users of said machine; a card reader for reading encoded identification data recorded on a card inserted into the machine by a user; comparison means for comparing said data recorded on the card with stored data identifying authorised users in order to determine whether the user is an authorised user, and means for permitting an authorised user to perform transactions on the machine if said user is identified as an authorised user. The card reader reads any identification data which is unique to the user. Furthermore, the machine also comprises a keyboard by means of which the user types a secret number which is compared by the comparison means with stored data identifying authorised users.

Starting from this state of the art, and although the invention avoids the delay caused by the necessity to supply an authorised access card, no inventive step can be perceived in the claimed subject-matter. The proliferation of access cards is a consequence of the banks' wish to distinguish themselves from one another, so that the suppression of delays before cards are issued cannot be considered as a surprising effect. On the other hand, no display of inventive talent is required to solve the problem once it has been set.

IV. The Appellant lodged an appeal against the decision of the Examining Division.

V. In a communication pursuant to Article 11(2) of the RPBA, the Board also took the provisional view that, starting from the closest prior art document (D1), no inventive step was required to arrive at the claimed invention.

VI. Oral proceedings were held on 19 March 1992.

At the beginning of these proceedings, the Appellant explained that a few days previously, it had been realised that amendments to the description and claims were desirable and proposed amended pages were therefore presented, including two claims, Claim 1 defining a machine and Claim 2 defining a method of operating a machine. During the hearing, concerning Claim 1 there was a discussion as to whether this claim satisfied the requirement of novelty - Article 54(1) EPC. Concerning Claim 2, there was discussion as to whether the claimed subject-matter should be regarded as an invention within the meaning of Article 52(1) EPC or whether its subject-matter was in reality a method of doing business within the meaning of Article 52(2)(c) EPC; furthermore, the question whether the claimed subject-matter involved an inventive step was considered.

The Appellant subsequently withdrew Claim 1 and presented Claim 2 as his sole request, reading as follows:

"A method of operating an automatic self service machine by a user comprising

(a) inserting (41) into said machine a card recorded with encoded machine readable identification data identifying said user,

(b) comparing (44) said read identification data with stored data identifying authorised users in order to determine whether said read data identifies an authorised user,

(c) and permitting (45) said user to perform transactions on said machine if said user is identified as an authorised user,

characterised by the steps of:

(d) prompting (31) a prospective user of the machine to insert into the card reader a card already in the possession of the prospective user and containing magnetically encoded information which is unique to the prospective user;

(e) reading (32) the encoded information from the prospective user's inserted card and storing (35) said information in a storage means (20b) provided in the machine;

(f) prompting (34) the prospective user to enter credit information for use in determining whether the prospective user will be authorised to use the machine;

(g) storing (35) the credit information in the storage means (20b) along with the encoded information read from the prospective user's card;

(h) reading (37) from the storage means the stored encoded information and credit information entered by the prospective user to determine which of said users will be authorised to use the machine; and

(i) storing (39) in the storage means (20b) identification data for those users who are to be authorised to use the machine, so that the newly authorised users may thereafter use their identification cards to gain access to the machine;

whereby

(j) said encoded information can be any data which is unique to said user, and is on any card already in the possession of the user."

The paragraph letters have been added for ease of reference.

VII. In support of his request, the Appellant substantially argued as follows.

To operate existing machines, the user needs each time an access card which is supplied by the owner of the machine. This requires the user to have an access card for each machine to which he wishes to have access. This entails cards storage and security problems, in particular because of possible thefts. Furthermore, if special personal data has to be used and if this data is not the same for each card, careful attention has to be paid whenever using one of a plurality of cards.

It may be a fact that the banks do not see the proliferation of access cards as a problem, and it may be to their advantage to maintain the present arrangement. However, acquiring any new card involves the completion of an application form and the processing of this form by the relevant organisation. The apparent advantages of using a card which distinguishes the organisation can, therefore, be outweighed by increased costs.

By implementing the invention, the number of cards to be held by a user, hence the burden they impose on the latter, can be considerably reduced. The need for the invention has come to existence in the mind of users who are not aware of a solution to this problem, but it had certainly not been publicised by the banking organisation, to whom it is probably not seen as an advantage. In the absence of suggestions made by such organisations or others, the person skilled in the design of self-service machines would not think it could be useful to make a machine suitable for use with different types of access cards.

VIII. At the end of the oral proceedings, the Chairman announced that the appeal was dismissed.

**Reasons for the Decision**

1. Interpretation of the claim

In paragraph (b), comparing "read identification data" with stored data implies that a step of "reading said identification data" has previously been performed. Therefore, the step of "reading (32) the encoded information from the (prospective) user's inserted card" in step (e) should be understood as a second method step in the precharacterising part of the claim, i.e. as following the insertion of the card and preceding the comparison of read identification data with stored data. This entails in turn that, in paragraph (e) in the characterising part of the claim, this step has to be reduced to "storing said information in a storage means provided in the machine"; and it must furthermore be understood that said step is not performed if the user is already identified as an authorised user. In other words,

a "prospective user" in paragraph (d) must be understood as a previously unauthorised user.

Prompting a prospective user of an automatic self-service machine to insert a card into the card reader of said machine - paragraph (d) - is at the utmost an instruction for use but not a method step. The same remark applies to prompting the prospective user to enter credit information - paragraph (f). The step of inserting a card into the machine is, however, already mentioned in the precharacterising part of the claim. Besides, any card inserted by a (prospective) user into a machine is "already in the possession of said (prospective) user". With regard thereto, in the characterising part of the claim, paragraph (d) reduces to the teaching that the information contained in the card is "magnetically" encoded, whereas paragraph (f) consists in "entering credit information for use in determining whether the prospective user will be authorised to use the machine".

The purpose to be achieved by performing step (h) in the characterising part of the claim is not to determine which users will be authorised to use the machine but, in fact, to determine whether the user whose card has been inserted will be authorised to use the machine. Therefore, in the definition of this step, "which of said users" must be understood as meaning "whether said user".

Finally, it is clear that not all data which is unique to a user of an automatic self-service machine must be recorded on the card giving access to said machine. Therefore, it may happen that particular data identifying a user be not recorded on each card in the possession of this user. With regard thereto, in paragraph (j), the pronoun "any" has to be interpreted as meaning "the".

2. Patentable subject-matter

2.1 The first requirement for patentability under Articles 52 to 57 EPC is that the claimed subject-matter must be "an invention". Particular subject-matter and activities which "shall not be regarded as inventions within the meaning of Article 52(1) EPC" are set out in Article 52(2)(a) to (d) EPC, including in Article 52(2)(c) EPC "methods ... for doing business". Article 52(3) EPC provides that Article 52(2) EPC shall exclude subject-matter or activities from patentability "only to the extent to which" ... an application ... "relates to such subject-matter or activities as such" (emphasis added).

Previous decisions of the Boards of Appeal have emphasised the necessity that a claimed subject-matter or activity has a technical character if it is to be considered as an invention within the meaning of Article 52(1) EPC. In particular, in Decision T 22/85, (OJ EPO 1990, 12), with reference to the excluded subject-matter and activities set out in Article 52(2)(c) EPC, the Board stated that "Whatever their differences, these exclusions have in common that they refer to activities which do not aim at any direct technical result but are rather of an abstract and intellectual character". Furthermore, when considering the requirement of Article 52(3) EPC, it was stated in Decision T 208/84 (OJ EPO 1987, 14) that "Decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art".

Although Article 52 EPC does not use the word "technical", nevertheless for the reasons summarised in Decision T 22/85, in the Board's view the proper interpretation of the word "invention" as used in the plural in Article 52(1) EPC requires a claimed subject-matter or activity to have a technical character, and thus in

principle to be industrially applicable - see Decision T 208/84.

A difficulty sometimes arises as to the relevant criteria to be considered when determining whether a particular subject-matter or activity has a technical character and is therefore an invention within the meaning of Article 52(1) EPC, especially when the claimed subject-matter includes both technical and non-technical features.

2.2 In the present case, the "method of operating an automatic self-service machine by a user" which is the subject-matter of the only claim of the application is based upon the idea that a person who wishes to perform transactions upon such a machine does not need to be in possession of a special card issued by the owner of the machine with identification data on it indicating that such a person has been previously authorised to use the machine. Instead, such a person may use a card which is already in his possession following authorisation for use in machines used by another organisation, for example, in the first instance as a method of applying for authorisation to the owner of the machine to which the card is presented (paragraph (d) of the claim). The carrying out of the procedure in paragraphs (e) to (h) of the claim determines whether such card will thereafter be recognised as an authorised card for use with the machine.

The card which is presented for the first time to the machine is therefore in effect equivalent to an application form and the data which it carries is equivalent to the data on an application form. As the Appellant has submitted, an advantage of the claimed method is the saving of the costs which are normally involved in completing and processing an application form.

2.3 In the Board's view, when taken as a whole the claimed method is therefore essentially a method of deciding whether a card which is presented for the first time to a machine should thereafter be recognised as an authorised card by that machine. Such a method is part of a business operation. Of course, the claimed method does include steps which include a technical component in them (for example, using the machine to store and read information). But the presence of such technical components does not alter the fact that the claimed method is a business method as such, rather than a technical method (just as the use of a typewriter to perform a business activity would not change such an activity into a technical method).

As was stated in Decision T 22/85, "The contribution to the art and the effects obtained are only in the area of an excluded activity and the true nature of the invention remains the same, whether or not a technical terminology is used in expressing it". In the present case, the true nature of the claimed subject-matter remains the same, even though some technical means are used to perform it.

In Decision T 26/86 the Board held that "The EPC does not prohibit the patenting of inventions consisting of a mix of technical and non-technical features". Nevertheless, the presence of technical means when carrying out a business activity does not mean that such a business activity has a technical character and is therefore an invention with Article 52(1) EPC. As was stated in Decision T 603/89, (OJ EPO 1991, 03), "the subject-matter as a whole is excluded from patentability ... if the mix does not make use of technical means in order to solve a technical problem".

2.4 Consequently, in the Board's judgment, the claimed subject-matter does not define an invention within the meaning of Article 52(1) EPC.

3. Inventive step

3.1 Furthermore, in the Board's view such subject-matter does not involve an inventive step for the following reasons.

3.2 Document (D1) is concerned with the use of automatic self-service machines - see Figure 2 and page 4, lines 6 and 7. The method of operating a machine of the kind disclosed in (D1) comprises the step of inserting into the machine a card recorded with encoded data identifying the user -see: page 4, lines 8 to 14. The method also comprises the step of reading the encoded information from the user's card and storing said information in a storage means (31) provided in the machine - see Figure 2 and page 4, lines 8 to 14. Said information comprises the bank number, the account number, the balance of the user's account and a subsidiary code, which are recorded on the card by means of a writing head (22) before the card is supplied to the user - see page 3, lines 102 to 108. Taking into account the statement that the bank number is magnetically encoded - see page 2, lines 70 to 76 - this entails that the user identifying data is magnetically encoded. Furthermore, one part of said data, namely the account number, is unique to the user.

According to (D1), the identification data stored in the storing device (31) is used for calculating a secret number which is then stored in a register (35) - see page 4, lines 23 to 30. This secret number is, therefore, a user identification datum which, indirectly, is magnetically encoded on the card and read by the card reader before being stored in the register (35). The

secret number stored in the register (35) is subsequently compared with a secret number stored in a register (P1) to determine whether the user is an authorised user and, if such is the case, said user is permitted to perform transactions on the machine - see page 5, lines 8 to 24.

3.3 Bearing in mind the interpretation of the claim as set out in section 1 above, the claimed method of operating an automatic self-service machine is distinguished over the prior art known from (D1) in that it further comprises the steps of

(i) entering credit information for use in determining whether the prospective user will be authorised to use the machine - paragraph (f);

(ii) storing the credit information in the storage means along with the encoded information read from the prospective user's card - paragraph (g);

(iii) reading from the storage means the stored encoded information and credit information entered by the prospective user to determine whether said user will be authorised to use the machine - paragraph (h) - and

(iv) storing in the storage means identification data for those users who are to be authorised to use the machine, so that the newly authorised users may thereafter use their identification cards to gain access to the machine - paragraph (i).

3.4 The problem underlying the claimed invention is that of giving access to automatic self-service machines by means of any machine readable card already in the possession of a prospective user. According to the Appellant, the need

for machines adapted for use with any such card would have come to existence only in the mind of users who are dissatisfied by the necessity of having many such cards.

The Board, however, does not perceive why a person skilled in the art who, in the present case, is an engineer entrusted with designing self-service machines for use by banks and other organisations and eventually a user himself, should not be aware of the needs of users of such machines and cards. In the Board's view, if any prejudice deterred the skilled person from envisaging to make the claimed machine before the priority date of the application, said prejudice was rather "commercial" than technical. Moreover, said prejudice was actually solely in the mind of machine owners, and not in the mind of a skilled person.

In the Board's judgment, therefore, in the absence of any technical prejudice, the idea of making a self-service machine capable of accepting all types of access cards cannot be credited with an inventive step.

3.5 Once it is wished to make an existing self-service machine accept standard types of access cards, adapting the circuits of said existing machine in order to achieve this desired result does not face the skilled person with a difficult problem.

If the user is not yet an authorised user, an obvious requirement is to make sure that the card he inserts into the machine belongs to him. It is, therefore, necessary to compare information read from the card and credit information entered by the prospective user, for instance a secret number. Now, it is also evident that circuit adaptations will be less extensive if said information read from the card and said credit information entered by

the prospective user are to be compared by the means already provided for checking the user's authorisation in normal use, i.e. once said user has become an authorised user. Therefore, starting from the state of the art known from (D1), no inventive step is required for envisaging to perform the additional steps ((i), (ii), (iii)) referred to in section 3.3 of the present decision. Finally, once it has been decided that access to the machine may be given to the prospective user, it is an obvious necessity to store his identification data in the relevant storage means for later authorisation control -cf. additional step (iv) mentioned in above section 3.3.

3.6 In the Board's judgment, therefore, the single claim filed during the oral proceedings of 19 March 1992 lacks an inventive step.

4. Therefore, the method according to the single claim is also considered not to be patentable with regard to Articles 52(1) and 56 EPC.

**Order**

**For these reasons, it is decided that:**

The appeal is dismissed.

The Registrar: The Chairman:

M. Beer G.D. Paterson