

Veröffentlichung im Amtsblatt	Ja/Nein
Publication in the Official Journal	Yes/No
Publication au Journal Officiel	Oui/Non

Aktenzeichen / Case Number / N^o du recours : T 22/85 - 3.5.1

Anmeldenummer / Filing No / N^o de la demande : 80 107 625.8

Veröffentlichungs-Nr. / Publication No / N^o de la publication : 0 032 194

Bezeichnung der Erfindung: Method and system for automatically abstracting,
Title of invention: storing and retrieving a document in machine
Titre de l'invention : readable form.

Klassifikation / Classification / Classement : G06F 15/40

ENTSCHEIDUNG / DECISION

vom / of / du 5 October 1988

Anmelder / Applicant / Demandeur : IBM Corporation

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence : Document abstracting and retrieving/IBM

EPÜ / EPC / CBE Art. 52(2) EPC

Schlagwort / Keyword / Mot clé : Unpatentable subject-matter

Leitsatz / Headnote / Sommaire

I. Abstracting a document, storing the abstract, and retrieving it in response to a query falls as such within the category of schemes, rules and methods for performing mental acts and constitutes therefore non-patentable subject-matter under Art. 52(2)(c) and 52(3) EPC

II. The mere setting out of the sequence of steps necessary to perform an activity, excluded as such from patentability under Art. 52(2) and 52(3) EPC, in terms of functions or functional means to be realised with the aid of conventional computer hardware elements does not import any technical considerations and cannot, therefore, lend a technical character to that activity and thereby overcome the exclusion from patentability.

Europäisches
Patentamt

Beschwerdekammern

European Patent
Office

Boards of Appeal

Office européen
des brevets

Chambres de recours



Case Number : T 22/85 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 5 October 1988

Appellant : IBM Corporation
Armonk
New York 10504
USA

Representative : Bonneau Gérard
Compagnie IBM France
Département de Propriété Industrielle
F-06610 La Gaude

Decision under appeal : Decision of Examining Division 065
of the European Patent Office
dated 30 August 1984 refusing
European patent application
No. 80 107 625.8 pursuant to
Article 97(1) EPC

Composition of the Board :

Chairman : P.K.J. van den Berg
Members : J.A.H. van Voorthuizen
F. Benussi

Summary of Facts and Submissions

- I. European patent application no. 80 107 625.8 filed on 4.12.80 (Publication No. 0 032 194) claiming a priority of 28.12.79 (US) was refused by a decision of the Examining Division 065 dated 30.08.84. That decision was based on Claims 1-6 filed on 31.12.83.
- II. The reason given for the refusal was that the contribution to the art resided solely in a computer program as such within the meaning of Article 52 EPC, paragraphs 2(c) and 3. Consequently, this subject-matter was not a patentable invention within the meaning of Article 52(1) EPC, in whatever form it was claimed.
- III. In arriving at this conclusion the Examining Division argued on the basis that the Claims 1 and 2 related to a method for automatically abstracting and storing an input document in an information storage and retrieval system and the Claims 3-6 to a corresponding method for retrieving a document from the system. The claims specifically referred to a dictionary memory, input means, a main memory and a processor. These hardware elements were classical elements of an information and retrieval system (as described e.g. in: Hillman, Proceedings Spring Joint Computer Conference, 1969, p. 447-455) and objectionable under Art. 54(2) EPC as lacking novelty.

According to the present description (see page 4, line 26 to page 5, line 4 and lines 22 to 28 and page 6, line 15 to page 8, line 19) the method steps were implemented by programming such a classical system.

The claimed combination of steps did not imply an unusual use of the individual hardware elements involved. The

claims merely defined a collocation of known hardware and new software concerned with document information to be stored but not with an unexpected or unconventional way of operating the known hardware. The differences between the prior art and the subject-matter of the present application were defined by functions to be realised by a computer program which was used to implement a particular algorithm, or mathematical method, for analysing a document. In other words the steps of the method defined operations which were based on the content of the information and were independent of the particular hardware used.

- IV. The Appellant lodged an appeal against this decision on 8.11.84. The appeal fee was paid on 9.11.84. On 23.11.84 the Statement of Grounds for the appeal was filed.
- V. In a communication of 18.03.87 the Rapporteur informed the Appellant that in the provisional opinion of the Board the claimed methods did not present the technical character required for an invention and did not provide a result which could be qualified as being of a technical nature, even if technical means in the form of a suitably programmed computer were applied to carry out the said methods.

The claims then on file effectively sought protection for methods in which conventional computer means are controlled by a program so as to carry out abstracting, storing or retrieving of documents in accordance with a specified set of rules for these activities. The new contribution to the art made in the present case, however, lay clearly essentially in the provision of this set of rules. Therefore the claims had to be regarded as being related to subject-matter which is excluded under Article 52(2) and (3) EPC as such.

VI. In the Statement of Grounds and in the reply of 5.11.87 to the aforesaid communication the Appellant essentially argued as follows:

The provisions of Article 52(2)(c) EPC state that computer programs are not patentable, but do not define what a computer program is. Referring to the definition given by the World Intellectual Property Organization (WIPO) a computer program is "a set of instructions capable, when incorporated in a machine-readable medium, of causing a machine having information capabilities to indicate, perform or achieve a particular function, task or result". The application does not relate to such a set of instructions but rather to a new way of operating a computer.

Moreover, known hardware elements of an information and retrieval system included in the preamble of the claims are required for the implementation of the new method. Even if this method were assimilated to a program, the claims could not be refused since Article 52(2)(c) EPC excludes programs from patentability only to the extent to which the invention relates to a program as such (Article 52(3) EPC). The Appellant has always agreed that the hardware elements included in the preamble are known elements of an information storage and retrieval system. But this does not decrease the merits of the invention. Indeed, the claimed combination implies an unusual use of the hardware elements involved inasmuch as the functional relationship or "combination" of the elements is different as a result of there being a new method of operating. Besides, the test of "unexpectedness" is not different from the test of inventiveness according to Article 56 EPC and should not be used as a criterion for Article 52(2)(c) EPC. The criterion of inventive step has not been discussed in the decision to reject the application.

Moreover, although the only detailed embodiment described in the specification consists in software on a programmable information and retrieval system, the information given in the claims is sufficiently clear and complete to enable a person skilled in the art to carry out the invention using logical means, in a specifically designed arrangement.

The Appellant considers that the claimed invention is a technical solution to a technical problem, which is new, inventive, and capable of industrial application. In all the prior techniques for document storage and retrieval, the major intelligence burden is put on the user. Where the system aids in abstracting, it is done at the cost of voluminous cataloging procedures and a massive data processing burden. The technical problem is therefore to provide a system which is capable of recognising and collating those language terms which may be relevant for searching a document. In other words, the problem is how to automatically carry out, without a massive data processing burden, a task which is not easy, even to a human being. The technical solution is to have a dictionary memory which contains a common fund of words, to label certain words as being of relevance such as nouns and single purpose adjectives, to compare the language terms in the input document to the dictionary in order to retain only those words which are labelled, and to construct an abstract composed of the latter words and any words which do not appear in the dictionary such as acronyms, numerics and proper names.

The claims relate to an activity which certainly brings about a change in the physical environment insofar as,

when an abstract is constructed and stored in memory, the system is modified by storing new information (the new abstract). In other words, a physical entity, which is here the information stored as electric signals, has been changed by the operation of the claimed system.

Indeed, the claims do not seek protection for the content of the information (here the abstract itself as such), but for a system enabling such information to be constructed and for a method of operating such a system. That the described embodiment is implemented in software on conventional computer means is not relevant insofar as the invention is of a technical nature.

The Appellant finally considers that the claimed invention is novel and shows an inventive step with respect to the prior art.

The article by Hillman in the Proceedings Spring Joint Computer Conference describes a method of automatically abstracting a document which is entirely different from the claimed method. In the application under examination, the language terms are semantically processed by comparison with the language terms stored in a dictionary store. On the contrary, the method described in the article by Hillman is carried out according to a syntactic approach in which each sentence of the document is reduced to a string of syntactic categories which are then resolved into canonical substrings without comparison with terms stored in a dictionary.

- VII. With his reply of 5.11.87 the Appellant filed a set of amended Claims 1-10 and requested the grant of a European patent on the basis of these claims. New Claim 1 and appendent Claims 2-4 relate to a system for automatically abstracting an input document and storing the resulting

abstract. Claim 5 relates to a method of operating the system according to Claims 1-4. Claim 6 and appendent Claims 7-9 are directed to a system for automatically retrieving from an input query a document abstract which has been constructed in accordance with the operating method of Claim 5. Claim 10 relates to a method of operating the system according to Claims 6-9.

Claim 1 of this set of claims reads as follows:

1. System for automatically abstracting a document and storing the resulting abstract comprising: a dictionary memory (8) storing a dictionary of language terms commonly used in document preparation with each entry thereof for containing a language term, input means (16) for receiving the input document in machine readable form, a main memory (12), and a processor (10) connected to said dictionary memory and to said input means; said system being characterized in that said processor comprises:

means for comparing the language terms of the input document to the entries in said dictionary memory,

first means for selecting the language terms from said input document that do not compare to an entry in said dictionary memory, thereby being message specialization terms such as proper names, acronyms and numerics,

second means for selecting the language terms from said input document that compare to an entry in said dictionary memory which has a code identifying certain ones of said language terms as selected parts of speech,

first means for storing in said main memory an abstract of said input document composed of said language terms that do not compare or compare to an entry of said dictionary memory, all other terms of said document being discarded, and

second means for storing in a file of said main memory a record of each selected language term including said term and several parameters determining said term with respect to said input document, said file being used to retrieve a document from terms of an input query.

Reasons for the Decision

1. The appeal complies with Art. 106-108 and Rule 64 EPC and is, therefore, admissible.
2. The preliminary question to be examined is whether abstracting a document, storing the abstract and retrieving it in response to an input query can be regarded as patentable subject-matter under Article 52 EPC. According to Article 52(2) EPC certain subject-matter or activities in particular shall not be regarded as inventions within the meaning of paragraph (1) of the Article. In the context of the present appeal especially the examples given in Article 52(2)(c) EPC appear to be of interest. 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.
3. The requirement that an invention must have a technical character or in other words, must provide a technical contribution to the art is at the basis of a long-standing legal practice in at least the majority of Contracting

States of the EPO. Neither from the terms of Article 52 EPC, nor from the legislative history of that Article as appearing from the preparatory documents can it be deduced that these Contracting States would have intended to deviate from their national laws and jurisprudence in this respect. On the contrary, it seems to be borne out by the list of exceptions in Article 52(2)(a) to (d) EPC that they did not wish to do so.

4. The Board considers its opinion in this matter to be further supported by the provisions of Rules 27 and 29 EPC. Rule 29(1)(b) requires that the characterising portion of a claim shall state the technical features, which, in combination with the prior art part it is desired to protect, this Rule 29 also under items 6 and 7 mentions the technical features of the invention. Therefore Rule 29 appears to imply that an invention within the context intended in the EPC does comprise technical features and it requires such technical features to be stated in (at least the characterising part of) the claim(s) of a European patent application.

Rule 27(1)(b) implies that an invention within the intended context of the EPC relates to a technical field and requires the description to define that technical field. Rule 27(1)(d) implies that at the basis of an invention lies a problem and that this problem is a technical problem. Furthermore, Rule 27(1)(d) requires the description to be formulated in such a way that this technical problem can be understood. It is evident that the solution to this technical problem also mentioned in Rule 27(1)(d), must be technical as well. This is also implied by Rule 29(1)(b) which requires the mentioning of the technical features of the invention in the characterising part (i.e. in fact the technical features of the solution).

5. The Board takes the view that the subject-matter of the present application is to be likened to the activities referred to in Article 52(2)(c) EPC and more particularly must be regarded as falling within the category of schemes, rules and methods for performing mental acts. It does not present, therefore, the technical character required for an invention and does not provide a result which could be qualified as being of a technical nature.
6. Any new concept disclosed in the present application could only be in the rules according to which the abstracting, storing and retrieving of documents are performed in order to establish an information retrieval procedure which, judged on the basis of essentially administrative criteria, can be regarded as giving satisfactory results. These rules cannot be regarded as having a technical character but are of a purely intellectual nature.
7. The claims effectively seek protection for systems and methods in which conventional computer means are controlled by a program so as to carry out abstracting, storing or retrieving of documents in accordance with the said set of rules. The new contribution to the art made in the present case, however, lies clearly essentially in the provision of this set of rules. Insofar the claims have to be regarded as being related to subject-matter which is excluded under Article 52(2) and (3) EPC as such.
8. For carrying out in practice an activity excluded as such under Art. 52(2)(c) EPC some means may be used which themselves could be qualified as technical e.g. a computer controlled by appropriate software. A claim directed to an excluded activity but at the same time containing such technical features would not appear to be unallowable under all circumstances. However, the mere setting out, as

in the present case, of the sequence of steps necessary to perform the activity in terms of functions or functional means to be realised with the aid of conventional computer hardware elements does not import any technical considerations and can, therefore, neither lend a technical character to that activity nor to the claimed subject-matter considered as a whole, no more than solving a mathematical equation could be regarded as a technical activity when a conventional calculating machine is used and thereby overcome the exclusion from patentability.

9. The contribution to the art and the effects obtained are only in the area of the excluded activity and the true nature of the invention remains the same, whether or not a technical terminology is used in expressing it.
10. In the opinion of the Board it cannot have been intended by the Contracting States to the EPC that express exclusions from patentability could be circumvented simply by the manner in which the invention is expressed in a claim.
11. The Appellant has argued that the combination of hardware elements figuring in the claims implies an unusual use of these elements in that their functional interrelationship is different from those previously known. Although the Board agrees that this interrelationship is different, the Appellant's argument is not convincing as the claimed functional interrelationship does not define a new way of operating the computer in a technical sense. In fact this relationship is the logical consequence of the rules chosen for abstracting/storing and retrieving documents, and only expresses the algorithm underlying the program which is required to run the conventional computer so as to operate in accordance with the said rules.

12. The Appellant has furthermore argued that the technical problem to be solved was to provide a system capable of automatically recognising and collating those language terms which may be relevant for searching a document, without a massive data processing burden. The technical solution of that problem would be the provision of the features expressed either as means defined in terms of required functions (as in the system claims) or in terms of these functions themselves (as in the method claims).

Concerning this argument the Board is of the opinion that the true problem to be solved was that of establishing a set of rules for document abstracting and retrieval on the basis of textual properties of the documents to be handled which problem cannot be qualified as technical. Neither could the means and/or functions figuring in the claims properly be regarded as providing a technical solution while they merely express the said rules in terms having a technical connotation as the Board considered already in the foregoing.

13. Finally the Appellant submitted that the activity referred to in the claims would bring about a change in the physical environment in as much as a physical entity (the information stored as electric signals) is changed. This argument seems to refer to a consideration in this Board's decision in case T 208/84 (VICOM, OJ EPO 1987, 14) more in particular paragraph 5 thereof. There it was stated that "... , if a mathematical method is used in a technical process, that process is carried out on a physical entity (which may be a material object but equally an image stored as an electric signal) by some technical means... and provides as its result a certain change in that entity". It is clear from the context of the citation that the expression "physical entity" referred to a real thing i.e. an image, even if that thing was represented by

an electric signal. The electric signals processed according to the present application are not of this kind but represent (part of) the information content of a document, which could be of any nature. The claimed activity does not bring about any change in the thing operated upon (i.e. the document to be abstracted) but derives therefrom a new information to be stored. Apart from that, it cannot be inferred from the citation in question that any manner of bringing about a change in a physical entity would ipso facto qualify as a technical process.

14. The foregoing considerations have been made mainly on the basis that the claimed systems and methods would involve a conventional computer controlled by a software program. The application states that this is the preferred embodiment of the invention and no other embodiment is specifically disclosed. Analogous considerations, however, apply in the case where the control of the computer would be effected by hardware (specifically designed logical means) an option also falling within the scope of the claims, as the choice between the two possibilities is not of an essential nature but is based on technical and economical considerations which bear no relationship to the inventive concept as such. Whether or not the application as filed contains sufficient information to enable the person skilled in the art to conceive such hardware is a question which need not be decided in this appeal.
15. In view of the foregoing considerations the Board is of the opinion that the claimed subject-matter is excluded from patentability by Art. 52(2) and (3) EPC. Consequently the appeal will have to be dismissed.

It appears, therefore, that the Board can only confirm the Examining Division's decision, albeit on the basis of a somewhat different view as to the interpretation of Art. 52(2) and (3) EPC.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

S. Fabiani

P.K.J. van den Berg