Decision of Technical Board of Appeal 3.5.1 dated 21 April 2004

T 258/03 - 3.5.1

(Language of the proceedings)

Composition of the Board:

Chairman: S. V. Steinbrener

Members: R. S. Wibergh

B. J. Schachenmann

Applicant: Hitachi, Ltd.

Headword: Auction method/HITACHI

Article: 52(1) (2) (3), 54, 56, 57 EPC

Keyword: "Presence of an invention - method involving technical means (yes)"

"Inventive step: treatment of non-technical aspects"

Headnote

I. A method involving technical means is an invention within the meaning of Article 52(1) EPC (as distinguished from decision T 931/95-Controlling pension benefits system/PBS PARTNERSHIP)(see points 4.1 to 4.4 of the reasons).

II. Method steps consisting of modifications to a business scheme and aimed at circumventing a technical problem rather than solving it by technical means cannot contribute to the technical character of the subject-matter claimed (see point 5.7 of the reasons).

Summary of facts and submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 97 306 722.6.

II. The following documents will be referred to in the present decision:

D2: T. E. Rockoff et al., "Design of an Internet-based system for remote Dutch auctions", Internet Research: Electronic Networking Applications and Policy, Volume 5, No. 4, 1995, pages 10 to 16;

D6: EP-A-0 628 920.

III. The examining division decided that the main and first auxiliary requests before it were not allowable under Articles 123(2) and 83 EPC. Claim 1 of the second auxiliary request, found satisfactory in these respects, was refused on the grounds that its subject-matter, an auction method, was a business method as such and therefore not regarded as an invention, pursuant to Article 52(2) and (3) EPC. Also the corresponding apparatus of claim 2 was found to be

excluded from patentability since the claim defined subject-matter with a scope of protection equivalent to that of the method claim, and it would be formalistic to make a distinction in this respect between claims of different categories. The examining division added that even if the claimed subject-matter were an invention within the meaning of Article 52(1) EPC, it did not involve an inventive step as required by Article 56 EPC.

IV. Together with the grounds of appeal dated 16 December 2002, the appellant filed new sets of claims according to a main request and auxiliary requests 1 to 3. Each request contained claims for an auction method, an auction apparatus and a computer program carrying out the method. Corresponding auxiliary requests 4 to 7 were for the respective apparatus claim only.

V. Claim 1 *of the main request* reads:

"An automatic auction method executed in a server computer comprising the steps of:

a) transmitting information on a product to be auctioned to a plurality of client computers via a network, each client computer belonging to a bidder;

b) receiving a plurality of auction ordering information pieces, each including a desired price and a maximum price in competitive state, for purchase of said product, from the plurality of client computers via the network;

c) storing the received auction ordering information pieces in the server computer for respective bidders;

d) setting an auction price;

e) determining whether there is any bidder who proposes a desired price equal to or higher than the auction price using the auction ordering information pieces stored in the server computer;

f) if there is no bidder in the step e), lowering the auction price, and repeating the step e);

g) if there is more than one bidder at step e), judging whether there is more than one bidder for whom the auction price is less than or equal to the desired price such that a competitive state occurs using the auction ordering information pieces stored in the server computer;

h) if the competitive state occurs, increasing the auction price by a predetermined value;

i) excluding the bidder who proposes acceptable a price lower than the increased auction price and specifying the other bidder or bidders using the auction ordering information;

j) judging whether the competitive state occurs among the bidder or bidders specified in the step i);

k) repeating the steps h), i) and j) and determining the remaining bidder as a successful bidder when there is no competitive state at step j); and

l) if no competitive state occurs in the step g), determining the remaining bidder as a successful bidder."

Claim 3 is for a "computerised auction apparatus for performing an automatic auction via a network, among a plurality of bidders, the bidders using a corresponding plurality of client computers", the apparatus comprising means for performing the steps set out in claim 1.

Claim 4 is for a "computer program which, when run on a computer network comprising client computers and a server", carries out the method of claim 1.

VI. Claim 2 of the *first auxiliary request* is directed to an auction apparatus additionally comprising means for receiving and storing "an amount condition" and "a product quantity status" in order to determine whether "any of the plurality of products remain", in which case the auction continues.

Claims 1 and 3 are directed to a corresponding method and a computer program, respectively.

VII. Claim 2 of the *second auxiliary request* is directed to an auction apparatus which, in addition to the apparatus of the preceding request, uses "rules" for determining the successful bidder.

Claims 1 and 3 are directed to a corresponding method and a computer program, respectively.

VIII Claim 2 of the *third auxiliary request* is directed to an auction apparatus additionally comprising "means for receiving a bidder identifier" and a "password" in order to "authenticate each bidder using the received identifier and password".

Claims 1 and 3 are directed to a corresponding method and a computer program, respectively.

IX Oral proceedings were held on 21 April 2004. The appellant argued essentially as follows:

The automatic auction method of claim 1 required an automated system to operate on a network. If a case under Article 52(2) EPC should be judged without reference to the prior art, as stated in decision T 931/95 (OJ EPO 2001,441), it could not be necessary for the hardware components of the claim to be new for the method to possess technical character. Since, in accordance with the case law, an apparatus might be patentable even if it processed business-related information, a corresponding method involving technical features could not be excluded from patentability under Article 52(2) EPC. Applicants should be allowed to claim the use of a patentable device.

As to the issue of inventive step, the appellant argued that the invention did not represent the mere automation of a known auction since the auction principles were new. When performed in the proposed way an auction could be held without the participants having to give bids on-line which solved the technical problem known from the prior art of lacking synchronisation and different delays within the network used by the bidders. The solution was technical since it required new data to be input to the computer. The present case thus differed from the one with which decision T 931/95 was concerned in that the auction rules had been developed for the sole purpose of overcoming technical drawbacks of the known auction computer.

X. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of one of the sets of claims filed with letter dated 16 December 2002 as main request and auxiliary requests 1 to 3, respectively, or on the basis of auxiliary requests 4 to 7 as proposed in that letter.

XI. At the end of the oral proceedings the Board announced its decision.

Reasons for the decision

1. Admissibility of the appeal

The appeal complies with the provisions mentioned in Rule 65(1) EPC and is therefore admissible.

The main request

2. The invention according to claim 1 is an "automatic auction method executed in a server computer". In claim 3 a "computerised auction apparatus" comprising a server computer is defined, and in claim 4 a computer program for

carrying out an auction. The features of the claims are closely related and in substance based on the same method steps.

The method can be described as follows. The auction starts with preliminary steps of data exchange between the client computers and the server computer in order to collect bids from the participants. Each bid comprises two prices, a "desired price" and a "maximum price in competitive state". After this initial phase the auction is automatic and does not require that the bidders follow the auction on-line. An auction price is set and successively lowered (which is typical for so-called Dutch auctions) until it reaches the level of the highest bid or bids as determined by the "desired price". In case of several identical bids the price is increased until only the bidder having offered the highest "maximum price" is left. He is declared successful. Claim 1 does not specify the exact price paid, nor the rules and conditions for determining the amounts of the product to be allotted.

3. *Non-inventions pursuant to Article 52(2) EPC: The apparatus of claim 3*

3.1 According to Article 52(1) EPC, European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step. The second paragraph of Article 52 contains a list of subject-matter which is not to be regarded as inventions within the meaning of paragraph 1. There are thus four requirements which claimed subject-matter must fulfil: it should be an "invention", and this invention must be new, inventive, and industrially applicable. In accordance with the established case law of the boards of appeal, the term "invention" is to be construed as "subject-matter having technical character". The verification that claimed subject-matter is an invention within the meaning of Article 52(1) EPC is in principle a prerequisite for the examination with respect to novelty, inventive step and industrial application since these latter requirements are defined only for inventions (cf Articles 54(1), 56, and 57 EPC). The structure of the EPC therefore suggests that it should be possible to determine whether subject-matter is excluded under Article 52(2) EPC without any knowledge of the state of the art (including common general knowledge).

3.2 The idea behind the so-called contribution approach applied by earlier jurisprudence of the boards of appeal was that the EPC only permitted patenting "*in those cases in which the invention involves some contribution to the art in a field not excluded from patentability*" (T 38/86, OJ EPO 1990,384, headnote II). In other words, for assessing the first requirement, ie the presence of an invention within the meaning of Article 52(1) EPC, a criterion was established which relied on meeting further requirements mentioned in that article, in particular novelty and/or inventive step. Thus, some prior art was taken into account when determining whether subject-matter was excluded under Article 52(2) and (3) EPC:

"In the above considerations concerning the question whether the claimed invention makes a technical contribution to the art, or involves technical considerations for its implementation which may be regarded as resulting in a technical contribution to the art, any specific prior art (other than general computer art, see point 3.4), for instance D1, has not been taken into account. If this is done, however, nothing in the above considerations will effectively be changed." (T 769/92, OJ EPO 1995, 525, point 3.8).

3.3 However, in more recent decisions of the boards any comparison with the prior art was found to be inappropriate for examining the presence of an invention:

"Determining the technical contribution an invention achieves with respect to the prior art is therefore more appropriate for the purpose of examining novelty and inventive step than for deciding on possible exclusion under Article 52(2) and (3)" (T 1173/97, OJ EPO 1999,609, point 8);

"There is no basis in the EPC for distinguishing between 'new features' of an invention and features of that invention which are known from the prior art when examining whether the invention concerned may be considered to be an invention within the meaning of Article 52(1) EPC. Thus there is no basis in the EPC for applying this so-called contribution approach for this purpose" (T 931/95, supra, headnote IV).

This view is shared by the Board in its present composition.

3.4 Furthermore, in accordance with Article 52(3) EPC, the subject-matter mentioned in paragraph 2 of the same article is only excluded from patentability *as such*. It has long been recognised that, due to this stipulation, a mix of technical and non-technical features may be patentable:

"The use of technical means for carrying out a method for performing mental acts, partly or entirely without human intervention, may, having regard to Article 52(3) EPC, render such a method a technical process or method and therefore an invention within the meaning of Article 52(1) EPC" (T 38/86, headnote III);

"Non-exclusion from patentability cannot be destroyed by an additional feature which as such would itself be excluded..." (T 769/92, headnote II).

3.5 Therefore, taking into account both that a mix of technical and non-technical features may be regarded as an invention within the meaning of Article 52(1) EPC and that prior art should not be considered when deciding whether claimed subject-matter is such an invention, a compelling reason for not refusing under Article 52(2) EPC subject-matter consisting of technical and non-technical features is simply that the technical features may in themselves turn out to fulfil all requirements of Article 52(1) EPC.

3.6 Moreover, it is often difficult to separate a claim into technical and non-technical features, and an invention may have technical aspects which are hidden in a largely non-technical context (cf point 5.8 below). Such technical aspects may be easier to identify within the framework of the examination as to inventive step, which, in accordance with the jurisprudence of the boards of appeal, is concerned with the technical aspects of an invention (cf point 5.3 below). Thus, in addition to the restrictive wording of Article 52(3) EPC limiting the applicability of Article 52(2) EPC, there may be practical reasons for generally regarding mixes of technical and non-technical features as inventions in the meaning of Article 52(1) EPC.

3.7 For these reasons the Board holds that, contrary to the examining division's assessment, the apparatus of claim 3 is an invention within the meaning of Article 52(1) EPC since it comprises clearly technical features such as a "server computer", "client computers" and a "network".

3.8 This conclusion is in conformity with decision T 931/95, where it is stated in headnote III that:

"An apparatus constituting a physical entity or concrete product, suitable for performing or supporting an economic activity is an invention within the meaning of Article 52(1) EPC."

3.9 Part C, Chapter IV, 2.3.6 (cf the penultimate paragraph, third sentence) of the "Guidelines for examination in the European Patent Office", December 2003, is consistent with the Board's assessment. The Board notes however that the Guidelines appear self-contradictory in that devices such as visual displays, books, gramophone records, traffic signs and apparatus for presenting information are said not to be patentable - taken to mean that they are excluded from patentability under Article 52(2) EPC - if defined solely by the content of the information (see C-IV, 2.3.7).

4. *Non-inventions pursuant to Article 52(2) EPC: The method of claim 1*

4.1 The reasoning above (point 3.5) is independent of the category of the claim. Thus, in the present case, also the method of claim 1 is not excluded from patentability under Article 52(2) EPC.

4.2 This conclusion is not in agreement with headnote II of decision T 931/95 which states that: *"A feature of a method which concerns the use of technical means for a purely non-technical purpose and/or for processing purely non-technical information does not necessarily confer a technical character to such a method"* (cf also Guidelines C-IV, 2.3.6, penultimate paragraph, second sentence).

4.3 However, in order to be consistent with the finding that the so-called "contribution approach", which involves assessing different patentability requirements such as novelty or inventive step, is inappropriate for judging whether claimed subject-matter is an invention within the meaning of Article 52(1) EPC, there should be no need to further qualify the relevance of technical aspects of a method claim in order to determine the technical character of the method. In fact, it appears to the Board that an assessment of the technical character of a method based on the degree of banality of the technical features of the claim would involve remnants of the contribution approach by implying an evaluation in the light of the available prior art or common general knowledge.

4.4 From a practical point of view, this inconsistency becomes fully apparent when considering the question of whether technical character is conferred to a method using technical means for a purely non-technical purpose. In this case, following the approach taken in T 931/95, the mere presence of such means would not necessarily be sufficient to lend the method technical character. In the Board's opinion, any practical answer to this question would have to rely on some weighting of the importance of the features to determine the "core" of the invention, necessarily including considerations on their technical relevance, in particular possible novel or inventive contributions, with respect to the prior art. The Board would like to add that such weighting has already been rejected in early case law of the boards of appeal (see decision T 26/86, OJ EPO 1988,19; headnote II).

4.5 Finally, the Board in its present composition is not convinced that the wording of Article 52(2)(c) EPC, according to which "schemes, rules and methods for performing mental acts, playing games or doing business" shall not be regarded as inventions within the meaning of Article 52(1) EPC, imposes a different treatment of claims directed to activities and claims directed to entities for carrying out these activities. What matters having regard to the concept of "invention" within the meaning of Article 52(1) EPC is the presence of technical character which may be implied by the physical features of an entity or the nature of an activity, or may be conferred to a non-technical activity by the use of technical means. In particular, the Board holds that the latter cannot be considered to be a non-invention "as such" within the meaning of Article 52(2)and(3) EPC. Hence, in the Board's view, activities falling within the notion of a non-invention "as such" would typically represent purely abstract concepts devoid of any technical implications.

4.6 The Board is aware that its comparatively broad interpretation of the term "invention" in Article 52(1) EPC will include activities which are so familiar that their technical character tends to be overlooked, such as the act of writing using pen and paper. Needless to say, however, this does not imply that all methods involving the use of technical means are patentable. They still have to be new, represent a non-obvious technical solution to a technical problem, and be susceptible of industrial application.

4.7 It is therefore concluded that, in general, a method involving technical means is an invention within the meaning of Article 52(1) EPC.

5*. Inventive step: Claim 1*

5.1 Novelty not being an issue in the present proceedings, the Board will in the following examine the issue of inventive step.

5.2 D6 discloses an auctioning system comprising an auctioneer's operator station connected with operation stations for bidders (cf the abstract). The auction is of the Dutch type, according to which the auction price, as monitored on an auction "clock", sinks with time. The bidders are required to follow the auction at their operator stations. A bidder may stop the clock remotely using a pushbutton on his desk (column 2, lines 37 to 39). The first bidder to stop the clock is

successful (column 1, lines 27 to 32). Since the real-time behaviour is of great importance at Dutch auctions (column 3, lines 31 to 35), time information is transmitted with the messages to determine the order of stop commands (column 4, lines 16 to 36).

D2 is similar to D6. Here, the transmission delay problem is solved by a software phase-lock loop (Figure 6) which achieves synchronisation of the auction clock at the bidders' terminals.

5.3 In accordance with the principles set out in decision T 641/00 (OJ EPO 2003,352; cf headnote I), the invention will be assessed with respect to the requirement of inventive step by taking account of only those features which contribute to a technical character. The features that make a technical contribution therefore need to be determined.

5.4 The overall aim of the claimed method is to identify the successful bidder for a product offered for sale at an auction. This aim is not regarded as having technical character, nor has the appellant argued that it has.

On the other hand, features concerned with data transmission and storage, in particular features (a) to (c) of the claim, are technical as such. They are however clearly standard and known for example from D6.

Features (d) to (l) are conditions using the stored information to arrive at the successful bidder. The conditions concern only prices and have, except possibly for feature (h) (cf point 5.8 below), no technical character. It is true that they are performed in a computer and that the overall state of the computer will change for each instruction performed. This is however not regarded as a technical effect but rather as a mere manifestation of the information contained in the prices and conditions. Although the kind of manifestation may be regarded as technical, it is well known in the art of data processing.

5.5 The appellant has argued that the technical effect resides in overcoming the problem in the prior art of delays in propagation of information between the bidders and the server. If the auction is performed online, as proposed in D6 or D2, these delays will influence the outcome of the auction.

5.6 The solution to this problem consists of adapting the known auction method such that it can be performed automatically. In this way, any data transmission delays become irrelevant.

5.7 In the Board's view, however, this solution does not contribute to a technical character and cannot therefore be taken into account for assessing inventive step since it concerns the rules of the auction, ie it is not a technical solution to the delay problem described (and solved by technical means) in documents D2 and D6, but a solution entirely based on modifications to the auction method. Method steps consisting of modifications to a business scheme and aimed at circumventing a technical problem rather than solving it by technical means cannot contribute to the technical character of the subject-matter claimed.

Furthermore, as acknowledged by the appellant, a prominent feature of the invention is that when more than one bidder offers a certain "desired price" the auction price is increased to sort out the lower bids. This requires certain bid information - a "desired price" and a "maximum price" - and tests of certain conditions. But the feature is fundamentally independent of the computer arrangement for performing the auction. It could just as well be used for conducting a Dutch auction without computer support, for example by collecting bids in writing in a call for tenders procedure, in order to allow the participants not to be present at the auction. The result of such a hypothetical auction would be the same.

The invention can therefore be regarded as a mere automation of the non-technical activity of performing a Dutch auction in the absence of bidders. Any ingeniousness required to develop the rules for the hypothetical auction cannot be considered for inventive step in accordance with the principles outlined in decision T 641/00. The technical part of

the invention is thus essentially limited to instructing the server computer to apply the given conditions and perform any necessary calculations.

5.8 Nevertheless, if a step of a method has been designed in such a way as to be particularly suitable for being performed on a computer, it has arguably a technical character. Suggesting such a step might require technical considerations (cf T 769/92, headnote I), namely of the working principles of a computer. This view was also expressed in T 52/85 (not published in the OJ EPO), where a method for displaying a list of expressions semantically related to another linguistic expression was found non-technical exactly because no such technical considerations were necessary: the method was "nothing else but what a human being searching for semantically related words would do" (see point 5.8 of the decision).

The invention under examination may contain such a feature which does not correspond to what a human being would do if performing the auction without computer support. This is the step of raising the auction price successively in order to determine the highest maximum price offered by bidders having proposed the same desired price (step (h). An auctioneer would presumably do this simply by looking at the bids. Still, the Board is convinced that this way of ranking the bids is a routine programming measure well within the reach of the skilled person. Thus, this feature, even if possibly constituting a technical solution to a problem, would have been obvious to the person skilled in the art of data processing.

5.9 It follows that the automatic auction method according to claim 1 does not involve an inventive step (Article 56 EPC).

6. Inventive step: Claim 3

For the same reasons the computerised auction apparatus according to claim 3 does not involve an inventive step (Article 56 EPC).

7. *Claim 4*

The computer program of claim 4 is defined by the same steps as the method of claim 1 and is therefore also not patentable because it does not involve an inventive step (Article 56 EPC). Consequently, it is not necessary to examine whether it falls under the exclusion of Article 52(2)(c) EPC in combination with Article 52(3) EPC.

8. Since none of the independent claims is allowable the appellant's main request is refused.

Auxiliary request 1

9. Apparatus claim 2 differs from claim 3 of the main request in that not only a price is specified but also amount conditions. The appellant has explained that the purpose of the amendments was to overcome the examining division's objections under Article 123(2) EPC. The Board is of the opinion that these amount conditions are part of the auction principles and therefore cannot contribute to an inventive step.

Auxiliary request 2

10. In apparatus claim 2 the auction apparatus is defined in terms of rules which are "fired", meaning conditions which are fulfilled. Also this alternative wording has no consequences for the issue of inventive step.

Auxiliary request 3

11. The apparatus of claim 2 is additionally capable of performing password authentication of the bidders. This is however a generally known feature in computer networks which does not involve an inventive step in the present context.

Auxiliary requests 4 to 7

12. Auxiliary requests 4 to 7 correspond to the main request and auxiliary requests 1 to 3, respectively. Each of them contains a single claim, which is identical with the apparatus claim of the corresponding request. They are therefore not allowable for the reasons already given.

Order

For these reasons it is decided that:

The appeal is dismissed.