

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

Aktenzeichen / Case Number / N<sup>o</sup> du recours : T 221/85 - 3.5.1

Anmeldenummer / Filing No / N<sup>o</sup> de la demande : 79 300 342.7

Veröffentlichungs-Nr. / Publication No / N<sup>o</sup> de la publication : 0 004 182

Bezeichnung der Erfindung: Improvements in or relating to audio  
Title of invention: teleconferencing  
Titre de l'invention :

Klassifikation / Classification / Classement : H04M 3/56

### ENTSCHEIDUNG / DECISION

vom / of / du 9 August 1989

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /  
Titulaire du brevet :

The Post Office

Einsprechender / Opponent / Opposant :

N.V. Philips' Gloeilampenfabrieken

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Articles 56, 100(a), 100(b), 102(3), Rule 58(4) '

Schlagwort / Keyword / Mot clé :

"Inventive step (yes)" -  
"Sufficient disclosure (yes)" -  
"Maintenance in amended form" -  
"No communication pursuant to Rule 58(4) EPC"

Leitsatz / Headnote / Sommaire

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number : T 221/85 - 3.5.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.1  
of 9 August 1989

Appellant :  
(Opponent)

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Decision under appeal :

Interlocutory Decision of the Opposition Division  
of the European Patent Office dated 29 July 1985  
concerning maintenance of European patent  
No. 4 182 in amended form.

Composition of the Board :

Chairman : P.K.J. van den Berg

Members : W.J.L. Wheeler

E. Persson

## Summary of Facts and Submissions

- I. The grant of European patent No. 4 182 on European patent application No. 79 300 342.7, filed 7 March 1979, claiming priority of 7 March 1978 from a previous application in the United Kingdom (GB-902 278), was published on 6 January 1982.
- II. An opposition was filed by the Appellant on 2 October 1982, requesting revocation of the patent on the ground that its subject-matter was not patentable within the terms of Articles 52 to 57, having regard to the prior art known from:
- (1) US-A-3 718 770
  - (2) GB-A-2 009 565
  - (3) DE-A-1 931 985.
- III. During subsequent proceedings, the Appellant referred to the following additional documents:
- (4) GB-A-1 486 868
  - (5) US-A-3 755 625
  - (6) US-A-3 730 995
  - (7) US-A-3 944 736
  - (8) US-A-3 437 758
  - (9) US-A-4 008 376
  - (10) GB-A-2 008 359
  - (11) FR-A-2 271 726
  - (12) The cover page and sheet 1 of the drawings of US-A-4 456 789.
- IV. On 29 July 1985, the Opposition Division issued an interlocutory decision to maintain the opposed patent in an amended form.

- V. On 22 August 1985 the Appellant filed a notice of appeal against that decision and paid the appeal fee. A written statement setting out the grounds of appeal was filed on 23 November 1985.
- VI. After an exchange of correspondence, in which the Board endeavoured to clarify the main issues involved, oral proceedings were held on 6 September 1988. Agreement was reached between the parties and the Board that the most relevant prior art was GB-A-1 486 868.
- VII. The Appellant argued essentially that the question of inventive step had to be judged in accordance with the objective problem and solution approach as established in T 24/81 (OJ EPO 1983, 133) and T 13/84 (OJ EPO 1986, 253). The opposed patent claimed a teleconferencing system in which each microphone was provided with its own speech detector and control means was provided to connect a microphone from which speech was currently detected to all the loudspeakers other than the one with which it was associated. GB-A-1 486 868 showed such a system in which only one microphone at a time was connected to all the other loudspeakers. Starting from that prior art, the problem solved by the claimed system may be seen as (a) to provide a system having the possibility of open loop teleconferencing, or (b) to provide a system in which the feedback problem mentioned at lines 38 to 55 of column 1 of the opposed patent specification was solved. In either case there could be no inventive step in recognising the problem. In the case of (a) there was already an existing known demand for a teleconferencing system with more than one active participant, it was obvious to connect more microphones by closing more switches. The "whereby" clause at the end of Claim 1 only specified the desired result, not the features by which it was to be achieved. In the

case of (b) the feedback problem did not arise when there were only two active participants and Claim 1 did not specify any means for solving the feedback problem which arose when more than two participants were active at the same time. The Appellant was therefore of the opinion that the subject-matter of the opposed patent did not involve an inventive step and requested that the decision under appeal be set aside and the patent revoked.

VIII. The Respondent pointed out that Claim 1 was directed to a control unit for connecting terminals, not microphones and loudspeakers. The claimed control unit solved the problem of how to provide open loop teleconferencing when there were more than two parties. In the system according to GB-A-1 486 868 there could be only one active speaker at a time, since all the other speech detectors were disabled. In view of this, it was not obvious to modify that system by providing switches capable of responding to two or more speech inputs to connect inputs to outputs in the manner specified in Claim 1.

IX. In order to be able to give full consideration to the parties' arguments, the Board did not decide the question of inventive step at the oral proceedings.

X. In a communication dated 9 November 1988 the Board gave reasons why it would be prepared to order maintenance of the opposed patent in an amended form, and invited the Respondent to correct certain deficiencies.

XI. On 19 January 1989 the Respondent filed a request for maintenance of the opposed patent on the basis of the following documents:

Claims:            Claims 1 to 13 filed on 19 January 1989;

Description: columns 1 to 4 filed on 19 January 1989,  
columns 5 to 11 as in the published patent  
specification No. EP-B1-0 004 182;

Drawings: sheets 1 to 6, containing Figs. 1 to 7, as in  
the published patent specification  
No. EP-B1-0 004 182.

XII. The Appellant was given an opportunity to comment on that request. In a letter received 23 May 1989 the Appellant informed the Board that no further comment would be presented and requested a decision based on the information on the file.

XIII. Claim 1 is now worded as follows:

"1. A control unit for controlling operation of more than two remotely connected audio teleconference terminals, said control unit comprising more than two inputs (10, 110) each being for connection to a respective teleconference terminal so that it can receive speech signals therefrom, switching means (11, 111) having high and low impedance conditions connecting each input to a plurality of outputs (16), each output being associated with a particular input and being for connection to the same teleconference terminal as its associated input, the arrangement being such that when a switching means is switched to its low impedance condition the input associated with that switching means is connected to all outputs other than the one with which it is associated, and control means (18, 125) responsive to speech signals from said inputs to control said switching means (11, 111), characterised in that said control means (18, 125) control said switching means (11, 111) such that at least two of said inputs at which speech signals are received are simultaneously

connected each to all said outputs other than the one with which it is associated, whereby at least two terminals can be selectively connected in open loop teleconference leaving the remaining terminals switched out of open loop conference and only connected to receive the conference."

#### Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. Review of the cited prior art
  - 2.1 There is agreement between the parties and the Board that GB-A-1 486 868 is the most relevant prior art which has been cited. The prior art portion of Claim 1 is based on this document.
  - 2.2 The Board agrees with the Respondent that in that prior art system, only one terminal (PT) at a time can ever be connected to transmit speech signals to the other terminals, since all the other speech detecting circuits (DP) and control devices (DB) are inhibited (see Claim 1 of the cited GB patent and page 2, line 66 to page 3, line 39). In spite of the fact that the need to cater for more than three conferees was recognised (see page 1, lines 25 to 32), open loop teleconferencing is inherently impossible with this system and it is not even possible for another conferee to interject unless the active one ceases talking, because all the other speech detector circuits are inhibited.
  - 2.3 The only prior art system cited in which two (or more) terminals can be simultaneously connected to each other in what appears to be open loop teleconference is known from

DE-A-1 931 985. However, the manner and pattern in which the contacts (1t1, 2t1, 3t1, 4t1, etc.) are closed is not disclosed.

- 2.4 GB-A-2 008 359 and GB-A-2 009 565 were published on 31 May 1979 and 13 June 1979 respectively, i.e. after the date of filing of the European patent application on which the opposed patent was granted and therefore are not prior art within the meaning of Article 54(2) EPC.
- 2.5 Figure 1 of US-A-4 456 789 (which corresponds to the presently opposed European patent) is labelled as prior art. However, that figure is described in column 3 of the U.S. patent and in column 4 of the opposed European patent as showing two terminals as described in U.K. application No. 40 777/78 (i.e. GB-A-2 008 359) with an additional four-wire terminal of similar gain connected in parallel with the two location arrangement. In the opinion of the Board, since GB-A-2 008 359 was not published until after the date of filing of the European patent application on which the opposed patent was granted, it has not been established that the arrangement shown in Figure 1 is prior art within the meaning of Article 54(2) EPC.
- 2.6 Although it is known from US-A-4 008 376 and US-A-3 437 758 that speech signals from more than one microphone at one and the same terminal may be combined, with appropriate reduction in amplification, for transmission to other terminals, there are no details given of the conference bridge circuit, so that it is not possible to conclude that open loop teleconference occurs.
- 2.7 The other cited documents are less relevant.

3. Objective determination of the problem solved

3.1 The Board agrees with the Appellant that the problem solved by the claimed subject-matter should be determined objectively in accordance with the principles defined in the Board of Appeal decisions cited by the Appellant, namely T 24/81 (OJ EPO 1983, 133) and T 13/84 (OJ EPO 1986, 253).

3.2 Starting from GB-A-1 486 868 as the closest prior art, which, as noted in paragraph 2.2 above, suffers from the disadvantage that no one can enter the conversation until the current speaker ceases talking, the problem solved by the control unit according to Claim 1 of the opposed patent is to make it possible for a conferee to enter into the conversation without having to wait for the current speaker to cease talking. This permits open loop teleconferencing between more than two remote locations.

4. Solution

4.1 In the opinion of the Board, the idea of allowing speech signals from two or more terminals to be transmitted at the same time is in total contradiction to the teaching in GB-A-1 486 868, since, as is explained on page 3, lines 27 to 32, it is due to the switching out of all but one conferee at a time that the line noises are not additive and disturbing oscillations are avoided. In connection with this, the Board notes that in the cited GB patent the inputs of the speech detecting circuits (DP) are connected to the bidirectional two-wire lines (LP), which will carry speech signals not only from their own telephone set (PT) but also from any other telephone set at which someone is speaking. Without the inhibition signals (ih1, ih2, ... ihn), therefore, all the speech detecting circuits would detect speech whenever anyone was talking, with the

consequence that all the control devices (DB) would be enabled and the system would not work.

- 4.2 To progress from the closest prior art to the presently claimed control unit, it would be necessary to take at least two steps, namely omitting the inhibition signals (ih1, ih2, ... ihn) and connecting the inputs of the speech detecting circuits (DP) to the lines marked eel, ee2, een.
- 4.3 In the opinion of the Board, it would not be obvious to a person skilled in the art who was unaware of the disclosure of the opposed patent to try to modify the prior art according to the cited GB patent to permit more than one active speaker at a time. The Appellant has not drawn the Board's attention to anything in the cited prior art which would lead a person skilled in the art to consider taking that step.
5. In the light of these considerations, the Board is of the opinion that the control unit according to Claim 1 filed on 19 January 1989 involves an inventive step within the meaning of Article 56 EPC. Claims 2 to 13 are properly dependent on Claim 1 so that their subject-matter must likewise involve an inventive step within the meaning of Article 56 EPC. Novelty and industrial application were never contested. Consequently, the ground for opposition laid down in Article 100(a) EPC, which is the only ground mentioned in the notice of opposition filed on 2 October 1982, does not prejudice the maintenance of the patent in the amended form currently requested by the Respondent.
6. Regarding the Appellant's assertion that Claim 1 did not specify the features necessary for achieving the desired result specified in the "whereby" clause at the end of the claim, the Board noted in its communication dated

9 November 1988 that the opposed patent discloses two embodiments of the claimed invention in a manner which appears to be sufficiently clear and complete for them to be carried out by a person skilled in the art. The Appellant has not contradicted this. The EPC does not forbid the inclusion in a claim of a feature defined in terms of a function to be performed, provided that a person skilled in the art would be able to conceive and implement suitable technical means for performing that function, on the basis of his own general knowledge of the art or through applying the teaching in the patent application or patent. In the present case, there is no reason for the Board to doubt that the disclosure in the opposed patent puts the skilled person in a position to provide control means which control the switching means in accordance with the functional requirements specified in Claim 1. Consequently, the ground for opposition laid down in Article 100(b) EPC does not prejudice the maintenance of the patent in the amended form currently requested by the Respondent.

7. The amendments made to Claim 1 explicitly limit the claim to a control unit for controlling operation of more than two remotely connected audio teleconference terminals. The claim is correctly drafted in the form laid down in Rule 29(1) EPC with the first portion of the claim based on the prior art known from GB-A-1 486 868. The description has been amended to bring it into agreement with the amended claims, to mention the prior art known from GB-A-1 486 868, to make it clear that GB-A-2 008 359 and GB-A-2 009 565 are not prior art, and to correct obvious errors. In the opinion of the Board, the amendments made comply with Article 123(2) and (3) EPC and the patent in the amended form currently requested by the Respondent meets the requirements of the EPC.

8. Since the Appellant has had an opportunity to comment on the amended text submitted by the Respondent, it is not necessary to issue a communication pursuant to Rule 58(4) EPC.

#### Order

For these reasons, it is decided that:

1. The decision of the Opposition Division is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent in amended form in accordance with the Respondent's request received 19 January 1989 (see paragraph XI above).

The Registrar:

The Chairman:

S. Fabiani

P.K.J. van den Berg