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File Number: T 232/89 - 3.2.3

Application No.: 82 200 246.5

Publication No.: 0 059 515

Title of invention: Machine for the layered placing of core material and of the adjacent transitional material for dams

Classification: E02B 7/06

D E C I S I O N
of 3 December 1991

Proprietor of the patent: A/S Veidekke

Opponent: STRABAG Bau-AG

Headword:

EPC Article 54(2), 56

Keyword: "Public prior use (yes)"
"Inventive step (no)"

Headnote



Case Number : T 232/89 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 3 December 1991

Appellant : A/S Veidekke
(Proprietor of the patent) Bergerveien 8
N - 1361 Billingstadsletta (NO)

Representative : Kraag, F., Ir.
Nederlandsch Octrooibureau
Scheveningseweg 82
P.O. Box 29720
NL - 2502 LS Den Haag (NL)

Respondent(s) : STRABAG Bau-AG
(Opponent) Siegburger Straße 241
W - 5000 Köln 21 (DE)

Representative : Buschhoff, Josef, Dipl.-Ing.
Patentanwälte Dipl.-Ing. Buschhoff,
Dipl. Ing. Hennicke, Dipl.-Ing. Vollbach
Kaiser-Wilhelm-Ring 24
Postfach 190408
W - 5000 Köln 1 (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 10 January 1989
revoking European patent No. 0 059 515 pursuant
to Article 102(1) EPC.

Composition of the Board :

Chairman : C.T. Wilson
Members : H. Andrae
L.C. Mancini

Summary of Facts and Submissions

- I. European patent No. 0 059 515 incorporating Claims 1 to 6 was granted on 4 September 1985 on the basis of European patent application No. 82 20 0246.5, filed on 26 February 1982 and claiming priority from an earlier NL-application of 27 February 1981.

Claim 1 as granted is worded as follows:

"Machine suitable for the layered placing of upright or sloping dam cores of materials bound with bitumen and/or plastic and/or a natural binder, in a constant or upward-tapering thickness for dams such as barrage dams, and of adjacent transitional material, comprising:

- a) a sliding formwork to form the dam core, and containing compacting elements (4) for pre-compaction of the dam core,
- b) travelling elements (10) to move the machine while placing the dam, characterized in that it moreover comprises:
 - c) a silo (2) from which the core material is placed in the sliding formwork,
 - d) one or more silos (5) from which the transitional material is placed alongside and against the placed core material,
 - e) vibrating plates (4)^F, which are located on or in the sliding formwork, for pre-compaction of the core material both vertically and laterally immediately after it has been placed and before the transitional material is placed,
 - f) vibrating plates (9), which are located at the rear of the machine, for further compaction of the core material and the simultaneous compacting of the transitional material, the sliding formwork still protecting the formed

Affidavit of Mr Liedemann and the drawings and photographs appended thereto that the STRABAG "type 3" machine had been made available to the public before the priority date of the contested patent and that a visitor to the site of the dam would have been able to readily identify in the machine the subject-matter of Claim 1 of the patent with the exception of the feature that the pre-compacting apparatus comprises vibrating plates which pre-compact the core material both vertically and laterally. This sole distinguishing feature would not constitute an inventive step having regard to the disclosure of DE-B-2 646 592 and the general knowledge of the person skilled in the art.

IV. The Appellant (patent proprietor) lodged an appeal against the decision on 9 March 1989 and paid the appeal fee on the same date. The statement setting out the grounds of appeal was filed on 5 May 1989. The Appellant questioned whether the so-called "type 3" machine had been made available to the public before the priority date of the present patent. Furthermore, he filed an amended Claim 1 according to an auxiliary request.

V. In a communication pursuant to Article 110(2) EPC, dated 5 June 1991, the Board expressed its preliminary view that the "type 3" machine as shown in the evidence filed by the Respondent appeared in fact to have been publicly accessible before the priority date of the contested patent.

The Board pointed out that Claim 1 as granted did not seem to meet the requirements of Articles 52(1) and 56 EPC having regard to the subject-matter of the prior public use and to the teachings disclosed in GB-A-1 413 085 and in DE-B-2 646 592. Furthermore, an objection under Article 123(3) EPC was raised to Claim 1 according to the auxiliary request.

VI. By letter received on 30 July 1991, the Respondent requested the hearing of the witnesses Messrs Sondermann and Liedemann in case the Board would question the fact that Mr Sondermann had instructed several groups of visitors about the mode of operation and details of the "machine type 3".

VII. The Appellant's observations are summarised as follows:

- The so-called type 3 machine was not made available to the public before the priority date of the patent. Not anybody could enter the building site freely and further no evidence has been submitted that the visitors were allowed to inspect the machine in detail. One must bear in mind that the main point of interest was not so much the machine but the overall layout and design of the dam.
- The STRABAG machine of the third generation, type 3, did not include important features which are necessary for producing a satisfactory result. The invention provides two new features, namely the vibrator means for compacting the core for placing the transitional material and the fact that the sliding formwork is extended backwards and is still protecting the core until and during the placing of the transitional material from the silos. These features, that is the compacting means and the lateral shielding of the core, result in a combined or cumulative effect, namely that at the time and/or position when the side faces of the core meet the transitional material the same is on place against the side faces of the core.
- The passage including lines 79 to 93 on page 1 of GB-A-1 413 085 has to be construed such that the mere

laying somewhere of the material for outer zones may be done before removal of the linings, but not the placing against both sides of the core. This is obtained by the next steps, after the linings having been removed, which steps are leveling off to the level of the free-standing core and compacting said material adjacent (i.e. against) the asphaltic material.

Furthermore, one must bear in mind that anybody reading GB-A-1 413 085 and having the knowledge of the present European patent is prejudiced and therefore inclined to think that in GB-A-1 413 085 the transitional material is supplied in the same way as disclosed in the patent, this being an incorrect supposition since nowhere in GB-A-1 413 085 is the word "silo" to be found.

- DE-B-2 646 592 discloses that in forming the core by extrusion moulding this core is simultaneously compacted so that no separate compacting devices are necessary while the compacting effect of the extrusion moulding operation can be regulated both in longitudinal and transverse direction. In the citation, there is no disclosure of a pre-compacting device comprising vibrating plates which pre-compact the core both vertically and laterally.

VIII. The Respondent put forward essentially the following arguments:

- The large number of technically qualified people visiting the building site "Große Dhünn-Talsperre" were interested not only in the process of dam construction but also in the machine provided for the layered placing of the dam core and adjacent

transitional material. The "type 3" machine was explained to the visitors in detail by Mr Sondermann as arises from the Affidavit in respect of which the hearing of the witness Mr Sondermann has been offered by the Respondent. It is self evident that an invention disclosed to such a large number of skilled persons could not be kept secret especially since these persons were not bound to secrecy.

- The steps of compacting the core material and of removing the linings only after placing of the transitional material do not constitute new knowledge of the inventor of the patent in suit but have been recommended already in the British patent No. 1 413 085 as possible alternative measures. Devices for pre-compacting the core material in the form of vibrating plates or piles are also shown in DE-B-2 646 592. Hence, no inventive consideration is required to apply these devices to the machine according to the contested patent.

- The "type 3" machine was equipped with a device for pre-compacting the core in the form of a kneading arm which as compared with a vibrating plate constitutes a technical equivalent. Taking into account the equivalence of vibrating plates and kneading arms, one comes to the result that all the features a) to g) of Claim 1 in their combination were the subject of a public prior use with regard to the "type 3" machine such that the question of inventive step is no longer at stake.

IX. The Appellant requests that the contested decision be set aside and the patent be maintained as granted (main request).

According to an auxiliary request, he requests maintenance of the patent on the basis of Claim 1 filed on 5 August 1991 which is worded as follows:

"Machine suitable for the layered placing of upright or sloping dam cores or materials bound with bitumen and/or plastic and/or a natural binder, in a constant or upward-tapering thickness for dams such as barrage dams, and of adjacent transitional material, comprising:

- a) a sliding formwork to form the dam core, and containing compacting elements (4) for pre-compaction of the dam core,
- b) travelling elements (10) to move the machine whilst placing the dam,
- c) a silo (2) from which the core material is placed in the sliding formwork,
- d) one or more silos (5) from which the transitional material is placed alongside and against the placed core material,
- e) vibrating plates (9) which are located at the rear of the machine, for further compacting the core material and the simultaneous compacting of the transitional material, characterized in that said compacting elements for pre-compaction of the core comprise vibrating plates (4) which are located on or in the sliding formwork, for pre-compaction of the core material both vertically and laterally immediately after it has been placed and before the transitional material is placed, and in that the sliding formwork still protecting the formed core until and while the placing of the transitional material from the silo(s) (5)."

X. The Respondent requests that the appeal be dismissed.

Reasons for the decision

1. The appeal is admissible.

2. Amendments

2.1 Main request

Claim 1 as granted incorporates the features of originally filed Claims 1, 5, 8, 9, and 12. The further feature that the sliding formwork still protects the formed core until and during the placing of the transitional material from the silo(s), can be derived from page 4, lines 23 to 25, of the originally filed description.

Claim 2 is based on an original Claim 10, Claim 3 on original Claim 11, Claim 4 on original Claim 14, Claim 5 on original Claim 15 and Claim 6 on original Claim 1.

2.2 Auxiliary request

Claim 1 according to the auxiliary request differs from Claim 1 according to the main request in that the repartition of features between the first and the second part of the claim has been amended in view of Rule 29(1) EPC to take account of the subject-matter of the alleged prior use put forward by the Respondent. The claim does not, however, differ in substance from Claim 1 according to the main request.

2.3 The claims are in compliance with the requirements of Article 123(2) and (3) EPC.

3. Alleged prior use

3.1 In order to determine whether an alleged prior public use is comprised in the state of the art, according to the established jurisprudence of the Boards of Appeal, the following details have to be determined

- (a) the date on which the alleged use occurred
- (b) the subject-matter that has been used
- (c) the circumstances relating to the use, by which it was made available to the public.

3.2 In the present case, the Respondent has presented in the opposition proceedings the following details of the alleged use:

- (a) The object that had been used, cf. STRABAG drawings Nos. 9000, 9015 and 9030 and the detailed description of the "type 3" machine on pages 2 to 7 of the Affidavit of Mr Liedemann including photographs of the machine in operation;
- (b) the date on which the alleged use occurred, namely the period between 13 May 1980 and 5 September 1980 supported by work schedules annexed to the drawings;
- (c) the circumstances relating to the alleged use, by which it was made available to the public. This evidence comprises lists of visitors from various countries to the building site where the "type 3" machine was in operation, the visits being arranged among others by technical universities, institutes, schools and public and private associations.

The fact that opportunity to visit the building site was given to a large number of people, of different backgrounds, coming not only from Germany but also from

other countries, indicates clearly that there was no bar of confidentiality restricting the dissemination of the knowledge gained during the visits.

It is to be concluded from the evidence presented that an unlimited number of persons belonging to the public had access to the machine and that these persons could inspect the machine, details of its structure and mode of operation being illustrated to them by Mr Sondermann, cf. Affidavit of Mr Sondermann, page 2.

The argument of the Appellant that one must bear in mind that the main point of interest of the visitors to the building site "Große Dhünn-Talsperre" was not so much the machine but the overall layout and design of the dam, does not convince the Board that even these visitors would have ignored the machine used for building the dam. In the view of the Board, there is no doubt that acquiring technical information about the machine provided for building the dam was one of the main purposes of the visits at least of those visitors having a technical background in the building industry and in mechanical engineering.

Having regard to the circumstances and details of the visits to the building site, the interrogation of the witnesses Messrs Liedemann and Sondermann, offered by the Respondent, is not required since the Appellant has not rejected the Affidavits of these persons and has not requested the taking of evidence by hearing a witness, the Affidavits substantiating sufficiently clear the circumstances of the use.

3.3 In conclusion, from the evidence presented, including the photographs, the Board is satisfied that visitors to the building site "Große Dhünn-Talsperre" would have been able to identify before the priority date of the application underlying the patent in suit the following features in a

machine suitable for the layered placing of dam cores and of transitional material:

- (a) a sliding formwork to form the dam core and containing a compacting element for pre-compaction of the dam core,
- (b) travelling elements to move the machine while placing the dam,
- (c) a silo from which the core material is placed in the sliding formwork,
- (d) a silo from which the transitional material is placed alongside and against the placed core material,
- (e) vibrating plates which are located at the rear of the machine for compaction of the core material and the simultaneous compacting of the transitional material.

It is not clear from the evidence submitted whether a visitor could also have identified the feature that the sliding formwork still protects the formed core until and during placing of the transitional material from the silo as stated in the impugned decision. Since that part of the sliding formwork which protects the formed core is at least partially hidden behind the lateral flap (cf. reference sign "25" in STRABAG drawing No. 9000 and the photographs provided), the Board is not convinced beyond any doubt that this feature could have been identified by the visitors.

For the foregoing reasons the "type 3" machine has to be regarded as the object of a public prior use with regard to the above cited features (a) to (e).

4. Novelty (main request)

The "machine type 3" to the extent that it has been publicly used, constitutes the closest prior art since it has most features in common with Claim 1.

The subject-matter of Claim 1 as granted differs from the "type 3" machine as identified above in the following features:

- (f) the pre-compacting device comprises vibrating plates which pre-compact the core both vertically and laterally,
- (g) the sliding formwork still protects the formed core until and during the placing of the transitional material from the silo(s).

Thus, the subject-matter of Claim 1 is novel within the sense of Article 54 EPC.

5. Inventive step (main request)

5.1 The effect achieved by applying the feature (f) (cf. above paragraph 4) to the machine forming the subject of the prior use is that the core is endowed with optimum properties in terms of water-tightness in the direction of the severest load imposed by horizontal water pressure. The provision of the above-cited feature (g) leads to the result that until and during the placing of the transitional material any contact between the formed core and the transitional material is prevented.

5.2 On the basis of these effects, the inherent problem is to be seen in improving the machine subject of the prior use such that

- (1) the water-tightness of the core is increased, and
- (2) contamination of the formed core by the transitional material is avoided until and during the placing of the transitional material.

5.3 GB-A-1 413 085 deals with the problem of avoiding deformations and cracks of the asphaltic core in a dam for safe-guarding the water-proofing function of the core layers according to the above-cited aspect (1) of the problem (cf. page 1, lines 38 to 66, of the citation). As a solution to this part of the problem, the citation teaches to partially compact, which means to pre-compact before the final step of "complete compacting", the core between linings sliding on both sides of each core layer whereby also vibrating elements may be used (cf. page 1, lines 73 to 82, and page 2, lines 15 to 25, of the citation).

Having regard to the direction of compacting of the core, i.e. both vertically and laterally according to feature (f) of Claim 1, DE-B-2 646 592 which is also concerned with the aim of obtaining water-tightness of the core discloses that the core must be compacted both in longitudinal and in transverse direction in a sufficient and homogeneous manner (cf. column 3, lines 17 to 35, and column 7, lines 22 to 27, of the citation). It is self-evident for the skilled person that compacting of the core transverse to the longitudinal core direction includes the vertical and lateral directions since for achieving a sufficient and homogeneous compaction of the core as taught in DE-B-2 646 592, the compacting device has to exert pressure from as many directions as possible directions around the core circumference.

Above-cited aspect (2) of the inherent problem is also addressed in GB-A-1 413 085 where it is pointed out (cf. page 1, lines 42 to 66) that a clean division between the asphaltic (core) material and the outer zones is important with regard to avoiding the formation of cracks due to mixing of the core material with the material of the outer zones.

GB-A-1 413 085 discloses as one of two alternative solutions to this problem the steps of laying asphaltic (core) material between removable linings; partially compacting the asphaltic material while between said linings; laying transitional material adjacent the asphaltic material; levelling off and compacting transitional material adjacent the asphaltic material and subsequently removing the linings (cf. page 1, lines 73 to page 2, line 4 of the citation).

In this way, the sliding formwork still protects the formed core until and during placing of the transitional material.

- 5.4 The Appellant argues that the passage disclosed in lines 79 to 93 on page 1 of GB-A-1 413 085 has to be construed such that the mere laying somewhere of the material for outer zones may be done before removal of the linings, but not the placing against both sides of the core.

The Board considers that if this were the case, there would be required in the process disclosed in the citation the additional step of pushing the transitional material towards the partially compacted core before levelling off the transitional material to substantially the level of the core. Since such an additional step is not hinted at in the cited passage and "levelling off" cannot be

interpreted as displacing the material from "somewhere" to the region of the core, the term "laying the material for outer zones ... adjacent the asphaltic material" in the citation has to be construed as "placing the material for outer zones adjacent the core". Besides, the method of laying the transitional material provisionally "somewhere" and subsequently pushing the material towards the core would not recommend itself but the skilled person would, for reasons of economy, undoubtedly prefer laying of the transitional material immediately in the region in which it is further processed.

The Appellant further argues that anybody reading GB-A-1 413 085 and having the knowledge of the present European patent is prejudiced and therefore inclined to think that in the citation the transitional material is supplied in the same way as disclosed in the patent, this being an incorrect supposition since nowhere in the citation is the word "silo" to be found.

The Board notes that GB-A-1 413 085 is concerned with a process for the layered installation of asphaltic cores in dams and the like. For the purpose of a clear disclosure of such a process the devices required to carry out the process steps need only be indicated as far as the choice of such devices cannot be expected from the skilled person. Clearly, silos are generally known devices for storing and transporting bulk goods and need not therefore be explicitly referred to in a process for constructing a dam in which such goods are used. Moreover, a silo for placing the transitional material is also provided for the "type 3" machine according to the prior use as can be seen in the STRABAG drawing 9000 (reference sign 5) and on the photographs Nos. 2 and 3 annexed to the Affidavit of Mr Liedemann.

The arguments of the Appellant cannot, therefore, be accepted by the Board.

5.5 The other pieces of prior art filed are less relevant to the subject-matter of the patent in suit than those so far dealt with. Consequently, it is unnecessary to deal with them.

5.6 For the above reasons, the subject-matter according to Claim 1 of the main request is obvious and does not involve an inventive step within the meaning of Article 56 EPC. Hence it cannot be allowed.

5.7 Claim 6 is directed to the use of a machine according to "product" Claims 1 to 5 without any further limiting features being indicated. The reasons outlined above with regard to lacking in inventive step apply therefore equally to the subject-matter of Claim 6. Hence Claim 6 cannot be allowed.

5.8 Since dependent claims can only be allowed if there is an allowable independent claim to which they are appended and since this condition is not fulfilled in this case, Claims 2 to 5 cannot be patented either.

6. Auxiliary Request

In Claim 1, line 2, the term "or materials" should obviously read "of materials" as is clear from the originally filed Claim 1.

Claim 1 according to the auxiliary request differs from granted Claim 1 in that the allocation of the features to the preamble and to the characterising portion has been

changed (cf. above point 2.2; the paragraph bridging pages 1 and 2 of the Statement of Grounds of Appeal and the paragraph bridging pages 4 and 5 of the Appellant's letter dated 5 August 1991). Since there is no difference in substance between these claims, the reasoning and conclusion provided with regard to Claim 1 according to the main request apply also to Claim 1 according to the auxiliary request.

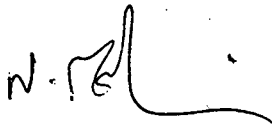
This request also cannot, therefore, not be allowed.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson