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Aktenzeichen / Case Number / N^o du recours :

T 187/85

Anmeldenummer / Filing No / N^o de la demande :

80 200 648.6

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

0 043 386

Bezeichnung der Erfindung:

Title of invention:

Titre de l'invention :

Vehicle for conveying in bulk powdered
granular or fragmented material

Klassifikation / Classification / Classement :

B 60 P 1/60

ENTSCHEIDUNG / DECISION

vom / of / du

17 December 1985

Anmelder / Applicant / Demandeur :

Welgro B.V.

Patentinhaber / Proprietor of the patent /

Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56 "Inventive Step"

Leitsatz / Headnote / Sommaire

Summary of Facts and Submissions

I .European patent application No. 80 200 648.6, filed on 3 July 1980 and published under publication number 0 043 386, was refused by the decision of the Examining Division 077 dated 9 December 1983.

The decision was based on the single claim received on 30 March 1981.

- II. In the decision, the Examining Division stated that the subject-matter of the claim did not involve an inventive step. In support of its view the Examining Division cited Dutch publications No. 6 704 265 and 7 613 523 and held that the skilled person would arrive, by way of an obvious modification of the vehicle according to Dutch publication No. 7 613 523, at the subject-matter of the present claim.
- III. On 11 January 1984, the appellants lodged an appeal against this decision paying the fee for appeal and submitting the Statement of Grounds simultaneously.
- IV. In the oral proceedings of 17 December 1985 the appellants requested that the decision under appeal should be set aside and that a patent should be granted on the basis of Claims 1 to 10 submitted in the oral proceedings.

Independent Claims 1 and 7 read as follows:

"1. A vehicle (9) comprising a plurality of hoppers (11) for conveying in bulk powdered, granular or fragmented material, said hoppers (11) each having a filling opening (6) that can be closed in an airtight manner and a discharge funnel (8), each discharge funnel (8) communicating with a common discharge pipe (1) through at least one discharge funnel opening (18) that can be closed by a closing member

Europäisches
Patentamt

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European Patent
Office

Boards of Appeal



Office européen
des brevets

Chambres de recours



Case Number: T 187 / 85

DECISION
of the Technical Board of Appeal 3.2.1
of 17 December 1985

Appellant: Welgro B.V.
Parallelweg 18
NL-7141 DC Groenlo (NL)

Representative: Konings, Lucien Marie Cornelis Joseph et al
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Decision under appeal: Decision of Examining Division 077 of the European Patent
Office dated 09.12.1983 refusing European patent
application No 80 200 648.6 pursuant to Article 97(1)
EPC

Composition of the Board:

Chairman: M. Huttner
Member: C. Maus
Member: C. Payraudeau

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(19) which is level adjustable by means of control means, the discharge pipe (1) having a compressed-air nozzle (12) and an outlet (13) for air with material, the hoppers (11) communicating beyond the discharge funnel opening (18) near their top ends with said nozzle (12) and with one another, whilst the closing member (19) has a circumference without corners and co-operates in sealing relationship by means of an elastic sealing ring (20) with a correspondingly shaped circumference of the discharge funnel (8), characterized in that beneath a cornerless sealing ring (20) co-operating in sealing relationship with the discharge funnel (8), the closing member (19) comprises a filling piece (47) which supplements, in the closed state of the closing member (19), the wall of the common discharge pipe (1), so forming an uninterrupted pipe of substantially uniform passage.

7. A discharge funnel (8) for a vehicle (9) as claimed in anyone of the preceding claims, said discharge funnel (8) having a funnel space communicating with a discharge pipe (1) through a discharge funnel opening (18) that can be closed by a closing member (19) which is level adjustable by means of control means, the discharge pipe (1) having a compressed-air nozzle (12) and an outlet (13) for air with material, said closing member (19) having a circumference without corners and co-operating in sealing relationship by means of an elastic sealing ring (20) with a correspondingly shaped circumference of the discharge funnel (8), characterized in that beneath a cornerless sealing ring (20) co-operating in sealing relationship with the discharge funnel (8), the closing member (19) comprises a filling piece (47) which supplements, in the closed state of the closing member (19), the wall of the common discharge pipe (1), so forming an uninterrupted pipe of substantially uniform passage."

The appellants were of the opinion that the subject-matters of these claims were patentable. They submitted that one must start from the vehicle according to British patent specification No. 1 304 660 also cited in the search report instead of Dutch publication No. 7 613 523 in order to find out as to whether or not the subject-matter of Claim 1 was obvious. The essential idea of the invention according to Dutch publication No. 6 704 265 consisted in the lifting of the valve in its totality and not in the filling piece for supplementing in its closed state the discharge pipe. From British patent specification No. 1 304 660 the skilled person learned to use a valve having a circumference without corners. This document concerned, therefore, an alternative to the vehicle disclosed in Dutch publication No. 6 704 265. Hence, the teachings of the two documents could not be combined.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. Having examined the documents cited in the search report, the Board has come to the conclusion that the vehicle according to Claim 1 is not disclosed anywhere in these citations. Consequently, the subject-matter of Claim 1 is novel having regard to this prior art.
3. On the question of whether or not the cited state of the art could suggest the vehicle according to Claim 1 the following should be observed:
 - 3.1 The problem underlying the subject-matter of this claim is to perform the discharge of the vehicle more rapidly, i.e. to lower the time for discharging.

3.2 It belongs to the general knowledge of the skilled person that the time for discharging the hoppers of a vehicle of the type disclosed in British patent specification No.1 304 660 depends on the area of the discharge funnel opening as well as on the velocity of flow of the mixture of compressed air and of material in the common discharge pipe. The greater the velocity of flow the greater is the quantity of material discharged during the unit of time.

3.3 Moreover, the skilled person would learn from Dutch publication No. 6 704 265 that the flow resistance of such discharge pipes becomes greater at those places where the discharge funnels of the hoppers communicate with the pipe through a pipe opening.. He would recognise immediately that this increase of flow resistance is to be attributed to the fact that the wall of the pipe is interrupted. According to the teaching of the document this disadvantage can be overcome by means of filling pieces to be raised and lowered which close in their lowered position the pipe openings. If the pipe openings of those hoppers, which are not discharged at the moment, are closed by means of the respective filling piece, the maximal discharge velocity will be reached (cf. page 4, lines 25 and 26 of the document).

Similar conditions, causing also an increase of the flow resistance in the common discharge pipe, are present at the vehicle according to British patent specification No. 1 304 660 since the closing members are situated above the pipe openings therein through which the hoppers can communicate with the common discharge pipe whereby the wall of the pipe is interrupted at those places.

3.4 With regard to this state of the art it was obvious for the skilled person to reduce the flow resistance of the discharge pipe of the vehicle disclosed in British patent specification No. 1 304 660 for the purpose of maximising the discharge

velocity by means of a filling piece at the closing member which supplements in the closed state of the closing member the wall of the common discharge pipe to form an uninterrupted pipe of substantially uniform passage.

3.5 It follows from the foregoing that it is not necessary to change the pressure ratio in the hoppers of the vehicle disclosed in British patent specification No. 1 304 660 at the beginning of its discharge if a filling piece is fitted. Therefore, the argument submitted that this vehicle differs from the vehicle according to Dutch publication No. 6 704 265 in as far as pressure ratios in the hoppers are concerned is irrelevant.

3.6 The further objection that the filling piece was not the essential idea of the invention disclosed in Dutch publication No. 6 704 265 also fails. Apart from the fact that the whole content of the specification is relevant for the decision as to whether or not the document could give a hint to the subject-matter of Claim 1, the filling piece is even part of the invention as claimed in Claims 7 and 8 in Dutch publication No. 6 704 265 and its purpose is also commented on in the description in detail as it has already been explained above.

3.7 Neither can the Board adopt the opinion of the appellants according to which the subject-matter of Claim 1 provided a surprising technical advantage. On the contrary, the technical advantage was foreseeable as the skilled person would learn from Dutch publication No. 6 704 265 to use filling pieces as means for maximising the discharge velocity of a discharge pipe whose wall is interrupted in consequence of the pipe openings. The advantage cannot, therefore, be taken as evidence suggesting that the vehicle according to Claim 1 was unobvious.

3.8 Consequently, the subject-matter of this claim does not involve an inventive step in the sense of Article 56 EPC.

4. Claim 1 is, therefore, unallowable (Article 52 EPC).

5. The above statements concerning the novelty of the vehicle according to Claim 1 and the question as to whether it involved an inventive step also apply to the discharge funnel characterised in Claim 7. Hence, this is likewise unpatentable.

Consequently, Claim 7 is not allowable.

6. The set of claims on the basis of which the grant of the patent is requested, comprises 8 dependent claims which refer to Claim 1 or to Claim 7 respectively. As the independent claims are themselves unallowable the basis lacks for the allowability of the dependent claims.

Under these circumstances, it is not necessary to examine whether or not these other claims are supported by the description completely.

Order

For these reasons,

it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

B.A. Norman

M. Huttner