BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

A		B		C	X

File Number: T 492/89 - 3.2.3

Application No.: 79 101 826.0

Publication No.: 0 007 000

Title of invention: Plow device

Classification: E02F 3/76, A01B 59/048, E01H 5/06

D E C I S I O N
of 21 January 1993

Proprietor of the patent: The Logan Manufacturing Company

Opponent: Karl Kässbohrer Fahrzeugwerke GmbH

Headword:

EPC Article 56

Keyword: "Technical problem" - Inventive step (no)"

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 492/89 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 21 January 1993

Appellant : (Proprietor of the patent)
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Decision under appeal :
Decision of the Opposition Division of the European Patent Office dated 13 April 1989 revoking European patent No. 0 007 000 pursuant to Article 102(1) EPC.

Composition of the Board :

Chairman : C.T. Wilson
Members : K.W. Stamm
L.C. Mancini

Summary of Facts and Submissions

I. European patent No. 0 007 000 was granted on 25 January 1984 with thirteen claims in response to European patent application No. 79 101 826.0, filed on 8 June 1979.

II. A Notice of Opposition against the European patent was filed on 25 October 1984 requesting revocation of the patent on the basis of Articles 100(a) and (b) EPC.

The Opponent based his arguments in particular upon the following documents:

D2: US-A-3 157 099 Earth materials handling apparatus
D3: US-A-3 477 151 Snowplow
D5: Prior use; Anlage E2: Front- und Räumschild
D6: US-A-2 230 704 Bulldozer construction
D7: US-A-3 424 251 Bulldozer.

III. The Proprietor of the patent presented as main request rejection of the opposition and as a subsidiary request maintenance of the patent on the basis of an amended Claim 1 ("Fall-Back-Request" according to "Annex III" dated 5 August 1989 and appended to the the contested decision).

IV. In its decision of 13 April 1989 the Opposition Division revoked the patent since the subject-matter of Claim 1 according to the main and subsidiary request respectively was obvious to the skilled person having regard to the prior use according to documents D5 and to document D7. The validity of the dependent claims depended on the validity of Claim 1 and, therefore, they could also not be maintained. Under point 8, the decision remarked: "The original subsidiary request (annex II), which appears to have been abandoned by the Proprietor, comprises an

amended claim 1 which is considered by the Opposition Division to contain patentable subject-matter."

V. A Notice of Appeal was filed on 16 June 1989 by the Appellant (Proprietor) against the revocation. The appeal fee was paid at the same time; the Statement of Grounds was filed on 12 August 1989, inclusive amended Claims 1 and 2 and an amended description.

Under paragraph III the Appellant accepted to base the further considerations on document E2 ("Thiokol Packmaster) as the prior art mentioned in the introductory part of Claim 1.

VI. In a communication pursuant to Article 110(2) EPC, issued on 3 February 1992, the Board expressed provisionally its doubts as regards the inventive step of the subject-matter of Claims 1. In a communication dated 17 August 1992 pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal the Board considered additional information of the parties as necessary.

VII. On 12 January 1993 the Appellant filed two versions of amended Claims 1 and 2 (followed by Claims 4 to 13 of the granted patent, to be renumbered as Claims 3 to 12) on which two subsidiary requests (I and II) were based. The main request was based on granted Claim 1.

On 19 January 1993 the Appellant submitted a letter and informed the Board that the former main request and the subsidiary request II were withdrawn. The Appellant requests that the patent be maintained in amended form based on Claims 1 and 2 according to the former subsidiary request I, filed on 12 January 1993. Claim 1 reads as follows:

"1. A snow plowing device for a snow grooming vehicle comprising a mounting assembly (10) for attaching a plow blade to a vehicle (32), said plow blade comprising a center blade (112) and first and second wing blades (114, 116), each of said center and wing blades (112, 114, 116) having working surfaces adapted to contact a substance to be plowed, and said mounting assembly comprising first frame means (12, 14) having a forward end and a rearward end and adapted for attachment at the rearward end to a vehicle (32),second frame means (16) adjacent the forward end of said first frame means and generally vertically disposed with respect to said first frame means, first connecting means (58, 60; 74, 76) pivotally connecting the forward end of said first frame means to the lower end of said second frame means about an axis that is generally horizontal and parallel to the longitudinal planes of each of said first and second frame means, whereby the said pivot axis for the said first connecting means (58, 60; 74, 76) is generally parallel to the plane of said center blade (112), second connecting means (162, 164) pivotally connecting said second frame means to the plow blade (112, 114, 116) about an axis that is substantially normal to the axis of said first connecting means, and third connecting means (166, 168, 170) for connecting said second frame means to the plow blade to restrain movement therebetween other than about said axis of said second connecting means, said first frame means (12, 14) being unitary, characterized in that said wing blades (114, 116) are each generally vertically pivotally connected at one end to a respectively associated end of said center blade (112) for angular adjustment in position with respect to a position of alignment thereof with said center blade, and each include a separate first pivot arm (200) extending rearwardly from an intermediate position thereof, said center blade (112) including a separate rearwardly extending second pivot

arm (146, 148) adjacent each end thereof, each of said first and second pivot arms providing a generally vertical pivot connection, and first and second motor means (206, 208), connected respectively, between an associated one of the vertical pivotal connections of said second pivot arms (146, 148) and an associated one of the vertical pivotal connections of said first pivot arms (200), and that said first and second motor means (206, 208) are arranged for effecting relative angular adjustment of each of said wing blades (14, 16) independently of each other with respect to a position of alignement with the said center blade (112)."

VIII. Oral proceedings took place on 21 January 1993.

(a) The arguments of the Applicant are summarized as follows:

(a1) The problem to be solved, worded without using the knowledge of the invention, was to provide a snow ploughing device which provides a faster and easier removal and distribution of large amounts of snow. The U-shaped blade according to document E2 is movable as a whole around a vertical axis in order to achieve a good versatility. The word "wings" in Claim 1 might be misleading, since it could unduly suggest the idea of movability. It has to be borne in mind that the blade known from E2 is of a fixed shape having the form of a "U" with two inclined end portions. However, the skilled person had no reason to focus on one particular part of the device known from E2 and in particular not to one particular part of the U-blade.

(a2) Devices which are optimized for snow ploughing are not to be compared with bulldozers which are optimized for moving earth materials.

(a3) Documents D2, D3 and D6 do not disclose the main features of Claim 1. D3 has one common cylinder for the two wings and allows only exact and determined positions thereof. D6 deals with logging and removal of trees. Here also only exactly determined positions of wings are possible, although movable independently from each other.

(a4) Document D7 refers not to a snow plough but to an earth moving bulldozer having an opening in a central part. The function of these wings is not comparable to the function of the wings in the contested claim. In D7, col. 3, lines 30 ff. mention in particular: "The side panels may be pivoted to form an angle for the purpose of reducing the width of the material to be picked up by the bulldozer or for accumulating more sharply the earth or other materials into the aperture 5."

The technical meaning of these wings would not invite the skilled person to use them for quite a different purpose. D7 does not mention that the movability of the wings is independent of each other, as claimed.

(a5) The mentioned documents could not teach the skilled person the totality of the features comprised in Claim 1 which, therefore, involved an inventive step.

(a6) The Opposition Division had indicated in its decision that it would have allowed a similar claim to Claim 1.

(b) The Respondent argued in summary as follows:

(b1) The distinction between snow and earth moving devices, as suggested by the Applicant, is not in accordance with the practice, since the kind of mass to be moved is not so much relevant as to arrive at distinguishable constructive features. The same devices are widely used for different objects and different masses. The skilled person, seeking to improve a movable U-blade as known from E2, will investigate the possibilities for arriving at better versatility of the whole device. The state of the art has known various constructions where movable wings enabling more versatile operation have been applied.

(b2) Document D7 shows the features of the characterizing portion of Claim 1, except "relative angular adjustment of each of said wing blades (14, 16) independently of each other with respect to a position of alignment with the said center blade (112)". But document D2 mentioned the idea of selective movability already: "In addition, the operator is not compelled simply to push a load from one place to another as was the practice heretofore. He may selectively deposit portions of a load where and as desired..." (col. 2, lines 64 ff.).

(b3) The skilled person starting with document E2, making use of D7 and taking account of the known technique was obviously aware of the claimed solution.

IX. The Appellant requests maintenance of the patent according to request I filed on 12 January 1993.

The Respondent requests dismissal of the appeal.

Reasons for the Decision

1. The appeal is admissible.

2. Amendments

Amended Claim 1 complies with Article 123(2) EPC. Further reasoning in this respect appears not necessary since, as follows, the subject-matter of Claim 1 lacks an inventive step.

3. Novelty

The subject-matter of Claim 1 is novel since none of the cited documents disclose all of its features. Since lack of novelty has not been alleged, it is not necessary to consider this matter in detail.

4. State of the art, technical problem and solution

Document E2 corresponds to the prior art part of Claim 1 which describes a snowplough having a blade of a special form, similar to a "U". In order to improve the versatility of the plough, further technical possibilities are looked for, including in respect of the shape of the blade.

The solution as defined in Claim 1 solves this problem in particular by providing independently of each other pivotable wings.

The Board shares to some extent the Appellant's reservations in view of certain difficulties as regards a proper problem-solution-approach, mainly concerning the necessity of avoiding ex post anticipations of the

solution in the propositions defining the technical problem. However, the problem defined by the Appellant during oral proceedings would involve also considerations concerning the shape of the known U-blade: Versatility of the whole plough when operating, allowing "easier and faster removal and distribution of large amounts of snow" (cf. above under IX, (a1)) is basically dependent on the chosen form of the blade.

5. Inventive step

5.1 Snowploughs, earth moving and logging machines, when based on the construction of a bulldozer, are technically similar, if not equivalent, so that these machines appear to be mutually adaptable and interchangeable to some extent. Their functionally intended restriction cannot, therefore, define a clear structural restriction. Even the present patent is based on such a similarity. The skilled person attempting to improve a snowplough is thus expected to be familiar also with analogous other mass-moving machines.

5.2 The shorter inclined end portions of the U-shaped snowplough blade as provided in the known art according to the preamble of Claim 1 (E2) are two of the three basic structural elements forming that blade. Pivotable end portions or wings, have generally been known for a long time as components determining the shape of the blades of various earth and snow moving devices. Document D7, in particular, shows pivotable wings in symmetrical arrangement. D3 shows a snowplough having blade wings in asymmetrical position.

The skilled person looking for improving the versatility and shape as regards the given U-blade in E2 would be expected to take account of the possibilities of a

variable shape allowed by pivotable wings as disclosed in D7. He will, therefore, study closely if and how the teaching in D7 might be applied to his snowplough. Apart from the feature "relative angular adjustment of each of said wing blades independently of each other", all the characterizing features of Claim 1 are shown in D7, (Figure 11) - evidently contributing adequately to the searched solution.

5.3 It is true that D7 does not mention the functional relationship between the two wings, neither a dependent nor an independent one. However, the skilled person does not need to be told that he has to deal with the functional interrelationship between the two separate, equivalent wings. Since in D7 only structural symmetry is shown, the reasonable application of such teaching has to determine whether functional symmetry also is adequate or not. In other words, use of D7 for enabling variability of shape necessitates to teach whether the angular positions of the two wings should be dependent somehow or independent of each other. Without defining any co-ordination between the two movements, the teaching of a shape-variability would remain incomplete. The two alternatives as such appear both principally evident, indeed are known, and selection of the second is not less obvious than selection of the first one: they do not introduce any new aspect beyond the skilled man's knowledge.

5.4 The interpretation and technical understanding of D7 as applied to E2 leads, therefore, the skilled person to all the characteristics of Claim 1. Thus, it is to be concluded that the subject-matter of Claim 1 was obvious to the skilled person having regard to the prior art according to the pre-characterising portion of Claim 1 and applying the teaching of document D7.

6. It follows that the subject-matter of Claim 1 is not patentable having regard to Articles 52(1) and 56 EPC. Without a valid Claim 1, the dependent Claims 2 to 12 also have no validity.

7. The positive opinion expressed by the first instance in respect of the subject-matter of an amended Claim 1 corresponding to the present Claim 1, (apart from the restriction to "a snow plough", (cf. above under point IV), formed no part of the contested decision, was not reasoned and, therefore, could not be accorded more than its due weight in the present proceedings.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

N. Maslin C.T. Wilson

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