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D E C I S I O N
of 22 May 1996

Case Number: T 0417/94 - 3.2.4

Application Number: 88202756.8

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IPC: A01C 23/02

Language of the proceedings: EN

Title of invention:
Liquid manure injector

Patentee:
VREDO DODEWAARD B.V.

Opponent:
Maskinfabriken Samson Tange A/S
AGRO-INDUSTRIE-PROJEKT GMBH
Veenhuis Machines B.V.

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 123

Keyword:
-

Decisions cited:
T 0406/86, T 0295/87, T 0001/80, T 0002/83, T 0056/87,
T 0005/81, G 0009/91, G 0010/91

Catchword:
-



Case Number: T 0417/94 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 22 May 1996

Appellant:
(Proprietor of the patent) VREDO DODEWAARD B.V.
Welysestraat 25a
NL-6669 DJ Dodewaard (NL)

Representative:
Hoijtink, Reinoud
Arnold & Siedsma
Advocaten en Octrooigemachtigden
Sweelinckplein 1
2517 GK Den Haag (NL)

Respondent (s):
(Opponent 01) Maskinfabriken Samson Tange A/S
Bjerringbrovej 10, Tange
DK-8850 Bjerringbro (DK)

Representative:
Pedersen, Soeren Skovgaard
Hofman-Bang & Boutard,
Lehmann & Ree A/S
Ryesgade 3
Postboks 367
DK-8100 Aarhus C (DK)

(Opponent 02) AGRO-INDUSTRIE-PROJEKT GMBH
Nürtingerstr 62
7441 Schlaitdorf (DE)

Representative:
Habbel, Hans-Georg, Dipl.-Ing.
Postfach 34 29
D-48019 Münster (DE)

(Opponent 03
- Intervener)

Veenhuis Machines B.V.
Almelosestraat 54
8102 HE Raalte (NL)

Representative:

Louet Feisser, Arnold
Trenité Van Doorne
De Lairessestraat 133
NL-1075 HJ Amsterdam (NL)

Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 11 March 1994
revoking European patent No. 0 322 941 pursuant to
Article 102(1) EPC.

Composition of the Board:

Chairman: J. C. A. Andries
Members: R. E. Gryc
J. P. B. Seitz

Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged an appeal, received at the EPO on 6 May 1994, against the opposition division's decision revoking European patent No. 0 322 941 notified by post on 11 March 1994.

The appeal fee was paid on 6 May 1994 and the statement of grounds of appeal was filed on 8 July 1994.

- II. Two oppositions and one intervention (Article 105 EPC) were filed against the patent as a whole on the basis of Article 100(a) and (c) EPC.

The opposition division held that lack of inventive step (Articles 100(a), 52(1) and 56 EPC) prejudiced the maintenance of the patent having regard to the following documents:

D5: Brochure "Vredo, De injectienaald voor uw weiland", De Vree's Machinebouw, distributed at the "Landbouw RAI 1978" and referring to NL-A-7608638 corresponding to DE-A-27 34 803 and

D6: Handbook "Stalmest en Gier, waarde en mogelijkheden", pages 84 to 89, G.J. Kolenbrander and L.C.N. de la Lande Cremer, H. Veenman & Zonen n.v. Wageningen (NL), 1967.

- III. In the statement of grounds of appeal, the appellant considered that the state of the art closest to the invention is described in document D2 (Article "Een machine voor het injecteren van mengmest in grasland",

W.J. Buitink, Landbouwmecanisatie No. 33 of May 1982) because it deals with the same problem as the invention (i.e. the environmental problem) and is explicitly related to the application of the method to meadowland.

The appellant contended that, besides two methods used before the priority date, the invention developed a third method according to which the sides of the narrow furrows made in the ground are compressed so that they remain open for a certain time period after the liquid manure has been injected. The appellant remarked that, since the slit made into the soil by the devices of D2 or D5 is closed again by a press roller, it could not be filled with liquid manure, otherwise the liquid would be pressed to the surface again.

The appellant was also of the opinion that D5 and D6 are not concerned with the same problems and would not be combined by the skilled person.

In reply, respondent 03 (opponent 03 - intervener) cited two new documents:

D7: US-A-3 799 079 and

D8: US-A-4 538 532

and was of the opinion that, like D6 and except for the use of the special furrow opener, these documents disclose the idea of the alleged invention, ie the injection of liquid fertilizer into grassland in narrow cuts.

According to respondent 03, D6 is a complete survey of all aspects of handling liquid animal waste available in 1967, including injecting liquid animal waste into narrow open cuts, and he considered that to replace a

known furrow opener by another known opener would not require any inventive skill from the skilled person.

He also took the view that D6 relates to the same problem as the alleged invention (ie to reduce the burden on the environment) and presents the used furrow opener as a limiting factor by teaching that the injection depth, which determines the amount of liquid manure to be injected, is limited by the required traction power. Therefore, according to him, it would be logical that the skilled person look for another furrow opener type like the one of D5 which is able to cut a small slit into the ground in an easier way.

Respondent 03 also contended that since the applicability of a manure injection method depends on government regulations, no commercial success can be seen in the sale of a device according to Claim 1. He also pointed out that the application as filed does not disclose the idea that a ground compressing operation on the furrow's side walls would result from the use of a furrow opener according to Claim 1 and therefore such an idea can neither be part of the alleged invention nor a contribution thereto.

IV. In a reasoned provisional opinion sent with the summons to oral proceedings dated 10 April 1996, the board drew the attention of the parties in particular to the fact that amendments to the text of a granted patent are only admissible if they are appropriate and necessary having regard to the nature of the grounds of opposition and the issues raised thereby.

On 8 May 1996, in reply to the communication of the board, the appellant filed in particular a main request based on two new method claims and nine amended device

claims, and various official reports and publications of experts in order to show that the invention is a commercial success.

V. Oral proceedings took place on 22 May 1996.

Although duly summoned, nobody attended the proceedings on behalf of respondents 01 and 02 (opponents 01 and 02).

In accordance with the provisions of Rule 71(2) EPC the proceedings were continued without these respondents.

The appellant filed a first auxiliary request based on a set of device claims and a second auxiliary request based on a set of use claims and emphasised that the expression "liquid manure" stated in Claim 1 of the first auxiliary request should be interpreted as excluding any chemical fertilizer.

Respondent 03 was of the opinion that the amendments to the claims according to the main request are not justified by the grounds of opposition and therefore not appropriate. He also contended that since a method claim is broader than an apparatus claim, the modifications contravene Article 123(3) EPC.

Concerning the subject-matter of the independent claims of the auxiliary requests, he took the view that this is not novel in view of D3 and D4 as nothing indicates that the apparatus disclosed in D3 could not be used in meadowland and since it is not explicitly stated in the impugned patent that no press rollers close the furrows afterwards.

Respondent 03 also considered that D6 is the closest prior art document since it teaches injection of the liquid manure in meadowland under the surface of the ground and into open furrows and he contended that the problem to be solved in D6 is the same as that according to the invention, ie to reduce the burden on the environment.

In his opinion, D6 is a standard text book illustrating the general knowledge of the person skilled in the art and when its content is considered in combination with the teachings of D2 or D7 and D5, it would lead the skilled person to the invention.

Moreover, opponent 03 pointed out that an incitement to replace the hooves of the device described in D6 by disk-openers according to D5 results from the findings of D6 that with furrow openers in the form of hooves (or teeth provided with a duckfoot) the depth of the furrow (and thus the quantity of manure which can be injected) is limited by the available traction power and by the damage caused to the meadowland.

VI. At the end of the oral proceedings the appellant requested that the decision under appeal be set aside and that a patent be maintained on the basis of either its main request (Claims 1 to 9 filed with a letter of 8 May 1996 and defined as the primary request) or its subsidiary requests filed during the oral proceedings.

The respondent (opponent 03) requested that the appeal be dismissed.

VII. The two independent Claims 1 and 3 as well as dependent Claim 2 of the main request read as follows:

"1. Method for introducing liquid animal waste into meadowland by opening a furrow by furrow openers and introducing liquid animal waste in said furrow by means of a nozzle being connected to a supply line connected to a reservoir for liquid animal waste, said nozzle debouching close to said furrow openers, characterised in that the furrow is a narrow V-shaped cut and is made in the ground with said furrow openers having each one pair of blades (7) disposed at a slope with respect to one another and to the vertical, which come almost into contact with one another at a contact point at an angle to the vertical, which pair of blades are biased in downward direction, whereby each blade has the shape of a flat disk, the external side of each disk being externally chamfered such that the outer edge of the disk forms a continuous circular line, whereupon liquid animal waste is introduced in the cut without the nozzle coming into contact with the ground."

"2. Method according to any of the preceding claims, characterised in that a cut of a depth of approximately 5 cm in the meadowland is made."

"3. Device for use of the method of any of the preceding claims, comprising means (7) for opening a furrow and a nozzle (13) debouching close to said furrow openers, said nozzle being connected to a supply line connected to a reservoir (2) for liquid animal waste, characterised in that said furrow openers having each one pair of blades (7) disposed at a slope with respect to one another and to the vertical, which come almost into contact with one another at a contact point at an angle to the vertical, which pair of blades are biased in downward direction, whereby each blade has the shape of a flat disk, the external side of each disk being externally chamfered such that the outer edge of the disk forms a continuous circular line."

VIII. Claim 1 of the first auxiliary request reads as follows:

"1. Device for introducing liquid manure into the meadowland, comprising means (7) for opening a furrow and a nozzle (13) debouching close to said furrow openers, said nozzle being connected to a supply line connected to a reservoir (2) for liquid manure, characterised in that said furrow openers having each one pair of blades (7) disposed at a slope with respect to one another and to the vertical, which come almost into contact with one another at a contact point at an angle to the vertical, which pair of blades are biased in downward direction, whereby each blade has the shape of a flat disk, the external side of each disk being externally chamfered such that the outer edge of the disk forms a continuous circular line."

Reasons for the Decision

1. After examination, the appeal was found to satisfy the requirements of Articles 106 to 108 and Rule 64 EPC; it is therefore admissible.
2. *Main request*

Amendments to the claims

Amendments to the text of a granted patent are only admissible if they are "appropriate" and "necessary" having regard to the nature of the grounds of opposition and the issues raised thereby. Appeal proceedings should not provide an opportunity for the patentee to include new subject-matter in the claims which may be supported

in the original description but has not previously been claimed as such. (see Decisions T 0406/86, OJ EPO 1989, 302 and T 0295/87, OJ EPO 1990, 470).

In the present case, the patent has been revoked on the grounds that the features of the device present in the independent claims filed in opposition proceedings were considered the result of an obvious combination of the teachings of D5 and D6.

Instead of amending or replacing the independent device claim, the appellant added to an analogous independent device Claim 3 not only an independent method Claim 1 but also a further dependent method Claim 2.

Since, however, the new independent method Claim 1 and device Claim 3 still recite substantially the same combination of features as the rejected granted device Claim 1, the new additional method Claims 1 and 2 claiming in fact the use of the same device, and since dependent Claim 2 covers subject-matter which was not mentioned before in the granted claims, the amendments made to the patent do not respond clearly to the objection put forward in the opposition proceedings and are therefore not "appropriate and necessary" within the meaning of the above-mentioned case law.

For formal reasons these amendments are thus not admissible, and the main request has to be rejected.

3. *First auxiliary request*

3.1 Amendments

3.1.1 The first sentence of Claim 1 as granted designating the subject-matter of the invention has been modified from:

"Device for introducing liquid manure into the ground, particularly meadowland, ..."

into: "Device for introducing liquid manure into the meadowland, ...".

The description has been amended accordingly in column 1, line 16, by the deletion of the words: "...land, and particularly...".

This limitation of the use of the device according to the invention to the meadowland is supported in the English translation of the description of the application as filed, for example on page 1, lines 17 and 18. Furthermore, the modification of Claim 1 reduces the protection conferred by the patent.

It does not therefore contravene Article 123(2) and (3) EPC and is admissible.

- 3.1.2 The objections of respondent 03 under Articles 100(c) and 123(2) EPC concerning the location of the nozzle and the externally chamfered disks cannot be followed by the board.

On the one hand the description (page 3, lines 6 and 7) and Claim 1 (line 7) of the English translation of the originally filed application indicate in general terms that each nozzle is associated with a pair of blades and debouches close to the contact point of the blades, whereas the drawings, particularly Figure 2, show exactly what is meant by these general statements. The statement in the granted and present Claim 1 that a nozzle debouches close to said furrow openers discloses for a person skilled in the art the same general information as given before, so that the board cannot see any new subject-matter disclosed by the wording used

in the granted and present Claim 1 with respect to the content of the originally filed application.

The same applies for the amendment made before grant relating to the external side of each disk being externally chamfered. A person skilled in the art taking account of the purpose of the disks, namely to make an extremely narrow cut (see page 1, line 23, of the English translation of the originally filed application), and looking at Figure 2 which discloses not only merely a V-shaped cut and thin peripheral edges of the disks, but also on the right-hand disk of each pair of disks indications that the peripheral part of the disks has been manufactured, contrary to the internally peripheral part of the disks (see left-hand disk of each pair of disks), must unequivocally come to the conclusion that the external side of each disk is externally chamfered. Bringing such a statement into a claim before grant therefore cannot be considered as contravening Article 100(c) or 123(2) EPC.

3.2 Interpretation of Claim 1

The expression "liquid manure" used in Claim 1 (see column 4, lines 8 and 13) is to be interpreted as "liquid natural manure" or "liquid animal manure" excluding any kind of chemical liquid fertilizers.

This interpretation was not only accepted during the oral proceedings by the appellant, but is also supported by several passages in the English translation of the description as originally filed where it appears clearly that the manure injected by the claimed device is not composed exclusively of liquids but also incorporates solid portions which render the use of a filter necessary (see the application as filed: page 1, line 29; page 2, line 2; page 3, lines 19, 20; page 4,

lines 9, 11, 30, 31 and 34; page 5, line 1).
Furthermore, such an interpretation is also supported by the fact that the expression "liquid manure" has to be considered as the translation of the originally used Dutch expression "gier".

3.3 Novelty

During the oral proceedings, novelty was disputed by respondent 03 with regard to the state of the art disclosed in D3 and D4.

D3 is concerned with drawn planters with liquid fertilizer application attachments (see for example the figures on pages 5 and 122) for introducing agricultural chemicals into arable land and said document does not state that the disclosed device could be used for introducing liquid manure within the meaning of the invention into grassland.

Moreover, D4 concerns corn planters equipped with liquid fertilizer applicator attachments for injecting chemical fertilizer into arable land (see Figures 27, 28 and 30, 31 respectively on pages 124 to 126) and a device for introducing natural fertilizer into the meadowland is not even mentioned.

For a person skilled in the art it is self-evident that such a kind of liquid fertilizer applicator as disclosed in D3 or D4, due to its different conception, cannot reasonably be used to distribute liquid manure within the meaning of the present opposed patent applicators according to D3 or D4, such as they exist, without modifications suitable for liquid manure.

As far as D5 is concerned, this document describes a sowing device and not a liquid manure distributing machine.

The device according to the invention is thus different from the state of the art disclosed in D3, D4 and D5.

Although D1, D2, D6, D7 and D8 relate to fertilizer distributing apparatuses, they do not comprise double-disk furrow openers similar to the furrow openers claimed in Claim 1.

Having examined all the other available prior-art documents cited during the proceedings, the board is satisfied that none of them discloses a device for introducing natural manure within the meaning of the invention comprising in combination all the features described in Claim 1 on file.

The subject-matter as set forth in Claim 1 is thus to be considered novel within the meaning of Article 54 EPC.

3.4 The closest prior art

The board considers that the state of the art closest to the invention is described in D6 since this document is also concerned with the problem of reducing the burden on the environment and discloses the use of a device for injecting liquid manure within the meaning of the invention under the surface of the grassland, said known device comprising apparently no pressing roller or packing wheel following the furrow opener.

The subject-matter of Claim 1 differs from this closest prior art in that the furrow openers of the claimed device are each double-disk openers with flat disks externally chamfered at the periphery.

3.5 The problem and its solution

When comparing the device according to Claim 1 with the apparatus disclosed in D6, the problem to be solved as objectively determined (see decision T 1/80 - OJ EPO 1981, 206) appears to be to improve the means for opening the furrows of the known machine so that, with the available traction power, it would be possible to cut the ground deeper than with the hooves or teeth provided with a duckfoot of the device of D6 and with less damage to the meadowland.

The board has no reason to doubt that the device according to Claim 1 would effectively solve the above-mentioned problem, all the more so as it has not been disputed by the respondents.

3.6 Inventive step (Article 56 EPC):

3.6.1 The questions to be answered as regards inventive step in relation to the modification of the device of D6 are whether the state of the art seen in the light of the general common knowledge of the skilled person would provide him with enough information about the essential means of the invention and whether, in the state of the art, he would find clues to applying this teaching to the device according to D6 in expectation of the improvement he was seeking (see decision T 2/83, OJ EPO 1984, 265).

Moreover, the technical teaching in a prior art document should be considered in its entirety, as it would be by a person skilled in the art (see decision T 56/87, OJ EPO 1990, 188) and when examining for inventive step, the state of the art must be assessed from the point of view of the person skilled in the art, ie an excessively abstract approach removed from his practical thinking

must be avoided, such an approach being merely the result of a posteriori analysis (see decision T 5/81, OJ EPO 1982, 249).

- 3.6.2 D2 and D6 are concerned with the injection of liquid manure whereas D5 discloses a sowing device. By using the devices of D2 and D5 the cut made in the ground is closed in a positive way by a packer roller after the manure or the seed has been introduced into the soil whereas by using the device of D6, after the opening tool has passed and the liquid has been introduced into the ground, the raised portions of turf on both sides of the furrow collapse and close the cut naturally without any external means being applied.

The technical fields, the problems encountered, the structural conception of the devices and also the techniques used in D2 and D6 on the one hand and in D5 on the other hand are quite different; nevertheless, in all cases, the object introduced into the ground is buried under the earth, either positively by the pressing action of a roller (see D2 and D5) or naturally by the turf falling down into the furrow (see D6).

- 3.6.3 Due to the above-mentioned differences, at the priority date, the skilled person starting from the device of D6 had a priori no particular reason to consult D5. Nevertheless, if he had done, then he could not contemplate another possibility than to replace the hooves or teeth of D6 by the complete assembly (ie the double-disk opener in combination with the pressing roll) used as a whole in D5 to fashion the surface of the ground.

Since moreover the patent application referred to in D5 teaches that the depth of the cut which can be made in the ground with the disk furrow opener is up to two

centimetres (see NL-A-7608638: page 2, line 19 or DE-A-27 34 803: page 4, line 24), the skilled person could not expect to cut deeper into the ground with this tool than with the hooves of the device of D6, which also indicates 1 to 2 cm (page 87, first line).

- 3.6.4 The board is therefore of the opinion that, at the priority date, the skilled person who wanted to improve the device of D6 and who was aware of the general trend to have the furrow closed after the cutting tool has passed (see D1, D2, D5 and D7 and also implicitly D6 and D8) would rather choose a device opener of the type disclosed in D1, D7 or D8 which forms a narrow slit than the double-disk opener of D5 which compresses the sides of the furrow and, without a following packer roller to press down the turf on both sides of the cut, leave the furrow wide open. By going in the opposite way, the claimed solution is not obvious.

For the aforementioned reasons, the board considers that the subject-matter of Claim 1 of the first auxiliary request does not follow plainly or logically from the prior art but implies an inventive step within the meaning of Article 56 EPC.

- 3.7 During the oral proceedings, respondent 03 brought forward for the first time a new ground for opposition, namely Article 100(b) EPC. Since this new ground for opposition could not be considered as being the result of or an answer to amendments made after grant, and since the appellant did not approve the consideration of that new ground, the board has no power to examine this late filed new ground for opposition (see Decision G 9/91, OJ EPO 1993, 408 and Opinion G 10/91, OJ EPO 1993, 420).

3.8 The patent can therefore be maintained in the amended version corresponding to the first auxiliary request filed during the oral proceedings.

4. *Second auxiliary request*

Since the board has acknowledged the first auxiliary request as allowable, there is no need to consider the second auxiliary request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent in the following version:

Claims 1 to 9 of the first auxiliary request as filed during the oral proceedings,

Description, columns 1 to 4 as filed during the oral proceedings (first auxiliary request),

Figures 1 to 6 as granted.

The Registrar:



N. Maslin

The Chairman:



C. Andries