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**Datasheet for the decision
of 31 January 2011**

Case Number: T 0787/09 - 3.2.04

Application Number: 01993398.5

Publication Number: 1343366

IPC: A01G 9/24

Language of the proceedings: EN

Title of invention:
Greenhouse

Patentee:
Excellent Glastuinbouwsystemen B.V.

Opponent:
Sapa Building System GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 52, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (no) (all requests)"

Decisions cited:
T 0386/89

Catchword:
-



Case Number: T 0787/09 - 3.2.04

DECISION
of the Technical Board of Appeal 3.2.04
of 31 January 2011

Appellant:
(Opponent)

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Respondent:
(Patent Proprietor)

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 30 January 2009
rejecting the opposition filed against European
patent No. 1343366 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: A. de Vries
C. Heath
P. Petti
F. Blumer

Summary of Facts and Submissions

- I. The Appellant (Opponent) lodged an appeal, received 8 April 2009, against a decision of the Opposition Division posted 30 January 2009 to reject the opposition against European patent nr. 1343366 and simultaneously paid the appeal fee. The statement of the grounds of appeal was received 5 June 2009.
- II. The opposition had been filed against the patent as a whole based among others on Article 100(a) in combination with Articles 56 EPC for lack of inventive step.

The Opposition Division held that the grounds mentioned did not prejudice the maintenance of the granted patent having regard in particular to the following documents:

D1: BE 1006145 A
D3: DE 673 347
D4: CH 193 847

- III. Oral proceedings before the Board were duly held on 31 January 2011.
- IV. The Appellant requests that the decision under appeal be set aside and the patent be revoked in its entirety.

The Respondent (Proprietor) requests that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form on the basis of an auxiliary request filed with the letter of 23 December 2010.

Both parties have requested oral proceedings.

V. The wording of claim 1 of the requests is as follows:

Main Request

"A greenhouse comprising two roof halves (4, 4') together forming a roof of V-shaped cross-section, which can be moved between a closed position and an open position, characterized in that the roof halves can be moved independently of each other both in upward and in downward direction relative to the closed position within certain limits. "

Auxiliary Request

Claim 1 is as in the main request but adds at the end the following text : ", wherein the roof halves, in the open position thereof, are inclined at an angle varying between -10° and $+60^{\circ}$ with respect to the closed position independently of the position of the other roof half."

VI. The Appellant argued as follows:

The only possible difference of the claimed greenhouse over D1 resides in the independent movement which allows the roof halves to be opened separately. This is already taught by D3 and D4. D1 itself is in fact not limited to coupled movement as follows from the claims 1 and 2 which are more broadly formulated.

The lower limit of the relative opening angle range added to claim 1 of the auxiliary request corresponds

to that shown in D1, while the upper limit corresponds to that shown in D3 and D4.

VII. The Respondent argued as follows:

D1 represents the closest prior art as it addresses the same problem of aeration under all weather conditions. Its solution always involves coupling of the movement of the two roof halves via the cross profile. This can also be inferred from claim 2's wording, where the second reference sign is clearly in error.

The sole difference over D1 of independent movement relative to the closed position allows the greenhouse to be opened without raising its total height, and even decreasing its height. This is important in particular for stormy weather and large wind load. The objective technical problem is thus formulated as aerating the greenhouse in all weather conditions, in particular in stormy weather.

The prior art, in particular D3 and D4, does not suggest the claimed solution. Nor are D3 or D4 compatible with D1 as they include a stop as essential feature.

The angle range specified in claim 1 of the auxiliary request gives expression to the large degree of freedom available as a result of the independent movement.

Reasons for the Decision

1. The appeal is admissible.

2. *Background*

The patent concerns a greenhouse with (upside down) V shaped roof formed of two halves that can be opened and closed for airing purposes. According to the claimed invention the halves move independently of one another, "in upward and in downward direction relative to the closed position" and "within certain limits". The structure is illustrated in figure 4 with roof halves hinging at their lower ends 7 and movable via hinged supports 12 mounted on pivots 15 that run along supporting beam 16. The roof can be opened with the opening pointing either right or left, that is in all weather conditions and in particular also for all wind directions, specification paragraphs [0003] and [0004].

3. *Inventive Step*

3.1 It is common ground that D1 discloses the closest prior art. Comparison of figure 4 of the patent and figures 1 and 2 of D1 reveals close structural and functional similarities. It is for example evident from figure 2 that D1's structure can be opened both to the left and the right depending on the wind direction, see also page 1, third paragraph of D1. D1 thus offers essentially the same improved protection from wind and elements as the claimed invention, see specification paragraphs [0003] and [0004].

3.2 D1 discloses a greenhouse shown in cross-section in figures 1 and 2, which has *two roof halves 5 meeting to form a V-shape cross-section*. The roof can be moved between a *closed (figure 1) and an open position (figure 2)*. Each roof half is pivotally supported via support 8,8' pivotally mounted at 11 on a respective end of an element 9 which is movable back and forth along a girder 1, cf. figures 1 and 2. Movement in either direction results in one half lowering the other rising from closed position : each roof half can thus *move in upward and downward direction relative to the closed position*.

3.3 The sole difference of the greenhouse of claim 1 as granted (*main request*) over D1 is that the two up/down movements are *independent of each other within certain limits*. The expression "within certain limits" is understood by all to mean that there is a range where the two movements do and a range where they do not depend on each other.

In D1, movement of the halves is coupled via the shared element 9, so that, at least from the closed position one must always rise, the other descend. Comparing figures 1 and 2 of D1 with figure 4 of the patent, the difference translates into removing (or splitting) element 9 coupling the hinges 11 of supports 8 in D1 so that these can be moved independently of each other.

3.4 Uncoupling the two movements in D1 removes mutual constraints allowing the roof halves to be moved with greater freedom over a wider range of angles. The objective technical problem can be formulated accordingly as *providing a wider range of movement or*

opening positions of the roof halves of a greenhouse such as that of D1, cf. specification paragraph [0003], lines 27 and 28.

As stated earlier the originally formulated problem, opening a roof in all weather conditions, is already solved by D1, justifying a reformulation of the objective technical problem solved by the invention. This must be based on effects that the skilled person can derive from the original disclosure considered in the light of the prior art, see for example T 0386/89. There is no mention or suggestion in the original disclosure that wind profile or load might be a concern, nor does it show or describe *both* roof halves lowered from closed position. The Board is also unconvinced that this effect would be immediately evident to the skilled person when comparing the invention and its embodiments to the prior art. Finally, figure 2 of D1 also appears to allow for lowering of both halves from closed position if the element 9 is imagined further towards the left. For this reason also the Board must disregard this alleged effect in the formulation of the technical problem.

- 3.5 The skilled person is a mechanical engineer involved in the design of greenhouses. Versatility, ease of use, cost and complexity are among his common concerns, and he will strive to find the optimal balance that best fits his needs. The design of figures 1 and 2 of D1, for example, requires only a single driving member which closes the roof in a single controlled and reproducible movement. This simplified design and operation is at the cost of versatility, as the range of relative opening positions of the roof halves is

constrained by the coupling. Should the skilled person, however, require a more versatile opening operation that offers a wider range of opening positions, he will realize from general mechanical considerations that he can do so by lifting the constraint imposed by the coupled movement. He will therefore, as a matter of obviousness, uncouple the movement of the roof halves by removing the element 9 to render their movement independent. The resultant wider range will naturally be at the cost of the simple opening and closing operation. This is a price he is willing to pay to achieve greater versatility.

The coupling is also not an essential part of D1's teaching. Claim 1 sums up D1's main idea, which is to connect each roof half by a hinge to the supporting girder. This allows the roof to be opened up entirely and ventilated completely, see page 1, second and third paragraphs, of D1. Coupling is first introduced in its dependent claims: claim 2 first mentions the moving cross-profile ("dwarsprofiel") 9 but is indeterminate as to whether there is a single profile for both supports 8,8' or one for each. Claim 3 narrows it down to a single profile. Clearly, coupled movement is a subsidiary aspect of D1's more general teaching, and the skilled person realizes that it can be dispensed with without compromising that teaching.

- 3.6 Alternatively, and again as a matter of obviousness, the skilled person will draw upon prior art greenhouse designs that offer wide ranges of movement. D3 and D4, for example, teach that this can be achieved by moving the roof halves individually. In D3 this is illustrated in figure 1 showing each roof half 3,4 pivotally

supported by a respective support 5, each pivoting and rolling on roller 8 along girder 6. Page 2, lines 114 to 120 clearly contemplates movement of each roof halve on its own ("für sich"). A similar construction is shown in figure 1 of D4, where again, see claim 1, the roof halves can be opened individually from a closed position ("je für sich aufklappbaren Dachhälften"). He will adopt this principle without ado, again as a matter of obviousness, in a greenhouse as in D1.

That D3 and D4 both feature stops (12 in D3, c in D4) for the closed position will not prevent him from doing so. These stops are not intrinsic to the idea of independent movement taught by D3 and D4. Rather, the stops play a subsidiary role, defining the closed position and taking up some of the load when the roof is closed. For the skilled person it is self-evident that it is the independent movement of the roof halves, not the stop that offers a wider range of movement than that offered by the coupled movement of D1. He therefore sees no incompatibility between the teachings of D1 and D3 or D4.

3.7 In the light of the above the Board holds that the greenhouse of claim 1 as granted (main request) lacks an inventive step, Article 100(a) with Articles 52(1) and 56 EPC.

3.8 The *auxiliary request* adds to claim 1 the range of possible angles by which the roof halves are inclined with respect to the closed position. The lower value (-10° from closed position) is not significantly different from the value of about -9° derivable from

figures 1 and 2 of D1. This lower limit is thus of no special significance nor has one been asserted.

The value of 60° which for a closed angle of 20° to 30° (specification paragraph [0005]) gives an angle close to upright (80° to 90°). This is what is shown in figure 1 of either D3 or D4 for the right roof half. Adopting this upper limit from D3 or D4 when modifying a greenhouse as in D1 to provide wider opening positions following D3 or D4 involves no inventive insight. Nor would its realization pose any problem for the skilled person. He would either apply simple geometry or use trial and error to determine the appropriate support length and pivot positions.

The Board thus also finds that the greenhouse of claim 1 of the auxiliary request lacks an inventive step, Articles 52(1) and 56 EPC.

4. The Board concludes that as the greenhouse of claim 1 lacks inventive step, this opposition ground prejudices maintenance of the patent as granted. Nor do the amendments offered in the auxiliary request remedy this defect, so that patent as amended also fails to meet the requirements of the EPC. Pursuant to Article 101(2) and (3)(b) EPC the Board must therefore revoke the patent.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar

The Chairman

G. Magouliotis

M. Ceyte