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Datasheet for the decision of 14 September 2020

Case Number: T 2245/18 - 3.2.04

Application Number: 07862903.7

Publication Number: 2242352

IPC: A01G3/06, A01G23/02, A01G31/00, A01G9/10

Language of the proceedings: EN

Title of invention:
METHOD OF ACCELERATING THE GROWTH AND DEVELOPMENT OF TREES VIA ENHANCED ROOT DEVELOPMENT

Applicant:
Lovelace, Wayne
Lovelace, Judy

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 2245/18 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 14 September 2020

Appellant: (Applicant 1)	Lovelace, Wayne 1187 Brownsmill Road Elsberry, MO 63343 (US)
Appellant: (Applicant 2)	Lovelace, Judy 1187 Brownsmill Road Elsberry, MO 63343 (US)
Representative:	Klunker IP Patentanwälte PartG mbB Destouchesstraße 68 80796 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 7 March 2018 refusing European patent application No. 07862903.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Martin Gonzalez
Members:	S. Hillebrand
	C. Heath

Summary of Facts and Submissions

I. The applicants lodged an appeal, received on 11 May 2018, against the examining division's decision, posted on 7 March 2018, refusing European patent application No. 07 862 903.7, and they simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 16 July 2018.

In the decision under appeal the examining division held that the application did not meet the requirements of Article 52(1) EPC in combination with Article 56 EPC due to a lack of inventive step of the claimed subject-matter with regard to the following document:

(D1) LOVELACE W: "The root production method (RPM) system for producing container trees", INTERNATIONAL PLANT PROPAGATORS' SOCIETY. COMBINED PROCEEDINGS OF ANNUAL MEETINGS, INTERNATIONAL PLANT PROPAGATORS' SOCIETY, INC, US, vol. 48, 1 January 1998 (1998-01-01), pages 556-557, XP008137419, ISSN: 0538-9143.

During the appeal proceedings, the Board also considered the following document cited in the search report:

(D4) DANIEL C DEY ET AL: "Production and early field performance of RPM seedlings in Missouri floodplains", PROCEEDINGS OF THE 6TH WALNUT COUNCIL RESEARCH SYMPOSIUM, 1 January 2004 (2004-01-01), pages 59-65, XP008137422.

II. By letter of 10 September 2020 the appellants filed an amended set of claims and description in reply to the comments made by the rapporteur on behalf of the Board in a telephone conversation on 7 September 2020.

III. The appellants are requesting that the decision under appeal be set aside and that a patent be granted on the basis of the main request as filed on 10 September 2020.

IV. Claim 1 of the main request reads as follows:

"A method of developing tree seedlings comprising:
germinating seeds on the surface of a growing medium to obtain the seedlings; and
air pruning the seedling roots at a depth of 7.6 cm (3 inches) to achieve an improved root mass,
wherein the growing medium comprises 40% composted rice hulls, 40% pine bark, and 20% sand, resulting in a 35% air space, or comprises 35% composted rice hulls, 35% pine bark, 20% sand, and 10% manure, resulting in a 35% air space."

Reasons for the Decision

1. The appeal is admissible.

2. Background

The invention is concerned with a method of developing tree seedlings with enhanced root development, and thus of accelerating the growth and development of the trees. To this end, the seeds are germinated on the surface of a growing medium and are subjected to air pruning at a depth of 7.6 cm (3 inches); see paragraph [0049] and figure 4 of the application. The root tip is

killed (dried) by the air at that 7.6 cm depth, which induces rapid lateral root development higher (where most desired) on the tree root collar where their function to the welfare of the tree will be best served; see paragraph [0053] of the application. Additionally, by placing the seeds on the surface of the growing medium, when germination begins, the seed cotyledons are exposed to light, producing additional energy by photosynthesis that further enhances the development of the plant root; see paragraph [0047] of the original application.

3. Main request - Amendments and formal requirements

The Board is satisfied that the application documents according to the main request satisfy the requirements of Article 123(2) EPC and also the formal requirements of the EPC. In particular, compared with claim 1 as filed, claim 1 of the main request incorporates from the description that the growing medium can alternatively comprise 40% composted rice hulls, 40% pine bark, and 20% sand, resulting in a 35% air space. It derives from paragraph [0049] of the original description, where the above composition is also described as possible growing medium. Dependent claims 2 to 9 are based on the following claims as originally filed and the following passages of the application as originally filed, respectively: dependent claim 2; dependent claim 5 together with paragraph [0048]; dependent claim 6; dependent claim 7; dependent claim 9; dependent claim 10 together with paragraph [0049]; dependent claim 3; and dependent claim 4.

In addition, the description has been made consistent with the claimed invention as defined in the present claims (Article 84 and Rule 42(1)(c) EPC).

4. Inventive step

The appellants are contesting the examining division's decision that claim 1 of the main request lacks an inventive step in the light of D1 in combination with common general knowledge, and this is an assessment that would equally apply to the present claim 1.

4.1 D1 discloses a method of developing tree seedlings, germinating the seeds in a growing medium comprising 40% composted rice hulls, 40% pine bark, and 20% sand, resulting in a 35% air space, with shallow air root pruning; see page 556, paragraph "Step 2: Seeding, ...".

D1 thus represents a suitable starting point for the assessment of inventive step. Apart from also being a germinating method using root air pruning, it shares the growing medium composition with the invention.

4.2 The appellants dispute the examining division's finding that D1 also anticipates the feature that the seeds germinate on the surface of the growing medium. The division argued that the scope of the claim should be interpreted as also including burying the seeds with a variable depth; see section 13 of the written decision. However, claim 1 is explicitly limited to "germinating seeds on the surface of a growing medium", which in its ordinary meaning is on the top of the surface, as also confirmed by paragraph [0011] of the description with reference to figure 5 and as shown in figures 5 and 10. Thus, in the Board's understanding burying them to a certain depth is excluded from the claimed scope.

4.3 Document D1 therefore does not disclose the claimed features of germinating the seeds on the surface of the growing medium and air pruning at a depth of 7.6 cm.

4.4 By air pruning, the root tip is killed by the air at the claimed 7.6 cm depth, which induces rapid lateral root development higher on the tree root collar where their function to the welfare of the tree will be best served; see paragraph [0053] of the application. Placing the seed on the surface promotes early production of energy by photosynthesis that mainly goes to production of the plant's root system, thus adding to the primary goal of enhanced root development; see paragraph [0047] of the application. The technical problem can be formulated accordingly as how to produce a further improved root system.

4.5 The claimed solution of germinating the seeds on the surface of the growing medium and air pruning at a depth of 7.6 cm is not known from any of the cited prior-art documents, and the Board does not consider them to be rendered obvious by the cited prior art either.

4.5.1 Indeed, D1 only teaches that shallow root pruning is advantageous, without disclosing any specific pruning depth; see page 556, last paragraph. It only mentions that germination and root pruning are performed in a growing medium, the medium itself having a depth of 3.8 to 5 cm, without indicating the seed planting depth, however. While this limits the root pruning to a value below 5 cm, there is, however, no teaching of a particular root depth or length, nor is it disclosed that this should be a specific parameter to be controlled, let alone to be optimised. Root pruning

depth is not described in the other cited prior-art documents either.

The Board does not consider it to be obvious to the skilled person from their common general knowledge either. It is a general aim to produce superior plants and thus to improve the seedling root system and common knowledge might suggest experimenting with growing medium composition, growing temperatures, seed selection, stratification time or temperature, transplantation time or seedling grading. However, the idea of root pruning specifically at 7.6 cm is not only not specifically suggested, but also marks a significant departure from the central teaching of D1 in that it sacrifices its idea of shallow pruning at a value somewhere below 5 cm.

4.5.2 The Board does not consider germinating tree seeds on the surface in the tree cultivating method in D1 to be obvious to the skilled person from their common general knowledge either. Germination of seeds on the surface of the ground, as argued by the examining division in section 13 of the contested decision, is a very well-known aspect seen in nature. However, germination of seeds as it happens in nature is not the subject-matter of the claims. The claims are directed to a cultivating method which aims to modify and improve natural processes. In such methods, at the time of filing the application, a customary practice for planting seeds of trees was to plant them in the ground, as for instance described in paragraph [0049] of the application "the established conventional rule that the depth of seed planting should be twice the diameter of the seed" or the teaching of D4 that specifically discloses placing them 4 cm deep; see D4, page 60, column 1, second paragraph. The Board sees no reason why the skilled

person would deviate from this common practice as a matter of obviousness.

Furthermore, placing the seed on the surface for germination ensures that root pruning occurs at 7.6 cm in a reproducible manner, whereas otherwise, e.g. in D1, the root pruning depends on the depth at which each individual seed has been placed. This second differing feature therefore also contributes to obtaining the desired longer root collar.

4.6 The Board thus holds that adopting the claimed measures of germinating the seeds on the surface of the growing medium and air pruning the roots at a depth of 7.6 cm in method claim 1 involves an inventive step as required by Article 56 EPC.

Order

For these reasons it is decided that:

1. **The decision under appeal is set aside.**

2. **The case is remitted to the examining division with the order to grant a patent in the following version:**

Description:

Pages 1-15 as received on 10 September 2020.

Claims:

No. 1-9 as received on 10 September 2020.

Drawings:

Sheets 1/37-37/37 as published.

The Registrar: The Chairman:

G. Magouliotis G. Martin Gonzalez

Decision electronically authenticated