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Datasheet for the decision of 19 January 2022

Case Number: T 1862/19 - 3.2.04

Application Number: 14187190.5

Publication Number: 2848109

IPC: A01C7/04

Language of the proceedings: EN

Title of invention:
Seed distribution element for precision seed drills, seed drill including said element

Patent Proprietor:
Maschio Gaspardo S.p.A.

Opponent:
Precision Planting LLC

Headword:

Relevant legal provisions:
EPC Art. 76(1), 123(2), 54(2), 56

EPA Form 3030

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It can be changed at any time and without notic

Keyword:
Divisional application - added subject-matter (no)
Amendments - allowable (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:
T 0305/18

Catchword:

EPA Form 3030

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Case Number: T 1862/19 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 19 January 2022

Appellant: (Opponent)	Precision Planting LLC 23207 Townline Road Tremont, IL 61568 (US)
Representative:	Uexküll & Stolberg Partnerschaft von Patent- und Rechtsanwälten mbB Beselerstraße 4 22607 Hamburg (DE)
Respondent: (Patent Proprietor)	Maschio Gaspardo S.p.A. Via Marcello 73 35011 Campodarsego (PD) (IT)
Representative:	Locas, Davide Cantaluppi & Partners S.r.l. Piazzetta Cappellato Pedrocchi, 18 35122 Padova (IT)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 26 April 2019 concerning maintenance of the European Patent No. 2848109 in amended form.**

Composition of the Board:

Chairman	A. de Vries
Members:	G. Martin Gonzalez
	C. Heath

Summary of Facts and Submissions

I. The appeal was filed by the appellant (opponent) against the interlocutory decision of the Opposition Division finding that, on the basis of the auxiliary request 2 before it, the patent in suit met the requirements of the EPC.

II. In the present case the Opposition Division held inter alia that
- the subject-matter of the upheld claims neither extended beyond the content of the application as filed nor of the parent application as filed
and
- the subject-matter of these claims was novel and involved an inventive step.

III. In an annex to a summons, issued on 15 May 2021, to attend oral proceedings the Board set out its provisional opinion on the relevant issues.

Oral proceedings before the Board were duly held as a videoconference on 19.01.2022.

IV. The appellant-opponent requests that the decision under appeal be set aside and the patent be revoked.

The respondent-proprietor requests that the appeal be dismissed.

V. The independent claims of the respondent's only request (corresponding to the version as upheld in the interlocutory decision) read as follows:

"**1**. A seed distribution element (1) for precision pneumatic seed drills (3), of the type including:
- a sowing disc (16) which is rotated by a motor-driven transmission shaft (20) at controlled speed,
- a housing (10) with a fixed portion (11) in which the shaft (20) is supported and a portion (12) which is movable relative to the fixed portion (11) and can be closed against it,
- a seed collection chamber (15) being defined in the fixed portion (11),
- a pneumatic suction chamber (17) being defined in the movable portion (12),
- the sowing disc (16) being interposed between the portions (11, 12) and having opposed surfaces delimiting the chambers (15, 17),
- the sowing disc (16) having at least one ring of selector holes (23) extending between the opposed surfaces, and
- a seal (24) which is arranged on the movable portion (12) and is capable of sliding contact with the facing surface of the disc (16) when the portions (11, 12) are closed against one another, wherein the seed distribution element (1) further comprises a suction device for producing a pressure differential between the opposed surfaces in the region of a circumferential segment of the ring of holes (23), characterized in that the seed distribution element (1) further comprising a thrust-bearing element (26) of the sowing disc (16), which thrust-bearing element (26) is supported rotatably in the movable portion (12) in order to withstand at least some of the axial load produced by the disc (16) on the seal (24), wherein the thrust-bearing element (26) is mounted on the movable portion in order to limit the wear on the seal (24) resulting from sliding against the surface of the disc (16) and wherein the thrust-bearing element (26)

comprises a shaft (27) rotatably mounted by means of bearings (28) in a seat (29) of the movable portion (12), the shaft (27) having flanging (30) by means of which it is fixed to a thrust-bearing plate (31) which can bear on that surface of the disc which faces the seal (24) in a zone radially inside the ring of holes (23) in order to withstand at least some of the axial load produced by the disc (16) on the seal (24)."

"**9**. A kit for the retrofitting of seed distribution elements (1) of precision pneumatic seed drills (3) wherein the distribution elements (1) are of the type including:
- a sowing disc (16) which is rotated by a motor-driven transmission shaft (20) at controlled speed,
- a housing (10) with a fixed portion (11) in which the shaft (20) is supported and a portion (12) which is movable relative to the fixed portion (11) and can be closed against it,
- a seed collection chamber (15) being defined in the fixed portion (11),
- a pneumatic suction chamber (17) being defined in the movable portion (12),
- the sowing disc (16) being interposed between the portions (11, 12) and having opposed surfaces delimiting the chambers (15, 17),
- the sowing disc (16) having at least one ring of selector holes (23) extending between the opposed surfaces, and
- a seal (24) which is arranged on the movable portion (12) and is capable of sliding contact with the facing surface of the disc (16) when the portions (11, 12) are closed against one another, wherein a pressure differential is provided between the opposed surfaces in the region of a circumferential segment of the ring of holes (23),

characterized in that the kit comprises:
- the movable portion (12) pre-assembled with:
a thrust-bearing element (26) of the sowing disc (16), which thrust-bearing element (26) is supported rotatably in the movable portion (12) in order to withstand at least some of the axial load produced by the disc (16) on the seal (24), wherein the thrust-bearing element (26) is mounted on the movable portion in order to limit the wear on the seal (24) resulting from sliding against the surface of the disc (16) and wherein the thrust-bearing element (26) comprises a shaft (27) rotatably mounted by means of bearings (28) in a seat (29) of the movable portion (12) the shaft (27) having flanging (30) by means of which it is fixed to a thrust-bearing plate (31) which can bear on that surface of the disc which faces the seal (24) in a zone radially inside the ring of holes (23) in order to withstand at least some of the axial load produced by the disc (16) on the seal (24)."

VI. In the present decision, reference is made to the following documents:

(D1) US 7,228,807 B1
(D4) US 4,664,290
(D5) EP 0 140 699 A2
(D10) US 2003/0183647 A1
(D11) US 2002/0043201 A1

VII. The appellant-opponent arguments can be summarised as follows:

Upheld claims 1 and 9 contain added subject-matter in the form of an unallowable intermediate generalisation, Article 123(2) EPC and Article 76(1) EPC. Their subject-matter is not new over D10. It moreover lacks

an inventive step in the light of the teachings of D1, D4, D5 and D11, also having regard to the common general knowledge of the skilled person.

VIII. The respondent-proprietor arguments can be summarised as follows:

The subject-matter of the claims upheld by the Opposition Division have a direct and unambiguous basis in the originally filed application and in the originally filed parent application. They therefore do not contain added subject-matter in the sense of Article 76(1) or 123(2) EPC. They are moreover new and involve an inventive step over the cited prior art.

Reasons for the Decision

1. The appeal is admissible.

2. Background

The invention is directed to a seed distribution element for pneumatic seed drills, see patent specification paragraph [0001]. Pneumatic seed drills use an air pressure differential between the opposed faces of a rotating sowing disc (or selector), the disc having a ring of through-holes of smaller section than the size of a seed. As a result of the pressure differential between the opposed faces of the disc, a seed adheres to each hole and is then transported by the rotation of the sowing disc from the seed selection zone to the point at which the pressure differential ceases and the seed is released to drop through a sowing pipe into the furrow or sowing track. Thus, in use, on one of the faces of the disc a strong air suction is exerted, see paragraph [0003]. The disc

effects a substantial compression force against the seal that delimits the suction chamber while it slides on it, see paragraph [0004]. According to the claimed invention, in order to avoid severe abrasion of the seal, a thrust-bearing element is included to withstand some of the axial load produced by the disc, see paragraphs [0004], [0009]-[0010] and claim 1.

3. As noted in the annex to the summons, section 4, the present case concerns a patent that originated as a divisional application from a parent application granted as patent EP 2 637 492. That patent was revoked and the revocation appealed in **T0305/18**. In its decision in that case the Board (in a different composition) held that claim 1 of auxiliary request 7 did not add subject-matter and its subject-matter was novel over D10 and remitted the case for further prosecution.

Claims 1 and 9 of the sole request in the present case (as upheld) are almost identical to claims 1 and 10 as remitted in the parent application case **T0305/18**. They add only two features namely

- that "the seed distribution element (1) further comprises a suction device for producing", and
- that the thrust-bearing element is mounted... "in order to limit the wear on the seal resulting from sliding against the surface of the disk"

Both features appear to be implicit in claims 1 and 10 of auxiliary request 7 considered in **T0305/18** and appear not to be relevant to the issues in this case.

The objections of added subject-matter and novelty raised by the appellant-opponent against the claims upheld in the present case appear to be the same as those raised against the claims remitted in **T0305/18**.

The reasons given in that decision, sections 5.4 and 6, were repeated in the annex and are cited below.

4. Added subject-matter

4.1 In its written opinion the Board set out its preliminary opinion in respect of added subject-matter as follows:

"5. Added subject-matter

The appellant-opponent contests the findings of the division, see section 4 of the impugned decision, that the upheld claims 1 and 9 do not contain added subject-matter in the sense of Article 123(2) EPC and Article 76(1) EPC.

They submit that the features added to the independent claims to further specify the features of the thrust-bearing element, namely that it comprises a shaft being rotatably mounted by means of bearings in the movable portion, the shaft having a flanging by means of which it is fixed to the thrust-bearing plate, bearing on the surface of the disc in a zone radially inside the ring of holes to withstand some of the axial forces, have been extracted in isolation from the specific description of the embodiment on original parent application pages 5-6. They are however inextricably linked to the omitted feature of that embodiment of a drive element 32 sandwiched between the shaft and the thrust bearing-plate. The omission of the latter in the claim would represent an unallowable intermediate generalisation.

The board however notes that the parent original description further discloses on page 7, lines 2-3 for

that embodiment of the thrust-bearing element that: "Provision is also made for the thrust-bearing element 26 to be made idle and not driven in rotation by the shaft 20." The same is disclosed in the corresponding description paragraph [0023] of the divisional application for the same embodiment. In the board's understanding, this represents a direct and unambiguous disclosure that the drive element need not be present. In the absence of an inextricable link with the drive element, the omission of the latter does not represent an unallowable intermediate generalization.

The board is thus satisfied that upheld claim 1 complies with Articles 76(1) EPC and 123(2) EPC."

4.2 During the oral proceedings before the Board the appellant-opponent added the further argument that the original disclosure on page 7, lines 2-3 cannot be understood since it describes a thrust-bearing plate that is "made idle and not driven in rotation by the shaft". A rotating plate is however, so the argument goes, indispensable for the functioning of the invention in order to achieve wear reduction. A meaningless, and furthermore isolated, statement in the description cannot serve as a basis for an amendment since an amendment to a claim requires unambiguous original disclosure.

The Board is not convinced by this argument. Giving the term "idle" its usual meaning - see OED:"Of machinery, to run idle, to run loose, without doing work or transmitting power" - the Board reads the passage as simply meaning that the plate is not in driving engagement with the drive shaft so that it merely rotates under frictional contact with the sowing disc. Therefore the contested statement properly read in

context and giving the words their usual meaning conveys a direct and unambiguous message to the skilled reader, namely that the drive element 32, which is previously described only as a driving connection between the drive shaft 20 and the thrust-bearing element 26, need not be present.

4.3 Otherwise, absent any convincing submissions from the appellant-opponent the Board sees no reason to change its point of view as set out in its written preliminary opinion. It thus holds that upheld claim 1 complies with Articles 76(1) EPC and 123(2) EPC.

5. Novelty

5.1 As regards novelty, the Board set out its preliminary opinion in its written communication as follows:

"6. Novelty.

The opposition division held that claim 1 is new over D10, see section 4.2. The appellant-opponent contests this finding. As explained further below, it appears that the appellant-opponent gives some terms of the claim an unusual meaning for achieving this conclusion.

However, as variously stated in case law terms used in patent documents should be given their normal meaning in the relevant art, unless the description gives them a special meaning, see Case Law of the Boards of Appeal, 9 Edition 2019 (CLBA), II.A.6.3.3.

In the case of D10, irrespective of whether the arm 124 of the known knockout assembly 120 shown in figs 5, 13, 14 of D10 can be considered a shaft in the broad sense of the term, the board is not convinced that at least

the following elements of D10 (as identified by the appellant-opponent) anticipate claimed features:

A shaft having flanging means is not anticipated by D10. The known rotatable hexagonal wheel 130 cannot be considered a flange in its usual meaning: "A projecting flat rim, collar, or rib, used to strengthen an object, to guide it, to keep it in place, to facilitate its attachment to another object, or for other purposes." (see OED). The wheel has not the form of a flat rim, collar or rib. It is also not part of the arm 124 (shaft in the words of the claim), but a separate element.

A thrust-bearing plate in the sense of claim 1 is also not anticipated by D10. The prongs 132 or their stepped portions cannot be considered a plate - "A flat sheet or lamina" (see OED). They do not have that shape.

At least those features establish novelty of claims 1 and 9 so that the board can confirm the findings of the opposition division."

5.2 During the oral proceedings before the Board the appellant-opponent only repeated the above arguments, stressing their view that the stepped portions near the tip of the prongs 132 of D10 can be regarded as a plate or that the hexagonal wheel shown in figure 13 of D10 builds a flange in the broad sense of the term. These arguments, being in substance the same as those submitted in writing by the appellant-opponent, do not convince the Board for the reasons given in its preliminary written opinion and repeated above. The Board therefore sees no reason to change its preliminary opinion and thus holds that claim 1 is new over the cited prior art.

6. Inventive step

6.1 The appellant-opponent contests the positive finding of inventive step of the Opposition Division, see section 4.3 of the impugned decision. The appellant-opponent considers D5 as a suitable starting point for inventive step that would lead the skilled person to the claimed subject-matter either in combination with common general knowledge or with D11.

6.2 It is common ground that the claimed device differs from D5 in the thrust-bearing element construction, namely that the thrust-bearing element comprises a shaft rotatably mounted by means of bearings in a seat of the movable portion, the shaft having flanging by means of which it is fixed to a thrust-bearing plate which can bear on the seed disc surface in a zone radially inside the ring of holes. It is also not in dispute that the rotating thrust-bearing plate reduces seal wear by withstanding some of the axial load produced by the disc on the seal. The associated objective technical problem can thus be formulated as how to reduce abrasion wear, see patent specification paragraphs [0004], [0009].

6.3 In a first line of argument the appellant-opponent submits that the skilled person, with common general knowledge at their disposal, would consider modifying handle 24 of D5 so as to be rotatably supported on the movable portion of 12, instead of on the fixed portion 14, as an obvious alternative.

This argument however fails for several reasons. In the light of the function that handle 24 of D5 fulfils, supporting it on the movable portion 12 is not an

alternative, let alone an obvious one. Indeed, handle 24 is part of an arrangement (see D5, figure 4) that allows an operator to manually fix and key the seed disk 28 to driving hub 22 and shaft 56 of the fixed portion 14. This arrangement is accommodated in the fixed portion 14, see D5 abstract and figure 3, and is only accessible to the operator with the movable portion rotated into its open position. How this could function with the arrangement moved to the movable portion 12 is a mystery to the Board. With the movable portion in its open position there can be no connection with the driving arrangement, when closed it is no longer accessible. Thus, by mounting the handle onto that movable portion 12, the handle would cease to fulfil its function. This is not an arrangement the skilled person would regard as a simple alternative, if at all.

Additionally, handle 24 is not formed as a plate i.e. in the form of "a flat sheet or lamina" (see OED), as is immediately apparent from figure 4 of D5. Thus, the above modification of D5, whether obvious or not (the Board holds that it is not), would not result in the claimed device having a thrust-bearing plate.

Nor does the Board find the argument particularly convincing that the skilled person would abstract the function that the handle must have in exerting a thrusting force on the disk, to replace the handle by a disk that can also be mounted on the movable portion. That argument presupposes considerable powers of imagination and abstraction, well beyond the routine skills of the skilled person: it is a prime example of hindsight.

6.4 The same conclusion holds when starting from D1, D4 or D10. The relevant features of these documents that are material for the present case are identical to those in D5.

6.5 In a further line of argument the appellant-opponent submits that the combination with the teachings of D11 would also lead the skilled person to the claimed subject-matter as a matter of obviousness.

However, document D11 does not teach or suggest any rotating thrust-bearing element. Therefore, the combination of the teachings of D5 and D11, whether obvious or not would not result in the claimed seed distribution element. Indeed, while D11 teaches bearing surfaces 86, 88 to stabilize seed disc 46, see D11 paragraph [0049], these are in the form of fixed protruding lips, see shape of elements 86, 88 in figures 3, 4. They define and delimit vacuum chamber 82 on the movable portion or cover 54, see paragraph [0040]. Thus, the skilled person neither receives a suggestion to provide a bearing element in the shape of a plate nor that the bearing element may rotate.

The Board is further not convinced by the argument that the skilled person, seeking to further improve and reduce wear of the bearing surfaces 86, 88 would obviously, based on common general knowledge, modify the fixed protruding lip 86 into a revolving plate and that they would apply this modified solution to the known seed distribution element of D5 as a matter of obviousness. As regards the issue of surface wear D11 already teaches a solution that is different to that of the contested claim, see D11 paragraphs [0015], [0050] and [0052]. Wear is addressed in D11 by providing small depressions in the form of slots 130,132 (see figure 3)

on the surface of the seed disc 46. They serve to vacuum away dirt or any abrasive material from the bearing surfaces 86,88 and to cool them as these move over the slots 130,132, see paragraphs [0050] and [0052]. Moreover, as can be inferred from the lack of internal space in the known seed distribution element as depicted in figure 3 of D5, providing a thrust-bearing plate around handle 24 of D5 and corresponding seat with bearings on the movable portion or cover 12 of D5 would imply a redesign of the structure of the known cover 12. Such further adaptation together with the need to produce a new bearing plate concept adapted to be accommodated around the existing handle 24 of D5, also abandoning the sealing lip concept 88 taught by D11 and further ignoring the wear reduction concept using slots taught by that document that addresses the problem that the skilled person is seeking to solve, that without the benefit of hindsight, goes beyond the normal skills of the person skilled in the art.

6.6 In the light of the above the Board finds that the Opposition Division arrived at the correct conclusion that the subject-matter of upheld claim 1 involves an inventive step over the submitted prior art combinations.

7. It goes without saying that the above conclusions for claim 1 with regard to added subject-matter, novelty and inventive step also hold for independent claim 9, which includes the same features as discussed above.

8. As all the objections raised by the appellant-opponent fail, the Board confirms the findings of the Opposition Division.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated