

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DEVELOPMENT TECHNOLOGIES, LLC,
Petitioner,

v.

E.I. DU PONT DE NEMOURS AND COMPANY,
Patent Owner.

Case PGR2018-00102
Patent 9,848,543 B2

Before SCOTT A. DANIELS, CARL M. DEFRANCO, and
RYAN H. FLAX, *Administrative Patent Judges*.

DEFRANCO, *Administrative Patent Judge*.

DECISION
Institution of Post-Grant Review
35 U.S.C. § 324(a)

E.I. du Pont de Nemours and Company (“DuPont”) is the owner of U.S. Patent No. 9,848,543 B2 (“the ’543 patent”). Development Technologies, LLC (“DTL”) filed a petition requesting post-grant review of claims 1–18 of the ’543 patent. Paper 1 (“Pet.”). DuPont did not file a preliminary response in rebuttal. Because we determine that DTL has demonstrated that at least claim 1 of the ’543 patent is more likely than not

unpatentable under 35 U.S.C. § 112(a), we institute post-grant review of all claims as challenged in the petition, namely, that claims 1–18 are unpatentable under 35 U.S.C. §§ 103, 112(a), and 112(b). *See* 35 U.S.C. § 324(a).

I. BACKGROUND

A. *The '543 Patent*

The '543 patent issued December 26, 2017, and claims priority to a provisional application filed July 9, 2013. Ex. 1001, cover page, (45), (65); Ex 1003, 1 (showing claim of priority). As such, the '543 patent is eligible for post-grant review because the petition was filed within nine months of the '543 patent's issue date and the earliest possible priority date for the '543 patent is after the March 16, 2013 effective date for the Leahy-Smith America Invents Act. *See* 35 U.S.C. § 321.

The '543 patent is directed to microporous tubing adapted for use in subsurface irrigation of plants or seeds. Ex. 1001, 1:5–9, 1:55–62. There are eighteen claims in the '543 patent, with claims 1, 10, 12, and 17 being independent. *Id.* at 12:22–14:47. Independent claim 1, which is illustrative for purposes of this decision, recites:

1. A method for subsurface irrigation of plants or seeds comprising the steps of[:]
 - i. *providing one or more hydrophobic porous tubes* that are not coated with a hydrophilic material into which an aqueous irrigation fluid is supplied to one or more of the tubes, wherein the tubes comprise materials having a hydrohead (HH);
 - ii. locating the tubes with at least a portion of their length in the proximity of a plurality of plants to be irrigated that are in their growth phase;

iii. passing the aqueous irrigation liquid into the tubes during said growth phase of the plants to be irrigated, at an applied pressure (P_{growth}) at or below HH;

wherein the tubes are in fluid contact with each other and are configured in a configuration such that the aqueous irrigation fluid enters the tube configuration and is pressurized therein such that the minimum length of tubing between the irrigation fluid entry point and at least one of the plants to be watered is 61 meters and the HH of at least a portion of the one or more tubes is at least 100 cmwc, and wherein, once filled with fluid, the tubes will remain filled when the applied pressure is removed.

Id. at 12:22–43 (emphases added).

The critical limitation here is the “wherein” clause at the end of claim 1, which requires that “once filled with fluid, the tubes will remain filled when the applied pressure is removed.” That same “wherein” clause is found in each of the other independent claims and appears to have been the reason for their allowance. *See* Exs. 1010, 1011.

B. The Asserted Challenges

DTL challenges the patentability of claims 1–18 under 35 U.S.C. §§ 112(a), 112(b), and 103. For the section 112(a) challenge, DTL makes two arguments, first, that claims 1–18 lack sufficient written description support in the specification of the ’543 patent (Pet. 20–24), and, second, that the specification does not enable any of those claims (*id.* at 29–31). Relying on section 112(b), DTL asserts that claims 1–18 are also indefinite. *Id.* at 24–29. Finally, in its section 103 challenge, DTL asserts that claims 1, 2, 5–9, 12–15, 17, and 18 would have been obvious to an ordinarily skilled artisan in view of several combinations of prior art references and “common

knowledge” within the industry. Pet. 32–39. DTL’s specific challenges are listed in the table below. In further support of these challenges, DTL submits declarations from technical experts retained for purposes of this proceeding. *See* Exs. 1004, 1005.

| Ground | Claims Challenged | Basis |
|----------|--------------------------|--------------------------------------------------------------------------------|
| § 112(a) | 1–18 | Lack of written description support |
| § 112(a) | 1–18 | Non-enablement |
| § 112(b) | 1–18 | Indefiniteness |
| § 103 | 1, 2, 5–8, 12–15, 17, 18 | Sinda, ¹ Stachnik, ² and “common knowledge” ³ |
| § 103 | 1, 2, 5–9, 12–15, 17, 18 | LaRue, ⁴ Stachnik, and “common knowledge” |
| § 103 | 1, 2, 5–8, 12–15, 17, 18 | Osborn, ⁵ Stachnik, and “common knowledge” |

II. ANALYSIS

A. Claim Construction

DTL proposes a construction for two claim terms: “fill” and “remove.” Pet. 19. Relying on dictionary definitions, DTL argues that, in the context of the independent claims, the term “fill” means to “occupy the whole of” and the term “remove” means “abolish or get rid of,” which DTL

¹ U.S. Patent App. Pub. No. US 2011/0265897 A1, pub. Nov. 3, 2011 (Ex. 1026, “Sinda”).

² U.S. Patent App. Pub. No. US 2005/0166451 A1, pub. Aug. 4, 2005 (Ex. 1019, “Stachnik”).

³ As “evidence of prior art knowledge,” DTL and its expert cite: (1) Lomax, K.M., *Emission Characteristics of Porous Tubing*, AGRICULTURAL WATER MANAGEMENT, 15 (1988), 197–204 (1988) (Ex. 1020, “Lomax”); and (2) U.S. Patent No. 5,117,582, iss. Jun. 1992 (Ex. 1021, “Cissel”). Pet. 34–35; Ex. 1004, § D ¶¶ 1, 6–7, 11.

⁴ U.S. Patent App. Pub. No. US 2014/0047766 A1, pub. Feb. 20, 2014 (Ex. 1028, “LaRue”).

⁵ U.S. Patent No. 3,939,875, iss. Feb. 24, 1976 (Ex. 1030, “Osborn”).

argues is tantamount to exhausting the tubes of any applied pressure. Pet. 19 (citing Ex.1014, 1015). At this stage, we discern no reason to doubt the plain and ordinary meaning of those terms as reflected by their respective dictionary definitions. Thus, for purposes of this decision, we construe the term “fill” to mean “occupy the whole of” and the term “remove” to mean “abolish or get rid of; completely exhaust.”⁶

B. Threshold for Institution

Central to this proceeding is the claim 1 limitation “*wherein, once filled with fluid, the tubes will remain filled when the applied pressure is removed.*” DTL argues that this limitation complies with neither the written description requirement nor the enablement requirement of section 112(a). Pet. 20–24, 29–31, respectively. For both challenges, we focus on independent claim 1, as DTL does not argue the independent claims separately. *See, e.g.*, Pet. 25 (“Petitioner here and elsewhere addresses recited language in independent claim 1, but it will be understood that independent claims 10, 12, and 17 recite many, most, or all of the same or similar limitations, and therefore suffer from the same or similar essential infirmities”).

Section 112(a) of Title 35 of the United States Code provides, in part, that the “specification shall contain a written description of the invention.” 35 U.S.C. § 112(a). To meet the written description requirement, the specification must “reasonably convey[] to those skilled in the art that the

⁶ DTL also submits a table of proposed constructions for additional terms found in claims 1, 10, 12, and/or 17. *See* Ex. 1017. At this stage, without hearing first from DuPont, we see no need for an express construction of any other claim terms.

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