

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INARI AGRICULTURE, INC.,
Petitioner,

v.

PIONEER HI-BRED INTERNATIONAL, INC.
Patent Owner.

Case No. PGR2024-00025
Patent No. 11,707,033

PETITIONER'S REQUEST FOR DIRECTOR REVIEW

The Board cannot conflate novelty with non-obviousness to collapse the distinction between plant utility patents versus plant variety protection (PVP) certificates. The Board's logic inexplicably defies the Supreme Court's decision in *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124 (2001), in which PO itself successfully argued that utility patent protection should be available for new plant varieties in appropriate instances—despite the separate availability of PVP certificates—because the requirements for utility patent protection are “**more stringent**” than those for PVP certificates (EX1029, *14). The Supreme Court agreed with PO and stressed that “[i]t is **much more difficult** to obtain a utility patent for a plant than to obtain a PVP certificate because a utility patentable plant must be new, useful, and nonobvious,” whereas “a plant variety may receive a PVP certificate **without** a showing of usefulness or nonobviousness.” *J.E.M.*, 534 U.S. at 142 (emphasis added). Yet under the Board's logic, a finding that a new plant variety was **distinct** from prior art varieties (required even for PVP certificates) would necessarily dictate a finding of non-obviousness. This decision, if left to stand, encourages PO to continue—and other plant breeders to emulate—PO's strategy of filing assembly-line utility patent applications on new plant varieties in which the specifications are essentially identical aside from listings of corn plant properties (e.g., “width of ear node leaf,” “silk color,” and “dry husk color”) drawn verbatim from PVP paperwork.

Indeed, the Board refused to grant review even though the '033 Patent is a near carbon-copy (see EX1102) of a prior art patent disclosing an older “sibling” plant that by the Board’s own acknowledgment is “derived from the *same initial cross*” of the same two parental varieties that were both disclosed in indisputable prior art patents.¹ Paper 15 at 19. Under the Board’s logic, PO can continue indefinitely patenting other sibling varieties—based on the same cross of the same two prior art parents—because the genomes of such plants will inevitably be different from one another and not predictable *ex ante* given the biological realities of sexual reproduction. But such a brightline rule is tantamount to a PVP-style registration system, which the Supreme Court in *J.E.M.* expressly distinguished from the more rigorous examination of utility patent applications. It also contradicts the Supreme Court’s emphasis in *Graham* and *KSR* concerning the flexibility required under §103. Tellingly, the Board’s institution decision never addresses any of *J.E.M.*, *Graham*, and *KSR* despite Petitioner’s extensive citations.

I. BACKGROUND

¹ This case differs from PGR2024-00019, PGR2024-00020, and PGR2024-00023, in which Petitioner challenged patents PO obtained by crossing one publicly known parent with a purportedly “proprietary” variety. Petitioner has filed requests for Director Review in those earlier cases. Those requests remain pending.

The '033 Patent claims an inbred corn plant that is the child of two earlier inbred corn plants PO had previously patented—the “Ross” and “Carlone” references (Exhibits 1005 and 1006). PO had also already used Ross and Carlone to breed numerous other corn plants. Petition at 18-19, 35 (citing EX1003, ¶¶87-88). One such plant—disclosed in PO’s “Heffner” patent (Exhibit 1007)—was obtained by crossing Ross *and* Carlone. In other word, Heffner is a full “sibling” of the claimed variety. PO obtained two different patents—Heffner and the '033 Patent—by repeating the same cross.

Petitioner requested PGR on the ground that the Challenged Claims are unpatentable under §103 over Ross and Carlone (disclosing both parent plants), and separately under Heffner (disclosing the older sibling created from an earlier cross of the parents) based upon their very similar phenotypes. Petition at 40-59.

Petitioner presented evidence that the disclosed properties of the claimed variety closely track those disclosed in the Ross and Carlone parents as well as the Heffner sibling, and further that nothing in the '033 Patent suggests any variation a POSA would have viewed as surprising or unexpected. Petition at 41-42, 55 (citing EX1003, ¶¶101-110, 137-141). The '033 Patent instead is a near carbon-copy of the prior art Heffner patent. EX1102 (redline); EX1003, ¶¶48-51.

Petitioner analogized the case to an earlier Board decision affirming an obviousness rejection of plant utility claims because there were “numerous

similarities between the claimed variety and the” parental varieties and likewise because the record did “not explain the significance of any differences in attributes between the novel variety and varieties that are old in the art.” Petition at 42 (quoting *Ex parte C*, 27 USPQ2d 1492, 1493 (BPAI 1992)). To the extent such differences existed at all, nothing suggests they are “so significant and unexpected that they should weigh more heavily than the numerous similarities between the claimed variety and the” parental varieties disclosed in Ross and Carlone. *Id.* at 1497. PO itself had cited *Ex parte C* to the Supreme Court in *J.E.M.* when successfully arguing that §103 has teeth in the context of plant utility patents and distinguished them from PVP certificates. EX1029, *20-21, *38, & n.25. Like the ’033 Patent, the specification in *Ex parte C* was “cryptic” and offered “little more detail than would be” expected in PVPA disclosures. 27 U.S.P.Q.2d at 1493.

Petitioner likewise highlighted the sharp contrast between the ’033 Patent and earlier plant utility patents such as those PO had successfully defended in the *J.E.M.* case while highlighting to the Supreme Court how the requirements for utility patent protection are “more stringent.” PO’s patents at issue in *J.E.M.* had included highly individualized specifications and extensive comparative data documenting how the patented plants were superior to previous varieties. EX1003, ¶¶157-172. The Office likewise had submitted an amicus curiae brief in *J.E.M.* explaining to the Supreme Court that PO’s patents at issue in *J.E.M.* documented

“*readily identifiable benefits* to farmers.” EX1030 at 28. By contrast, the ’033 Patent includes no comparative data and instead is a near carbon-copy of the prior art Heffner patent disclosing an older “sibling” plant with the same parents. EX1102 (redline). Nothing whatsoever in the record suggested any reason why the corn variety claimed in the ’033 Patent offered any benefits at all as compared to preexisting varieties.

In response, PO never disputed any of the material facts underlying Petitioner’s obviousness challenge. PO conceded that both parental varieties were disclosed in Ross and Carlone, and further that Ross and Carlone touted how those particular inbred lines could be used to create others. PO also conceded that Heffner disclosed an older sibling of the claimed variety obtained by crossing Ross and Carlone. Nor did PO deny that the ’033 Patent’s specification is essentially a carbon copy of Heffner aside from the different deposited seeds corresponding to the different varieties. In particular, PO never disputed that the ’033 Patent “never even acknowledges Heffner—much less disclose anything inventive about repeating the same cross.” Petition at 1

PO instead repeatedly touted such *novelty* of the claimed 1PNZQ23 variety and how it is “*different from*” the Heffner sibling. POPR at 31, 44, 51. PO indeed pointed to Heffner as purported proof why the younger sibling (i.e., the claimed invention) was non-obvious. See POPR at 54 (“Heffner shows that 1PNZQ23

would not have been obvious because Heffner derives from the same initial cross of PH1VKM and PH2DYM, ***but is distinct***, genetically and phenotypically, from 1PNZQ23.”). PO likewise stressed the deposited seed (provided for written description support of the described phenotypes) as the patent’s allegedly “most significant disclosure” and a distinction relative to *Ex parte C*, in which PO falsely asserted “no biological deposit was available to the Examiner.” POPR at 45-46.

In reply, Petitioner explained why PO’s emphasis on the deposit was misplaced because even by PO’s own characterization the deposited seed was merely a non-limiting “exemplary embodiment” (POPR at 43), such that the characteristics of the deposit were at best unclaimed properties and therefore immaterial to the obviousness analysis. Reply at 4-5 (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 24 (1966)). Petitioner also highlighted how “PO’s approach would allow plant breeders to obtain patents as of right any time they cross two parent plants and obtain an inbred child.” Reply at 1.

PO’s sur-reply ***never denied that PO’s proposed approach would allow breeders to obtain utility patents on new inbred lines as a matter of right***. PO simply highlighted “the biological reality that siblings are expected to be different; the unpredictability in corn breeding; the fact that both 1PNZQ23 and Heffner’s PH487D both made it through a rigorous breeding pipeline; and the actual genetic differences between them.” Sur-reply at 7-8. But as Petitioner had explained and

PO never addressed, “differences” between claims and the prior art often “not sufficient to warrant a patent grant. Reply at 2 (quoting *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1363 (Fed. Cir. 2005)). The non-obviousness test under §103—required for utility patents but not PVP certificates (*J.E.M.*, 534 U.S. at 142)—exists because even novel inventions are not worthy of utility patents unless they go beyond the “ordinary innovation” that “is expected in the normal course” (*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007)).

The Board denied institution in a perfunctory decision that adopted PO’s arguments while never addressing what Petitioner had explained and PO never denied: crediting PO’s position would entitle plant breeders to utility patents for *any* new plant variety. The Board likewise ignored the Supreme Court’s admonitions in *Graham*, *KSR*, and *J.E.M.*

Instead, the Board dwelled on the fact that Petitioner’s obviousness analysis had focused on “1PNZQ23’s phenotype” rather than its “genotype.” Paper 15 at 13, 18-19. The Board also reasoned that the relevant corn breeding field was “unpredictable” even though both parents of the claimed variety were known in the prior art. *Id.* at 13-14, 19 (citing POPR at 47 & EX2004, ¶123). While the Board acknowledged that Heffner’s variety PH487D was a full sibling of the claimed variety 1PNZQ23 (i.e., both were “derived from the same initial cross” of the parents), the Board reasoned that there were “genotypic differences between” the

two child varieties. *Id.* at 19 (citing POPR at 55 & EX2004, ¶149). The Board likewise concluded that while Heffner disclosed it could be used as the “starting point to arrive at other inbred lines generally,” Petitioner had not “demonstrate[d] sufficiently how or why a person of ordinary skill in the art would have had a reasonable expectation of success in developing 1PNZQ23, *specifically*.” *Id.* at 19. Finally, the Board distinguished *Ex parte C* given the purported “significance of the biological deposit of the seed recited in claim 1” and the fact that *Ex parte C* had concerned an obviousness rejection rather than a post-grant challenge. *Id.* at 14; *see also id.* at 19 (referring back to earlier discussion of *Ex parte C*).

II. REASONS FOR GRANTING REVIEW

A. The Board’s Obviousness Analysis Raises an Important Legal Question: It Conflates Distinctiveness With Non-Obviousness and Permits Breeders to Obtain Utility Patents as a Matter of Right

In rejecting Petitioner’s obviousness grounds and emphasizing the genetic differences between the claimed 1PNZQ23 variety versus the Heffner prior art even though both were derived from the “same initial cross” of the same two parents, the Board pronounced an impermissible new obviousness standard conflating §103 with §102 and permitting plant breeders to obtain utility patents for *any* new inbred plant provided it satisfies PVP certificate requirements. Such a result is irreconcilable with the Supreme Court’s reasoning in *J.E.M.* that “[i]t is much more difficult to obtain a utility patent for a plant than to obtain a PVP

certificate because” utility patents require a showing of “nonobviousness,” whereas PVP certificates merely require a showing that the plant variety is “new, distinct, uniform, and stable.” *J.E.M.*, 534 U.S. at 142 (citing 7 U.S.C. § 2402(a)). Review is needed to restore §103 as a separate requirement for plant utility claims.

1. The Board’s Reliance on the Realities of Sexual Reproduction Creates an Improper Bright-Line Rule

The distinctiveness requirement for PVP certificates under 7 U.S.C. § 2402(a)(2) requires that the new plant variety be “*clearly distinguishable* from any other variety the existence of which is publicly known or a matter of common knowledge at the time of the filing of the application.” But under the theories proposed by PO and adopted by the Board, such distinctiveness for purposes of PVP protection would dictate a finding of non-obviousness under §103 for purposes of utility patent protection. PO’s expert testified that:

[A]n inbred’s genome is a combination of its parent’s genomes with each parent contributing 50% of its genetic material to F1 that gives rise to the new inbred. And even if both parents and/or a sibling were known to POSAs during this time (as is the case here), without additional information, a POSA still would have no reasonable expectation of success in developing 1PNZQ23 due to the unpredictability of the breeding process (as described in Section II). *Each progeny of an F1 plant is genetically and phenotypically distinct even when the F1 plant itself results from a cross of two inbreds. A POSA would not expect that a cross of the same parents*

will produce F2 or D1 progeny identical to 1PNZQ23. As described above (Section II.A.), the genome of a progeny plant is the result of genetic segregation and recombination in the F1 plant of the two parental genomes and *the chance of the exact same child resulting from that initial biparental inbred cross is infinitesimally small.* So, starting only from the parents (or a sibling), it would not have been obvious for a POSA to have produced 1PNZQ23.

EX2004, ¶123; *see also* POPR at 25 (citing same).

The Board relied on PO’s expert testimony concerning distinctiveness as purportedly evidencing “unpredictability in the breeding process” and “undermin[ing] Petitioner’s arguments regarding an expectation of success in achieving the claimed invention.” Paper 15 at 13-14 (quoting EX2004, §123); *see also id.* at 19 (citing same). The Board likewise cited “evidence suggesting genotypic *differences* between 1PNZQ23 [i.e., the claimed variety] and PH487D [the prior art sibling variety]. Paper 15 at 19 (citing EX2004, ¶149). Such differences were limited to approximately 5% of genotyped genetic markers. EX2004, ¶149; *see also* Paper 15 at 18 (quoting same).

Under the Board’s misguided logic, *any* genetically distinctive new plant variety would necessarily be non-obvious—collapsing the distinction the Supreme Court stressed in *J.E.M.* as between utility patents and PVP certificates. Even if a prior art reference expressly taught combining two particular parental varieties (as the Heffner prior art does here), plant breeders could always make the argument

that PO raised and the Board credited when denying institution: even when breeding the same two inbred varieties multiple times, each progeny will be “genetically and phenotypically” distinct. EX2004, ¶123. If a petitioner actually identified information in the prior art “regarding [the claimed variety’s] genotype” (Paper 15 at 19), such disclosure would anticipate the claim under §102 and also preclude issuance of a PVP certificate given that the plant would not be “new [and] distinct” as required by the PVPA. The end result would contradict the Supreme Court’s admonition that §103 makes “***much more difficult*** to obtain a utility patent for a plant than to obtain a PVP certificate.” *J.E.M.*, 534 U.S. at 142 (emphasis added).

The ostensible “unpredictability” of plant breeding (Paper 15 at 13) is no basis to read §103 out of the Patent Statute as to plant utility claims. Indeed, “a rule of law equating unpredictability to patentability... would mean that any new [inbred line] would be separately patentable.” *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364 (Fed. Cir. 2007) (holding that claims to new salt were obvious even though it was indisputably “unpredictable as to whether a particular salt would form and what its exact properties would be”). But as the Supreme Court made clear in *J.E.M.*, there are situations in which a new plant is sufficiently distinctive for purposes of the PVPA but not inventive for purposes of the Patent Act. The Board’s logic contradicts the Supreme Court’s emphasis that the “overlap”

between utility patent protection and PVP certificates “is only partial.” 534 U.S. at 144. Unless reversed, the Board’s decision would instead lead to complete overlap between utility patents and PVP certificates in the context of plant breeding.

2. The Board’s Logic Contradicts the *Ex parte C* Decision PO Previously Cited to the Supreme Court

The Board’s logic likewise eviscerates the earlier *Ex parte C* decision PO cited to the Supreme Court in *J.E.M.* to stress that §103 has teeth in the particular context of plant utility claims. It also ignores explicit Congressional intent concerning the role of IPRs and PGRs in facilitating “a second look at an earlier administrative grant of a patent.” *Cuozzo Speed Techs. v. Com. for Intell. Prop.*, 579 U.S. 261, 279 (2016).

In nominally distinguishing *Ex parte C*, the Board stressed the purported “biological deposit of the seed recited in claim 1.” Paper 15 at 14. But *Ex parte C* had rejected the plant utility claims in question given the lack of any significant differences in *phenotypic* characteristics—and *despite the applicant’s explicit offer to deposit the claimed seed*. 27 U.S.P.Q.2d at 1492-94. Notwithstanding such offer, nothing in the record suggested that the “differences between the claimed variety and the [prior art varieties] are so significant and unexpected that they should weigh more heavily than the numerous similarities between the claimed variety and the varieties of the cited prior art.” *Id.* at 1497. When finding the *Ex parte C* claims unpatentable, the Board rightly recognized that while claims may

be “distinguishable from the prior art,” often the “differences...are simply not sufficient to warrant a patent grant.” *Freedman*, 420 F.3d at 1363. By contrast, the Board here wrongly dwelled on such differences and wrongly suggested that breeders can overcome *Ex parte C* by writing claims to recite the biological deposit—notwithstanding that by PO’s own admission the deposit is just a non-limiting “exemplary embodiment” (POPR at 43). Non-claimed features are irrelevant to §103 analysis (*Graham*, 383 U.S. at 25) and certainly do not distinguish *Ex parte C*. If the “genotypic properties of maize inbred variety 1PNZQ23” (Paper 15 at 14) were “so vital an element” as PO and the Board suggest, PO would not have “omitted” it from the specification. *Id. Graham*, 383 U.S. at 25.²

² When applicants believe genetic sequences to be important, they themselves can do the work to identify such sequence information and then encompass the sequence information in their claims while disclosing the results under well-established PTO procedures. *See* MPEP §2424. PO has done the same in other contexts. *E.g., Inari Agric., Inc. v. Corteva Agriscience LLC*, PGR2023-00022, Paper 11 (Oct. 13, 2023) (instituting PGR and discussing sequence, which PO’s patent had provided and Petitioner’s PGR thus addressed). But there is no basis for requiring challengers to do such work when patentees themselves have not.

The Board’s only other reason for not following *Ex parte C* was that the earlier decision “addressed an examiner’s rejection of a proposed claim,” whereas in the PGR “Petitioner bears the burden of demonstrating claim 1 is unpatentable as obvious.” Paper 15 at 14. But this is immaterial given that AIA post-grant proceedings require the Board to “**reconsider** whether existing patents satisfy the novelty and nonobviousness requirements for inventions.” *United States v. Arthrex, Inc.*, 594 U.S. 1, 8 (2021). “The primary distinction” as compared to “the initial grant of a patent” is simply that IPRs and PGRs come “after the patent has issued.” *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 584 U.S. 325, 336 (2018). To that end, a third-party requester rather than an examiner demonstrates unpatentability pursuant to the exact “same statutory requirements.” *Id.* Given that Congressional design, Petitioner explained why the claimed variety 1PNZQ23 was unpatentable as obvious for the same reasons the examiner in *Ex parte C* had determined the earlier claimed variety to be unpatentable as obvious. Indeed, both specifications offer “little more detail than would be” expected in PVP certificates and do “not explain the significance in attributes between the novel variety and varieties that are old in the art.” 27 U.S.P.Q.2d at 1493. Yet the Board cited Petitioner’s “burden” as a basis for denying institution—wrongly suggesting that petitioners bear a higher burden than examiners. Not so. Congress expressly commanded that the **same burden** apply both during the initial

consideration of a patent claim and its subsequent reconsideration. §326(e).

B. The Board’s Obviousness Analysis Raises an Important Policy Question: The Board’s Decision Would Perpetuate Patent Thickets that Deter Research and Stifle Competition

Aside from contradicting the Supreme Court’s decision in *J.E.M.* and rendering §103 a dead letter in the context of plant utility claims, the Board’s decision contradicts Executive Order 14036’s mandate that the PTO and USDA collaborate to ensure that the patent system does not “unnecessarily reduce competition in seed... markets beyond that reasonably contemplated by the Patent Act.” 86 Fed. Reg. 36987, 36993 (July 14, 2021). Plant breeders who repeat the same cross of the same two parents—without even disclosing anything surprising or unexpected about the younger child—are engaging in “ordinary innovation,” which if monopolized would “stifle, rather than promote, the progress of useful arts.” *KSR*, 550 U.S. at 427. Breeders who invest such time remain free to pursue PVP certificates, which as the Director has explained “strike a different balance from patents in permitting farmers to save seeds and for plant breeders to engage in continued research on the protected variety.” EX1026, 4; *see also J.E.M.*, 534 U.S. at 143 (“[U]tility patent holders receive greater rights of exclusion than holders of a PVP certificate.”). The public’s freedom to pursue research is particularly critical in the context of the ’033 Patent given PO’s failure to disclose any specific benefits the patented variety offers above and beyond prior art such as Heffner.

Date: December 2, 2024

/Scott A. McKeown /
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CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (E)(4)

I certify that on December 2, 2024, I will cause a copy of the foregoing document, including any exhibits or appendices filed therewith, to be served via electronic mail, as previously consented to by Patent Owner, upon the following:

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