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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT E. MCGOWEN

Appeal 2019-006060
Application 14/996,093
Technology Center 1600

Before JEFFREY N. FREDMAN, ELIZABETH A. LAVIER, and
MICHAEL A. VALEK, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Appellant requests rehearing of the decision entered June 15, 2020 (“Decision”) that affirmed the Examiner’s obviousness rejection under 35 U.S.C. § 103(a) over McGowen ’324¹ and Brinker² and obviousness-type double patenting rejection over McGowen ’484³ and Brinker.

We deny the requested relief.

DISCUSSION

Appellant asserts two specific errors under 37 C.F.R. § 41.52: (1) that the Decision misapprehends the legal standard for establishing a

¹ McGowen ’324, US 2012/0304324 A1, published Nov. 29, 2012.

² Brinker et al., US 2012/0255050 A1, published Oct. 4, 2012.

³ McGowen ’484, US 9,066,484 B2, issued June 30, 2015.

reasonable expectation of success (Req. 2–4); and (2) that the Decision overlooks the overwhelming evidence of record establishing no expectation of success (Req. 4–8). We will address these in order.

Reasonable Expectation of Success – Legal Standard

Appellant asserts:

The Decision misapprehends the applicable standard by boiling the invention down . . . the claimed invention is a single specific cotton variety (cotton variety 14R913B2XF), which has a very specific and well-defined set of agronomic traits that differ significantly from the cited art in at least the following seven performance characteristics: micronaire, fiber length, uniformity index, elongation, fiber maturity ratio, short fiber content, and bolls open percent.

(Req. 2–3). Appellant asserts a requirement “to establish by substantial evidence a reasonable expectation of success in creating a cotton variety that differed from the McGowen variety in all of these traits in the same way” (*id.* at 3). Appellant asserts that the traits “differ significantly” from those found in other cotton varieties (*id.* at 3). Appellant asserts “overwhelming evidence of record shows the inherent unpredictability of plant breeding, clearly indicating that such an expectation would be lacking” (*id.* at 4).

We remain unpersuaded by this argument for several reasons. First, we discussed the legal standard for reasonable expectation of success, noting that:

An “obviousness finding was appropriate where the prior art ‘contained detailed enabling methodology for practicing the claimed invention, a suggestion to modify the prior art to practice the claimed invention, and evidence suggesting that it would be successful.’” *In re Kubin*, 561 F.3d 1351, 1360 (Fed. Cir. 2009) (*citing In re O’Farrell*, 853 F.2d 894, 902 (Fed. Cir. 1988)). *Kubin* stated that “[r]esponding to concerns about uncertainty in the prior art influencing the purported success of the claimed combination, this court [in *O’Farrell*] stated: ‘[o]bviousness does not require absolute predictability of success . . . all that is required

is a reasonable expectation of success.” *Kubin*, 561 F.3d at 1360 (citing *In re O’Farrell*, 853 F.2d at 903–904).

(Dec. 17). Here, the evidence met that standard because, as we explained in the Decision, McGowen ’324 and Brinker provide detailed enabling methodologies, suggestions to modify the prior art, and evidence of successfully generated plants (*see* Dec. 3–6, FF 1–11).

Second, as we noted in the Decision, the evidence of record does not support a finding that the traits relied upon are “significantly different” as argued by Appellant. We noted that “neither the Declarants nor Appellant provides details or explanation of whether the differences disclosed in Table 1 of the M. Butruille Declaration or Table 2 of the Specification were differences of degree or kind” (Dec. 11). Indeed, we noted the “differences shown in Table 1 range from 0.08% change in the fiber length (from 1.18 to 1.19) to a 4% change for elongation (from 9.78 to 9.38)” (Dec. 11). Neither Appellant nor the Declarants identified any real-world impact of these differences that “represent a ‘difference in kind’ that is required to show unexpected results.” *In re Harris*, 409 F.3d 1339, 1344 (Fed. Cir. 2005).

Third, as to the question of whether there would have been a reasonable expectation of success in obtaining these traits, we noted that the prior art both suggests parameters of interest and provides specific guidance on how to use techniques like backcrossing to obtain such traits:

Both Brinker and McGowen ’324 teaches using techniques such as backcrossing to obtain the desirable cotton plants (FF 4, 11). McGowen ’324 specifically suggests optimizing the plants to obtain “desired characteristics include **higher fiber (lint) yield**, earlier maturity, **improved fiber quality**, resistance to diseases and insects, tolerance to drought and heat, and improved agronomic traits” (FF 8; *cf.* FF 7). McGowen ’324 specifically teaches features that may be optimized include “fiber qualities such as strength, fiber length, micronaire, fiber

elongation, uniformity of fiber and amount of fiber” (FF 8).
(Dec. 16). Indeed, while we did not quote the entirety of the McGowen ’324 patent in the Decision, McGowen ’324 evidences that plant breeding is routine to the ordinary artisan and provides extensive discussion of standard techniques for breeding desired traits (*see* McGowen ’324 ¶¶ 34–64).

Appellant provides no evidence that the ordinary artisan would have required more than routine techniques to optimize these well-known traits disclosed in McGowen ’324 as optimizable to match those of the claimed plant. Instead, Appellant wishes to create a *per se* bright line rule that any differences in a plant, however insignificant and however obvious and disclosed in the prior art as optimizable variables, fails to satisfy the reasonable expectation of success requirement unless the prior art actually anticipates and generates the particular plant. As in *POD-NERS*, Appellant “followed normal and well-established agricultural methods and techniques” and did not show any differences that “have any meaningful impact on the properties of the” cotton plants. *In re POD-NERS, LLC*, 337 Fed. Appx. 901, 903 (Fed. Cir. 2009).

Reasonable Expectation of Success – Evidence

Appellant asserts the Decision “fail[s] to articulate how a POSITA could produce the morphological and physiological characteristics of the claimed invention” (Req. 5). Appellant asserts “lack of any articulated motivation as to the direction (increase or decrease in the relevant unit value compared to recurrent parent) of the trait changes observed illustrates the complete lack of predictability a POSITA would face in trying to achieve the claimed invention” (*id.*). Appellant asserts:

(1) the specification discloses numerous other fiber characteristics and other types of traits and any of these could also potentially be modified, with no explanation from the Decision why a POSITA would not seek to alter these, exponentially increasing the number of possible alternatives; (2) there is no accounting for the magnitude of the change, and (3) there is no consideration given for the unpredictability in how the genomic composition of each parent will interact, such as due to epistatic interactions.

(*id.* at 5–6). Appellant similarly cites the D. Buitruille Declaration and the Specification to assert unpredictability (*id.* at 6).

Appellant also asserts the “present case is analogous to the situation in *In re Stepan Co.*, 868 F.3d 1342 (Federal Circuit 2017)” where the court found “the Board failed to articulate why an ordinarily skilled person would have had a reasonable expectation of success in arriving at the claimed invention.” (Req. 7). Appellant further asserts the “Decision fails to address Appellants’ detailed showing that there was a complete lack of any expectation that the cotton variety as claimed could have been produced, as established in the specification teaching and Declarations of Drs. M. Butruille and D. Butruille” (Req. 8).

We find these arguments unpersuasive for several reasons. First, for the reasons given in the Decision, we do not agree that the differences are significant (*see* Dec. 11–15). *See In re Soni*, 54 F.3d 746, 751 (Fed. Cir. 1995) (“Mere improvement in properties does not always suffice to show unexpected results.”) For example, Appellant provides no evidence that a fiber length value of 1.18 meaningfully differs from 1.19, especially with an asserted P value ≤ 0.10 (*see* Marymar Buitrille Decl. 5). In addition, Appellant provides neither reason nor evidence as to why the direction of any of the trait changes are beneficial or evince any secondary consideration.

Here, as discussed above, we do not find that the claimed plant has an unpredictable property, but even if it did, that does not necessarily mandate a finding of unobviousness. *See In re Chupp*, 816 F.2d 643, 646 (Fed. Cir. 1987) (“[T]he mere submission of some evidence that a new compound possesses some unpredictable properties does not require an automatic conclusion of nonobviousness in every case.”)

Second, McGowen ’324 provides detailed guidance on selecting morphological and physiological characteristics, specifically teaching:

for the purpose of developing novel cotton varieties, it will typically be desired to choose those plants which themselves exhibit one or more selected desirable characteristics. Examples of potentially desired characteristics include ***higher fiber (lint) yield***, earlier maturity, ***improved fiber quality***, resistance to diseases and insects, tolerance to drought and heat, and improved agronomic traits.

(Dec. 5; FF 8). McGowen ’324 teaches “[p]opular selection methods commonly include pedigree selection, modified pedigree selection, mass selection, recurrent selection and backcrossing” (Dec. 4; FF 4). Thus, contrary to Appellant’s argument, the prior art directly discloses how to generate plants with desirable qualities as identified by the ordinary artisan.

We are also unpersuaded by Appellant’s appeal to the number of possible obvious changes based on the known parameters because, as explained above and in the Decision, Appellant has not demonstrated that any of the fiber characteristics inherent in the plant of claim 1 evidence an unexpected difference in kind from those exhibited in the prior art. In any claim to a biological material as in the plant here, many different genes may be differentially expressed relative to the closest prior art biological material. To accept Appellant’s argument that any unclaimed difference later measured by Appellant must be more expressly suggested than here, where

McGowen '324 and Brinker specifically suggest optimizing the traits at issue, would vitiate the possibility of obviousness in a case like this where the prior art specifically suggests the combination of traits and optimization of characteristics that yielded the claimed variety. In effect, Appellant maintains that an obviousness rejection can be overcome simply by measuring more and more known properties of a plant, until some threshold of *per se* nonobviousness is attained. We do not agree that the caselaw mandates that an Appellant may overcome an obviousness rejection by continuing to measure multiple known properties⁴ of a plant. *See In re D'Ancicco*, 58 CCPA 1057, 1063–64 (CCPA 1971) (“Whether this difference was ‘striking’ depends, not alone on the numerical ratio of the quantified value of the property being compared, but on the significance of that difference. In this case, there has been no showing that either of the asserted differences between appellants’ foams and the prior art foams is of any practical advantage.”).

We appreciate that in situations where the parameters at issue are unknown, there may be an issue of reasonable expectation of success (*see, e.g., O'Farrell*, 853 F.2d at 903 “[W]here the prior art gave . . . no indication of which parameters were critical.”). However, in the instant situation, McGowen '324 specifically identifies desirable characteristic parameters including those recited in Table 1 of the Marymar Butruille Declaration (*see* Dec. 5; FF 7–8).

We also find Appellant’s reliance on *Stepan* unavailing. In *Stepan*,

⁴ This is particularly true here, where the properties are obvious properties suggested by the prior art of McGowen '324 and Brinker, as discussed in the Decision (*see* Dec. 5).

the court there found the Board did not “articulate why a person of ordinary skill in the art would have had a reasonable expectation of success to formulate the claimed surfactant system with a cloud point above at least 70°C.” *Stepan*, 868 F.3d at 1347. In the current case, McGowen ’324 and Brinker disclose precisely how a person of ordinary skill would proceed, with Brinker teaching that the Mon 88701, Mon 88913, and Mon 15985 events “can be crossed with other transgenic cotton plants to produce a plant having the characteristics of both transgenic parents . . . resulting in a progeny plant or seed that is tolerant to dicamba and glufosinate and has at least one or more additional traits” (Dec. 6; FF 11). McGowen ’324 provides a number of art-recognized methods to obtain desired traits as discussed above, including teaching “during the breeding process, ‘[s]elections were based on lint yield, lint percent, and acceptable fiber qualities’” (Dec. 5; FF 7; *cf.* FF 4, 8). Thus, the prior art discloses precisely how and why the ordinary artisan would proceed in order to obtain a plant with desired tolerances and cotton characteristics. “Obviousness does not require absolute predictability of success . . . *all that is required is a reasonable expectation of success.*” *Kubin*, 561 at 1360.

In the absence of persuasive evidence of unexpected results, as extensively discussed in the Decision (*see* Dec. 8–14), we reiterate that simply measuring routinely optimizable traits that have specific, but obvious, values is insufficient to rebut the Examiner’s reasonable expectation of success. As our reviewing court

and its predecessors have long held . . . even though applicant’s modification [may have] result[ed] in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, unless the claimed

ranges produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art.

In re Huang, 100 F.3d 135, 139 (Fed. Cir. 1996).

CONCLUSION

We have reviewed the Decision in light of Appellant’s request, but we find no point of law or fact which we overlooked or misapprehended in arriving at our decision. Therefore, Appellant’s request is denied.

Outcome of Decision on Rehearing:

Claim	35 U.S.C. §	Basis	Granted	Denied
1-22	103	McGowen '324, Brinker		1-22
1-22	Double Patenting	McGowen '484, Brinker		1-22

Final Outcome of Appeal after Rehearing

Claim	35 U.S.C. §	Basis	Affirmed	Reversed	New Ground
1-22	103	McGowen '324, Brinker	1-22		
1-22	Double Patenting	McGowen '484, Brinker	1-22		

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

REHEARING DENIED