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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HARTMUT LEININGER, JÜRGEN HUFF, ULRICH KARL, ANDREJ BREJC, and SVEN HARMSEN

Appeal 2015-002601[1]
Application 12/304,535[2]
Technology Center 1600

Before DONALD E. ADAMS, KIMBERLY McGRAW, and RACHEL H. TOWNSEND, *Administrative Patent Judges*.

TOWNSEND, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a method and device for protecting tobacco from harmful organisms during storage, which have been rejected as obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

When tobacco leaves are harvested they are "subjected to the stages of curing, fermenting and aging as part of the process of producing tobaccos

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[1] Oral argument from Patent Owner's representative was heard on April 19, 2017.

[2] Appellants identify the Real Party in Interest as BASF AG. (Br. 2.)

suitable for smoking or chewing by humans." (Spec. 1.) "All of these stages require extended storage periods . . . [and] the tobacco leaves have to be protected from pests, specifically from insect pests." (*Id.*) The invention is directed at a method for protecting harvested tobacco against pests.

Claims 10, 11, and 13–25 are on appeal. Claim 10 is representative and reads as follows:

> 10. A method for protecting tobacco from harmful organisms during storage, comprising covering harvested tobacco with a material having a protective activity against harmful organisms, wherein said material is a netting having a mesh size of no greater than 1.5 x 1.5 mm, and wherein said material is treated with a composition comprising:
>
> a. at least one pesticide (component A), and
>
> b. at least one polymeric binder (component B).

(Appeal Br. 12 (Claims App'x).)

The following ground of rejection by the Examiner is before us on review:

Claims 10, 11, and 13–25 under 35 U.S.C. § 103 as unpatentable over Karl[3] and Whitman.[4]

DISCUSSION

The Examiner finds that Karl discloses textile or plastic material impregnated with at least one pesticide and at least one binder. (Final Action 4.) The Examiner further finds that Karl teaches "wrapping the treated fabrics around containers of food and feed (i.e., consumable

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[3] Karl et al., US 2005/0132500 A1, published June 23, 2005.
[4] Whitman US 2,401,997, issued Apr. 7, 1944.

products) which are to be stored." (*Id.* at 6; Ans. 8.) The Examiner recognizes that Karl does not expressly disclose the claim requirement directed to the mesh size of the netting material. (Final Action 4.)

The Examiner finds that Whitman teaches a tobacco cloth that meets the claimed mesh size that would be used to cover tobacco plants. (*Id.* at 5.) Regarding the mesh size, the Examiner notes that the Whitman tobacco cloth has "36 ends (e.g., threads) to the inch." (*Id.*) The Examiner explains how Whitman's "36 ends to the inch" meets Appellants' claimed mesh size of "(no greater than) 1.5 x 1.5 mm" as follows:

> [Appellants'] claimed mesh size is less than (no greater than) 1.5 x 1.5 mm. Thus, the greatest distance between any two threads of the mesh will be 1.5 mm or about 0.059 inches. So using [Appellants'] dimensions and assuming a negligible thread thickness, a space of 0.059 inches will result in about 17 threads (about 16.95) per inch (e.g., 1/17 = 0.588).

(Final Action 7; Ans. 3–5.) The Examiner further explains regarding Whitman's disclosure that:

> [a]ssuming again negligible thickness for each of the thirty-six threads, there would be a maximum distance of 0.0277778 inches [e.g., 1/36 inch] or about 0.705 mm between each of the warp threads. . . .
>
> The weft or picks as disclosed in the reference are 32 to the inch. Assuming negligible thickness, there would be a strand every 32nd (0.03125") of an inch or 0.79375 mm. Thus, this would elicit a fabric having a mesh whose holes would have a dimension of about 0.71 x 0.79 mm. Clearly, this is less than the claimed 1.5 x 1.5 mm mesh size as instantly claimed.

(Final Action 8; *see also* Ans. 5.) The Examiner explains further that the holes of the cloth of Whitman would be "a quarter of the maximum size of a hole in the mesh as claimed (e.g., 0.5069 mm^2 versus 2.25 mm^2)," assuming

the "thickness of any thread is considered negligible." (Final Action 9.) The Examiner further finds, "that were the thickness of the threads not considered negligible, the mesh size of the cloth in the reference would be smaller still." (*Id.*; Ans.4.) The Examiner further finds that Whitman teaches "that other higher mesh sizes may [be] used for the tobacco cloth[]. It is noted that the higher the 'mesh' value, the smaller the pore size." (Final Action 6.)

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to use, with a reasonable expectation of success, the cloth of Whitman in the Karl device and to have coated that netting with at least one pesticide and binder in light of the fact that both Karl and Whitman are "directed to the same purpose, namely the protection of the plants" using porous materials. (*Id.*) Moreover, the Examiner concludes that it would have been obvious to use that impregnated cloth to cover tobacco in light of the teachings of Whitman. (Final Action 6; Ans. 7.)

We agree with the Examiner's factual findings and conclusion that the claimed method and device would have been obvious from the cited prior art.

Appellants' argument that the disclosed "36 ends to the inch" disclosed in Whitman "does not lend itself to a conversion to 'mesh'" does not persuade us that Whitman's disclosure does not teach use of tobacco cloth meeting the requirement that the claimed netting material has "a mesh size of no greater than 1.5 x 1.5 mm." (Br. 5–6.) Nor are we persuaded by Appellants' arguments that "[c]learly, the thickness of the warp and weft threads will impact the size of any openings in the cloth," that the Examiner's "assumption [that the threads of Whitman have negligible

thickness] is in error," and that "Appellants were unable to find any disclosure of thread thickness in Whitman, and thus do not believe it possible to determine the mesh size from Whitman's disclosure of ends per inch." (*Id.* at 6.)

The Specification does not provide a definition of the term "mesh" but does indicate that "the mesh size should be small enough to present an obstacle to the pest." (Spec. 3.) And, as Appellants indicate in their brief on appeal, "mesh" is a measure of "the size of openings." (Br. 6.) Whitman's tobacco cloth that is described as an "open-mesh" woven fabric. (Whitman 3:58–63). Thus, we find that regardless of the fact that the netting is described as having a particular "number of threads present" (Br. 6), it nevertheless, has openings, the maximum size of which was explained in detail by the Examiner. (Final Action 7–8; Ans. 2–5.) The calculation made by the Examiner to establish that Whitman's warp and weft make openings that meet the claimed no greater than 1.5 x 1.5 mm limitation demonstrated that no matter what thickness the thread has, the warp of 36 ends to the inch and weft of 32 ends to the inch would result in openings meeting the claimed limitation. (*Id.*) Appellants do not contest the Examiner's calculations. We agree with the Examiner that regardless of whether Whitman discusses the size of the openings formed in the netting by the warp and weft threads, the netting meets the claimed no greater than 1.5 x 1.5 mm limitation.

Appellants' further argument that the Examiner did not "apply a reference capable of fairly teaching or suggesting a material to cover <u>harvested</u> tobacco during storage" (Br. 7 (emphasis added)), is also not persuasive. The test of obviousness is "whether the teachings of the prior art, taken as a whole, would have made obvious the claimed invention." *In*

re Gorman, 933 F.2d 982, 986 (Fed. Cir. 1991). While it may be that Whitman discloses use of the netting on growing tobacco to protect it against pests, Karl discloses that netting materials that are impregnated with a pesticide and binder can be used to cover goods that are stored (Ans. 7–8; Karl ¶ 68), as Appellants concede (Br. 8). What is more, Karl teaches covering stored goods such as food and feed "thus protecting the material from attack by insects." (Karl ¶ 68.) That Karl does not provide examples of using nets to cover stored goods does not detract from the admitted disclosure that the nets could be so used. A reference is relevant for all it contains. *See, e.g.*, *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989); *In re Lemelson*, 397 F.2d 1006, 1009 (CCPA 1968).

Furthermore, notwithstanding Appellants' contention to the contrary, we find Whitman to be analogous art for "the task of improving the material of Karl for **storage** applications" (Br. 8). Both Whitman and Karl are concerned with preventing insects from harming goods. Moreover, Karl teaches covering stored goods such as food and feed "thus protecting the material from attack by insects." (Karl ¶ 68.) Thus, Karl suggest covering plant material. It is immaterial that Karl's goods are "stored" and Whitman's goods are growing and yet to be harvested. Both are subject to harm from pests.

> Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

In re Clay, 966 F.2d 656, 658–59 (Fed. Cir. 1992). We find Whitman and Karl to be in the same field of endeavor or reasonably pertinent to the same

problem—namely, using netting to cover plant material and protect that material against infestation by pests. *See In re Bigio*, 381 F.3d 1320, 1325–27 (Fed. Cir. 2004) (affirming PTO finding toothbrush art analogous to the applicant's hair brush invention); *Scientific Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1360–61 (Fed. Cir. 2014) (affirming PTO finding references directed to resealable closures for beverage containers that provide fluid tight seals to be reasonably pertinent to the problem of providing fluid tight seals of a low pressure liquid chromatographic cartridge while preserving access to the contents of that cartridge).

We agree with the Examiner that the combined teaching of Whitman and Karl would have suggested using tobacco netting impregnated with a pesticide to cover harvested tobacco during storage. And we disagree with Appellants that the Examiner's rejection relies on "an impermissible degree of hindsight." (Br. 7–8.)

> Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.

In re McLaughlin, 443 F.2d 1392, 1395 (CCPA 1971).

That Karl does not specify that the stored goods are "harvested tobacco" is not dispositive. Karl's teaching indicates that plant material that is stored may be subject to attack by insects and would benefit from being covered by an insecticide impregnated net. Appellants have not provided persuasive argument demonstrating why one of ordinary skill in the art would not consider the use of mesh to protect growing tobacco plants any different from use of a mesh to protect harvested tobacco plants. Nor have

Appellants provided persuasive argument demonstrating why Whitman's tobacco cloth with a mesh size that meets the claimed mesh size and used to cover tobacco plants could not also be used to cover harvested tobacco which is stored and could be attacked by insects when impregnated with insecticide as taught by Karl. Furthermore, "Appellants have provided no evidence which would even suggest that living tobacco [that is outside exposed to nature] is any less susceptible to infestation from insects or other pests than harvested tobacco [which is stored]." (Ans. 6.) That the harmful pests to which harvested tobacco plant and growing tobacco plants may be subjected to might be different is not decisive on the issue of obviousness in light of the fact that Karl teaches the purpose of the insecticide to be applied to a textile material such as netting so as to impregnate that material with the insecticide is to control a wide range of pests. (Karl ¶ 64.)

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). "[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious," the answer depends on "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 417.

Appellants' argument that the Specification provides evidence of unexpected results of the claimed invention (Br. 9) is not persuasive. "To be particularly probative, evidence of unexpected results must establish that there is a difference between the results obtained and those of the closest prior art, and that the difference would not have been expected by one of ordinary skill in the art at the time of the invention." *Bristol-Myers Squibb*

Co. v. Teva Pharms. USA, Inc., 752 F.3d 967, 977 (Fed. Cir. 2014). Appellants' comparison is between treated and untreated netting, whereas the closest prior art, i.e., Karl, teaches netting that is impregnated with a pesticide and binder.

For the foregoing reasons, Appellants do no persuade us that the Examiner erred in rejecting claim 10 for obviousness over Karl and Whitman.

Claims 11 and 13–25 have not been argued separately and, therefore, fall with claim 10. 37 C.F.R. § 41.37(c)(1)(iv).

SUMMARY

We affirm the rejection of claims 10, 11, and 13–25 under 35 U.S.C. § 103 as unpatentable over Karl and Whitman.

TIME PERIOD FOR RESPONSE

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

AFFIRMED