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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES E. STOLLER

Appeal 2018-000904
Application 13/798,851
Technology Center 3700

Before JENNIFER D. BAHR, ANNETTE R. REIMERS, and PAUL J. KORNICZKY, *Administrative Patent Judges*.

REIMERS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 21–23. Claims 1–20 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real part in interest as James E. Stoller. Appeal Brief ("Appeal Br.") 3, filed July 1, 2016.

CLAIMED SUBJECT MATTER

The claimed subject matter relates to a target in sheet form. Spec. ¶¶ 1, 32, Fig. 4. Claim 21 is the sole independent claim.

Claim 21 recites:

> 21. A target which is easily stored yet easily brought into use comprising:
>
> a substrate formed from a print receivable polymer;
>
> the substrate being easily stored yet easily brought into use;
>
> the print receivable polymer being flexible, bendable, and a low density polymer;
>
> the substrate being in sheet form;
>
> the substrate having a target printed thereon;
>
> the target being part of a roll of targets;
>
> *the target being separable from the roll of targets by perforations or a cutting edge*;
>
> the roll of targets being stored in a dispenser;
>
> the target being foldable;
>
> the low density polymer forming the target being a printed sheet of low density polyethylene;
>
> *the sheet form having a thickness in the range of about one mil to about seven mils; and*
>
> *the sheet form having a density in the range of about two grams to about 10 grams for a square meter of the sheet form.*

Appeal Br. 26 (Claims App.) (emphases added).

REJECTIONS[2]

Claims 21–23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McQuary (US 4,247,116, issued. Jan. 27, 1981) in view of Rehfuss (US 398,186, issued Feb. 19, 1889).

ANALYSIS

Appellant does not offer arguments in favor of claims 22 and 23 separate from those presented for claim 21. *See* Appeal Br. 6–24. We select claim 21 as the representative claim, and claims 22 and 23 stand or fall with claim 21. 37 C.F.R. § 41.37(c)(1)(iv).

Claim 21 recites a polyethylene sheet with targets printed thereon, the sheet having: (1) "perforations" and (2) "a thickness in the range of about one mil to about seven mils" and "a density in the range of about two grams to about 10 grams for a square meter." Appeal Br. 26 (Claims App.).

In the Final Office Action, the Examiner finds McQuary teaches a polyethylene sheet with printed targets but lacks perforations. Final Act. 2.[3] Relying on Rehfuss, the Examiner concludes it would have been obvious to modify McQuary's sheet to include perforations since it was known in the art that such perforations facilitate target removal. *Id.*

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[2] Appellant presents additional evidence in the form of five declarations filed under 37 C.F.R. § 1.132. The declarations, each filed on January 27, 2016, include the Declaration of Kerri Lovelace ("Lovelace Declaration"), the Declaration of James Arner ("Arner Declaration"), the Declaration of James Jones ("Jones Declaration"), the Declaration of James E. Stoller ("Stoller Declaration"), and the Declaration of Mathew R. P. Perrone, Jr. ("Perrone Declaration").

[3] Final Office Action ("Final Act."), dated Sept. 23, 2015.

The Examiner also finds McQuary lacks the sheet's claimed thickness and density ranges but concludes that such would have been obvious. Final Act. 2–3; Ans. 2–3.[4] Specifically, the Examiner states:

> [A]bsent a showing of unexpected results it would have been obvious to one of ordinary skill in the art to have used a thickness such as that claimed depending on strength and durability desired in the target material vs. the increased cost of thicker material. . . . As to the specific density of such material, again absent a showing of unexpected results such would obviously have been up to one of ordinary skill in the art depending on the strength and durability desired in the target material. . . . "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456 . . . (CCPA 1955).

Ans. 2–3.

In the Appeal and Reply Briefs, Appellant makes several arguments, which we now address below:

Appellant contends that Rehfuss' sheet material is not equivalent to that of McQuary, rendering these references uncombinable. Appeal Br. 6.

We are not persuaded. Rehfuss is only relied on for its disclosure of perforations for removal of targets from a roll. *See* Final Act. 2 ("Rehfuss [discloses] it is known in the art to provide perforations b' on such target rolls so that targets can be removed from the roll."); *see also* Rehfuss 43–39, Fig. 2. The Examiner merely proposes modifying McQuary's sheet to include perforations for target removal. Final Act. 2; *see also* Ans. 2. As the Examiner explains in the Answer, even if McQuary's sheet material is not identical to that of Rehfuss, McQuary's sheet is still capable of being

[4] Examiner's Answer ("Ans."), dated Oct. 18, 2016.

perforated. Ans. 4; *see also* McQuary 1:51–53 ("The apparatus includes a length of 'perforatable material' having target indicia thereon."). In light of these reasons, Appellant's statements that the McQuary and Rehfuss sheet materials are not the same is not sufficient argument or technical reasoning to persuade us that any differences in sheet materials would render adding perforations to McQuary's sheet improper.

Appellant argues the Examiner's proposed combination fails to teach all the claimed elements, i.e., that neither McQuary nor Rehfuss set out the claimed thickness and density ranges, and durability. Appeal Br. 6–7.

In particular, Appellant argues the Examiner improperly relies on *Aller*, cited in MPEP § 2144.05(II)(A), for the claimed thickness/density ranges in lieu of relying on precise teachings in McQuary or Rehfuss. Appeal Br. 6–7, 19–22. Specifically, Appellant argues that (1) McQuary does not teach the general conditions of the claim, (2) "there is no experimentation set forth anywhere in the application directed toward discovering optimum or workable range," (3) the results were unexpected, and (4) *Aller* is a chemical case and not applicable to a case involving an item of manufacture. *Id.*

"[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Applied Materials, Inc.*, 692 F.3d 1289, 1295 (Fed. Cir. 2012) (quoting *Aller*, 220 F.2d at 456). This rule is largely limited to cases in which the optimized variable was recognized to be a "result-effective variable." *Id.* (quoting *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977)); *see In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable . . . is ordinarily within the

skill of the art."). "The outcome of optimizing a result-effective variable may still be patentable if the claimed ranges are 'critical' and 'produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art.'" *Applied Materials*, 692 F.3d at 1297 (quoting *Aller*, 220 F.2d at 456); *see Antonie*, 559 F.2d at 620.

With this in mind, we address below whether: (1) the general conditions of the claim were disclosed in McQuary, (2) the claimed thickness/density ranges were recognized as optimized result-effective variables discoverable via routine experimentation, (3) the claimed thickness/density ranges are critical and produce unexpected results, and (4) *Aller* is applicable case law to an item of manufacture.

General Conditions Disclosed

We discern no error in the Examiner's position that McQuary's "sheet" thickness and "inherently low density" polyethylene teach the general conditions of the claim with respect to thickness and density. Ans. 3. Appellant has not sufficiently argued or provided technical reasoning as to why McQuary does not teach the general conditions of the claim.

Result-Effective Variable

Here, the question is whether thickness and density were known to affect strength and durability (or other properties) of the sheet material and, thus, are result-effective variables. *Applied Materials*, 692 F.3d at 1297 ("A recognition in the prior art that a property is affected by the variable is sufficient to find the variable result-effective.").

As an initial matter, Appellant does not directly refute the Examiner's determination that thickness and density were known to affect strength and durability. *See, e.g.*, Appeal Br. 7; Ans. 4. "A person of ordinary skill is

also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421(2007). Further, what a reference teaches or suggests must be examined in the context of the knowledge, skill, and reasoning ability of a skilled artisan and is not limited to what a reference specifically "talks about" or what is specifically "mentioned" or "written" in the reference. *Syntex (U.S.A.) LLC v. Apotex, Inc*. 407 F.3d 1371, 1380 (Fed. Cir. 2005). In addition, Appellant's Specification suggests thickness and density were known to affect flexibility, bendability, and durability. For example, the Specification states:

> [A] flexible, bendable, low density polymer is preferred. A high-density polymer tends to burst instead of puncture. . . . This material is in sheet form and generally has a thickness in the range of about one mil to about seven mils. . . . This material in sheet form also generally may have a density in the range of about one gram to about 100 grams for a square meter. . . . *So, soft, more flexible type materials are more suitable than hard and rigid materials*.

Spec. ¶¶ 31–33 (emphasis added).

As seen above, the Specification suggests a person of ordinary skill in the art would understand that reducing density and thickness would result in a softer, more flexible material. At a minimum, we see nothing in the Specification that provides any evidence that the Examiner erred in determining that it was known that thickness and density affect the sheet's physical properties, such as durability, and, thus, are result-effective variables discoverable via routine experimentation.

Regarding Appellant's statement that "no experimentation" is set forth anywhere in the case history (Appeal Br. 19), the Stoller Declaration, in fact, states:

> *Much research* went into the determination of the proper target sheet. The sheet had to be durable, foldable and printable. *After many experiments*, I determined that a sheet having claimed and disclosed density and thickness were vastly superior to any other sheet for use as a target, especially an archery target.

Stoller Declaration ¶ 4 (emphases added).

Thus, contrary to the statement made in the Appeal Brief, the Stoller Declaration actually acknowledges that the claimed thickness/density ranges were determined via experimentation, and does not provide sufficient evidence that the experimentation was anything more than routine.

Criticality

Appellant's Specification does not show any criticality of the sheet material and its thickness/density ranges. On the contrary, the Specification states:

> For the target of this invention, a flexible, bendable, low density polymer is *preferred*. A high-density polymer tends to burst instead of puncture. Thus, low density polymer is *preferred*. An especially *preferred* material is low density polyethylene. . . .
>
> This material is in sheet form and *generally* has a thickness in the range of about one mil to about seven mils. *More preferably*, the thickness is about 2 mils to about six mils. *Most preferably*, the thickness is about two mils to about four mils.
>
> This material in sheet form also *generally may* have a density in the range of about one gram to about 100 grams for a square meter. *More preferably*, the density is about two grams to about 10 grams for a square meter. *Most preferably*, the density is about two grams to about five grams for a square meter. So, soft, more flexible type materials are *more suitable* than hard and rigid materials.

Spec. ¶¶ 31–33 (emphases added).

As seen in the above excerpt from the Specification, Appellant has indicated several times that certain ranges and materials are "preferred" or "more suitable," which suggests that the ranges are *not* critical. Furthermore, the Specification does not provide any indication that the claimed thickness/density ranges achieve an unexpected result. Rather, the Specification discloses changing thickness and density would affect the flexibility of the sheet, which is an expected result.

Applicability of *Aller*

We are not persuaded by Appellant's unsupported assertion that *Aller*, a case involving chemical ranges, would not be applicable in this case, which involves ranges of thickness and density. Appellant's assertion that the legal principle regarding obvious ranges, set forth in *Aller*, cannot be applied in a case involving an item of manufacture is not supported by sufficient evidence or argument. In fact, we note that the "[t]he law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims." *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *see, e.g.*, *Gardner v. TEC Sys., Inc.*, 725 F.2d 1338 (Fed. Cir. 1984); *Boesch*, 617 F.2d 272; *In re Ornitz*, 351 F.2d 1013 (CCPA 1965).

Further, Appellant's argument that the proposed combination lacks the precise claimed ranges and thus the same "printability" and "durability" of the subject invention is not persuasive. *See* Appeal Br. 6–7. The Examiner's position is that an ordinarily skilled artisan would have understood that McQuary's sheet is printable and that modifying the sheet's thickness/density would affect sheet durability. Ans. 2–3; Final Act. 2–3; *see also* McQuary 3:17–18 ("The targets **14** are 'printed' on a plastic sheet

15.”). The Examiner further finds that McQuary’s modified sheet would “react in the same manner,” as the claimed sheet, i.e., has the same durability. Ans. 3. Appellant does not provide persuasive evidence or argument apprising us of Examiner error. Moreover, we note that a particular sheet “durability” is not claimed. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (Limitations not appearing in the claims cannot be relied upon for patentability).

Appellant also generally argues that the Examiner engaged in hindsight reconstruction. Appeal Br. 8.

However, as correctly pointed out by the Examiner,

> [a]ny 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); Ans. 5. Here, the Examiner provides rationales to modify McQuary with perforations and specific thickness and density, i.e., to facilitate target removal and to achieve the desired strength and durability, respectively. Final Act. 2–3. We are not persuaded of error, because Appellant has not made a showing that these rationales were outside of the knowledge within the level of ordinary skill in the art at the time the claimed invention was made or were gleaned only from Appellant’s disclosure.

In addition to the above arguments, Appellant presents evidence contending non-obviousness via the Lovelace, Arner, Jones, Stoller, and Perrone Declarations. *See* Appeal Br. 28 (Evidence App.). Appellant contends that its declarations demonstrate sufficient evidence that the

claimed invention solved a major problem and represented a major improvement in archery targets, was praised by others, solved a long-felt and unmet need, had commercial success, was realized only after much research and testing, and provided unexpected results. *Id.* at 21–24; *see also* Reply Br. 1–3.[5]

We are not persuaded for the following reasons:

As correctly pointed out by the Examiner (Ans. 6), the arguments presented in the Lovelace, Arner, and Jones Declarations appear to be directed to the McQuary and Rehfuss references individually, which are not commensurate with the Examiner's rejection of claim 21 based on the *combined* teachings of McQuary and Rehfuss. *See* Ans. 6 (citing Evidence App. (Lovelace, Arner, Jones Declarations ¶¶ 6–7)). Additionally, the Examiner points out that the Lovelace, Arner, and Jones Declarations offer "opinions with regard to some other target or targets, none of which are identified, and presumably are not those of the references applied against the instant claims." *Id.* The declarations only discuss unspecified prior art *archery* targets instead of the prior art actually applied, the modified McQuary *gun and slingshot* target. By failing to address whether it would have been obvious for a skilled artisan to modify McQuary's gun target to have perforations and the claimed ranges, these declarations are insufficient.

In addition, we do not give significant weight to the evidence regarding praise by others in the Lovelace, Arner, and Jones Declarations. Although the declarants claim to be experts in the field of archery recreation, hunting, and instruction (*see e.g.*, Lovelace Declaration ¶ 2), it is not evident

[5] Reply Brief ("Reply Br."), filed Nov. 16, 2016.

whether the declarants are familiar with gun and sling shot type targets, such as in McQuary.

Moreover, to the extent that the Lovelace, Arner, and Jones Declarations evince recognition of a problem, these declarations do not provide sufficient evidence of a long-felt but unsolved need for a target having polyethylene sheets having perforations and the claimed thickness and density. Furthermore, there is no evidence of any prior unsuccessful attempts to manufacture a polyethylene target having the perforations or claimed ranges.

As to the invention's commercial success, the Stoller Declaration states that many units had been or will be sold, but provides no indication of whether this represents a substantial quantity in the relevant market. Stoller Declaration ¶¶ 5–10. Evidence related solely to the number of units sold provides a very weak showing of commercial success. *See In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996). Furthermore, it is well established that "[e]vidence of commercial success . . . is only significant if there is a nexus between the claimed invention and the commercial success." *Galderma Labs., L.P. v. Toulmar, Inc.*, 737 F.3d 731, 740 (Fed. Cir. 2013) (quoting *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006)). Here, the Stoller Declaration does not provide sufficient evidence that "the sales were a direct result of the unique characteristics of the claimed invention—as opposed to other economic and commercial factors unrelated to the quality of the patented subject matter." *Applied Materials*, 692 F.3d at 1299–1300; Stoller Declaration ¶¶ 5–10.

Regarding the Stoller Declaration's statement that much research and testing was required to realize the invention, as discussed above, Appellant's

statements that "much research" and "many experiments" were conducted do not provide sufficient evidence that the experimentation was non-routine or outside of the skill of the art. Stoller Declaration ¶ 4.

Lastly, as to the Perrone Declaration, we agree with the Examiner that the anecdote of a patent examiner's recognition and handling of unexpected results in another case is of little relevance to the case before us. *See* Ans. 8. The weight to be given any objective evidence is made on a case-by-case basis. The mere fact that another applicant has presented sufficient evidence of unexpected results in another case does not mean that the evidence presented here is dispositive of the issue of obviousness in the case at hand.

Having considered all the evidence presented by Appellant against obviousness and weighing such evidence anew, we discern no error in the Examiner's analysis and reasoning on the issue of objective indicia of non-obviousness. As such, Appellant has not overcome the prima facie case of obviousness. *See In re Fenton*, 451 F.2d 640, 643 (CCPA 1971) (the court balanced the Office's case against the strength of Appellant's indicia of non-obviousness.).

Accordingly, for the foregoing reasons, we sustain the Examiner's rejection of claim 21 as unpatentable over McQuary and Rehfuss, and further sustain the rejection of claims 22 and 23, which fall with claim 21.

DECISION

We AFFIRM the decision of the Examiner to reject claims 21–23 as unpatentable over McQuary and Rehfuss.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED