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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YONGXING QUI, MANAL M. GABRIEL, XINMING QIAN,
and JOHN MARTIN LALLY

Appeal 2015-003372
Application 13/847,164
Technology Center 1600

Before DEMETRA J. MILLS, ERIC B. GRIMES, and
TAWEN CHANG, *Administrative Patent Judges*.

MILLS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134. The Examiner has rejected the claims for obviousness. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF CASE

According to the Specification, “[t]he present invention generally relates to methods for making an antimicrobial medical device having silver nano-particles distributed therein and to an antimicrobial medical device made therefrom.” Spec. 1. The medical device is particularly indicated to be a contact lens. *Id.*

The following claim is representative.

33. An antimicrobial ophthalmic device, comprising: a polymer matrix, silver-nanoparticles distributed therein and at least one pigment distributed therein, wherein the polymer matrix includes a polysiloxane unit, has a high oxygen permeability characterized by a D_k greater than 60 barrers and a high ion permeability characterized by an ionoflux diffusion coefficient of great than 6.0×10^{-4} mm²/min, and comprises a water content of at least 15 weight percent when fully hydrated, wherein the antimicrobial medical device exhibit at least a 5-fold reduction (>80% inhibition) of viable microorganisms, and wherein the pigment compensates the yellowish color of the silver nano-particle.

Cited References

Vanderlaan	US 2002/0197299 A1	Dec. 26, 2002
Aguado	US 2003/0008154 A1	Jan. 9, 2003
Rathore	US 2004/0151755 A1	Aug. 5, 2004

Yukihide Shiraishi et al., *pH-dependent color change of colloidal dispersions of gold nanoclusters: Effect of stabilizer*, Eur. Phys. J. E 8, 377–383 (2002) (“Shiraishi”).

Grounds of Rejections

1. Claims 33–41 and 43 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vanderlaan, Shiraishi, and Aguado.

2. Claims 33–41 and 43 are rejected under 35 U.S.C. §103(a) as being unpatentable over Rathore, Shiraishi, and Aguado.

FINDINGS OF FACT

The Examiner’s findings of fact are set forth in the Final Action, at pages 3–12.

PRINCIPLES OF LAW

In making our determination, we apply the preponderance of the evidence standard. *See, e.g., Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

When the examiner has required the applicant to elect single chemical species for examination, the issue on appeal is the patentability of the single elected species, it is appropriate to limit discussion to that single issue and take no position respecting the patentability of the broader generic claims, including the remaining, non-elected species. *See Ex parte Ohsaka*, 2 USPQ2d 1461 (Bd. Pat. App. Int. 1987).

“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).

ANALYSIS

Rejection 1- Vanderlaan, Shiraishi, and Aguado

Applicants have elected a) **TRIS** (tristrimethylsilyloxypropyl methacrylate) as the siloxane containing monomer, b) **Macromer B-Lotrafilcon A** as the siloxane containing macromere, c) Aguado as

the type of vinylic and hydrophilic monomer, d) **polyacrylic acid (PA)** as the stabilizer, and e) **phthalocyanine blue** as the pigment.

Final Act. 4. We limit our discussion to the elected species and take no position with respect to the patentability of the broader generic claims, including the remaining, non-elected species.

We agree with the Examiner's fact finding, statement of the rejection and responses to Appellants' arguments as set forth in the Final Action and Answer. We find that the Examiner has provided evidence to support a prima facie case of obviousness. We provide the following additional comment to the Examiner's argument set forth in the Final Rejection and Answer. Appellants do not argue the claims separately, therefore we select claim 33 as representative.

Appellants argue that the Examiner has not set forth a prima facie case of obviousness because the prior art does not suggest all the claim limitations. App. Br. 4. In particular, Appellants argue that the cited prior art does "not disclose or suggest 'the yellowish color of the silver nano-particle[.]' Furthermore, the cited references, alone or combination, do not disclose or suggest 'wherein the pigment compensates the yellowish color of the silver nano-particle' as recited in the claim 33." App. Br. 4.

The Examiner responds, arguing:

The Board[']s attention is directed to the fact that Appellants acknowledge that silver nano-particles have a characteristic yellowish color, (see Brief at page 4, and Appellants' specification at page 47, lines 15-17, page 48, lines 25-26, page 57, lines 15-19 and page 59, lines 17-18).

...

Furthermore, the instant claims require silver nano-particles. Thus metallic silver is not excluded from the currently claimed silver. The Examiner further submits that Appellants

are attributing the yellowish color as being a property or characteristic of silver nanoparticles (see Brief at page 4, and Appellants' specification at page 47, lines 15-17, page 48, lines 25-26, page 57, lines 15-19 and page 59, lines 17-18). As discussed above, Vanderlaan does in fact teach silver nanoparticles. Thus, the silver nanoparticles of Vanderlaan would necessarily have the yellowish color. Appellants are reminded that the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer.[] *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

Ans. 4-5. We find that the Examiner has the better argument. "From the standpoint of patent law, a compound and all of its properties are inseparable; they are one and the same thing." *In re Papesch*, 315 F.2d 381, 391 (CCPA 1963). Appellants do not identify any structural difference between the silver nanoparticles claimed and those of Vanderlaan. Therefore, we agree that the Examiner has established a prima facie case that the silver nanoparticles of Vanderlaan possess the property of yellowish color.

Appellants argue that, "Metallic silver used by Vanderlaan et al is not a nanoparticle" App. Br. 4. The Examiner responds by arguing that:

Appellants' remarks regarding the size of the silver particles are considered unpersuasive because the silver taught by Vanderlaan can in fact comprise nanosized ranges (e.g., nanosized powder per paragraph 0010 and paragraph 0022, Table 1, paragraph 0028, 0031, 0035-0036, 0038 and paragraph 0039 which all teach nanosized silver). Furthermore, the instant claims require silver nano-particles. Thus metallic silver is not excluded from the currently claimed silver.

Ans. 5. We find that the Examiner has provided evidence in Vanderlaan of nanosized particles and silver nanoparticles. Final Act. 4.

The Examiner relies on Aguado as teaching “the tinting of contact lens and that copper phthalocyanine [also known as phthalocyanine blue, Final Act. 6] can be used to create a light blue edge-to-edge visibility tint on the lens to facilitate handling of the lenses.” Final Act. 10.

Appellants argue that the cited prior art fails to disclose that “the pigment compensates the yellowish color of the silver nano-particle” as recited in the claim 33.” App. Br. 4.

The Examiner responds that:

In the instant case, there is sufficient motivation provided by Aguado [sic] to create a light blue edge-to-edge visibility tint on the contact lens with copper phthalocyanine (phthalocyanine blue) dye in order to facilitate handling of the lens (see paragraph 0204 of Aguado [sic]). Although Aguado [sic] provides a different motivation than Appellants’ for using the blue dye (e.g., tinting the lens versus compensating the yellow color of the nanoparticle), it is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant (e.g., that the pigment compensates for the yellowish color of the silver nanoparticles).

Ans. 6. We are not persuaded by Appellants’ argument. It is well settled that the motivation to combine references does not have to be identical to the applicants’ to establish obviousness. *In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996). Both Vanderlaan and Aguado are directed to contact lenses and methods of making contact lenses, and are reasonably pertinent both to Appellants’ field of endeavor, and to that of each other. The Examiner has

provided a reason to combine Vanderlaan with Aguado, stemming from the art. The Examiner concluded that:

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to tint the lens of Vanderlaan with copper phthalocyanine to provide a bluish tint in the lens. One of ordinary skill in the art would have been motivated to tint the lens blue with copper phthalocyanine to create the lens with blue edges such that the user can easily see and handle the lenses.

Final Act. 6–7. Appellants point to no specific error in the Examiner’s *prima facie* case, and provide no evidence to rebut the Examiner’s acceptable rationale, motivation or reason to combine the cited references. Rejection 1 is affirmed for the reasons of record.

Rejection 2 – Rathore, Shiraishi, and Aguado

We agree with the Examiner’s fact finding, statement of the rejection and responses to Appellants’ arguments as set forth in the Final Action and Answer. We find that the Examiner has provided evidence to support a *prima facie* case of obviousness. We provide the following additional comment to the Examiner’s argument set forth in the Final Rejection and Answer. Appellants do not argue the claims separately, therefore we select claim 33 as representative.

Appellants argue that:

A person skilled in the art looks at Rathore et al as a whole would not add silver-nanoparticles to the lenses because it teaches the diameter of the silver releasing compound be less than about ten microns (10 μm), more preferably less than about 5 μm , most preferably equal to or less than about 200 nm. That is why Rathore et al is totally silent about the color of silver releasing compound, let alone discloses the yellowish color of the silver nano-particle. Silver

releasing compound used by Rathore et al may be not a nanoparticle and therefore, it does not possess yellow color.

App. Br. 6. The Examiner contends that:

Appellants' remarks regarding the size of the silver particles in Rathore are considered unpersuasive because the silver releasing compound of Rathore can in fact include silver nanoparticles as paragraph 0030 teaches particle sizes of about 200nm. (see paragraph 0029-0030). Appellants disclose that "Silver nanoparticles" refer to particles which is made essentially of silver (Ag) and have a size of less than 1 micrometer (specification at page 9, lines 11-12).

Ans. 9. We are not persuaded by Appellants' argument as Rathore teaches silver nanoparticles, as claimed. Appellants further argue that Rathore is silent as to the color of the silver nano-particles. App. Br. 6. For the reasons provided with respect to Rejection 1, we find the yellow color of the silver nanoparticles is an inherent property of them. No evidence has been provided that the yellow color of the silver nanoparticles is not an inherent property of them. In any event, Aguado provides sufficient reason to add phthalocyanine blue to contact lenses in order to facilitate handling them.

Rejection 2 is affirmed for the reasons of record.

CONCLUSION OF LAW

The cited references support the Examiner's obviousness rejections, which are affirmed. The Decision is limited to the elected species and we take no position with respect to the patentability of the broader generic claims, including the remaining, non-elected species. All pending and rejected claims fall.

Appeal 2015-003372
Serial 13/847,164

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

AFFIRMED