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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RANDALL WAGNER and KURT P. SCHOECKERT

Appeal 2019-001263
Application 13/277,912
Technology Center 2800

Before GEORGIANNA W. BRADEN, MONTÉ T. SQUIRE, and
SHELDON M. McGEE, *Administrative Patent Judges*.

SQUIRE, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellants² appeal under 35 U.S.C. § 134(a) from the Examiner’s decision to finally reject claims 5, 6, and 21–25, which are all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ In explaining our Decision, we refer to the Specification filed Oct. 20, 2011 (“Spec.”); Final Office Action dated Oct. 6, 2017 (“Final Act.”); Appeal Brief filed June 6, 2018 (“Br.”); and Examiner’s Answer dated Sept. 28, 2018 (“Ans.”). There is no reply brief.

² We use the word “Appellants” to refer to “Applicants” as defined in 37 C.F.R. § 1.42(a). Appellants identify GemEx Systems, Inc. as the real party in interest. Br. 2.

The Claimed Subject Matter

Appellants' disclosure relates to a gemstone positioning and analysis system for measuring various characteristics of a gemstone. Spec. ¶ 5; Abstract. Claim 21 is illustrative of the claimed subject matter on appeal and is reproduced below from the Claims Appendix to the Appeal Brief:

21. A gemstone analysis system for measuring characteristics of a gemstone comprising:

a mounting plate including a centermost point, for supporting the gemstone;

a narrow-band spectrophotometer adapted to measure the light absorbance of the gemstone at a predetermined position on the mounting plate;

a fiber optic connector having a first end attached to the narrow-band spectrophotometer and a second end attached to a probe positioned near the gemstone;

a movable light source adapted to illuminate the gemstone from a plurality of angles; and

an imaging wide-band spectrophotometer adapted to record images of the gemstone without having moved the gemstone from the predetermined position on the mounting plate;

the imaging wide-band spectrophotometer and the narrow-band spectrophotometer further adapted to provide data about the gemstone which has not been moved from the predetermined position during the time between the measuring of the light absorbance by the narrow-band spectrophotometer and the recording of the images by the wide-band spectrophotometer, to a computer system adapted to analyze the data and to output material characteristics of the gemstone.

Claims Appendix (Br. 17) (key disputed claim language italicized and bolded).

The References

The Examiner relies on the following prior art references as evidence in rejecting the claims on appeal:

Yifrach et al. (“Yifrach”)	US 5,118,181	June 2, 1992
Valente et al. (“Valente”)	US 5,615,005	Mar. 25, 1997
Smith et al. (“Smith”)	US 5,883,388	Mar. 16, 1999
Lakowicz et al. (“Lakowicz”)	US 2005/0053974 A1	Mar. 10, 2005
Aggarwal	US 6,980,283 B1	Dec. 27, 2005
Beesley	US 7,557,917 B1	July 7, 2009

The Rejections

On appeal, the Examiner maintains (Ans. 1–2) the following rejections:

1. Claim 21 is rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Valente in view of Yifrach, in further view of Smith (“Rejection 1”). Final Act. 9.

2. Claim 22 is rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Valente in view of Yifrach, in further view of Smith, in further view of Lakowicz (“Rejection 2”). *Id.* at 11.

3. Claim 23 is rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Valente in view of Yifrach, in further view of Smith, in further view of Lakowicz, in further view of Beesley (“Rejection 3”). *Id.*

4. Claims 5 and 24 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Valente in view of Yifrach, in further view of Smith, in further view of Aggarwal (“Rejection 4”). *Id.* at 4.

5. Claims 6 and 25 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Valente in view of Yifrach, in further view of

Smith, in further view of Aggarwal, in further view of Beesley (“Rejection 5”). *Id.* at 8.

OPINION

Rejection 1

The Examiner determines that the combination of Valente, Yifrach, and Smith suggests a gemstone analysis system satisfying all of the limitations of claim 21 and concludes the combination would have rendered claim 21 obvious. Final Act. 9–11. In particular, the Examiner concludes

[a]t the time of the invention, it would have been obvious to one of ordinary skill to combine [] Smith’s narrowband spectrometer and computer system with Valente’s wideband spectrometer to determine the authenticity of a gemstone based upon the detection of a synthetic material.

Id. at 11.

Appellants argue the Examiner’s rejection should be reversed because the Examiner does not explain adequately why a person of ordinary skill in the art would have been motivated to combine the cited art in the manner claimed. Br. 6–8, 12–13. In particular, Appellants argue

no combination of the prior art references cited by the Examiner presents any teaching, suggestion, or motivation to combine a narrow-band spectrophotometer and a wide-band spectrophotometer in the same instrument to conduct both types of processes.

Id. at 7; *see also id.* at 8 (arguing “it would not have been obvious to combine a narrow-band spectrophotometer and a wide-band spectrophotometer within a single instrument so as to permit the identification and authentication processes simultaneously without moving the gemstone between the two processes”).

Relying on the declaration of Randall Wagner (“Wagner Declaration”), Appellants contend a wide-band spectrophotometer requires a substantially different optical setup in comparison to a narrow-band spectrophotometer, which the Examiner acknowledges and agrees (Ans. 4). Appellants further contend none of the cited references indicate any reason to combine these two extremely different types of spectrophotometers. *See* Br. 6–7. Appellants also contend it would require a substantial redesign of one or both of the above systems to combine the narrow-band spectrophotometer of Smith with the wide-band spectrophotometer of Valente. *Id.* at 13.

Appellants’ argument is persuasive because, on the record before us, the Examiner has not established by a preponderance of the evidence that one of ordinary skill in the art would have had reason to combine the teachings of Yifrach, Smith, and Valente to arrive at Appellants’ claimed invention. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (holding that the examiner bears the initial burden of establishing a prima facie case of obviousness).

As Appellants correctly point out (Br. 7–8), the Examiner does not direct us to persuasive evidence or provide an adequate technical reason explaining why one of ordinary skill would have modified Valente’s wide-band spectrophotometer (Valente, Figs. 4–5, 8:10–25, 8:40–65) to include Smith’s narrow-band spectrophotometer (Smith 2:1–8, 3:23–25, 4:65–5:5) within a single instrument³ in the manner claimed. Although

³ We do not agree with the Examiner’s statement that the claims are not limited to one instrument containing the wide-band and narrow-band

Valente describes a wide-band spectrophotometer filter assembly with a range of 400–700 nm and a light source that “generally outputs a very high level of infra-red light (above 700 nm)” (Valente 8:15–18, 8:23–24), a preponderance of the evidence in the present record does not establish that one of ordinary skill would have had reason to modify Valente’s apparatus to include a narrow-band spectrophotometer in the same system, as required by the claim.

Conversely, the Examiner also does not explain adequately why Smith’s disclosure regarding a narrow-band spectrophotometer with “radiation of wavelength substantially in the range 7 μm to 25 μm , preferably 7 μm to 10 μm ” (Smith 2:6–8, 3:24–26) would have led one of ordinary skill to modify Valente’s wide-band spectrophotometer system, as would be required to arrive at the claimed invention. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (requiring “reasoning with some rational underpinning to support the legal conclusion of obviousness”); *see also Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or

spectrophotometers. Ans. 3. The Examiner has not explained how the claims can reasonably be construed to encompass a system where “the wide-band spectrophotometer may be swapped with the narrowband spectrophotometer” in view of the Specification. *See* Spec. 6 (discussing how adding a narrow-band spectrophotometer “allows a user to simultaneously perform the tests of the current system”); Figs. 1, 6 (depicting wide-band spectrophotometer (34) and narrow-band spectrophotometer (50) as separate elements within one instrument).

modifications of prior art to arrive at the claimed invention.”) (emphasis in original).

The Examiner’s assertions that “one of ordinary skill would have detected an outputted spectrum from a gemstone via Valente’s wide band and Smith’s narrowband spectrophotometer to verify whether the gemstone is authentic or not” (Ans. 4) and “it is well known to direct several different detectors towards a sample to obtain different spectral information” (*id.* at 4) are conclusory and, without more, insufficient to sustain the Examiner’s rejection. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (holding that rejections “cannot be sustained by mere conclusory statements”).

The Examiner’s assertion that “one of routine skill in the art would understand different spectral measurement may be taken within a single lab for convenience and efficiency saving time and effort” (Ans. 5) is equally unpersuasive because it, too, is conclusory and the Examiner does not identify persuasive evidence in the record to support it. *Kahn*, 441 F.3d at 988.

Moreover, the Examiner does not provide any findings or discussion regarding the technical feasibility of modifying Valente’s wide-band spectrophotometer to include Smith’s narrow-band spectrophotometer within a single instrument; the impact that would have on the operation of the system; or why one of ordinary skill in the art would have had a reasonable expectation of success in making such modification given substantially different optical setups between the two systems.

We, therefore, cannot sustain the Examiner’s rejection and determination that it would have been obvious to combine the teachings of Valente, Yifrach, and Smith to arrive at the claimed subject matter.

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Accordingly, we reverse the Examiner's rejection of claim 21 under 35 U.S.C. § 103(a) as obvious over the combination of Valente, Yifrach, and Smith.

Rejections 2, 3, 4, and 5

The foregoing deficiencies in the Examiner's analysis and conclusion regarding Rejection 1 and the combination of Valente, Yifrach, and Smith are not remedied by the Examiner's findings regarding the additional references or combination of references cited in support of the second, third, fourth, and fifth grounds of rejection.

Accordingly, we also reverse Rejections 2, 3, 4, and 5.

CONCLUSION

In summary:

Claim(s) Rejected	Basis	Affirmed	Reversed
21	§ 103(a) Valente, Yifrach, Smith		21
22	§ 103(a) Valente, Yifrach, Smith, Lakowicz		22
23	§ 103(a) Valente, Yifrach, Smith, Lakowicz, Beesley		23
5, 24	§ 103(a) Valente, Yifrach, Smith, Aggarwal		5, 24
6, 25	§ 103(a) Valente, Yifrach, Smith, Aggarwal, Beesley		6, 25
Overall Outcome			5, 6, 21–25

REVERSED