UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAVEL G. POLYNKIN, MARK H. GARRETT
and JEFFREY P. WILDE

Appeal No. 2006-2261
Application No. 10/033,549[1]

ON BRIEF

Before HAIRSTON, BARRY and SAADAT, Administrative Patent Judges.
SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-29, 31, 32, 35 and 36. Claims 30, 33, 34, 37 and 38 have been canceled.

We reverse.

BACKGROUND

Appellants' invention is directed to optical spectral monitors and analyzers employing a time-division-multiplexed

[1] Application for patent filed December 27, 2001.

detection scheme which refers to a particular temporal order in which the spectral channels are manipulated and directed onto an optical detector.

Representative independent claim 1 is reproduced below:

1. An optical apparatus, comprising:

a) an input port, providing a multi-wavelength optical signal;

b) a wavelength-disperser that separates said multi-wavelength optical signal by wavelength into multiple spectral channels having a predetermined relative arrangement;

c) an array of beam-manipulating elements positioned to correspond with said spectral channels; and

d) an array of optical detectors, including a plurality of optical detectors each corresponding to a unique one of said spectral channels;

wherein said beam-manipulating elements are individually controllable, so as to be capable of directing spectral channels into said array of optical detectors concurrently and capable of directing spectral channels into said array of optical detectors in a time-division-multiplexed sequence.

The Examiner relies on the following references in rejecting the claims:

Saunderson	3,090,278	May 21, 1963
Tobias	5,483,335	Jan. 9, 1996
Stafford	5,504,575	Apr. 2, 1996
Braun et al. (Braun)	6,177,992	Jan. 23, 2001

Claims 1-11, 32 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stafford and Tobias.

Claims 18-29, 31 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stafford and Tobias in combination with Braun.

Claims 12-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stafford and Tobias in combination with Saunderson.

Rather than reiterate the opposing arguments, reference is made to the briefs and answer for the respective positions of Appellants and the Examiner. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the briefs have not been considered (37 CFR § 41.37(c)(1)(vii)).

OPINION

With respect to the rejection of claims 1-11, 32 and 35 over Stafford and Tobias, Appellants argue that Stafford uses a single detector to detect an individual wavelength or to detect a combination of wavelengths concurrently, but not individually (brief, page 13). Appellants further point out that the sequential approach Stafford takes for detecting combinations of the wavelength spectrum merely detects bands of spectral channels

in a sequential manner instead of detecting each spectral channel concurrently (brief, page 14).

In response, the Examiner asserts that although Stafford uses a single detector and may not be able to detect individual wavelengths concurrently, such features are not present in the claims either (answer, page 12). The Examiner apparently considers the claims to be limited to only "directing the spectral channels into an array of detectors" without reciting detection of the spectral channels (id.). However, the Examiner takes the position that the modified teachings of Stafford still meet the claimed subject matter even if the claims required concurrent detection (id.).

Appellants respond by arguing that the combination of the references still has to teach or suggest combining a parallel detector with a sequential detector to achieve one for both concurrent and sequential detection (reply brief, page 8). Appellants further argue that no objective evidence has been proposed by the Examiner, whether in Stafford or from the knowledge of one of ordinary skill in the art, that would have suggested the use of a microprocessor to perform such arrangement of detection (reply brief, page 9).

As a general proposition, in rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) and In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). A prima facie case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art. See In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993); Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985). In considering the question of the obviousness of the claimed invention in view of the prior art relied upon, the Examiner is expected to make the factual determination set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. See also In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). Such evidence is required in

order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984).

We do not agree with the Examiner's limited interpretation of the claimed arrangement of the detectors to exclude concurrent detection. Not only is the array of optical detectors defined as including a plurality of detectors each corresponding to a unique one of the spectral channels defined by the wavelength disperser, the array of beam-manipulating elements also corresponds each spectral channel to the detector array for detection. Therefore, the fact that the optical detectors receive the beams corresponding to the spectral channels either concurrently or sequentially indicates detection in that manner.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the Examiner's decision on appeal, the Board must necessarily weigh all of the evidence and argument." In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In this case, as discussed by Appellants, Stafford uses a single detector having a linear response over a wide range of wavelengths (col. 5, lines 19-23) by which individual wavelengths or a combination of wavelengths may be detected concurrently (col. 5, lines 24-30). Therefore, we agree with Appellants that

Stafford's detectors, even by using the post-detection software (col. 6, lines 59-66), cannot achieve both concurrent and sequential detection.

With respect to Tobias, we also agree with Appellants (reply brief, page 8) that using array detectors for parallel detection (col. 4, lines 40-50) is not sufficient to suggest using both concurrent and sequential detection. In fact, since Tobias is concerned with detecting simultaneously the whole spectral range of the interest while portions of the spectral components may be extracted using a chopper wheel (col. 5, lines 58-66), there remains no need for modifying the array detector for parallel detection by adding sequential detection to it.

In view of our analysis above, we find that the Examiner has failed to set forth a prima facie case of obviousness because the necessary teachings and suggestions related to directing spectral channels into the array of optical detectors both concurrently and sequentially, as recited in the independent claims is not shown. Accordingly, based on the weight of the evidence and the arguments presented by the Examiner and Appellants, we are constrained to reverse the Examiner's decision and not sustain the 35 U.S.C. § 103 rejection of claims 1-11, 32 and 35 over Stafford and Tobias.

With respect to the rejection of the remaining claims, we note that the Examiner further relies on Braun and Saunderson for the additional features recited in the claims. We observe that claim 18, similar to claims 1, 32 and 36, requires both concurrent and sequential detection. However, the Examiner has not pointed to any convincing rationale for modifying the combination of Stafford and Tobias with the teachings of these references that would have overcome the deficiencies of Stafford and Tobias as discussed above with respect to claims 1, 32 and 36. Accordingly, we do not sustain the 35 U.S.C. § 103 rejection of claims 18-29, 31 and 36 over Stafford, Tobias and Braun, nor of claims 12-17 over Stafford, Tobias and Saunderson.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-29, 31, 32, 35 and 36 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)
LANCE LEONARD BARRY Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
MAHSHID D. SAADAT Administrative Patent Judge	)

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