

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN F. CORSON, ANDREAS N. DORSEL, DEBRA A. SILLMAN and JAYATI GHOSH

Appeal No. 2006-1649
Application No. 10/212,191

ON BRIEF

Before THOMAS, JERRY SMITH, and RUGGIERO, Administrative Patent Judges.
RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-4 and 6-17. Claim 5 has been indicated by the Examiner as containing allowable subject matter subject to being rewritten in independent form.

The disclosed invention relates to the maintaining of the scale factor in an instrument for reading a biopolymer array in which an interrogating light from a laser is scanned across multiple sites on an array package. The signals emitted from respective sites in response to the interrogating light are detected. The interrogating light and detector gain are adjusted

to maintain a constant scale factor in the scanner despite reductions in laser power resulting from laser degradation.

Claim 1 is illustrative of the invention and reads as follows:

1. A method of reducing the effect on scale factor during use of an instrument for reading a biopolymer array when a control point of said instrument is adjusted from a first value to a second value, said method comprising:
 - (a) adjusting said control point from said first value to said second value; and
 - (b) adjusting detector gain of a detector of said instrument in a manner sufficient to reduce an effect on scale factor resulting from said adjustment.

The Examiner relies on the following prior art:

Bengtsson	6,078,390	Jun. 20, 2000
Sandstrom	6,545,758	Apr. 08, 2003
(filed Oct. 05, 2000)		

Steve Lawrence and C. Lee Giles (Lawrence), "Searching the World Wide Web," SCIENCE, vol. 280, 98-100 (April 1998).

Claims 1-4, 6-9, 11-13, and 16 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by Bengtsson. Claims 1, 10, and 17 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Bengtsson in view of Sandstrom. In a separate rejection under 35 U.S.C. § 103(a) claims 1, 8, 12, 14, and 15 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Bengtsson in view of Lawrence.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs¹ and Answer for their respective details.

¹ The Appeal Brief was filed September 6, 2005. In response to the Examiner's Answer mailed December 20, 2005, a Reply Brief was filed February 17, 2006 which was acknowledged and entered by the Examiner as indicated in the communication mailed March 2, 2006.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner, the arguments in support of the rejections, and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the disclosure of Bengtsson fully meets the invention as recited in claims 1-4, 6-9, 11-13, and 16. In addition, with respect to the Examiner's obviousness rejection, we are of the opinion that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in the appealed claims 1, 8, 10, 12, 14, 15, and 17. Accordingly, we affirm.

We consider first the Examiner's 35 U.S.C. § 102(b) rejection of claims 1-4, 6-9, 11-13, and 16 based on Bengtsson. At the outset, we note that it is well settled that anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc.

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v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to independent claim 1, the Examiner indicates (Answer, page 3) how the various limitations are read on the disclosure of Bengtsson. In particular, the Examiner directs attention to the illustration in Figure 1 of Bengtsson as well as the disclosure at various portions of columns 2, 3, and 6 of Bengtsson.

In our view, the Examiner's analysis is sufficiently reasonable that we find that the Examiner has at least satisfied the burden of presenting a prima facie case of anticipation. The burden is, therefore, upon Appellants to come forward with evidence and/or arguments which persuasively rebut the Examiner's prima facie case. 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 and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)].

Appellants' arguments in response assert that the Examiner has not shown how each of the claimed features is present in the disclosure of Bengtsson so as to establish a case of anticipation. In particular, Appellants' arguments focus on the contention that, in contrast to the claimed invention, Bengtsson does not disclose the adjustment of a control point for controlling light passing through a modulator, nor the adjustment of detector gain in response to the control point adjustment. According to Appellants (Brief, pages 8-10; Reply Brief, page 4), the Examiner has improperly equated the control of the amount of power reaching a sample or the control of a laser attenuator with the Appellants claimed control point adjustment.

After reviewing the Bengtsson reference in light of the arguments of record, however, we are in general agreement with the Examiner's position as stated in the Answer. Although Appellants attempt to draw a distinction between the claimed invention and Bengtsson by asserting that the claimed "control point" is "clearly the setting of the modulator through which light passes to reach the sample" (Brief, page 10), we find precisely such a disclosure in Bengtsson. For example, Bengtsson, at column 3, lines 57-67, discloses that, while control of laser power at the source is an alternative control parameter, a clear disclosure of the adjustment of the amount of light passing through a modulator in the form of an attenuator 16, which includes an array of filters and polarizers, is provided.²

We also find to be unpersuasive Appellants' contention (Brief, page 10) that Bengtsson fails to disclose the adjustment of detector gain in response to the adjustment of a control point. As illustrated, for example, at step 416 in Bengtsson's Figure 4 flow chart and described beginning at column 6, line 44 of Bengtsson, the amount of detector gain is adjusted in response to the adjustment of laser power effected through the control of attenuator 16 (Bengtsson, column 7, lines 1-5).

We further find to be without merit Appellants' argument (Reply Brief, pages 4-6) that Bengtsson does not provide for control point adjustment "to reduce an effect on scale factor" as claimed. As described by Bengtsson (column 6, line 49 through column 7, line 9), power attenuation is adjusted to reduce the saturation effect on excited pixels.

² Appellants' specification (page 13, line 24) describes electro-optic modulator (EOM) 110 as a "power attenuator."

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It is apparent to us that the adjustment of detector gain (step 416, Figure 4 of Bengtsson) will reduce the scale factor effect, i.e. the number of signal counts per array sample as defined by Appellants (specification, page 2, lines 27-28), caused by the increase in power, which in previous iterations has caused the pixel data signals to saturate.

Further, we find to be unpersuasive Appellants' attempt (Reply Brief, pages 5 and 6) to distinguish over Bengtsson by calling attention to the fact that Bengtsson's power level and detector gain adjustments are performed in a calibration operation. We find nothing in the language of appealed claim 1 which precludes the claimed adjustment features from being performed during a calibration operation such as performed in Bengtsson.

We also point out that, while Appellants assert (Reply Brief, page 4) that the Examiner has mischaracterized the disclosure of Bengtsson by asserting that Bengtsson discloses a system in which control adjustments are made so that power level remains the same, it is Appellants who have mischaracterized the Examiner's stated position. As set forth at page 3 of the Answer, correctly in our view, it is the "system output level" in Bengtsson which remains at a desired level, not the power level.

In view of the above discussion, since all of the claimed limitations are present in the disclosure of Bengtsson, the Examiner's 35 U.S.C. § 102(b) rejection of independent claim 1, as well as dependent claims 2-4, 6-9, 11-13, and 16 not separately argued by Appellants, is sustained.

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Turning to a consideration of the Examiner's 35 U.S.C. § 103(a) rejections of claims 1, 10, and 17 based on the combination of Bengtsson and Sandstrom, and claims 1, 8, 12, 14, and 15 based on the combination of Bengtsson and Lawrence, we sustain these rejections as well. Appellants' arguments in the Briefs are limited to a reiteration of their arguments made with respect to the alleged deficiencies of Bengtsson in disclosing the claimed control point adjustment feature, which arguments we found to be unpersuasive for all of the reasons discussed supra.

In summary, we have sustained the Examiner's 35 U.S.C. § 102(b) rejection of claims 1-4, 6-9, 11-13, and 16, as well as the 35 U.S.C. § 103(a) rejection of claims 1, 8, 10, 12, 14, 15, and 17. Therefore, the decision of the Examiner rejecting claims 1-4 and 6-17 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv)(effective September 13, 2004).

AFFIRMED

JAMES D. THOMAS)
Administrative Patent Judge)
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) BOARD OF PATENT
JERRY SMITH) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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JOSEPH F. RUGGIERO)
Administrative Patent Judge)

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