

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte CHARLES D. TROUP and HERBERT F. CATTELL

Appeal 2008-4195
Application 10/355,571
Technology Center 1600

Decided: November 4, 2008

Before TONI R. SCHEINER, ERIC GRIMES, and FRANCISCO C. PRATS, *Administrative Patent Judges*.

GRIMES, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a method and apparatus for processing biopolymer arrays. The Examiner has rejected the claims as anticipated. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

BACKGROUND

“Biopolymer arrays such as polynucleotide arrays (for example, DNA or RNA arrays), are known and are used, for example, as diagnostic or

screening tools.” (Spec. 1.) “[T]o reduce per user costs many different users may send their arrays for reading to a same array reader” (*id.* at 1-2).

The Specification discloses “a method of processing chemical arrays” that entails “reading a different array identifier for each array from a tag associated with that array” (*id.* at 2). The results for each array are then saved “in a memory linked with the … identifier for that array” (*id.*). After different communication addresses and particular array identifiers are received, the saved result for the array associated with each array identifier is communicated to the different communication addresses (*id.*).

DISCUSSION

1. CLAIMS

Claims 1-25 are pending and on appeal. Claims 1 and 21 are representative and read as follows:

Claim 1: A method of processing biopolymer arrays, comprising:

(a) reading a different array identifier for each biopolymer array from a tag associated with that array;

(b) reading at least some of the biopolymer arrays and saving results from each read biopolymer array in a memory linked with the read identifier for that array;

(c) receiving different communication addresses and a selection of an array identifier for each communication address;

(d) for at least some of the read biopolymer arrays of step (b), matching the saved results for each array with one of the different communication addresses using the identifier, and transmitting the saved results for those arrays to the matched different communication addresses.

Claim 21: A method of processing data from the reading of biopolymer arrays, comprising:

(a) receiving results from reading each array with a linked read array identifier, and saving each read array result in a memory linked to the array identifier;

(b) receiving different communications addresses and a selection of an array identifier for each communication address;

(c) for at least some of the arrays, matching the saved results for each array with one of the different communication addresses using the identifier, and transmitting the saved results for those arrays to the matched different communication addresses.

2. ANTICIPATION

Claims 1-25 stand rejected under 35 U.S.C. § 102(b) as anticipated by Nova.¹ The Examiner relies on Nova as disclosing “automated drug discovery systems and protocols in which matrices-with-memories serve as the platform on which all manipulations are performed” (Ans. 3).

The Examiner further relies on Nova as disclosing that the matrices “encompass containers such as test tubes and microplates, including the embodiments of packages, chips and arrays” (*id.* at 3-4), and that the “molecules that may be disposed on matrices includes peptide and nucleotide-based oligomer libraries” (*id.* at 4). The Examiner points to a preferred embodiment of Nova that “contain[s] a (i) recording device that includes memories comprised of ... programmable data storage devices ... that can be read remotely and (ii) a matrix ... , which reads on array identifiers as instantly claimed” (*id.*).

The Examiner finds that Nova discloses an “information manager system ... that is in communication with the location of a matrix storage location, correlates the tagged matrices with a user prescribed assay or operation performed on said matrices, and may record the data associated with each individually tagged matrix” (*id.*) The Examiner finds that this

¹ Nova et al., US 6,136,274, Oct. 24, 2000

“system allocates different addresses in computer memory wherein information regarding each distinct array information is stored and further access[ed], which reads on the claimed limitations drawn to receiving different communication addresses and a selection of an array identifier for each communication address” (*id.*).

Appellants argue that Nova does not teach three limitations of claim 1. First, Appellants argue that Nova does not teach “reading a biopolymer array” because Nova actually discloses that tagging matrices with a memory provides “identification of compounds for archival and storage purposes” (App. Br. 11) and because Nova “does not disclose any particular screening methods,” much less the actual “reading of a biopolymer array” (*id.* at 12).

Second, Appellants argue that Nova does not teach “receiving different communication addresses and a selection of an array identifier for each communication address” (App. Br. 12) because “Nova actually discloses that ‘[w]hen matrices-with memories are used for the synthesis of molecules, the memory of each particle is addressed and the identity of the added component is encoded in the memory at … each step’” and “Nova merely discloses that data is stored and then retrieved from the memory of data storage devices” (*id.*, citing Nova at col. 35, ll. 5-8).

Third, Appellants argue that the Examiner’s assertion that “the automated methods and information manager system disclosed by Nova perform” the element of “transmitting the saved results for some of the read arrays to matched different communication addresses” is in error because Nova actually discloses “communication between communication

assemblies and automated systems, and communication between processing units and coordinated systems” (App. Br. 12-14).

We agree with Appellants that the Examiner has not adequately shown that Nova discloses a method meeting all the limitations of claim 1.

Nova discloses

[d]rug discovery units for effecting drug discovery protocols. ... A drug discovery unit provides a means for seamless data tracking between and among the components of the units in which all critical components, including instrumentation and vials ... are associated with memories. The memories provide the means for seamless transfer [of] information to other memories in a unit. The units and protocols, which are automated protocols, or partially automated protocols, rely on the use [of] matrices-with-memories as the platform on which all manipulations are performed and/or as the repository of information that is transferred to other memories as synthesized compounds are processed and screened.

(Nova, col. 4, l. 58 through col. 5, l. 4.)

Nova further discloses that “matrices-with-memories can also be exchanged or circulated between ... groups for further research, with the identifying information being readily accessible via the host computer” (*id.* at col. 40, ll. 11-29; Fig. 26). Nova further discloses “optically coded or electronically tagged libraries of oligonucleotides, peptides, proteins, non-peptide organic molecules, phage display, viruses and cells” (*id.* at col. 19, ll. 54-57), and discloses that “[a]ny assays and reactions known to those of skill can be performed with the matrix-with-memory microreactor or with a container with a memory” (*id.* at col. 38, ll. 9-11).

Thus, as set forth above, Nova is drawn generally to the use of matrices with memories for drug discovery. Although Nova also generally

discloses that arrays comprising various biopolymers are contemplated and that any assay known in the art may be employed, Nova does not specifically disclose screening a biopolymer array.

Further, although Nova generally discloses that computers may be used to track data associated with matrices, Nova does not disclose storing and retrieving the results of screening a biopolymer array. Thus, we find that Nova's disclosure is too general and nonspecific to anticipate claim 1. As stated in *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972), an anticipatory reference under 35 U.S.C. § 102

... must clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.

In our view, the Examiner's finding that Nova discloses the limitations of claim 1 relies on the type of picking, choosing, and combining various disclosures that is foreclosed by *Arkley*. Thus, we agree with Appellants that the Examiner has not adequately shown that Nova discloses an embodiment meeting all the limitations of claim 1 and the rejection of claim 1 as anticipated by Nova is reversed.

With regard to claim 21, Appellants argue that the rejection of claim 21 as anticipated by Nova should be reversed for the same reasons provided for claim 1 (App. Br. 19-20), as discussed above.

Because claim 21 includes limitations that are the same as or similar to those of claim 1 that we find missing from Nova, the rejection of claim 21 as anticipated by Nova is also reversed for the reasons set forth above.

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SUMMARY

The rejection on appeal is not supported by a preponderance of the evidence in the record and is therefore reversed.

REVERSED

Ssc:

AGILENT TECHNOLOGIES, INC.
LEGAL DEPARTMENT, DL429
INTELLECTUAL PROPERTY ADMINISTRATION
P.O. BOX 7599
LOVELAND, CO 80537-0599