

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN SADLER and MICHAEL HOGAN

Appeal 2008-0392
Application 10/252,352
Technology Center 1700

Decided: November 25, 2008

Before BRADLEY R. GARRIS, PETER F. KRATZ, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Primary Examiner's final rejection of claims 1, 2, 5-11, 13-16, 35, 36, 38-42, and 44-51. Claims 4 and 37 are indicated as including allowable subject matter. (App. Br. 6). We have jurisdiction pursuant to 35 U.S.C. § 6.¹

¹ In rendering this decision, we have considered the Appellants' arguments presented in the Brief dated October 25, 2006 and the Reply Brief filed June 18, 2007.

ISSUES ON APPEAL²

Claims 1-2, 5, 7-11, 13-14, 35-36, 38, 40-42, 45, and 48-51 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kercso, U.S. Patent No. 6,132,685 issued on October 17, 2000; claims³ 1-2, 5, 7-11, 13-16, 35-36, 38, 40-42 and 45-47 stand rejected under 35 U.S.C. § 102(e) as anticipated by Stylli, U.S. Patent No. 5,985,214, issued on November 16, 1999; claims⁴ 1-2, 5, 7-8, 10-11, 13-16, 35-36, 38, 40, 42, 45-47, and 49-51 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hanaway, U.S. Patent No. 4,643,879, issued on February 17, 1987; and claims 6, 39, and 44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kercso or Stylli and further in view of Farina, U.S. Patent No. 6,752,967, issued on June 22, 2004.⁵

Appellants' invention is directed to archival and retrieval of sample material, and more particularly to a system and method of storing and retrieving storage elements in a high-density sample archive facility. Claims 1 and 11 are representative of the invention and are reproduced below:

1. An archive comprising:

² For each of the rejections, Appellants have not presented separate arguments for each claim. Any claim not separately argued will stand or fall with the claim selected a representative for the respective rejection. All of Appellants separate arguments have been considered.

³ The Examiner inadvertently included cancelled claims 3, 12 and 43 in the statement of the rejection appearing in the Answer, p. 6..

⁴ The Examiner inadvertently included cancelled claim 43 in the statement of the rejection appearing in the Answer, p. 6.

⁵ The rejection of claims 1, 11, and 42 under 35 U.S.C. § 112, second paragraph, has been withdrawn. (Ans. 2).

a receptacle having a support surface;

a plurality of storage elements arranged in a two dimensional configuration on said support surface, each of said plurality of storage elements operative to carry a plurality of samples in a predetermined spatial relationship, and

a handling apparatus for engaging a targeted one of said plurality of storage elements at a first position in said two dimensional configuration, and for translating said targeted one of said plurality of storage elements between said first position and a desired second position in said archive.

11. An archive comprising:

a receptacle supporting a plurality of storage elements arranged in a two dimensional configuration of stacks, each of said plurality of storage elements being individually addressable and directly accessible, and each of said plurality of storage elements operative to carry a plurality of samples in a predetermined spatial relationship; and

a handling apparatus selectively operative to manipulate a selected stack portion, wherein said selected stack portion includes a targeted one of said plurality of storage elements.

The Specification (Spec. 2-3) describes known archival and retrieval systems as follows:

Conventional commercial storage and retrieval systems usually consist of an array of bins, shelves, or trays mounted in a regular array with some mechanism for retrieving an individual storage element and placing it in a position where a robot or an operator can select samples. Common automated embodiments include:

carousels, in which rows or columns of storage elements are connected in a loop and rotated past a window;
vertical lifts, in which the storage element is embodied in a removable unit located in a rack, and wherein an elevator mechanism removes a selected unit from the rack and translates it to a fixed window for use; and

pigeonholes, generally comprising a planar array of slots, each of which may store one item or storage element.

The Specification discloses “[v]arious robotic or automated devices are known in the art for placing, retrieving, translating, rotating, and otherwise transporting sample carriers or sample carrier receivers.” (Spec. 17).

The Specification discloses “[i]n some embodiments, an archive may comprise a receptacle supporting a plurality of storage elements arranged in a two dimensional configuration of stacks; and a handling apparatus selectively operative to access a targeted one of the plurality of storage elements directly. In other words, no preliminary or intervening handling operations are required to access any targeted storage element in any particular stack. In such an archive, each of the plurality of storage elements may be individually addressable to facilitate the foregoing operation.” (Spec. 4.)

Fig. 4b is reproduced below:

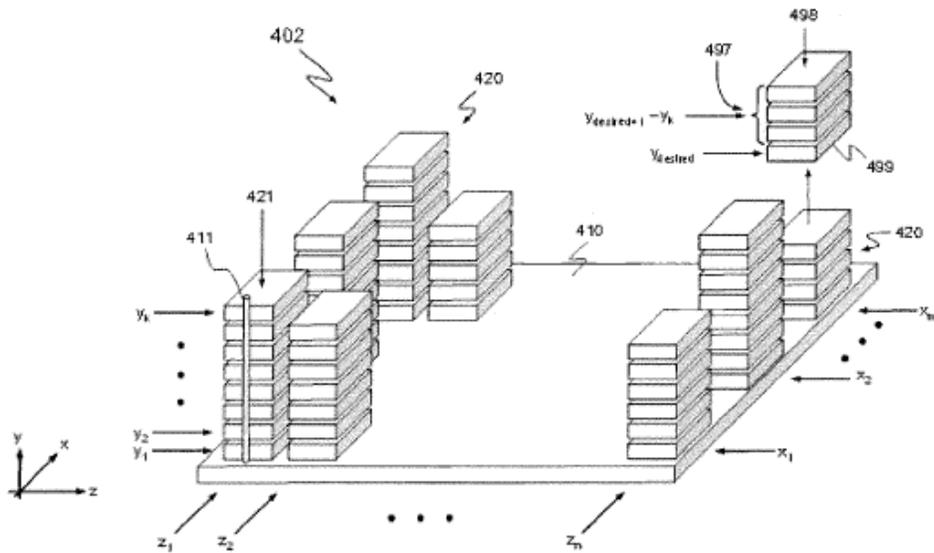


FIG. 4B

The Specification (Spec. 33-34) describes the embodiment of FIG. 4B as follows:

[a] receptacle 402 generally comprises a support surface 410 operative to carry, support, or otherwise to engage a plurality of storage elements 420 in a two dimensional configuration comprising one or more stacks (such as indicated by reference numeral 421) of storage elements 420. Accordingly, storage elements 420 may be arranged in a three dimensional configuration substantially as shown; as noted above with respect to receptacles 401-40n, the specific arrangement, configuration, number, or spatial interrelation of stacks 421 or storage elements 420 may vary in accordance with system requirements, capabilities and limitations of robotic handling apparatus or systems, the size and shape of storage elements 420 or receptacle 402, and so forth. The rectangular embodiment of FIG. 4B is shown and described for simplicity, by way of example only, and not by way of limitation.

OPINION

Claims 1-2, 5, 7-11, 13-14, 35-36, 38, 40-42, 45, and 48-51 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kercso.⁶

The issue presented is: Did Appellants identify reversible error in the Examiner's rejection under § 102? We answer this question in the negative.

Under § 102, anticipation requires that the prior art reference disclose, either expressly or under the principles of inherency, every limitation of the claim. *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986).

The Examiner found that Kercso describes a system comprising a two dimensional configuration of a plurality of storage elements (12), receptacle (16) containing the storage elements in a two dimensional configuration and a handling apparatus for engaging a targeted one of the plurality of storage elements. (Ans. 3-4). Kercso discloses a commercially available down stacker (handling apparatus) is utilized for transitioning the storage elements from the receptacle to the conveyor belt. (Col. 8, ll. 15-22). Kercso also describes a robotic arm (handling apparatus) is capable of moving the storage element in three dimensions. (Col. 9, l. 53 to col. 10, l. 8).

Appellants contend that Kercso is not an archive but a processor and that stacks 16 and 18 and are one-dimensional stacks. (App. Br. 10).

Appellants' arguments are not persuasive. Appellants have not explained

⁶ For this rejection, Appellants have presented separate arguments for claims 1, 11, 13, 14, 35, 41, 42, 48, and 49. Any claim not separately argued will stand or fall with the independent claim (1, 11, 35, and 42) from which it depends.

the distinction between an archive and the apparatus of Kercso. The apparatus of Kercso appears to comprise the components identified in the Specification (pages 2-3) for commercial storage and retrieval systems (i.e., an archive). Kercso's stack of storage elements (12), located in the receptacle (16), are arranged in a two dimensional configuration equivalent to that depicted in FIG. 4B as indicated by reference numeral 421. Appellants have not explained why Kercso's stack of storage elements (12) is different from the stack of storage elements 421 depicted in FIG. 4B.

Regarding claim 1, Appellants contend that Kercso does not describe a receptacle having a support surface as described in the claimed invention. (App. Br. 10-11). The receptacle of Kercso necessarily includes a structure that prevents the two-dimensional stack of storage element (12) from falling directly upon the conveyor belt (14). If there were no support structure present in the receptacle the storage elements would continually be dispensed on the conveyor belt. Moreover, in further support of this determination, Kercso discloses that a commercially available down stacker is utilized to transition the storage elements to and from the receptacle to the conveyor belt. (Col. 8, ll. 15-22).

Regarding claim 49, Appellants contend that Kercso does not disclose addressing storage elements and nothing in Kercso teaches or suggests a unique address for locating a storage position in the two dimensional configuration. (App. Br. 11). Kercso discloses each of the storage elements comprise a barcode on the back edge. (Col. 8, ll. 23-27). The barcode comprises storage element identifiers for the samples and/or test parameters information regarding the samples. Kercso discloses the barcodes on the

storage elements are read at the barcode reader station (22) which is located adjacent to the input stack (16). (Col. 8, ll. 23-30). Appellants have not explained why the position located adjacent to the conveyor belt (which is read by the barcode reader) is not a unique position to the two dimensional configuration.

Regarding claim 11, Appellants contend that Kercso does not teach or suggest individually addressable and directly accessible storage elements. (App. Br. 11). As discussed in the previous paragraph, Kercso discloses the storage elements are individually addressable. That is each of the storage elements comprises barcodes identifiers which are read at the barcode reader station (22) which is located adjacent to the input stack (16). Kercso discloses the storage elements travel on a bidirectional conveyor belt for testing the samples at various stations. (Col. 9, ll. 10-18). Kercso also discloses the use of a robotic arm (44) to access and move the storage elements in three dimensions to various stations. (Col. 9, l. 53 to col. 9, l. 32). The claimed invention does not preclude the direct access to the storage elements from the conveyor belt by the robotic arm after identification by the barcode reader station. Appellants have not identified where Kercso discloses that the storage elements are labeled with the barcode only after dispensing from the input stack.

Regarding claim 13, Appellants contend that Kercso does not describe storage elements that comprise stabilizing elements to prevent movement of the stack storage elements. (App. Br. 12). Appellants' arguments are not persuasive. Appellants do not appear to take into account the storage elements depicted in figure 7. The storage elements as depicted comprise a

base that is wider than the top portion which when stacked on an adjacent storage element would provide stability and prevent movement.

Appellants' arguments regarding claim 14 (App. Br. 12) are not persuasive. The claim language reads on the movement of a single storage element.

Appellants' arguments regarding claims 35, 41, 42, and 48 (App. Br. 13) are not persuasive for the reasons set forth above when discussing claims 1, 11, and 14.

Claims 1-2, 5, 7-11, 13-16, 35-36, 38, 40-42 and 45-47 stand rejected under 35 U.S.C. § 102(e) as anticipated by Stylli.⁷

The issue presented is: Did Appellants identify reversible error in the Examiner's rejection under § 102? We answer this question in the negative.

The Examiner found that Stylli describes a storage and retrieval module that can individually store a plurality of chemicals in solution. (Ans. 7). The Examiner found that Stylli describes storage elements (multiple arrays of wells as plates), which are stacked in two-dimensional configuration. (Ans. 8). The Examiner found that Stylli describes a chemical well retriever (handling apparatus) for engaging a targeted one of the plurality of storage elements (addressable wells) in a predetermined location with specified X and Z coordinates. (Ans. 8; Stylli, cols. 10-11 and 19).

⁷ For this rejection, Appellants not have presented separate arguments for any particular claim. We select claim 1 as representative of the rejected claims for this rejection.

Appellants contend that Stylli does not disclose each and every element of the claims arranged as they are in the claimed invention. (App. Br. 15). Appellants' arguments are not persuasive. Appellants have not explained the distinction between the handling apparatus of Stylli and that of the claimed invention. Appellants contend that Stylli's system utilizes sequential rather than direct access. This argument is not persuasive because it is based upon one of Stylli's preferred embodiments. The apparatus of Stylli appears to comprise the components identified in the Specification (pages 2-3) for commercial storage and retrieval systems (i.e., an archive). Stylli's system employs transporters (handling apparatus) to transport the plate to various stages for processing. (Cols. 18-19). This description appears to be equivalent to the direct access required by the claimed invention.

Claims 1-2, 5, 7-8, 10-11, 13-16, 35-36, 38, 40, 42, 45-47, and 49-51 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hanaway⁸

The issue presented is: Did Appellants identify reversible error in the Examiner's rejection under § 102? We answer this question in the negative.

The Examiner (Ans. 6) found that Hanaway discloses a tower (stack) assembly for supporting a plurality of specimen trays for use in an automated analyzing system. Hanaway utilizes tray towers (11) to store specimen trays (17) that comprises a container tray (storage element) (18) for holding a plurality of specimens and a cover member (20) having pad

⁸ For this rejection, Appellants not have presented separate arguments for any particular claim. We select claim 1 as representative of the rejected claims for this rejection.

portions. The tower assembly includes a system (handling apparatus) (13) that functions to remove the tray container (18) from the tower (11) and move it into the workstation for dispensing reagents into the storage elements. (Hanaway, col. 10).

Appellants' arguments in rebuttal to the rejection over Hanaway are not persuasive. (App. Br. 17-18). Appellants contend that the Examiner's interpretation of Hanaway is flawed. (Reply Br. 3). However Appellants have not adequately explained why the elements described in Hanaway do not anticipate the claimed invention. That is, Appellants have not explained why the elements of tower assembly are not encompassed by the subject matter of claim 1.

Claims 6, 39, and 44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kercso or Stylli and further in view of Farina. We have thoroughly reviewed each of Appellants' arguments for patentability.⁹ However, we are in complete agreement with the Examiner that the claimed subject matter is patentable within the meaning of § 103 in view of the cited prior art.

A claimed invention is unpatentable if the differences between it and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2000); *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1734 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-

⁹ Appellants' arguments are not directed to any specific claim. We will limit our analysis to claim 6 which we select as representative of the rejected claims.

14 (1966). Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations such as evidence of unexpected results. *See Graham v. John Deere Co.*, 383 U.S. at 17-18.

Appellants' arguments in rebuttal to the Examiner's rejection are the same as those that were presented in the discussion of claim 13 over Kercso. (App. Br. 19). Appellants' arguments are not persuasive. As set forth above, Kercso's storage elements as depicted in figure 7 comprise a base that is wider than the top portion which when stacked on an adjacent storage element would provide stability and prevent movement. Consequently, a person of ordinary skill in the art would have reasonably expected that the interlocking features disclosed by Farina would have been suitable for use in the storage elements of Kercso.

Regarding the combination of Stylli and Farina, Appellants have not explained why the stackable aliquot vessel array of Farina would not have been suitable for containing the array of well plates (storage elements) described in Stylli. Appellants contend that Stylli's system utilizes sequential rather than direct access. (App. Br. 19). As set forth above, this argument is not persuasive because it is based upon one of Stylli's preferred embodiments. Stylli's system employs transporters (handling apparatus) to transport the plate to various stages for processing. Appellants have not explained why the stackable aliquot vessel array of Farina would not have been suitable for inclusion in the transport handling apparatus of Stylli.

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For the foregoing reasons and those stated in the Answer, we affirm the appealed rejections.

ORDER

The rejections of claims 1, 2, 5-11, 13-16, 35, 36, 38-42, and 44-51 are affirmed.

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

AFFIRMED

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