THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

This opinion (1) was not written for publication and (2) is not binding precedent of the Board.

Paper No. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROTOSHI MAEGAWA
and HIROYUKI YASUDA

Appeal No. 97-1372
Application No. 08/117,337[1]

ON BRIEF

Before THOMAS, KRASS, and TORCZON, Administrative Patent Judges.

TORCZON, Administrative Patent Judge.

DECISION ON APPEAL

Appellants seek relief under 35 U.S.C. § 134 from the final rejection of claims 2 and 3. Claim 1 has been canceled. Claims 4 and 5 are subject to a restriction requirement and are not before us. We reverse the rejection of claims 2 and 3.

BACKGROUND

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[1] Attorney docket no. KOIK-C9306.

The invention is directed to a data control system for a computer's main memory for storing list-structure data across a real memory space and a virtual memory space. Claims 2 and 3 are as follows (Paper No. 15 (Pre-Amdt. D, 3 Sept. 1993) at 1 and 2):

> 2. A data control system for a computer's main memory for efficiently realizing virtualization of list structure data lying across a real memory space and a virtual memory space, comprising:
>
> a real memory space having nodes linked by pointers, with the pointers being represented by addresses in the real memory space;
>
> a virtual memory space having nodes linked by pointers, with the pointers being represented by addresses in the virtual memory space and addresses to the real memory space, and wherein the nodes in the virtual memory space are referenced to the nodes in the real memory space by indirect pointers represented by addresses of pointers in the real memory space and addresses of pointers in the virtual memory space; and
>
> means for moving the list structure data between the real memory space and the virtual memory space as list structure units.
>
> 3. A data control method for use with a computer's main memory for efficiently realizing virtualization of list structure data lying across a real memory space and a virtual memory space, comprising the steps of:
>
> (a) listing a list structure unit by moving nodes in the real memory space to a work area in the real memory space and then transferring data of the list structure unit from the work area in the real memory space to a work area in the virtual memory space, so that the list structure unit is listed-out to the virtual memory space; and
>
> (b) listing the list structure unit from the virtual memory space to the real memory space.

The examiner relies on the following reference to reject claims 2 and 3 under 35 U.S.C. § 102(b) (Paper No. 24 (Ex. Ans.) at 4):

C.C. Li, P.P. Chen & W.K. Fuchs, Local Concurrent Error Detection and Correction in Data Structures Using Virtual Backpointers, UILU-ENG-87-2264, CSG-73, Univ. of Illinois at Urbana-Champaign, (Oct. 1987) ("Li").

DISCUSSION

Anticipation is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention. In re Spada, 911 F.2d 705, 707, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). Li neither expressly nor inherently discloses moving list structure data between two memory spaces as claimed. Instead, Li is directed to local concurrent error detection (LCED) and local concurrent error correction (LCEC) in linked data structures using virtual backpointers (Li at Abstract). The LCED procedure is invoked to verify moves in a linked data structure (Li at 3). If an error is detected, the LCEC procedure is invoked to correct the error (Li at 3).

The examiner relies on Li's Figure 2 (Li at 12) to teach a virtual memory area (Paper No. 24 at 4). Li shows a virtual double-linked list structure with virtual backpointers for

checking the moves made in a list structure (Li at 10 and 11). The virtual backpointer is a distributed checking symbol (Li at 10). Li discloses checking moves made to get from one data node to the next (Li at 3). Li does not disclose moving list structure data between memory areas.

Both Li and the claimed invention are directed to list-type data structures, but the similarities between Li and the claimed invention end there. The claimed invention is directed to moving list structure data from one memory area to another. Li is directed to checking moves made from one node to another within a list data structure. We find that the examiner has not established anticipation on the record before us.

DECISION

The rejection of all claims on appeal is

REVERSED

JAMES D. THOMAS)
Administrative Patent Judge)
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) BOARD OF PATENT

ERROL A. KRASS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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RICHARD TORCZON	)	
Administrative Patent Judge	)	

cc: Philip M. Shaw, Jr.
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