

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ICHIRO KYUSHIMA and MASAHIRO KAINAGA

Appeal No. 96-1765
Application No. 08/078,630¹

HEARD: May 3, 1999

Before THOMAS, KRASS and RUGGIERO, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 8, all of the claims pending in the application.

¹ Application for patent filed June 16, 1993.

Appeal No. 96-1765
Application No. 08/078,630

The invention is directed to the accessing of a multi-dimensional array during loop processing, converting that array to one that is more easily accessed during loop processing and extracting the required data from the converted array.

Representative independent claim 1 is reproduced as follows:

1. A loop conversion method in an information processing system having a processor and a memory, comprising:

a step performed by said processor, of generating an instruction for accessing data formed of a plurality of source array elements which are arrayed in a plurality of dimensions;

a step performed by said processor of recognizing an accessing process of loop nest within codes containing said instruction;

a step performed by said processor, of transposing and copying the source array elements between at least two positions on different dimensions in said plurality of dimensions, to a one dimensional destination array including at least a continuous array in said memory; and

a step performed by said processor, of converting an access of said instruction to said source array elements to an access to said destination array.

The examiner relies on the following references:

Iwasawa et al. (Iwasawa '606) 23, 1989	4,833,606	May
---	-----------	-----

Appeal No. 96-1765
Application No. 08/078,630

Iwasawa et al. (Iwasawa '991) 5,151,991 Sep.
29, 1992

Claims 1 through 8 stand rejected under 35 U.S.C. § 103
as unpatentable over Iwasawa '991 in view of Iwasawa '606.²

Reference is made to the brief and answer for the
respective positions of appellants and the examiner.

OPINION

At the outset, we note that, in accordance with
appellants' grouping of the claims at page 6 of the brief, all
claims will stand or fall together.

We have carefully reviewed the record before us,
including, inter alia, the arguments of appellants and the
examiner and the evidence provided by the applied references.
As a result of such a review, we have concluded that we will
not sustain the rejection of claims 1 through 8 under 35
U.S.C. § 103 because, in our view, the examiner has failed to
establish a prima facie case of obviousness with regard to the
instant claimed subject matter.

² Rejections under 35 U.S.C. § 112 have been withdrawn by
the examiner and are not before us on appeal.

Appeal No. 96-1765
Application No. 08/078,630

Each of the independent claims requires, inter alia,
...transposing and copying the source array elements
between at least two positions on different
dimensions in said plurality of dimensions, to a one
dimensional destination array including at least a
continuous array in said memory...

The examiner recognized that this claim limitation was
not taught by Iwasawa '991 but relied on Iwasawa '606 to
supply such a teaching. In particular, the examiner relies on
"columns 1-4" [answer-top of page 12] of the reference.
However, it is unclear on what, exactly, in Iwasawa '606 the
examiner relies for this teaching. Our review of the
reference finds no suggestion of the particular claim
recitation produced supra. While both Iwasawa references
recite a "translation," "transformation," and "conversion," it
appears that this refers to the conventional technique of loop
interchange, a technique so recognized by appellants at page 5
of the instant specification.

The techniques employed by the Iwasawa references have no
relation to the "transposing and copying" technique recited in
the instant claims. Neither Iwasawa reference suggests the
transposing of array elements to a one dimensional array

Appeal No. 96-1765
Application No. 08/078,630

including at least a continuous array in memory. The examiner has pointed to nothing which persuades us that the references do, in fact, suggest these claim limitations.

As far as the examiner's reliance on the Inoue reference (U.S. Patent No. 5,274,812) is concerned, if this reference is being relied on for justification of the rejection of the claims, there is no reason for not including the reference in the statement of the rejection. See In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970). Accordingly, we have not considered this reference in rendering our decision.

Appeal No. 96-1765
Application No. 08/078,630

The examiner's decision rejecting claims 1 through 8
under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
ERROL A. KRASS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	

bae

Appeal No. 96-1765
Application No. 08/078,630

Fay, Sharpe, Beall, Fagan, Minnich & McKee
104 East Hume Avenue
Alexandria, VA 22301