

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VOLKER SCHLEHAHN
and KLAUS SCHULTZ

Appeal No. 2000-0572
Application 08/687,643

ON BRIEF

Before ABRAMS, MCQUADE, and NASE, Administrative Patent Judges.

MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Volker Schlehahn et al. appeal from the final rejection of claims 1 through 12, all of the claims pending in the application.

THE INVENTION

The invention relates to an indexing arrangement for facilitating the loading and unloading of a vertically

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adjustable magazine for wafer-shaped objects such as
semiconductor wafers,

templates and masks. Representative claim 1, the sole
independent claim on appeal, reads as follows:

1. In an indexer for magazine shelves of a magazine and wafer-shaped objects contained therein, the magazine and a first handling plane for removing and charging being adjustable vertically relative to one another for the processing of such wafer-shaped objects, having an optoelectronic sensor arrangement for detecting the objects and magazine shelves relative to a reference plane which is in a fixed relationship to the first handling plane, the improvement comprising:

said optoelectronic sensor arrangement having a transmitter and a receiver, and wherein at least a part of the optoelectronic sensor arrangement is designed as a distance measuring system for measuring, within a horizontal plane vertical to a direction of adjustment movement of said magazine, a distance to edges of said wafer-shaped objects and to edges of said magazine shelves relative to said transmitter.

THE PRIOR ART

The references relied on by the examiner as evidence of anticipation and obviousness are:

Foulke et al. (Foulke) 1991	4,983,093	Jan. 8,
Holman et al. (Holman) 1994	5,308,993	May 3,
Mokuo et al. (Mokuo) 1994	5,319,216	Jun. 7,

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Birkner et al., (Birkner)¹ WO 94/20979 Sep. 15,
1994 International Patent Document

THE REJECTIONS

Claims 1 through 12 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter the appellants regard as the invention.

Claims 1 and 12 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Birkner.

Claims 2 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Birkner in view of Holman.

Claims 1 through 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mokuo in view of Foulke.

Claims 6 through 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mokuo in view of Foulke and Birkner.

Attention is directed to the appellants' main and reply briefs (Paper Nos. 16 and 19) and to the examiner's answer (Paper No. 17) for the respective positions of the appellants

¹ Our understanding of the foreign language Birkner reference stems from its English language equivalent, U.S. Patent No. 5,605,428, which is of record.

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and the examiner with regard to the merits of these rejections.²

DISCUSSION

I. Petitionable Matters

The appellants have raised as issues in this appeal the 37 CFR § 1.83(a) objection to the drawings set forth in the final rejection (Paper No. 9) and the examiner's refusal to enter the amendment (Paper No. 13) filed subsequent to final rejection on April 7, 1999 (see pages 3, 5 and 13 in the main brief). These matters, however, are not directly connected with the merits of issues involving a rejection of claims, and therefore are reviewable by petition to the Commissioner rather than by appeal to this Board. See In re Hengehold, 440 F.2d 1395, 1403-04, 169 USPQ 473, 479 (CCPA 1971). Hence, neither will be reviewed or further discussed in this decision.

II. The 35 U.S.C. § 112, second paragraph, rejection

² In the final rejection (Paper No. 9), claims 1, 3 and 11 also stood rejected under 35 U.S.C. § 103(a) as being unpatentable over Foulke. Upon reconsideration (see page 2 in the answer), the examiner has withdrawn this rejection.

The explanation of this rejection (see page 3 in the answer) indicates that the examiner considers claims 1 through 12 to be indefinite due to (1) an unclear use of the terms "vertical" in claim 1 and "successively" in claim 2, (2) redundant recitations of the transmitter and receiver in claims 2 through 11, and (3) inconsistencies between claims 3 through 10 and the drawings. The appellants (see pages 12 and 13 in the main brief) dispute the examiner's position only to the extent of arguing that the term "vertical" in claim 1 is sufficiently clear based on the examiner's assumption (with which the appellants agree) that it means --perpendicular--. The examiner, however, would not find it necessary to make such a strained interpretation if the use of "vertical" in claim 1 made sense. It does not. In this light, and since the appellants have not challenged the rest of the examiner's reasoning, we shall sustain the standing 35 U.S.C. § 112, second paragraph, rejection of claims 1 through 12.

III. The 35 U.S.C. § 102(a) and 35 U.S.C. § 103(a) rejections

As framed by the appellants, the dispositive issue with respect to the prior art rejections is whether the references respectively applied in each rejection teach or would have

suggested an indexer meeting the limitation in claim 1 requiring at least a part of the optoelectronic sensor arrangement to be designed as a distance measuring system for measuring within a horizontal plane a distance to edges of the wafer-shaped objects and to edges of the magazine shelves relative to the transmitter. The appellants' position that the references fall short in this regard is well taken.

Birkner discloses an indexer having much in common with the indexer set forth in claim 1 including a vertically adjustable magazine 11 having compartments or shelves 12 for wafer-shaped objects 13, a first handling plane H-H for removing and charging the wafer-shaped objects, and an optoelectronic sensor arrangement including a transmitter 7 and a receiver 8 for detecting the wafer-shaped objects and magazine shelves relative to a reference plane E-E which is fixed relative to the first handling plane.

A fair reading of the Birkner reference clearly indicates that the distances measured by the optoelectronic sensor arrangement are vertical distances (i.e., in the Z direction as shown in Figures 1 and 4) between respective magazine

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shelves and/or wafer-shaped objects. The examiner's finding (see pages 3 and 4 in the answer) that Birkner's optoelectronic sensor arrangement measures within a horizontal plane a distance to the edges of the wafer-shaped objects and magazine shelves relative to the transmitter as recited in claim 1 is completely lacking in factual support.

Accordingly, we shall not sustain the standing 35 U.S.C. § 102(a) rejection of claim 1 and dependent claim 12 as being anticipated by Birkner.

Holman discloses a wafer cassette mapper "in which a single light transmitter/receiver module is employed to provide information indicating the presence or absence of a wafer in each slot of the wafer cassette, as well as information indicating a cross slotted condition" (column 2, lines 51 through 55).

Inasmuch as the Holman mapper does not cure the foregoing flaw in Birkner with respect to the subject matter recited in parent claim 1, we shall not sustain the standing 35 U.S.C.

§ 103(a) rejection of dependent claims 2 and 11 as being unpatentable over Birkner in view of Holman.

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Mokuo discloses a device 500 for sensing the position of wafers W supported by grooves or shelves 199 in a vertically adjustable cassette 124. The device includes a pair of light emitting sections 513 and a pair of light receiving sections 517 for determining the vertical positions of the wafers as the magazine moves up and down (see column 14, lines 19 through 62).

Here again, the examiner's determination (see page 4 in the answer) that Mokuo's sensor arrangement measures within a horizontal plane a distance to edges of wafer-shaped objects relative to a transmitter as recited in claim 1 has no factual basis.

As Foulke, which discloses a wafer-handling paddle 42 having an optical system for measuring the locations of slots in an empty quartz boat (see column 8, line 14 et seq.), and Birkner do not cure the above noted deficiency of Mokuo with respect to the subject matter recited in claim 1, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1 through 5 as being unpatentable over Mokuo in view of Foulke or the standing 35 U.S.C. § 103(a) rejection of claims 6 through 10 as being unpatentable over Mokuo in view of Foulke and Birkner.

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SUMMARY

Since at least one rejection of each of claims 1 through 12 is sustained, the decision of the examiner to reject these claims is affirmed.

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

AFFIRMED

NEAL E. ABRAMS)	
Administrative Patent Judge)	
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JOHN P. MCQUADE)	
Administrative Patent Judge)	INTERFERENCES
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JEFFREY V. NASE)	
Administrative Patent Judge)	

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