

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AVI TEPMAN

Appeal No. 2002-0936
Application 08/946,920

ON BRIEF

Before COHEN, STAAB, and MCQUADE, Administrative Patent Judges.
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Avi Tepman appeals from the final rejection (Paper No. 18) of claims 1, 2 and 4 through 25, all of the claims pending in the application.¹

THE INVENTION

The invention relates to "a robot blade for transferring [integrated circuit] substrates through a processing system while reducing the idle time of the process chamber and the number of

¹ Claims 5, 6, 12 and 18 have been amended subsequent to final rejection.

Appeal No. 2002-0936
Application 09/946,920

strokes to effect substrate transfer" (specification, page 2).

Representative claims 1 and 11 read as follows:

1. An apparatus for transferring objects, comprising:
a robot having at least one actuator to drive at least one arm and a blade mounted to the arm, the blade comprising an upper platform having an upper object supporting surface and a lower platform having a lower object supporting surface, the upper object supporting surface being horizontally offset from the lower object supporting surface and fixed relative to the lower object supporting surface.

11. A method for transferring objects comprising:
a) providing a blade having at least an upper object supporting surface horizontally offset from a lower object supporting surface and fixed relative to the lower object supporting surface;
b) positioning the upper object supporting surface to receive a first object; and
c) positioning the lower object supporting surface to deliver a second object.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Nelson	1,948,592	Feb. 27, 1934
Araki	5,564,889	Oct. 15, 1996

THE REJECTIONS

Claims 1, 2 and 4 through 25 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter the appellant regards as the invention.

Appeal No. 2002-0936
Application 09/946,920

Claims 1, 2, 5 through 12, 16 and 18 through 21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Araki.

Claims 4, 13 through 15, 17 and 22 through 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Araki.

Claims 1, 2, 4 through 6, 10 and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nelson.

Attention is directed to the brief (Paper No. 24) and to the final rejection and answer (Paper Nos. 18 and 25) for the respective positions of the appellant and the examiner regarding the merits of these rejections.²

DISCUSSION

I. The 35 U.S.C. § 112, second paragraph, rejection of claims 1, 2 and 4 through 25

The examiner considers claims 1, 2 and 4 through 25 to be indefinite because:

Re base claim[s] 1, 11, 16, 22 and 25, it is not understood how the platforms are structurally horizontally offset - are the platforms offset laterally with respect to their major longitudinal axes, offset longitudinally with respect to their major axes or what; also, it is not understood as to what portions of the first supporting surfaces are offset from the second supporting surface; further, it is not

² In the final rejection, claims 11 and 12 also stood rejected under 35 U.S.C. § 102(b) as being anticipated by Nelson. As the examiner has not restated this rejection in the answer, we assume that it has been withdrawn (see Ex parte Emm, 118 USPQ 180, 181 (Bd. App. 1957)).

understood how the upper and lower platforms are structurally connected in the absence of connecting means therefore or whether they are integrally formed and connected together. Moreover, while it is claimed that the first object supporting surface is fixed relative to the second object supporting surface, it is not clear whether the first surface moves while the second surface moves (and stays fixed relative to), or whether the first and second surfaces are anchored or what. Furthermore, it is not clear whether the first and second surfaces are parallel to each other, skewed relative to each other, perpendicular to each other or what. Lastly, it is not clear what function is being performed by the claimed first and second supporting surfaces and in what structural environment they operate. Re claims 5, 18 and 6, no structural means has been set forth to bring about the retraction or rotation. Re claim 11, it is not understood where structurally the first surface receives the first object and where the second surface delivers the second object [answer, pages 3 and 4].

None of these concerns is well founded. The "horizontally offset" limitations in independent claims 1, 11, 22 and 25, and the corresponding "horizontally spaced" limitation in independent claim 16, are clear on their face as well as when read, as they are required to be, in light of the detailed explanation and depiction thereof on page 10 in the specification and Figure 3 of the drawings (see horizontal offset distance D2). In addition, the appellants' amendment of claims 5, 6 and 18 subsequent to final rejection to recite "means" for retracting and/or rotating obviates any purported ambiguity due to a lack of structure in these claims. The rest of the examiner's criticisms relate to

Appeal No. 2002-0936
Application 09/946,920

the breadth of the claims. The mere breadth of a claim, however, does not equate to indefiniteness. In re Miller, 441 F.2d 689, 693, 169 USPQ 597, 600 (CCPA 1971).

In light of the foregoing, we shall not sustain the standing 35 U.S.C. § 112, second paragraph, rejection of claims 1, 2 and 4 through 25.

II. The 35 U.S.C. § 102(e) rejection of claims 1, 2, 5 through 12, 16 and 18 through 21 as being anticipated by Araki

Araki discloses a semiconductor wafer treatment unit 12 (see Figure 4) comprising a plurality of treatment sections 30, 32, 34, 36 and 38, and a transfer robot 40 for transferring wafers into and out of the treatment sections. The robot 40 (see Figures 5 and 6) includes a movable pedestal 44, a rotatable and vertically adjustable shaft 46 projecting upwardly from the pedestal, a driving block 48 on the upper end of the shaft, and three horseshoe-shaped, wafer-supporting arms 52, 54 and 56 operatively associated with the driving block. As described by Araki,

[e]ach arm 52, 54 or 56 can perform a horizontal stroke by which it can move to and from a position under a wafer placed in a treatment section. Further, the driving block 48 can perform a vertical stroke which covers the range from a position in which the lowest arm 52 can start the transfer of a wafer, to a position in which the uppermost arm 56 can start to raise a wafer.

Appeal No. 2002-0936
Application 09/946,920

As is shown in FIG. 6, the arms 52, 54 and 56 are connected to driving means, contained in the block 48, via support frames 52a, 54a and 56a, respectively, and can be operated independent of one another. The frame 52a of the arm 52 is inserted in the block 48 through an elongated opening 52b formed in the upper plate of the block. The frame 54a of the arm 54 is inserted in the block 48 through an elongated opening (not shown) formed in a substantial center portion of the left side plate of the block, as is shown in FIGS. 5 and 6. The frame 56a of the arm 56 is inserted in the block 48 through an elongated opening 56b formed in a lower portion of the right side plate of the block, as is shown in FIGS. 5 and 6. A rotary driving mechanism consisting of a stepping motor and a ball screw operable in synchronism therewith, a belt-driven slide mechanism or the like is used as the driving mechanism of the arms 52, 54 and 56 [column 5, lines 22 through 45].

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). The examiner's rather brief analysis as to how Araki discloses each and every element of claims 1, 2, 5 through 12, 16 and 18 through 21 appears on page 4 in the answer.

As indicated above, independent claim 1 requires a blade comprising an upper platform having an upper object supporting surface and a lower platform having a lower object supporting surface with the upper object supporting surface being

Appeal No. 2002-0936
Application 09/946,920

horizontally offset from and fixed relative to the lower object supporting surface, and independent claim 11 requires a blade comprising an upper object supporting surface horizontally offset from and fixed relative to a lower object supporting surface. Independent claim 16 contains similar limitations. According to the examiner, Araki's support frame 56a, arm 54 and arm 52 respectively constitute such a blade, upper platform/supporting surface and lower platform/supporting surface. These findings are clearly flawed, however, because Araki's support frame 56a, arm 54 and arm 52 are separate, distinct and independently movable elements which cannot reasonably be construed as embodying a blade of the sort recited in claims 1, 11 and 16.

Accordingly, we shall not sustain the standing 35 U.S.C. § 102(e) rejection of claims 1, 11 and 16, and dependent claims 2, 5 through 10, 12 and 18 through 21 as being anticipated by Araki.

III. The 35 U.S.C. § 103(a) rejection of claims 4, 13 through 15, 17 and 22 through 25 as being unpatentable over Araki

Independent claims 22 and 25 contain blade limitations similar to those recited in independent claims 1, 11 and 16. For the reasons discussed above, Araki does not meet these limitations. As Araki also would not have suggested an apparatus or method encompassing such a blade, we shall not sustain the

Appeal No. 2002-0936
Application 09/946,920

standing 35 U.S.C. § 103(a) rejection of independent claims 22 and 25, and dependent claims 4, 13 through 15, 17, 23 and 24, as being unpatentable over Araki.

IV. The 35 U.S.C. § 102(b) rejection of claims 1, 2, 4 through 6, 10 and 25 as being anticipated by Nelson

Nelson discloses a cake knife/server. Figure 1 of the reference shows a human hand manipulating this device to cut and serve a piece of cake. In short, the examiner's determination that this drawing illustrates "a human wristed robot" (answer, page 4) meeting all of the robot apparatus limitations in independent claims 1 and 25 is completely without merit.

Accordingly, we shall not sustain the standing 35 U.S.C. § 102(b) rejection of independent claims 1 and 25, and dependent claims 2, 4 through 6 and 10, as being anticipated by Nelson.

SUMMARY

The decision of the examiner to reject claims 1, 2 and 4 through 25 is reversed.

Appeal No. 2002-0936
Application 09/946,920

REVERSED

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
)	
)	BOARD OF PATENT
)	
)	APPEALS AND
LAWRENCE J. STAAB)	
Administrative Patent Judge)	INTERFERENCES
)	
)	
)	
)	
)	
)	
JOHN P. MCQUADE)	
Administrative Patent Judge)	

JPM/kis

Appeal No. 2002-0936
Application 09/946,920

APPLIED MATERIALS, INC.
2881 SCOTT BOULEVARD, M/S 2061
SANTA CLARA, CA 95050