UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PING CHANG, GREGG WALLACE, RUSSELLJ. HILL, CRIS KRONEBERGER, and P, A, JOEL SMITH

Appeal 2008-2029
Application 10/102,351
Technology Center 1700

Decided: November 7, 2008

Before BRADLEY R. GARRIS, PETER F. KRATZ, and CATHERINE Q. TIMM, *Administrative Patent Judges*.

KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-11 and 16-21. We have jurisdiction pursuant to 35 U.S.C. § 6.

STATEMENT OF THE CASE

Appellants' invention is disclosed as being related to a vapor deposition device for physically depositing vaporized material, such as a metal, onto substrates (Spec. ¶¶ 0002 - 0003). The disclosed device includes a planetary system comprising wafer holders, each of which are constructed and arranged to rotate about both a first axis and a second axis (Spec. ¶¶ 0022 - 0025). Each rotation axis passes through a source of vaporization material (¶ 0024). Appellants note "[t]he source 222 contains a material to be evaporated by an electron beam" (Spec. (¶ 0026; Figs. 6 and 7). The device is said to hold wafers in a position for rotation such that orthogonal deposition of vaporized metal can occur on the wafers during the planetary rotation of the wafers and their holders during a metal evaporation and deposition operation (¶¶ 0011- 0013, and 0028). Claims 1, 7, 16, and 18 are illustrative and reproduced below:

1. A device for depositing a coating orthogonal to the surface of one or more wafers and onto a photoresist pattern that may be present upon the surface of the one or more wafers comprising:

one or more domes having a constant radius about a centerpoint, the one or more domes having a first axis of rotation that runs through the centerpoint;

a source material positioned at the centerpoint;

one or more wafers positioned within each of the one or more domes, wherein each dome and the one or more wafers have a second axis of rotation that runs through the centerpoint and through the center of each dome such that a wafer in the one or more wafer holders is rotating about both the first and second axis simultaneously and such that the coating is

deposited upon the surface and photoresist pattern that may be present upon the one or more wafers.

7. A vapor deposition device comprising:

a source of material to be vaporized;

dome shaped wafer holders positioned such that each point of a first face of the wafer holders is equidistant from the source, each wafer holder having a dome axis that passes through the center of the wafer holder and the source, the dome shaped wafer holders rotating on the dome axis one or more wafers within the holders; and

a rotating structure holding the dome shaped wafer holders and rotating the holders on a centerline axis of the source.

16. A vapor deposition device comprising:

a source of material to be vaporized;

a means for positioning wafers such that the center of each wafer is equidistant from the source, the means for positioning the wafers rotating the wafers on a first axis that passes through the source;

a means for rotating the means for positioning wafers on a second axis that passes through the source.

18. A vapor deposition device comprising:

a source of material to be vaporized;

a space frame mounted for rotation and having a first axis of rotation passing through the source;

a wafer holder mounted to the space frame in a position offset from the first axis; the wafer holder being mounted for rotation relative to the space frame and having a second axis of rotation passing through the source material; and

a plurality of wafer positions on the wafer holder, each said wafer position being offset from the second axis, each said wafer position being maintained in an orientation such that a substrate surface of a wafer mounted therein is substantially orthogonal to a radius from the wafer position to the source during rotation about said first and second axes.

In addition to admitted prior art, the Examiner relies on the following prior art reference as evidence in rejecting the appealed claims:

Bergfelt	US 3,858,547	Jan. 7, 1975

In addition, Appellants rely on the following reference as evidence in rebuttal of the Examiner's obviousness rejection.

Sato[1]	JP 5-326507	Dec. 10, 1993

Claims 1-11 and 16-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Bergfelt. Claims 1-11 and 16-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bergfelt in view of Applicants' admitted prior art (AAPA).

We reverse the Examiner's anticipation rejection; however, we affirm the Examiner's obviousness rejection. Our reasoning follows.

RELEVANT FACTUAL FINDINGS, PRINCIPLES OF LAW, ISSUES, ANALYSES, AND CONCLUSIONS

Anticipation Rejection

Under 35 U.S.C. § 102(b), anticipation is established only when a single prior art reference describes, either expressly or under the principle of inherency, each and every element of a claimed invention. *In re Spada*,

[1] Our references to Bergfelt are to the English Language translation of JP 5-326507 that was filed by Appellants on March 08, 2004.

911 F.2d 705, 708 (Fed. Cir. 1990). The Examiner bears the initial burden, on review of prior art or on any other ground, of presenting a prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

There are four independent claims among the claims on appeal (claims 1, 7, 16, and 18). All of the appealed claims require a deposition device that includes wafer holders (domes (claim 1) or wafer positioning means (claim 16)) that are arranged to rotate on both a first axis and a second axis of rotation. Appellants' wafer holders are required to be arranged such that both the first axis of rotation and the second axis of rotation extend through a location of the deposition device whereat the source of material to be vaporized is placed (claims 1, 7, 16, and 18).

Bergfelt discloses a coating device. The device includes a vacuum chamber and a double rotation system for substrates and at least one coating source disposed in the chamber (Bergfelt, col. 1, ll. 19-68). The Bergfelt device includes a centrally disposed stem (32, Fig. 1) with a bearing housing (51, Fig. 1) rotatably mounted thereon, and a spoke assembly (62, Fig. 1) secured thereto via rings (58 and 59, Fig. 1). The spoke assembly includes spokes (63, Fig. 1) and a mounting ring (64, Fig. 1) secured thereto. Adjustable housing assemblies (79, Fig. 1) are secured to the mounting ring (64, Fig. 1). Each housing assembly (79, Fig. 1) includes side plates (116, Fig. 1) for adjustably carrying a spindle assembly (126, Fig. 1). The spindle assemblies (126, Fig. 1) have a spindle shaft (128, Fig. 1) mounted for rotation and a substrate holder (129, Fig. 1) carried thereby. Bergfelt discloses that:

> a double rotation system is provided in that the substrates carried by the substrate holders **129** are rotated about an axis which is coincident with the axis of rotation for the stem **32**. In

> addition, they are rotated about an axis which is coincident with the axis of the spindle **128**.

Bergfelt, col. 5, ll. 60-65.

Bergfelt discloses 12 boats (21, Fig. 1) and 2 electron guns (22, Fig. 1) located in a circular arrangement on the base of vacuum chamber (11, Fig. 1) as being an exemplary arrangement for locating the material source (col. 2, ll. 36-45).

The Examiner contends that:

> Bergfelt discloses a vapor deposition apparatus comprising:
> plurality of dome shaped wafer holders each having a plurality of wafers (spindle assembly of Fig 1 and Col 7 lines 30-45) disposed symmetrically around a common axis (axis passing through 46), and being rotatable around this axis and through the coating source (Abstract and Col 1 lines 19-60), individual substrate holders (spindle assemblies) being rotatable around their own axis of rotation (Col 1 lines 19-60), drive components like motors and pulleys (Fig 1), adjustability of the angle of substrates with respect to the coating source (Col 6 lines 23-40) and the capability of the spindle assemblies to slide in and out (Fig 1 showing different views of 129 using broken lines and Col 3 lines 64-67) allowing them to rotate about the source and be at an angle (including right angle) to the vapors.
> With the axis (first axis) of the whole assembly passing through the source and adjustability of individual spindles, the claimed positions of the spindle assemblies are disclosed included inherently in all the positions the assemblies may be able to take according to the disclosed design.

Ans.[2] 3-4.

Moreover, the Examiner explains that:

---

[2] Our references to the Examiner's Answer (Ans.) herein are to the Supplemental Examiner's Answer dated July 26, 2007.

> The apparent difference between the claimed invention and the planetary device of Nils H Bergfelt is that the second axis of rotation (the axis of rotation of the spindles) is not fixed but may be adjusted to pass through the source by its two adjustments;
>
> 1 Adjustment to enable the spindle to slide in/out with respect to the center of the assembly.
>
> 2 Adjustment of the angle of the plane of substrates with respect to the source.
>
> With these two adjustments the spindles are capable of positioning with respect to the source in the claimed way. It is important to note that the intention of the inventor of the prior art is to clearly provide adjustment to the angle of incidence (See the abstract).
>
> Examiners' position in anticipatory rejection is that the claimed structure is inherently included in the positions the disclosed prior art could assume.

Ans. 7.

Appellants basically contend that Bergfelt discloses a vacuum chamber substrate coating device wherein the chamber includes boats and electron guns for locating the material source whereby the source material to be evaporated and used in coating the substrates is located with the boats and electron guns in a circular arrangement at the base of the vacuum chamber (App. Br. 9; Bergfelt; col. 2, ll. 36-45; Fig. 1, items 21 and 22). Therefore, Appellants assert that Bergfelt does not describe a main stem axis of rotation for the centrally disposed stem (32, Fig. 1) that is required to pass through a material source (App. Br. 11). Rather, Appellants contend that Bergfelt employs a primary axis of rotation that passes through inside of (centrally of), instead of through, a circular (annular) arrangement of heated boats (21, Fig. 1) and electron guns (22, Fig. 1) that hold the coating (material) sources

(App. Br. 9-11). Moreover, Appellants contend that Bergfelt does not specifically describe or show an arrangement of wafer holders (129) such that they have been positioned to have both a first axis and a second axis of rotation passing through the material source location of a deposition device as required by the appealed claims (App. Br. 11-12).

Thus, the principal issue before us with respect to the Examiner's anticipation rejection is: Have Appellants identified reversible error in the Examiner's anticipation rejection by their contentions respecting the Examiner's failure to point to a specific description of a deposition device having wafer holders being arranged to have axes of rotation, aligned as herein claimed by Appellants, in Bergfelt?

We answer this question in the affirmative and reverse the Examiner's anticipation rejection.

As correctly pointed out by the Appellants (App. Br. 10-13), Bergfelt's exemplary disclosed embodiment arranges boats (21, Fig. 1) and electron guns (22, Fig. 1) for holding coating (source) materials in an offset position relative to the axis of rotation of spindle stem (32, Fig. 1). The Examiner has not otherwise explained in a satisfactory manner where Bergfelt furnishes a sufficiently specific description of wafer holder structure arranged for wafer holder rotation on two axes of rotation such that that both axes are required to pass through a material source location of the coating machine to support a finding of anticipation. The Examiner's proffered conclusion "that the claimed structure is inherently included in the positions the disclosed prior art could assume" falls short of fairly pointing out an anticipatory description (explicit or implicit) in Bergfelt of a device corresponding to the device required by any of the appealed claims (Ans. 7).

In this regard, Appellants correctly note that the Examiner has not established a basis for shifting the burden to Appellants on the anticipation issue based on the Examiner's presentation (Reply Br. 3-4).

Accordingly, we conclude that Appellants have identified reversible error in the Examiner's anticipation rejection by their contentions respecting the Examiner's failure to point to a specific description of a deposition device having wafer holders being arranged to have axes of rotation, aligned as herein claimed by Appellants, in Bergfelt. Thus, the Examiner has not discharged the initial burden of establishing a prima facie case of anticipation within the meaning of 35 U.S.C. § 102(b).

Obviousness Rejection

Here, the Examiner rejects all of the appealed claims as being obvious, within the meaning of 35 U.S.C. § 103, over Bergfelt taken together with Applicants' admitted prior art (AAPA), including the AAPA found at Specification ¶ 0007 and drawing Figure 2 (Final Office Action (FOA) 4; Ans. 5-6). Appellants argue the rejected claims together as a group with respect to the obviousness rejection (Br. 12-17). Accordingly, we select rejected claim 7 as the representative claim on which we decide this appeal as to the Examiner's obviousness rejection.

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) any secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). "[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings

directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). *See DyStar Textilfarben GmBH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) ("The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself."). "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 127 S. Ct. at 1739. After all, skill, not the converse, is expected from one of ordinary skill in the art. *See In re Sovish*, 769 F.2d 738 (Fed. Cir. 1985). Also, *see In re Nomiya*, 509 F.2d 566, 570-71 (CCPA 1975) (The admitted prior art in the applicant's Specification may be used in determining the patentability of a claimed invention.).

As to the question of "teaching away," our reviewing court in *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) stated that "[a] reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." However, *In re Fulton,* 391 F.3d 1195, 1201 (Fed. Cir. 2004) states that "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed in the … application."

In addition to the factual findings with respect to Bergman as discussed above, we note that Bergman teaches/suggests that the coating device can include only one coating source disposed in the vacuum chamber with rotation of the substrate thereabout (col. 1, ll. 19-54 and col. 5, ll. 59-65). Moreover, Bergman teaches that their adjustable double rotation coating machine "makes it possible to cover substrates which heretofore have been difficult to coat satisfactorily" (col. 6, ll. 57-60). According to Bergman, "[t]his can be accomplished by changing the radius and also by tilting of the spindle axis toward or away from the coating source to obtain the coating desired" (col. 6, ll. 60-63). Bergman notes that the angle of incidence of the vapor coating streams with substrates carried by their spindle rotated substrate holders can be adjusted with their apparatus (Abstract, col. 6, ll. 49-63, and col. 7, ll. 10-16). Also, Bergman teaches or suggests that the substrate holders (129) can be made of any conventional type shape (col. 4, ll. 53-55).

In addition Appellants acknowledge it is known that:

> a source … of metal to be deposited must achieve a trajectory as close to 90 degrees with respect to the substrate surface as possible in order not to coat the sidewalls of trench …. This is referred to as orthogonal deposition and the optimal resultant coating is referred to as a "lift-off" coating or as zero step coverage. A commonly used method of physical vapor deposition in lift-off processes is electron beam evaporation. In practical applications where multiple wafers must be precisely coated by a single source, this requires complex machinery with specific setups for specific power levels and materials.

Spec. ¶ 0007.

Moreover, Appellants describe an admitted prior art non-planetary (single axis of rotation) deposition arrangement that is depicted in Appellants' drawing Figure 3[3].

Appellants' Figure 3 is depicted below:

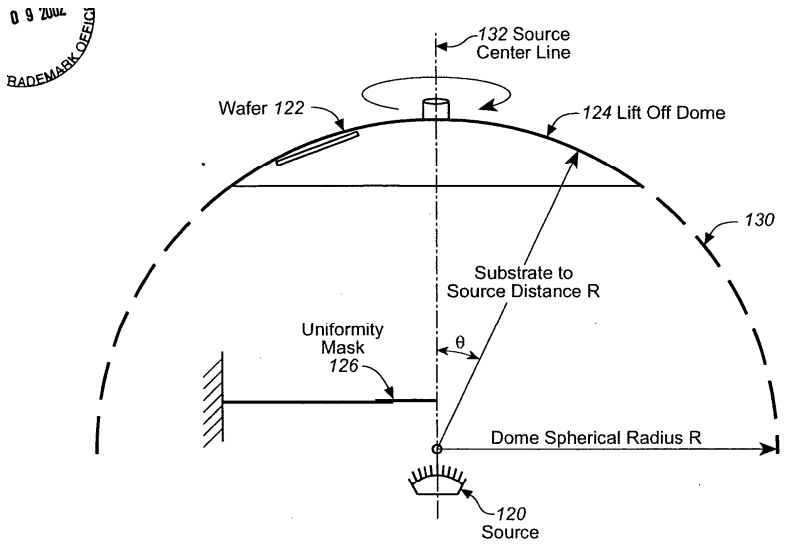

FIG. 3 (PRIOR ART)

Appellants' Figure 3 shows a prior art non-planetary deposition device.

Appellants additionally acknowledge in the Background of the Invention Section of their Specification and as depicted in Figure 3, that:

> One prior setup is illustrated in FIG. 3. Source 120 is located at the center of a sphere 130 having a radius R. The sphere is shown to illustrate that the lift-off dome has a dome

[3] See *In re Fout*, 675 F.2d 297, 301(CCPA 1982), "[i]t is not unfair or contrary to the policy of the patent system that appellants' invention be judged on obviousness against their actual contribution to the art" (footnote omitted).

spherical radius R such that all points on lift-off dome 124 are equidistant from source 120. At the top portion of the sphere is lift-off dome 124 that has multiple holes for holding wafers or other substrates to be coated. Lift-off dome 124 rotates around the source center line 132. One wafer 122 is illustrated on lift-off dome 124. Although all points on the lift-off dome are equidistant from the source, the source to substrate distance is not constant because each wafer is not arced, but flat. However, the difference is substantially negligible for the purposes of this application, and thus the source to substrate distance can be said to equal the dome spherical radius R.

In order to coat the wafers on lift-off dome 124, for example wafer 122, source 120 is heated by an electron beam (not shown) and the coating material is evaporated in a straight line towards wafers held within openings of lift-off dome 124. The vapor is not uniform and the distribution of the vapor varies with the power supplied to the electron beam, and also with the material to be evaporated. The vapor vector field is often described as a vapor cloud. If the lift-off dome and the wafers on the dome were stationary, the variations in the cloud would result in a very unevenly distributed coating upon the surfaces of each wafer. Rotation of the dome about source center line 132 substantially reduces the unevenness by averaging the variation in a circular path around the center line 132. However, the magnitude of the vapor vector field is much greater at the center line and tapers off as the distance on the dome from the center line increases …. The thickness of the coating deposited is directly proportional to the magnitude of the vector field, and the thickness is also proportional to the distance on the dome from the center line or axis of rotation. … The thickness of the coating deposited can be mathematically modeled according to the following relation:

$$T_r \alpha \frac{\cos^N(\Theta)}{R^2},$$

where T_r is the thickness at point *r*, R is the dome spherical radius, N is a characteristic number for each power and material

> being vaporized, and Θ is the angle from source centerline 132 to point *r*.

Spec. ¶¶ 0008- 0009.

Thus, Appellants acknowledge that orthogonal deposition is known to be advantageous for preventing trench sidewall coating of some substrates, that the coating vapors travel in a straight line from the source, and that the magnitude of a coating vapor vector field is greatest at the centerline and drops off as the distance from the centerline increases.

Furthermore, the Examiner has correctly found that Sato (relied upon by Appellants in rebuttal) discloses, *inter alia*, conventional planetary coating machines that include double rotating multiple substrate holding arrangements for multiple substrates, which substrate holders are fixedly arranged for non-orthogonal projection of deposits onto substrates and are not described or shown as being adjustable as is Bergfelt's machine (Ans. 9-11; Sato, Fig. 8). Sato further teaches that the disclosed oblique angled deposition machine described therein can be used for achieving results for multiple substrates that correspond to the results obtained from metal deposited via a lift off method using simpler non-planetary coating devices by employing a particular series of steps, including a flattening material application step (Sato 4-5).

Given the above teachings of the prior art and knowledge attributable to an ordinarily skilled artisan that was readily derivable therefrom, the Examiner's obviousness position is readily understood. The Examiner has basically premised the obviousness rejection on a reasoned determination that it would have been obvious to one of ordinary skill in the art armed with the above-identified knowledge and desiring to achieve substantially

orthogonal deposition as known to be sought for some types of substrates to arrange and/or modify the adjustable and variable components of the coating apparatus disclosed by Bergfelt for substantial orthogonal deposition, as an available option for achieving this result (Ans. 7). In so doing, one of ordinary skill in the art would have been reasonably led to: (1) locate a coating material source (boat or electron gun of Bergfelt) along the common axis of rotation of the spindle assemblies (axis of stem (32)) so that this axis passes there through; (2) employ spherically (dome) shaped wafer holders; that is, wafer holders located along an imaginary sphere, as the wafer holder in Bergfelt so as to achieve uniform coating based on the vapor field and uniform distance of the so located and rotated substrates from a source material; and (3) adjust the angled position of the wafer holders of Bergfelt so that the substrate surface to be coated faces the material (coating) source during the double rotation (the axis of rotation of shafts (128) passes through the source of coating material together with the axis of rotating stem (32)). This is because one of ordinary skill in the art equipped with the above-identified knowledge would have reasonably expected that such geometrical positioning would provide the desired substantially 90 degree angle of incidence of the coating material arriving at the surfaces of the rotating wafers – an angle that would predictably result in substantially orthogonal projection of the evaporated coating material thereon (FOA 3, 4, 6, and 7; Ans. 5-9).

Appellants, on the other hand, contend that "there is no suggestion to provide axes of rotation intersecting at the source" (App. Br. 14; Reply Br. 4-5; Second Reply Br. 7-9). Rather, Appellants maintain that the Examiner impermissibly reconstructed "the theoretical mechanism of the present

invention (i.e., rotating the spindles along an 'imaginary hemisphere' having the source at its center) and applied it to the combination of Bergfelt and Appellants' admitted prior art" (App. Br. 13).

In addition, Appellants contend that the prior art teaches that oblique deposition of material is achieved in a planetary machine and that non-planetary deposition machines should be used for a lift-off process that involves a close to perpendicular location of the substrate surface to the direction of the materials being supplied for deposit thereon (App. Br. 15-16). In support, Appellants rely on Sato (JP 05326507) as allegedly supporting this contention (App. Br. 15-16; Reply Br. 5-6; Second Reply Br. 3-7).

The principal issues raised in the Briefs with respect to the Examiner's obviousness rejection are: Have Appellants identified reversible error in the Examiner's obviousness rejection by: (1) their contention that there is a lack of suggestion for one of ordinary skill in the art to provide for both axes of rotation of Bergfelt's coating device to pass through the source material as called for in representative claim 7; and/or (2) their contention that they have established that Sato teaches away from the Examiner's proposed modification or adjustment of the Bergfelt coating device so as to provide for the claimed arrangement of the rotation axes thereof?

We answer these questions in the negative and we affirm the Examiner's obviousness rejection.

The lack of suggestion contention and arguments are unpersuasive of reversible error in the Examiner's obviousness rejection. As indicated above, we find that Bergfelt teaches or suggests that: (1) the disclosed coating device can be used with only one coating source (e.g., boat) in the

vacuum chamber; and (2) the double rotation system is designed for rotating substrate holders about the source using two axes of rotation employing adjustable features for changing the spindle axis relative to the coating source to obtain the substrate coating desired, which adjustment includes adjusting the angle of the substrate holder relative to the source (col. 1, ll. 19-54, col. 5, ll. 59-65, col. 6, ll. 49-63, and col. 7, ll. 10-16).

It would have been obvious for one of ordinary skill in the art to select a central location along the axis of the stem (32) of Bergstrom for the source material (boat) when a single material source (boat) is employed as taught by Bergfelt as an option in order to enhance the expected uniformity of the substrate coating by choosing such a central location (col. 1, ll. 19-21). Also, it would have been obvious to one of ordinary skill in the art to adjust the angle of the spindle (128) so that it is axially aligned with and directed toward the source. This is so that the substrate surface can meet the heated coating vapors coming from the source (boat) substantially head on (orthogonally) as taught to be desirable by the admitted prior art, discussed above, and as further suggested by the disclosure of Bergstrom with respect to satisfactory substrate coating coverage being dependent, in part, on the tilt angle of the spindle axis relative to the source (col. 6, ll. 57-63). Obviously, one of ordinary skill in the art would have expected that substrate coating uniformity would be positively affected by locating the multiple rotating substrate holders such that their axes of rotation keep them at a relatively equal distance from the source during the coating time, which goal would be influenced by locating the source material (boat) at a center point relative to the rotating substrate holders. This latter expectation would have reasonably suggested a spherically oriented configuration for the substrate holders of

the coating apparatus, as an option. Given the plentiful prior art teachings and direction toward the claimed subject matter discussed above, Appellants have not persuaded us that impermissible hindsight is at work in the Examiner's obviousness assessment. Consequently, on this record, we are not persuaded of reversible error in the Examiner's obviousness rejection by the lack of suggestion contention.

As for Appellants' teaching away contention and the Sato reference offered in support, we agree with Appellants that Sato discloses a coating apparatus with a planetary rotating mechanism, which device operation is taught to result in oblique deposition (Sato, Fig. 8, p. 2 and 4). We find that Sato further teaches a method of using such oblique deposition as part of a coating process for forming wires (Sato p. 5). However, we do not regard the disclosure of the alternative coating process of Sato using a fixed oblique angle substrate setup in a seemingly nonadjustable planetary rotation coating device sufficient to carry Appellants' burden to establish that one of ordinary skill in the art would have been discouraged from following the path they have taken. This is especially so given the significantly different adjustable planetary coating device disclosed by Bergfelt taken together with the AAPA. Bergfelt's disclosure of the result effectiveness of impingement angle adjustment of their adjustable planetary device taken with the AAPA reasonably suggests that axial alignment of the axes of rotation with a material source location would be advantageous for coating uniformity of a substrate and is suggestive of a planetary coating device arrangement other than that described in Sato, which suggested arrangement of Bergfelt would be expected to yield substantially orthogonal coating of a substrate.

On this record, we conclude that Appellants have not identified reversible error in the Examiner's obviousness rejection by: (1) their contention that there is a lack of suggestion for one of ordinary skill in the art to provide for both axes of rotation of Bergfelt's coating device to pass through the source material as called for in representative claim 7; and/or (2) by their contention that they have established that Sato teaches away from the Examiner's proposed modification or adjustment of the Bergfelt coating device so as to provide for the claimed arrangement of the rotation axes thereof.

ORDER

The decision of the Examiner to reject claims 1-11 and 16-21 under 35 U.S.C. § 102(b) as being anticipated by Bergfelt is reversed. The decision of the Examiner to reject claims 1-11 and 16-21 under 35 U.S.C. § 103(a) as being unpatentable over Bergfelt in view of Applicants' admitted prior art is 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) (2006).

AFFIRMED

Appeal 2008-2029
Application 10/102,351

PL Initial:
sld

THE BOC GROUP, INC.
575 MOUNTAIN AVENUE
MURRAY HILL, NJ 07974-2064