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Intellectual Property Dept./Dewitt Ross & Stevens Wisconsin Alumni Research Foundation 2 East Mifflin Street, Suite #600 Madison, WI 53703-2865			SHAFFER, RICKY D	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LLOYD M. SMITH, MATTHEW R. LOCKETT,
MICHAEL R. SHORTREED, ROBERT M. CORN,
STEPHEN WEIBEL, ROBERT J. HAMERS, and BIN SUN

Appeal 2015-005933
Application 12/037,332
Technology Center 2800

Before: ROMULO H. DELMENDO, JEFFREY R. SNAY, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a rejection of claims 1, 3, 7, 15, 45, and 46. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ In our Opinion below, we refer to the Final Action mailed July 18, 2014 (“Final Act.”), the Appeal Brief filed October 24, 2014 (“App. Br.”), the Examiner’s Answer mailed March 25, 2015 (“Ans.”), and the Reply Brief filed May 21, 2015 (“Reply Br.”).

The claims are directed to surface plasmon resonance compatible carbon thin films. Abstract. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A substrate, comprising:
 - a) a support surface capable of transmitting light;
 - b) a metallic layer adhered to the support surface;
 - c) a carbonaceous layer deposited on the metallic layer, wherein the carbonaceous layer is configured to substantially protect the metallic layer from exposure to a liquid solution exposed to the carbonaceous layer; and
 - d) a plurality of biomolecules covalently attached to the carbonaceous layer.

App. Br. Claims App'x 1.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Drewes et al. ("Drewes")	US 6,933,112 B1	Aug. 23, 2005
Wohlstadter et al. ("Wohlstadter")	US 6,977,722 B2	Dec. 20, 2005
Denes et al. ("Denes")	US 7,276,283 B2	Oct. 2, 2007
Steinmuller-Nethl et al. ("Steinmuller-Nethl")	US 2008/0044451 A1	Feb. 21, 2008

REJECTIONS

Claims 1, 3, 7, 15, 45, and 46 stand rejected under 35 U.S.C. § 103(a) as obvious over Drewes in view of Wohlstadter, Denes, or Steinmuller-Nethl. Final Act. 3.

OPINION

Appellants argue patentability of the pending claims as a group. App. Br. 6. We select independent claim 1 as representative of the group. The remaining claims will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(iv).

The Examiner contends that Drewes teaches all of the limitations of claim 1 except limitation (d), a plurality of biomolecules covalently attached to the carbonaceous layer, for which the Examiner relies on Wohlstadter, Denes, or Steinmuller-Nethl. Final Act. 3.

In the Final Action, the Examiner argues that the carbonaceous layer in Drewes is “obviously configured to substantially protect the metallic layer from the exposure to a liquid solution exposed to the carbonaceous layer due to the fact”—with no attendant explanation. *Id.* In response to Appellants’ contention that the Examiner therefore failed to articulate any reasoning supporting the alleged obviousness (Appeal Brief 7), in the Answer, the Examiner relies on Figure 1 of Drewes as showing a carbonaceous layer (Attachment layer) “which is obviously configured to substantially protect the metallic layer (Base layer) from exposure to a liquid solution due to the fact that the carbonaceous layer covers the top surface of the metallic layer.” Ans. 3. The Examiner argues that the claims merely require the carbonaceous layer to be configured to *substantially* protect the metallic

layer from exposure to a liquid solution exposed to the carbonaceous layer. *Id.* According to the Examiner, such substantial protection is provided by the carbonaceous layer's covering of the top surface of the metallic layer, allowing only a small amount of liquid solution to flow through the channels of the device. *Id.*

Appellants note that Figure 1 of Drewes presents the alleged carbonaceous layer (Attachment layer) and other layers as "channel-containing optical device components," and that the description of Figure 1 in Drewes states that the location of channels is not shown. Reply Br. 2. Appellants challenge the Examiner's finding that Drewes discloses a carbonaceous layer that is configured to substantially protect the metallic layer from exposure to a liquid solution exposed to the carbonaceous layer, pointing to Drewes' teaching that the channels and/or other structures in the device permit "flow of the sample through the layers from the surface of the device toward the support and flow across the surface of any layer of the device." *Id.* (quoting Drewes col. 5, ll. 20–23). According to Appellants, Drewes teaches channels that permit flow of sample across the surface of any layer of the device, therefore the carbonaceous layer is not configured to substantially protect the metallic layer from exposure to a liquid solution.

We agree with Appellants. A preponderance of the evidence does not support the Examiner's finding that the carbonaceous layer is configured to substantially protect the metallic layer from exposure to a liquid solution. We do not reach the question of the teachings of Wohlstadter, Denes, or Steinmuller-Nethl.

We do not sustain the Examiner's rejection of claim 1.

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DECISION

For the above reasons, the Examiner's rejection of claims 1, 3, 7, 15, 45, and 46 is REVERSED.

REVERSED