

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LINDSEY H. HALL

Appeal 2007-0411
Application 10/320,122
Technology Center 1700

Decided: January 23, 2007

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and CHARLES F. WARREN, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-8. Claim 1 is illustrative:

1. A method for cleaning high-density capacitors on a semiconductor wafer comprising:

cleaning inorganic material from said high-density capacitors on said semiconductor wafer with sulfuric acid.

The Examiner relies upon the following references in the rejections of the appealed claims:

Chien	US 6,010,942	Jan. 4, 2000
Blosse	US 6,399,512 B1	Jun. 4, 2002
Lee	US 6,410,400 B1	Jun. 25, 2002
Chueh	20040004004 A1	Jan. 8, 2004

Appellant's claimed invention is directed to a method for cleaning high-density capacitors on a semiconductor wafer. The method entails cleaning inorganic material from those capacitors with sulfuric acid.

Claims 1 and 7-9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Lee. Claims 1 and 2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Chien. Claims 4-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Chueh, and claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Blosse.

We have thoroughly reviewed the respective positions advanced by Appellant and the Examiner. In so doing, we find that the Examiner's rejections are not well-founded.

The separate § 102 rejections over Lee and Chien suffer from the same fatal flaw. All of the appealed claims require cleaning high-density capacitors with sulfuric acid. However, as urged by Appellant, neither Lee nor Chien describe the cleansing of high-density capacitors within the meaning of § 102. As recognized by the Examiner, Lee discloses cleansing an electrode, which is only a part of the capacitor, with sulfuric acid, whereas Chein discloses the cleaning of a storage node, which also is simply

a part of the capacitor. As pointed out by Appellant, Lee describes making a capacitor in accordance with Figures 1A to 1D, and the cleaning step occurs before the capacitor is formed. Likewise, Chien's cleaning of the storage node is performed before the final capacitor is made. Inasmuch as we are not willing to consider the cleaning of a component of a capacitor during its manufacture, and before its completion, as tantamount to cleaning the completed product that qualifies as a capacitor to one of ordinary skill in the art, we are constrained to reverse the Examiner's § 102 rejections.

The Examiner's additional citation of Chueh and Blosse in support of separate § 103 rejections of claims 4-6 and 3 does not remedy the basic deficiency of Lee and Chien.

This application is remanded to the Examiner to consider a rejection under 35 U.S.C. § 103 based on the Lee and Chien disclosures of utilizing sulfuric acid to clean components of a capacitor. The Examiner should consider the obviousness of using a material that was known to clean a component of a capacitor for cleaning the entirety of the capacitor. It would seem that the problem of a contaminated capacitor would have been readily apparent to one of ordinary skill in the art, as would be the remedy of cleaning the contaminated capacitor with the appropriate cleaning solution. *See In re Ludwig*, 353 F.2d 241, 244, 147 USPQ 420, 421 (CCPA 1965).

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In conclusion, based on the foregoing, the Examiner's decision rejecting the appealed claims is reversed. Also, the application is remanded to the Examiner for consideration of a rejection of the appealed claims under 35 U.S.C. § 103 for the reasons set forth above.

It is important that the Board of Patent Appeals and Interferences be informed promptly of any action affecting the status of the appeal (i.e., abandonment, issue, reopening prosecution).

REVERSED AND REMANDED

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