

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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LESLIE J. BOWEN, BRIAN G. PAZOL,
CRAIG D. NEAR, AND
RICHARD L. GENTILMAN

Appeal No. 1999-0734
Application No. 08/686,495

ON BRIEF

Before TIMM, JEFFREY T. SMITH, and POTEATE, *Administrative Patent Judges*.
TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal the decision of the Primary Examiner finally rejecting claims 13-21, and 27, which are all of the claims pending in this application. The claims on appeal are those as amended after the final rejection (Amendment filed, according to the certificate of mailing, on April 13, 1998; entered as per Advisory Action mailed May 4, 1998) We have jurisdiction under 35 U.S.C. § 134.

THE INVENTION

According to Appellants, the invention relates to capacitors, and particularly to capacitors having multiple ceramic layers. Claims 13 and 21 are illustrative:

13. A multilayer capacitor comprising:
a net-shape molded, densified, unitary dielectric ceramic body comprising a top, four sides normal to said top, and a base interconnecting said sides, and further comprising a plurality of ceramic layers including an uppermost ceramic layer, a lowermost ceramic layer and one or more intermediate ceramic layers all disposed parallel to said top, wherein each intermediate ceramic layer is joined at one edge to one of said ceramic layers adjacent thereto by a first ceramic bridge and at the same or a different edge to another of said ceramic layers adjacent thereto by a second ceramic bridge;
a plurality of electrode layers comprising an electrode layer between and bonded to each adjacent pair of said ceramic layers, said electrode layers separating said adjacent pair of ceramic layers, wherein said electrode layers are divided into a first set of electrode layers and a second set of electrode layers, said first set electrode layers alternating with said second set electrode layers in said body, and said electrode layers of each of said sets being electrically interconnected with one another and being electrically isolated from said electrode layers of the other of said sets in said body.

21. A multilayer capacitor comprising:
a net-shape molded, densified, unitary dielectric ceramic body comprising a top, four sides normal to said top, and a base interconnecting said sides, and further comprising a plurality of ceramic layers including an uppermost ceramic layer, a lowermost ceramic layer and one or more intermediate ceramic layers all disposed parallel to said top, wherein each intermediate ceramic layer is joined at one edge to one of said ceramic layers adjacent thereto by a first ceramic

bridge and at the same or a different edge to another of said ceramic layers adjacent thereto by a second ceramic bridge;

a plurality of electrode layers comprising an electrode layer between and bonded to each adjacent pair of said ceramic layers, said electrode layers separating said adjacent pair of ceramic layers, wherein said electrode layers are divided into a first set of electrode layers and a second set of electrode layers, said first set electrode layers alternating with said second set electrode layers in said body, and said electrode layers of each of said sets being electrically interconnected with one another and being electrically isolated from said electrode layers of the other of said sets in said body; and wherein:

said first and second electrode layers extend into a first one of said sides, said first electrode layers alternating with said second electrode layers in said capacitor;

said ceramic bridges join said ceramic layers at edges along a second side of said ceramic body opposite said first side such that said ceramic body has a comb-shaped cross-section;

each of said electrode layers includes a lug unitary therewith and comprising an electrically conductive material extending into the bridge adjacent thereto over a minor portion of the length of said bridge, said first lugs aligning with one another, and said second lugs aligning with one another but not with said first lugs;

said lugs are exposed at said second side; and

said first lugs are electrically interconnected with one another and said second lugs are electrically interconnected with one another to provide said first and second set, respectively, of electrode layers.

THE EVIDENCE

As evidence of unpatentability, the Examiner relies upon the following prior art references:

Bergmann	3,679,943	July 25, 1972
Rutt et al. (Rutt)	4,353,957	Oct. 12, 1982

THE REJECTIONS

Claims 13-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rutt.

Claims 21 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rutt in view of Bergmann. See the Final Office Action mailed February 12, 1998 (Paper No. 10) at pages 5-6 for the Examiner's findings of fact and conclusions of law with regard to these rejections.

THE GROUPINGS

Appellants divide the claims into six groupings and provide arguments for each group.

We select one claim from each of the following groups to decide the issues on appeal.

With regard to the anticipation rejection the claims are grouped as follows:

Group 1: Claims 13 and 14

Group 2: Claim 15

Group 3: Claims 16 and 17

Group 4: Claim 18

Group 5: Claims 19 and 20

With regard to the obviousness rejection, the claims are grouped together as follows:

Group 6: Claims 21 and 27

DISPOSITION

We affirm-in-part the decision of the Examiner to reject the appealed claims.

Specifically, we affirm with respect to the subject matter of Groups 1 and 3, i.e. claims 13, 14, 16, and 17, but reverse with respect to the subject matter of Groups 2 and 4-6, i.e. claims 15 and 18-21 and 27. Our reasons follow.

OPINION

Anticipation by Rutt

“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). All of Appellants’ claims are directed to a multilayer capacitor, i.e. a product. “The patentability of a product does not depend on its method of production.” *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). This is true whether the

product is claimed by describing its structural or compositional features or by listing the process steps used to obtain it. *See In re Wertheim*, 541 F.2d 257, 271, 191 USPQ 90, 103 (CCPA 1976) (“[T]he patentability of the *products* defined by the claims, rather than the processes for making them, is what we must gauge in light of the prior art.”); and *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972) (“[I]t is the patentability of the *product* claimed and *not* of the recited process steps which must be established.”). So the question we must ask in regard to the subject matter of groups 1-5 is whether Rutt describes a multilayer capacitor having the structure required by the claims.

Group 1: Claims 13 and 14

Looking at claim 13, the claim we select to decide the anticipation question with regard to group 1, we agree with the Examiner’s findings which indicate that Rutt describes each and every structural limitation of the claim (Answer at 5). That is all that is required in order to establish a *prima facie* case of anticipation.

Appellants argue that Rutt does not describe the net-shape molded nature of the ceramic body (Brief at 6). According to Appellants the term “net-shape molded” refers to a ceramic part

formed from a one-piece green body molded in a shape very close to its final sintered shape (Brief at 6). In other words, “net-shape molded” refers to a process of forming the ceramic body. Rutt is said to form the ceramic body by stacking leaves or sheets of ceramic and fugitive material rather than molding a one piece green body (Brief at 6).

The Examiner has adequately established that the multilayer capacitor structure taught by Rutt reasonably appears to be the same as the structure of the claimed multilayer capacitor (Final Office Action at 5; Answer at 3-4). See particularly Rutt at Figure 1. Under such circumstances the burden is upon the applicants to come forward with evidence establishing a patentable difference between the claimed product and the prior art product. *See In re Marosi*, 710 F.2d 799, 803, 218 USPQ 289, 292-293 (Fed. Cir. 1983). Appellants here provide no objective evidence of a structural difference. The arguments in the brief are insufficient in this regard. Attorney arguments in the Brief cannot take the place of evidence. *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972).

A preponderance of the evidence supports the Examiner’s finding of anticipation with regard to the subject matter of group 1.

Group 2: Claim 15

Claim 15 requires an electrode layer on the base of the ceramic body. The base must be interpreted in the context of claim 13 as being the bottom surface of the ceramic body. The language “ceramic body comprising a top, four sides normal to said top, and a base interconnecting said sides” defines the outer dimensions of the body. We find no electrode on the bottom surface of Rutt’s ceramic body. Therefore, Rutt’s structure is different from that of claim 15. The Examiner has failed to establish a *prima facie* case of anticipation with regard to the subject matter of claim 15.

Group 3: Claims 16 and 17

Claim 16, the claim we select to decide the issues with respect to group 3, requires that the ceramic body have a serpentine cross-section. We agree with the Examiner that Figure 1 of Rutt shows a serpentine cross-section (Answer at 4-5).

Appellants argue that the ceramic body is not serpentine in cross-section because granules remain after fugitive material is burned away (Brief at 8). We cannot agree that these granules result in a non-serpentine cross-section. When interpreting a claim, words of the claim are

generally given their ordinary and accustomed meaning, unless it appears that they were used differently by the inventor. *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994). As ordinarily used, “serpentine” refers to objects that (1) resemble a serpent, (2) wind or turn one way and another or (3) have a compound curve whose central curve is convex.¹ Appellants point to nothing in the specification which evinces a meaning for “serpentine” different from the ordinary and accustomed meaning. The ceramic body of Rutt has curves that resemble a serpent, that turn one way and then another and have the requisite compound curve. The body of Rutt thus has the required serpentine cross-section.

Group 4: Claim 18

Claim 18 requires that an electrically conductive coating cover the base, first side, interfaces between ceramic layers and first electrode layers.² As discussed above with respect to claim 15, the base of the ceramic body is the bottom surface. Rutt does not describe any coating

¹Merriam-Webster Collegiate Dictionary, electronic edition 2.5 (Merriam-Webster 2000). A copy of the entry is enclosed with our opinion.

²While this coating limitation was present in original claim 18, we are unable to locate a discussion of such a coating in the specification. The Examiner should review the specification and make an objection thereto if appropriate. See MPEP § 608.01(1)(8th ed. Aug. 2001).

much less an electrically conductive coating on the bottom surface. As the Examiner has failed to point out where Rutt describes the required base coating, the Examiner has failed to establish a *prima facie* case of anticipation with respect to the subject matter of claim 18.

Group 5: Claims 19 and 20

Claims 19 and 20 are dependent on claim 18. We conclude that the Examiner has failed to establish a *prima facie* case for the reasons presented above with respect to the subject matter of claim 18.

Obviousness over Rutt and Bergmann (Group 6: Claims 21 and 27)

Claims 21 and 27, which have been rejected as obvious, are directed to a multilayer capacitor including a ceramic body with a comb-shaped cross-section (Claim 21). The Examiner finds a comb-shaped cross-section in a portion of the ceramic body of Rutt (Answer at 7 showing a highlighted area in Fig. 1 of Rutt), but this does not meet the requirements of the claims. The ceramic body is defined in claim 21 to be the entire ceramic structure from the top surface to the base surface (Claim 21, 1st clause). Claim 21 requires that the entire body have a comb-shaped cross-section. The body of Rutt has a serpentine cross-section. Bergmann does not cure the

deficiency of Rutt. Therefore, we conclude that the Examiner has failed to establish a *prima facie* case of obviousness with respect to the subject matter of claim 21 or claim 27 which is dependent thereon.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 13, 14, 16, and 17 under 35 U.S.C. § 102(b) is affirmed, but the decision of the Examiner to reject claims 15, and 18-20 under 35 U.S.C. § 102(b) is reversed. The decision of the Examiner to reject claims 21 and 27 under 35 U.S.C. § 103(a) is also reversed.

Appeal No. 1999-0734
Application No. 08/686,495

Page 13

WALTER F. DAWSON, ESQ.
PEARSON & PEARSON, LLP
10 GEORGE STREET
LOWELL, MA 01852