

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RICHARD J. KAMPS, JANICA S. BEHNKE, FUNG-JOU CHEN,  
BERNHARDT E. KRESSNER and JANICE G. NIELSEN

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Appeal No. 96-2630  
Application 08/259,824<sup>1</sup>

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ON BRIEF

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Before McCANDLISH, Senior Administrative Patent Judge, and  
STAAB and McQUADE, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

This appeal is from the final rejection of claims 23 through 30. Claims 32 through 48, the only other claims pending in the application, stand allowed.

The subject matter on appeal pertains to a tissue sheet. Claims 23 and 26 are representative and read as follows:

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<sup>1</sup> Application for patent filed June 15, 1994. According to the appellants, the application is a continuation of Application 08/046,789, filed April 12, 1993, now abandoned.

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23. A wet-pressed tissue sheet made by pressing a wet tissue web against the surface of a Yankee dryer with a pressure roll, drying the web and creping the web to produce a tissue sheet, said tissue sheet having an Average Percent Void Area of about 63 or greater.<sup>2</sup>

26. The tissue sheet of Claim 23 having a geometric mean tensile strength of about 400 grams or greater.<sup>3</sup>

The references relied upon by the examiner as evidence of anticipation and obviousness are:

Sanford et al. (Sanford)	3,301,746	Jan. 31, 1967
Benz	3,817,827	Jun. 18, 1974
Busker	4,189,344	Feb. 19, 1980
Ogden	4,196,045	Apr. 1, 1980
Hostetler	4,356,059	Oct. 26, 1982
Weldon	4,551,199	Nov. 5, 1985
Klowak	4,849,054	Jul. 18, 1989
Burgess et al. (Burgess)	4,921,034	May 1, 1990
Smith et al. (Smith)	4,994,144	Feb. 19, 1991

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<sup>2</sup> The term "Average Percent Void Area," as used in claim 23 and in the other claims on appeal, is defined on page 16 of the underlying specification.

<sup>3</sup> The term "geometric mean tensile strength," as used in claim 26 and in the other claims on appeal, is defined on page 4 of the underlying specification.

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Claims 23 through 30 stand rejected:

a) under 35 U.S.C. § 103 as being unpatentable over Busker in view of Burgess or Benz; and

b) under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Klowak, Sanford, Weldon, Smith, Hostetler or Ogden.<sup>4</sup>

Reference is made to the appellants' brief (Paper No. 12) and to the examiner's answer (Paper No. 13) for the respective positions of the appellants and the examiner as to the propriety of these rejections.

With regard to the first rejection, Busker discloses a tissue sheet made from a through-drying process. In such a process, a wet tissue web is at least partially dried by passing heated air through it, rather than by mechanically pressing it. Busker's through-dried tissue web initially has "a relatively dense, firm texture, and although flexible feels hard and relatively smooth when touched" (column 2, lines 56 through 58). In order to impart softness and bulk to the web, it is advanced "through the nip of spaced grooved rotary texturing rolls having complementary partially interdigitated texturing ribs acting on

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<sup>4</sup> These "alternative" rejections are in effect two separate rejections, one under § 102(b) and one under § 103.

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both sides of the web with progressive wave-stretch texturing deformation of the web to release the hydrogen bonds between some of the fibers in the network of fibers in the web" (Abstract).

As described by Busker in more detail, the softening and bulking operation includes the steps of

providing cooperating grooved rotary texturing rolls each of which has generally radially projecting texturing ribs separated by grooves, . . . orienting said rolls in nip relation with the texturing ribs and grooves of each roll partially interdigitated with the ribs and grooves of the other of the rolls, and with the spacing between the partially interdigitated ribs greater than the thickness of said web, guiding said dry web under running tension through the rib and groove nip of said rolls, effecting longitudinal running of said dry web and rotation of said rolls at a common speed, thrusting said rib crests into the opposite faces of the running dry web with progressive wave-stretch deformation of the web areas engaged by the thrusting crests out of the original plane of the web, and thereby mechanically breaking the hydrogen bond of and partially loosening some of the fibers of the dry web and texturing and imparting desired tissue bulk and softness to the running dry web while retaining satisfactory web integrity, elasticity and breaking length characteristics in the textured web, and after said stretch deformation, releasing said web areas from said rib crests and permitting said web areas to return elastically toward said original plane of the web [column 1, line 46 through column 2, line 4].

Busker also teaches (1) that "the degree or depth of spacing or separation S (FIG. 3) between the nips of the groove rolls 20 and 21, i.e. the spacing between the crests of the ribs 22 and the roots of the grooves 23, has been found to result in a fairly predictable bulkiness and softness in the resulting texture in the sheet web" (column 3, lines 49 through 54), (2) that "the tear strength of the ultimately textured sheet will be substantially proportionate to the severity of texturing treatment to which the dry web is subjected as a result of the spacing of the roll nip" (column 3, line 67 through column 4, line 2), and (3) that "[w]here greater bulk is desired, the dry tissue web W may be advanced through a plurality of texturing roll passes" (column 4, lines 27 through 29).

Burgess and Benz disclose tissue sheet webs which are advanced through embossing rolls to impart softness and bulk to the tissue. The embossing surface on each of the rolls consists of a grid-like array of complementary male projections and female recesses (see Figures 1 and 2 in both Burgess and Benz).

In explaining the rejection based on the combined teachings of Busker, Burgess and Benz, the examiner concludes that it would have been obvious to one of ordinary skill in the art to replace the ribbed design of Busker's texturing rolls with the grid-like

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embossing design disclosed by either Burgess or Benz (see pages 3 through 5 in the answer).

The appellants' argument that "[t]here is no suggestion in any of the references to utilize the bosses of Burgess et al. or Benz in the method of Busker to produce a tissue sheet as claimed" (brief, page 6) is well taken. The Busker rolls produce a wave-stretch texturing wherein the web tends to return elastically toward its original plane, while the Burgess and Benz rolls produce an embossed texturing wherein the web retains the embossed configuration. These are fundamentally different treatments which result in fundamentally different tissue structures. The only suggestion for combining such disparate teachings in the manner proposed by the examiner stems from hindsight knowledge impermissibly derived from the appellants' own disclosure.

Be this as it may, the teachings of Busker alone are sufficient to establish that the subject matter recited in representative claims 23 and 26 would have been obvious within the meaning of 35 U.S.C. § 103.

More particularly, the excerpts from the Busker disclosure reproduced above indicate that various parameters of the Busker tissue manufacturing process, such as the spacing between the

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partially interdigitated ribs of the texturing rolls and the number of passes through such rolls, are result effective variables with respect to the "Average Percent Void Area" and the geometric mean tensile strength of a tissue sheet. The discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). In this light, the teachings of Busker would have suggested the kind of experimentation necessary to achieve a tissue sheet having the specific values of "Average Percent Void Area" and geometric mean tensile strength recited, respectively, in representative claims 23 and 26.

The appellants' argument (see pages 5 and 6 in the brief) that Busker is concerned with increasing the "external bulk" of the tissue via inelastic embossed deformation rather than with increasing "internal bulk" via elastic deformation (which is conceded on page 5 in the brief to increase the "Average Percent Void Area") is not persuasive. The excerpts from the Busker disclosure reproduced above clearly indicate that Busker's texturing roll treatment elastically stretches the tissue web. Figure 4 and the associated discussion in columns 5 and 6 of Busker's disclosure confirm that such elastic stretching of the

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web produces internal bulking of the sort conceded to increase the "Average Percent Void Area." That the bulked web may also undergo some minor amount of inelastic deformation resulting in the sinusoidal web contour shown in Busker's Figure 4 is of no moment, particularly when considered in light of the fact that the appellants' internal bulking treatment also produces a sinusoidal web contour as shown in Figure 3C of the instant application.

The appellants' additional contention that "[w]ithout the use of distinct, individual bosses, the uniform debonding resulting in wet-pressed tissue sheets having a high Average Percent Void Area as claimed could not be achieved" (brief, page 6) is also unpersuasive. To begin with, the appealed claims do not require the claimed tissue sheet to have any sort of uniform debonding. Moreover, there is no evidence of record which indicates that the ribbed roll treatment disclosed by Busker would not produce uniform debonding and/or an Average Percent Void Area as claimed. As for the "wet-pressed" recitations in the appealed claims, it is well settled that while product claims may include process steps to wholly or partially define the claimed product, it is the patentability of the product claimed, and not of the recited process steps, which must be determined.

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In re Hallman, 655 F.2d 212, 215, 210 USPQ 609, 611 (CCPA 1981);

In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

It is not apparent, nor have the appellants demonstrated by any evidentiary showing, how the wet-pressed limitations in the appealed claims distinguish the claimed tissue sheet from the through-dried sheet which would have been suggested by Busker. This being the case, the test results in the specification relating to wet-pressed tissues which are alluded to on page 9 of the brief have little, if any, probative value as to the obviousness of the product recited in the appealed claims.

For these reasons and based upon the argument and evidence before us, the differences between the subject matter recited in representative claims 23 and 26 and the prior art as embodied by the Busker reference are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Accordingly, we shall sustain the standing 35 U.S.C. § 103 rejection of these claims as being unpatentable over Busker in view of Burgess or Benz, the examiner's application of Burgess or Benz being, at worst, superfluous.

We shall also sustain the standing 35 U.S.C. § 103 rejection of claims 24, 25 and 27 through 30 as being unpatentable over

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Busker in view of Burgess or Benz, the examiner's application of Burgess or Benz again being, at worst, superfluous. The appellants, stating that "Claims 23-25 are to be considered as a group and Claims 26-30 are to be considered as a separate group" (brief, page 3), have not argued the merits of any particular claim in these groups apart from the others. Thus, claims 24, 25 and 27 through 30 stand or fall with representative claims 23 and 26 (see In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991)).

Inasmuch as the basic thrust of our affirmance of the 35 U.S.C. § 103 rejection of claims 23 through 30 based on Busker differs from the rationale advanced by the examiner for the rejection, we hereby designate the affirmance to be a new ground of rejection pursuant to 37 CFR § 1.196(b) to allow the appellants a fair opportunity to react thereto (see In re Kronig, 539 F.2d 1300, 1302-1303, 190 USPQ 425, 426-427 (CCPA 1976)).

As for the standing 35 U.S.C. § 102(b) rejection of claims 23 through 30 as being anticipated by Klowak, Sanford, Weldon, Smith, Hostetler or Ogden, it is well settled that 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

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Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

In the present case, the examiner concedes that none of the applied references expressly discloses a tissue sheet having an "Average Percent Void Area of about 63 or greater" as recited in the appealed claims via independent claims 23 and 29 (see page 5 in the answer). Nonetheless, the examiner finds that

[i]t is reasonable to expect because of the high bulk hence low density of these prior art paper products, that there would be large total area of unoccupied space or void space between fibers. Therefore these prior art high bulk tissue products would reasonably be expected to inherently have the claimed APVA [answer, page 5].

Under principles of inherency, when a reference is silent about an asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). As the court stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(quoting Hansgirg v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a

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given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

In short, the fact that the applied references disclose bulky tissue sheets does not necessarily mean that such sheets have an "Average Percent Void Area of about 63 or greater" as recited in the appealed claims. The mere probability or possibility that these prior art tissue sheets have such an Average Percent Void Area is not sufficient to support the examiner's unduly speculative finding that they inherently possess this characteristic.

Thus, we shall not sustain the standing 35 U.S.C. § 102(b) rejection of claims 23 through 30 as being anticipated by Klowak, Sanford, Weldon, Smith, Hostetler or Ogden.

Nor shall we sustain the standing 35 U.S.C. § 103 rejection of claims 23 through 30 as being unpatentable over Klowak, Sanford, Weldon, Smith, Hostetler or Ogden.

The examiner's rationale in support of this rejection is that "it would have been obvious to optimize the process conditions of the prior art to achieve optimal balance between strength and bulk as represented by the claimed APVA [Average

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Percent Void Area] and GMT [geometric mean tensile strength] values" (answer, page 6). As indicated above, the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch, 617 F.2d at 276, 205 USPQ at 219. Such is not the case, however, where the parameter optimized would not have been recognized to be a result effective variable. In re Antonie, 559 F.2d 618, 620, 195 USPQ 6, 8-9 (CCPA 1977). The examiner has failed to point out, and it is not apparent, which of the many process conditions in the respective prior art tissue making methods disclosed by the applied references would have been appreciated by the artisan as being result effective variables with respect to the "Average Percent Void Area" of the tissues being made. Under these circumstances, the examiner's conclusion that each of the applied references would have suggested a tissue sheet having an Average Percent Void Area as set forth in the appealed claims cannot stand.

In summary, the decision of the examiner:

a) to reject claims 23 through 30 under 35 U.S.C. § 103 as being unpatentable over Busker in view of Burgess or Benz is affirmed, with the affirmance constituting a new ground of rejection under 37 CFR § 1.196(b); and

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b) to reject claims 23 through 30 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Klowak, Sanford, Weldon, Smith, Hostetler or Ogden is reversed.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof (37 CFR § 1.197).

With respect to the designation of the affirmed rejection as a new ground of rejection under 37 CFR § 1.196(b), should appellants elect the alternate option under that rule to prosecute further before the Primary Examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED; 37 CFR § 1.196(b).

HARRISON E. McCANDLISH, Senior	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
LAWRENCE J. STAAB	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
JOHN P. McQUADE	)	
Administrative Patent Judge	)	

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APPLICATION NO. 08/259,824

APJ McQUADE

Senior APJ McCANDLISH

APJ STAAB

DECISION: AFFIRMED; 37 CFR § 1.196(b)

Typed By: Jenine Gillis

**DRAFT TYPED:** 17 Jul 97

**FINAL TYPED:**