

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS C. COX

Appeal No. 1996-0858
Application No. 08/117,648¹

ON BRIEF

Before, JOHN D. SMITH, PAK, and KRATZ, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 1-4, 6-10, and 12-17, which are all of the claims pending in this application.

¹ Application for patent filed September 8, 1993. According to appellant, this application is a continuation of Application 07/810,962, filed December 20, 1991, now abandoned.

The appellant's invention relates to a method for softening cotton toweling during its manufacture by treatment with an aqueous cellulase solution and the cotton toweling product thereof. An understanding of the invention can be derived from a reading of exemplary claims 1 and 17, which claims are reproduced below.

1. A method for softening cotton toweling during its manufacture by treatment with cellulase which method comprises:

(a) applying onto the surfaces of said toweling prior to application of a finish to said toweling an aqueous cellulase solution containing at least about 0.2 grams per liter cellulase wherein the weight amount of said aqueous cellulase solution applied onto the surface(s) of said toweling is between about 10 to 50 percent of the weight of said toweling and further wherein said aqueous cellulase solution is free of surfactant;

(b) incubating the toweling at a temperature of from about 20° to about 65°C for a period of from about 1 to about 16 hours to impart softening to said toweling; and

(c) treating the cotton toweling in a manner to remove and/or inactivate the cellulase enzyme.

17. Cotton toweling prepared by the method which comprises:

(a) applying onto the surfaces of said toweling prior to application of a finish to said toweling an aqueous cellulase solution containing at least about 0.2 grams per liter cellulase wherein the weight amount of said aqueous cellulase solution applied onto the surfaces(s) of said toweling is between about 10 to 50 percent of the weight of said toweling

and further wherein said aqueous cellulase solution is free of surfactant;

(b) incubating the toweling at a temperature of from about 20° to about 65°C for a period of from about 1 to about 16 hours to impart softening to said toweling; and

(c) treating the cotton toweling in a manner to remove and/or inactivate the cellulase enzyme.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Barbesgaard et al. (Barbesgaard)	4,435,307	Mar. 06,
1984		
Tai	4,479,881	Oct. 30,
1984		
Spendel	4,489,455	Dec. 25,
1984		

This merits panel of the Board of Patent Appeals &

Interferences cites and discusses the following reference.

Cox et al. (Cox)	5,232,851	Aug. 03, 1993
	102(e) date -	Oct. 16, 1990

Claims 1-4, 6-10 and 12-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tai in view of Spendel.²

² The examiner refers to claims 1-4 and 6-16 as standing rejected under this ground of rejection (answer, page 3). However, we note that claim 11 was canceled in an amendment after final rejection filed April 22, 1994. The amendment was indicated by the examiner as being entered upon the filing of an appeal in an advisory action mailed June 23, 1994. We

Claim 17 stands rejected under 35 U.S.C. § 103 as being unpatentable over Tai in view of Spendel or Barbesgaard.

Pursuant to the provisions of 37 CFR § 1.196(b), we make the following new rejection: claim 17 is rejected under 35 U.S.C.

§ 102 as anticipated by and/or alternatively under 35 U.S.C.

§ 103 as being unpatentable over the admitted prior art in the specification including the admissions as set forth at page 2, lines 1-19, page 6, lines 7-14, and pages 16 and 17, comparative example A.

OPINION

We have carefully reviewed the respective positions presented by appellant and the examiner. In so doing, we find ourselves in agreement with appellant's basic contention that the applied prior art fails to establish a *prima facie* case of

observe that the above-noted amendment has not, as yet, been physically entered by the examining group notwithstanding a Remand to the examiner mailed April 24, 1998 that ordered the physical entry of that amendment in light of the advisory action. Accordingly, the April 22, 1994 amendment should be physically entered by the appropriate group personnel prior to the final disposition of this application.

obviousness of the claimed subject matter. Accordingly, we will not sustain the examiner's rejections.

The Tai reference as applied by the examiner is directed to a laundering detergent combining cleaning and softening performance properties during the use thereof in laundering textiles. The Spindel reference as applied by the examiner is directed to a laundering process and apparatus utilizing small quantities of water compared to conventional washing techniques.

The subject matter of claims 1-4, 6-10, and 12-16 is drawn to a process for softening cotton toweling during its manufacture by (a) applying a surfactant free aqueous cellulase solution of a specified concentration and amount onto the surfaces of the toweling prior to the application of a finish to the toweling; (b) incubating the toweling for a specified period of time under specified temperature conditions; and (c) treating the toweling to remove or inactivate the enzyme.

The fundamental flaw in the examiner's rejection of the process claims under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Tai and Spindel is that the

examiner's application of the applied references ignores the claimed limitations as underlined in the paragraph above. The examiner's assertions in the answer regarding whether or not it would have been obvious to employ a spray technique as opposed to a soaking step, vary the enzyme concentration and vary the reaction time in the laundering technique of Tai in view of Spendel's teachings of laundering techniques that save water simply do not fully address and appreciate the subject matter that is actually recited in the claims on appeal. As indicated above, the examiner has not provided a satisfactory explanation as to how the claimed step of applying surfactant free aqueous cellulase solution to cotton toweling prior to the application of a finish during the toweling manufacture would have been rendered obvious by the applied prior art teachings.

Likewise, conspicuously missing from the examiner's discussion of the rejection of product by process claim 17 under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Tai in view of Spendel (as discussed above) or Barbesgaard is recognition by the examiner that the product of claim 17 is drawn to a cotton toweling that is treated with

aqueous cellulase prior to the application of a finish thereto. In this regard, the examiner's analysis of the combined teachings of the applied laundering references (answer, pages 5, 9 and 10) does not adequately explain how the references are being combined such that the manufactured toweling product of claim 17 would have been *prima facie* obvious over the textiles laundered with the detergent of Tai as modified by the teachings of Spendel or Barbesgaard. On this record, we cannot conclude that a cotton toweling product that has cellulase applied thereto prior to a finish as claimed would have reasonably been expected to have substantially the same or similar properties as a previously manufactured textile product that is laundered with a combined detergent and cellulase as apparently suggested by the examiner.

We point out that in a rejection under 35 U.S.C. 103, it is basic that all elements recited in a claim must be considered and given effect in assessing the patentability of that claim against the prior art. In re Geerdes, 491 F.2d

1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974); In re Wilder,
429 F.2d 447, 450, 166 USPQ 545, 548 (CCPA 1970).

Accordingly, in our judgement, a convincing factual basis to support a legal conclusion that the claimed process and/or product would have been obvious within the meaning of 35 U.S.C.

§ 103 from the combined teachings of the applied references has not been furnished by the examiner. In light of the foregoing, we will not sustain the examiner's rejections of the appealed claims under 35 U.S.C. § 103 as being unpatentable over the applied references.

Rejection of Claim 17 Pursuant to 37 CFR § 1.196(b)

Claim 17 is rejected under 35 U.S.C. § 102 as anticipated by, and/or alternatively under 35 U.S.C. § 103 as unpatentable over the admitted prior art in the specification (page 2, lines 1-19, page 6, line 7-14, and pages 16 and 17, comparative example A).

The admitted prior art in the specification describes a cotton toweling product prepared by applying an aqueous cellulase solution to a cotton cloth to soften the toweling. The toweling is maintained in contact with the aqueous

cellulase solution for a period of time at an elevated temperature as specified in the comparative example A. Thereafter, the treated toweling is rinsed and dried to recover a softened toweling product.

Claim 17 is directed to a cotton toweling product that is described by way of a product-by-process claim. It is well-settled that the determination of the patentability of a product-by-process claim is based on the product itself. With regard to product-by-process claims, the Federal Circuit has indicated in In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 965-66 (Fed. Cir. 1985) citing In re Brown³, 459 F.2d 531,

³ [T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable.... As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith. In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

535, 173 USPQ 685, 688 (CCPA 1972) and In re Pilkington, 411
F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969) that

product-by-process claims are not specifically discussed in the patent statute. The practice and governing law have developed in response to the need to enable an applicant to claim an otherwise patentable product that resists definition by other than the process by which it is made. For this reason, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. (citations omitted)

The patentability of a product does not depend on its method of production. (citation omitted) If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. (citations omitted)

Thus, the patentability of a product does not depend on its method of production. If the product in a product-by-process claim would have been obvious from or anticipated by a product of the prior art, the claim is unpatentable even if the prior product was made by a different process.

Based on the record before us, we cannot ascertain any patentably significant difference between the product cotton toweling defined by claim 17 and the corresponding product of the admitted prior art. In this regard, claim 17 defines a

toweling product that is prepared by essentially the same method as the prior art product with the specified exception of the weight amount of aqueous cellulase solution applied to the toweling and the length of time of the application. In both the admitted prior art product production method (comparative Example A, for example) and the claimed product preparation process, the applied cellulase enzyme is removed and/or inactivated by subsequent steps such as rinsing and drying. Thus, the only apparent potential difference(s) in the respective products is whether the different methods of application of the cellulase solution result in products having diverging properties. However, no particular product characteristics or properties are specifically required by claim 17 so as to differentiate the claimed product from the admitted prior art. We note that claim 17 is not limited to a product prepared by the method of example 1 of the specification such that the tensile strength and absorbency properties reported for example 1 of the specification could be imputed to the claimed product. In this regard, we observe that the toweling product of example 1 was prepared by a method that included using cotton terry cloth that was sprayed

on both sides with a specified cellulase formulation that included a surfactant which surfactant is excluded by the preparation method for the product recited in claim 17. Moreover, the product of claim 17 is not limited to the particulars of the preparation method specified in example 1. In addition, as set forth at pages 5 through 10 of the specification, a variety of unspecified factors to which claim 17 is open, such as the presence or absence of buffers, ph, the particular cellulase enzyme utilized, etc., will effect the toweling product properties. Thus, we find that the product toweling of claim 17 embraces a wide range of softness, tensile strength, absorbency, and other properties as would toweling products of the admitted prior art. Accordingly, on this record, we conclude that the claimed toweling product would reasonably appear to embrace the admitted prior art toweling product including being open to having the same or similar softness, tensile strength, absorbency, and other properties of the admitted prior art product.

In view of the above, one skilled in the art would have a reasonable expectation that the products are the same. See In

re Best, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433-34 (CCPA 1977). Appellants have not shown that the claimed product differs from the prior art product in any patentably significant way.

From the above, we conclude that the admitted prior art product anticipates the claimed product under 35 U.S.C. § 102 and/or would have rendered the claimed product *prima facie* obvious to a skilled artisan under 35 U.S.C. § 103.

Appellants' arguments, of record, have been considered but are not found convincing for reasons expressed above. In addition, with respect to the § 103 alternative rejection, we do not find example 1 of the specification to be commensurate in scope with the claimed product for the reasons set forth above. Accordingly, we cannot subscribe to appellant's assertion that convincing evidence of unexpected results has been presented.

OTHER ISSUES

In the event of further or continuing prosecution, the examiner and appellants should determine the patentability of

the claimed subject matter in view of Cox⁴ (U.S. Patent No. 5,232,851) and the references cited therein, particularly at columns 1 and 2 thereof. Cox discloses a method for treating cotton woven fabric with cellulase to improve the feel and appearance thereof. Moreover, Cox provides references to prior art methods of treating cotton fabrics with cellulase prior to a finishing treatment thereof.

⁴ A copy of the Cox Patent is being forwarded to appellant together with this decision.

CONCLUSION

The examiner's rejections of claims 1-4, 6-10 and 12-16 under 35 U.S.C. § 103 as being unpatentable over Tai in view of Spendel, and of claim 17 as being unpatentable under 35 U.S.C.

§ 103 over Tai in view of Spendel or Barbesgaard are reversed.

Pursuant to the provisions of 37 CFR § 1.196(b), the following new ground of rejection has been made. Claim 17 is rejected under 35 U.S.C. § 102 as anticipated by and/or alternatively under 35 U.S.C. § 103 as being unpatentable over the admitted prior art in the specification including the admissions as set forth at page 2, lines 1-19, page 6, lines 7-14, and pages 16 and 17, comparative example A.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53, 131, 53, 197 (Oct. 10, 1997), 1203 off. Gaz. Pat. & Trademark Office 63,122 (Oct 21, 1997)). 37 CFR § 1.196 (b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196 (b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197 (c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197 (b) by the Board of Patent Appeals and Interferences upon the same record

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

REVERSED - 37 CFR § 1.196 (b)

JOHN D. SMITH)
Administrative Patent Judge)
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) BOARD OF PATENT

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