

The opinion in support of the decision is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKESHI IIMORI, REIJI KANEKO,
HIROSHI YOSHIKAWA, and
MAKOTO MACHIDA

Appeal No. 1998-1866
Application 08/406,883

ON BRIEF

Before WILLIAM F. SMITH, ROBINSON, and MILLS Administrative Patent Judges.

WILLIAM F. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from an examiner's final rejection of claims 1 through 13. Subsequently appellants cancelled claims 2 through 4 leaving claims 1 and 5 through 13 for our consideration. These are the only claims pending in the application.

Claim 1 is representative of the subject matter on appeal and read as follows:

1. A strain SKB-1152 (FERM BP-4718) having high lignin-degrading activity and thermophilic pulp bleaching activity.

The reference relied upon by the examiner is:

Blanchette et al. (Blanchette)	5,427,945	Jun. 27, 1995 (filed Feb. 18, 1994)
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Claims 1, 5 to 10, 12 and 13 stand rejected under 35 U.S.C. § 102(e) as anticipated by Blanchette. Claim 11 stands rejected under 35 U.S.C. § 103(a). As evidence of obviousness, the examiner relies upon Blanchette. We reverse both rejections.

BACKGROUND

Appellants explain in the background portion of the specification that attempts have been made to degrade the lignin in wood using white-rot fungi that selectively degrade lignin stating at pages 1 -2 of the specification:

Coriolus versicolor and Phanerocheate chrysorium are typical examples of such fungi with lignin degrading activity, and they have also been used in research and development.

However, these strain of fungi do not have sufficient lignin degrading activity, and they were therefore inadequate for improving the brightness of pulp. Moreover, their selectivity is low so that in addition to lignin, they degrade polysaccharides such as cellulose and hemicellulose at the same time. This leads to poorer pulp quality and lower pulp yields, hence it was so far impossible to use these fungi industrially.

Appellants also indicate at page 2 of the specification that they have developed a method of isolating and screening new strains of fungi to identify those which have pulp bleaching activity.

The present invention evolved from that previous work in that appellants state in the paragraph bridging 2-3 of the specification that strain SKB-1152 has been discovered to have high lignin-degrading activity and thermophilic pulp bleaching activity. Appellants set forth microbiological characteristics of strain SKB-1152 on pages 3-4 of the specification.

Blanchette describes a white-rot fungus strain denominated F361 which is useful in selectively degrading the lignin component of wood pulp. While Blanchette does not describe the microbiological characteristics of strain F361 in the detail that appellants do in this specification for SKB-1152, Blanchette does state (column 7, lines 35-40) that analysis of enzymes from the supernatant of cultures of F361 showed the presence of laccase.

In setting forth the rejection under 35 U.S.C. § 102(e) on pages 3-4 of the Examiner's Answer, the examiner makes note of the fact that Blanchette teaches the use of a white-rot fungus to degrade lignin containing products. The examiner concludes that, while Blanchette did not measure and therefore does not disclose the "specific characteristics that are found in applicants' specification"^[1] it is considered in light of the fact that the microbe accomplishes the same disclosed goals as applicants (see kappa numbers)^[2] that applicants' fungi and the fungi of Blanchette et al. are inherently the same." At page 6 of the Examiner's Answer, in responding to appellants' arguments, the examiner states "in the absence of evidence to the contrary, the burden is upon the Appellants to prove that the claimed microbes are functionally different than those

¹ We presume the examiner is referring to the microbiological characteristics set forth on pages 3-4 of the present specification.

² Kappa numbers are indicia of lignin content in wood pulp.

taught by the prior art and to establish patentable differences. See In re Best, 562 F.2d 1252, 195 U.S.P.Q. 430 (CCPA 1977); Ex parte Gray, 10 U.S.P.Q. 2d 1922, 1923 (BPAI).”

Appellants’ position on appeal is summarized at page 3 of the Appeal Brief as follows:

Blanchette et al. ‘945 disclose a white-rot fungus useful for degrading the lignin component of pulps to enhance brightness stability and strength properties (col. 4, lines 66-67). This fungus is described as Scytinostroma galactinum strain F361. However, Blanchette et al. ‘945 also disclose in Example 1-A (col. 7, lines 34-40) that the presence of laccase was shown by analysis of enzymes from the supernatant of cultures of F361. In contrast, experimental results demonstrating that the SKB-1152 strain had no laccase activity were reported by all of the inventors of the present application and two other co-workers in the 38th Lignin Symposium held in Japan on the 15th and 16th of November, 1993. This data was published on page 131 of the report on the symposium, which appellants provided as Exhibit A to Paper No. 14. A full copy of the report was provided with a supplemental submission filed on June 4, 1994 (Paper No. 15). Appellants also provided a paper in the English language which discusses the lack of laccase activity of the SKB-1152 strain as Exhibit A to Paper 17, filed on July 28, 1997.

DISCUSSION

We first note that the premise of the examiner’s anticipation rejection is subject to question. The examiner has found, on the basis that strain F361 of Blanchette is a white-rot fungus which degrades lignin, that strain F361 of Blanchette and strain SKB-1152 are “inherently the same.” If those facts are sufficient to support the examiner’s inherency theory, we are surprised there is only one rejection of record as both Blanchette and the present inventors indicate there are numerous white-rot fungi which degrade lignin. Using the examiner’s logic, all white-rot fungi which degrade lignin would be “inherently the same.” We believe most observers would agree that all white-rot fungi which degrade lignin are not “inherently the same.”

In considering the examiner's position, we believe the statement of the rejection resulted from a misapplication of the principles enunciated in In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 43 (CCPA 1977) (footnote omitted), where the court stated:

Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. . . . Whether the rejection is based on 'inherency' under 35 U.S.C. § 102, on 'prima facie obviousness' under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.

Normally, when an examiner compares the subject matter of a claim pending in an application with an individual prior art reference, the examiner will determine whether a difference exists between the two. If no difference exists, the reference would be considered an anticipation under 35 U.S.C. § 102. If a difference exists, the reference becomes at best evidence under 35 U.S.C. § 103. However, In re Best is directed to a particular set of circumstances where examiners in the USPTO cannot readily determine whether a difference exists between the subject matter of a given claim and a particular prior art document. Typically these circumstances arise in the context of a claim directed to a compound or composition where the claim describes a property or a function of the compound or composition which the prior art reference does not address. These circumstances can also arise where, as here, the claim is directed to a microbe. As explained in Best, if the claimed and prior art products are identical or substantially identical, the USPTO can require an applicant to prove that the prior art product does not necessarily or inherently possess the characteristics of the claimed product. In order to invoke the principles of In re Best, the examiner must first make factual findings which support the conclusion that the claimed and prior art products prima facie are

“identical or substantially identical.” That determination must be made case-by-case based upon the facts in the individual case.

In finding that strain F361 of Blanchette and strain SKB-1152 of the present invention are “inherently the same,” the examiner made a determination which eliminates the need to apply the principle of Best. The rationale of Best is that the USPTO cannot make that determination. Simply put, the USPTO does not have sufficient facts to determine whether the respective microbes are “inherently the same.” Nor can the USPTO conclude that the subject matter of the claim would have been obvious since it cannot determine whether the microbes differ. Rather than make the explicit finding that the respective microbes are “inherently the same,” the examiner need only identify the common characteristics of the respective microbes and explain why those common characteristics allow one to reasonably conclude the respective microbes are “identical or substantially identical.” While the court in Best spoke of “inherency” under 35 U.S.C. § 102 and prima facie obviousness under 35 U.S.C. § 103, the fact remains that the USPTO is not in a position to make either conclusion since the record does not allow one to determine if and how the claimed subject matter differs from the prior art reference. At best, the examiner is in the position of inferring from the facts available that the claim is unpatentable. If the facts in a case allow the examiner to make that inference, the examiner may properly invoke the principles of In re Best and shift the burden to applicants to come forward with evidence establishing that the respective products, here microbes, do differ.

Instructive on this point is the following statement in In re Spada, 911 F.2d 705, 707, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990):

In response to the PTO's asserted prima facie case the applicant may argue that the inference of lack of novelty was not properly drawn, for example if the PTO did not correctly apply or understand the subject matter of the reference, or if the PTO drew unwarranted conclusions therefrom. However, when the PTO shows sound basis for believing that the products of the prior art and the applicant are the same, the applicant has the burden of showing that they are not. In re King, 801 F.2d 1324, 1327, 231 USPQ 136, 138 (Fed. Cir. 1986); In re Ludtke, 441 F.2d 660, 664, 169 USPQ 563, 566 (CCPA 1971).

See also In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 597 (CCPA 1980) ("Thus, the dispositive issue is whether appellants have proved that the Barnes process does not result in fasteners having the claimed crystallization shrinkage.").³

Here, we believe the facts that the respective fungi are white-rot fungi and degrade lignin provide the thinnest of margins, if at all, to conclude that the respective microbes are "identical or substantially identical." As explained above, if these are the only two relevant properties needed in order to invoke the principles of In re Best, we dare say appellants should be concerned that a multitude of rejections are possible which have yet to be made.

Be that as it may, appellants did not argue in this appeal that the examiner unreasonably shifted the burden of providing such evidence. Rather, as explained above, appellants' position is premised upon the fact that Blanchette strain F361 possesses laccase activity while their strain SKB-1152 does not. The examiner has not accepted this argument stating at pages 5-6 of the Examiner's Answer:

³ To avoid confusion as to the facts and reasons supporting an examiner's rejection under these circumstances and consistent with the "102/103" language used by the the court in cases such as Spada and Best, it may be better for an examiner to simply state that the claim is considered to be unpatentable under 35 U.S.C. § 102/103 on the basis of a specified reference. That opening statement should be followed by the examiner's facts and reasoning as to why it is proper to shift the burden of going forward to applicant. It would be helpful if in stating the rejection the examiner relied upon cases such as Best, Spada and Fitzgerald so there is no confusion as to the approach taken by the examiner in rejecting the claim. Again, under these circumstances the examiner is not in a position to make the specific findings needed to conclude that the claim is either anticipated or obvious on the basis of the reference.

The Examiner does not find that the data supported the conclusion that the instant microbe does not produce laccase. The Examiner is not persuaded because the procedure that is used to create the data can be determinative as to the presence or absence of an enzyme.... Those in the biotechnical arts are fully aware of the effects of a certain media upon an organism's expression of certain enzymes.

A better method for determining whether the prior art microbe and the instant microbe are distinct, as previously suggested by the Examiner (Paper #16 of June 1997), is to perform side-by-side evaluations of the microbes, where the only difference in the evaluation is the microbe being tested. This is the most clear cut way to show that said microbes are distinct.

As we understand the examiner's position, the examiner believes that it is possible that culturing Blanchette's strain F361 and appellants' strain SKB-1152 under differing conditions can be determinative as to whether laccase activity is observed. If this is the examiner's position, it lacks factual support based on the evidence in this record. The examiner has not supplied any evidence in support of his statement that culture media will affect an organism's expression of enzymes. Even if persons of ordinary skill in the art would accept such a broad proposition, the issue before us in this case is not directed to enzymes in general but, rather, to the expression of laccase by white-rot fungi. The record is devoid of any evidence that culture conditions will affect the expression of laccase activity in white-rot fungi. We remind the examiner that conclusions of obviousness must be based upon facts not generalities. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968); In re Freed, 425 F.2d 785, 788, 165 USPQ 570, 571 (CCPA 1970).

To the extent Blanchette's description of strain F361 as being a white-rot fungi possessing lignin degrading activity was sufficient to shift the burden to appellants under In re Best, we find appellants' evidence concerning laccase activity or lack thereof in the respective strains is a sufficient rebuttal. After appellants presented their rebuttal,

the ball was back in the examiner's side of the court to supply a fact-based explanation why appellants' position in regard to the laccase activity of the respective strains was incorrect. We have not found such an explanation on this record.

Absent such a fact-based explanation, we reverse the examiner's 102 rejection as well as the rejection of claim 11 under 35 U.S.C. § 103.

The decision of the examiner is reversed.

REVERSED

William F. Smith
Administrative Patent Judge

Douglas W. Robinson
Administrative Patent Judge

Demetra J. Mills
Administrative Patent Judge

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