

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EUGENE A. MIZUSAWA,
SUSAN A. ANDERSON, MAHA Y. EL-SAYED,
DANIEL R. LEISKE, RICHARD J. WIERSEMA, and CHIHAE YANG

Appeal No. 1996-0906
Application 08/110,241

ON BRIEF

Before WILLIAM F. SMITH, SPIEGEL, and ADAMS, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 and 5-25, which are all the claims pending in the application.

Claim 1¹ is illustrative of the subject matter on appeal and is reproduced below:

¹ We note appellants' amendment under 37 CFR § 1.193(b) (Paper No. 33, received December 4, 1995). In this amendment appellants amended claims 1

1. A method for modifying surfaces to facilitate oil removal, consisting essentially of:
 - selecting a surface to be modified;
 - immobilizing a lipase onto the surface, the lipase being isolatable from a Pseudomonas organism.

The references relied upon by the examiner are:

Butler ²	4,006,059	Feb. 1, 1977
Matsuo et al. (Matsuo)	4,472,503	Sep. 18, 1984
Thom et al. (Thom '291)	4,707,291	Nov. 17, 1987
Clark	4,909,962	Mar. 20, 1990

European Patent Applications:

Thom et al. (Thom '390)	0 206 390	Dec. 30, 1986
Wiersema et al. (Wiersema)	0 268 456	May 25, 1988
Wiersema et al. ³ (Wiersema '487)	0 253 487	Jan. 20, 1988

and 8 in response to new grounds of rejection (specifically the Butler in view of Thom and Matsuo series) set forth in the Answer. The amendments were entered by the examiner, and noted in the Supplemental Examiner's Answer. The amendment is noted in the reproduction of claim 1 herein.

² Butler is newly added in the Answer.

³ We note the examiner withdrew Wiersema '487 from the prior art rejection as cumulative, in the Answer.

GROUNDS OF REJECTION⁴

The Clark in view of Thom and Matsuo series:

Claims 1, 6-9, 15, 16, 18-20 and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Clark in view of Thom '291 or Thom '390 and Matsuo.

Claims 5, 10-14, 17, 21, 22, 24 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Clark in view of Thom '291 or Thom '390 and Matsuo as applied to claims 1, 6-9, 15, 16, 18-20 and 23 above, and further in view of Wiersema.

The Butler in view of Thom and Matsuo series:

Claims 1, 6-9, 15, 16, 18-20 and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Butler in view of Thom '291 or Thom '390 and Matsuo.

Claims 5, 10-14, 17, 21, 22, 24 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Butler in view of Thom '291 or Thom '390 and Matsuo as applied to claims 1, 6-9, 15, 16, 18-20 and 23 above, and further in view of Wiersema.

We reverse all of the examiner's rejections.

⁴ We note the final rejections of claim 26 under 35 U.S.C. §§ 101 and 112, first paragraph, are moot in view of the cancellation of claim 26 in the amendment received February 13, 1995 (Paper No. 24), which also added claim 5. This amendment was entered by the examiner in the Advisory Action mailed March 1, 1995 (Paper No. 26) which also withdrew the Final Rejection of claim 5 under 35 U.S.C. §§ 101 and 112, first paragraph.

DISCUSSION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, and to the respective positions articulated by the appellants and the examiner. We make reference to the Examiner's Answer (Paper No. 32, mailed October 2, 1995), and the Supplemental Examiner's Answer (Paper No. 35, mailed August 9, 1996) for the examiner's reasoning in support of the rejection. We further reference appellants' Brief (Paper No. 30, received July 13, 1995), and appellants' Reply Brief (Paper No. 34, received December 4, 1995) for the appellants' arguments in favor of patentability.

The Clark in view of Thom and Matsuo series:

The examiner maintains (Answer, page 5) that:

It would have been obvious to include lipase from Pseudomonas as an enzyme in the pre-spot composition of Clark for removing oil stain from fabric or other surfaces to obtain the known function of the lipase when used in a detergent composition or soaking liquid as disclosed by Thom et al., i. e. [sic] the known function of lipase to hydrolyze oil and aid in removing it from fabric. Hydrolyzing oil with lipase would obviously produce glycerol and fatty acids that are more soluble than the oil and be easier to remove from fabric. When lipase is added to the pre-spot composition of Clark and the composition is applied to fabric or other surface, the lipase would have obviously become adsorbed to the fabric or surface since Matsuo et al disclose adsorbing lipase to a cellulose carrier or other carriers (col 5, lines 46-50) that may be in the form of fibers (col 5, line 61).

The initial burden of presenting a prima facie case of obviousness rests on the examiner. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In satisfying this initial burden, "it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will

support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.” In re Wesslau, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); see also In re Mercer, 515 F.2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975).

With this in mind, appellants respond (Brief, page 8) to the examiner’s rejection by pointing out that “[p]roteases and amylases [disclosed by Clark column 7, lines 12-13] are enzymes that are distinctly different from lipases. The claims on appeal do not generally recite ‘enzymes’ but require lipases” [emphasis in the original]. In response, the examiner states (Answer, page 9) that “Clark discloses ‘enzymes’ (col 7, line 6), and it is believed that any enzyme that can provide a beneficial function is intended. The disclosure that the enzymes may be protease or amylase enzymes (col 7, lines 12-13) is merely providing examples of enzymes that can be used.” The examiner further states (Answer, page 10) that “the rejection is not based on Clark alone but on Clark combined with other references that make obvious the incorporation of lipase into the pre-spot composition of Clark.”

Appellants address (Brief, page 9) the examiner’s secondary references, specifically appellants’ argue that Thom “teach away from applications of the Thom *et al.* wash composition in pre-wash processes, such as taught by Clark.” To support this position appellants reference (Brief, bridging paragraph, pages 9-10) Thom, column 2, lines 16-24 pointing out:

... complete, lipase-containing detergent compositions are provided by the present invention with which a normal washing process can be

carried out, also at lower temperatures, whereby the benefits of the lipases are obtained without having to resort to special carefully selected detergent compositions or special washing or soaking steps or without having to treat the fabrics for long periods with the lipase-containing composition [emphasis added].

In response the examiner states (Answer, page 11) that “in addition to lipase being in a normal washing composition, Thom discloses (col 1) that it is known to incorporate lipase into a liquid used for soaking before washing. This suggests that lipase can be in a pre-wash composition such as the pre-spot composition of Clark and lipase is not limited to being in a normal washing composition.” We see no such suggestion in the examiner’s reference to Thom. Thom discloses (Column 1, lines 45-49) in reference to the lipase solutions referenced by the examiner that “[o]verall, the wash process described by these specifications needed two separate formulated products; it was cumbersome and it would be of limited applicability in practice.” At Column 2, lines 7-11, Thom discloses “[t]he above prior art therefore either teaches to use a specific lipase in detergent compositions, or to formulate specific detergent compositions and/or wash regimes for inclusion of lipases therein.” Thom further discloses (column 2, lines 7-11) that “[i]t is an object of the present invention to provide lipase-containing detergent compositions which have an improved overall detergency performance and which show significant detergency improvements by the inclusion of lipases therein.” Therefore, as noted by the examiner, while Thom makes reference, as background information, to a lipase containing soaking step, Thom specifically identifies such a step as “cumbersome” and of “limited applicability” (Thom, column 1, lines 45-49). As noted by appellant,

supra, the object of Thom's invention is to avoid the very step the examiner cites Thom as suggesting.

With regard to Matsuo, appellant argues (Brief, page 15) that "the mere showing that lipase is adsorbed to cellulose, which the Examiner attributes to Matsuo *et al.*, does not remedy the significant failings and incompatibilities ... of the Clark and Thom *et al.* references."

Before a conclusion of obviousness may be made based on a combination of references, there must have been a reason, suggestion or motivation to lead an inventor to combine those references. Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996). When identifying the motivation required to combine references the examiner is not free to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts. Wesslau, 353 F.2d at 241, 147 USPQ at 393; see also Mercer, 515 F.2d at 1165-66, 185 USPQ at 778.

On these facts, we find that the only reason or suggestion to modify the references to arrive at the present invention comes from appellants' specification. Contrary to the examiner's position, while Thom references as background a prior art teaching of a lipase liquor for use in a soaking step, the objective of Thom's invention was to avoid this cumbersome wash process that is of limited applicability in practice.

Accordingly, we reverse the examiner's rejection of claims 1, 6-9, 15, 16, 18-20 and 23 under 35 U.S.C. § 103 as being unpatentable over Clark in view of Thom '291 or Thom '390 and Matsuo.

The examiner relies on Wiersema for the teaching of a lipase derived from Pseudomonas putida ATCC 53552. According to the examiner (Answer, page 7) "it would have been obvious to add lipase from Pseudomonas putida ATCC 53552 to obtain the advantage of this lipase having good reactivity for triglyceride substrates, even in the presence of anionic surfactants." However, while Wiersema teaches a lipase, Wiersema fails to remedy the deficiencies of the combination of Clark in view of Thom '291 or Thom '390 and Matsuo, discussed above.

Accordingly, we reverse the examiner's rejection of claims 5, 10-14, 17, 21, 22, 24 and 25 under 35 U.S.C. § 103 as being unpatentable over Clark in view of Thom '291 or Thom '390 and Matsuo as applied to claims 1, 6-9, 15, 16, 18-20 and 23 above, and further in view of Wiersema.

The Butler in view of Thom and Matsuo series:

The examiner reasons (Answer, bridging paragraph, pages 8-9):

It would have been obvious to use lipase from Pseudomonas as the hydrolytic enzyme immobilized by Butler on cloth to produce a self-cleaning cloth to obtain the function of the lipase when used in detergent compositions and pre-soak liquids as disclosed by Thom et al, i. e. to obtain the function of the lipase to hydrolyze oil and aid in its removal from cloth. The use of lipase as the immobilized hydrolytic enzyme of Butler would have been particularly obvious when producing a self-cleaning butcher's apron since a butcher's apron is well known to come into contact with oil and fat contained by meat being butchered.... [I]t would have been obvious that enzymes could be adsorbed directly on the cloth without derivatizing in view of Matsuo et al disclosing adsorbing lipase directly to different carriers including a cellulose carrier (col 5, lines 45-50).

Appellants argue (Reply Brief, pages 6-7) referencing column 5⁵, lines 20-23, that “Butler teaches away from combining such a ‘self-cleaning’ cloth or carrier with a detergent composition, such as that of Thom et al.” In view of the teachings of Butler, column 5, lines 20-23, appellant urges (Reply Brief, page 7) that “to somehow combine such a derivatized cloth [of Butler] with an enzymatic detergent composition with ‘improved overall detergency’ such as Thom ... would surely completely remove the protein from the cloth and thus, defeat the very goal of Butler.”

⁵ We note appellants' reference to “Butler, column 6, lines 20-23” (Reply Brief, page 7). However, the quoted section of Butler is from column 5, lines 20-23. The correct reference page is recited herein.

In response to appellants' argument, the examiner states
(Supplemental Answer, bridging paragraph, pages 6-7) that:

[T]he rejection is not based on combining the self-cleaning cloth [of Butler] with the detergent of Thom et al but on using as the enzyme of Butler that cleans a soiled butcher's apron, the lipase from *Pseudomonas* disclosed by Thom et al. ... The apron contains attached enzymes such as lipase that ... remove the oil or fat without the presence of a detergent.

Appellants address (Reply Brief, page 7) this detergent aspect by referencing column 2, lines 16-24 of Thom (discussed above) stating that "Thom et al.'s detergent wash composition for washing fabrics teaches away from the non-detergent pre-wash preparation of a 'self-cleaning' derivatized cloth such as that of Butler which ... loses its 'self-cleaning' properties in the presence of a detergent wash composition." Appellants emphasize (Reply Brief, page 7) that "prior art references are to be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered."

In response, the examiner states (Supplemental Answer, page 7) "[i]t is granted ... that the references as a whole must be considered. This is the reason that one must consider the entire teachings of Thom et al including the teaching that it is known in the prior art to use lipase in a soaking step followed by a washing step with a detergent-containing liquor." The examiner again ignores the disclosure in Thom (column 1, lines 45-49) which specifically states "these specifications [which refer to the section relied

upon by the examiner] needed two separate formulated products; it was cumbersome and it would be of limited applicability in practice.” The examiner also ignores Thom’s objective (column 2, lines 4-24) of avoiding exactly what the examiner relies upon Thom as teaching.

Appellants argue (Reply Brief, page 9) that “[t]he examiner has impermissibly relied on the Appellants’ own disclosure to piece together claimed elements and to combine them as claimed, without any teaching or suggestion of and in the fact of numerous teachings away from, doing so.” In addition appellants argue (Reply Brief, page 9) that the “Matsuo et al. transesterification method does not make up for the deficiencies of the underlying combination.”

We emphasize that before a conclusion of obviousness may be made based on a combination of references, there must have been a reason, suggestion or motivation to lead an inventor to combine those references. Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d at 1573, 37 USPQ2d at 1629.

On these facts, we agree with appellants that the only reason or suggestion to modify the references to arrive at the present invention comes from appellants’ specification. Contrary to the examiner’s position, while Thom references as background a prior art teaching of a lipase liquor for use in a soaking step, the objective of Thom’s invention was to avoid this cumbersome process that is of limited applicability in practice.

Accordingly, we reverse the examiner's rejection of claims 1, 6-9, 15, 16, 18-20 and 23 under 35 U.S.C. § 103 as being unpatentable over Butler in view of Thom '291 or Thom '390 and Matsuo.

The examiner relies on Wiersema for the teaching of a lipase derived from Pseudomonas putida ATCC 53552. According to the examiner (Answer, page 9) "it would have been obvious to add lipase from Pseudomonas putida ATCC 53552 for the reasons set forth above [to obtain the advantage of this lipase having good reactivity for triglyceride substrates, even in the presence of anionic surfactants] when rejecting these claims." However, while Wiersema teaches a lipase, Wiersema fails to remedy the deficiencies of the combination of Butler in view of Thom '291 or Thom '390 and Matsuo, as discussed above.

Accordingly, we reverse the examiner's rejection of claims 5, 10-14, 17, 21, 22, 24 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Butler in view of Thom '291 or Thom '390 and Matsuo as applied to claims 1, 6-9, 15, 16, 18-20 and 23 above, and further in view of Wiersema.

Having determined that the examiner has not established a prima facie case of obviousness, we find it unnecessary to discuss the El-Sayed Declaration executed May 4, 1994, relied on by appellants to rebut any such prima facie case.

REVERSED

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WILLIAM F. SMITH)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CAROL A. SPIEGEL)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
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Administrative Patent Judge)	

Appeal No. 1996-0906
Application No. 08/110,341

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