

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 48

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CRAIG S. CRIDDLE, MICHAEL DYBAS,
and GREG TATARA

Appeal No. 1998-3388
Application 08/370,551¹

ON BRIEF

Before ROBINSON, SCHEINER, and ADAMS, Administrative Patent Judges.

ROBINSON, 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, 3, and 9 - 11, which are all of the claims pending in the application.

Claims 1 and 11 are illustrative of the subject matter on appeal and read as follows:

¹ This application is related to Application No. 08/474,539, filed June 7, 1995, which is the subject of Appeal No. 1998-0424, currently pending before the Board. We have considered these two appeals together.

1. A method of remediating an environment of soil or water in situ containing diverse microbial populations and contaminated with carbon tetrachloride which comprises:

(a) adjusting the environment to a pH of about 7.8 to 9.2; and

(b) introducing a culture of *Pseudomonas* strain sp. KC (PsKC) deposited as DMS 7136 and ATCC 55595 into the environment and under anaerobic conditions, in a number and at a temperature sufficient for the PsKC to convert the carbon tetrachloride directly to carbon dioxide and a nonvolatile water soluble fraction, wherein the PsKC converts the carbon tetrachloride at the pH without producing chloroform and wherein the PsKC has been grown in a culture medium to produce the culture and then introduced into the environment containing the diverse microbial populations.

11. The method of Claim 1 wherein the PsKC is grown substantially without iron in the culture medium which is available to the PsKC to produce the culture and then introduced into the environment in step (b).

The references relied upon by the examiner are:

Criddle et al. (Criddle) "Transformation of Carbon Tetrachloride by *Pseudomonas* sp. Strain KC under Denitrification Conditions," Applied and Environmental Microbiology Vol. 56, No. 11 pp. 3240-3246 (1990)

Lewis et al. (Lewis) "Physiological Factors Affecting Carbon Tetrachloride Dehalogenation by the Denitrifying Bacterium *Pseudomonas* sp. Strain KC" Applied and Environmental Microbiology Vol. 59, No. 5 pp. 1635-1641 (1993)

Grounds of Rejection

Claims 1, 3, and 9 - 11 stand rejected under 35 U.S.C. § 102(b). As evidence of anticipation, the examiner relies upon Criddle.

Claims 1, 3, and 9 - 11 stand rejected under 35 U.S.C. § 102(a). As evidence of obviousness, the examiner relies upon Lewis.

We reverse the rejection of the claims under 35 U.S.C. § 102(b) as anticipated by Criddle and remand the application for further consideration by the examiner of the rejection of the claims under 35 U.S.C. § 102(a) as anticipated by Lewis.

Background

The invention, as presently claimed, is described by the applicants at page 5 of

the specification as being directed to a method of remediating an environment contaminated with carbon tetrachloride by introducing Pseudomonas sp. strain KC (PsKC) into the environment under conditions which permit the microorganism to convert the carbon tetrachloride, present in the environment being treated, directly into carbon dioxide and a non-volatile water soluble fraction.

Discussion

Claim interpretation

Claim 1 is directed to a method of remediating an environment of soil or water, which has a neutral pH, which contains a diverse microbial population and which is contaminated with carbon tetrachloride (CT). The pH of the environment is initially adjusted to a pH of about 7.8 to 9.2. A culture of Pseudomonas strain sp. KC (PsKC) is introduced into the environment to be treated under anaerobic conditions and in a number and at a temperature sufficient to permit the microorganism to convert the carbon tetrachloride directly into carbon dioxide and a nonvolatile water soluble fraction. The claim, further, provides that the PsKC has been grown in a culture medium prior to introduction into the environment to be treated.

The rejection under 35 U.S.C. § 102(b)

In rejecting claims 1, 3, and 9 - 11, the examiner cites Criddle as teaching (Answer, pages 3-4):

the use of the claimed organism, *Pseudomonas* PsKC, that has been enriched with added nutrients, such as medium D (page 3240), to degrade carbon tetrachloride (CT). Said organism was evaluated for its potential at degrading CT in field applications. At the Moffet [sic] Field groundwater test site, it was found to be inhibited in its breakdown of CT. This inhibition was found to be aggravated when trace metals were added to the groundwater (Page 3242, col. 2). . . . Criddle et al also . . . discovered that the inhibition was due to the addition of iron (and possibly cobalt). (Page 3244, col. 2).

We have carefully considered the evidence and reasoning presented by the examiner in support of this rejection. However, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987). Here, the reference does not disclose 1) adjusting the environment to be treated to a pH of about 7.8 to 9.2 and 2) introducing a culture of Pseudomonas strain sp. KC into the environment under anaerobic conditions in a number and at a temperature sufficient for the PsKC to convert the carbon tetrachloride present directly to carbon dioxide and a nonvolatile water soluble fraction. That Criddle may describe the ability of this microorganism to degrade carbon tetrachloride, the inhibitory effect on CT transformation by the presence of metals such as iron and may also suggest that the inhibition may be avoided by increasing the pH of the medium to 8.0 is not the same as describing the adjustment of the pH of an environment in a remediation process prior to applying the Pseudomonas strain of the claim. Similarly, we find no description of

introducing a culture of the Pseudomonas strain of the claim into an environment, having a neutral pH, for remediation purposes. At page 3244, col. 2, Criddle describes the results of tests which sought "to degrade CT in ground water from the Moffett site." (Emphasis added.) However, we find no description of the introduction of this Pseudomonas strain into any environment of the type called for by the claim. Thus, while Criddle provides a significant level of information relating to the ability of the claim designated Pseudomonas strain to degrade or convert carbon tetrachloride to less harmful substances, it does not describe the method presently claimed and fails to anticipate the rejected claims. Therefore, the rejection of claims 1, 3, and 9 - 11 under 35 U.S.C. § 102(b) is reversed.

The rejection under 35 U.S.C. § 102(a)

In rejecting the claims under 35 U.S.C. § 102(a) the examiner notes that Lewis teaches the biodegradation of CT using the claimed organism. However, on the record before us, we find that the issues relating to this rejection have not been fully and completely briefed in a manner which permits meaningful review. In the Second Supplemental Brief, filed December 8, 1997 (Paper No. 42)² at pages 6-8, appellants renew their argument that the series of declarations filed in this application under 37

² The Second Supplemental Brief filed December 8, 1997 states that it is intended to replace the earlier filed Brief filed under 37 CFR § 1.192 and Supplemental Brief filed under 37 CFR § 1.192. In considering the issues raised by this appeal, we refer to this Second Supplemental Brief as representing appellants' position and arguments directed to the rejections on appeal.

CFR § 1.131 are sufficient to overcome the rejection of the appealed claims under 35 U.S.C. § 102(a) over Lewis. The examiner has not commented on or offered any rebuttal to this evidence and arguments in the Examiner's Answer. While we could postulate that the examiner remains of the opinion that these declarations are insufficient to overcome this rejection for the reasons set forth in the several office actions preceding the Examiner's Answer, we choose not to do so. Therefore, we remand the application to the examining group in order to permit the examiner to consider whether this series of declarations taken together or individually are sufficient to remove Lewis as a reference with respect to the presently claimed invention. Should the examiner maintain the rejection and find the declarations insufficient, an explanation should be provided which clearly sets forth any criticisms of this evidence which would explain why it should not be found persuasive. Thus, we do not reach the issues raised by the rejection under 35 U.S.C. § 102(a) over Lewis and remand for further consideration by the Examiner.

Other Issues

Upon return of this application to the examining group, we would urge the examiner to step back and reconsider the relevance of Lewis with respect to the presently claimed invention. As the examiner acknowledges (Answer, page 7) "Lewis et al teach much the same as Criddle et al." Thus, this reference may well be subject to the criticism which were determinative of the rejection of the claims over Criddle.

Further, we would urge that the examiner reconsider the relevance of the Criddle reference with regard to the presently claimed invention. While we have reversed the rejection under 35 U.S.C. § 102(b) which was presented in this appeal, we would agree with the examiner that the disclosure of Criddle may well be relevant in determining the patentability of the present claims. We have pointed out, supra, those elements which Criddle fails to disclose. However, we could well envision that there is other prior art relating to the remediation of an environment contaminated with carbon tetrachloride, which when taken in combination with the description of the Pseudomonas strain of the present claims and the characteristics provided by Criddle, might well provide a basis for questioning the patentability of the present claims under 35 U.S.C. § 103. In this situation, we choose not to examine the case in the first instance and will leave to the examiner, the consideration of the possibility of reviewing the patentability of the present claims with a view to determine whether, that which is missing from Criddle, may well be found in the prior art not presented in this appeal. Should the examiner conclude, after a further review of the prior art relevant to the present invention, that there is a reasonable basis for questioning the patentability of the pending claims, the examiner should issue the appropriate office action setting forth in detail the basis for that conclusion and provide appellants with the appropriate opportunity to respond thereto. We do not authorize the filing of a supplemental Examiner's Answer in order to address any such new ground of rejection.

For appellants part, should further prosecution occur in this application, we would note that the question of whether Criddle or Lewis are enabling with respect to the claim designated Pseudomonas strain is not dependent on the deposit of the microorganism. The rules which relate to the deposit of biological materials provide, in pertinent part, that "[b]iological material need not be deposited, inter alia, if it is known and readily available to the public or can be made or isolated without undue experimentation." (37 CFR § 1.802). Here, it would reasonably appear that Criddle describes where to obtain the Pseudomonas strain of the instant invention, i.e. Seal Beach California, as well as provided significant information to assist in the isolation, identification and characterization of any microorganism isolated from that site and suspected of being the claim designated microorganism. We leave to the examiner in the first instance to determine whether the information is sufficient to enable the microorganism given the description provided by Criddle in a manner which would reasonably support a conclusion that the reference is enabling.

SUMMARY

To summarize, the rejection of claims 1, 3 and 9 - 11 under 35 U.S.C. § 102(b), over Criddle is reversed. The rejection of claim 1, 3, and 9 - 11 under 35 U.S.C. § 102(a) is remanded to the examiner for further consideration.

REVERSED and REMANDED

Appeal No. 1998-3388
Application 08/370,551

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