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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(2) is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CURTIS LAJOIE and PETER F. STROM

Appeal No. 94-1911
Application 07/662,735¹

ON BRIEF

Before WINTERS, WILLIAM F. SMITH, and GRON, Administrative Patent Judges.

GRON, Administrative Patent Judge.

DECISION ON APPEAL UNDER 35 U.S.C. § 134

1. Introduction

This is an appeal from an examiner's final rejection of
Claims 5, 6 and 11, all claims pending in this application.

¹ Application for patent filed February 28, 1991.

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All claims stand finally rejected under 35 U.S.C. § 112, first paragraph, as based on a specification which would not have enabled persons skilled in the art to make and use the full scope of the claimed invention, and under 35 U.S.C. § 103 as unpatentable in view of the combined teachings of Drahos et al. (Drahos), "Tracking Recombinant Organisms in the Environment: B-Galactosidase as a Selectable Non-Antibiotic Marker for Fluorescent Pseudomonads," BIO/TECHNOLOGY, Vol. 4, pp. 439-444 (May 1986); Winter et al. (Winter), "Efficient Degradation of Trichloroethylene by a Recombinant *Escherichia coli*," BIO/TECHNOLOGY, Vol. 7, pp. 282-285 (Mar. 1989); Sick et al. (Sick), U.S. 4,996,155, patented February 26, 1991; and Blair, U.S. 4,483,923, patented November 20, 1984. A new ground of rejection under 35 U.S.C. § 101 which was entered at pp. 4-5 of the Examiner's Answer (Paper # 16) has been withdrawn by the examiner (Supplemental Examiner's Answer, p. 1 (Paper # 21)).

Claims 5, 6 and 11 are said to stand or fall together with Claim 11 under 35 U.S.C. § 112, first paragraph (Brief on Appeal (Br.), p. 4, first full para.). However, appellants state that the claims do not stand or fall together under 35 U.S.C. § 103 (Br. 4). The examiner agrees (Examiner's Answer (Ans.), p. 2). Claims 11 and 6 represent the methods claimed and read:

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11. The method of microbiologically degrading organic material in a mixed microbiologically competitive environment which comprises introducing to said environment a recombinantly modified microorganism in the presence of at least one substance not normally utilized by microorganisms indigenous to said environment but utilized as a growth substrate by said recombinantly modified microorganism, said recombinantly modified microorganism having been genetically modified to express upon utilization of said growth substrate at least one enzyme operable in the degradation of said organic material.

6. The method according to claim 11 wherein said substrate is a surfactant.

2. Discussion

In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992) instructs at 1445, 24 USPQ2d at 1444:

[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.

This burden should be no revelation to examiners. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) teaches at 1074, 5 USPQ2d at 1598:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. . . . It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.

Moreover, "The first paragraph of § 112 requires nothing more than objective enablement. . . . How such a teaching is set forth, either by the use of illustrative examples or by broad

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terminology, is irrelevant." In re Vaeck, 947 F.2d 488, 496 n.23, 20 USPQ2d 1438, 1444-1445 n.23 (Fed. Cir. 1991).

Accordingly, In re Marzocchi, 439 F.2d 220, 169 USPQ 367 (CCPA 1971) teaches at 223-224, 169 USPQ at 369-370, that statements in the specification shall be taken as true and will suffice for objective enablement under 35 U.S.C. § 112, first paragraph, unless the examiner provides sufficient reasons to doubt the objective truth of the statements. A finding that the examples in the specification are not commensurate in scope with the scope of the subject matter claimed does not itself satisfy the examiner's burden to show that the specification as a whole would not have enabled one skilled in the art to make and use the claimed invention. The examiner's doubts why the specification as a whole would not have been enabling to a person skilled in the art must be explained and backed by evidence. In re Marzocchi, 439 F.2d at 224, 169 USPQ at 370.

What have we here? Here, the examiner emphasizes first that appellants' specification would not have enabled persons skilled in the art to recombinantly modify genes of microorganisms (1) to produce an enzyme operable to degrade a target organic material present in a mixed microbiologically competitive environment while utilizing a growth substrate which is not normally utilized by organisms indigenous to the mixed microbiologically

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competitive environment, (2) without undue experimentation, and (3) with reasonable expectation of successfully degrading the target organic material. We note that the Forman factors² considered by the examiner at pages 9-11 of the Examiner's Answer relate to the facility with which heterologous gene expression in any microorganism would have been enabled by appellants' specification. In our view, the examiner's focus on the question whether the kind and amount of direction and guidance provided in appellants' specification would have enabled persons skilled in the art to perform the full scope of heterologous gene expression contemplated by the claims in any microorganism is misplaced. The claims on appeal are not drawn to methods for recombinantly modifying microorganisms. Rather, the recombinantly modified microorganisms to which appellants' claims refer appear to be either old or within the artisan's skill to obtain without undue experimentation. Appellants expressly state (Reply Brief, pp. 4-5, bridging para. and p. 5, first full para.; citations omitted):

Once disclosed, Appellants' invention is so logical and simple that one has the tendency to say, "Why didn't I think of that?" Given a natural site contaminated with some organic material, one need only start with an organism which uses a growth substrate not utilized by the indigenous microorganism in that environment, what one might call an "uncommon substrate", and insert, by well-known recombinant techniques, genes producing an

² Ex parte Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986).

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enzyme which degrades that organic material.

That recombinant technology is not arcane. It is routine and is practiced by undergraduate students at the University where one of the co-inventors teaches. Appellants do not now and never have attempted to claim some recombinant technique which forecloses all research in this area. They never have asserted to have found a new technique for altering microorganisms. They do not claim some novel DNA, a vector, or any process for manipulating the genetic makeup of a cell. They claim *only* a method of degrading organic material.

It is axiomatic that patent specifications need not teach, and preferably omit, what is known in the art. Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986); In re Wands, 858 F.2d 731, 735, 8 USPQ2d 1400, 1402 (Fed. Cir. 1988). Appellants have asked the examiner to reconsider the patentability of the claims on appeal with the focal issue being whether persons skilled in the art would have been able to make and use the claimed method in light of the description in the specification and the knowledge in the art. While the claimed method utilizes recombinantly modified microorganisms which function in the specific manner indicated, appellants presume that the public has the recombinantly modified microorganisms in their possession or sufficient knowledge to make the recombinantly modified microorganisms without undue experimentation. The examiner clearly has not shown that persons

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skilled in the art are unable to make recombinantly modified microorganisms which function in the particular manner indicated in the claims.

The prior art cited by the examiner appears to be consistent with appellants' position that their specification would have objectively enabled the claimed invention. Nevertheless, while the combined prior art teachings show that persons skilled in the art had all the information necessary to successfully make and use the invention claimed, the references do not establish unpatentability under 35 U.S.C. § 103. It is improper to "pick and choose among the individual elements of assorted prior art references[, as the examiner here has done,] to recreate the claimed invention." Smithkline Diagnostics, Inc., v. Helena Labs. Corp., 859 F.2d 878, 887, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988). Rather, the examiner must "show some teaching or suggestion in the references to support their use in the particular claimed combination." Id. In re Dow Chemical Co., 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988) instructs at 473, 5 USPQ2d at 1531:

The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success Both the

suggestion and the expectation of success must be

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founded in the prior art, not in the applicant's disclosure.

We have considered the applied prior art teachings jointly and severably. While we find the sum of all the bits and pieces of appellants' claimed method in the collective teachings, we find no reasonable suggestion that the claimed method should be carried out and would have a reasonable likelihood of success.

In our view, the examiner's rejection of Claims 5, 6 and 11 under 35 U.S.C. § 103 on the basis of the combined teachings of Drahos, Winter, Sick, and Blair results from an impermissible hindsight reconstruction of the claimed invention. See In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991):

It is impermissible . . . simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's [invention] . . . as a template and selecting elements from references to fill the gaps.

The examiner appears to have added the general teachings of four references, which more specifically describe separate and distinct subject matter, into one pot; filtered the general concepts through a screen constructed from appellants' disclosure to find selective concepts; and reassembled the selective concepts into the method first described by appellants. This is hindsight, not obviousness within the meaning of 35 U.S.C. § 103.

The Declaration of Curtis A. Lajoie, Ph.D., filed April 23, 1992 (Paper No. 7), was designed to "confirm . . . what is

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disclosed in the . . . application, namely, that non-adaptive proteins, here the PCB degrading enzymes, can be expressed by exogenous DNA in a mixed microbiologically competitive environment in the presence of a selective substrate, here detergent" (p. 11, final para.) As stated by the examiner, the Second Declaration of Curtis A. Lajoie, Ph.D., filed June 4, 1993 (Attachment to Paper No. 19), and appellants' arguments and supporting extrinsic evidence (Paper No. 20, including Exhibits A, B, and C) "overcome the examiner's assertion that the invention is inoperative and therefore lacks utility" (Supplemental Examiner's Answer, p. 1 (Paper No. 21)).

The examiner was willing to conclude on the basis of the limited showing in the specification that the claimed invention possessed utility under 35 U.S.C. § 101, presumably throughout its scope. See In re Langer, 503 F.2d 1380, 1391-92, 183 USPQ 288, 297 (CCPA 1974). Thus, it is not clear why that determination does not also extend to the Section 112 rejection.

Therefore, what remains of the examiner's rejection under Section 112 is the merits of the examiner's argument that a specification which contains a statement of the claimed invention, a limited number of prior art citations which reflect the knowledge and skill in the art, and a limited number of

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working examples, would not have enabled one skilled in the art to perform the full scope of the invention claimed because of the unpredictability and difficulty persons skilled in the art would have faced in making recombinantly modified microorganisms. Interestingly, the examiner's rejection under Section 103 is based on a similar combination of prior knowledge and skill in the art even though that rejection is also impermissibly based on the hindsight.

Accordingly, we reverse the examiner's rejections of Claims 5, 6, and 11 under 35 U.S.C. § 112, first paragraph, and § 103.

REVERSED

Sherman D. Winters)	
Administrative Patent Judge)	
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William F. Smith)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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