UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ROBERT JAMES KELLY, ALISA DAWN RODDICK-LANZILOTTA, DOUGLAS ALEXANDER RANKIN and WARREN GLENN BRYSON

Appeal 2007-3901
Application 10/488,188
Technology Center 1600

Decided: February 28, 2008

Before DEMETRA J. MILLS, ERIC B. GRIMES, and RICHARD M. LEBOVITZ, *Administrative Patent Judges*.

GRIMES, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a porous solid foam material. The Examiner has rejected the claims as lacking patentable utility. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

BACKGROUND

"Keratins are characterised by a high level of the sulphur-containing diamino-acid cystine, which acts as a cross-linking point between protein chains. This feature … gives the keratins, especially the hard keratins, their

characteristics of toughness, durability, resistance to degradation, and desirable mechanical properties" (Spec. 1).

The Specification discloses "biopolymer materials derived from soluble keratin derivatives" (*id.* at 2). The Specification also discloses that "solutions of S-sulfonated keratins can be used to prepare highly porous protein foams" (*id.* at 12) and that "applying chemical modifications to the protein [in the foam] has a significant effect on the wet properties of the material" (*id.* at 12-13).

DISCUSSION

1. CLAIMS

Claims 1-3 and 42 are on appeal. Claims 31-33, 43, and 44 are also pending but have been indicated to be allowable. Claim 1 is representative and reads as follows:

Claim 1: A porous solid foam or an adhesive material derived from S-sulfonated proteins.

2. UTILITY

Claims 1-3 and 42 stand rejected under 35 U.S.C. §§ 101 and 112, first paragraph, as lacking patentable utility. [1]

The Examiner finds that the claimed invention (i.e., the solid foam aspect) is not supported by either a specific and substantial asserted utility or a well-established utility because "a utility for this foam has not been

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[1] The Examiner notes that the claims are drawn to two separate and distinct inventions which were examined together, a solid foam and an adhesive (Ans. 2). The Examiner has allowed the claims limited to the adhesive but rejected the claims to the solid foam as lacking patentable utility (*id.* at 3).

provided, and the prior art does not disclose a utility" (Ans. 3). The Examiner notes that the Specification discloses "that the claimed foam has improved wet strength" but finds that this "is a physical property and not a specific utility" (*id.* at 4). The Examiner also finds that the claims are not supported by a well-established utility, because "[n]either the specification nor the prior art teaches or suggests this type of well known, immediately apparent or implied utility for a solid, porous foam derived from S-sulfonated proteins" (*id.*).

Appellants argue that the specific and substantial utility of the claimed foam is as a precursor or intermediate to an increased wet strength foam (Reply Br. 1-2) and that "any solid foam with increased wet strength has a well-established utility, as a person of ordinary skill in the art would immediately appreciate how the increased wet strength foam is useful . . . (e.g., such foams may be used in water washing applications such as scrubbing)" (*id.* at 2). In support, Appellants cite the Specification at page 12, line 26 through page 13, line 2 as disclosing that "a foam as claimed can be modified to create an increased wet strength foam" and van Leuwen[2] as "evidence that it is well understood in the art what useful benefits are imparted to a foam having increased wet strength" (*id.*).

We agree with Appellants that the Examiner has not established that the claimed composition lacks a patentable utililty. "The threshold of utility is not high: An invention is 'useful' under section 101 if it is capable of providing some identifiable benefit." *Juicy Whip Inc. v. Orange Bang Inc.*, 185 F.3d 1364, 1366 (Fed. Cir. 1999). However, section 101 requires a

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[2] van Leuwen et al., US 4,008,189, Feb. 15, 1977.

utility that is both substantial and specific. "[T]o satisfy the 'substantial' utility requirement, an asserted use must show that that claimed invention has a significant and presently available benefit to the public." *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005). A specific utility means that, "in addition to providing a 'substantial' utility, an asserted use must also show that that claimed invention can be used to provide a well-defined and particular benefit to the public." (*Id).*

As set forth above, the Specification discloses that "[s]olutions of S-sulfonated keratins can be used to prepare highly porous protein foams" (*id.* at 12). The Specification also discloses that "applying chemical modifications to the protein [in the foam] has a significant effect on the wet properties of the material. In particular, applying reductants . . . decreases the solubility and increases the wet strength of the foam." (*Id.* at 12-13).

The van Leuwen reference discloses a method of making hydrophilic polyurethane foams that results in a foam that has improved wet strength properties and is useful in cleaning and similar applications (van Leuwen, abstract). The van Leuwen reference also discloses that the "hydrophilic polyurethane foams having improved wet strength properties . . . are of particular utility in wet cleaning and scrubbing applications" (*id.* at col. 1, ll. 55-60).

Given the specific teaching in the Specification that a foam derived from S-sulfonated keratins can be used to prepare a foam that has improved wet strength and given the recognition in the art, as evidenced by van Leuwen, that foams having wet strength properties are useful in cleaning applications, we agree with Appellants that one of skill in the art would

expect that the claimed porous solid foam material derived from S-sulfonated proteins could be used to prepare a foam having improved wet strength for cleaning applications. Such a utility reasonably appears to be substantial, because it has real-world application in cleaning applications, and specific, because it depends on the particular characteristics of the claimed foam.

In response to Appellants' arguments, the Examiner maintains that the issue is not whether or not the claimed foam has utility but that Appellants had not disclosed a utility at the time of filing (Ans. 7) and that van Leuwen discloses foams made of polyurethane, not S-sulfonated keratin, for making sponges and cleaning applications (*id.* at 8).

We do not find the Examiner's arguments to be persuasive. We agree with the Examiner that utility "is determined as of the application filing date." *In re Brana*, 51 F.3d 1560, 1567 n.19 (Fed. Cir. 1995). However, the "specification need not explicitly teach those in the art to make and use the invention; the requirement is satisfied if, given what they already know, the specification teaches those in the art enough that they can make and use the invention without 'undue experimentation.'" *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1334 (Fed. Cir. 2003). That standard also applies to the utility requirement of § 101, since "the enablement requirement of § 112 incorporates the utility requirement of § 101." *In re Fisher*, 421 F.3d 1365, 1378 (Fed. Cir. 2005).

Here, the Examiner has not adequately explained why, even in the absence of an express disclosure of the cleaning applications of the claimed

foam, one of skill in the art would not have recognized that it would be useful for cleaning applications based on what was known in the prior art.

In addition, even though van Leuwen relates to polyurethane foams, we agree with Appellants that van Leuwen provides evidence that one of skill in the art would have recognized a utility for the instantly claimed keratin foam because van Leuwen discloses that foam materials having improved wet strength can be used to make sponges for cleaning applications.

Because we agree with Appellants that the totality of the record does not support the Examiner's rejections, the rejections of claims 1-3 and 42 under 35 U.S.C. §§ 101 and 112, first paragraph, for lack of utility is reversed.

REVERSED

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