

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte ANGELIKI OSTE TRIANTAFYLLOU*

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Appeal 2008-0489  
Application 10/795,513  
Technology Center 1761

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Decided: February 29, 2008

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Before PETER F. KRATZ, CATHERINE Q. TIMM and  
LINDA M. GAUDETTE, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-28. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

## I. BACKGROUND

The invention relates to a process for the production of a cereal wort or beer. Claim 1 is illustrative of the subject matter on appeal:

1. A process for the production of a cereal wort or beer having a high content of soluble  $\beta$ -glucan of more than 0.2 wt % from a cereal or mixture of cereals in which a  $\beta$ -glucanase activity of any ingredient employed in the process will not decrease soluble  $\beta$ -glucan by more than 20 wt% compared to the yield from the corresponding source of non-germinated cereal or mixture of cereals, the process comprising the steps of:

inactivating  $\beta$ -glucanase in at least one cereal to produce a treated cereal;

forming an aqueous cereal slurry essentially free of  $\beta$ -glucanase activity and containing from 10% to 30% by weight of the treated cereal, the cereal being wet or dry milled; and

mashing the aqueous cereal slurry at a temperature above 50°C in the presence of at least one starch degrading enzyme and at least one protein degrading enzyme.

Appellant requests review of the sole rejection maintained by the Examiner, namely the rejection of claims 1-28 under 35 U.S.C. § 103(a) over Scott, J. Inst. Brewing, vol. 78, no. 2, pp. 179-86 (“Scott”) in view of Appellant’s admissions at page 1 of the Specification. (App. Br. p. 5).

## II. DISCUSSION

Appellant does not present separate arguments as to any particular claim. Accordingly, we decide the appeal on the basis of independent claim 1. 37 C.F.R. § 41.37(c)(1)(vii).

*Claim Interpretation*

Appellant argues that “the inactivation step in the present invention is carried out before the cereal is moistened as apparent from the fact that the cereal if inactivated and the resulting material (the ‘treated cereal’) is formed into a slurry.” (App. Br. p. 7, ll. 1-4). Appellant argues “There is nothing in Scott which teaches or suggests effecting the inactivation step prior to malting.” (App. Br. p. 6, ¶ 4).

The Examiner responds that “Appellant’s claims do not exclude mixing the barley or grain with water before inactivating the beta glucanase (Ans. p. 6, ¶ 2) and that “no step of malting is seen in claims 1 and 18.” (Ans. p. 7, ¶ 2).

Based on the contentions of the Examiner and the Appellant, one issue presented is: Does claim 1 require that an inactivation step be carried out before the cereal is moistened, such that Scott must teach or suggest an inactivation step prior to malting in order to render claim 1 obvious under 35 U.S.C. §103(a)? We answer that claim 1 does not require that an inactivation step be carried out before the cereal is moistened and that Scott need not teach or suggest an inactivation step prior to malting in order to render claim 1 obvious under 35 U.S.C. § 103(a).

The claims are to be given their broadest reasonable interpretation consistent with the Specification and claim language should be read in light of the Specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). In fact, the Specification is usually dispositive and the single best guide to the meaning of a disputed term. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005).

Appellant's Specification is generally directed to modifying a conventional malting process by "controlling malting and, optionally, selective enzyme inactivation." (Specification, p. 3, ll. 29-31). The Specification describes a "[m]odification of conventional malting" as "the complete omission of the germination step or in a substantial reduction thereof, providing incompletely germinated grain." (Specification, p. 3, ll. 4-7).

In Example 4 of the Specification, "mild malting conditions" of the barley are described as "either using short malting times or selective  $\beta$ -glucanase inactivation by heat treating the malt." (Specification, p. 12, ll. 25-27). The Specification also describes that "the liquid phase from the barley malting tank ... is heat treated by means of a heat exchanger to ensure inactivation of  $\beta$ -glucanase prior to adding it to the barley/ oats malt slurry tank." (Specification, p. 12, l. 29-p. 13, l. 1). As such, Appellant's Specification only describes one method for "inactivating"  $\beta$ -glucanase activity, that is, via heat treatment.

Appellant's Specification does not suggest or require that the inactivation step is carried out "before the cereal is moistened" as suggested by Appellant, but rather the contrary. Example 4 of the Specification identifies inactivation of  $\beta$ -glucanase from *barley malt* in a *liquid phase*. (Specification, p. 12, l. 29-p. 13, l. 1). For this reason, we decline to read into claim 1 a limitation that the inactivation step occurs before the cereal is moistened.

The fact that Scott teaches a malting step prior to inactivation of  $\beta$ -glucanase is inconsequential since the claims do not exclude a malting step nor do they require that an inactivation step be carried out before the cereal

is moistened. Further, Scott specifically teaches drying the inactivated malt at 50°C during the “inactivation” step. (Scott, “Inactivation of malt,” p. 185, col. 1). Any subsequent aqueous steps would first require forming an aqueous slurry with the inactivated malt. Since the language of claim 1 is open, such a drying step between the steps of inactivation and forming an aqueous slurry is not precluded.

*Rejection under 35 U.S.C. § 103(a)*

Another issue on appeal arising from the contentions of Appellant and the Examiner is: Did the Examiner reversibly err in rejecting claims 1-28 under 35 U.S.C. § 103(a) over Scott in view of Appellant’s admissions?

In *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007), the Supreme Court stated that “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” As such, “a person of ordinary skill in the art would have solved [a particular] need by ‘pursu[ing] known options within his or her technical grasp.’” *See In re Translogic Tech.*, 504 F.3d 1249, 1262 (Fed. Cir. 2007)(quoting *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007)).

Scott describes several alternative barley mashing procedures. (Scott, “Laboratory Mashes,” p. 185, col. 1). These mashing procedures include:

(a) mashing 150g samples of an unkilned malt with 500ml water (i.e., 30% malt by weight) in two different ways: (i) for 1 hour at 40° C plus 1 hour at 65°C and (ii) for 1 hour at 65°C,

(b) mashing 150g samples of an inactivated malt with 500ml water (i.e., 30% malt by weight) in the presence of α-amylase (i.e., a starch degrading enzyme) in two different ways: (i) for 1 hour at 40° C plus 1 hour at 65°C and (ii) for 1 hour at 65°C, and

(c) mashing 50g finely milled barley flour with 400ml water (i.e., 12.5% barley by weight) for 3 hours at 65°C in the presence of Papain (i.e., a protein degrading enzyme) and  $\alpha$ -amylase (i.e., a starch degrading enzyme). (Scott, “Laboratory Mashes,” p. 185, col. 1).

Scott reports that despite the fact that the inactivated malt of procedure (b) above was “inactivated” with 80% ethanol, the unmalted barely flour procedure (c) above “gave higher yields of  $\beta$ -glucan than extracts from ethanol-inactivated barleys.” (Scott, “Laboratory Mashes,” p. 185, col. 1, last ¶). Thus, when it is desirable to have higher yields of  $\beta$ -glucan present in a wort over conventional malting and mashing procedures, Scott demonstrates two methods to accomplish this objective.

Optimization of a variable which is recognized in the prior art to be a result effective variable would ordinarily be within the skill in the art. *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980); *see also In re Aller*, 220 F.2d 454, 456 (CCPA 1955)(“where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”). One of ordinary skill in the art utilizing the teachings of Scott would be able to optimize the final concentration of  $\beta$ -glucan content in a wort or beer using mere ordinary creativity and routine experimentation.

Thus, we agree with the Examiner that utilizing “10% to 30% by weight of the treated cereal” is obvious to one of ordinary skill in the art in light of the teachings of Scott as mere optimization. Appellant has made no arguments that any unexpected results are particular to using 10% to 30% by weight of the treated cereal, over an alternative concentration range. Nor has the Appellant suggested that this range is particularly critical to the

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claimed invention. Further, Scott teaches using 30% by weight of the treated cereal in an aqueous slurry, which is within the range claimed. (Scott, “Laboratory Mashes,” p. 185, col. 1).

### III. CONCLUSION

The totality of the evidence weighs in favor of a conclusion of obviousness. The Examiner did not reversibly err in rejecting claims 1-28 under 35 U.S.C. § 103(a) over Scott in view of Appellant’s admissions. Accordingly, we sustain the Examiner’s rejection under 35 U.S.C. § 103(a).

### IV. DECISION

The decision of the Examiner is affirmed.

### V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

PL initials:  
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