UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/410,507 | 12/22/2014 | Dietmar GRÜLL | SONN.P0217US/1000348201 | 5005 |

32425 7590 02/01/2019

NORTON ROSE FULBRIGHT US LLP
98 SAN JACINTO BOULEVARD
SUITE 1100
AUSTIN, TX 78701-4255

| EXAMINER |
|---|
| CALL, DOUGLAS BRYANT |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1732 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 02/01/2019 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

aoipdocket@nortonrosefulbright.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* DIETMAR GRÜLL, MARNIK MICHEL WASTYN, and KARIN BRUNNER

---

Appeal 2018–004674
Application 14/410,507
Technology Center 1700

---

Before TERRY J. OWENS, MARK NAGUMO, and N. WHITNEY WILSON, *Administrative Patent Judges*.

WILSON, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's May 19, 2017 decision finally rejecting claims 11–13, 16–22, and 25–30 ("Final Act."). We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We affirm. Because our affirmance relies upon reasoning that differs from that used by the Examiner, we designate this opinion as containing a ***new ground of rejection***.

---

[1] Appellants identify AGRANA Starke GmbH as the real party in interest (Appeal Br. 1).

## CLAIMED SUBJECT MATTER

Appellants' disclosure relates to a method of producing a thermally inhibited starch. An inhibited starch is said to provide a desirable reduction in the swelling of starch grains when exposed to water and to reduce the subsequent collapse in viscosity at higher temperatures (Suppl. Appeal Br. 4). One method for producing an inhibited starch is by heat treatment (*id.*). The claimed invention recites the use of a spiral vibratory conveyor and specific conditions to produce a thermally inhibited starch. Details of the claimed invention are set forth in representative claim 11, which is reproduced below from the Claims Appendix to the Appeal Brief (*emphasis added*):

> 11. A method of producing a thermally inhibited starch or starchy flour comprising heat treating, at a pH of at least 7, a native starch in a spiral vibratory conveyor in the presence of at least 0.1 % by volume oxygen to atmospheric oxygen concentrations at a product temperature of between 150 and 200°C, *wherein the native starch has a dry matter content of between 98% and 99% by weight and has been pre-dried, if necessary, to obtain the dry matter content.*

## REJECTION

Claims 11–13, 16–22, and 25–30 are rejected under 35 U.S.C. § 103(a) as unpatentable over Senkeleski[2] in view of Ziegler.[3]

---

[2] Senkeleski et al., US 5,846,786, issued December 8, 1998.
[3] Ziegler et al., US 2,818,357, issued December 31, 1957.

## DISCUSSION

Appellants do not argue the claims separately. Accordingly, we limit our discussion to the rejection of independent claim 11 over Senkeleski in view of Ziegler.

The Examiner finds that Senkeleski discloses each limitation of claim 11, except the use of a spiral vibratory conveyor (Final Act. 3–4). With regards to the limitation that "the native starch has a dry matter content of between 98% and 99% by weight and has been pre-dried, if necessary, to obtain the dry matter content," the Examiner finds that:

> "[Senkeleski's] process also comprises drying the flour or starch from a moisture content of about 2 to about 15 percent by weight to anhydrous or substantially anhydrous (Column 3, lines 5–11) which is being interpreted as meeting the instant limitation of between 98% and 99% as supported by Example 1 wherein the starch is dried to less than 1% moisture."

(Final Act. 4). Appellants contend that the moisture content of the starch that is heat treated is outside of the range set forth in claim 11 (1%–2%) (Suppl. Appeal Br. 7).

Senkeleski specifically discloses that its starch, which starts with a moisture content of from about 2% to about 15% by weight, "is dehydrated to anhydrous or substantially anhydrous and *then heat treated*" (Senkeleski 3:5–11, emphasis added). It is not disputed that at the time that the heat treatment begins in Senkeleski's process, the moisture content of the starch is outside the claimed range (1%–2%) (Ans. 11–12). However, the Examiner takes the position that because the moisture content of Senkeleski's starch must pass through the claimed range during its process, it is inherent that the moisture content limitation is met (Ans. 12).

Appellants' argument, therefore, depends on whether claim 11 requires that the moisture content of the starch be between 1% and 2% at the beginning of the process, or whether that limitation is satisfied if the moisture content is within that range at any point during the process.

"[T]he PTO must give claims their broadest reasonable construction consistent with the specification. Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation." *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (internal citation omitted). To the extent possible, claim terms are given their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). In this instance, the claim language is specific in stating that the starch used in the process (i.e. subjected to the heat treatment process) has a dry matter content of between 98% and 99% and may be "pre-dried" to obtain this value. Thus, the claim language makes clear that the moisture content of the starch is between 1% and 2% when the heat treatment begins, even if some (non-heat treatment) drying must take place first. This is consistent with the Specification, which states that native starches can be pre-dried to achieve the claimed moisture content prior to being subjected to the heat treatment (Spec. 4).

Thus, we conclude that the claim requires that the starch have a dry matter content of between 98% and 99% (i.e. a moisture content of between 1% and 2%) at the beginning of the heat treatment of the starch in a spiral vibratory conveyor. There is no dispute that Senkeleski does not precisely

teach this limitation, and the Examiner makes no findings that Ziegler teaches this limitation.

However, there is also no dispute that claim 11 recites that the moisture content of the starch be between 1% and 2% by weight during the heat-treatment, while Senkeleski teaches heat treatment where the moisture content of the starch is "less than about 1% by weight." Thus, the difference in moisture content between Senkeleski's disclosure ("less than about 1% by weight") and claim 11 (1% to 2% by weight) is minimal—or non-existent if a person skilled in the art would have understood "less than *about* 1% by weight" to include values slightly above 1% by weight, as the term "about" would ordinarily imply. The only advantage noted by Appellants achieved by using a potentially slightly more moist starch as the starting material (i.e. 1% water by weight versus, for example 0.994% water by weight within the range taught by Senkeleski) is that less energy is required for dehydration (Reply Br. 5). Thus, Appellants have not come forward with credible evidence that less than about 1% by weight would have excluded values slightly higher than 1% by weight water. We conclude that it would have been obvious to have dried Senkeleski's starch to a slightly less dry state, in order to save energy costs. Appellants have alleged no other advantages with regards to the slight change in moisture content between Senkeleski and claim 11.

The Examiner relies on Ziegler as teaching that a spiral vibratory conveyor provides uniform heating to starches during heating processes, which provides for uniform conversions (Final Act. 5, citing Ziegler 1:36–67). The Examiner determines that it would have been obvious to use a

spiral vibratory conveyor in Senkeleski's process in order to uniformly heat the starch to provide the most uniform conversion.

Appellants argue that because Ziegler is purportedly directed to the production of degradation products, not thermally inhibited starches, it would not have been obvious to use a spiral vibratory conveyor in Senkelski's process (Reply Br. 5). Appellants also argue that Ziegler teaches away from the presence of oxygen during the heat-treatment of the starch (Reply Br. 6–7). Neither of these arguments is persuasive, because they do not address the Examiner's explanation of why a person of skill in the art would have been led to use Ziegler's spiral vibratory conveyor in Senkeleski's process. That Ziegler is specifically directed to the production of degradation products does not detract from its teachings about the advantages of the spiral vibratory conveyor, which would have been thought to be useful in Senkeleski's process.

In summary, the only difference between the process of Senkeleski, as modified by use of the spiral vibratory conveyor of Ziegler, and the process of claim 11 is a very slight difference in moisture content. We determine that it would have been obvious to modify Senkeleski's process (by a slight amount) to start with a starch having the claimed moisture content. Appellants have not provided adequate evidence to show that it would not have been obvious to increase the moisture content by this slight amount, or

that doing so produced unexpected results.[4] Accordingly, we sustain the rejection over Senkeleski in view of Ziegler.

Because our affirmance relies upon facts and reasoning that differ from those used by the Examiner, we designate our affirmance as setting forth a new ground of rejection. See 37 C.F.R. § 41.50(b).

## CONCLUSION

For the reasons set forth above, we affirm the rejections of claims 11–13, 16–22, and 25–30. To protect Appellants' procedural rights, we designate our affirmance as setting forth a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b), which provides that "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." Section 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

[4] Appellants assert unexpected results (Appeal Br. 11, Reply Br. 9–10), but do not provide an explanation of what the unexpected results are relative to Senkeleski's process in light of a small change in moisture content.

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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

CONCLUSION

We AFFIRM the rejection of claims 11–13, 16–22, and 25–30 under 35 U.S.C. § 103(a) as unpatentable over Senkeleski in view of Ziegler.

AFFIRMED; NEW GROUND OF REJECTION
PURSUANT TO 37 C.F.R. § 41.50(b)