

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL HOJJATIE,
HARRY CHARLES KOMINSKI III and
DEAN ABRAMS

Appeal 2006-2185
Application 10/248,892
Technology Center 1700

Decided: September 28, 2006

Before KRATZ, TIMM, and JEFFREY T. SMITH, *Administrative Patent Judges*.

KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 1-3 and 5-11, the only claims that remain pending in this application.¹ We have jurisdiction pursuant to 35 U.S.C. § 134

¹ An Oral Hearing took place on September 14, 2006.

Appellants' invention is directed to method of making a triazone-containing plant nutrient solution. A reaction mixture, including water, urea, formalin and an alkaline material, is maintained at a specified temperature until urea dissolves. An ammonia reactant is added to the reaction mixture and the reactant mixture is maintained under conditions to form an aqueous product solution containing at least one triazone compound. A further understanding of Appellants' process can be obtained from a review of Appellants' claim 1, which is reproduced below:

1. A one-stage process of preparing a triazone-containing plant nutrition solution for slowly releasing nitrogen, the process comprising:
 - (i) forming a reaction mixture by combining water, urea, formalin, and a sufficient amount of an alkaline material to maintain a pH greater than 7, wherein a temperature from about 40°C to about 55°C is maintained until the urea dissolves;
 - (ii) adding to said reaction mixture an ammonia reactant while heating the reaction mixture if needed, to maintain a temperature of at least about 90°C;
 - (iii) sequentially adding to said reaction mixture additional portions of alkaline material under conditions sufficient to form an aqueous product solution containing at least one triazone compound; and
 - (iv) recovering the product.

The Examiner relies on the following prior art references as evidence in rejecting the appealed claims:

Hawkins '005	US 4,554,005	Nov. 19, 1985
Hawkins '510	US 4,778,510	Oct. 18, 1988
Graves	US 5,674,971	Oct. 7, 1997
Taylor	US 6,586,557	Jul. 1, 2003

Claims 1-3 and 5-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hawkins ‘005 or Hawkins ‘510, each in view of Taylor and Graves.

OPINION

We have thoroughly reviewed each of Appellants’ arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of Section 103 in view of the applied prior art. Accordingly, we will sustain the Examiner’s rejections for essentially the reasons expressed in the Answer. We add the following for emphasis.

Appellants do not argue the claims separately. Thus, we select claim 1 as the representative claim on which we shall decide this appeal.

Appellants dispute with the Examiner’s obviousness determination centers on the question of whether or not it would have been obvious to one of ordinary skill in the art to maintain the reaction mixture of either Hawkins ‘005 or ‘510 at a temperature corresponding to the claim 1 temperature of from about 40 degrees Celsius to about 55 degrees Celsius until urea dissolves taking into account the combined teachings of the applied references. In this regard, Appellants do not argue with the Examiner’s determination that both Hawkins ‘005 and ‘510 suggest a process of forming a triazole-containing plant nutrition solution from a reaction mixture that includes water, urea, formaldehyde (formalin) and an alkaline material, such as potassium hydroxide. Nor do Appellants argue with the Examiner’s determination that both Hawkins ‘005 and ‘510 teach or suggest reacting such a mixture with ammonia reactant using conditions, including alkalinity and temperature, to form a triazole product. Moreover, Appellants and the

Examiner seemingly agree that neither Hawkins I or II expressly describe the claimed temperature condition proviso with respect to the dissolution of urea in the reaction mixture. See the Briefs and the Answer in their entirety, and the applied references as referred to therein.

Concerning this argued limitation of the claimed process, the Examiner notes Taylor teaches/suggests maintaining a reactant mixture, including urea, formaldehyde and basic pH additive, at a temperature that is preferably below 60 degrees Centigrade during charging of the reactants and before raising the temperature to make triazone. See the Answer at pages 4 and 5 and Taylor at col. 4, ll. 6-23. Moreover, the Examiner refers to Graves for a teaching to heat a reaction mixture including urea and formalin to 45 degrees Centigrade to dissolve urea therein prior to heating the reaction mixture further with ammonia addition to form a triazone-containing solution. Based on the combined teachings of those references, the Examiner has reasonably determined that that the process of representative claim 1, including the step of maintaining the reaction mixture at a temperature between about 40 degrees Celsius to about 55 degrees Celsius to dissolve the urea reactant, would have been *prima facie* obvious to one of ordinary skill in the art based on the applied references' teachings. In this regard, we note that Hawkins '005 teaches that the reactants, including urea , are mixed in an aqueous solution and that the urea can be added in solid form. See Hawkins '005 at col. 6, ll. 39-64. Also, see, e.g., Hawkins '510 at col. 2, l. 13 through col. 4, l. 3 and Table 10 for a similar disclosure. Thus, one of ordinary skill in the art would have been led to select a suitable temperature for the aqueous reaction mixture to dissolve any solid urea that is added. In particular, Taylor and Graves evidence that the selection of a

temperature within the claimed range would have been recognized by one of ordinary skill in the art as a suitable temperature for maintaining such a reaction mixture for dissolving urea.

In light of the above, Appellants' contention of a lack of suggestion for the Examiner's proposed modification of either Hawkins '005 or Hawkins '510 is not found persuasive. Indeed, we note that Taylor not only references the making of triazones for use as a fertilizer, but also refers to the here applied U.S. Patent No.'s 4,554,005 and 4,778,510 (Hawkins '005 and '510). See col. 3, ll. 24-57 of Taylor. Consequently, Appellants' argument that Taylor is not combinable with either of the applied Hawkins references based on the additional binder formation steps therein is clearly untenable. Given the above, Appellants' position respecting the lack of combinability of Graves with either Hawkins '005 or '510 based on the ultimate glass binder binder formation taught therein is likewise unpersuasive.

Appellants maintain that Hawkins' 005 teaches away from the Examiner's proposed modification in that Hawkins '005 notes that it is desired to avoid maintaining the reaction mixture in an non-reacted state for a prolonged period of time. As to the specific question of "teaching away," our reviewing court in *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) stated:

[a] reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.

Here, we agree with the Examiner that Hawkins '005 or '510, Graves and Taylor provide facts which support the Examiner's obviousness contention regarding the proposed modification of either of the Hawkins' references, as outlined in the Answer and above. In addition, we note that Hawkins '005 does not serve as a teaching away from the claimed subject matter as Appellants maintain. In this regard, the teaching in Hawkins '005 concerning the avoidance of a prolonged period of time between forming a reactant admixture and reacting the same would not discourage one of ordinary skill in the art from making sure urea, one of the aqueous reactants, is dissolved. Indeed, providing for the dissolution of urea, one of the aqueous solution reactants, would be an expected reactant admixture formation step, not a delay in keeping the reactants in admixture. In this regard, we note that Appellants (Reply Br. 8) acknowledge that urea dissolves at 45 degrees Centigrade, as taught by Graves. That is all that Graves is relied on for. Moreover, Hawkins '005 teaches that the reactants are mixed in an aqueous solution before the "solution" is heated to a high enough temperature to perform the reaction. See, e.g., col.6, ll. 39-47 of Hawkins '005. In this regard, Hawkins '005 seems to be primarily concerned with a reactant imbalance occurring or being maintained as set forth at col. 6, ll. 51-59 of Hawkins '005, not with preventing any reactant admixture time and/or temperature conditions for dissolution of urea. Appellants express the same concern with respect to reactant imbalance in paragraph 0030 of their Specification. As such, Appellants' teaching away contention is lacking in merit.

As for the arguments concerned with the alleged discovery of a new benefit associated with dissolving urea at temperature conditions conducive

for such dissolution prior to reacting the urea, we note that the discovery of such an allegedly new advantage is not persuasive of unobviousness. In this regard, we note that Appellants have not alleged any criticality and/or any unexpected advantages as being attributable to this claimed dissolution feature much less proffered any truly comparative tests to establish such. In this regard, Appellants have not established that Comparative Examples 2 and 3 presented in their Specification are representative of the closest prior art. Nor has Appellant established that Example 1 of the Specification is commensurate in scope with the here claimed subject matter much less attended by unexpected results.

On this record, we affirm the Examiner's obviousness rejection.

CONCLUSION

The Examiner's rejection of claims 1-3 and 5-11 under 35 U.S.C. § 103(a) as being unpatentable over Hawkins '005 or Hawkins '510, each in view of Taylor and Graves is affirmed.

Appeal 2006-2185
Application 10/248,892

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv)(2004).

AFFIRMED

PK/tf

Banner & Witcoff
1001 G Street, N.W.
Suite 1100
Washington, D.C. 20001