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Paper No. 42

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte OLAN S. FRUCHEY, EDWARD G. ZEY
and LARRY O. WHEELER

Appeal No. 96-2335
Application 08/213,375¹

ON BRIEF

Before DOWNEY, METZ and HANLON, Administrative Patent Judges.

DOWNEY, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1 through 8. Claims 9 through 14, pending in the application, stand withdrawn by the

¹ Application for patent filed March 15, 1994. According to the appellants, the application is a continuation of Application 07/957,465, filed October 6, 1992, abandoned; which is a continuation of Application 07/608,106, filed November 1, 1990, abandoned.

examiner pursuant to 37 C.F.R. § 1.142(b).

The subject matter on appeal is directed to a method of purifying crude N-acetyl-para-aminophenol (APAP).

All the claims stand or fall together. Claim 1 is illustrative and reads as follows:

1. A method of purifying a crude N-acetyl-para-aminophenol (APAP) containing color bodies or their precursors comprising forming a hot aqueous solution of said crude APAP, and subsequently contacting said hot solution with an acid washed adsorbent carbon which prior to said contact has been treated by contacting it with an aqueous solution of a reducing sulfite.

The references relied upon by the examiner are:

Baron	3,748,358	Jul. 24, 1973	Kosak
	3,781,354	Dec. 25, 1973	

Claims 1 through 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Baron and Kosak. We reverse.

The process of claim 1 is directed to a method for purifying crude APAP. In the manufacture of APAP, there is a tendency for color bodies and color body precursors to form which cause the crude product to have or to develop subsequently an undesirably colored appearance. Appellants have found that contacting a hot aqueous solution of crude APAP with an acid washed adsorbent carbon, which prior to said contact, has been pretreated with an aqueous solution of a reducing sulfite, e.g. sodium dithionite reduces the formation of certain impurities and produces a relatively pure decolorized APAP.

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The examiner alleges that Baron teaches a method of purification of N-acetyl-p-aminophenol “whereby they use salts of oxygen acids of sulfur to prewash the adsorbent carbon, similar to those described in the recited claims” (citing Baron, column 2, lines 15-25, column 3, lines 50-65 and column 4, lines 60-70). The examiner also alleges that the only difference between the Baron process and the claimed process is that Baron’s process “does not mention the contact time between charcoal and the sulfite as against prewash of carbon with sulfite for ½ hour to 1 hour in the claimed process” (pages 2 and 3 of the Answer). To overcome this alleged deficiency the examiner relies upon Kosak stating that the time of contact between the hot phenol and ferric chloride and activated carbon in Kosak is between 15 minutes to 2 hours. The examiner concludes that one of ordinary skill in this art would have modified Baron to have a contact time between phenol and pretreated activated charcoal because Kosak suggests a similar contact time.

We disagree with the examiner’s position. The Patent and Trademark Office (PTO) has the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness. In re Piasecki, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). This burden can be satisfied when the PTO presents evidence, by means of some teaching, suggestion, or inference either in the applied prior art or our generally available knowledge, that would appear to have suggested the claimed subject matter to a

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person of ordinary skill in the art or would have motivated a person of ordinary skill in the art to combine the applied references in the proposed manner to arrive at the claimed invention. See Carella v. Starlight Archery Pro Line Co., 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed Cir. 1986); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); In re Rinehart, 531 F.2d 1048, 1051-1052, 189 USPQ 143, 147 (CCPA 1976).

Contrary to the examiner's allegation, Baron does not teach the use of salts of oxygen acids of sulfur to prewash the adsorbent carbon. Rather he discloses a known purification method for APAP comprising acetylating N-acetyl-para-aminophenol in the presence of salts of inorganic sulfur acid compounds to reduce the color of the ultimate product. These compounds are described as the oxygen acids of sulfur wherein the sulfur is in a lower valence state when in sulfuric acid, e.g., sodium dithionate. In addition, Baron teaches purification of crude APAP by treating an aqueous solution of APAP with a carbon that has been preliminarily treated with an acidic solution. Thus, Baron teaches the individual use of sodium dithionate and an acid washed carbon to purify crude APAP. The examiner has not explained how the individual or combined use of these purifying agents would be suggestive of acid washed carbon pretreated with a solution of reducing sulfite for the purification of crude APAP. Kosak does not remedy the deficiencies of Baron. The Kosak method of purification of crude APAP involves the use of the

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combination of activated carbon and an oxidizing agent, not an acid washed carbon pretreated with a reducing agent.

Based on this record, the examiner's findings and conclusions to purify APAP in the process as set forth in the appealed claims are unsupported by logic or evidence engendered by the combined teachings of the Baron and Kosak references.

Accordingly, the decision of the examiner is reversed.

REVERSED

MARY F. DOWNEY)
Administrative Patent Judge)
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) BOARD OF PATENT
ANDREW H. METZ)
Administrative Patent Judge) APPEALS AND
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) INTERFERENCES
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