

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DALE LEROY RUNYON

Appeal 2008-1941
Application 10/459,640
Technology Center 1700

Decided: March 21, 2008

Before EDWARD C. KIMLIN, JEFFREY T. SMITH, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 the final rejection of claims 9-24. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

INTRODUCTION

Appellant claims a method of processing source material using functionally electrolyzed water (FEW) (claim 1). Appellant discloses that

using FEW to process the source material (i.e., coal combustion products) is safer than the current chemicals used to process coal combustion products (i.e, hydrochloric acid, sulfuric acid, or nitric acid) (Original Spec. 2)¹.

Claim 9 is illustrative:

A method for processing a source material using functionally electrolyzed water comprising:

generating functionally electrolyzed water;

contacting said functionally electrolyzed water with the source material to define a mixture with products from chemical reactions between said functionally electrolyzed water and the source material; and

removing the products from the functionally electrolyzed water and source material mixture.

The Examiner relies on the following prior art references as evidence of unpatentability:

¹ Appellant filed a Substitute Specification with a Substitute figure on December 2, 2005. However, Appellant did not include a statement that the Substitute Specification includes no new matter as required by 37 C.F.R. § 1.125(b) (2003). We note that the substitute figure and the description thereof differ substantially from the original figure and its description. Furthermore, the Examiner has not made an affirmative indication of whether the Substitute Specification has been entered in accordance with the Manual of Patent Examining Procedure (MPEP) § 608.01(q) (8th Ed. Revised September 2007). In light of these circumstances, we cannot determine whether the Substitute Specification has been entered by the Examiner. Accordingly, we refer in the decision to the original Specification filed June 5, 2003.

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Dvalishvili (as translated) ^{2, 3}	SU 1031507 A	Jul. 30, 1983
Hewlett	5,529,606	Jun. 25, 1996

The rejection as presented by the Examiner is as follows:

1. Claims 9-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hewlett in view of Dvalishvili.

Appellant only argues independent claim 9.

The Examiner finds that Hewlett discloses all the features of claim 9, except the use of functionally electrolyzed water (FEW) (Ans. 3). The Examiner finds that Dvalishvili discloses using electrolyzed water to treat ore materials (Ans. 3). The Examiner concludes that it would have been obvious to substitute Dvalishvili's electrolyzed water for the water of Hewlett because improved mineral recovery as taught by Dvalishvili would also be desirable in Hewlett's process (Ans. 3 and 4). The Examiner determines that once Hewlett's water with NaCl is electrolyzed per Dvalishvili's disclosure to electrolyze the water, FEW would have been formed (Ans. 4).

² Both Appellant and the Examiner refer to SU 1031507 A as "Avramov." However, the Examiner's translation mailed to Appellant on January 17, 2008 indicates the first named inventor as "V. Sh. Dvalishvili."

Accordingly, we use the first named inventor to reference SU 1031507 A in this decision.

³ There appear to be two translations of the Dvalishvili reference. Appellant submitted a translation on March 31, 2006 and the Examiner mailed a translation to Appellant on January 17, 2008. We have considered both and find them to contain the same subject matter. Therefore, we refer in the decision to the translation mailed on January 17, 2008 to Appellant.

OPINION

Appellant argues that neither Hewlett nor Dvalishvili discloses the FEW claim feature (Br. 3-4). Appellant argues that Dvalishvili fails to disclose whether chemical reactions occur between the electrolyzed water and source material and the Examiner has not established that such reactions inherently occur (Br. 4-5). Appellant contends that there is no motivation to substitute Dvalishvili's electrolyzed water with Hewlett's method of treating metal ore (Br. 6).

We have considered Appellant's arguments and are unpersuaded for the reasons below.

We begin our analysis by construing the claim phrase "functionally electrolyzed water." In our analysis we use the original Specification filed June 5, 2003 for the reasons noted above. *See, n. 1 supra.* The originally filed Specification indicates that "functionally electrolyzed water" is "made from water and electrolytes such as various salts (NaCl, NaBr, NaSO₄)" (Spec. 3). This FEW definition does not require that the water with the salts be electrolyzed. Accordingly, we construe the claim phrase "functionally electrolyzed water" as water with salts added to it.

Hewlett discloses an oxidation process for separating various metals from ores (Hewlett, col. 1, ll. 4-6). Hewlett uses water with NaCl in the method to oxidize and aid in removing metal from ore (Hewlett, col. 7, ll. 5-41). Hewlett discloses that it is known to use electrooxidation (i.e., the electrolysis of brine to produce sodium hypochlorite as the oxidant) to treat metal ores (Hewlett, col. 2, ll. 27-30).

Using our claim construction of “functionally electrolyzed water,” we determine that Hewlett’s water with NaCl satisfies the functionally electrolyzed water claim feature. Because it is undisputed that Hewlett discloses the other features of claim 9 and in view of our construction of “functionally electrolyzed water,” we find that Hewlett anticipates Appellant’s claim 9. In other words, in the Examiner’s § 103 rejection over Hewlett alone would have rendered obvious Appellant’s claims. *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982) (Anticipation is the epitome of obviousness).

Notwithstanding the above finding, even if we construe the claim phrase “functionally electrolyzed water” as including electrolysis of the water and electrolytes, the Examiner’s combination of Hewlett in view of Dvalishvili would have rendered the claims obvious.

Specifically, Hewlett discloses that water and NaCl (i.e., an electrolyte) are combined to assist with leaching metal and minerals from ore (Hewlett, col. 7, ll. 5-7 and 30-32). Hewlett also discloses that it is known in the metal extraction art to use electrooxidation to assist in the recovery of metal from ore (Hewlett, col. 2, ll. 28-30). Hewlett discloses that electrooxidation includes the electrolysis of brine to form sodium hypochlorite to be used as an oxidant in the separation process for gold from ore (Hewlett, col. 2, ll. 29-30).

Dvalishvili discloses that using electrolyzed water “activated” the surface of the mineral grains and permitted the timely removal of the mineralized foam with the useful components (Dvalishvili, 4).

From the above disclosures and contrary to Appellant's argument, Hewlett provides motivation (i.e., a suggestion) to use functionally electrolyzed water to aid in separating metals, such as gold, from ore. Further undermining Appellant's argument, Hewlett discloses that it is known to use functionally electrolyzed water (i.e., electrolyzed brine) to oxidize (i.e., chemically react) the sulfides in a metal separation process. Moreover, Dvalishvili discloses that the electrolyzed mine water activates the surface of the mineral grains further indicating some level of interaction (e.g., a chemical reaction) between the electrolyzed water and the ore being treated.

From the above disclosures, we conclude that the combination of Dvalishvili's disclosure to use electrolyzed water with Hewlett's method of oxidation and separation of metals from ore would have been obvious because Hewlett discloses that using electrolyzed brine is known to aid in separating metals from the ore and Dvalishvili discloses that electrolyzed water activates the mineral surface. We add that Hewlett alone would have suggested using the functionally electrolyzed water (i.e., brine that has been electrolyzed) with Hewlett's disclosed metal separation process to aid in separating metal, such as gold, from the ore.

Additionally, the use of functionally electrolyzed water with Hewlett's method of separating metals from ore is merely the predictable use of a prior art element (i.e., functionally electrolyzed water (electrolyzed brine)) according to its established function (i.e., aiding in the separation process by oxidizing the sulfur in the ore) (Hewlett, col. 2, ll. 28-30). *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007).

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For the above reasons, we sustain the Examiner's § 103 rejection of claims 9-24 over Hewlett in view of Dvalishvili.

DECISION

The Examiner's decision is affirmed.

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

AFFIRMED

tf/ls

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