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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JONATHON ANDREW NYE and
ROBERT JEROME NICKLES

Appeal 2010-001708
Application 11/223,238
Technology Center 3600

Before: CATHERINE Q. TIMM, MICHAEL W. O’NEILL, and

GREENHUT, Administrative Patent Judge.

DECISION ON APPEAL
STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner’s rejection of claims 14-20, 26-28, and 32-35. App. Br. 2. The rejection of claims 30 and 31 is not appealed and the Examiner is directed to cancel these claims. See MPEP § 1215.03; see also Ex parte Ghuman, 88 USPQ2d 1478 (BPAI 2008). We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

The claims are directed to a target material for the production of $^{124}$I. Claim 14, reproduced below, is illustrative of the claimed subject matter:


REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Lambrecht US 5,019,323 May 28, 1991


REJECTIONS

Claim 28 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Non-Final Rej. 2. Claim 28 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Non-Final Rej. 3.

Claims 14, 32 and 35 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schlyer. Ans. 4.

Claims 14-20, 32 and 35 are rejected under 35 U.S.C. § 102(b) as being anticipated by Qaim. Ans. 5.

Claims 15-20 and 26-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schlyer and Qaim. Ans. 7.

Claim 33 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Qaim or Schlyer, Qaim and Lambrecht. Ans. 9.

Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Qaim, or Schlyer, Qaim and Sheh. Ans. 10.

OPINION

Rejection of claim 28 under 35 U.S.C. § 112, first paragraph

Regarding claim 28, the Examiner found that the originally filed Specification did not disclose a target material consisting of aluminum telluride. Non-Final Rej. 3. According to the Examiner, Appellants’ disclosed target may include impurities such as other isotopes of tellurium, such as $^{122}$Te and $^{123}$Te. The Examiner reasons that the “consisting of”

1 The Examiner’s rejections under 35 U.S.C. § 112 are not repeated in the Answer but we, like Appellants, presume the Examiner is maintaining these rejections, since the Examiner addresses them in response to Appellants’ argument. Reply Br. 3-5.
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language of the claim excludes the presence of the impurity isotopes, and, therefore, claim 28 is not supported by the Specification. Ans. 11-12.

We cannot say that the Examiner has provided adequate evidentiary support for the advanced position.

First, the Examiner has provided no convincing evidence that $^{122}\text{Te}$ and $^{123}\text{Te}$, if present, are not present bonded with aluminum in the form of aluminum telluride. The presence of $^{122}\text{Te}$ and $^{123}\text{Te}$ in $^{124}\text{Te}$-enriched tellurium does not establish the presence of an ingredient other than aluminum telluride in the target material.

Second, we agree with Appellants that *Ex parte Davis*, 80 USPQ 448, 449-50 (BPAI 1948)(holding “consisting of” has a special meaning when drafting patent claims, “closing the claim to the inclusion of materials other than those recited except for impurities ordinarily associated therewith,”) is directly on point. App. Br. 4-5. Contrary to the Examiner’s suggestion, we do not find *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331-32 (Fed. Cir. 2004), which held infringement cannot be avoided by the addition of completely unrelated subject matter when a claim uses “consists of” language, particularly relevant to this situation.

The Specification states that “the inventors have identified aluminum telluride (Al$_2$Te$_3$) as a superior target material” and describes “an aluminum telluride target.” Spec. 5, paras. [0011]-[0012]. This is a sufficient description to establish that the inventors possessed a target material that consists exclusively of aluminum telluride except for impurities ordinarily associated therewith. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (“[T]he test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled
in the art that the inventor had possession of the claimed subject matter as of the filing date.) (citations omitted).

For these reasons we reverse the Examiner’s rejection of claim 28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.


The Examiner contends that inclusion of claim 28 in the patent “would force a redefinition of ‘target’ as any portion of a target, which renders claim[] 28 [] indefinite through the poly-interpretability of ‘target.’” Non-Final. Rej. 3-4; Ans. 12-13.

We do not agree.

The test for definiteness under 35 U.S.C. § 112, second paragraph is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

Although the Examiner contends the term “target” is poly-interpretable, the Examiner has not established one of ordinary skill in the art could reasonably attribute to it multiple, incompatible meanings rendering the scope of the claimed subject matter unclear. Claim 14 recites a “target material” not a “target” and requires at least one element of that material to be $^{124}$Te-enriched aluminum telluride. Claim 28 further limits the target material of claim 14 by requiring aluminum telluride to be the only element of the target material, more specifically aluminum telluride made from at least 90% $^{124}$Te enriched tellurium. Claim 28 further limits the target material of claim 14 and its meaning is reasonably clear. Thus, we
cannot sustain the Examiner’s rejection of claim 28 under 35 U.S.C. § 112, second paragraph, as being indefinite.

**Rejections under 35 U.S.C. §§ 102 and 103**

Whether based upon Schlyer, Qaim, or some combination thereof, in each of the art rejections based on the prior art, the issue is substantially the same. The issue is: Does the evidence support the Examiner’s finding that aluminum telluride is inherently present in the targets of Schyler and/or Qaim?

The Examiner and Appellants agree that both Schlyer and Qaim disclose the mixing of substances in a target for the production of either $^{123}\text{I}$ or $^{124}\text{I}$ that could potentially chemically react to form $^{124}\text{Te}$-enriched aluminum telluride. However, neither Schlyer nor Qaim expressly discloses that such a chemical reaction actually takes place. Moreover, neither Schlyer nor Qaim provide any actual post-collision data regarding temperature or even any specific processing parameters for either the process of forming the target or the irradiation reaction for forming the iodine isotope using the target, which would enable one to accurately determinate whether substances react to form $^{124}\text{Te}$-enriched aluminum telluride.

Schlyer uses the same substances Appellants use to make aluminum telluride, i.e., aluminum powder, and tellurium powder. However, as pointed out by Appellants, there is no disclosure that the aluminum and tellurium powders covalently bond to form aluminum telluride. Br. 10. Qaim forms a target of $\text{TeO}_2$ mixed with $\text{Al}_2\text{O}_3$. Qaim 70. Again, as pointed out by Appellants, there is no disclosure of covalent bonding of aluminum and tellurium to form aluminum telluride. Br. 21.
The Examiner contends that due to both the environmental conditions and the collisions of protons or deuterons, there will be sufficient energy to raise the temperature, at least on a very localized scale, to a point at which a chemical reaction takes place to yield at least a very small amount of $^{124}$Te-enriched aluminum telluride in each of Schlyer and Qaim’s targets. Ans. 15-18.

Appellants contend that even the largest amount of heating that would occur due to both the environmental conditions and the collisions would still not raise the temperature sufficiently to cause enough of the substances in the targets of either Schlyer or Qaim to chemically react to form anything more than an extremely miniscule amount of $^{124}$Te-enriched aluminum telluride, if any is formed at all. App. Br. 10-17; Reply Br. 5-11. Relying heavily on In re Seaborg, 328 F.2d 996 (CCPA 1964) and SmithKline Beecham Corp. v. Apotex Corp., 403 F.3d 1331 (Fed. Cir. 2005), Appellants contend such an amount would be insufficient to anticipate claim 14. Reply Br. 6-7.

In Crown Packaging Technology, Inc. v. Ball Metal Beverage Container Corp., 635 F. 3d 1373, 1383 (Fed. Cir. 2011) our reviewing court stated:

“To anticipate a claim, a single prior art reference must expressly or inherently disclose each claim limitation. . . . But disclosure of each element is not quite enough—this court has long held that ‘[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.’” Finisar Corp. v. DirecTV Group, Inc., 523 F.3d 1323, 1334-35 (Fed. Cir. 2008) (quoting Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983)). Moreover, inherent anticipation requires more than mere probabilistic inherency, see Continental Can Co. USA v. Monsanto Co., 948 F.2d 1264, 1269 (Fed. Cir. 1991), and more
than the presence of an unrecognized *de minimis* quantity of claimed substance in the prior art. See *In re Seaborg*, . . . 328 F.2d 996 (1964). But these cases “do not show that inherency requires recognition” of the inherent element. See *Schering Corp. v. Geneva Pharms.*, Inc., 339 F.3d 1373, 1377 (Fed. Cir. 2003).

In *Schering Corp. v. Geneva Pharmaceuticals*, 339 F. 3d 1373, 1378 (Fed. Cir. 2003), the Court distinguished cases dealing with “accidental, unwitting, and unappreciated” anticipation, *Eibel Process Co. v. Minn. & Ontario Paper Co.*, 261 U.S. 45 (1923) and *Tilghman v. Proctor*, 102 U.S. 707 (1880), where the record did not conclusively establish that the prior art produced the claimed subject matter, from cases in which the record established that the claimed subject matter necessarily and inevitably was a consequence of practicing a prior art process under the normal, as opposed to hypothetical or unusual, conditions disclosed.

We recognize that it is not the PTO but Appellants that are in the best position to prove that the targets that underwent Schlyer or Qaim’s process do or do not actually include $^{124}$Te-enriched aluminum telluride. See, e.g., *In re Best*, 562 F.2d 1252, 1254-55 (CCPA 1977). Nevertheless, Appellants cannot be put to such a burdensome task until the Examiner has provided a sufficient basis in fact and/or technical reasoning to support the determination that more than a de minimis and unrecognizable quantity of $^{124}$Te-enriched aluminum telluride is necessarily present in Schlyer’s or Qaim’s targets. Appellants cannot be required to verify the unverifiable.

This case is more similar to *Seaborg*, than *SmithKline* and *Schering* because, in *SmithKline* and *Schering*, the record established that the production of at least trace amounts of the claimed compound was a necessary consequence of practicing the prior art process according to the
normal conditions disclosed. As in Seaborg, the facts of record only establish that given the right set of hypothetical circumstances, there is only a possibility that some unknown, possibly very small, amount of $^{124}\text{Te}$-enriched aluminum telluride may have actually been produced in Schlyer’s or Qaim’s targets. The factors that influence whether the reaction to produce $^{124}\text{Te}$-enriched aluminum telluride would take place include, but are not necessarily limited to, quantity and mixing of aluminum or aluminum oxide and $^{124}\text{Te}$-enriched tellurium or tellurium oxide, time, temperature, and the absence of other substances that would tend to discourage reaction. Since neither Schlyer nor Qaim mention the composition or discuss the factors influencing its production, if it was produced by either of their processes, it was likely produced unwittingly and accidently and went entirely unappreciated. The Examiner has not established that under the disclosed operating circumstances more than a de minimis and unrecognizable quantity of $^{124}\text{Te}$-enriched aluminum telluride necessarily resulted from practicing Schlyer’s or Qaim’s processes.

The Examiner’s contention that the irradiation process produces the dominant effect on heating (Ans. 15-18) essentially presumes that all the kinetic energy of the collisions is applied to heating which results in the breaking of chemical bonds of the tellurium and aluminum oxides and/or forming chemical bonds between aluminum and tellurium. We agree with Appellants that such a presumption ignores other mechanisms for dissipating energy such as excitation of orbital electrons. Reply Br. 10; see also EVANS ET. AL, THE ATOMIC NUCLEUS 656 (McGraw Hill 1955), Exhibit 8. While, at least with respect to Schlyer, considering the masses cited by Appellants in light of the molecular weight of aluminum telluride, Appellants acknowledge that given the right set of circumstances at least a molecule of
124Te-enriched aluminum telluride could be produced, this does not obviate the Examiner’s burden of establishing that in the actual circumstances of Schlyer at least a molecule of 124Te-enriched aluminum telluride must necessarily be produced. To establish inherency the allegedly inherent characteristic must be the natural result flowing from operation of the Schlyer and Qaim as taught, not according to some undisclosed mode of operation or according to certain undisclosed presumptions. See, e.g., In re Oelrich, 666 F. 2d 578, 581 (CCPA 1981) quoting Hansgirg v. Kemmer, 102 F.2d 212, 214 (CCPA 1939).

We are thus constrained to reverse all of the Examiner’s rejections under 35 U.S.C. §§ 102 and 103 since all of these rejections are based upon an insufficient finding of inherency.

DECISION

For the above reasons, the Examiner’s rejection of claims 14-20, 26-28, and 32-35 are reversed.

REVERSED

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