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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ETSUO AKIBA, HIROTOSHI ENOKI,
NAOYOSHI TERASHITA, and SHIGERU TSUNOKAKE

Appeal 2012-00853
Application 11/817,459
Technology Center 1700

Before CHUNG K. PAK, CHARLES F. WARREN and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 9-28. We have jurisdiction under 35 U.S.C. § 6.[1]

The Examiner maintains and Appellant requests (App. Br. 5),review of the following rejections of claims 9-28:

I. Claims 9-18 and 22-28 rejected under 35 U.S.C. § 102(b) as anticipated by Kavesh, U.S. Patent 3,845,805.

II. Claims 9-22 rejected under 35 U.S.C. § 102(b) as anticipated by Patil, U.S. Patent No. 4,375,371.

III. Claims 22-28 rejected under 35 U.S.C. § 103(a) unpatentable over Patil.

IV. Claims 19 and 20 rejected under 35 U.S.C. § 103(a) unpatentable over Kavesh in view of Fetcenko, U.S. Patent 4,948,423, and Johnson, "Principle Gases and Vapors," Vol. 4, ASM Handbook.

V. Claim 21 rejected under 35 U.S.C. § 103(a) unpatentable over Kavesh in view of Fetcenko, Johnson and Patil.

OPINION

We have thoroughly reviewed the Examiner's rejection and Appellant's arguments there against. We affirm the Examiner's rejection for the reasons presented by the Examiner. We add the following.

[1] An oral argument for this appeal was held on February 4, 2013.

Appellant's invention relates in general to a method of producing an alloy containing a metal having a low melting point, a low boiling point and a high vapor pressure. (Spec. 1). Claims 9 and 24 are illustrative of the subject matter on appeal and are reproduced below from the appendix to the briefs.

> 9. A method of producing an alloy, wherein the alloy comprises one or more of Mg, Ca, Li, Zn, Mn, and Sr and the method comprises combining the metals of the alloy and melting them in an atmosphere that comprises helium to produce the alloy.
>
> 24. A method of producing an alloy, wherein the alloy comprises one or more of Mg, Ca, Li, and Zn and the method comprises combining the metals of the alloy and melting them in an atmosphere which comprises at least 10 vol.% of helium and has a pressure of from 0.01 MPa to 1 MPa to produce the alloy.

Rejection I

The dispositive issue for this rejection is: Did the Examiner err in determining that Kavesh discloses a method of producing an Mg alloy comprising melting the metals in a helium atmosphere as required by the subject matter of independent claim 9?[2]

We answer this question in the negative and therefore AFFIRM.

The Examiner properly found that Kavesh, columns 9 and 10, described the melting of Zn, Mg, and Ca under a helium atmosphere. (Ans.

[2] In addressing this rejection, Appellants in their Principal Brief have only presented arguments directed to independent claim 9 and claims 12 and 26. We will limit our discussion to these claims.

5). The Examiner also properly found that Kavesh describes forming alloys containing Mg and Zn alloyed with Al. (Id.; Col. 11, Table I).

Appellants argue that Kavesh teaches the melting of a material that is already in alloy form, as opposed to the melting of combinations of pure metals as starting materials. (App. Br. 10). Appellants' argument is not persuasive for the reasons provided by the Examiner. (Ans. 10). The claimed invention reads on the recycling/reprocessing of alloyed materials utilizing a melting process. The claimed invention does not specify the time when the pure metals are "combined".

Regarding claims 12 and 26, Appellants argue that Kavesh does not indicate the atmosphere utilized in forming the alloys of table 1. (App. Br. 16). Appellants have not refuted the Examiner's position that the alloy and operation of the apparatus of Kavesh occur under an inert atmosphere as described and exemplified. (Ans. 14). Consequently, Kavesh's disclosure sufficient to place a person of ordinary skill in the art in possession of melting alloys in a helium (inert) atmosphere.

Rejections IV and V

We affirm the stated rejections. We add the following.

Appellants argue that Kavesh does not recognize the importance of the protective atmosphere and the disclosed process occurs in an argon atmosphere, not a combination of helium and nitrogen. (App. Br. 20 and 25). Appellants argue that there is no apparent reason to use a combination of helium and argon in place of Fetcenko's helium atmosphere. (Id.). Appellants further argue that the examples of the present specification exhibit unexpected results. (Id. at 21-22).

Appellants' arguments are not persuasive for the reasons set forth by the Examiner in the Answer. (Answer 16-17). A person of ordinary skill in the art would have recognized the suitable inert atmospheres for processing metal alloys as described by the cited prior art. A person of ordinary skill in the art would have reasonably expected that alloys would have been formed in an inert atmosphere that is a mixtures of the various known inert gases. We find no error in the Examiner's determination that a person of ordinary skill in the art would have replaced a portion of helium with argon for economic reasons, with a reasonable expectation of successfully producing an inert atmosphere.

The evidence in the Specification is unpersuasive of patentability. Appellant alleges that "unexpectedly, helium affords significantly better results than argon and terms of melting yield of the alloy produced, precision in obtaining the target alloy, and homogeneity of the alloy." (App. Br. 21).

It is first recognized that the examples in the specification are not commensurate in scope with claims 19-21. The subject matter of these claims are not limited to only alloys containing calcium, nickel and magnesium and produced from using the concentration of helium contained in the exemplified invention. Appellants have not explained why these examples are representative of the scope of the claimed invention and why the comparative example is representative of the closest prior art.[3] The burden of showing unexpected results rests on the person who asserts them by establishing that the difference between the claimed invention and the

[3] It is noted that the comparative example excludes helium as the inert atmosphere.

closest prior art was an unexpected difference. *See In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972).

Rejection II

Appellants argue that the claims of Patil encompass large possible combinations that are not sufficient to establish anticipation of the claimed invention. (App. Br. 17-18).

The proper test for applying a publication as a § 102(b) bar is "whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought." *In re Elsner*, 381 F.3d 1125, 1128 (Fed. Cir. 2004) (*citing In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962)). In particular, in view of the publication, one must be able to make the claimed invention without undue experimentation. *Elsner*, 381 F.3d at 1128.

The Examiner found that Patel described discharging raw materials into a furnace such as manganese, aluminum, silicon, and calcium for the production of alloys (Ans. 6; see also col. 1, l. 5, col. 3, ll. 59-63). Patel discloses helium as a suitable protective inert atmosphere. (Col. 2, ll. 25-30). Consequently we agree with the Examiner that the description of Patel is sufficiently specific to place the subject matter of the claimed invention within the possession of a person of ordinary skill in the art.

Rejection III

Appellants argue that Patel does not described the elements that are

recited in claims 24-28 or render the ranges of claims 24-28 obvious to one of ordinary skill in the art. (App. Br. 25-26).

As set forth above, Patel describes forming alloys from calcium which is one of the elements specified by independent claim 24. The Examiner found Patel (columns 2 and 4) discloses atmosphere ranges that overlapped with those of the claim subject matter. The Examiner found that these descriptions were sufficient to render obvious the claim subject matter. (Ans. 8-9). Appellants' arguments in rebuttal to the stated rejection did not address the ranges identified by the Examiner in the rejection.

For the foregoing reasons and those presented in the Examiner's Answer, we affirm the appealed rejections.

ORDER

The Examiner's rejections are 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

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