

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KLAUS HRASTNIK

Appeal 2008-3631
Application 10/448,651
Technology Center 1700

Decided: September 30, 2008

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Primary Examiner's final rejection of claims 2-8, 10, and 12.¹ We have jurisdiction pursuant to 35 U.S.C. § 6.

¹ In rendering this decision we have considered the Appellant's arguments presented in the Brief dated July 2, 2007 and the Reply Brief dated December 12, 2007.

Appellant's invention is directed to a nickel-based electrode. The electrode is suitable for use as a sparkplug electrode. Claim 8 and 10 are representative of the invention and are reproduced below:

8. A spark-plug electrode for an internal combustion engine, comprising:

a nickel-based alloy comprising:

1.8 wt% to 2.2 wt% silicon;

0.05 wt % to 0.1 wt% of at least one of hafnium and zirconium;

2 wt % 2.4 wt % aluminum; and

a remainder of nickel.

10. A spark-plug electrode for an internal combustion engine, comprising:

a nickel-based alloy comprising:

1.8 wt% 2.2 wt% silicon;

0.05 wt % to 0.1 wt% of at least one of yttrium, hafnium and zirconium;

2 wt % to 2.4 wt % aluminum;

more than 0 and up to 5 wt % of cobalt; and

a remainder of nickel.

ISSUES ON APPEAL

Claims 2-8, 10, and 12 stand finally rejected under 35 U.S.C. § 103(a) as unpatentable over Marushichi, Japanese Patent Document No. 9-92290 published April 4, 1997, or Kurauchi, Japanese Patent Document No. 64-79337 published March 24, 1989.² Claims 2-8, and 12 stand finally rejected

² English-language translations of these Japanese Patent documents have been provided in the present record.

under 35 U.S.C. § 103(a) as unpatentable over Kitamura, Japanese Patent Document No. 8-53729 published February 27, 1996.³

The Examiner contends that Marushichi, Kurauchi and Kitamura each discloses nickel-based compositions suitable for use as electrodes that comprise silicon, aluminum, and at least one of hafnium or zirconium in amounts that render obvious the percentages of these components specified by the claimed invention.⁴ The Examiner does not consider the claim language “a spark-plug electrode for an internal combustion engine” to patentably distinguish the claimed invention from the nickel alloy compositions of Marushichi, Kurauchi, and Kitamura and the use thereof as an electrode. (Ans. 3-7).

For each of the rejections, Appellant has not argued that the nickel alloy compositions of Marushichi, Kurauchi, and Kitamura are patentably distinct from the nickel alloy compositions of the claimed invention. (See Briefs generally). Rather, Appellant contends that the claim language “a spark-plug electrode for an internal combustion engine” defines structure that distinguishes the invention from the invention of Marushichi, Kurauchi and Kitamura. Appellant contends that Marushichi, Kurauchi, and Kitamura

³ For each of the rejections, Appellant has relied upon the arguments presented for the independent claims, i.e. 8 and 10. That is, Appellant has not presented substantive arguments for the dependent claims. Consequently, the appealed claims stand or fall with independent claims 8 and 10. Our analysis will be limited to claims 8 and 10.

⁴ Regarding claim 10, the Examiner contends that Marushichi and Kurauchi also describe more than 0 and up to 5 wt% of cobalt.

describe a different utility for their nickel alloy compositions. (App. Br. 3-6, Reply Br. 2-5).

The issue presented is: did Appellant identify reversible error in the Examiner's rejections of claims 2-8, 10, and 12 under § 103? We answer this question in the negative. The issue presented is whether a person of ordinary skill in the art would have recognized that nickel alloy compositions are suitable for use as a spark-plug electrode for internal combustion engine.

We have thoroughly reviewed each of Appellant's arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter is not patentable within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections.

OPINION

We determine the following Findings of Fact (FF) from the record presented in this appeal:

- (1) The Specification discloses that nickel-based alloys are known to have been suitable for producing electrodes for spark plugs in internal combustion engines. (Spec. 1-4).
- (2) The Specification discloses the known parts of spark plugs include "a stopper which includes a ceramic, a middle electrode and a terminal pin. A sparkplug also has a steel casing having one or more ground electrodes mounted on it. These electrodes are usually made of

corrosion-resistant and heat-resistant metals such as nickel.” (Spec. 1).

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations, if any. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007). “[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.* *See also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re O’Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) (“For obviousness under § 103, all that is required is a reasonable expectation of success.” (citations omitted));.

Applying the preceding legal principles to the Factual Findings (FF) in the record of this appeal, we determine that the Examiner has established a prima facie case of obviousness, which prima facie case has not been

adequately rebutted by Appellant's arguments. As shown by FF (1-2) above, persons of ordinary skill in the art recognized that nickel alloys have corrosion-resistant and heat-resistant properties that make them suitable for forming sparkplug electrodes. Marushichi, Kurauchi and Kitamura each describes nickel alloy compositions. Persons of ordinary skill in the art recognized the parts that are normally associated with forming a sparkplug including nickel alloys as electrodes. (FF 2). Consequently, persons of ordinary skill in the art would have reasonably looked to prior art describing nickel-based alloy compositions such as those described by Marushichi, Kurauchi and Kitamura to determine their suitability for use as electrodes in sparkplugs.⁵

Appellant has alleged that using the claimed materials in the claimed amounts results in certain unexpected benefits in sparkplugs electrodes (App. Br. 4, Reply Br. 5). However, Appellant has not directed us to

⁵ Appellant has not argued that the Examiner's findings regarding the compositional content of the nickel alloy compositions of Marushichi, Kurauchi and Kitamura are incorrect. Thus, we will not repeat those findings here. Given the teachings of the background of the invention and the cited prior art, it is our judgment that one of ordinary skill in the art would have found the requisite motivation, suggestion, to arrive at optimum amount of components for a nickel alloy composition. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003)(“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955)(“[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”).

Appeal 2008-3631
Application 10/448,651

evidence to support these alleged unexpected benefits. Arguments and conclusory statements, which are unsupported by factual evidence (e.g., comparative experimental data commensurate with the degree of patent protection sought), are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re De Blauwe*, 736 F.2d 699, 705, (Fed. Cir. 1984).

For the foregoing reasons and those set forth in the Answer, we affirm the 35 U.S.C. § 103(a) rejections of claims 2-8, 10, and 12 as unpatentable over Marushichi or Kurauchi; and claims 2-8, and 12 as unpatentable over Kitamura.

ORDER

The rejections of claims 2-8, 10, and 12 under 35 U.S.C. § 103(a) 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

Ls/cam

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