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UNITED STATES PATENT AND TRADEMARK OFFICE  
U.S. PATENT & TRADEMARK OFFICE  
BEFORE THE COMMISSIONER OF PATENTS AND TRADEMARKS

In re

)  
)  
) Decision on  
) Petition for Review  
) Under 37 CFR § 10.2(c)

MEMORANDUM AND ORDER

(petitioner) seeks review of the decision of the Director of the Office of Enrollment and Discipline (OED) denying petitioner's request for higher scores on the morning and afternoon sections of the Patent Practitioner's Examination held on October 14, 1992. The petition is denied.

Background

Petitioner scored 68 out of a possible 100 for the morning section of the Patent Practitioner's Examination held on October 14, 1992. The grading of question 37 on the morning section of the exam has been disputed by petitioner.

A fact pattern precedes question 37 and reads in pertinent part:

Smith discovered that a tungsten carbide insert for a metal cutting tool may be bonded (with a far superior bond strength over other known methods of attachment) to a steel tool holder. Smith filed a patent application on his invention which contained the following two claims:

1. A method of bonding a carbide insert to a steel tool holder comprising the steps of providing a layer of polystyck at the interface of the holder and insert, heating the holder to a temperature of 250° F and thereafter cooling the insert and holder at a rate of between 12 and 13° F per hour until a temperature of 120° F is reached.

. . . .  
The examiner rejected claim 1 under 35 U.S.C. 103 as being unpatentable over a U.S. patent to Y in view of a British patent to Z. . . . The patent to Y teaches that a tungsten carbide insert is bonded to a steel tool holder by utilizing a layer of polystick at the interface of the insert and holder, but makes no mention of any particular temperatures. The patent to Z teaches that in a grinding tool, diamond chips may be "securely fastened" to a ceramic holder by applying a layer of polystick at the interface of the diamonds and holder, heating the holder to a temperature of 300° F and thereafter "slowly" cooling the holder.

Question 37 reads:

Which of the following, if any, if submitted with the response to the Office action, would most likely overcome the examiner's rejection of claim 1?

- (A) Evidence that a gear cutting machine which includes a carbide insert bonded to a steel tool holder by the method set forth in claim 1 is outselling all other such machines by a two-to-one margin.
- (B) An affidavit by Smith that, in his opinion, the patent to Y is inoperative.
- (C) Evidence that heavy advertising resulted in increased sales of Smith's invention.
- (D) An affidavit by Smith showing that the method of bonding a carbide insert to a steel tool holder results in a bond which is 50 times greater than that of the invention disclosed in the patent to Y.
- (E) None of the above.

Petitioner selected choice (A). In the model answers issued by the Director of OED, choice D was stated as the correct answer on the basis of 37 CFR § 1.132 and MPEP § 716. Petitioner requested reconsideration for question 37 by arguing that choice (A) provides strong evidence to overcome an obviousness rejection. Petitioner urged that choice (D) fails

to provide sufficient evidence to overcome a rejection based on a combination of prior art references.

OED initially denied the request on the basis that no facts pertaining to the question show or suggest that the commercial success referred to in choice (A) was a result of the invention defined by claim 1. Petitioner requested reconsideration by the Director of OED. The Director denied the request stating that the commercial success stated in answer choice (A) was not shown to be due to the invention defined by claim 1. The Director was not persuaded by petitioner's argument that a nexus between the stated commercial success and the claimed invention could be reasonably inferred. In response to petitioner's argument, the Director noted that Hughes Tool Co. v. Dresser Indus., Inc., 816 F.2d 1549, 1556, 2 USPQ2d 1396, 1402 (Fed. Cir.), cert. denied, 484 U.S. 914 (1987), dealt with copying of a patented feature which gave rise to an inference of a nexus between commercial success and the patented feature. Accordingly, the Director distinguished question 37 from Hughes Tool because the question has no facts which would reasonably give rise to an inference of the nexus required to show non-obviousness. The Director also noted that answer choice (D) was proper.

With regard to the afternoon section of the examination, petitioner initially scored 60 out of a possible 100. Part I of the afternoon section set forth a spark plug invention and

relevant prior art. Part I required petitioner to draft a claim to the spark plug.

Petitioner drafted the following claim:

What is claimed is:

A spark plug comprising:

1. An electrically conductive shell defining a longitudinal passage, having an interior annular shoulder, having an external shoulder, having an external threaded portion to engage a cylinder head of an internal combustion engine, and defining an aperture passing through the shell wall;

an elongated insulator formed from ceramic material having a longitudinal axis, having a taper nose portion terminating in a fixing end, having a terminal end opposite of the firing end, having an exterior annular ledge, having the nose portion placed in the longitudinal passage of the shell so that the insulator's exterior shoulder is in close relationship to to [sic] the shell's interior shoulder;

a gasket placed between the insulator's exterior shoulder and the shell's interior shoulder;

a center electrode connected to the terminal end of the insulator and extending to the firing end of the insulator

a ground electrode attached to the shell and extending toward the firing end of the insulator in order to form a firing gap;

a hermetically sealed wall constructed of electrically insulating material located in the annular space between the shell and the insulator, and placed near the firing end of the insulator;

a sealing gasket made of copper in annular space between the shell and the insulator at the interior ledges of each;

heat transfer medium in the space defined by the insulator, shell, wall, and copper gasket;

a fill tube in the shell aperture which is sealed after filling; and

adhesive to hold the sealed wall in place between the shell and the insulator.

For various reasons, 28 points were deducted for petitioner's claim.

In his request for reconsideration and regrade, petitioner argued that OED grading was in error with respect to eleven terms in his drafted claim. In response to the request for reconsideration, OED added three points to petitioner's afternoon score, thereby raising his score for the afternoon section to 63. Petitioner requested reconsideration by the Director of OED with respect to nine terms in the claim. The Director did not modify petitioner's afternoon score.

Petitioner seeks review by the Commissioner of Patents and Trademarks of the Director's decision as to above-noted morning question 37. Petitioner also seeks review with respect to the following nine phrases used in the claim he drafted for the afternoon section of the exam (points deducted in parentheses):

longitudinal passage (1),  
having an external threaded portion to engage a  
cylinder head of an internal combustion engine (2),  
gasket (2),  
hermetically sealed wall (1),  
firing gap (1),  
exterior annular ledge (2),  
the insulator's exterior shoulder (2),  
interior annular shoulder (1), and  
the interior ledges of each (4).

## Opinion

### I. Morning Section

For morning question 37, petitioner argues that choice (A) was better than choice (D). He states that a nexus between the invention claimed in the question and the commercial success stated in choice (A) is reasonably inferred. Petitioner argues that choice (D) is defective since the patent to Z is closer to the claimed invention than the patent to Y, and therefore, a comparison of the claimed invention to the invention described by the patent to Y is not persuasive. Petitioner also argues that choice (D) is defective because the rejection of claim 1 is based on a combination of two prior art patents, and therefore, according to petitioner, a comparison of the method described by claim 1 and the method stated in one prior art patent is not probative since a comparison of claim 1 to the combination would be required.

Petitioner's arguments are not persuasive. As noted by the Director, choice (A) states that a gear cutting machine which includes a carbide insert bonded to a steel tool according to the method recited in claim 1 is outselling other types of gear cutting machines by a two-to-one margin. Choice (A) does not state or suggest that the higher volume sales are a result of the invention defined by claim 1. A plausible possibility, consistent with choice (A), is that the noted machine could have been outselling other machines for a reason other than the use of the method of claim 1.

As noted by the Director, for stated commercial success to be a secondary consideration of non-obviousness, there must be a sufficient relationship or nexus between the stated commercial success and the claimed invention. Demaco Corp. v. F. Von Langsdorff Licensing, Ltd., 851 F.2d 1387, 1392, 7 USPQ2d 1222, 1226 (Fed. Cir.), cert. denied, 488 U.S. 956 (1988). No sufficient relationship or nexus is stated in or suggested by choice (A). Accordingly, choice (A) is not a satisfactory answer to question 37. See also MPEP § 716 (as an indicia of non-obviousness, "commercial success [must be shown to be] directly derived from the invention claimed").

Choice (D) is a satisfactory answer. More specifically, choice (D) states that there is evidence that bonds created by the method of claim 1 are 50 times greater than bonds created by the method stated in the patent to Y. As noted in the fact pattern for question 37, the patent to Y describes using a layer of polystick at the interface of a tungsten carbide insert and a steel tool holder in order to bond the insert and holder. Claim 1 also describes using a layer of polystick at the interface of a carbide insert and a steel tool holder. Accordingly, the patent to Y and claim 1 both include the step of using polystick at the insert-holder interface, and it is therefore relevant to the question of non-obviousness whether one method achieves better results than the other. Also, the patent to Y and the method of claim 1 have the same objective, i.e., to bond a carbide insert to a steel tool holder. Thus,

it is further relevant to the question of non-obviousness to compare results of the two methods, as set forth in choice (D), the proper choice.

In response to petitioner's argument, it is noted that the patent to Z for question 37 involves fastening diamond chips to a ceramic holder by applying a layer of polystick at the interface of the diamond chips and the ceramic holder, heating the holder to 300° F, and slowly cooling the holder. The patent to Z does not describe bonding a carbide insert to a steel tool holder. The patent is present in the fact pattern for question 37 to demonstrate certain fastening by using heating and cooling. The patent to Z does not demonstrate bonding a carbide insert to a steel tool holder, the objective of the method described by claim 1. Accordingly, a comparison of bonding by the claimed method to bonding by the method described by the patent to Y is more probative than a comparison of the claimed method to the method described by the patent to Z.

## II. Afternoon Section

As noted above, petitioner argues that points were improperly deducted for the afternoon section of the exam because of improper grading with respect to nine phrases in petitioner's claim. Petitioner's use of the phrase "longitudinal passage" (answer at 1, line 4) in his claim resulted in a deduction of one point because the Director of OED concluded that the phrase does not clearly refer to any

element discussed in the specification stated in Part I of the afternoon section of the exam. The decision of the Director of OED was correct.

The directions for Part I state in pertinent part that "[p]oints will be deducted . . . for using language which is indefinite." Petitioner states that the term "longitudinal passage" in his claim refers to electrically conductive shell 16 (petition at 6). However, the word "passage" is not referred to in the specification as an element of shell 16. Nor is any type of passage-way referred to as part of the shell in the specification. Therefore, the term does not have meaning, definition or support in the specification. Accordingly, the deduction of one point for indefiniteness was proper.

Petitioner's use of the phrase "having an external threaded portion to engage a cylinder head of an internal combustion engine" (answer at 1, lines 6-9) in his claim resulted in a deduction of two points because the Director of OED concluded that the phrase has two unnecessary limitations. That is, "external threaded portion" and "to engage a cylinder head of an internal combustion engine" were not necessary in order to claim a spark plug for Part I of the afternoon section of the exam.

The Director was correct in determining that "external threaded portion" includes an unnecessary limitation. The directions for Part I directed petitioner to:

Draft the broadest claim to a spark plug for an internal combustion engine which defines the novelty of the invention as set forth in the object of the invention and which distinguishes the invention over the teachings of the disclosed prior art.

(Emphasis in original). Requiring threads, as done by petitioner, is not necessary in order to describe the lower portion of the spark plug. Accordingly, having "threaded" in the claim was unnecessary and the deduction of one point for that limitation was proper.

The Director was also correct in concluding that there is a second limitation in the above-noted phrase. The phrase includes "to engage a cylinder head of an internal combustion engine" which is another limitation because it modifies the external threaded portion by requiring that the threaded portion be capable of engaging a cylinder head of an internal combustion engine. Such an additional requirement is unnecessary to define the novelty of the invention and distinguish over the prior art. Accordingly, the deduction of a second point for the above-noted phrase because of a second unnecessary limitation was proper.

Petitioner's use of the word "gasket" (answer at 2, line 2) in his claim resulted in a deduction of two points because OED determined the word to be an unnecessary limitation, and to not clearly refer to something in the

specification. The deduction of the first point was proper because the limitation of having a gasket neither defines the novelty of the invention nor helps distinguish over the prior art. Accordingly, the limitation was not necessary and the broadest claim was therefore not drafted.

Also, as noted by the Director, in view of petitioner's subsequent additional claiming of a gasket (answer at 3, lines 1-4), the first use of the word gasket seems to be referring to seal 28, in the specification, and not to sealing gasket 30. Using the word gasket to refer to a seal when a gasket is stated in the specification for the invention resulted in a lack of clarity or indefiniteness, and warranted the deduction of an additional point.

Petitioner's use of the phrase "hermetically sealed wall" (answer at 2, line 13) in his claim resulted in a deduction of one point because OED concluded that the phrase does not refer to anything described in the specification. The deduction was proper.

The directions for Part I state in pertinent part that:

You may not be your own lexicographer to name the elements or components of the disclosed invention or to rename of [sic] elements or components of the spark plug. You must use the terminology used for the elements or components as disclosed below [in the specification].

The specification refers to a hermetically sealed electrically insulating end wall 84. Petitioner's term "hermetically sealed wall," not referred to as such in the specification, was a renaming of end wall 84. Whether or not the word wall by itself would have been sufficient, hermetically sealed wall is a new element for the spark plug. It was not necessary to include the words hermetically sealed with wall. Accordingly, the deduction of one point for the term was proper.

Petitioner used the phrase "firing gap" (answer at 2, line 12) in his claim. The phrase resulted in a deduction of one point because OED concluded that the phrase does not refer to anything described in the specification. The deduction was proper. The specification discloses the element or component spark gap 60. Petitioner renamed spark gap 60 by identifying it as a firing gap. Petitioner was not free to do so. As noted above, petitioner was not free to rename the spark gap component of the spark plug by identifying it as a firing gap. The above-noted directions are clear. Accordingly, the deduction for renaming the spark gap was proper.

Petitioner's use of the phrase "exterior annular ledge" (answer at 1, line 18) in his claim resulted in a deduction of two points for renaming shoulder 22 as a "ledge." Petitioner argues that "element 22 is a feature of insulator 12, so it is clear what Petitioner intended" (petition at 9, emphasis added). Contrary to petitioner's argument, the deduction was correct. What petitioner "intended" is not relevant because it

is what he wrote in the answer book which is graded. And, as noted above, petitioner was not free to rename the shoulder component of the spark plug by identifying it as a ledge. Accordingly, the deduction of two points was proper.

Petitioner used the phrase "the insulator's exterior shoulder" (answer at 1, lines 21-22). The phrase resulted in a deduction of two points for lack of antecedent basis. Petitioner did not claim, before the use of the phrase "the insulator's exterior shoulder," that the insulator had an exterior shoulder. Proper claim drafting requires that before an element is referred to by the article "the," the element had to have been first identified with the article "a." Accordingly, deducting two points for lack of antecedent basis was proper.

Petitioner's use of the phrase "interior annular shoulder" (answer at 1, line 5) resulted in a deduction of one point for renaming annular ledge 32 an annular shoulder. Petitioner argues that "[e]lement 32 is a feature of shell 16, so it is clear what Petitioner intended" (petition at 9-10). As noted above, what petitioner intended is not relevant and he was not free to "be [his] own lexicographer to name the elements or components of the disclosed invention" (exam directions). Accordingly, petitioner was not free to rename ledge 32 as a shoulder.

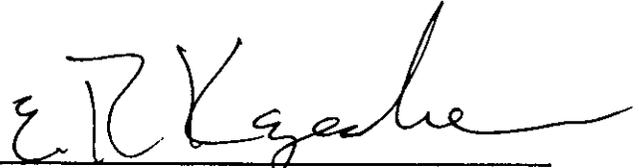
Finally, petitioner used the phrase "the interior ledges of each" (answer at 3, lines 3-4). The phrase resulted in two separate two point deductions, both for lack of antecedent basis. Petitioner contests one of the separate two point deductions by arguing that only a single mistake was made, and urges that only one or two points should have been deducted for the phrase.

The two separate two point deductions were proper. More specifically, the word "each" in the phrase refers back to the shell and the insulator (answer at 3, lines 2-3) in petitioner's claim. Petitioner did not claim, before the use of the phrase "the interior ledges of each," that the shell or insulator had an interior ledge. As noted above, it is required claim drafting that before an element is referred to by the article "the," the element had to have been first identified with the article "a." Accordingly, deducting four points for lack of antecedent basis was proper in view of petitioner's claiming of two separate interior ledges.

ORDER

Upon consideration of the petition to the Commissioner,  
it is

ORDERED that the petition is denied.

A handwritten signature in cursive script, appearing to read "E. R. Kazenske", written over a horizontal line.

EDWARD R. KAZENSKE  
Director of Interdisciplinary  
Programs

cc: