

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES GARY WOOD

Appeal 2007-2646
Application 10/341,024
Technology Center 3600

Decided: August 04, 2008

Before WILLIAM F. PATE, III, LINDA E. HORNER, and DAVID B. WALKER,
Administrative Patent Judges.

WALKER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-2 and 4-13¹. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

¹ Claim 3 has been cancelled, yet the Examiner continues to list this claim in both rejections listed below. Because claim 3 is not properly before us, we will address

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Appellant claims a vibration-reducing apparatus for a vibrating body that includes a plurality of spring and mass combinations tuned to the frequency of a vibrating machine (Specification 2:4-7). Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A vibration-reducing apparatus for a machine that vibrates at a substantially fixed operating frequency composed of a fundamental harmonic frequency and at least one higher harmonic frequency, the apparatus comprising:
 - a) a first spring and mass combination drivingly linked to the machine to form a first substantially undamped vibration absorber with a natural frequency of oscillation substantially equal to said fundamental harmonic frequency; and
 - b) a second spring and mass combination drivingly linked to the machine substantially in parallel to the first spring and mass combination to form a second substantially undamped vibration absorber with a natural frequency of oscillation substantially equal to said at least one higher harmonic frequency, wherein said vibration absorbers have no substantial damping other than small hysteresis losses in their respective springs.

THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Aggarwal US 3,690,414 Sep. 12, 1972

only claims 1-2 and 4-13, which are the subject of this appeal.

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1. Claims 1-2 and 4-13 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to meet the written description requirement.
2. Claims 1-2 and 4-13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Aggarwal.

ISSUE

The issue before us is whether Appellant has shown that the Examiner erred in rejecting claims 1-2 and 4-13 under 35 U.S.C. § 112, first paragraph, as failing to meet the written description requirement and under 35 U.S.C. 103(a) as being unpatentable over Aggarwal. The dispositive issues are whether 1) “substantially undamped” and “vibration absorbers have no substantial damping other than small hysteresis losses in the respective springs” are described in the specification in such a way as to reasonably convey to one of skill in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention; and 2) it would have been obvious to one of ordinary skill in the art at the time of the invention to tune the vibration absorber of Aggarwal to a certain harmonic and fundamental frequency depending on the machine on which it is intended to operate.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Briefs

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have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007).

FINDINGS OF FACT

We find the following enumerated findings to be supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The original Specification does not include the phrases “substantially undamped” and “vibration absorbers have no substantial damping other than small hysteresis losses in the respective springs”. “Substantially undamped” was added to the claims by amendment on July 27, 2004 in response to a non-final rejection and “vibration absorbers have no substantial damping other than small hysteresis losses in the respective springs” was added to the claims by amendment on January 13, 2005 in response to a final rejection.
2. Aggarwal teaches a vibration absorber for a supported member that uses a series of dampers to dampen each of a plurality of different natural frequencies of a bar extending from a quill of a bar milling machine. The damper includes a plurality of damper masses mounted on a rod with viscoelastic material between each of the damper masses and also between the supports for the rod and the adjacent damper masses. The masses and their locations on the rod, the length and diameter of the rod,

and the stiffness of the viscoelastic material are selected to permit the damper to cover a wide frequency range. The damper need not be tuned for each bar extension each time that the bar has a different extension since the plurality of damper masses permits the damper to dampen vibrations anywhere within the designed frequency range (Aggarwal, abstract).

PRINCIPLES OF LAW

To satisfy the written description requirement, the disclosure must convey with reasonable clarity to skilled artisans that the Appellant was in possession of the claimed invention as of the filing date. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). “The invention is, for purposes of the ‘written description’ inquiry, *whatever is now claimed.*” *Id.* An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including

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(1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”)

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *Id.* at 1445. *See also Piasecki*, 745 F.2d at 1472. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445; *Piasecki*, 745 F.2d at 1472.

ANALYSIS

A. Rejection of claims 1-2 and 4-13 under 35 U.S.C. § 112, first paragraph

The Examiner found that “Applicant has amended the claims to recite that the vibration absorbers are ‘undamped’. There is no reference to this in the specification, and applicant states the use of a mass-spring arrangement. Applicant further amended the claims to support what is meant by ‘undamped’. Support for applicant's amendments to the claims cannot be found in the specification and therefor is considered new matter.” (Final Rejection 2). The Appellant does not

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contest that the terms are absent from the original specification, but argues that 1) the Examiner has failed to make a *prima facie* case to support the § 112, first paragraph rejection; and 2) the planar spring that is described in the specification as part of the vibration absorber is known to persons skilled in the art to have no substantial damping other than small hysteresis losses (Br. 10).

The Appellant argues that the Examiner has failed to make a *prima facie* case because he proffered no evidence or reasons why persons skilled in the art would not recognize in the specification a description of the invention (Br. 10). The Declaration of Wood (the inventor) states “Persons of ordinary skill know that there is no substantial damping in planar springs other than small hysteresis losses in the springs.” (Wood Declaration 1). The Examiner correctly points out that the claims require that the vibration absorber, not just the springs, are substantially undamped (Answer 4). We agree with the Examiner that the Wood Declaration does not properly address the claim limitations, and therefore is not persuasive. We find that the Examiner met his burden by 1) pointing out that the amended claim language is not present anywhere in the Specification, nor is there any disclosure in the Specification that would describe the amended limitations in such a way as to reasonably convey to one of skill in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention; and 2) refuting the Appellant’s argument of knowledge of one of ordinary skill in the art as directed to only a portion of the claimed vibration absorber as described more fully below.

The Appellant next argues that the planar spring that is described in the specification is known to persons skilled in the art to have no substantial damping other than small hysteresis losses (Br. 12). The Appellant thus addresses the damping of only a portion of the vibration absorber that is required by the claims to be substantially undamped. The Examiner's found that the combination of a planar spring and mass, as claimed, would provide damping (Answer 4). In the Reply Brief, the Appellant responds by arguing that the Examiner has not provided evidence that all spring-mass combinations provide damping, apparently conceding that some spring-mass combinations perform damping (Reply Br. 7). The Appellant's arguments neither point to anything in the Specification that indicates possession of the invention at the time of filing, nor explain why the disclosed spring and mass arrangements would indicate to one of skill in the art that the inventor had possession of a substantially undamped vibration absorber at the time the instant application was filed. The Appellant therefore has failed to show error in the Examiner's rejection of claims 1-2 and 4-13 for failure to meet the written description requirement.

B. Rejection of claims 1-2 and 4-13 under 35 U.S.C. § 103(a) as unpatentable over Aggarwal

The Appellant argues claims 1-2 and 4-13 as a group. We treat claim 1 as representative.

The Examiner found that Aggarwal discloses all limitations of claim 1, but for the teaching of the natural frequencies equal to a harmonic frequency of the

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machine (Final Rejection 3). The Examiner further found that it would have been obvious to have tuned the vibration-reducing device of Aggarwal to the harmonic frequencies, merely because it would be a design choice and, when choosing a vibration-reducing device, a person has to decide the kind and size of the vibrations that are to be reduced according to the environment of use. The Examiner noted that the spring mass members of Aggarwal can be tuned to any frequency desired according to the device it is used on (Final Rejection 4).

Appellant argues that Aggarwal teaches away from the claimed invention, because it teaches vibration absorbers using viscoelastic rings that dampen vibrations (Br. 15). The Appellant points to column 3, lines 41-42 of Aggarwal, which refers to vibration absorber 12 as a series damper (*Id.*). The Examiner does not respond to this argument or explain why the vibration absorber of Aggarwal, which is described as a series damper and further described, throughout the disclosure, as having damper masses 36, meets the claim limitations of 1) a first and second substantially undamped vibration absorber; and 2) said vibration absorbers have no substantial damping other than small hysteresis losses in their respective springs. Because these limitations are required by all claims on appeal, the Examiner failed to establish a *prima facie* case of obviousness of claims 1-2 and 4-13 over Aggarwal.

CONCLUSION

We conclude that Appellant has not shown that the Examiner erred in rejecting claims 1-2 and 4-13 under 35 U.S.C. § 112, first paragraph, as failing to

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meet the written description requirement. We conclude that Appellant has shown that the Examiner erred in rejecting claims 1-2 and 4-13 under 35 U.S.C. § 103(a) as unpatentable over Aggarwal.

DECISION

The decision of the Examiner to reject claims 1-2 and 4-13 under 35 U.S.C. § 112, first paragraph is affirmed. The decision of the Examiner to reject claims 1-2 and 4-13 under 35 U.S.C. § 103(a) as unpatentable over Aggarwal is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

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