

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DARYOUSH ALLAEI

Appeal No. 2002-0283
Application 09/328,918

ON BRIEF

Before COHEN, FRANKFORT, and STAAB, Administrative Patent Judges.
FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 12, 17, 20 through 24 and 29 through 38. Method claims 39 and 40, the only other claims remaining in the application, have been withdrawn from further consideration as being directed to a non-elected invention. Claims 1 through 11, 13 through 16, 18, 19 and 25 through 28 have been canceled.

As noted on page 4 of the specification, appellant's invention relates to a method and apparatus for

controlling the distribution of vibrational energy throughout a structure, a structural component, or a machine, hereafter referred to as the "system". The method, known as vibration control by confinement (VCC), includes selecting a confinement region in a vibrating member in which the vibrational energy is to be confined. A device for confining the vibrational energy is positioned on the vibrating member at a determined position. The vibration confinement device has effective translational stiffnesses, effective torsional stiffnesses and an effective mass which result in the application of translational, torsional and inertial forces to the system. These translational, torsional and inertial forces result in confining vibrational energy to the vibration confinement region. The extent of the vibration confinement region is determined by the location at which the effective translational, torsional and inertial forces are applied to the system.

Of the seven independent claims on appeal, we have selected claims 12, 17, 22 and 32 as being representative of the subject matter on appeal. A copy of those claims, as reproduced from appendix A of appellant's brief, is attached to this decision.

The references of record relied upon by the examiner in rejecting the appealed claims are:

Walkowe	5,553,514	Sep. 10, 1996 (filed June 6, 1994)
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Bendiksen, Mode Localization Phenomena in Large Space Structures, 1986 (Bendiksen)

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Claims 12, 17, 20 through 24 and 29 through 38 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claims 12, 17, 20 through 24 and 29 through 38 additionally stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 12, 17, 20 through 24 and 29 through 38 also stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim that which appellant regards as the invention.

Claims 12 and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Bendiksen.

Claims 12, 17, 20, 21, 23, 29 through 31 and 34 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Walkowe.

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Rather than reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellant regarding those rejections, we make reference to the examiner's answer (Paper No. 28, mailed November 17, 2001) for the examiner's reasoning in support of the rejections, and to appellant's brief (Paper No. 27, filed September 4, 2001) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determinations which follow.

We turn first to the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, first paragraph, wherein the examiner has urged that the specification, as originally filed, fails to provide written descriptive support for the invention as now claimed.¹ In considering this

¹In the examiner's explanation of this rejection on pages 3 and 4 of the answer, and of the other rejections under 35 U.S.C. § 112, the examiner has repeatedly made reference to limitations in claims that have been canceled from the application (e.g., claims 15, 18 and 19) and additionally made reference to limitations which are no longer present in claim 32 on appeal. In

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rejection, we note that as stated in In re Bowen, 492 F.2d 859, 864, 181 USPQ 48, 52 (CCPA 1974), the description requirement of 35 U.S.C. 112, first paragraph, "is that the invention claimed be described in the specification as filed." It is not necessary that the claimed subject matter be described identically, but the disclosure originally filed must convey to those skilled in the art that the applicant had invented the subject matter later claimed. See In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (Fed. Cir. 1984). In addition, we note that our Court of review has also informed us that the drawings included in the application may aid in the interpretation of claim limitations, in that the "drawings alone may provide a 'written description' of an invention as required by § 112." Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1556, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). Thus, in those instances where a visual representation can flesh out words, as in the present application, drawings can and should be used like the written specification to provide evidence relevant to claim interpretation and used to interpret what the inventor intended by the claim terms.

the future, the examiner should carefully review an examiner's answer to ensure that it is directed to the issues presented for appeal.

Applying these precepts to the present application, we find that, when the claim language pointed to by the examiner on pages 3 and 4 of the answer is read in light of the present application disclosure as such would be interpreted by the hypothetical person possessing ordinary skill in the art, such claim language finds clear support in the specification and application disclosure when such are considered as a whole. The examiner's apparent belief (final rejection, page 11) that the entire specification need not be considered because such would be "a serious burden to the examiner," is contrary to both the law and PTO policy.

As for the examiner's comment in the paragraph bridging pages 8 and 9 of the answer, that the drawings of the present application (particularly, Figures 2A and 9) do not show the claimed features noted in the rejection under 35 U.S.C. § 112, first paragraph, as is required by 37 CFR § 1.83(a), we note that such an oversight by the appellant would normally give rise to an objection, not a rejection. This is especially true in the situation before us on appeal, wherein the specification and drawings of the present application (when fully considered) clearly provide support for the invention as now claimed.

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In this instance, for the reasons expressed above, we are in agreement with appellant's position that the disclosure as originally filed would have clearly conveyed to those skilled in the art that appellant had invented the subject matter now claimed. Accordingly, the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement will not be sustained.

We next consider the examiner's rejection of Claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, first paragraph, as being based on a non-enabling disclosure. It is by now well-established law that the test for compliance with the enablement requirement in the first paragraph of 35 U.S.C. § 112 is whether the disclosure, as filed, is sufficiently complete to enable one of ordinary skill in the art to make and use the claimed invention without undue experimentation. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238-39 (CCPA 1971). See also In re Scarborough, 500 F.2d 560, 566, 182 USPQ 298, 302-03 (CCPA 1974). Moreover, in rejecting a claim for lack of enablement, it is also well settled that the examiner has the initial burden of advancing acceptable reasoning inconsistent with enablement in order to substantiate the rejection. See In re Strahilevitz, 668

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F.2d 1229, 1232, 212 USPQ 561, 563 (CCPA 1982); In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971). Once this is done, the burden shifts to appellant to rebut this conclusion by presenting evidence to prove that the disclosure in the specification is enabling. See In re Doyle, 482 F.2d 1385, 1392, 179 USPQ 227, 232 (CCPA 1973); In re Eynde, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973).

In the case before us, after reviewing the disclosure as set forth in the specification and the invention as seen in the drawings of the application, we are of the opinion that the examiner has not met his burden of advancing acceptable reasoning inconsistent with enablement. Again, the examiner urges that the features noted in the rejection are not shown in Figures 2A and 9 of the application, and now further contends that undue experimentation would be required to make and/or use the claimed features.

We are particularly troubled that the examiner has made no attempt to explain why one of ordinary skill in the art would have been unable to understand that portion of the specification directed to the elected species of the invention (i.e., Figure 9) when the disclosure of the present application is considered as a whole. In that regard, we note that we see no discussion by the

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examiner as to exactly why this embodiment of the invention would be beyond the capability of one of ordinary skill in the art (i.e., would require undue experimentation) given a full consideration of appellant's disclosure. It appears from the record that the examiner's position is again based on the mistaken belief that the examiner need not consider the entire specification when determining whether every feature of the claims on appeal is adequately described to enable the artisan to make and use the invention.

After a careful consideration of appellant's disclosure and of the arguments on both sides, it is our opinion that the level of skill in this art is sufficiently high that the ordinarily skilled artisan would have been able to make and use appellant's claimed invention as set forth in the claims before us on appeal, based on appellant's disclosure, without the exercise of undue experimentation.

For the above reasons, we will not sustain the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, first paragraph, as being based on a non-enabling disclosure.

With respect to the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim that which appellant regards as the invention, we note that the examiner's first concern (answer, page 5) is whether appellant is claiming an apparatus *per se*, or a combination of an apparatus and a structure. We must of course look to the language of the claims under consideration to make this determination. For example, independent claim 12 is directed to "[a]n apparatus for confining vibrational energy in a structure having a vibrating member . . ." wherein the apparatus comprises "a vibration confinement device coupled to said member" (emphasis added) and having an effective translational spring constant and an effective torsional spring constant, to confine vibrational energy to the confinement region of the structure. Clearly this claim is directed to a combination of an apparatus and the structure, since the vibration confinement device of the apparatus is positively set forth as being "coupled to" the vibrating member of the system.

By contrast, independent claim 22 sets forth "[a]n apparatus for actively confining vibrational energy in a structure having a vibrating member . . ." wherein the apparatus comprises "an active vibration confinement device couplable at a location to the member" (emphasis added), a vibration detector "disposed on

the vibrating member" (emphasis added), a controller, and an actuator on the vibration confinement device to adjust at least one of the effective translational spring constant, and the effective torsional spring constant in response to a confinement device control signal generated by the controller. Although the language of claim 22 is somewhat different than that used in claim 12, it is clear to us that this claim likewise is directed to a combination of an apparatus and the structure. A review of the other claims on appeal reveals that they too are directed to a combination of an apparatus for confining vibrational energy and a structure having a vibrating member.

As for the examiner's second concern that appellant has used different language in some of the claims to set forth "a vibration confinement device" (e.g., as in claims 12 and 31) and "an active vibration confinement device" (as in claims 17, 22, 24 and 34), we see nothing wrong in this. Claims 12 and 31 are merely broader than claims 17, 22, 24 and 34, in that claims 12 and 31 are generic, reading on either a passive vibration confinement device or an active vibration confinement device (both of which are disclosed in appellant's application). As urged by appellant on page 7 of the brief, the examiner has incorrectly determined that claim 12 recites only a passive

vibration confinement device.

As a further issue, like appellant (brief, pages 7-8), we find the examiner's attack on the term "controllable" as used in claim 34 on appeal, to be totally without merit.

In light of the foregoing, it is clear that the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, second paragraph, as being indefinite will not be sustained.

We next look to the examiner's rejection of claims 12 and 31 under 35 U.S.C. § 102(b) as being anticipated by Bendiksen. In this instance, we are in full agreement with appellant's arguments as set forth on pages 8 and 9 of the brief. Bendiksen does not address an apparatus for "confining vibrational energy" as that terminology is used by appellant, or a vibration confinement device mounted on a structure to purposefully confine vibration to a specific region of the structure, as appellant does. Regarding Figure 10 of Bendiksen pointed to by the examiner, it appears that the examiner has taken this figure out of context. After reading the Bendiksen publication, we agree with appellant that this figure merely represents a theoretical model of a tightly coupled structure like that described in the latter part of the Bendiksen publication as being one possible

solution to the mode localization problem in large space structures addressed by the author. The mass and springs shown in Figure 10 representationally model a larger structure with strong coupling strength between the substructures of the large periodic structure and are not in any way equivalent to or anticipatory of the vibration confinement device of the present invention.

In contrast to appellant's invention wherein a vibration confinement device is attached to a structure to confine vibrations to a specifically defined and limited area of the structure (i.e., the vibration confinement region of the structure), the goal in Bendiksen is to avoid localization or concentration of the vibrations in a structure at any specific portion or local region thereof and to attain a vibration response that approaches that of the ideal shown in the upper portion of Figure 11.

It follows that we will not sustain the examiner's rejection of claims 12 and 31 on appeal under 35 U.S.C. § 102(b) based on Bendiksen.

The last of the examiner's rejections for our consideration is that of claims 12, 17, 20, 21, 23, 29 through 31 and 34 under 35 U.S.C. § 102(b) as being anticipated by Walkowe. Each of the

independent claims subject to this ground of rejection includes a vibration confinement device that is required to have both an effective translational spring constant and an effective torsional spring constant. As pointed out by appellant (brief, page 9), Walkowe discloses an active system for damping resonance torsional vibrations in a rotating crankshaft by utilizing a device for applying relatively small torsional impulses with precise timing at an appropriate location along the length of the crankshaft. Thus, while Walkowe describes a vibration damping device for applying torsional impulses to a structure, it does not mention either "an effective translational spring constant" or "an effective torsional spring constant" associated with such device, each of which are required in the vibration confinement device defined in appellant's claims before us on appeal. Nor do we see any reason why the device of Walkowe would necessarily have both an effective translational spring constant and an effective torsional spring constant. The examiner has not in any way demonstrated or explained how the device of Walkowe meets the above-noted structural limitations of the claims subject to this ground of rejection. For that reason, we will not sustain the examiner's rejection of claims 12, 17, 20, 21, 23, 29 through 31 and 34 under 35 U.S.C. § 102(b) as being anticipated by Walkowe.

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To summarize our decision, we note that a) the examiner's rejections of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, first paragraph, on the basis of both written description and lack of enablement have not been sustained; b) the examiner's rejection of claims 12, 17, 20 through 24 and 29 through 38 under 35 U.S.C. § 112, second paragraph, has likewise not been sustained; c) the examiner's rejection of claims 12 and 31 under 35 U.S.C. § 102(b) based on Bendiksen has not been sustained; and d) the rejection of claims 12, 17, 20, 21, 23, 29 through 31 and 34 under 35 U.S.C. § 102(b) as being anticipated by Walkowe has not been sustained.

In light of the foregoing, the decision of the examiner is accordingly REVERSED.

Under the provisions of 37 CFR § 1.196(b), we also enter the following new ground of rejection against claims 32 and 33 on appeal.

Claims 32 and 33 are 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 appellant regards as the invention. In particular, we observe that independent claim 32 sets forth a vibration confinement device which includes both an effective translational spring constant

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and an effective torsional spring constant, but then goes on to inconsistently indicate, in the last clause of the claim, that the vibration confinement device is

selected from the group comprising at least one translational spring attached to the vibrating member to apply translational spring forces to the vibrating member, at least one torsional spring attached to the vibrating member to apply torsional spring forces to the vibrating member, and an active vibration confinement device.

Similarly, dependent claim 33 then inconsistently sets forth that "the translational spring and the torsional spring each comprise a support coupled to the vibrating member" (emphasis added).

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of

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rejection to avoid termination of proceedings (§ 1.197(c)) as to
the rejected claims:

(1) Submit an appropriate amendment of the claims
so rejected or a showing of facts relating to the
claims so rejected, or both, and have the matter
reconsidered by the examiner, in which event the
application will be remanded to the examiner. . . .

(2) Request that the application be reheard under
§ 1.197(b) by the Board of Patent Appeals and
Interferences upon the same record. . . .

No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

REVERSED; 37 CFR § 1.196(b)

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
CHARLES E. FRANKFORT)	
Administrative Patent Judge)	APPEALS AND
)	
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)	
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APPENDIX

12. An apparatus for confining vibrational energy in a structure having a vibrating member, the vibrating member having vibration boundary conditions at boundaries thereof, said vibrating member further having a vibration confinement region selected relative to said boundaries, the apparatus comprising:

a vibration confinement device coupled to said member, and having an effective translational spring constant and an effective torsional spring constant, to confine vibrational energy to the vibration confinement region of the structure.

17. An apparatus for actively confining vibrational energy in a structure having a vibrating member structure, said vibrating member having vibration boundary conditions at boundaries thereof, said vibrating member further having and [sic] a vibration confinement region selected relative to said boundaries, the apparatus comprising:

an active vibration confinement device coupled at a location to said member, and having an effective translational spring constant and an effective torsional spring constant, to confine vibrational energy to the vibration confinement region of the structure;

a vibration detector disposed on said vibrating member to generate a vibration signal;

a controller to receive the vibration signal and generate a confinement device control signal in response thereto, said confinement device control signal being transmitted to said active vibration confinement device to control at least one of said effective translational spring constant, said effective torsional spring constant and said selected location.

22. An apparatus for actively confining vibrational energy in a structure having a vibrating member structure, the vibrating member having vibration boundary conditions at boundaries thereof, the vibrating member further having and [sic] a vibration confinement region selected relative to the boundaries, the apparatus comprising:

an active vibration confinement device couplable at a location to the member and having an effective translational spring constant and an effective torsional spring constant,

to confine vibrational energy to the vibration confinement region of the structure;

a vibration detector disposed on the vibrating member to generate a vibration signal;

a controller to receive the vibration signal and generate a confinement device control signal in response thereto, the confinement device control signal being transmitted to the active vibration confinement device to control at least one of the effective translational spring constant, the effective torsional spring constant and the selected location; and

an actuator provided on the vibration confinement device to adjust at least one of the effective translational spring constant, and the effective torsional spring constant in response to the confinement device control signal.

32. An apparatus for confining vibrational energy in a structure having a vibrating member comprising:

a vibration confinement device located in a preselected vibration confinement region contained within boundaries of the vibrating member, the vibrating confinement device has an effective translational spring constant and an effective torsional spring constant, and confines vibrational energy in the vibrating member to the vibration confinement region of the structure, wherein the vibration confinement device is selected from the group comprising at least one translational spring attached to the vibrating member to apply translational spring forces to the vibrating member, at least one torsional spring attached to the vibrating member to apply torsional spring forces to the vibrating member, and an active vibration confinement device.