Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte DAVID K. PLATNER et al.

Appeal No. 2003-0203
Application No. 09/419,136

ON BRIEF

Before FRANKFORT, STAAB, and NASE, Administrative Patent Judges.

NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection (Paper No. 7, mailed May 21, 2001) of claims 1 to 9, which are all of the claims pending in this application.[1]

We REVERSE.

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[1] Claims 1 to 3, 7 and 9 were amended subsequent to the final rejection. In claim 9, we suggest that "wheel" be changed to --wheel axle-- for proper antecedent basis.

BACKGROUND

The appellants' invention relates to a device for suspending a wheel axle from a vehicle having an electronic control unit for receiving suspension-related inputs. A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

Claims 1 to 9 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.

The conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejection are set forth in the answer (Paper No. 14, mailed July 2, 2002), the brief (Paper No. 13, filed April 11, 2002) and the reply brief (Paper No. 15, filed September 3, 2002).

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, and to the respective positions articulated by the appellants in their briefs and the examiner in the answer. As a consequence of our

review, we will not sustain the rejection of claims 1 to 9 under 35 U.S.C. § 112, first paragraph.

The claimed subject matter

Claims 1, 4, 5 and 7 under appeal read as follows:

1. A device for suspending a wheel axle from a vehicle having an electronic control unit for receiving suspension-related inputs, the device comprising:
an interwoven mesh diaphragm including a plurality of interwoven members intersecting a plurality of intersecting points, said mesh diaphragm coupled between the vehicle and the wheel axle and to the electronic control unit and formed of a material that changes shape in the presence of electrical signals having a varying signal strength; and
wherein the electronic control unit, in response to receiving the suspension related inputs, transmits the electrical signals having the varying signal strength to the interwoven mesh diaphragm to change the shape thereof in order to vary the stiffness of the interwoven mesh diaphragm and thus control the suspension of the vehicle.

4. The device as recited in claim 3 wherein the interwoven members include flexible tubes having an electrically responsive fluid contained therein.

5. The device as recited in claim 4 wherein the electrically responsive fluid is a rheological fluid.

7. A device for suspending a wheel axle from a vehicle having an electronic control unit for receiving suspension-related inputs, the device comprising:
an elastomeric member including two opposing end plates and containing an electrically responsive gel, said elastomeric member coupled between the vehicle and the wheel axle and to the electronic control unit wherein the gel changes shape in response to electrical signals having a varying signal strength; and
wherein the electronic control unit, in response to receiving the suspension related inputs, transmits the electrical signals having the varying signal strength through at least one of the end plates to change the shape of the

gel in order to vary the stiffness of the elastomeric member and thus control the suspension of the vehicle.

The examiner's position

The examiner's rational as set forth in the answer (p. 3) for the rejection of claims 1-9 under 35 U.S.C. 112, first paragraph, was as follows:

> The embodiment of claim 1 requires an interwoven mesh diaphragm, which is further described in the specification as "preferably a flat, rectangular-shaped member". The word "diaphragm" usually implies a thin element or membrane. It is unclear how the diaphragm is constructed so that it may adequately support the axle structure. The disclosure fails to support the claimed invention in a manner which enables one skilled in the art to make or use the invention without undue experimentation.
>
> Claims 4-5 further require an electrically responsive fluid which is disclosed as a rheological fluid. Rheological fluids are known in the art to change viscosity in response to a magnetic or electrical field. However, claims 4-5 depend from claim 1 which requires "a material that changes shape in the presence of electrical signals". It is unclear how the rheological fluid of the instant invention is utilized to effect a change in shape.
>
> Claims 7-9 are directed towards an alternate embodiment that includes an elastomeric member including two opposing end plates and an electrically responsive gel which changes the shape. This gel is disclosed as being a rheologic fluid. It is unclear how the rheological fluid of the instant invention is utilized to effect a change in shape.

The appellants' position

The appellants argue throughout both briefs that the prior art[2] establishes that the disclosure of this application was adequate to enable one of ordinary skilled in this art to make and use the invention and that the appellants have simply applied known technology for providing various outputs to suspension members.

Our position

We will not sustain the rejection of claims 1 to 9 under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e., failing to provide an enabling disclosure.

The test for enablement is whether one skilled in the art could make and use the claimed invention from the disclosure coupled with information known in the art without undue experimentation.[3] See United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988), cert. denied, 109 S.Ct. 1954 (1989); In re Stephens, 529 F.2d 1343, 1345, 188 USPQ 659, 661 (CCPA 1976).

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[2] The appellants cite U.S. Patent Nos. 5,390,949; 5,291,967; 5,590,746; and 5,810,126.

[3] Factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. See In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) citing Ex parte Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986).

The dispositive issue in this appeal is whether the appellants' disclosure considered in light of the prior art would have enabled a person of ordinary skill in the art to make and use the appellants' invention without undue experimentation. In our view, the appellants' disclosure when considered in light of the teachings of the prior art cited by the appellants would have enabled a person of ordinary skill in the art to make and use the appellants' invention without undue experimentation for the following reasons.

Claim 1 recites that the mesh diaphragm is coupled between the vehicle and the wheel axle. Claim 1 does not recite that the mesh diaphragm is constructed so that it alone adequately supports the wheel axle. Since claim 1 is written in an open format due to the use of the term "comprising," the claimed mesh diaphragm can be used with other elements to adequately support the wheel axle. The appellants disclosure coupled with the disclosure of U.S. Patent No. 5,390,949 would have enabled a person of ordinary skill in the art to make and use the invention defined by claim 1 without undue experimentation since the appellants mesh diaphragm could be used with a leaf spring in the same manner that piezoelectric elements are used with a leaf spring in U.S. Patent No. 5,390,949.

It is our view that the appellants' disclosure would have enabled a person of ordinary skill in the art to make and use the invention defined by claims 4 and 5 without undue experimentation since the interwoven mesh diaphragm having flexible tubes containing rheological fluid effects a change in shape of the flexible tubes, and thus the mesh diaphragm, by electrically activating the rheological fluid.

It is our view that the appellants' disclosure would have enabled a person of ordinary skill in the art to make and use the invention defined by claim 7 without undue experimentation for the reasons expressed above with regard to claim 1.

For the reasons set forth above, we conclude that appellants' disclosure complies with the enablement requirement of the first paragraph of 35 U.S.C. § 112. Accordingly, the decision of the examiner to reject claims 1 to 9 under 35 U.S.C. § 112, first paragraph, is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 9 under 35 U.S.C. § 112, first paragraph, is reversed.

REVERSED

CHARLES E. FRANKFORT Administrative Patent Judge	)	
LAWRENCE J. STAAB Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

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