Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GERALD D. ANDERSON, MICHAEL W. MATTICE, JOHN M. KHOURY, THOMAS M. DROUILLARD, KERMIT G. ROWE, III, DAVID I. FRETWELL and ALISTAIR B. LOVATT

Appeal No. 2004-1021
Application No. 09/707,450

ON BRIEF

Before STAAB, MCQUADE and NASE, Administrative Patent Judges.

MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Gerald D. Anderson et al. appeal from the final rejection (Paper No. 20) of claims 3, 4, 13, 14 and 20 through 26. Claims 5 through 11 and 15 through 19, the only other claims pending in the application, stand withdrawn from consideration.

THE INVENTION

The invention relates to a method for enhancing the physical characteristics of a vehicle suspension component, and to a suspension component so enhanced. Representative claims 3 and 13 read as follows:

3. A method for enhancing the physical characteristics of a suspension component of a vehicle suspension system, said suspension component having an exterior surface, comprising the steps of:

selectively adding an outer sleeve over said exterior surface of said suspension component at locations of high stress; and

forming said suspension component after selectively adding said outer sleeve to said suspension component at locations of high stress.

13. An enhanced suspension component of a vehicle suspension system comprising:

a suspension component having an exterior surface; and

an outer sleeve fitted over said exterior surface of said suspension component at localized areas whereby said outer sleeve is selectively added to said suspension component at locations of high stress.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Bolduc	3,885,775	May 27, 1975
Wycech	4,836,516	Jun. 6, 1989
Wieting et al. (Wieting)	5,255,487	Oct. 26, 1993

THE REJECTIONS

Claim 24 stands rejected under 35 U.S.C. § 112, first paragraph, as being based on a specification which fails to comply with the enablement requirement.

Claim 25 stands rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter the appellants regard as the invention.

Claims 3, 4, 13, 14, 20 through 23 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wycech in view of Wieting.

Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wycech in view of Wieting and Bolduc.

Attention is directed to the brief (Paper No. 25) and answer (Paper No. 26) for the respective positions of the appellants and examiner regarding the merits of these rejections.[1]

DISCUSSION

I. The 35 U.S.C. § 112, first paragraph, rejection of claim 24

Claim 24 depends indirectly from claim 3 and recites a heating step that "expands said suspension component and shrinks

[1] In the final rejection, claim 26 also stood rejected under 35 U.S.C. § 103(a) as being unpatentable over Wycech in view of Wieting. The examiner has since withdrawn this rejection (see page 2 in the answer).

said outer sleeve." The examiner submits that "[t]here is no enablement in the specification for a step of heating, which both expands the suspension component and shrinks the outer sleeve" (answer, page 3). The appellants counter that

> [s]upport for claim 24 is found on page 5, lines 3 to 7 of the application. As described, the suspension component and sleeve are subjected to a heat/cryogenic technique that is used to create an interference fit between the suspension component 10 and the sleeve 12. This is accomplished by heating the suspension component 10 and cooling the sleeve 12. This technique expands the suspension component 10 and shrinks the sleeve 12, creating an interference fit between the two components [brief, page 12].

The appellants' argument accurately portrays the relevant portion of the underlying specification which clearly indicates that the outer sleeve is shrunk by a cooling step, not a heating step. Such disclosure belies the appellants' contention that the subject matter recited in claim 24 finds support in the specification, and provides a reasonable basis for the examiner's determination that the specification is non-enabling with regard to a heating step that both expands the suspension component and shrinks the outer sleeve as recited in claim 24.

Accordingly, we shall sustain the standing 35 U.S.C. § 112, first paragraph, rejection of claim 24.

II. The 35 U.S.C. § 112, second paragraph, rejection of claim 25

Claim 25 depends from claim 3 and recites that "the step of forming said suspension component includes forming said suspension component at said locations of high stress." The examiner considers this recitation to be redundant with respect to the subject matter recited in parent claim 3, unclear as to how the suspension component can be formed at the locations of high stress when such locations do not exist until after the component is formed, and indefinite when read in conjunction with the limitations in parent claim 3 (see page 4 in the answer).

On its face, claim 25 refers back to and further defines the forming step set forth in parent claim 3. Thus, it is not redundant in any meaningful sense of the word. Furthermore, although the examiner's criticism of the appellants' recitation of forming the component at the locations of high stress arguably is sound since it is the forming, e.g., bending, of the component which creates these locations (see page 4 in the specification),[2] this relatively minor incongruity is not sufficient to render the scope of claim 25 indefinite. The second paragraph of 35 U.S.C. § 112 requires claims to set out and circumscribe a particular

[2] The examiner seemingly could have made the same criticism of other of the appealed claims.

area with a reasonable degree of precision and particularity. In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977). In determining whether this standard is met, the definiteness of the language employed in the claims must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. Id. Reading claim 25 in light of the appellants' disclosure, one of ordinary skill in the art would readily appreciate the language in the claim pertaining to the locations of high stress as referring to those areas of the unformed component which will become locations of high stress when the component is formed and used.

Thus, the examiner's concerns that claim 25 is indefinite are unfounded. Consequently, we shall not sustain the standing 35 U.S.C. § 112, second paragraph, rejection of claim 25.

III. The 35 U.S.C. § 103(a) rejection of claims 3, 4, 13, 14, 20 through 23 and 25 as being unpatentable over Wycech in view of Wieting

Wycech, the examiner's primary reference, pertains to vehicle suspension torsion bars and methods for their manufacture. In use, torsion bars undergo spring-like twisting

motions in response to torque applied thereto, with the stress of these motions being concentrated at bends in the bar (see column 1, lines 13 through 30). To prevent failure at these points while maintaining some degree of cost and manufacturing efficiency, Wycech provides a hollow or tubular torsion bar formed of a mild or medium grade steel and internally reinforced by a core composed of a resin and a filler. According to Wycech, such a core is lightweight and strong, and has substantial vibration damping and acoustic attenuation characteristics (see, for example, column 11, lines 47 through 65). With regard to one method of production, Wycech teaches that

> the method includes the steps of selecting and cutting a hollow tubular bar to a predetermined length and then forming a core in at least a portion of the [hollow] tubular bar. Preferably, the hollow tubular bar is then shaped by bending the bar to define a spring portion and a radius arm and to form end portions which will mate appropriately with mounting locations on a motor vehicle to form part of a suspension system. The core reinforces the torsion bar during forming to prevent collapse of the hollow tubular bar and strengthens the hollow tubular bar to withstand stresses during use. In one embodiment, the core occupies only those portions of the torsion bar which are angled. It is known that stresses are concentrated at bends or angles in a torsion bar. By providing the core at these angles, the torsion bar is substantially strengthened [column 3, lines 17 through 33].

As conceded by the examiner (see page 5 in the answer), the foregoing torsion bar and method disclosed by Wycech do not

respond to the limitations in independent claims 3 and 13 relating to the outer sleeve. To cure this shortcoming, the examiner turns to Wieting.

Wieting discloses a reinforcement beam designed for use in passenger vehicle doors to absorb lateral impacts. Recognizing that the central region of the beam is critical insofar as failure of the beam is concerned, Wieting proposes reinforcing the central region against bending and/or kinking (see column 2, lines 4 through 20). In one embodiment (see Figure 1), the beam consists of a base tube 1 and a reinforcing tube length 2 pushed over the central region of the base tube and affixed thereto by suitable means (see column 2, lines 20 through 22; and column 4, lines 27 through 34).

In proposing to combine Wycech and Wieting to reject independent claims 3 and 13, the examiner concludes that it would have been obvious

> to provide the component of Wycech with the sleeve of Wieting et al. in order to simplify the manufacturing process, while providing a reliable and strong reinforcing member to the suspension component. Such a modification would have permitted the suspension component to be reinforced with relative ease at predetermined locations along the length of the component, in that a manufacturer can visually ensure that the reinforcing material is positioned at locations of concentrated stress [answer, page 5].

Even if Wieting is assumed for the sake of argument to be analogous art with respect to the subject matter on appeal (the appellants urge that it is not), the disparate teachings of Wycech and Wieting would not have suggested the combination advanced by the examiner, which presumably involves replacing Wycech's core with Wieting's sleeve. The Wycech and Wieting structures play dissimilar roles in different environments, and are suitably constructed to fulfill these roles. For example, Wycech teaches that the core disclosed therein, while providing a reinforcing function, must also be flexible enough to accommodate the bending or shaping of the torsion bar as well as the twisting which occurs during use. In contrast, Wieting indicates that the sleeve disclosed therein must be strong enough to resist bending and/or kinking. Similarly, Wycech intends the core to have substantial vibration damping and acoustic attenuation characteristics, while Wieting shows no concern with such properties. In this light, it is evident that the examiner's rationale for combining Wycech and Wieting, which has no basis in the fair teachings of these references, stems from hindsight knowledge derived from the appellants' disclosure. The use of such hindsight knowledge to support an obviousness rejection is, of course, impermissible.

Accordingly, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of independent claims 3 and 13, and dependent claims 4, 14, 20 through 23 and 25 as being unpatentable over Wycech in view of Wieting.

IV. The 35 U.S.C. § 103(a) rejection of claim 26 as being unpatentable over Wycech in view of Wieting and Bolduc

As Bolduc does not overcome the foregoing deficiencies of the Wycech and Wieting combination relative to the subject matter recited in parent claim 13, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of dependent claim 26 as being unpatentable over Wycech in view of Wieting and Bolduc.

SUMMARY

The decision of the examiner to reject claims 3, 4, 13, 14 and 20 through 26 is affirmed with respect to claim 24 and reversed with respect to claims 3, 4, 13, 14 and 20 through 23, 25 and 26.

AFFIRMED-IN-PART

LAWRENCE J. STAAB Administrative Patent Judge	)
JOHN P. MCQUADE Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)

JPM/gjh

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Appeal No. 2004-1021
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REVERSED AND REMANDED

April 15, 2005