

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte JASON SCOTT BALZER, MICHAEL HENRY MAJ,
PAUL KENNETH DELLOCK and WILLIAM P. EDMUNDS

Appeal No. 2003-0867
Application No. 09/688,104

ON BRIEF

Before ABRAMS, McQUADE, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 2 and 4 to 20, which are all of the claims pending in this application.

We AFFIRM-IN-PART.

BACKGROUND

The appellants' invention relates generally to radiator supports for motor vehicles and, more specifically, to a magnesium radiator support assembly for a motor vehicle (specification, p. 1). In the Description of the Related Art section of the application (specification, pp. 1-2), the appellants provide:

It is known to provide a radiator support for a motor vehicle. Typically, the radiator support is made of stamped steel. The radiator support has separate components attached thereto. These components include a brace for a hood latch, a grille opening reinforcement (GOR), brackets for the GOR, and a cover for a radiator opening attached to the radiator support.

Although the above radiator support has worked well, it is desirable to provide a single first front structure for a motor vehicle that is die-cast, injection molded, or cast. It is also desirable to reduce weight, variable cost, and labor, while improving quality and vehicle durability, of a radiator support for a vehicle. It is further desirable to provide a radiator support that requires less package space in a vehicle. Therefore, there is a need in the art to provide a new radiator support assembly for a motor vehicle.

Next, in the SUMMARY OF THE INVENTION section of the application (specification, pp. 2-3), the appellants provide:

Accordingly, the present invention is a multi-functional radiator support assembly for a motor vehicle. The multi-functional radiator support assembly includes a radiator support for operative attachment to forward end of the motor vehicle. The radiator support is made of magnesium or a magnesium alloy material.

One advantage of the present invention is that a multi-functional radiator support assembly is provided for a motor vehicle. Another advantage of the present invention is that the multi-functional radiator support assembly is a first front structure for the vehicle that is die-cast, injection molded, or cast. Yet another advantage of the present invention is that the multi-functional radiator

support assembly combines the function of the radiator support, hood-latch support system, grille opening reinforcement, and several attachment/reinforcement brackets into a single die-cast, injection molded, or cast component. Still another advantage of the present invention is that the multi-functional radiator support assembly uses die-cast magnesium as the material for the structure. A further advantage of the present invention is that the multi-functional radiator support assembly provides improved dimensional control, reduction of tooled end items, fifty percent to seventy percent weight reduction, reduction of variable cost and labor, while improving lateral/torsional bending modes, and one hundred percent improvement in strength and durability of the vehicle. Yet a further advantage of the present invention is that the multi-functional radiator support assembly requires less packaging space, enabling reduction of front end overhang and supporting various styling needs, and saves a large amount of weight.

A copy of the dependent claims under appeal is set forth in the appendix to the appellants' brief. The independent claims on appeal read as follows:

1. A multi-functional radiator support assembly for a motor vehicle comprising:
a radiator support for operative attachment to a forward end of the motor vehicle; and
said radiator support is a single structural member being made of magnesium or a magnesium alloy material.

14. A multi-functional radiator support assembly for a motor vehicle comprising:
a radiator support for operative attachment to a forward end of the motor vehicle; and
said radiator support is a die casting of a magnesium or magnesium alloy material and said radiator support is made as a single structural member.

20. A multi-functional radiator support assembly for a motor vehicle comprising:
a radiator support for operative attachment to a forward end of the motor vehicle;

said radiator support being made of magnesium or a magnesium alloy material;

wherein said radiator support comprises a front portion, an opening extending through said front portion, a leg portion extending vertically on each side of said opening, a frame mount portion at a lower end of said leg portion for attachment to a frame of the vehicle, an arm portion extending laterally from each side of said front portion, an attachment portion extending longitudinally from said arm portion for attachment to a body of the vehicle; and

wherein said radiator support is a monolithic structure being integral, unitary, and one-piece.

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

Banthia et al. (Banthia)	5,059,056	Oct. 22, 1991
Kanemitsu et al. (Kanemitsu)	5,123,695	June 23, 1992
Junginger	6,068,327	May 30, 2000

Claims 1, 2, 4 to 6, 9 to 12, 14 to 16 and 18 to 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kanemitsu in view of Junginger.

Claims 7, 8, 13 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kanemitsu in view of Junginger as applied to claims 6 and 16 above, and further in view of Banthia.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final

rejection (Paper No. 14, mailed June 5, 2002) and the answer (Paper No. 19, mailed December 13, 2002) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 18, filed November 13, 2002) and reply brief (Paper No. 20, filed January 21, 2003) for the appellants' arguments thereagainst.

OPINION

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

In the brief (p. 5), the appellants stated that (1) Claims 1, 2 and 4 to 13 stand or fall together; (2) Claims 14 to 19 stand or fall together; and (3) Claim 20 stands alone.

In accordance with the appellants grouping of claims and arguments provided, we need to review only the rejections of claims 1, 14 and 20 (the independent claims on appeal) to decide the appeal on the rejections under 35 U.S.C. § 103 set forth above.

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591,

18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). When it is necessary to select elements of various teachings in order to form the claimed invention, we ascertain whether there is any suggestion or motivation in the prior art to make the selection made by the appellants. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the appellants' invention. As in all determinations under 35 U.S.C. § 103, the decision maker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the appellants' structure as a template and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby the appellants' combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (citations omitted). That is, something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. See In re Beattie,

974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

Teachings of Kanemitsu

Kanemitsu's invention relates to a front body structure of a vehicle, which includes at least both a heavyweight member such as a radiator and a unit base having shroud members, and method of assembly. As shown in Figure 5, unit base 6 includes a pair of shroud panels 21, an upper shroud member 22, a pair of shroud members 23 and a support member 26. As shown in Figures 3-5, the lower part of a heavyweight member 24 (the condenser 24A and the radiator 24B) is both supported by and fixed to the support member 26 and the upper end portion of the heavyweight member 24 is supported on the upper shroud member 22 through brackets 28. Kanemitsu is silent as to the material used to make the pair of shroud panels 21, the upper shroud member 22, the pair of shroud members 23 and the support member 26. Kanemitsu is also silent as to how the pair of shroud panels 21, the upper shroud member 22, the pair of shroud members 23 and the support member 26 are connected together to form the unit base 6.

Teachings of Junginger

Junginger's invention relates to a door for a vehicle and, in particular, to an upwardly folding vehicle door to selectively close, for example, a rear opening in a vehicle body. The folding door has a lower panel that is pivotally connected to an upper panel. The lower panel pivots inwardly and upwardly toward the upper section to effect opening.

Junginger teaches in the BACKGROUND OF THE INVENTION section (column 1, lines 39-49) that

most known upwardly folding doors are relatively heavy because they have inner and outer structural panels stamped from steel that are hemmed and spot welded along peripheral, flanged edges to form a door. The plastic door mentioned above reduces weight, but sacrifices durability by using a living plastic hinge. Using plastic as a structural component reduces the overall stiffness and strength of the door. Thus, the conventional folding doors do not provide light weight without sacrificing bending stiffness and impact strength.

Junginger teaches in the SUMMARY OF THE INVENTION section (column 2, lines 8-24) that

[t]he upper and lower sections have upper and lower frames, respectively. Each frame is preferably cast from magnesium to reduce door weight up to 40% compared to conventional designs. However, the present design does not sacrifice bending stiffness and impact strength to achieve such a substantial weight reduction. Cast magnesium provides an increased ductility that improves overall toughness of the door. Moreover, certain features are integrally formed with the frames to reduce the total number of parts and their associated assembly time. For instance, an accessory mount and central hinge

components are integrally cast with the frames. Also, part of an upper hinge is integrally cast for attachment with a remaining portion of a corresponding vehicle hinge. Upper and lower frames include U-shaped channel portions having reinforcing webs and/or reinforcing brackets to increase bending stiffness and provide a strong structure for the folding door.

Figure 1 shows a vehicle 20 having an upwardly folding door 22 that selectively closes an opening 24 for accessing vehicle 20. Door 22 is shown in various operational positions, including a closed position, a partially open position (shown in dashed outline), and a fully open position. Door 22 includes an upper panel 26 pivotally mounted to vehicle 20 about a horizontal pivot axis P1. Upper panel 26 is rotatably connected to a lower panel 28 about a second horizontal pivot axis P2 such that lower panel 28 folds inwardly and upwardly relative to upper panel 26.

Figure 2 shows an exploded view of door 22 including an upper frame 60 for receiving a pair of struts 30, an upper exterior panel 62, and a window panel 64. A lower frame 66 pivotally connects to upper frame 60 at hinges 68. In addition, a lower exterior panel 70 attaches to the exterior of lower frame 66. Junginger teaches (column 3, lines 54-58) that "[u]pper frame 60 can be made from any suitable material including, for example, aluminum, magnesium, plastic, or steel. Preferably, upper frame 60 is cast from magnesium to substantially reduce the weight of door 22 without sacrificing structural integrity and strength." Junginger teaches (column 4, lines 32-36) that

"[I]ower frame 66 can be made from any suitable material including, for example, aluminum, magnesium, plastic, or steel. Preferably, lower frame 66 is cast from magnesium to substantially reduce the weight of door 22 without sacrificing structural integrity and strength."

Claims 1 and 14

We sustain the rejection of claims 1 and 14 under 35 U.S.C. § 103.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Kanemitsu and claim 1, it is our opinion that the only difference is the limitation that the radiator support is made of magnesium or a magnesium alloy material. Based on our analysis and review of Kanemitsu and claim 14, it is our opinion that the only difference is the limitation that the radiator support is a die casting of a magnesium or magnesium alloy material. In reaching these determinations, we consider the claimed radiator support being a single structural member to be readable on either (1) Kanemitsu's upper shroud member 22 alone; (2)

Kanemitsu's support member 26 alone; or (3) Kanemitsu's unit base 6 which includes the upper shroud member 22, the shroud member 23 and the support member 26.

With regard to these differences, in applying the above-noted test for obviousness, we conclude that it would have been obvious at the time the invention was made to a person of ordinary skill in the art to have made Kanemitsu's upper shroud member 22, shroud member 23, shroud panels 21 and support member 26 from cast magnesium and not from stamped metal as was known in the art (see the appellants description of the related art quoted above) in view of Junginger's teaching that compared to stamped steel cast magnesium does not sacrifice bending stiffness and impact strength while achieving both a substantial weight reduction and an increased ductility that improves overall toughness.

The appellants arguments for patentability of claims 1 and 14 are unpersuasive for the reasons which follow.

First, Junginger is analogous art. The test for analogous art is first whether the art is within the field of the inventors' endeavor and, if not, whether it is reasonably pertinent to the problem with which the inventors were involved. In re Wood, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). A reference is reasonably pertinent if,

even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the matter with which it deals. In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). In the present instance, we are informed by the appellants' originally filed specification that the invention is particularly directed to reducing vehicle weight while improving vehicle durability. Junginger teaches that replacing stamped steel with cast magnesium reduces vehicle weight while improving vehicle durability and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Thus, we conclude that Junginger is analogous art.

Second, the combined teachings of the references would have suggested to one of ordinary skill in the art the subject matter of claims 1 and 14 as set forth above. Accordingly, it is our opinion that there is suggestion and motivation in the teachings of Kanemitsu and Junginger for one skilled in the art to have modified Kanemitsu to arrive at the claimed invention.

Lastly, the appellants have argued deficiencies of each reference on an individual basis, however, it is well settled that nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a

combination of prior art disclosures. See In re Merck & Co. Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986).

For the reasons set forth above, the decision of the examiner to reject claims 1 and 14 under 35 U.S.C. § 103 is affirmed.

Claims 2, 4 to 13 and 15 to 19

As set forth above, dependent claims 2 and 4 to 13 have been grouped together with claim 1 by the appellants. Accordingly, these claims will be treated as falling with claim 1. Likewise, dependent claims 15 to 19 have been grouped together with claim 14 by the appellants. Accordingly, these claims will be treated as falling with claim 14. See In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987); and In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978). Thus, it follows that the decision of the examiner to reject claims 2, 4 to 13 and 15 to 19 under 35 U.S.C. § 103 is also affirmed.

Claim 20

We will not sustain the rejection of claim 20 under 35 U.S.C. § 103.

Based on our analysis and review of Kanemitsu and claim 20, it is our opinion that the differences are the limitations that the claimed radiator support¹ is made of magnesium or a magnesium alloy material and is a monolithic structure being integral, unitary, and one-piece.

In our view, the applied prior art does not teach or suggest modifying Kanemitsu's upper shroud member 22, shroud member 23, shroud panels 21 and support member 26 to be a monolithic structure being integral, unitary, and one-piece. While the applied prior art does teach or suggest modifying each of Kanemitsu's upper shroud member 22, shroud member 23, shroud panels 21 and support member 26 to be a single structural member made of cast magnesium, there is insufficient guidance in the teachings of Kanemitsu and Junginger for an artisan to have combined Kanemitsu's upper shroud member 22, shroud member 23, shroud panels 21 and support member 26 together to be an integral, unitary, and one-piece monolithic structure. Accordingly, the decision of the examiner to reject claim 20 under 35 U.S.C. § 103 is reversed.

¹ Claim 20 recites that radiator support comprises "a front portion, an opening extending through said front portion, a leg portion extending vertically on each side of said opening, a frame mount portion at a lower end of said leg portion for attachment to a frame of the vehicle, an arm portion extending laterally from each side of said front portion, [and] an attachment portion extending longitudinally from said arm portion for attachment to a body of the vehicle."

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 2 and 4 to 19 under 35 U.S.C. § 103 is affirmed and the decision of the examiner to reject claim 20 under 35 U.S.C. § 103 is reversed.

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

AFFIRMED-IN-PART

NEAL E. ABRAMS)	
Administrative Patent Judge)	
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