

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ArvinMeritor GmbH

Appeal 2008-4992
Application 09/931,489
Technology Center 3600

Decided: November 21, 2008

Before JAMESON LEE, RICHARD TORCZON, and SALLY C.
MEDLEY, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

This is a decision on appeal by the real party in interest, ArvinMeritor GmbH (AMG), under 35 U.S.C. § 134(a) from a final rejection of claims 7-

23. AMG requests reversal of the Examiner's rejection of those claims. We have jurisdiction under 35 U.S.C. § 6(b).

References Relied on by the Examiner

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|------------------|-----------|---------------|
| Yamashita | 4,471,251 | Sep. 11, 1984 |
| Seeberger et al. | 6,185,872 | Feb. 13, 2001 |

The Rejection on Appeal

The Examiner rejected claims 7-23 under 35 U.S.C. § 103(a) as unpatentable over Seeberger et al. (Seeberger) and Yamashita.

The Invention

The invention relates to a door module intended for fitting in a motor vehicle door. (Spec. ¶ 1.)

Independent claim 7 is reproduced below (Claims App'x 14:1-9):

7. A door module for use in a motor vehicle door, comprising:

a system carrier;

a window lifter unit supported on the system carrier;

an electric drive unit associated with the window lifter unit;

control electronics for controlling the electric drive unit; and

a housing that contains at least the electric drive unit and supports the control electronics, the housing having a first portion at least partially enclosing the control electronics, a portion of the system carrier cooperating with the first portion of the housing to completely enclose the control electronics.

B. ISSUES

1) What is the scope of “completely enclose” in the context of AMG’s claims?

2) Do AMG’s claims 11 and 16-23 require that securing mounting structures to one another causes an electrical connection to be made?

C. PRINCIPLES OF LAW

During examination, claim terms are given their broadest reasonable interpretation consistent with the specification. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989).

D. FINDINGS OF FACT

1. AMG’s specification does not define “completely” to have a meaning other than its ordinary meaning.

2. AMG’s specification discloses a complete enclosure formed by housing 11 and system carrier 2 where an opening exists through which a ribbon cable 15 is connected to the enclosed electronics 13. (Spec. Figures 1&2; ¶ 14.)

3. Seeberger discloses a vehicle door having a support plate and a door lining. (Seeberger 1:4-6.)

4. In Seeberger, a drive and control unit 9 is mounted on the support plate 3 and located between the support plate 3 and lining body 5a. (Seeberger 5:23-24; Figure 1.)

5. In Seeberger, lining bodies 5a, 5b are fixed to support plate 3 using fastening flanges 50a, 50b. (Seeberger 5:41-45.)

6. In Seeberger, the drive and control unit 9 includes an electronics unit 94 and switches 92, 93. (Seeberger 5:26-28.)
7. In Seeberger, switches 92, 93 are located on a top portion of the electronics unit 94. (Seeberger Figure 1).
8. In Seeberger, switches 92, 93 allow an operator to operate control electronics within electronics unit 94. (Seeberger 5:29-32.)
9. In Seeberger, switches 92, 93 cooperate with the support plate 3 and lining bodies 5a, 5b to form part of an enclosure for the control electronics. (Seeberger Figure 1.)
10. Seeberger discloses that the electronic control unit 94 and various electrical plug connections are supported in the enclosure. (Seeberger 4:9-18; Figure 1.)

E. ANALYSIS

The Examiner rejected claims 7-23 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita. AMG argues the claims in four separate claim groupings: (1) claims 7-10 and 12-15; (2) claim 11; (3) claims 16-18, 22, and 23; and (4) claims 19-21.

Claims 7-10 and 12-15

Claims 8-10 and 12-15 are argued collectively with independent claim 7. We focus on the disputed limitations. AMG disputes that the limitation in claim 7 relating to complete enclosure of the control electronics is satisfied by the combination of Seeberger and Yamashita. The limitation reads (Claims App'x 14:6-9):

a housing that contains at least the electric drive unit and supports the control electronics, the housing having a first portion at

least partially enclosing the control electronics, a portion of the system carrier cooperating with the first portion of the housing to **completely enclose the control electronics.** (Emphasis added).

The Examiner found that Seeberger discloses control electronics that include cable tree 8 and “any portion of the motor/electric drive unit which transmits the electrical portions.” (Ans. 3:16-17.) The Examiner determined that Seeberger expressly discloses all the limitations of claim 7 with the exception of the first portion that cooperates with the system carrier to completely enclose the control electronics. (Ans. 3:13 to 4:7.) The Examiner found that Seeberger’s lining body 5a inherently forms a first portion of a housing that completely encloses the control electronics. (Ans. 4:7-8.)

AMG disputes the validity of the Examiner’s finding, arguing that (Reply. Br. 3:8-12):

The control electronics of the Seeberger et al. reference are not “completely enclosed.” Openings in the “upper lining body 5a[”] are required for the switches 92 and 93 to protrude through and be accessible to a driver in the vehicle. Such openings do not allow the drive and control unit 9 of the Seeberger et al. reference to be completely enclosed.

That argument is not well supported. During examination, claim terms are given their broadest reasonable interpretation consistent with the specification. *In re Zletz*, 893 F.2d at 321. AMG’s specification does not define “completely” to have a meaning other than its ordinary meaning. It is reasonable that “completely enclose” does not necessarily mean hermetically sealed such that there are no openings of any kind. Even AMG’s own specification discloses an opening in what is supposedly a complete enclosure. AMG contends that the complete enclosure of circuit board 13 is

caused by joining housing 11 and system carrier 2. Yet, an opening exists through which a ribbon cable 15 is connected to the enclosed electronics. (Spec. Figures 1&2; ¶ 14.) At least in the context of AMG’s specification, openings through which the enclosed electronics are operated are not sufficient to create an incomplete enclosure.

Even if AMG’s claim 1 is construed as excluding any opening, it does not require the absence of elements other than a portion of the housing and the system carrier to complete the enclosure. That additional elements may contribute to a complete enclosure is consistent with AMG’s own specification. As discussed above, AMG’s specification describes control electronics that are enclosed by the housing 11, system carrier 2, and ribbon cable 15. Ribbon cable 15 allows an operator to operate the enclosed control electronics by transmitting control signals to the control electronics. (Spec. ¶ 14.) To accomplish transmission of the signals, the cable passes through an opening in the enclosure and is connected to the control electronics. Thus, ribbon cable 15 fills the opening and itself forms a part of the “complete” enclosure.

In that light, AMG’s argument that Seeberger does not teach control electronics that are completely enclosed because switches 92 and 93 protrude through openings in the enclosure is not persuasive. Seeberger’s switches 92, 93 do not correspond to AMG’s claimed control electronics. Those switches 92, 93 are located on a top portion of the electronics unit 94. (Seeberger 5:28; Figure 1.) The “control electronics” are the electronics contained within electronics unit 94 that underlie switches 92, 93 and are not in open view. Like AMG’s ribbon cable 15, the switches allow an operator to operate the control electronics within electronics unit 94. (Seeberger

5:29-32.) The switches 92, 93 cooperate with the support plate 3 and lining bodies 5a, 5b to form part of a complete enclosure for the control electronics. (Seeberger Figure 1.)

In view of the teachings of Seeberger, the Examiner correctly determined that the “completely enclose” requirement of claim 7 is satisfied.

The Examiner also pointed to Yamashita as additional evidence in the vehicle door art of a housing enclosing an electric drive unit. For the reasons discussed above, Seeberger alone accounts for all the limitations of claim 7. We need not address the disclosure of Yamashita.

For all the foregoing reasons, AMG has not shown that the Examiner erred in finding claim 7 as unpatentable over Seeberger and Yamashita.

We sustain the rejection of claims 7-10 and 12-15 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita.

Claim 11

The Examiner also rejected claim 11 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita. Claim 11 is dependent on claim 7 and adds the additional limitation that the door module includes (Claims App’x 15:1-6.):

plug-in contacts for communicating power and signals supported on the portion of the system carrier and cooperating contacts supported on the first housing portion and coupled with the control electronics such that the plug-in contacts and the cooperating contacts are engaged in an electrically conductive manner when the first housing portion is secured to the portion of the system carrier.

The Examiner reasoned that (Ans. 5:1-3.):

Seeberger et al., clearly discloses plug in contacts as does all modern day electric driver motor units and all of these are engaged (directly or indirectly) to a system carrier and/or a housing portion.

AMG disputes that the claim 11 is satisfied by Seeberger and Yamashita. According to AMG, claim 11 is not met because (App. Br. 9:5-10.):

Neither the *Seeberger* reference nor the *Yamashita* reference anywhere disclose or suggest cooperating contacts and plug-in contacts that are electrically engaged when a housing portion and a system carrier are secured together. The inventive arrangement of Claim 11 allows for simultaneously mounting the structures together to enclose the electronics and to establish an electrically conductive connection with the electronics.

AMG further argues (Reply Br. 2:23 to 3:7):

the movement of the housing portion into the position relative to the system carrier is the same motion that makes the electrically conductive connection....Neither the *Seeberger* reference nor the *Yamashita* reference anywhere disclose or suggest cooperating contacts and plug-in contacts that are electrically engaged as a housing portion and a system carrier are secured together.

Those arguments are misplaced. AMG's claim 11 does not require that an electrical connection is established "simultaneously" with the engagement of the mounting structures. The claim also does not require that "movement" of the housing makes an electrical connection. Nor does the claim require that the connection occurs "as" the housing portion and system carrier are engaged. In other words, the claim does not require that the separate acts of structure mounting and connection establishing be simultaneously achieved. Rather, the claim simply requires that the plug-in

contacts and cooperating contacts are engaged when the first housing portion is secured to the system carrier.

The term “when” means “at the time that.” *Webster’s II New Riverside University Dictionary* 1313 (1984). The meaning of “when” is not so narrow as to require a moment of transition from one state to another. AMG would like it to mean that the electrical contact is made at the moment the housing and carrier are first connected but not prior. The claim, however, is not so narrow. Giving the term “when” its broadest reasonable interpretation, the engagement of the electrical contacts may occur at any time before the first housing portion and system carrier are secured. The electrical contacts are then already engaged at the time that the housing portion and system carrier are secured. Securing the housing and system carrier need not cause the contacts to engage.

The broadest reasonable interpretation rule recognizes that before a patent is granted the claims are readily amended as a part of the examination process and that an applicant has the opportunity and responsibility to remove any ambiguity in claim meaning by making an amendment. *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004). If AMG had intended the claims to read in the manner argued by AMG above, it could have amended the claims accordingly. We reject the argument that the term “when” in claim 11 must have the narrow meaning urged by AMG.

Seeberger discloses that the electronic control unit 94 and various electrical plug connections are supported in the space between support plate 3 and lining bodies 5a, 5b. (Seeberger 4:9-18; Figure 1.) The lining bodies 5a, 5b are then fixed to support plate 3 using fastening flanges 50a, 50b. (Seeberger 5:42-45.) The electrical contacts between the electronics and the

plug connections are made prior to lining bodies 5a, 5b being attached to support plate 3. The Examiner reasonably determined that Seeberger satisfies the requirement of claim 11 that the prior art plug-in and cooperating contacts are engaged when a housing portion is secured to a system carrier. AMG has not shown error in that determination.

We sustain the rejection of claim 11 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita.

Claims 16-18, 22, and 23

Claims 17, 18, 22, and 23 are argued collectively with independent claim 16. Claim 16 is similar to claim 7 and includes the limitation (Claims App'x 16:8-13):

a housing containing at least one electrically conductive element and at least partially enclosing the conductive element, the housing cooperating with the support plate to completely enclose the conductive element and wherein the conductive element is electrically coupled with the electrical connector supported on the support plate when the housing is secured to the support plate.

AMG contends that neither Seeberger nor Yamashita teach that an electrically conductive element is electrically coupled when the housing is secured to the support plate. (App. Br. 9:16-21.)

The Examiner found that in Seeberger either the cable tree 8 or other electrical portions of the electric drive unit 9 satisfy the electrically conductive element limitation. (Ans. 3:16-17; 5:5-8.) That finding is supported by Seeberger's disclosure. Seeberger discloses that the electronic control unit 94 and various electrical plug connections are supported in the space between support plate 3 and lining 5a, 5b. (Seeberger 4:9-18; Figure 1.) Electric signals are transmitted between the electronic control

unit and the electrical plug connections. The Examiner correctly determined that the electronic control unit and electrical plug connections satisfy the requirements in claim 16 of at least one electrically conductive element and electrical connector.

For similar reasons as those discussed above, we reject the argument that the references do not teach that an electrical connector and the electrically conductive element are electrically coupled when the housing is secured to the support plate. Here also, the meaning of “when” does not require that electrical coupling occurs at the first moment that the housing and system carrier are secured but not before. The electrical coupling may occur at any time before the housing and support plate are secured. The electrical coupling between the conductive element and the plug connections is being made prior to lining bodies 5a, 5b being attached to support plate 3. The electrical coupling is therefore already established when the housing is secured to the support plate.

AMG has not shown error in the Examiner’s finding that claim 16 is satisfied by the evidence of record.

We sustain the rejection of claims 16-18, 22, and 23 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita.

Claims 19-21

Claims 19-21 are argued collectively. Independent claim 19 is a method claim that includes the step of (Claims App’x 17:7-9):

securing the housing to the support plate to thereby completely enclose the control electronics and to make an electrical connection between the control electronics and the electrical connector.

AMG argues that the above-quoted limitation is not shown in either of Seeberger or Yamashita. (App. Br. 10:4-8.)

Claim 19 requires that the step of securing the housing to the support plate makes an electrical connection. The Examiner does not address that limitation or explain how it is satisfied. The Examiner also does not point to any portions of either Seeberger or Yamashita describing that it is the act of securing a housing to a support plate that establishes the electrical connection.

We do not sustain the rejection of independent claim 19 or dependent claims 20 and 21 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita.

F. CONCLUSION

1) In the context of AMG's claims, "completely enclose" does not require an enclosure that is hermetically sealed or an enclosure that is formed only by two mounting structures.

2) AMG's claims 11, 16-18, 22, and 23 do not require that securing mounting structures to one another causes an electrical connection to be made. However, claims 19-21 do require that the securing act causes an electrical connection to be made.

The rejection of claims 7-18, 22, and 23 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita is **affirmed**.

The rejection of claims 19-21 under 35 U.S.C. § 103(a) as unpatentable over Seeberger and Yamashita is **reversed**.

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

AFFIRMED-IN-PART

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