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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HIROKI NOMURA and KENICHI SUDOU

Appeal 2016-003363
Application 13/720,853
Technology Center 3600

Before STEVEN D.A. McCARTHY, ERIC C. JESCHKE and
BRENT M. DOUGAL, *Administrative Patent Judges*.

McCARTHY, Administrative Patent Judge.

DECISION ON APPEAL

1 STATEMENT OF THE CASE

2 The Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner’s
3 decision² finally rejecting claims 1, 4, 6–11 and 20 under pre-AIA 35 U.S.C.
4 § 103(a) as being unpatentable over Mikami (JP P2010-208607A, publ.
5 Sept. 24, 2010);³ Moriyama (US 2001/0009725 A1, publ. July 26, 2001);

¹ The Appellant identifies the real party in interest as Kasai Kogyo Co., Ltd.

² The appeal is from a Final Office Action, mailed April 8, 2015; and an Advisory Action, dated June 26, 2015.

³ As used in this opinion, citations to “Mikami” will be to a mechanical English-language translation obtained on February 5, 2018 from the Japan Platform for Patent Information, operated by the Japanese Patent Office. A copy of the translation may be found in the Official File of this appeal.

1 and Nagayama (JP P2008-62930A, publ. Mar. 21, 2008) (“Nissan”).⁴ (*See*
2 Final Office Action, mailed April 8, 2015 (“Final Act.”), at 2). Claims 2, 3,
3 5 and 12–19 are cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

4 We REVERSE.

5 The appealed claims are directed to a laminated material that may be
6 mounted on the inside of a motor vehicle door or on the underside of the
7 roof of a motor vehicle. (*See Spec. 1*). The material is intended to block
8 airflow from the vehicle interior toward the body; and to reflect infrared
9 (“IR”) radiation from the exterior that might contribute to heating of the
10 vehicle. (*See Spec. 4*).

11 Claim 1 is the sole independent claim on appeal. It recites, with
12 italics added:

- 13 1. An interior material for a vehicle, comprising:
14 a base material layer;
15 a first reinforcement layer disposed on a surface of a
16 vehicle interior side of the base material layer;
17 a second reinforcement layer disposed on a surface of a
18 vehicle body side of the base material layer;
19 a skin layer disposed on a surface of the opposite side of
20 the first reinforcement layer viewed from the base material layer;
21 a backside layer disposed on a surface of the opposite side
22 of the second reinforcement layer viewed from the base material
23 layer;

⁴ As used in this opinion, citations to “Nissan” will be to an English-language translation prepared by Schreiber Translation, Inc., dated February 2015. A copy of the translation may be found in the Official File of this appeal. The reference will be referred to as “Nissan” to maintain consistency of nomenclature between the prosecution and appeal.

1 *wherein the backside layer comprises a resin film and a*
2 *metal deposition film deposited on the resin film, the metal*
3 *deposition film is directly adhered via a moisture-curable*
4 *adhesive to the second reinforcement layer.*

5 The Appellants correctly point out that the references fail to teach the
6 italicized limitation. (*See* “Appellants’ Brief on Appeal,” dated August 25,
7 2015, at 14 & 15). Mikami describes a sun shade panel for a sunroof of an
8 automobile. As depicted in Figure 2 of Mikami, the sun shade panel *10* has
9 a laminated structure including a pair of base material layers *11, 12*. A glass
10 fiber reinforcing layer *13* is sandwiched between the two base material
11 layers *11, 12*. First and second glass fiber reinforcing layers *14, 15* are
12 disposed on the two surfaces of the base material layers *11, 12* opposite
13 those surfaces embracing the reinforcing layer *13*. A skin layer *16* is
14 laminated to the surface of the first glass reinforcing layer *14* intended to
15 face the interior of the automobile. A backside layer *17* is laminated to the
16 surface of the second glass reinforcing layer *15* intended to face the opening
17 *1a* and the glass member 2. (*See* Mikami, para. 30 & Fig. 2). Mikami does
18 not describe the backside layer *17* as having either a metal deposition film or
19 an IR-reflecting function.

20 Figure 5 of Moriyama depicts an upholstery *43* including a substrate
21 body *44* attached to the roof panel *42* of an automobile. An IR-reflecting
22 layer *45*, which may consist of metal vapor deposited onto a plastic
23 substrate, is positioned between the roof panel *42* and the substrate body *44*.
24 (*See* Moriyama, paras. 110 & 117). Moriyama teaches that the IR-reflecting
25 layer *45* intercepts the thermal energy of sunlight incident on the roof panel
26 *42* to prevent heat transfer to the upholstery *43*. (*See* Moriyama, para. 111).
27 Nevertheless, Moriyama’s teaching to position an IR-reflecting layer *45*

1 between the roof panel 42 and the upholstery 43 is a poor teaching to
2 provide the backside layer; that is, the layer of a plurality of layers
3 positioned between sunroof and an interior upholstery closest to the sunroof,
4 with an IR-reflecting function.⁵

5 Nissan describes an interior material, such as a ceiling material, for a
6 motor vehicle. (See Nissan, paras. 30 & 33). As depicted in Figures 2 and
7 3, such a material may include a base layer or substrate 2; a design layer or
8 skin layer 3; and a cushioning layer 4. Sandwiched between the base layer 2
9 and the cushioning layer 4 is a layer 1 possessing an IR-reflecting function.
10 (See Nissan, para. 37).

11 The layer 1 possessing the IR-reflecting function is not the outermost
12 or backside layer of the material. In fact, Nissan teaches that:

13 Specifically, because the layer having an infrared radiation
14 reflecting function is provided so that it is not in direct contact
15 with any member serving as a heat source and is maintained at a
16 prescribed distance from the outer body panels of an automotive

⁵ In fact, Figure 1 of Moriyama depicts a coated plate including a substrate 1 having a thin plate 2 possessing an IR-reflecting function laminated to one side of the substrate. A primer coating layer 3, an intermediate coating layer 4 and a top coating layer 5 are coated onto the other side of the substrate 1. (See Moriyama, para. 57). The coated plate is positioned such that the top coating layer 5 faces incident sunlight. (See Moriyama, para. 57). Moriyama teaches that the thermal energy of the sunlight transmits through the coating layers 5, 4, 3 and the substrate 1, but is intercepted by the thin plate 2 to prevent the transfer of the energy to upholstery that may be disposed adjacent to the thin plate. (See Moriyama, paras. 58, 62 & 127). In other words, the thin plate 2 having the IR-reflecting function in the embodiment depicted in Figure 1 of Moriyama is positioned opposite the outermost layer of the coated plate. This embodiment undermines any suggestion that Moriyama teaches positioning a layer with IR-reflecting function as the outermost or backside layer.

1 vehicle, it is able to reflect infrared and other infrared radiation
2 more effectively.

3 (Nissan, para. 20). Elsewhere, Nissan criticizes a prior art interior material
4 because:

5 the aforementioned interior material does not adequately provide
6 the effect of reducing the temperature of the passenger
7 compartment of an automotive vehicle [due] to problems such as
8 (1) the inability to take full advantage of the reflective function
9 due to the fact that the reflective layer is used in close proximity
10 to or in contact with the automotive vehicle body, and (2) the
11 transmission of heat from the automotive vehicle body.

12 (Nissan, para. 4). Nissan explicitly says that “an infrared radiation reflecting
13 function may be imparted to the other layers as well [that is, layers other
14 than the ventilation layer *1*], *with the exception of the Outermost Layer,*
15 *using the same materials and methods.”* (Nissan, para. 55 (italics added for
16 emphasis)). Nissan provides experimental results justifying this teaching.
17 (*See generally* Nissan, paras. 74–84 (*compare* Reference Examples 1 and 2,
18 *with* Reference Example 4)).

19 These passages would have had the effect of discouraging one of
20 ordinary skill in the art from providing the outermost or backside layer of an
21 interior material with an IR-reflecting function. Therefore, they teach away
22 from the limitation “wherein the backside layer comprises a resin film and a
23 metal deposition film deposited on the resin film.”

24 On pages 7 and 8 of the Examiner’s Answer, mailed January 12,
25 2016, the Examiner points out that Nissan teaches:

26 While it suffices for a ventilation layer to include at least one
27 such reflective film having an infrared radiation reflecting
28 function, it is also desirable to form multiple layers thereof. By
29 providing multiple reflective layers, it is possible to enhance, in

1 geometric progression, the attenuation of the entry of heat and
2 achieve a higher infrared radiation effect.
3 (Nissan, para. 55). While it is true that Nissan taught forming “multiple
4 reflective layers,” apparently either within one layer or distributed between
5 different layers, Nissan expressly excepted the outermost layer of the
6 material from this teaching. (*See id.*) Nissan’s teaching to form “multiple
7 reflective layers” does not persuade us that an interior material for a vehicle
8 in which “the backside layer comprise[d] a resin film and a metal deposition
9 film deposited on the resin film” would have been obvious.

10 We do not sustain the rejection of claims 1, 4, 6–11 and 20 under
11 § 103(a) as being unpatentable over Mikami, Moriyama and Nissan.
12 Because our decision is based on arguments adduced by the Appellants in
13 response to the rejection of claim 1, we need not consider the Appellants’
14 separate arguments directed at claim 4.

15

16

DECISION

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We REVERSE the Examiner’s decision rejecting claims 1, 4, 6–11
and 20.

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REVERSED

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