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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MARC VOGT, DOMINIQUE JOUSSET, STEPHANE BIZET,  
and JEAN-JACQUES FLAT

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Appeal 2018-003353  
Application 13/139,594  
Technology Center 1700

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Before ADRIENE LEPIANE HANLON, CATHERINE Q. TIMM, and  
N. WHITNEY WILSON, *Administrative Patent Judges*.

WILSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's March 27, 2017 decision finally rejecting claims 33, 34, 36–45, and 47–54 (“Final Act.”). We have jurisdiction over the appeal under 35 U.S.C. § 6(b). An oral hearing was held on August 29, 2019, a transcript of which will be made part of the record.

We affirm.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Arkema France as the real party in interest (Br. 3).

### CLAIMED SUBJECT MATTER

Appellant's disclosure relates to a photovoltaic module that, as shown in Appellant's FIG. 2, includes upper protective layer **24**, protective backsheet film **26**, polyolefin based encapsulant positioned **22** between upper protective layer **24** and protective backsheet film **26**, and one or more photovoltaic cells **10** encased in encapsulant **22**.

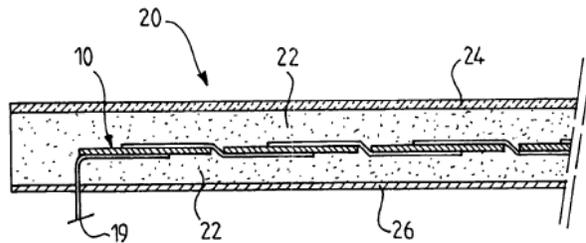


FIG. 2 shows the general structure of the claimed photovoltaic cell.

The independent claims further specify the specific composition of the protective backsheet film and state that the backside surface of the protective backsheet film is exposed, as shown in FIG. 2 above. Details of the claimed invention are set forth in independent claim 33, which is reproduced below from the Claims Appendix to the Appeal Brief:

33. (Previously Presented) A photovoltaic module, comprising:
- an upper protective layer;
  - a protective backsheet film;
  - a polyolefin-based encapsulant between the upper protective layer and the protective backsheet film; and
  - one or more photovoltaic cells encased in the encapsulant in the form of an encapsulated cell between the upper protective layer and the protective backsheet film;
- characterized in that a space is provided between the one or more photovoltaic cells and the upper protective layer and

the protective backsheet film, the space has a shape, the encapsulant takes up the shape of the space, the protective backsheet film has a contact surface on a first side thereof and an exposed backside surface on a second side thereof opposite the first side, the contact surface being in direct contact with the encapsulated cell, the exposed backside surface defining a backside of the photovoltaic module, the protective backsheet film comprising at least one layer of a composition comprising at least one polyamide-grafted polymer comprising a polyolefin backbone containing a residue of at least one unsaturated monomer (X) and at least one polyamide graft, wherein

the at least one polyamide graft comprises a homopolyamide selected from PA-6, PA-6.6, PA-6.T, PA-10.T, PA-10.10, PA-10.12, PA-11, and PA-12, the at least one polyamide graft is attached to the polyolefin backbone by the residue of the unsaturated monomer (X) that comprises a functional group capable of reacting via a condensation reaction with a polyamide having at least one amine end group and/or at least one carboxylic acid end group,

the residue of the unsaturated monomer (X) is attached to the backbone by grafting or copolymerization,

the at least one polyamide-grafted polymer comprises, relative to its total weight, from 40% by weight to 95% by weight the polyolefin backbone comprising the unsaturated monomer (X), and from 5% by weight to 60% by weight the at least one polyamide graft, and

the melting point or glass transition temperature of the at least one polyamide graft is greater than or equal to 85° C; and

wherein each of the contact surface and the exposed backside surface consists of the composition.

Independent claim 54 differs from independent claim 33 in that (1) neither the contact surface nor the exposed backside surface of the protective backsheet film is required to consist of the composition; and (2) the at least

one polyamide graft is selected from a slightly different group of specific homopolyamides or from a group of specific copolyamides ( Br. 8).

## REJECTIONS

1. Claims 33, 37–45, 47, and 49–54 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hayes<sup>2</sup> in view of Starkweather,<sup>3</sup> Eberspacher,<sup>4</sup> and Blondel.<sup>5</sup>

2. Claim 34 is rejected under 35 U.S.C. § 103(a) as unpatentable over Hayes in view of Starkweather, Eberspacher, and Blondel, and further in view of Xia.<sup>6</sup>

3. Claims 36 and 48 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hayes in view of Starkweather, Eberspacher, and Blondel, and further in view of Glotin.<sup>7</sup>

## DISCUSSION

Appellant separately argues four groups of claims (1) claims 33, 34, 37–45, and 47–53, (2) claim 34, (3) claims 36 and 48, and (4) claim 54 ( Br. 5, 19). For group (1), we will focus our analysis on claim 33. We will address claims 34, 36, and 54 separately.

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<sup>2</sup> Hayes, US 2008/0053516 A1, published March 6, 2008.

<sup>3</sup> Starkweather, Jr. et al., US 4,217,430, issued August 12, 1980.

<sup>4</sup> Eberspacher et al., US 2007/0074755 A1, published April 5, 2007.

<sup>5</sup> Blondel et al., US 2006/0074158 A1, published April 6, 2006.

<sup>6</sup> Xia, et al., US 2010/0043871 A1, published February 25, 2010.

<sup>7</sup> Glotin et al., US 5,342,886, issued August 30, 1994.

**Claim 33.** The Examiner finds that Hayes teaches the general structure of the photovoltaic module recited in claim 33, except that Hayes does not teach (1) the specific composition recited in the claim used in the backsheet, though it does teach the use of a polyamide (Final Act. 4, citing Hayes, Fig. 4 and ¶¶ 21, 57, and 58), (2) the use of the specific polyamides recited in claim 33 (Final Act. 5), or (3) that the solar cells are completely surrounded by the encapsulent (Final Act. 6).

The Examiner finds that Starkweather teaches a polyamide composition which meets the requirements set forth in claim 33, and that such a composition provides flexibility, strength, and toughness (Final Act. 4–5, citing Starkweather 1:64–2:17, 3:32–35, 4:42–59). The Examiner determines that it would have been obvious to have used Starkweather’s polyamide composition to impart the properties of flexibility, strength, and toughness, and to use a specific polyamide taught by Blondel as providing good impact strength and flexibility (Final Act. 5, citing Blondel ¶ 3).

Finally, the Examiner also determines that it would have been obvious to encapsulate the solar cells in the Hayes structure as taught by Eberspacher to protect the solar cells from environmental damage (Final Act. 6).

Appellant argues that the Examiner reversibly erred in not considering the full teachings of several of the references and only selectively picking and choosing specific teachings from them in order to make out the obviousness rejection ( Br. 14).

First, Appellant argues that Hayes teaches that its invention is specifically directed to the use of a backsheet having a particular primer coating and, therefore, a person of skill in the art would not have replaced

the composition making up the backsheet of Hayes with the composition taught by Starkweather because doing so “would require completely eliminating the inventive primer-coated backsheet that is the entire focus of the teachings of Hayes” (Br. 15, citing Hayes, ¶ 9). This argument is not persuasive because, inter alia, Hayes specifically teaches that while its backsheet can be coated with the primer, the primer can instead be applied to different layers in the structure (Hayes, ¶ 9).

Second, Appellant argues that Eberspacher’s focus is on providing a structural support to its backsheet and, therefore, the combination of Eberspacher and Hayes would produce a structure without the exposed backside surface of the backsheet (Br. 15–18). This argument is not persuasive because the Examiner has provided a reasoned explanation of why a person of skill in the art would have modified the structure of Hayes by fully encapsulating its solar cells (in order to protect them from environment damage) (Final Act. 6). Appellant has not challenged, and hence has not shown reversible error in, this determination. That a particular feature taught by Eberspacher can be incorporated into Hayes does not mean that every feature in Eberspacher need be incorporated in order to show the obviousness of the combination.

Finally, during the oral hearing, Appellant’s counsel made an argument that Hayes requires the use of a stiff backsheet and, therefore, a person of skill in the art would not have substituted in the flexible material taught by Starkweather. This argument was not made in the Appeal Brief, or the Reply Brief. Accordingly, we will not consider it on appeal. Any substantive arguments we consider on appeal are those raised in the Appeal Brief. 37 C.F.R. § 41.37(c)(1)(iv) (“The arguments of appellant . . . and the

basis therefor[e], with citations to the . . . parts of the [r]ecord relied [up]on” are the arguments considered; 37 C.F.R. § 41.47(e)(1) (“At the oral hearing, appellant may only . . . present argument that has been relied upon in the brief or reply brief except as permitted by paragraph (e)(2) of this section”.<sup>8</sup> Furthermore, “[t]he arguments shall explain why the examiner erred as to each ground of rejection contested by appellant.”); *see also Ex parte Nakashima*, 93 USPQ2d 1834 (BPAI 2010) (explaining that arguments and evidence not timely presented in the principal Brief, will not be considered when filed in a Reply Brief, absent a showing of good cause explaining why the argument could not have been presented in the Principal Brief); *In re Hyatt*, 211 F.3d 1367, 1373 (Fed. Cir. 2000) (an argument not first raised in the brief to the Board is waived on appeal).

**Claim 34.** Although Appellant includes claim 34 in a separate section of the Appeal Brief, the arguments set forth therein are the same as for claim 33, and are similarly unpersuasive.

**Claims 36 and 48.** Appellant argues that the Examiner has not established an adequate reason to combine Glotin with the other references. However, the Examiner finds that Hayes in view of Starkweather teaches a graft copolymer having a monomer X comprising carboxylic acid, while Glotin teaches a graft copolymer having a monomer X comprising either fumaric acid (which is one product of carboxylic acid) or maleic anhydride. Therefore, the Examiner determines, it would have been obvious to modify

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<sup>8</sup> 37 C.F.R. § 41.47(e)(2) states that “[u]pon a showing of good cause, appellant . . . may rely on a new argument based upon a recent relevant decision of either the Board or a Federal Circuit.” That section is not applicable here.

the monomer X as taught by Hayes to be made of maleic anhydride as taught by Glotin, as Glotin evidences that carboxylic acid and maleic anhydride would be used as an alternative and equivalent material for the monomer X for the same intended use. Appellant has not disputed the foregoing determination, and thus has not shown reversible error in it.

**Claim 54.** Although Appellant indicates that claim 54 is argued separately from claim 33, the arguments are the same as those for claim 33 (see, Br. 20–22). These arguments are unpersuasive for the same reasons set forth above in connection with claim 33.

For all of the foregoing reasons, we sustain the rejections on appeal.

## CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
33, 37–45, 47, and 49–54	§ 103(a) Hayes, Starkweather, Eberspacher, and Blondel	33, 37–45, 47, and 49–54	
34	§ 103(a) Hayes, Starkweather, Eberspacher, Blondel, and Xia	34	
36 and 48	§ 103(a) Hayes, Starkweather, Eberspacher, Blondel, and Xia	36 and 48	
<b>Overall Outcome</b>		33, 34, 36–45, and 47–54	

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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)(1)(iv).

AFFIRMED