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Customer Number

Patent
Case No.: 71049US008
(MMM0309/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Doreen Eckhardt	Examiner: CHANG, VICTOR S
Serial No.: 14/443,426	Group Art Unit: 1788
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For: MULTILAYER PRESSURE-SENSITIVE ADHESIVE ASSEMBLY	Docket No.: 71049US008 (MMM0309/US)

BRIEF ON APPEAL

Mail Stop: Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

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November 4, 2019 /Jennifer M. Barnes/

Date

Signed by: Jennifer M. Barnes

Dear Commissioner:

This is an appeal from the Office Action mailed on August 29, 2019, rejecting claims 16-20, 24, 27, and 29-40.

Fees

- ☒ Any required fee will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.17 which may be required to Deposit Account No. 50-1775.
- ☒ Please charge any fees which may be required to Deposit Account No. 50-1775.
- ☒ Please charge any additional fees associated with the prosecution of this application to Deposit Account No. 50-1775. This authorization includes the fee for any necessary extension of time under 37 CFR § 1.136(a). To the extent any such extension should become necessary, it is hereby requested.
- ☒ Please credit any overpayment to the same deposit account.

A Notice of Appeal in this application was filed on October 22, 2019.

REAL PARTY IN INTEREST

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

RELATED APPEALS AND INTERFERENCES

Appellants previously filed a Notice of Appeal in this case on October 24, 2017, and a Brief on Appeal on January 22, 2018, which resulted in the Examiner reopening prosecution on May 3, 2018. Appellants are aware of no related interferences.

STATUS OF CLAIMS

Claims 16-20 and 24-40 are pending. Applicants again note that claims 21-23 were canceled in Applicants' Amendment dated September 4, 2018. Claims 25, 26, and 28 stand withdrawn. Claims 16-20, 27, and 29-40 stand rejected. Claims 16-20, 27, and 29-40 are the subject of the present appeal.

STATUS OF AMENDMENTS

No amendment to the claims or to the specification has been made after the outstanding rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 16 and claims depending therefrom (claims 17-20 and 24-36) concern multilayer PSA assemblies (**Specification, e.g., at page 2, lines 1-21**) comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:
 - a) from 50 to 99.5 weight percent of 2-propylheptyl acrylate (**Specification, e.g., at page 4, lines 14-18**) as a first monomer;
 - b) from 1.0 to 50 weight percent of a second non-polar monomer (**Specification, e.g., at page 6, line 4 – page 7, line 17**);
 - c) from 0.1 to 15 weight percent of a third polar acrylate monomer (**Specification, e.g., at page 8, lines 1-18**); and
 - d) a tackifying resin (**Specification, e.g., at page 11, line 35 – page 14, line 7**) in an amount from 3 to 100 parts per 100 parts of the copolymer (**Specification, e.g., page 15, lines 11-17**), wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof (**Specification, e.g., at page 12, line 9 – page 13, line 33 and page 15, lines 11-23**); wherein the weight percentages are based on the total weight of the copolymer; and
- ii. a second acrylate pressure sensitive adhesive foam layer (**Specification, e.g., at page 20, line 17 – page 23, line 34**).

In the species presently elected for examination, the second acrylate pressure sensitive adhesive foam layer comprises at least one filler material (**Specification, e.g., at page 24, line 33 – page 25, line 5**) which comprises expandable microspheres (**Id.**).

Independent claim 37 and claim 39 depending therefrom concern multilayer PSA assemblies (**Specification, e.g., at page 2, lines 1-21**) comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:

- a) from 50 to 99.5 weight percent of 2-propylheptyl acrylate (**Specification, e.g., at page 4, lines 14-18**);
- b) from 1.0 to 50 weight percent of isobornylacrylate (**Specification, e.g., at page 9, line 27 – page 10, line 2**);
- c) from 0.1 to 15 weight percent of acrylic acid (**Specification, e.g., at page 10, lines 18-22**); and
- d) an optional tackifying resin (**Specification, e.g., at page 11, line 35 – page 14, line 7**);

wherein the weight percentages are based on the total weight of the copolymer;

wherein the copolymer material further comprises a crosslinker (**Specification, e.g., at page 15, line 31 – page 18, line 3**), in an amount of 0.01 to 5 weight percent, based on the total weight of the copolymer;

and

- ii. a second acrylate pressure sensitive adhesive foam layer (**Specification, e.g., at page 20, line 17 – page 23, line 34**).

Independent claim 38 and claim 40 depending therefrom concern multilayer PSA assemblies (**Specification, e.g., at page 2, lines 1-21**) comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:
 - a) from 60 to 90 weight percent of 2-propylheptyl acrylate (**Specification, e.g., at page 4, lines 14-18**);
 - b) from 10 to 30 weight percent of isobornylacrylate (**Specification, e.g., at page 9, line 27 – page 10, line 2**);
 - c) from 3.0 to 6.0 weight percent of acrylic acid (**Specification, e.g., at page 10, lines 18-22**); and
 - d) 0.05 to 1 weight percent of a crosslinker (**Specification, e.g., at page 15, line 31 – page 18, line 3**),

wherein the weight percentages are based on the total weight of the copolymer;

and

- ii. a second acrylate pressure sensitive adhesive foam layer (**Specification, e.g., at page 20, line 17 – page 23, line 34**).

Claim 39 depends from claim 37 and additionally recites that the propylheptyl acrylate adhesive copolymer layer additionally comprises a tackifying resin (**Specification, e.g., at page 11, line 35 – page 14, line 7**) in an amount from 3 to 100 parts per 100 parts of the copolymer (**Specification, e.g., page 15, lines 11-17**); wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof (**Specification, e.g., at page 12, line 9 – page 13, line 33 and page 15, lines 11-23**).

Claim 40 depends from claim 38 and additionally recites that the propylheptyl acrylate adhesive copolymer layer additionally comprises a tackifying resin (**Specification, e.g., at page 11, line 35 – page 14, line 7**) in an amount from 3 to 100 parts per 100 parts of the copolymer (**Specification, e.g., page 15, lines 11-17**); wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof (**Specification, e.g., at page 12, line 9 – page 13, line 33 and page 15, lines 11-23**).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL**Sole Ground of Rejection**

Claims 16-20, 24, 27 and 29-40 stand rejected under pre-AIA 35 U.S.C. § 102(a) as unpatentable over US 2012/0171915 (Bartholomew), and incorporated reference US 2010/0120931 (Zajackowski). Applicants again note that claims 21-23 were canceled in Applicants' Amendment dated September 4, 2018.

ARGUMENT

Sole Ground of Rejection

Claims 16-20, 24, 27 and 29-40 stand rejected under pre-AIA 35 U.S.C. § 102(a) as unpatentable over US 2012/0171915 (Bartholomew), and incorporated reference US 2010/0120931 (Zajackowski). Applicants again note that claims 21-23 were canceled in Applicants' Amendment dated September 4, 2018.

Claims 16-20, 24, 27 and 29-36

Claim 16 (and claims 17-20, 24, 27, and 29-36 depending therefrom) recites, *inter alia*, the use of a propylheptyl acrylate adhesive copolymer layer comprising specified amounts of: a) 2-propylheptyl acrylate; b) a second non-polar monomer; c) a third polar acrylate monomer; and d) a tackifying resin selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof.

This combination is not taught in Bartholomew. The Office Action of August 29, 2019 ("Office Action") does not cite a teaching specific to this combination anywhere in Bartholomew.

Applicants note that the present Specification describes the advantages of using a propylheptyl acrylate adhesive copolymer with a tackifier at page 13, 5th paragraph – page 15, third paragraph. With particular reference to the types of tackifier recited in present claim 16, the Specification states:

In contrast to conventional (meth)acrylic-based elastomeric material, the polymerizable material prepared using 2-propylheptyl acrylate as a monomer have greater compatibility with petroleum-based resins such as the C5-based hydrocarbon resins, the C9-based hydrocarbon resin, the C5/C9-based hydrocarbon resins, and hydrogenated versions of any of these resins. The resulting pressure-sensitive adhesive can appear clear and can remain clear even after aging at temperatures such as 70°C for 1 week. (Specification at page 13, 5th paragraph, lines 29-33).

The issue of anticipation turns on whether the prior art disclosure is such that one of ordinary skill in the art could "at once envisage" the claimed matter. *Eli Lilly & Co. v. Zenith Goldline Pharm., Inc. et al.*, 471 F.3d 1369, 1376 (Fed. Cir. 2006). *Akzo N.V. v. International Trade Comm'n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986) (Claims to a process for

making aramid fibers using a 98% solution of sulfuric acid were not anticipated by a reference which disclosed using sulfuric acid solution but which did not disclose using a 98% concentrated sulfuric acid solution); *Impax Laboratories, Inc. v. Aventis Pharmaceuticals Inc.*, 545 F.3d 1312, 1315 (Fed. Cir. 2008) (The prior art reference was found to be not enabling of the claimed invention and thus not anticipating because one of ordinary skill in the art would be required to pick from “hundreds or thousands of compounds” to arrive at the claimed invention).

The Office Action cites Bartholomew for a recitation of 2-propylheptyl acrylate as one of 10 options listed at [0035]. (Office Action at 3). The Office Action cites Bartholomew at [0047]-[0051] for a recitation of the optional use (or non-use) of a tackifying resin and further cites Zajackowski¹. (Office Action at 3). If it is chosen to use a tackifier, that passage of Bartholomew presents an encyclopedic list of various types of tackifying resins, and further includes incorporation by reference of a textbook passage on the subject.

The cited reference provides a great multiplicity of possible combinations and no direction that would lead one of skill in the art to the claimed invention. Applicants maintain that the propylheptyl acrylate adhesive copolymer layer of claims 16-20, 24, 27, and 29-36, including 2-propylheptyl acrylate and the specified tackifiers, cannot be “at once envisaged” on the basis of Bartholomew.

Applicants assert that this rejection, as a rejection under pre-AIA 35 U.S.C. § 102(a), has been overcome with regard to claims 16-20, 24, 27, and 29-36, and request reversal.

Claims 37-40

Independent claims 37 & 38 recite, *inter alia*, the use of a propylheptyl acrylate adhesive copolymer layer comprising specified amounts of: a) 2-propylheptyl acrylate; b) isobornylacrylate; c) acrylic acid; and d) a crosslinker. This combination is not taught in Bartholomew, nor does the Office Action cite a teaching specific to this combination anywhere in Bartholomew.

The Office Action cites Bartholomew for a recitation of 2-propylheptyl acrylate as one of 10 options listed at [0035], isobornylacrylate as one of 8 options listed at [0036], and acrylic acid

¹ Applicants note that the Office Action cites paragraphs [0036]-[0040] of Zajackowski as incorporated by reference in Bartholomew; however, these paragraphs are nearly identically reproduced in Bartholomew at [0047]-[0051], and thus the use of Zajackowski does not add to the previous citation of Bartholomew.

as one of 10 options listed at [0037]. The Office Action cites Bartholomew for a recitation of the optional use (or non-use) of a crosslinker at [0039]-[0040]. Thus the number of possible combinations presented by these passages of Bartholomew is $10 \times 8 \times 10 \times 2 = 1600$. Applicants maintain that the propylheptyl acrylate adhesive copolymer of claims 37 and 38 cannot be “at once envisaged” on the basis of Bartholomew.

The case of *Impax Laboratories, Inc. v. Aventis Pharmaceuticals Inc.*, 545 F.3d 1312 (Fed. Cir. 2008) is directly relevant. In that case, the CAFC found that the prior art reference was not anticipating because one of ordinary skill in the art would be required to pick from “hundreds or thousands of compounds” to arrive at the claimed invention. (*Impax*, 545 F.3d 1312 at 1315). In the present case, one of ordinary skill in the art would be required to pick items from at least 1600 types of polymer to arrive at the claimed invention.

Claims 39 & 40 depends from claims 37 & 38, respectively, and further recite the inclusion of “a tackifying resin in an amount from 3 to 100 parts per 100 parts of the copolymer, wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof.”

In addition to the passages of Bartholomew cited in regard to claims 37 & 38, the Office Action cites Bartholomew for a recitation of the optional use (or non-use) of a tackifying resin at [0047]-[0050] and further cites Zajackowski. If it is chosen to use a tackifier, the cited passage of Bartholomew presents an encyclopedic list of various types of tackifying resins, and further includes incorporation by reference of a textbook passage on the subject.

Regarding claims 39 & 40, the number of possible combinations presented by the cited passages of Bartholomew is at least an order of magnitude greater than the **1600** calculated above with regard to claims 37 & 38. Applicants maintain that the propylheptyl acrylate adhesive copolymers of claims 39 & 40 can in no way be “at once envisaged” on the basis of Bartholomew.

Applicants assert that this rejection, as a rejection under pre-AIA 35 U.S.C. § 102(a), has been overcome with regard to claims 37-40 and should be reversed.

For all of the reasons presented above Appellants seek reversal of this Sole Ground of Rejection.

CONCLUSION

For all of the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

Date: November 4, 2019

By: /Philip Y. Dahl/
Philip Y. Dahl, Reg. No.: 36,115

#126542

CLAIMS APPENDIX

1-15. (Cancelled)

16. (Previously Presented) A multilayer PSA assembly comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:
 - a) from 50 to 99.5 weight percent of 2-propylheptyl acrylate as a first monomer;
 - b) from 1.0 to 50 weight percent of a second non-polar monomer;
 - c) from 0.1 to 15 weight percent of a third polar acrylate monomer; and
 - d) a tackifying resin in an amount from 3 to 100 parts per 100 parts of the copolymer, wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof; wherein the weight percentages are based on the total weight of the copolymer; and
- ii. a second acrylate pressure sensitive adhesive foam layer.

17. (Previously Presented) The multilayer PSA assembly of claim 16, wherein the second monomer comprises a non-polar alkyl (meth)acrylate ester having an alkyl group comprising preferably from 1 to 30 carbon atoms.

18. (Previously Presented) The multilayer PSA assembly according to claim 17, wherein the second monomer has a glass transition temperature (T_g) of at least 20°C.

19. (Previously Presented) The multilayer PSA assembly of claim 18, wherein the second monomer is selected from the group consisting of isobornyl (meth)acrylate, cyclohexyl (meth)acrylate, isophoryl (meth)acrylate, cyclohexyl (meth)acrylate, N-vinyl caprolactam, and any combinations or mixtures thereof.

20. (Previously Presented) The multilayer PSA assembly of claim 16, wherein the copolymer material further comprises a crosslinker, in an amount of 0.01 to 5 weight percent, based on the total weight of the copolymer.

21.-23. (Canceled)

24. (Previously Presented) The multilayer PSA assembly of claim 16 in the form of a skin/core multilayer pressure sensitive adhesive assembly, wherein the acrylate pressure sensitive adhesive foam layer (ii) is the core layer and the propylheptyl acrylate adhesive layer is a skin layer.

25. (Withdrawn) The multilayer PSA assembly of claim 24, which further comprises a third pressure sensitive adhesive layer which is adjacent to the acrylate pressure sensitive adhesive foam layer on the side of which is opposed to the propylheptyl acrylate adhesive layer.

26. (Withdrawn) The multilayer PSA assembly of claim 24, which further comprises at least one intermediate layer between the propylheptyl acrylate adhesive layer and/or the third pressure sensitive adhesive layer and the foam layer.

27. (Previously Presented) The multilayer PSA assembly of claim 16 wherein the second acrylate pressure sensitive adhesive foam layer comprises at least one filler material selected from the group consisting of filler particles, microspheres, expandable microspheres, glass beads, glass microspheres, hydrophobic silica type fillers, hydrophilic silica type fillers, fibers, electrically and/or thermally conducting particles, nanoparticles, and any combinations thereof.

28. (Withdrawn) The multilayer PSA assembly of claim 27, wherein the filler material comprises expanded perlite.

29. (Previously Presented) The multilayer PSA assembly of claim 27 wherein the filler material comprises expandable microspheres.

30. (Previously Presented) The multilayer PSA assembly of claim 16, which is further provided with a release liner on at least one of its major surfaces.

31. (Previously Presented) The multilayer PSA assembly of claim 16, wherein the copolymer comprises from 0.1 to 10 weight percent of a strongly polar acrylate monomers, based on a total weight of copolymer.

32. (Previously Presented) The multilayer PSA assembly of claim 31, wherein the copolymer comprises from 2 to 8 weight percent of the strongly polar acrylate monomers, based on a total weight of copolymer.

33. (Previously Presented) The multilayer PSA assembly of claim 31 wherein the strongly polar monomer is selected from (meth)acrylic acid, itaconic acid, fumaric acid, crotonic acid, citronic acid, maleic acid, β -carboxyethyl acrylate and sulfoethyl methacrylate.

34. (Previously Presented) The multilayer PSA assembly of claim 16 wherein the second acrylate pressure sensitive adhesive foam layer is crosslinked.

35. (Previously Presented) The multilayer PSA assembly of claim 16, wherein the copolymer comprises from 0.1 to 10 weight percent of a polar acrylate monomers, based on a total weight of copolymer

36. (Previously Presented) The multilayer PSA assembly of claim 35, wherein the polar monomers are selected from hydroxyalkyl acrylates, acrylamides and substituted acrylamides, acrylamines and substituted acrylamines, and any combinations or mixtures thereof.

37. (Previously Presented) A multilayer PSA assembly comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:
 - a) from 50 to 99.5 weight percent of 2-propylheptyl acrylate;
 - b) from 1.0 to 50 weight percent of isobornylacrylate;
 - c) from 0.1 to 15 weight percent of acrylic acid; and
 - d) an optional tackifying resin,

wherein the weight percentages are based on the total weight of the copolymer;
wherein the copolymer material further comprises a crosslinker, in an amount of
0.01 to 5 weight percent, based on the total weight of the copolymer;

and

- ii. a second acrylate pressure sensitive adhesive foam layer.

38. (Previously Presented) A multilayer PSA assembly comprising:

- i. a propylheptyl acrylate adhesive copolymer layer comprising:
 - a) from 60 to 90 weight percent of 2-propylheptyl acrylate;
 - b) from 10 to 30 weight percent of isobornylacrylate;
 - c) from 3.0 to 6.0 weight percent of acrylic acid; and
 - d) 0.05 to 1 weight percent of a crosslinker,

wherein the weight percentages are based on the total weight of the copolymer;

and

- ii. a second acrylate pressure sensitive adhesive foam layer.

39. (Previously Presented) The multilayer PSA assembly according to claim 37, wherein the propylheptyl acrylate adhesive copolymer layer additionally comprises a tackifying resin in an amount from 3 to 100 parts per 100 parts of the copolymer, wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof.

40. (Previously Presented) The multilayer PSA assembly according to claim 38, wherein the propylheptyl acrylate adhesive copolymer layer additionally comprises a tackifying resin in an amount from 3 to 100 parts per 100 parts of the copolymer, wherein the tackifying resin is selected from the group consisting of C5-based hydrocarbon resins, C9-based hydrocarbon resins, C5/C9-based hydrocarbon resins, and any combinations or mixtures thereof.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

Appellants previously filed a Notice of Appeal in this case on October 24, 2017, and a Brief on Appeal on January 22, 2018, which resulted in the Examiner reopening prosecution on May 3, 2018.