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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	64844-256633	1690
23644	7590	08/28/2018		
Barnes & Thornburg LLP (CH) P.O. Box 2786 Chicago, IL 60690-2786			EXAMINER DILLON, DANIEL P	
			ART UNIT	PAPER NUMBER
			1783	
			NOTIFICATION DATE	DELIVERY MODE
			08/28/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patent-ch@btlaw.com

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiners responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicants correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,-
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicants record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiners version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, Interview Record OK on the paper recording the substance of the interview along with the date and the examiners initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The discussion revolved around the process of making the wood-grained polymer board and how the differences between the two processes as presented in the rejection result in different products to which applicant noted the feed blocks of Piedbouf and that of applicant's process result in these different products. This was recognized in addition to the applicant further reminding the examiner the claims are directed towards a product and not necessarily the process of forming the wood grained polymer substrate to which the examiners response was based upon examination of the product, the process would ultimately result in the product that was being claimed. Additionally, applicant noted the purpose of the process taught in Piedbouf was ultimately to create a gradient pointing to figure 6a of Piedbouf. Figure 6a shows a slow gradient which appears different from applicant's invention. However, no agreement was reached concerning this such that Piedbouf appreciates a sharp transition between bands in addition to a slow gradation and the bands may be straight or wavy depending on the process parameters (Col. 6, Lines 40-60). Lastly, applicant discussed the 112 rejections made in the most recent office action such that the term substantially is properly discussed in that minor errors may result in the process of forming the board, but the layer still extends substantially down the length of the board. The examiner agreed with this statement and would withdraw the 112 concerning this term upon submission of new amendments/arguments.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Andrew Stephens	)	
	)	Confirmation No. 1690
Application No.: 15/245,948	)	
	)	Group Art Unit: 1783
Filed: August 24, 2016	)	
	)	Examiner: DILLON, Daniel P.
For: WOOD-GRAINED POLYMER SUBSTRATE	)	

AMENDMENT AND RESPONSE TO OFFICE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Office Action mailed July 13, 2018, please consider the following:

Amendments to the Claims begin on page 2 of this paper; and

Remarks begin on page 8 of this paper.

Amendments to the Claims:

The following claims shall replace all previous versions of the claims:

1. (Currently Amended) A simulated natural wood-grained polymer board having a first side and a second side spaced apart from the first side, the spacing between the first and second sides defining one of a width or a height of the board, the first and second sides extending along a length direction between a first end and a second end, the first and second ends defining a length of the board, the board comprising:

a first set of polymer layers ~~generally~~ extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board;

a second set of polymer layers ~~generally~~ extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and

wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate the second side of the board.

2. (Currently Amended) The board of claim 1, wherein the layers of the first set of polymer layers are ~~generally~~ thinner than the layers of the second set of polymer layers.

3. (Original) The board of claim 1, wherein a portion of at least one of the first side and second side of the board is removed to expose portions of the first and second sets of polymer layers along the length direction.

4. (Previously Presented) The board of claim 3, wherein the exposed portions of the first and second sets of polymer layers form a burlled grain pattern.

5. (Original) The board of claim 1, wherein at least one of the first and second sides of the board is embossed with a wood grain pattern.

6. (Previously Presented) The board of claim 1, wherein the first and second sets of polymer layers are formed from high density polyethylene.

7. (Original) The board of claim 6, wherein the first and second sets of polymer layers further include at least one of a UV inhibitor and a foaming agent.

8. (Original) The board of claim 6, wherein one of the first and second sets of polymer layers further includes a foaming agent.

9. (Original) The board of claim 1, wherein the board is formed to define a polygonal cross-section along a length of the board.

10. (Currently Amended) A simulated natural wood-grained polymer substrate extending along a first direction, the substrate having a first side and a second side spaced apart from the first side along a second direction different than the first direction, the first and second sides defining a width of the substrate, the first and second sides extending along the first direction, a core of the substrate extending between the first and second sides and along the first direction, the substrate comprising:

a first set of polymer layers ~~generally~~ extending along the first direction and containing a first colorant, a majority of the first set of polymer layers being substantially continuous along the first direction; and

a second set of polymer layers ~~generally~~ extending along the first direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers being substantially continuous along the first direction;

wherein individual layers of the first and second sets of polymer layers alternate within the core of the substrate to form a natural wood-grained appearance throughout the core of the substrate; and

wherein a plurality of the individual layers of one of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate the first side and terminating proximate the second side.

11. (Currently Amended) The substrate of claim 10, wherein the layers of the first set of polymer layers are ~~generally~~ thinner than the layers of the second set of polymer layers.

12. (Previously Presented) The substrate of claim 10, wherein the first and second sets of polymer layers are formed from high density polyethylene.

13. (Original) The substrate of claim 12, wherein the first and second sets of polymer layers further include at least one of a UV inhibitor and a foaming agent.

14. (Original) The substrate of claim 12, wherein one of the first and second sets of polymer layers further includes a foaming agent.

15. (Previously Presented) The substrate of claim 10, wherein the substrate is formed to define a polygonal cross-section along a length of the substrate.

16. (Cancelled)

17. (Previously Presented) The board of claim 6, wherein the core is substantially free of natural wood materials.

18. (Previously Presented) The board of claim 1, further comprising a third side and a fourth side spaced apart from the third side along a height direction different than the length

direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends, and wherein the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

19. (Previously Presented) The substrate of claim 12, wherein the core is substantially free of natural wood materials.

20. (Previously Presented) The substrate of claim 10, further comprising a third side and a fourth side spaced apart from the third side along a third direction different than the first and second directions, wherein the third and fourth sides define a height of the substrate, wherein the third and fourth sides extend along the first direction, wherein the core of the substrate extends between the first, second, third, and fourth sides and along the first direction, and wherein individual layers of the first and second sets of polymer layers alternate within the core of the substrate along the third direction.

21. (Currently Amended) A simulated natural wood-grained polymer substrate having a length defined along a first direction, a width defined along a second direction perpendicular to the first direction, and a height defined along a third direction perpendicular to both the first and second directions, the substrate comprising:

a first set of polymer layers ~~generally~~ extending along the first direction and containing a first colorant, a majority of the first set of polymer layers being substantially continuous along the first direction; and

a second set of polymer layers ~~generally~~ extending along the first direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers being substantially continuous along the first direction;

wherein individual layers of the first and second sets of polymer layers alternate within the substrate along the third direction to form a natural wood-grained appearance throughout the substrate; and

wherein a plurality of the individual layers of one of the plurality of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate an outer surface of a first portion of the substrate and terminating proximate an outer surface of a second portion of the substrate.

22. (Currently Amended) The substrate of claim 21, wherein the layers of the first set of polymer layers are ~~generally~~ thinner than layers of the second set of polymer layers.

23. (Previously Presented) The substrate of claim 21, wherein the first and second sets of polymer layers are formed from high density polyethylene.

24. (Previously Presented) The substrate of claim 23, wherein the core is substantially free of natural wood materials.

25. (Currently Amended) A simulated natural wood-grained polymer board comprising:

a polymer core having a first side and a second side spaced apart from the first side, spacing between the first and second sides defining one of a width or a height of the core, the first and second sides extending along a length direction of the core between a first end and a second end, the first and second ends defining a length of the core;

a first set of polymer layers ~~generally~~ extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the entire length of the core;

a second set of polymer layers ~~generally~~ extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the entire length of the core; and

First Named Inventor: Andrew Stephens
Application No. 15/245,948

wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the core and extend along a substantially uninterrupted curvilinear path originating from proximate the first side of the core and terminating proximate the second side of the core.

REMARKS

I. CLAIM STATUS

Claims 1-15 and 17-25 are pending in this case. Claims 1, 2, 10, 11, 21, 22, and 25 have been amended herein solely in response to the rejections under § 112. No new matter has been added with these amendments.

II. EXAMINER INTERVIEW

Examiners Dillon and Ewald are thanked for the interview of August 3, 2018 where the pending rejections and cited references were discussed. While no agreement was reached, differences between the currently claimed subject matter and the cited references were presented along with deficiencies in the rejections.

III. CLAIM REJECTIONS

35 U.S.C. § 112

Claims 1, 2, 10, 11, 17, 19, 21, 22, and 24-25 are rejected under 35 U.S.C. § 112(b) as indefinite. In particular, the Office Action objects to the words “generally” and “substantially” as used in the claims. The word “generally” has been removed from the claims as shown above. The term “substantially” as used in the claims is intended to account for minor variations that would otherwise not be literally covered by the claims without the use of such term. *See also* MPEP 2173.05(b). Accordingly, withdrawal of the rejection and reconsideration of the claims is respectfully requested.

35 U.S.C. § 103

Claims 1-15 and 17-25 are rejected under 35 U.S.C. § 103 over various combinations of U.S. Pat. No. 7,204,944 to Piedboeuf (“Piedboeuf”) with U.S. Pat. App. Pub. No. 2011/0177291 to Sudano et al. (“Sudano”), U.S. Pat. App. Pub. No. 2003/0021915 to Rohatgi et al. (“Rohatgi”), and U.S. Pat. App. Pub. No. 2004/0038002 to Franco et al. (“Franco”). The rejections are respectfully traversed.

Prior rejections based on Rohatgi and Franco were overcome as stated in the currently pending Office Action. Likewise, the newly cited Piedboeuf and Sudano references also fail to

teach all of the elements of the claims. In particular, the Office Action relies on supposed similarities in the processes of the cited references and the present application as evidence that the resulting structures formed by the processes would be the same. It is noted, however, that no process is currently claimed, and, rather, “simulated natural wood-grained polymer” boards and substrates of particular structure are claimed. In any event, reliance on similarities between the processes of the cited references and the present application in rejection of the currently pending claims is misplaced. The United States Supreme Court summarized the concept over 150 years ago:

“A machine may be new, and the product or manufacture proceeding from it may be old. In that case the former would be patentable and the latter not. The machine may be substantially old and the product new. In that event the latter, and not the former, would be patentable. Both may be new, or both may be old. In the former case, both would be patentable; in the latter neither.”

Providence Rubber Co. v. Goodyear, 76 U.S. 788, 796, 19 L. Ed. 566 (1869).

Here, the Office Action fails to make a *prima facie* case of obviousness by not considering all of the claim limitations and misconstruing the same. *See* MPEP 2143.03. Specifically, the Office Action makes a blanket conclusion, without support in the cited references or otherwise, that the result of the process described in Piedboeuf “would ultimately result” in the claimed structures of the present application. Yet, the Office Action admits that the cited references fail to show these specific structures. The Office Action also fails to describe how one skilled in the art could arrive at the claimed structures simply by reviewing the processes of the cited references without undue experimentation or the benefit of hindsight bias from the disclosure of the present application. Indeed, hindsight bias is clear as “knowledge gleaned only from applicant’s disclosure” is used in the rejections of the claims. MPEP 2145(X)(A); *see also* MPEP § 2142 (“impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”). Specifically, the Office Action concludes, incorrectly, that “the system taught by Piedboeuf is nearly identical to ... the system as **defined by applicant’s specification**” as evidence that Piedboeuf’s system must be capable of producing the claimed structures. However, such structures are only taught in

First Named Inventor: Andrew Stephens
Application No. 15/245,948

the present application, and, in any event, there are distinct differences between the processes of the cited references and the present application as evident through a comparison of the same. To be clear, no process is presently claimed and should not be seen as limiting of the currently pending claims.

Therefore, Piedboeuf, Sudano, Rohatgi, and Franco, whether alone or in combination, fail to teach, show, or suggest, or otherwise make obvious, all of the elements of claims 1, 10, 21, and 25. Accordingly, withdrawal of the rejections and allowance of claims 1, 10, 21, and 25, and claims 2-9, 11-15, 17-20, and 22-24 dependent thereon, is respectfully requested.

IV. CONCLUSION

In view of the forgoing, it is submitted that this application is in condition for allowance. Allowance is respectfully requested. If the Examiner believes that a telephonic interview would expedite the allowance of this application, the Examiner is requested to contact the undersigned for prompt resolution of any outstanding issues.

It is respectfully requested that this paper, if necessary, be considered as a Petition for Extension of Time sufficient to effect a timely response and that shortages in fees, if any, be charged, or any overpayment in fees credited, to the Account of Barnes & Thornburg, Deposit Account No. 12-0913 with reference to file 64844-256633.

Respectfully submitted,

Date: September 13, 2018

/Mark J. Nahnsen/
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One of the Attorneys for Applicant(s)
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Customer No.: 23644

Electronic Acknowledgement Receipt

EFS ID:	33717456
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	23644
Filer:	Mark J. Nahnsen
Filer Authorized By:	
Attorney Docket Number:	64844-256633
Receipt Date:	13-SEP-2018
Filing Date:	24-AUG-2016
Time Stamp:	17:56:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	256633_Response.pdf	44852	no	10
			bb6e168318687cbc03b31c2032f8fe9a37aa7385		

Warnings:

RPI1004

Information:	
Total Files Size (in bytes):	44852
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/245,948	Filing Date 08/24/2016	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	09/13/2018	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 24	Minus	** 24	= 0	X \$50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
CORALIA BETANCOURT

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

RPI1004



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The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patent-ch@btlaw.com

DETAILED CORRESPONDENCE

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 10, 21, and 25 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944).

Regarding **claims 1, 10, 21, and 25**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

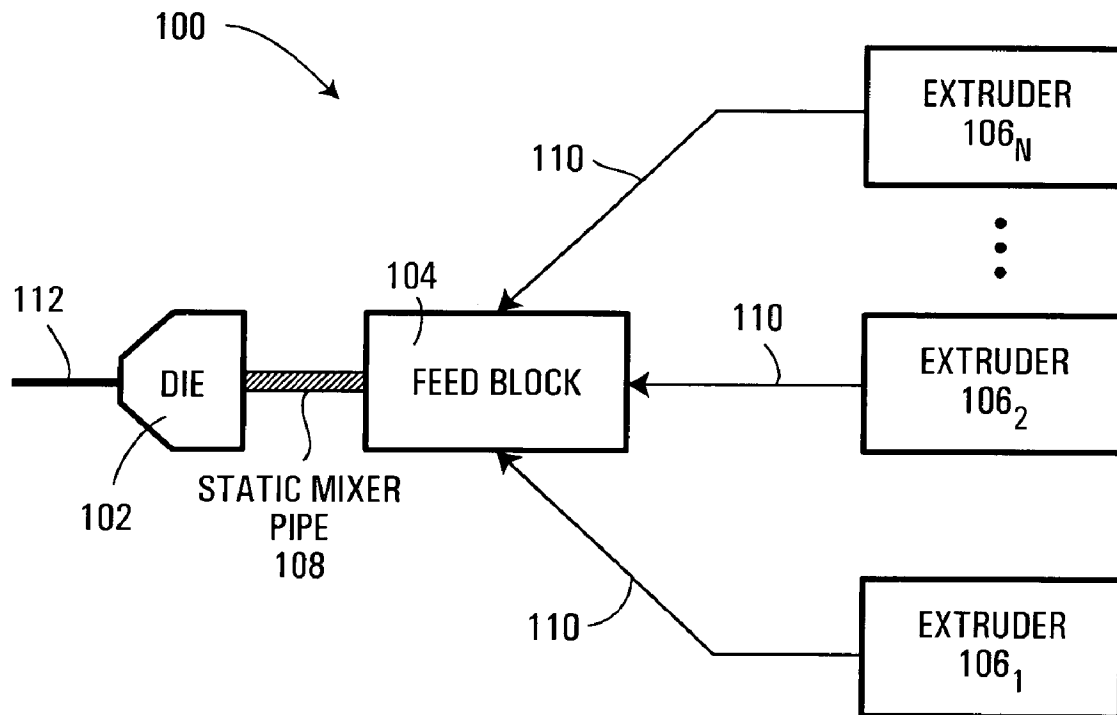


FIG. 1

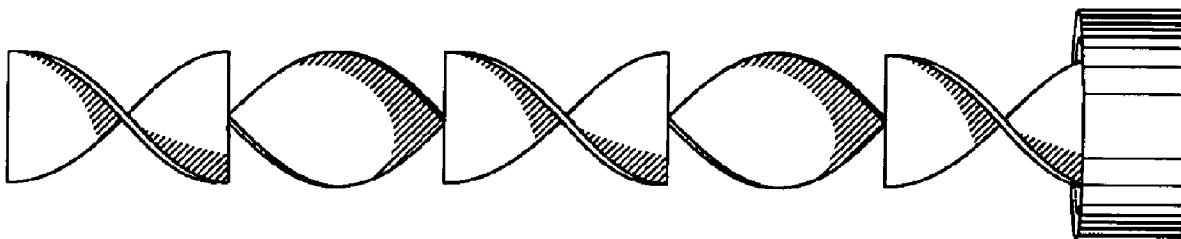


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8). Additionally, the final product resulting from

the feed block of the system forms bands and layers, with the two being interchangeable, of at least two different colors with the two different colors being multi-layer or multi-band patterns of viscous plastic material (Col. 4, Lines 30-48).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

However, Piedboeuf teaches the extrusion process may a product that can be thermoformed into different shapes or items including watercraft such as kayaks and canoes

(Col. 9, Lines 6-21) with differing color variations. Additionally, the reference teaches that the technique of laminating various different layers of colored material joined together to form a multi-colored sheet can be costly and time consuming due to the requirement of treating the material (Col. 1, Lines 30-40). As such, the Examiner contends that when looking to the teachings in the reference, it would have been obvious to one of ordinary skill in the art to form an extruded product such as, for example, a canoe or surfboard, which may have a wood grain appearance for aesthetics depending on the user and additionally, the use of the process of Piedboeuf allows the manufacture of such a product to be more cost effective than prior laminating techniques.

Claims 1-4, 6, 9, and 18 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 1**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

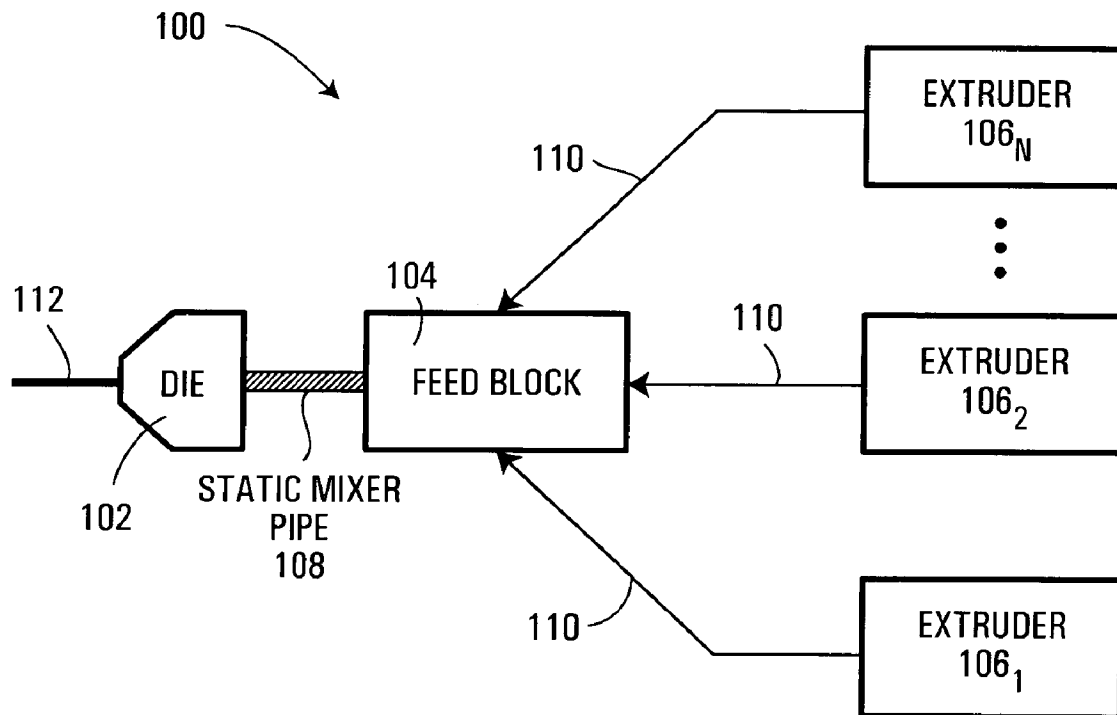


FIG. 1

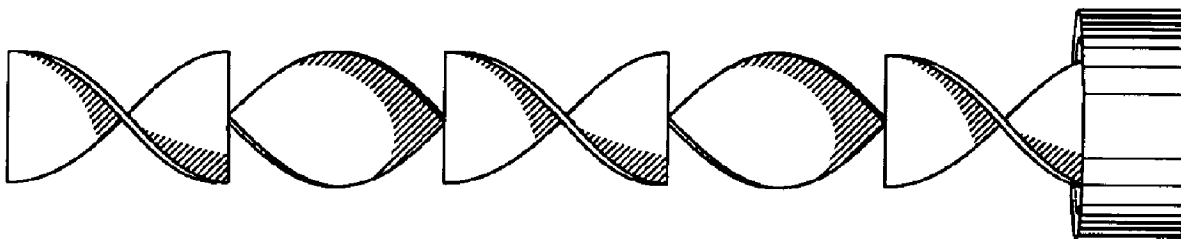


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8). Additionally, the final product resulting from

the feed block of the system forms bands and layers, with the two being interchangeable, of at least two different colors with the two different colors being multi-layer or multi-band patterns of viscous plastic material (Col. 4, Lines 30-48).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves

mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claims 2-4**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers (claim 2), and wherein a portion of at least one of the first side and the second side of the board is removed to expose portions of the first and second sets of polymer layers along the length direction (claim 3) and wherein the exposed portions forming a burled grain pattern (claim 4).

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well

such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other and the core or exposing the core would result in a burl pattern being visible. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In *reAuer*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 6**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 9**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. Piedboeuf teaches the formation of sheets utilizing the system described above with respect to claim 1. One of ordinary skill in the art would appreciate that a sheet has a similar polygonal shape to that of a board.

Regarding **claim 18**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. One of ordinary skill in the art would appreciate that the sheet product of Piedboeuf would comprise a third side and a fourth side spaced apart from the third side along a height direction different than the length direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and

second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends

Piedboeuf is silent with respect to the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In *reAUer*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Claims 7-8 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 1 above, and further in view of Rohatgi et al. (US 2003/0021915).

Regarding **claims 7-8**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further including a UV inhibitor or a foaming agent (claim 7) and a foaming agent (claim 8).

Rohatgi teaches the formation of wood-like boards formed from thermoplastics and cellulosic materials having low density and enhanced strength (Pg. 1, Paragraph [0001]). The board may include a UV-stabilizer to protect from ultraviolet degradation (Pg. 5, Paragraph

[0046]). A foaming agent may also be added causing the board to expand and thus reducing the density of the final product (Pg. 3, Paragraph [0037]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product having a wood appearance as taught by Piedboeuf in view of Sudano in which the starting materials of the system also include additives such as a UV stabilizer to protect from ultraviolet degradation and a foaming agent to cause the sheet to expand reducing the density of the sheet making the final product light weight as taught by Rohatgi.

Claim 5 is rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 1 above, and further in view of Franco et al. (US 2004/0038002).

Regarding **claim 5**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further embossed with a wood grain pattern.

Franco teaches the formation of a colored thermoplastic polymer material that simulates natural wood (Pg. 1, Paragraph [0001]). The thermoplastic materials are mixed and extruded with the veins of the natural wood appearance being visible and then undergoes an embossment process on one or both sides to impress a pattern in the extrudate thus enhancing the veins in the extruded part (Pg. 3, Paragraph [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product with a simulated wood appearance as taught by

Piedboeuf in view of Sudano in which the extruded product is then embossed to give the simulated wood appearance an enhancement by the impression of a pattern as taught by Franco.

Claims 10-12, 15, 17, and 19-20 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 10**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

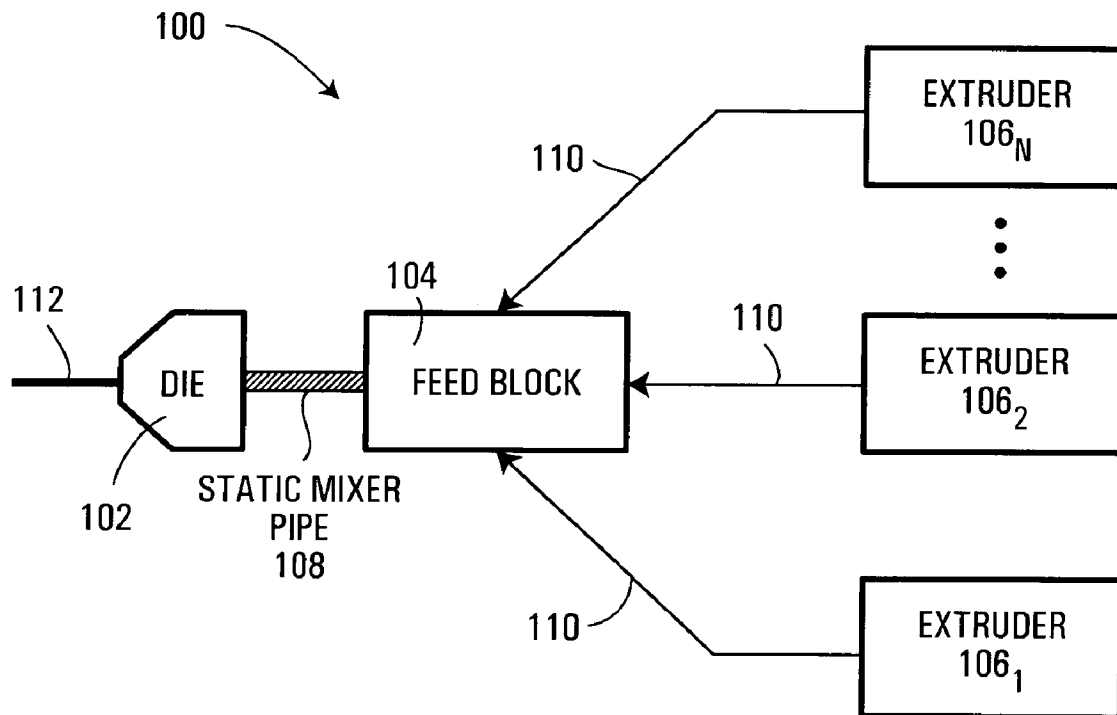


FIG. 1

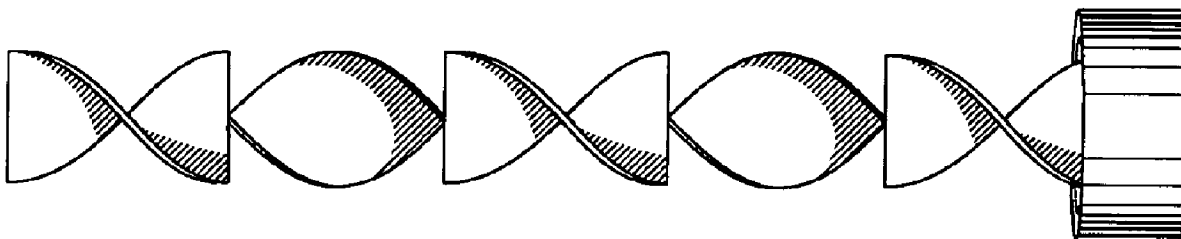


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of one of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood

material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claim 11**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In *reAuer*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 12**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 15**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10. Piedboeuf teaches the formation of sheets utilizing the system described above with respect to claim 1. One of ordinary skill in the art would appreciate that a sheet has a similar polygonal shape to that of a board.

Regarding **claim 17 and 19**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claims 10 and 12.

Piedboeuf is silent with respect to the core being substantially free of natural wood materials.

Sudano teaches the simulated wood extruded product as discussed above with respect to claim 10. Sudano additionally teaches including real wood material is problematic in terms of material and manufacturing cost, material compatibility, and the properties of the final product (Pg. 1, Paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product simulating a wood appearance as taught above by Piedboeuf in view of Sudano, such that the materials are free of natural wood materials so as to avoid problems such as material and manufacturing cost, material compatibility, and the properties of the final product as further taught by Sudano.

Regarding **claim 20**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. One of ordinary skill in the art would appreciate that the sheet product of Piedboeuf would comprise a third side and a fourth side spaced apart from the third side along a height direction different than the length direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends

Piedboeuf is silent with respect to the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In *reAuer*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Claims 13-14 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 10 above, and further in view of Rohatgi et al. (US 2003/0021915).

Regarding **claims 13-14**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further including a UV inhibitor or a foaming agent (claim 13) and a foaming agent (claim 14).

Rohatgi teaches the formation of wood-like boards formed from thermoplastics and cellulosic materials having low density and enhanced strength (Pg. 1, Paragraph [0001]). The board may include a UV-stabilizer to protect from ultraviolet degradation (Pg. 5, Paragraph [0046]). A foaming agent may also be added causing the board to expand and thus reducing the density of the final product (Pg. 3, Paragraph [0037]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product having a wood appearance as taught by Piedboeuf in view of Sudano in which the starting materials of the system also include additives such as a UV stabilizer to protect from ultraviolet degradation and a foaming agent to cause the sheet to expand reducing the density of the sheet making the final product light weight as taught by Rohatgi.

Claims 21-24 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 21**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a

feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66;
Fig. 1).

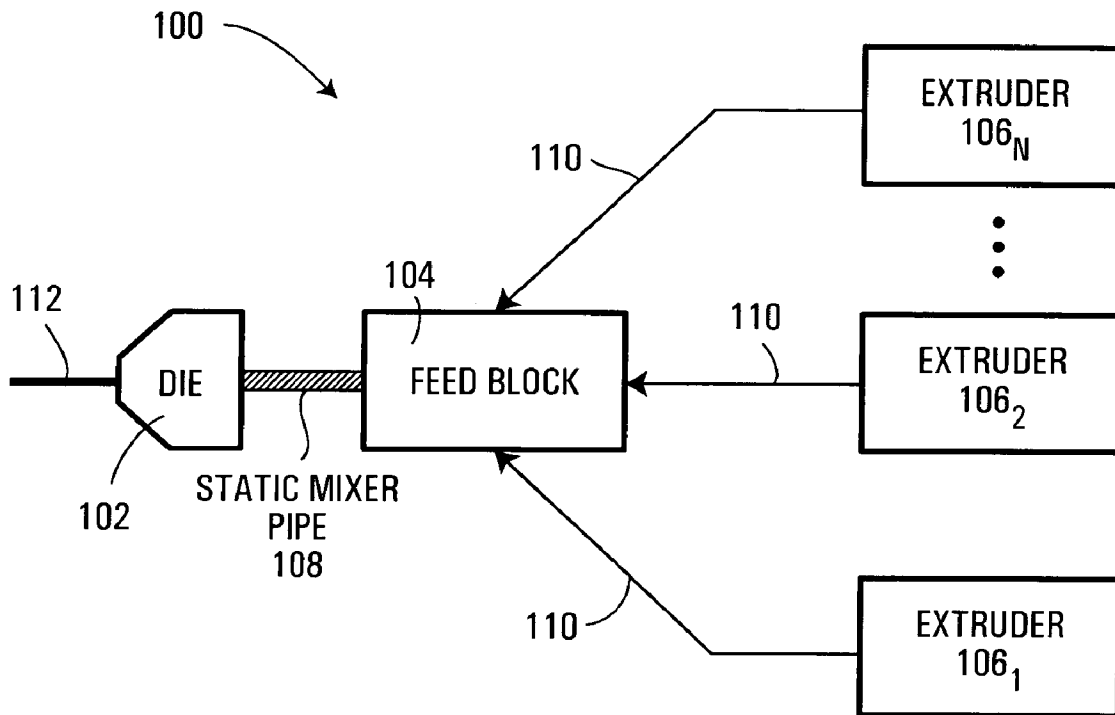


FIG. 1

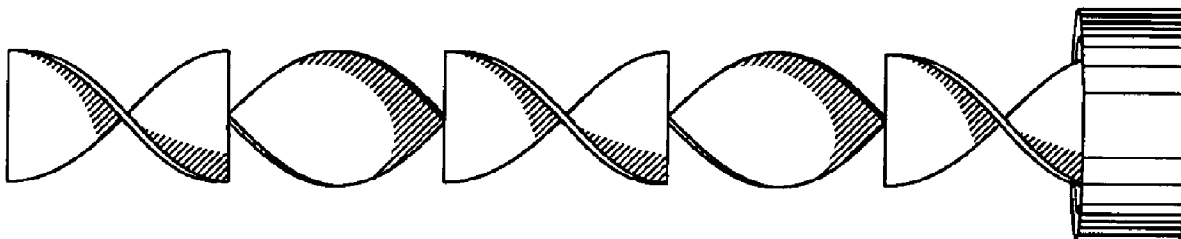


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of one of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then

co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claim 22**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 21.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the

optimum or workable ranges by routine experimentation." In reAUer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 23**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 21. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 24**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claims 21.

Piedboeuf is silent with respect to the core being substantially free of natural wood materials.

Sudano teaches the simulated wood extruded product as discussed above with respect to claim 10. Sudano additionally teaches including real wood material is problematic in terms of material and manufacturing cost, material compatibility, and the properties of the final product (Pg. 1, Paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product simulating a wood appearance as taught above by Piedboeuf in view of Sudano, such that the materials are free of natural wood materials so as to avoid problems such as material and manufacturing cost, material compatibility, and the properties of the final product as further taught by Sudano.

Claim 25 is rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 25**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

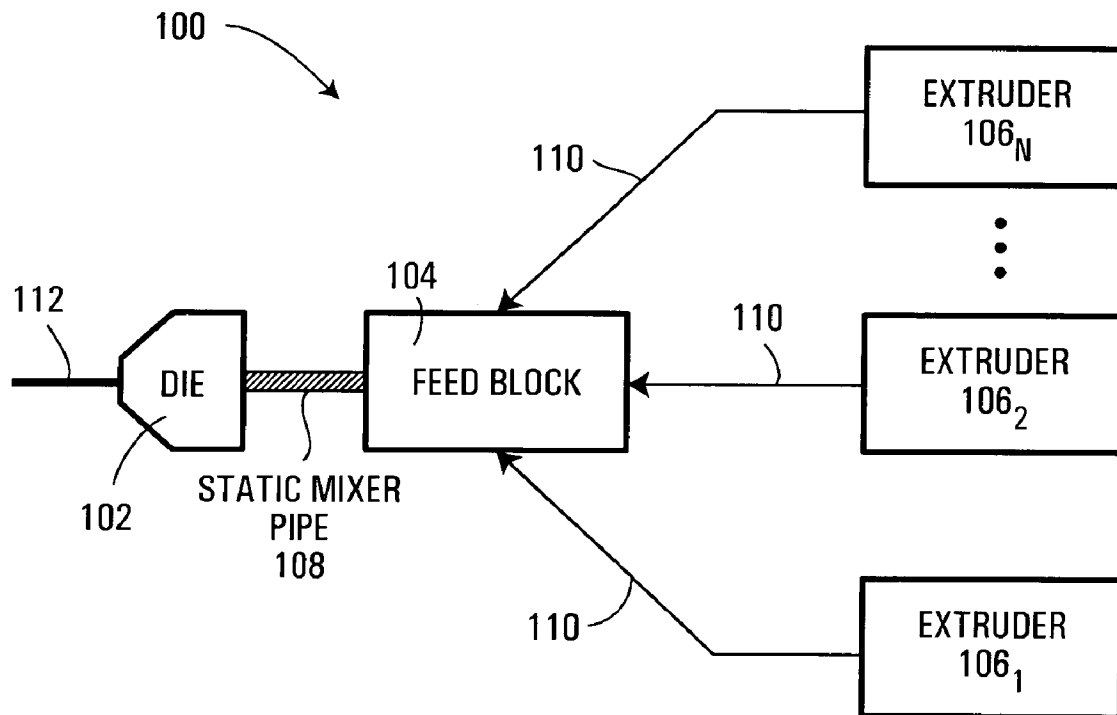


FIG. 1

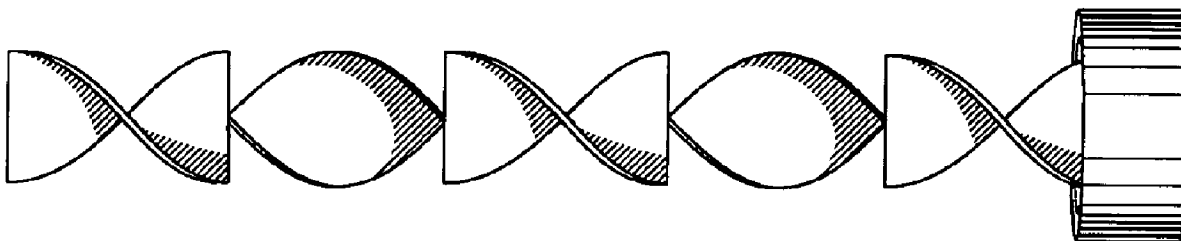


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood

material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Response to Arguments

Applicant's arguments filed 9/13/2018 have been fully considered but they are not persuasive.

In particular, applicant argues that no particular process is claimed, but rather a "simulated natural wood-grained polymer" board and, as such, even if the process is found obvious, the product resulting from the process is patentable. Furthermore, applicant argues that the office action produces a blanket statement and fails to describe how one of ordinary skill in the art would arrive at applicant's claimed invention without impermissible hindsight and that there are distinct differences between the two processes.

However, the examiner notes that while what is being claimed is a product, during examination of the product, a process of forming the product may be relevant in determining obviousness, see MPEP 2144.09(IV). "[T]he presence—or absence—of a suitably operative, obvious process for making a composition of matter may have an ultimate bearing on whether

that composition is obvious—or nonobvious—under 35 U.S.C. 103." *In re Maloney*, 411 F.2d 1321, 1323, 162 USPQ 98, 100 (CCPA 1969). As such, the examiner notes that the process for forming an extrudate material is similar to that described in applicant's specification and as such would result in the claimed product being a wood-grained polymer board. As noted in the previous office action on pages 4-6, the static mixers as described in Piedbouf and applicant's specification are similar and would therefore result in the two-toned extrudate as described by applicant. Furthermore, the Examiner contends that the rejection is not based on hindsight, but on the teachings taken as a whole in the reference. Turning to Piedbouf, and when comparing the products of the reference to the instant application, Piedbouf teaches a product with multiple layers, wherein the layers can have difference colors. The colors *may have* sharp transitions or alternatively, slow, gradual transitions (see column 6, lines 50-60). The Examiner also notes that the bands of colored material upon exiting the static mixer may result in a variety of products including slow gradations, quick gradations of material, wavy lines, straight lines and various other combinations (Col. 6, Lines 34-60) and, as such, are optimizable.

"[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In reAUer*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II). As such, the examiner contends that the first and second set of polymer layers containing two different colorants would be observed from the results of the process of Piedbouf such that the bands of material are optimizable.

The reference further teaches that the product(s) may have difference colors within a sheet or a plurality of sheets. Thus, the Examiner contends that one of ordinary skill in the art would turn to the reference and can apply it in order to manufacture wood-grain composite materials and final products.

Applicant's arguments, see page 8, filed 9/13/2018, with respect to the 112(b) rejections have been fully considered and are persuasive. The rejection of 7/13/2018 has been withdrawn.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL P DILLON whose telephone number is (571)270-5657. The examiner can normally be reached on Mon-Fri; 8 AM to 5 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MARIA V EWALD can be reached on 571-272-8519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1783

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANIEL P. DILLON
Examiner
Art Unit 1783

/MARIA V EWALD/
Supervisory Patent Examiner, Art Unit 1783

Notice of References Cited	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.	
	Examiner DANIEL P DILLON	Art Unit 1783	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110177291-A1	07-2011	Sudano; Angelo	B29C47/0028	428/151
*	B	US-20040038002-A1	02-2004	Franco, Sandro	B29C47/0019	428/151
*	C	US-20030021915-A1	01-2003	Rohatgi, Vivek	B27N3/007	428/15
*	D	US-7204944-B2	04-2007	Piedboeuf, Marie-Christine	B01F5/0615	264/73
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

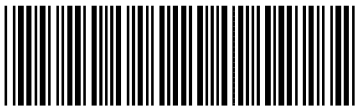
*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
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✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	12/11/2017	07/09/2018	12/20/2018						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
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	22		✓	✓						
	23		✓	✓						
	24		✓	✓						
	25		✓	✓						

<i>Search Notes</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
East Search History Provided	12/11/2017	/DD/
Updated EAST Search Provided	07/07/2018	/DD/
Updated EAST Search Provided	12/20/2018	/DD/

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/DANIEL P DILLON/ Examiner, Art Unit 1783	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	((("TANGENT") near3 ("TECHNOLOGIES") near3 ("LLC")).AANM.	USPAT	OR	OFF	2017/07/28 12:22
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S3	52	((("STEPHENS") near3 ("Andrew")).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
S4	47	((("MORALES") near3 ("Francisco")).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
S5	9	((("RYBKA") near3 ("Tadeusz")).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
S6	107	S2 or S3 or S4 or S5	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:23
S7	0	S6 and (polymer and colorant).clm.	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:24
S8	0	S6 and (polymer and color).clm.	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:24
S9	590	428/151.ccls,icls.	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:27
S10	45	S9 and (wood same polymer)	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:27
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S12	1	S10 and (layer same (alternate or alternating))	US-PGPUB; USPAT	OR	ON	2017/07/28 12:31
S13	11	("4280950" "5126088" "5866639" "6083601" "6596784" "7866758" "20040038002" "20070104930" "20080299351" "20110151193" "20110177291").PN.	US-PGPUB; USPAT	OR	OFF	2017/07/28 12:31
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S23	97	S22 and (layer with polymer)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:12
S24	0	S22 and ((alternating or alternate) same (layer with polymer))	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:13
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S27	1251	(428/151).CCLS. or ((imitation or imitating) near5 wood)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:14
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S31	21	S29 and (curvilinear or curved)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:17
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S34	222	S33 and (curvilinear or curved)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:18

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S45	7	(double near3 adhesive).ti. and ("UV" or ultraviolet) near5 (cure or cured or curing)) and ((heat or thermal) near5 (cure or cured or curing))	US-PGPUB; USPAT	OR	OFF	2017/12/08 14:54
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S54	1586	(polymer same (wood or grain or burly)) and (helical)	US- PGPUB; USPAT	OR	OFF	2018/07/05 13:49
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S57	1	"20160176230".pn.	US- PGPUB; USPAT	OR	OFF	2018/07/05 13:52
S58	283536	(428/\$).CCLS.	US- PGPUB; USPAT	OR	OFF	2018/07/05 13:54
S59	130	S54 and S58	US- PGPUB; USPAT	OR	OFF	2018/07/05 13:54
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S65	313	(B01F5/0615).CPC.	US- PGPUB;	OR	OFF	2018/07/05 13:58

			USPAT			
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S81	12	((wood) same (polymer)).ab. and (helical)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:41
S82	9	((wood) same (polymer)).ab. and (multiple near5 extrusion)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:44
S83	4	((wood) same (polymer)).ab. and (multiple near5 extruder)	US-PGPUB;	OR	OFF	2018/07/06 11:47

			USPAT			
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S85	173	((wood) same (polymer)) and (multiple near5 extruder)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:51
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S87	266	428/151.ccls,icls. and (wood)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:53
S88	22	428/151.ccls,icls. and (wood) and ((multiple or (first and second)) same (extruder\$1 or flow\$1))	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:55
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S98	24	(simulate\$3 near3 wood) with (emboss or embossment)	USPAT	OR	OFF	2018/07/07 11:36
S99	44	(simulate\$3 near3 wood) with (emboss or embossment)	US-PGPUB; USPAT	OR	OFF	2018/07/07 11:38
S100	4	"7204944".pn. or "20110177291".pn. or "20030021915".pn. or "20040028002".pn.	US-PGPUB; USPAT	OR	OFF	2018/07/07 12:14
S101	4	"7204944".pn. or "20110177291".pn. or "20030021915".pn. or "20040038002".pn.	US-PGPUB; USPAT	OR	OFF	2018/07/07 12:14

S102	34	("20030003283" "2632204" "2803041" "2985556" "3405425" "3422175" "3715420" "3743250" "3792945" "3920366" "4011292" "4072791" "4093188" "4164385" "4316868" "4562023" "4626187" "4680155" "4753766" "5232751" "5998006" "6692683" "6863967" "6932591").PN. OR ("7204944").URPN.	US- PGPUB; USPAT; USOCR	AND	OFF	2018/12/10 15:36
S103	25	("20030031832" "20040038002" "20040126571" "20050003221" "20050131123" "20050285293" "20060029775" "20070154689" "20070266562" "2917781" "3663493" "4048101" "5232751" "5387381" "5866054" "5869176" "5998006" "6187415" "6692683" "6783348" "6932591" "7204944" "7462308").PN. OR ("9452560").URPN.	US- PGPUB; USPAT; USOCR	AND	OFF	2018/12/10 15:41
S104	590	(428/151).CCLS.	US- PGPUB; USPAT	OR	OFF	2018/12/11 10:33
S105	1	"9527341".pn.	US- PGPUB; USPAT	OR	OFF	2018/12/11 10:43
S106	28	("20020107326" "20020125594" "20040038002" "20050003221" "20050053767" "20060061004" "20060205846" "20070091614" "20100107530" "20120210663" "20130224437" "20140069580" "3936518" "4072791" "4185951" "4610900" "4921414" "5516472" "5700555" "5869138" "5998006" "6046265" "6153293" "6692815" "6726464" "7507464" "7763345" "8210616").PN. OR ("9527341").URPN.	US- PGPUB; USPAT; USOCR	AND	OFF	2018/12/11 10:43
S107	1	"20100107530".pn.	US- PGPUB; USPAT	OR	OFF	2018/12/12 11:52
S108	275	(wood near3 extru\$4) and ("HDPE")	US- PGPUB; USPAT	OR	OFF	2018/12/12 12:05
S109	135	(wood near3 extru\$4) and ("HDPE") and polystyrene	US- PGPUB; USPAT	OR	OFF	2018/12/12 12:06
S110	52	(wood near3 extru\$4) and ("HDPE") and polystyrene and hopper	US- PGPUB; USPAT	OR	OFF	2018/12/12 12:07
S111	2	"20100021715".pn. or "9527341".pn.	US- PGPUB; USPAT	OR	OFF	2018/12/12 12:55
S112	1	"20100107530".pn.	US- PGPUB; USPAT	OR	OFF	2018/12/13 09:33

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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 64844-256633	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed name _____	Application Number 15/245,948		Filed 08/24/2016
	First Named Inventor Andrew Stephens		
	Art Unit 1783		Examiner Dillon, Daniel P.
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided. I am the ☐ applicant. ☒ attorney or agent of record. Registration number 51093 ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____ /Mark J. Nahnsen/ Signature Mark J. Nahnsen Typed or printed name 312-357-1313 Telephone number March 4, 2019 Date NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*. ☐ *Total of _____ forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Andrew Stephens	)	
	)	Confirmation No. 1690
Application No.: 15/245,948	)	
	)	Group Art Unit: 1783
Filed: August 24, 2016	)	
	)	Examiner: DILLON, Daniel P.
For: WOOD-GRAINED POLYMER SUBSTRATE	)	

PRE-APPEAL BRIEF CONFERENCE REQUEST AND REASONS IN SUPPORT

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

Claims 1-15 and 17-25 are pending in this application. The Final Office Action dated January 2, 2019 (hereafter the “Final Office Action”) rejected claims 1-15 and 17-25 under 35 U.S.C. § 103 as being obvious over various combinations of U.S. Pat. No. 7,204,944 to Piedboeuf (“Piedboeuf”) with U.S. Pat. App. Pub. No. 2011/0177291 to Sudano et al. (“Sudano”), U.S. Pat. App. Pub. No. 2003/0021915 to Rohatgi et al. (“Rohatgi”), and U.S. Pat. App. Pub. No. 2004/0038002 to Franco et al. (“Franco”). The rejections are respectfully traversed and should be withdrawn for at least the reasons discussed below.

The rejections of the Final Office Action rely heavily on the disclosure of Piedboeuf. Piedboeuf discloses a system, and a process for using the system, to make a particular product having “a blended, gradation in colors” as shown for example in Figs. 6A and 6B of Piedboeuf. Such products are the specific result of the system and process disclosed in Piedboeuf.

It is clear that the presently claimed products, including the particular arrangements thereof, are not expressly taught by Piedboeuf. Instead, the Final Office Action incorrectly relies upon alleged similarities between the disclosed systems and processes of the present application and those of Piedboeuf as evidence of obviousness of the claimed products, citing MPEP

2144.09(IV) and *In re Maloney*, 411 F.2d 1321, 1323, 162 USPQ 98, 100 (CCPA 1969). See Final Office Action on pages 27-28. This argument is misplaced.

In particular, the appellant of *In re Maloney* argued that “the Patent Office has failed to establish that one of ordinary skill in this art would know how to prepare the claimed ethylene/acid chloride copolymers” even though such copolymers were suggested by the reference, an argument that was ultimately rejected by the court in that case. See *In re Maloney*, 411 F.2d at 1323-25. In other words, the reference suggested a compound but no process for producing the compound. The relevant question then is not whether certain systems or processes are available to create the claimed products, but whether the claimed products themselves are obvious from the teachings of the cited reference(s). This is not the situation in the present application as the claimed products are not the same as what is disclosed in the cited references. More applicable is where the court of *In re Maloney* emphasized that “claims to compositions of matter may be separately patentable whether or not process claims drawn to the method of making those compositions are patentable.” *Id.* at 1323 (citations omitted); see also *Providence Rubber Co. v. Goodyear*, 76 U.S. 788, 796, 19 L. Ed. 566 (1869) (“The machine may be substantially old and the product new. In that event the latter, and not the former, would be patentable.”). Accordingly, reliance on supposed similarities between systems and processes in rejecting the claimed products is improper and unsupported by the MPEP or the cited case.

The Final Office Action does not include any evidence or reasoning to support a finding by a person of ordinary skill, with the cited art before him, that it would be obvious to create the products claimed in independent claims 1, 10, 21, and 25. Specifically, the Final Office Action fails to describe how one skilled in the art could arrive at the claimed products simply by reviewing the systems and processes of the cited references without undue experimentation or the benefit of impermissible hindsight bias from the disclosure of the present application. The Supreme Court has provided guidance to the analysis of obviousness in *KSR* in instructing that “[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” See *KSR Int’l. Co. v. Teleflex, Inc. et al.*, 550 U.S. 398, 127 S.Ct. 1727, 1742 (2007) (emphasis in the original). The Court also previously explained “that the invention seems simple after it is made does not determine the question [of

obviousness]; if this were the rule, many of the most beneficial patents would be stricken down.” *Loom Co. v. Higgins*, 105 U.S. 580, 591 (1881).

Indeed, hindsight bias in this case is documented as “knowledge gleaned only from applicant’s disclosure” is used in the rejections of the claims. MPEP 2145(X)(A); *see also* MPEP § 2142 (“impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”). Specifically, the Final Office Action concludes, incorrectly, that “the system taught by Piedboeuf is nearly identical to ... the system as defined by applicant’s specification” as evidence that Piedboeuf’s system must be capable of producing the claimed products. However, the presently claimed products are only taught in the present application, and, in any event, there are distinct differences between the systems and processes of the cited references and those of the present application as evident through a comparison of the same. To be clear, no system or process is presently claimed and should not be seen as limiting of the currently pending claims, and the above discussion is provided merely to rebut the erroneous comparisons of the systems and processes in the Final Office Action.

Further, the Final Office Action improperly substitutes the obviousness analysis with one of inherency, but such analysis still fails. In particular, the Final Office Action repeatedly states that “the process for forming an extrudate material [in Piedboeuf] is similar to that described in applicant’s specification and as such would result in the claimed product being a wood-grained polymer board.” *See* Final Office Action at pages 27-28 (emphasis added); *see also id.* at pages 4, 5, 7-11, 15, 16, 18, 21, 22, and 26. The Final Office Action also implies that the process of Piedboeuf would be “optimizable” to create the claimed product. *See id.* at page 28. However, this analysis runs contrary to the guidance of MPEP 2112(IV):

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981)....

“In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the

applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant’s invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was “formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material.” *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl’s balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

It is immediately apparent that Piedboeuf does not inherently teach the claimed product as the product produced by the system and process of Piedboeuf is vastly different than the products claimed, as illustrated in at least Figs. 6A and 6B of Piedboeuf, and, as such, the claimed product does not “necessarily flow[]” from the process disclosed in Piedboeuf. Instead, the claimed products are unique to the present application as developed by the listed inventors, and are not taught, shown, or suggested, whether explicitly or inherently, by Piedboeuf. The other cited references also fail to cure the deficiencies of Piedboeuf.

The Final Office Action then improperly attempts to shift the burden to the applicant in rebutting the erroneous analysis. The MPEP explains at § 2142 that “[t]he examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit secondary evidence to show nonobviousness. If, however, the examiner does produce a prima facie case, the burden of coming forward with evidence or arguments shifts to the applicant who may submit additional evidence of nonobviousness.” The Final Office Action fails to identify any evidence, other than a broad conclusion presented in the Final Office Action, that the system and process of Piedboeuf will produce the claimed products. Rather than providing any reference to an explicit teaching, the Final Office Action places the burden on the Applicant to identify a failure of the reference to teach that which the examiner has asserted is inherent to the reference. Respectfully, this approach is an improper shifting of the burden and would require the Applicant to prove a negative.

First Named Inventor: Andrew Stephens
Application No. 15/245,948

The Final Office Action also fails to account for the all of limitations of each independent claim, instead choosing to base the rejections off of the language contained in claim 1 alone. This is improper, and the Final Office Action fails to make a *prima facie* case of obviousness by not considering all of the claim limitations and misconstruing the same. See MPEP 2143.03; *see also* MPEP 707.07(d). The Final Office Action fails to identify, with specificity, where each element of the remaining independent claims is supposedly taught by the cited references.

Because the Examiner has failed to undertake a proper factual analysis, the rejection of independent claims 1, 10, 21, and 25 is improper and should be overruled. Therefore, Piedboeuf, Sudano, Rohatgi, and Franco, whether alone or in combination, fail to teach, show, or suggest, or otherwise make obvious, all of the elements of claims 1, 10, 21, and 25. Accordingly, withdrawal of the rejections and allowance of claims 1, 10, 21, and 25, and claims 2-9, 11-15, 17-20, and 22-24 dependent thereon, is respectfully requested.

CONCLUSION

In light of the arguments set forth above, it is respectfully requested that the rejections under §103 of claims 1-15 and 17-25 be withdrawn. It is understood that the pre-appeal review process has a limited scope. Therefore, arguments outside the scope of the pre-appeal review process are hold in abeyance without prejudice or admission to any assertion made by the Office.

Respectfully submitted,

Date: March 4, 2019

/Mark J. Nahnsen/
Mark J. Nahnsen, Reg. No. 51,093
One of the Attorneys for Applicant(s)
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Customer No.: 23644

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NOTICE OF APPEAL FROM THE EXAMINER TO THE PATENT TRIAL AND APPEAL BOARD		Docket Number (Optional) 64844-256633								
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In re Application of Stephens, Andrew										
Application Number 15/245,948	Filed 08/24/2019									
For WOOD-GRAINED POLYMER SUBSTRATE										
Art Unit 1783	Examiner Dillon, Daniel P.									
Applicant hereby appeals to the Patent Trial and Appeal Board from the last decision of the examiner.										
The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ <u>800</u>										
☐ Applicant asserts small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by 50%, and the resulting fee is: \$ _____										
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Therefore, the fee shown above is reduced by 75%, and the resulting fee is: \$ _____ Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.										
☐ A check in the amount of the fee is enclosed.										
☐ Payment by credit card. Form PTO-2038 is attached.										
☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. <u>12-0913</u> .										
☒ Payment made via EFS-Web.										
☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/AIA/22 or equivalent) is enclosed. For extensions of time in reexamination proceedings, see 37 CFR 1.550.										
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.										
I am the										
☐ applicant										
☒ attorney or agent of record Registration number <u>51093</u>										
☐ attorney or agent acting under 37 CFR 1.34 Registration number _____										
Signature <u>/Mark J. Nahnsen/</u>										
Typed or printed name <u>Mark J. Nahnsen</u>										
Telephone Number <u>312-357-1313</u>										
Date <u>March 4, 2019</u>										
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.										
☐ * Total of _____ forms are submitted.										

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Andrew Stephens	)	
	)	Confirmation No. 1690
Application No.: 15/245,948	)	
	)	Group Art Unit: 1783
Filed: August 24, 2016	)	
	)	Examiner: DILLON, Daniel P.
For: WOOD-GRAINED POLYMER SUBSTRATE	)	

NOTICE OF APPEAL

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

In response to the Office Action mailed January 2, 2019, Applicant hereby appeals the rejection of claims 1-15 and 17-25.

The Director is hereby authorized to charge the \$800.00 fee for filing this Appeal and any other fees necessary to affect this filing, and that shortages in fees, if any, be charged, or any overpayment in fees credited, to the Account of Barnes & Thornburg, Deposit Account No. 12-0913 with reference to file 64844-256633.

Respectfully submitted,

Date: March 4, 2019

/Mark J. Nahnsen/
Mark J. Nahnsen, Reg. No. 51,093
One of the Attorneys for Applicant(s)
BARNES & THORNBURG LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
Phone: 312-357-1313
Facsimile: 312-759-5646
Customer No.: 23644

Electronic Patent Application Fee Transmittal

Application Number:	15245948			
Filing Date:	24-Aug-2016			
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE			
First Named Inventor/Applicant Name:	Andrew Stephens			
Filer:	Mark J. Nahnsen/Mark Sweetin			
Attorney Docket Number:	64844-256633			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
NOTICE OF APPEAL	1401	1	800	800
Post-Allowance-and-Post-Issuance:				

RPI1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				800

Electronic Acknowledgement Receipt

EFS ID:	35316450
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	23644
Filer:	Mark J. Nahnsen/Mark Sweetin
Filer Authorized By:	Mark J. Nahnsen
Attorney Docket Number:	64844-256633
Receipt Date:	04-MAR-2019
Filing Date:	24-AUG-2016
Time Stamp:	16:09:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$800
RAM confirmation Number	030519INTEFSW16095101
Deposit Account	120913
Authorized User	Mark Sweetin

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37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

RPI1004

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			818f21f14cc5795784291509c9b6115125a7d1db		
Warnings:					
Information:					
2	Pre-Brief Conference request	256633_Pre-Appeal_Brief_Reasons.pdf	154788	no	6
			b9c01df158ed5b5cb8e5e481de330ca255704a95		
Warnings:					
Information:					
3	Notice of Appeal Filed	256633_Notice_Appeal.pdf	76956	no	2
			ccbfbf0dcafe26dca1cb06eb6deea349fd86df078		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30640	no	2
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

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Application Number	15/245,948
Filing Date	August 24, 2016
First Named Inventor	Andrew Stephens
Title	WOOD-GRAINED POLYMER SUBSTRATE
Art Unit	1783
Examiner Name	Dillon, Daniel P.
Attorney Docket Number	64844-256633

SIGNATURE of Applicant or Patent Practitioner

Signature	/Mark J. Nahnsen/	Date (Optional)	03/04/2019
Name	Mark J. Nahnsen	Registration Number	
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)	TANGENT TECHNOLOGIES LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

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POWER OF ATTORNEY BY APPLICANT

(07-13)

Client No. 64844

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application No.

Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

OR

23644

- ☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

- ☐ The address associated with the above-mentioned Customer Number.

OR

- ☒ The address with the Customer Number:

23644

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone			Fax

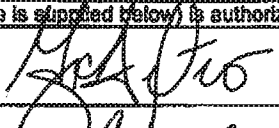
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

TANGENT TECHNOLOGIES LLC
1001 Sullivan Road
Aurora, IL 60506

- ☐ Inventor or Joint Inventor
☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity)

Signature		Date:	10/17/10
Name	Guy C. DeFEO		
Title	PRESIDENT/CEO		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

- ☐ *Total of _____ forms are submitted.

RPI1004



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/245,948	08/24/2016	Andrew Stephens	64844-256633

23644
Barnes & Thornburg LLP (CH)
P.O. Box 2786
Chicago, IL 60690-2786

CONFIRMATION NO. 1690
POA ACCEPTANCE LETTER



Date Mailed: 03/07/2019

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/04/2019.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/ggasgedom/

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

1923

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

1923

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

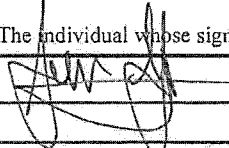
Assignee Name and Address:

Tangent Technologies, LLC
 1001 Sullivan Road
 Aurora, IL 60506

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	4/16/14
Name	John Griffin	Telephone	(713) 818-8140
Title	John Griffin, Vice President of Business Development - Tangent Technologies, LLC		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	35776899
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	23644
Filer:	Davis M Chin Jr/LaTanya Williamson
Filer Authorized By:	Davis M Chin Jr
Attorney Docket Number:	64844-256633
Receipt Date:	19-APR-2019
Filing Date:	24-AUG-2016
Time Stamp:	14:12:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	373_statement_for_15245948.pdf	168346 ed25dcea2c60961755453c9b245fc13b34f5829b	no	2

Warnings:

RPI1004

Information:					
2	Power of Attorney	Tangent_POA.pdf	393272	no	2
			cae2b371496dc452ab2502160a579f2d93bd6510		
Warnings:					
Information:					
Total Files Size (in bytes):				561618	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Tangent Technologies, LLC

Application No./Patent No.: 15/245,948

Filed/Issue Date: 8/24/2016

Titled: **WOOD-GRAINED POLYMER SUBSTRATE**

Tangent Technologies, LLC, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or a copy* is attached.

OR

- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Andrew STEPHENS To: Tangent Technologies, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or a copy* is attached.

2. From: Francisco MORALES To: Tangent Technologies, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or a copy* is attached.

3. From: Tadeusz RYBKA To: Tangent Technologies, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or a copy* is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ *As required by 37 CFR 3.73(b)(1)(i), if a copy/copies is/are attached, the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Davis M. Chin, Jr./

Signature

April 19, 2019

Date

Davis M. Chin, Jr.

Printed or Typed Name

61,668

Title or Registration Number

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

RPI1004

Privacy Act Statement

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/245,948	08/24/2016	Andrew Stephens	64844-256633

23644
Barnes & Thornburg LLP (CH)
P.O. Box 2786
Chicago, IL 60690-2786

CONFIRMATION NO. 1690
POWER OF ATTORNEY NOTICE



OC000000107617198

Date Mailed: 04/25/2019

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/19/2019.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/mabebe/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/245,948	08/24/2016	Andrew Stephens	64844-256633

1923
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

CONFIRMATION NO. 1690
POA ACCEPTANCE LETTER



Date Mailed: 04/25/2019

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/19/2019.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/mabebe/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	103804-0030-0001	1690
1923	7590	06/21/2019	EXAMINER	
MCDERMOTT, WILL & EMERY LLP			DILLON, DANIEL P	
The McDermott Building			ART UNIT	
500 North Capitol Street, N.W.			PAPER NUMBER	
Washington, DC 20001			1783	
			NOTIFICATION DATE	
			DELIVERY MODE	
			06/21/2019	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mweipdocket@mwe.com

Notice of Panel Decision from Pre-Appeal Brief Review

Application No.

15/245,948

Applicant(s)

Stephens et al.

Examiner

DANIEL P DILLON

Art Unit

1783

AIA (FITF) Status

Yes

This is in response to the Pre-Appeal Brief Request for Review filed 04 March 2019 .

1. ☐ **Improper Request** - The Request is improper and a conference will not be held for the following reason(s):

- ☐ The Notice of Appeal has not been filed concurrent with the Pre-Appeal Brief Request.
- ☐ The request does not include reasons why a review is appropriate.
- ☐ A proposed amendment is included with the Pre-Appeal Brief request.
- ☐ Other: _____ .

The time period for filing a response continues to run from the receipt date of the Notice of Appeal or from the mail date of the last Office communication, if no Notice of Appeal has been received.

2. ☒ **Proceed to Board of Patent Appeals and Interferences** - A Pre-Appeal Brief conference has been held. The application remains under appeal because there is at least one actual issue for appeal. Applicant is required to submit an appeal brief in accordance with 37 CFR 41.37. The time period for filing an appeal brief will be reset to be one month from mailing this decision, or the balance of the two-month time period running from the receipt of the notice of appeal, whichever is greater. Further, the time period for filing of the appeal brief is extendible under 37 CFR 1.136 based upon the mail date of this decision or the receipt date of the notice of appeal, as applicable.

☒ The panel has determined the status of the claim(s) is as follows:

Claim(s) allowed: _____ .

Claim(s) objected to: _____ .

Claim(s) rejected: 1-25 .

Claim(s) withdrawn from consideration: _____ .

3. ☐ **Allowable application** - A conference has been held. The rejection is withdrawn and a Notice of Allowance will be mailed. Prosecution on the merits remains closed. No further action is required by applicant at this time.

4. ☐ **Reopen Prosecution** - A conference has been held. The rejection is withdrawn and a new Office action will be mailed. No further action is required by applicant at this time.

All participants:

(1) DANIEL P DILLON .

(3) CALLIE SHOSHO .

(2) MARIA VERONICA EWALD .

(4) _____ .

/DANIEL P DILLON/
Examiner, Art Unit 1783

/MARIA V EWALD/
Supervisory Patent Examiner, Art
Unit 1783

/CALLIE E SHOSHO/
Supervisory Patent Examiner, Art
Unit 1787

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	)	Customer No.: 1923
	)	
Andrew Stephens, et al.	)	Confirmation No.: 1690
	)	
Serial No.: 15/245,948	)	Art Unit: 1783
	)	
Filed: August 24, 2016	)	Examiner: Daniel P. Dillon
	)	
For: WOOD-GRAINED POLYMER SUBSTRATE	)	

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

As required under 37 C.F.R. § 41.37(a), this brief is filed after the Notice of Appeal filed in this case on March 4, 2019, and is in furtherance of said Notice of Appeal. This is an appeal to the Patent Trial and Appeal Board from the Examiner's rejection of claims 1-15 and 17-25 in the Office Action dated January 2, 2019.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.02:

- | | |
|------|--|
| I. | Real Party in Interest |
| II | Related Appeals, Interferences, and Trials |
| III. | Summary of Claimed Subject Matter |
| IV. | Argument |
| V. | Claims Appendix |

I. REAL PARTY IN INTEREST

The real party in interest is TANGENT TECHNOLOGIES LLC, the assignee of the above-identified patent application. The assignment assigning rights to Tangent Technologies LLC is recorded on January 18, 2017 in the United States Patent and Trademark Office (“USPTO”) at Frame 0721 of Reel 041010.

II. RELATED APPEALS, INTERFERENCES, AND TRIALS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. SUMMARY OF CLAIMED SUBJECT MATTER

Although citations and reference characters are inserted below in accordance with 37 C.F.R. 41.37(c)(1)(iii), these citations and reference characters are merely examples of where support may be found in the specification for the terms used in this section of the brief. There is no intention to suggest in any way that the terms of the claims are limited to the examples in the specification. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the reference characters and specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

The claimed subject matter of independent claims 1, 10, 21, and 25 relate to simulated natural wood-grained polymer substrates and boards. Independent claim 1 is directed to a simulated natural wood-grained polymer board having a first side and a second side spaced apart from the first side, the spacing between the first and second sides defining one of a width or a height of the board, the first and second sides extending along a length direction between a first end and a second end, the first and second ends defining a length of the board. *See* Figs. 6, 7, and 9, refs. 10, 11, 13; *See* paragraphs [0047], [0049]. The board includes a first set of polymer layers extending along the length direction and containing a first colorant. *See* Figs. 6, 7, and 9, refs. 10, 16; *See* paragraphs [0011], [0031], [0048]. A majority of the first set of polymer layers extends along the length of the entire board. *See* Fig. 9, refs. 10, 16; *See* paragraph [0048]. A second set of polymer layers extends along the length direction and containing a second colorant different than the first colorant. *See* Fig. 9, refs. 10, 16; *See* paragraphs [0011], [0033], [0048]. A majority of the second set of polymer layers extends along the length of the entire board. *See* Fig. 9, refs. 10, 16;

See paragraph [0048]. A plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate the second side of the board. *See* Figs. 6 and 9, refs. 10, 16; *See* paragraph [0050].

Independent claim 10 is directed to a simulated natural wood-grained polymer substrate extending along a first direction, the substrate having a first side and a second side spaced apart from the first side along a second direction different than the first direction, the first and second sides defining a width of the substrate, the first and second sides extending along the first direction, a core of the substrate extending between the first and second sides and along the first direction. *See* Figs. 6, 7, and 9, refs. 10, 11, 13, 14; *See* paragraph [0049]. The substrate includes a first set of polymer layers extending along the first direction and containing a first colorant. *See* Figs. 6, 7, and 9, refs. 10, 16; *See* paragraphs [0011], [0031], [0048]. A majority of the first set of polymer layers being substantially continuous along the first direction. *See* Fig. 9, refs. 10, 16; *See* paragraph [0048]. A second set of polymer layers extending along the first direction and containing a second colorant different than the first colorant. *See* Fig. 9, refs. 10, 16; *See* paragraphs [0011], [0033], [0048]. A majority of the second set of polymer layers being substantially continuous along the first direction. *See* Fig. 9, refs. 10, 16; *See* paragraph [0048]. Individual layers of the first and second sets of polymer layers alternate within the core of the substrate to form a natural wood-grained appearance throughout the core of the substrate. *See* Figs. 6 and 9, refs. 10, 14, 16; *See* paragraphs [0011], [0053]. A plurality of the individual layers of one of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate the first side and terminating proximate the second side. *See* Figs. 6 and 9, refs. 10, 16; *See* paragraph [0050].

Independent claim 21 is directed to a simulated natural wood-grained polymer substrate having a length defined along a first direction, a width defined along a second direction perpendicular to the first direction, and a height defined along a third direction perpendicular to both the first and second directions. *See* Figs. 6, 7, and 9, refs. 10, 11, 13; *See* paragraph [0049]. The substrate includes a first set of polymer layers extending along the first direction and containing a first colorant. *See* Figs. 6, 7, and 9, refs. 10, 16; *See* paragraphs [0011], [0031], [0048]. A majority of the first set of polymer layers being substantially continuous along the first direction. *See* Fig. 9, refs. 10, 16; *See* paragraph [0048]. *See* Fig. 9, refs. 10, 16; *See* paragraphs [0011], [0033], [0048]. A second set of polymer layers extending along the first direction and containing a second colorant different than the first colorant. A majority of the second set of polymer layers being substantially continuous along the first direction. *See* Fig. 9, refs. 10, 16; *See* paragraph [0048]. Individual layers of the first and second sets of polymer layers alternate within the substrate along the third direction to form a natural wood-grained appearance throughout the substrate. *See* Figs. 6 and 9, refs. 10, 16; *See* paragraphs [0011], [0053]. A plurality of the individual layers of one of the plurality of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate an outer surface of a first portion of the substrate and terminating proximate an outer surface of a second portion of the substrate. *See* Figs. 6 and 9, refs. 10, 16; *See* paragraph [0050].

Independent claim 25 is directed to a simulated natural wood-grained polymer board. The board includes a polymer core having a first side and a second side spaced apart from the first side, spacing between the first and second sides defining one of a width or a height of the core, the first and second sides extending along a length direction of the core between a first end and a second end, the first and second ends defining a length of the core. *See* Figs. 6, 7, and 9, refs. 10, 11, 13,

14; *See* paragraphs [0047], [0049]. The board includes a first set of polymer layers extending along the length direction and containing a first colorant. *See* Figs. 6, 7, and 9, refs. 10, 16; *See* paragraphs [0011], [0031], [0048]. A majority of the first set of polymer layers extending along the entire length of the core. *See* Figs. 6 and 9, refs. 10, 14, 16; *See* paragraph [0048]. A second set of polymer layers extending along the length direction and containing a second colorant different than the first colorant. *See* Fig. 9, refs. 10, 16; *See* paragraphs [0011], [0033], [0048]. A majority of the second set of polymer layers extending along the entire length of the core. *See* Figs. 6 and 9, refs. 10, 14, 16; *See* paragraph [0048]. A plurality of individual layers of the first and second sets of polymer layers alternate within the core and extend along a substantially uninterrupted curvilinear path originating from proximate the first side of the core and terminating proximate the second side of the core. *See* Figs. 6 and 9, refs. 10, 14, 16; *See* paragraph [0050].

IV. ARGUMENT

**(A) THE 35 U.S.C. §103 REJECTIONS OVER U.S. PATENT NO. 7,204,944 FAIL TO
MAKE A *PRIMA FACIE* CASE OF OBVIOUSNESS**

The 35 U.S.C. §103 rejections of claims 1, 10, 21, and 25 are improper and therefore fail to make a *prima facie* case of obviousness. In the final Office Action (“Office Action”) dated January 2, 2019, claims 1, 10, 21, and 25 were rejected under 35 U.S.C. §103 as allegedly unpatentable over U.S. Patent No. 7,204,944 to Piedboeuf (“Piedboeuf”). Piedboeuf, however, does not teach each and every element of these claims.¹ While the Office Action relies on supposed similarities in the *processes* of Piedboeuf and the present application as evidence that the resulting structures formed by the cited processes would be the same as the claimed *structure*, it is noted, however, that the present application does not currently claim any process. Instead, the present claims are directed to “simulated natural wood-grained polymer” boards and substrates of a particular structure. It is clear that the presently claimed “simulated natural wood-grained polymer” boards and substrates include particular arrangements and structures not expressly taught by Piedboeuf.

Office Action Relies on Process as Evidence of Claimed Product

The Office Action incorrectly relies upon the processes of Piedboeuf as evidence of obviousness of the claimed products of “simulated natural wood-grained polymer” boards and substrates. Such reliance on the processes of Piedboeuf as evidence of obviousness of the claimed

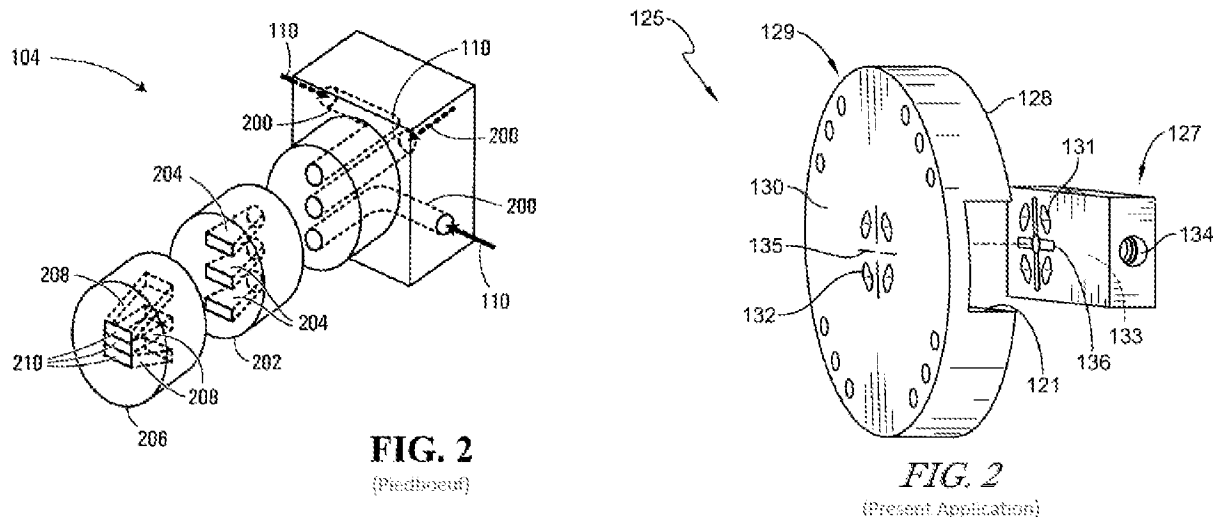
¹ See page 5 of the Final Office Action dated January 2, 2019 (“Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grained appearance”).

products, however, is misplaced. The United States Supreme Court summarized this concept over 150 years ago:

“A machine may be new, and the product or manufacture proceeding from it may be old. In that case the former would be patentable and the latter not. The machine may be substantially old and the product new. In that event the latter, and not the former, would be patentable. Both may be new, or both may be old. In the former case, both would be patentable; in the latter neither.”

Providence Rubber Co. v. Goodyear, 76 U.S. 788, 796, 19 L. Ed. 566 (1869).

The Office Action contends, on page 5, that “the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant.” Applicant notes that the Office Action makes this conclusory contention without providing any support. A brief comparison of the feed block of Piedboeuf depicted in its FIG. 2, reproduced below, with the flow adapter depicted in FIG. 2 of the present application, also reproduced below, shows that the systems are not identical.



Even if the systems are “nearly identical,” and Applicant is not conceding this point, the Office Action merely makes a blanket conclusion, without support, that the result of the process

described in Piedboeuf “would ultimately result” in the claimed structures of the present application. Yet, further on page 5, the Office Action admits that Piedboeuf is “silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grained appearance” and, conspicuously, does not use the product of Piedboeuf as evidence of obviousness.

Office Action Reliance on *In re Maloney* is Misplaced

The Office Action argues on pages 27-28 that “while what is being claimed is a product, during examination of the product, a process of forming the product may be relevant in determining obviousness” and cites MPEP 2144.09(IV) and *In re Maloney*, 411 F.2d 1321, 1323, 162 USPQ 98, 100 (CCPA 1969). This argument is misplaced.

In particular, the appellant of *In re Maloney* argued that “the Patent Office has failed to establish that one of ordinary skill in this art would know how to prepare the claimed ethylene/acid chloride copolymers” even though such copolymers were suggested by the reference, an argument that was ultimately rejected by the court in that case. *See In re Maloney*, 411 F.2d at 1323-25. In other words, the reference suggested a compound but no process for producing the compound. The relevant question then is not whether certain systems or processes are available to create the claimed products, but whether the claimed products themselves are obvious from the teachings of the cited reference(s). This is not the situation in the present application as the claimed products are not the same, and have not been shown to be the same, as what is disclosed in the cited references. More applicable is where the court of *In re Maloney* emphasized that “claims to compositions of matter may be separately patentable whether or not process claims drawn to the method of making those compositions are patentable.” *Id.* at 1323 (citations omitted); *see also*

Providence Rubber Co. v. Goodyear, 76 U.S. 788, 796, 19 L. Ed. 566 (1869) ("The machine may be substantially old and the product new. In that event the latter, and not the former, would be patentable."). Accordingly, reliance on supposed similarities between systems and processes in rejecting the claimed products is improper and unsupported by the MPEP or the cited case.

No Evidence of Obviousness

The Office Action does not include any evidence or reasoning to support a finding by a person of ordinary skill, with the cited art before him, that it would be obvious to create the products claimed in independent claims 1, 10, 21, and 25. Specifically, the Office Action fails to describe how one skilled in the art could arrive at the claimed products simply by reviewing the systems and processes of the cited references without undue experimentation or the benefit of impermissible hindsight bias from the disclosure of the present application. The Supreme Court has provided guidance to the analysis of obviousness in *KSR* in instructing that "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." *See KSR Int'l J. Co. v. Teleflex. Inc. et al.*, 550 U.S. 398, 127 S.Ct. 1727, 1742 (2007) (emphasis in the original). The Court also previously explained "that the invention seems simple after it is made does not determine the question [of obviousness]; if this were the rule, many of the most beneficial patents would be stricken down." *Loom Co. v. Higgins*, 105 U.S. 580, 591 (1881).

Indeed, hindsight bias in this case is documented as "knowledge gleaned only from applicant's disclosure" is used in the rejections of the claims. MPEP 2145(X)(A); *see also* MPEP § 2142 ("impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art."). Specifically, the Office Action concludes,

incorrectly, that "the system taught by Piedboeuf is nearly identical to ... the system as **defined by applicant's specification**" as evidence that Piedboeuf's system must be capable of producing the claimed products. However, the presently claimed products are only taught in the present application, and, in any event, there are distinct differences between the systems and processes of Piedboeuf and those of the present application as evident through a comparison of the same. For example, as illustrated below, the feed block of Piedboeuf depicted in its FIG. 2 is different than the flow adapter depicted in FIG. 2 of the present application. The configuration of the present application's flow adapter, which is different than Piedboeuf, affects the configuration, location, size, and shape of the claimed polymer layers.

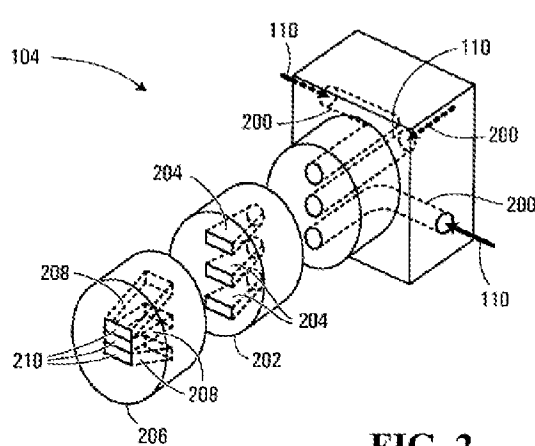


FIG. 2
{Piedboeuf}

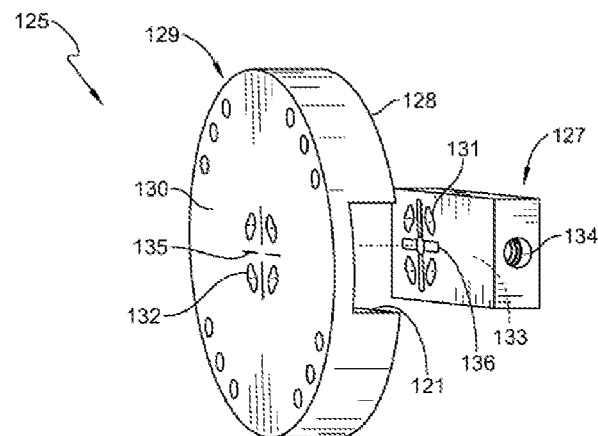


FIG. 2
{Present Application}

To be clear, no system or process is presently claimed and should not be seen as limiting of the currently pending claims, and the above discussion is provided merely to rebut the erroneous comparisons of the systems and processes in the Office Action.

Prior Art Does Not Inherently Teach the Claimed Product

The Office Action improperly substitutes the obviousness analysis with one of inherency, but such analysis still fails. In particular, the Office Action repeatedly states that "the process for forming an extrudate material [in Piedboeuf] is similar to that described in applicant's specification and as such **would result in** the claimed product being a wood-grained polymer board." See Office Action at pages 27-28 (emphasis added); see also *id.* at pages 4, 5, 7-11, 15, 16, 18, 21, 22, and 26. The Office Action also implies that the process of Piedboeuf would be "optimizable" to create the claimed product. See *id.* at page 28. However, this analysis runs contrary to the guidance of MPEP 2112(IV):

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323,326 (CCPA 1981)....

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant's invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was "formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material." *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl's balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

It is immediately apparent that Piedboeuf does not inherently teach the claimed product as the product produced by the system and process of Piedboeuf is vastly different than the products

claimed, as illustrated in at least Figs. 6A and 6B of Piedboeuf, and, as such, the claimed product does not "necessarily flow[]" from the process disclosed in Piedboeuf. For example, as shown below in the reproduced figures, the product of Piedboeuf depicted in its Figs. 6A is clearly different than the claimed product as depicted, for example, in FIG. 11 of the present application.

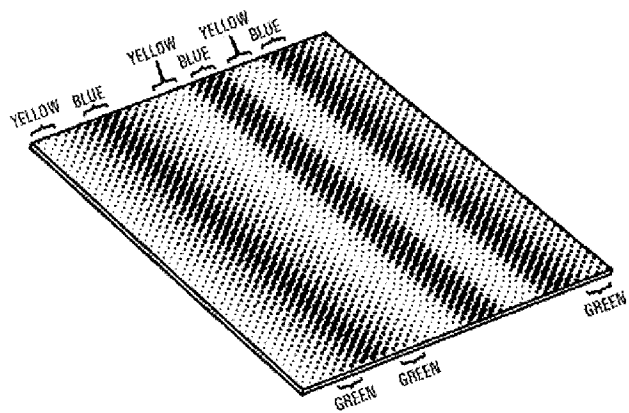


FIG. 6A
(Piedboeuf)

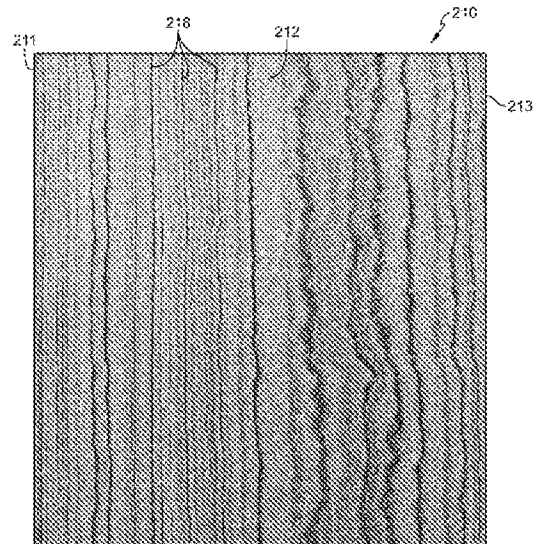


FIG. 11
(Present Application)

Instead, the claimed products are unique to the present application as developed by the listed inventors, and are not taught, shown, or suggested, whether explicitly or inherently, by Piedboeuf.

The Office Action then improperly attempts to shift the burden to the Applicant in rebutting the erroneous analysis. The MPEP explains at § 2142 that "[t]he examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit secondary evidence to show nonobviousness. If, however, the examiner does produce a prima facie case, the burden of coming forward with evidence or arguments shifts to the applicant who may submit additional evidence of nonobviousness." The Office Action fails to identify any evidence, other than a broad

conclusion without any support, that the system and process of Piedboeuf will produce the claimed products. Rather than providing any reference to an explicit teaching, the Office Action places the burden on the Applicant to identify a failure of the reference to teach that which the Examiner has asserted is inherent to the reference. Respectfully, this approach is an improper shifting of the burden and would require the Applicant to prove a negative.

Office Action Does Not Account for All Independent Claim Limitations

The Office Action also fails to account for all of the limitations of each independent claim, instead choosing to base the rejections off of the language contained in claim 1 alone. This is improper, and the Office Action fails to make a *prima facie* case of obviousness by not considering all of the claim limitations and misconstruing the same. *See* MPEP 2143.03; *see also* MPEP 707.07(d). The Office Action fails to identify, with specificity, where each element of the remaining independent claims is supposedly taught by the cited references.

Because the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness, the rejection of independent claims 1, 10, 21, and 25 is improper and should be overruled. Accordingly, in view of the foregoing, Applicant submits that independent claims 1, 10, 21, and 25 are in condition for allowance and respectfully requests the Board to reverse the 35 U.S.C. §103 rejections.

**(B) THE 35 U.S.C. §103 REJECTIONS OVER U.S. PATENT NO. 7,204,944 IN VIEW OF
U.S. PATENT APPLICATION PUBLICATION NO. US 2011/0177291 FAIL TO
MAKE A PRIMA FACIE CASE OF OBVIOUSNESS**

(1) Claims 1-4, 6, 9, and 18

The 35 U.S.C. §103 rejections of claims 1-4, 6, 9, and 18 are improper and therefore fail to make a *prima facie* case of obviousness. In the Office Action dated January 2, 2019, claims 1-

4, 6, 9, and 18 were rejected under 35 U.S.C. §103 as allegedly unpatentable over Piedboeuf in view of U.S. Patent Application Publication No. 2001/0177291 (“Sudano”).

As discussed above in Section IV(A), the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness with respect to independent claim 1. Furthermore, on page 8, the Office Action admits that Piedboeuf is “silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grained appearance.” The Office Action cites Sudano to cure this deficiency as teaching “a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]).” The Office Action again, however, relies on supposed similarities in the processes of both Piedboeuf and Sudano and the present application as evidence that the resulting structures formed by the cited processes would be the same as the present structures. For at least the above reasons presented in Section IV(A), the Office Action incorrectly relies upon the processes of both Piedboeuf and Sudano as evidence of obviousness of the claimed products of “simulated natural wood-grained polymer” boards and substrates. It is clear that the presently claimed “simulated natural wood-grained polymer” boards and substrates include particular arrangements and structures not expressly taught by Piedboeuf in view of Sudano.

Because the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness, the rejection of independent claim 1, and its dependent claims 2-4, 6, 9, and 18, is improper and should be overruled. Accordingly, in view of the foregoing, Applicant submits that claims 1-4, 6, 9, and 18 are in condition for allowance and respectfully requests the Board to reverse the 35 U.S.C. §103 rejections.

(2) Claims 10-12, 15, 17, and 19-20

The 35 U.S.C. §103 rejections of claims 10-12, 15, 17, and 19-20 are improper and therefore fail to make a *prima facie* case of obviousness. In the Office Action dated January 2, 2019, claims 10-12, 15, 17, and 19-20 were rejected under 35 U.S.C. §103 as allegedly unpatentable over Piedboeuf in view of U.S. Patent Application Publication No. 2001/0177291 (“Sudano”).

As discussed above in Section IV(B)(1), the Office Action relies on supposed similarities in the processes of both Piedboeuf and Sudano and the present application as evidence that the resulting structures formed by the cited processes would be the same as the present structures. For at least the above reasons presented in Sections IV(A) and IV(B)(1), the Office Action incorrectly relies upon the processes of both Piedboeuf and Sudano as evidence of obviousness of the claimed products of “simulated natural wood-grained polymer” boards and substrates. It is clear that the presently claimed “simulated natural wood-grained polymer” boards and substrates include particular arrangements and structures not expressly taught by Piedboeuf in view of Sudano.

Because the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness, the rejection of independent claim 10, and its dependent claims 11-12, 15, 17, and 19-20, is improper and should be overruled. Accordingly, in view of the foregoing, Applicant submits that claims 10-12, 15, 17, and 19-20 are in condition for allowance and respectfully requests the Board to reverse the 35 U.S.C. §103 rejections.

(3) Claims 21-24

The 35 U.S.C. §103 rejections of claims 21-24 are improper and therefore fail to make a *prima facie* case of obviousness. In the Office Action dated January 2, 2019, claims 21-24 were rejected under 35 U.S.C. §103 as allegedly unpatentable over Piedboeuf in view of U.S. Patent Application Publication No. 2001/0177291 (“Sudano”).

As discussed above in Section IV(B)(1), the Office Action relies on supposed similarities in the processes of both Piedboeuf and Sudano and the present application as evidence that the resulting structures formed by the cited processes would be the same as the present structures. For at least the above reasons presented in Sections IV(A) and IV(B)(1), the Office Action incorrectly relies upon the processes of both Piedboeuf and Sudano as evidence of obviousness of the claimed products of “simulated natural wood-grained polymer” boards and substrates. It is clear that the presently claimed “simulated natural wood-grained polymer” boards and substrates include particular arrangements and structures not expressly taught by Piedboeuf in view of Sudano.

Because the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness, the rejection of independent claim 21, and its dependent claims 22-24, is improper and should be overruled. Accordingly, in view of the foregoing, Applicant submits that claims 21-24 are in condition for allowance and respectfully requests the Board to reverse the 35 U.S.C. §103 rejections.

(4) Claim 25

The 35 U.S.C. §103 rejection of claim 25 is improper and therefore fails to make a *prima facie* case of obviousness. In the Office Action dated January 2, 2019, claim 25 was rejected under 35 U.S.C. §103 as allegedly unpatentable over Piedboeuf in view of U.S. Patent Application Publication No. 2001/0177291 (“Sudano”).

As discussed above in Section IV(B)(1), the Office Action relies on supposed similarities in the processes of both Piedboeuf and Sudano and the present application as evidence that the resulting structures formed by the cited processes would be the same as the present structures. For at least the above reasons presented in Sections IV(A) and IV(B)(1), the Office Action incorrectly relies upon the processes of both Piedboeuf and Sudano as evidence of obviousness of the claimed

products of “simulated natural wood-grained polymer” boards and substrates. It is clear that the presently claimed “simulated natural wood-grained polymer” boards and substrates include particular arrangements and structures not expressly taught by Piedboeuf in view of Sudano.

Because the Office Action fails to undertake a proper factual analysis and fails to make a *prima facie* case of obviousness, the rejection of independent claim 25 is improper and should be overruled. Accordingly, in view of the foregoing, Applicant submits that claim 25 is in condition for allowance and respectfully requests the Board to reverse the 35 U.S.C. §103 rejection.

Respectfully submitted,

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V. CLAIMS APPENDIX

1. (Previously Presented) A simulated natural wood-grained polymer board having a first side and a second side spaced apart from the first side, the spacing between the first and second sides defining one of a width or a height of the board, the first and second sides extending along a length direction between a first end and a second end, the first and second ends defining a length of the board, the board comprising:

a first set of polymer layers extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board;

a second set of polymer layers extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and

wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate the second side of the board.

2. (Previously Presented) The board of claim 1, wherein the layers of the first set of polymer layers are thinner than the layers of the second set of polymer layers.

3. (Original) The board of claim 1, wherein a portion of at least one of the first side and second side of the board is removed to expose portions of the first and second sets of polymer layers along the length direction.

4. (Previously Presented) The board of claim 3, wherein the exposed portions of the first and second sets of polymer layers form a burlled grain pattern.
5. (Original) The board of claim 1, wherein at least one of the first and second sides of the board is embossed with a wood grain pattern.
6. (Previously Presented) The board of claim 1, wherein the first and second sets of polymer layers are formed from high density polyethylene.
7. (Original) The board of claim 6, wherein the first and second sets of polymer layers further include at least one of a UV inhibitor and a foaming agent.
8. (Original) The board of claim 6, wherein one of the first and second sets of polymer layers further includes a foaming agent.
9. (Original) The board of claim 1, wherein the board is formed to define a polygonal cross-section along a length of the board.
10. (Previously Presented) A simulated natural wood-grained polymer substrate extending along a first direction, the substrate having a first side and a second side spaced apart from the first side along a second direction different than the first direction, the first and second sides defining a width of the substrate, the first and second sides extending along the first direction, a core of the substrate extending between the first and second sides and along the first direction, the substrate comprising:

a first set of polymer layers extending along the first direction and containing a first colorant, a majority of the first set of polymer layers being substantially continuous along the first direction; and

a second set of polymer layers extending along the first direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers being substantially continuous along the first direction;

wherein individual layers of the first and second sets of polymer layers alternate within the core of the substrate to form a natural wood-grained appearance throughout the core of the substrate; and

wherein a plurality of the individual layers of one of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate the first side and terminating proximate the second side.

11. (Previously Presented) The substrate of claim 10, wherein the layers of the first set of polymer layers are thinner than the layers of the second set of polymer layers.

12. (Previously Presented) The substrate of claim 10, wherein the first and second sets of polymer layers are formed from high density polyethylene.

13. (Original) The substrate of claim 12, wherein the first and second sets of polymer layers further include at least one of a UV inhibitor and a foaming agent.

14. (Original) The substrate of claim 12, wherein one of the first and second sets of polymer layers further includes a foaming agent.

15. (Previously Presented) The substrate of claim 10, wherein the substrate is formed to define a polygonal cross-section along a length of the substrate.

16. (Cancelled)

17. (Previously Presented) The board of claim 6, wherein the core is substantially

free of natural wood materials.

18. (Previously Presented) The board of claim 1, further comprising a third side and a fourth side spaced apart from the third side along a height direction different than the length direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends, and wherein the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

19. (Previously Presented) The substrate of claim 12, wherein the core is substantially free of natural wood materials.

20. (Previously Presented) The substrate of claim 10, further comprising a third side and a fourth side spaced apart from the third side along a third direction different than the first and second directions, wherein the third and fourth sides define a height of the substrate, wherein the third and fourth sides extend along the first direction, wherein the core of the substrate extends between the first, second, third, and fourth sides and along the first direction, and wherein individual layers of the first and second sets of polymer layers alternate within the core of the substrate along the third direction.

21. (Previously Presented) A simulated natural wood-grained polymer substrate having a length defined along a first direction, a width defined along a second direction perpendicular to the first direction, and a height defined along a third direction perpendicular to both the first and second directions, the substrate comprising:

a first set of polymer layers extending along the first direction and containing a first colorant, a majority of the first set of polymer layers being substantially continuous along the first direction; and

a second set of polymer layers extending along the first direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers being substantially continuous along the first direction;

wherein individual layers of the first and second sets of polymer layers alternate within the substrate along the third direction to form a natural wood-grained appearance throughout the substrate; and

wherein a plurality of the individual layers of one of the plurality of the first and second sets of polymer layers extend along a substantially uninterrupted curvilinear path in the second direction originating proximate an outer surface of a first portion of the substrate and terminating proximate an outer surface of a second portion of the substrate.

22. (Previously Presented) The substrate of claim 21, wherein the layers of the first set of polymer layers are thinner than layers of the second set of polymer layers.

23. (Previously Presented) The substrate of claim 21, wherein the first and second sets of polymer layers are formed from high density polyethylene.

24. (Previously Presented) The substrate of claim 23, wherein the core is substantially free of natural wood materials.

25. (Previously Presented) A simulated natural wood-grained polymer board comprising:

a polymer core having a first side and a second side spaced apart from the first side, spacing between the first and second sides defining one of a width or a height of the core, the first and second sides extending along a length direction of the core between a first end and a second end, the first and second ends defining a length of the core;

a first set of polymer layers extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the entire length of the core;

a second set of polymer layers extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the entire length of the core; and

wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the core and extend along a substantially uninterrupted curvilinear path originating from proximate the first side of the core and terminating proximate the second side of the core.

Electronic Patent Application Fee Transmittal

Application Number:	15245948			
Filing Date:	24-Aug-2016			
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE			
First Named Inventor/Applicant Name:	Andrew Stephens			
Filer:	Davis M Chin Jr/Masako Kozawa			
Attorney Docket Number:	108357-0012			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

RPI1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	2252	1	300	300
Miscellaneous:				
Total in USD (\$)				300

Electronic Acknowledgement Receipt

EFS ID:	36967313
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	1923
Filer:	Davis M Chin Jr/Masako Kozawa
Filer Authorized By:	Davis M Chin Jr
Attorney Docket Number:	108357-0012
Receipt Date:	23-AUG-2019
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Application Type:	Utility under 35 USC 111(a)

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RAM confirmation Number	E20198MH00523341
Deposit Account	500417
Authorized User	Masako Kozawa

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37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

RPI1004

37 CFR 1.19 (Document supply fees)
37 CFR 1.20 (Post Issuance fees)
37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Appeal Brief Filed	108357-0012AppealBriefAsFile d.pdf	467601	no	25
			9c3b735023dea360d1387147626b91acd2 71d5de		

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	31095	no	2
			9e0cffa88fb8315a0b3bdf219c238fed2342 7b7		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

EXAMINER

DILLON, DANIEL P

ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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09/20/2019

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Number: 15/245,948

Filing Date: 24 Aug 2016

Appellant(s): Stephens et al.

Davis M. Chin Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/23/2019.

(1) Grounds of Rejection to be Reviewed on Appeal

Every ground of rejection set forth in the Office action dated 1/2/2019 from which the appeal is taken is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

The following ground(s) of rejection are applicable to the appealed claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 10, 21, and 25 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944).

Regarding **claims 1, 10, 21, and 25**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

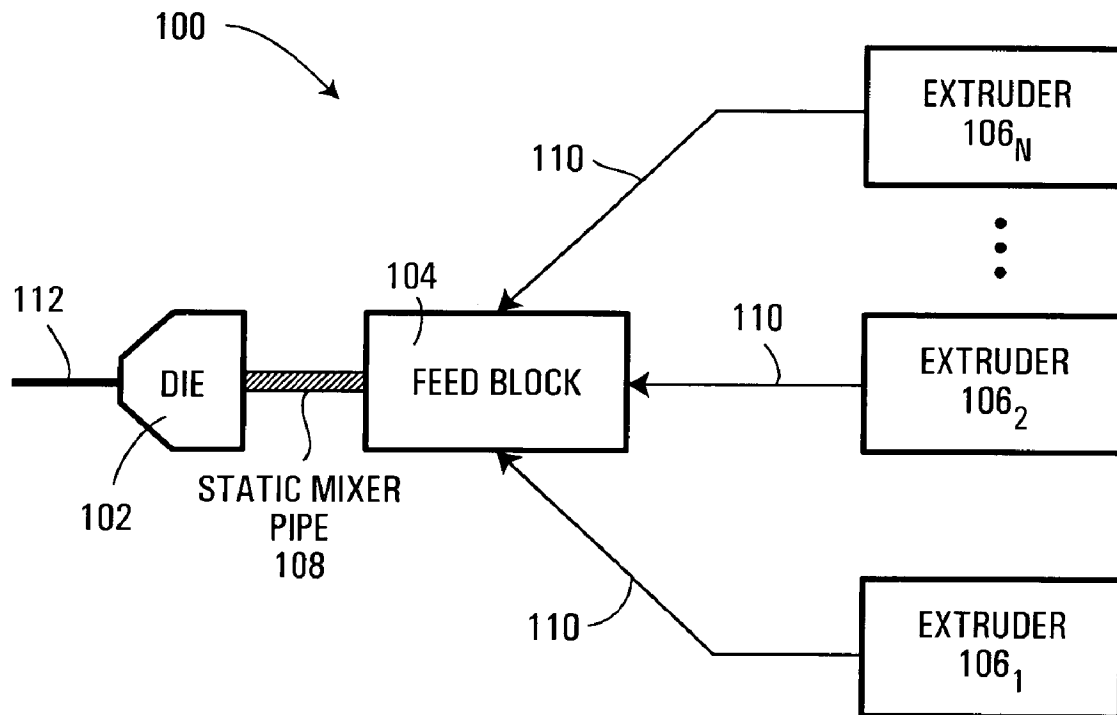


FIG. 1

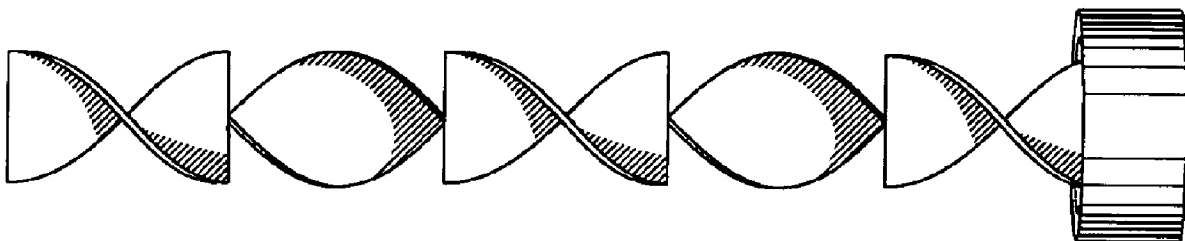


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8). Additionally, the final product resulting from

the feed block of the system forms bands and layers, with the two being interchangeable, of at least two different colors with the two different colors being multi-layer or multi-band patterns of viscous plastic material (Col. 4, Lines 30-48).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

However, Piedboeuf teaches the extrusion process may a product that can be thermoformed into different shapes or items including watercraft such as kayaks and canoes

(Col. 9, Lines 6-21) with differing color variations. Additionally, the reference teaches that the technique of laminating various different layers of colored material joined together to form a multi-colored sheet can be costly and time consuming due to the requirement of treating the material (Col. 1, Lines 30-40). As such, the Examiner contends that when looking to the teachings in the reference, it would have been obvious to one of ordinary skill in the art to form an extruded product such as, for example, a canoe or surfboard, which may have a wood grain appearance for aesthetics depending on the user and additionally, the use of the process of Piedboeuf allows the manufacture of such a product to be more cost effective than prior laminating techniques.

Claims 1-4, 6, 9, and 18 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 1**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

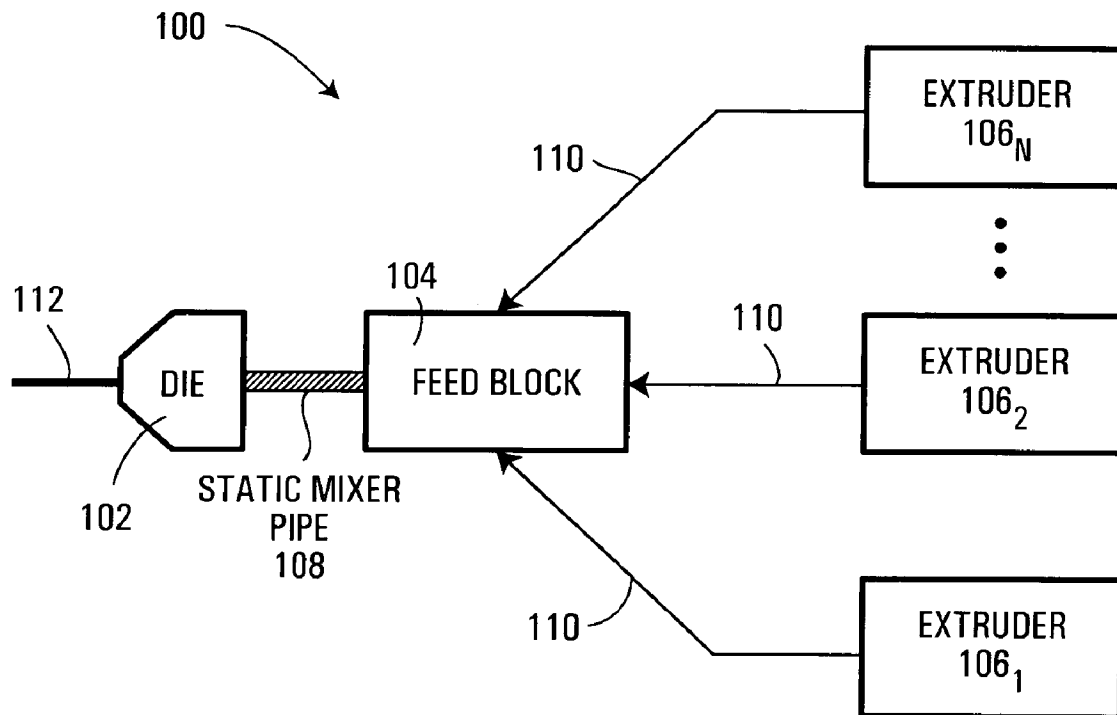


FIG. 1

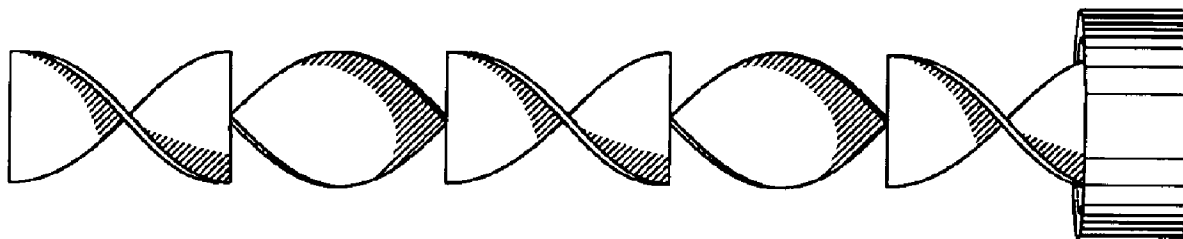


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8). Additionally, the final product resulting from

the feed block of the system forms bands and layers, with the two being interchangeable, of at least two different colors with the two different colors being multi-layer or multi-band patterns of viscous plastic material (Col. 4, Lines 30-48).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves

mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claims 2-4**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers (claim 2), and wherein a portion of at least one of the first side and the second side of the board is removed to expose portions of the first and second sets of polymer layers along the length direction (claim 3) and wherein the exposed portions forming a burled grain pattern (claim 4).

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well

such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other and the core or exposing the core would result in a burl pattern being visible. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Auer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 6**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 9**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. Piedboeuf teaches the formation of sheets utilizing the system described above with respect to claim 1. One of ordinary skill in the art would appreciate that a sheet has a similar polygonal shape to that of a board.

Regarding **claim 18**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. One of ordinary skill in the art would appreciate that the sheet product of Piedboeuf would comprise a third side and a fourth side spaced apart from the third side along a height direction different than the length direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and

second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends

Piedboeuf is silent with respect to the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Auer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Claims 7-8 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 1 above, and further in view of Rohatgi et al. (US 2003/0021915).

Regarding **claims 7-8**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further including a UV inhibitor or a foaming agent (claim 7) and a foaming agent (claim 8).

Rohatgi teaches the formation of wood-like boards formed from thermoplastics and cellulosic materials having low density and enhanced strength (Pg. 1, Paragraph [0001]). The board may include a UV-stabilizer to protect from ultraviolet degradation (Pg. 5, Paragraph

[0046]). A foaming agent may also be added causing the board to expand and thus reducing the density of the final product (Pg. 3, Paragraph [0037]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product having a wood appearance as taught by Piedboeuf in view of Sudano in which the starting materials of the system also include additives such as a UV stabilizer to protect from ultraviolet degradation and a foaming agent to cause the sheet to expand reducing the density of the sheet making the final product light weight as taught by Rohatgi.

Claim 5 is rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 1 above, and further in view of Franco et al. (US 2004/0038002).

Regarding **claim 5**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further embossed with a wood grain pattern.

Franco teaches the formation of a colored thermoplastic polymer material that simulates natural wood (Pg. 1, Paragraph [0001]). The thermoplastic materials are mixed and extruded with the veins of the natural wood appearance being visible and then undergoes an embossment process on one or both sides to impress a pattern in the extrudate thus enhancing the veins in the extruded part (Pg. 3, Paragraph [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product with a simulated wood appearance as taught by

Piedboeuf in view of Sudano in which the extruded product is then embossed to give the simulated wood appearance an enhancement by the impression of a pattern as taught by Franco.

Claims 10-12, 15, 17, and 19-20 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 10**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

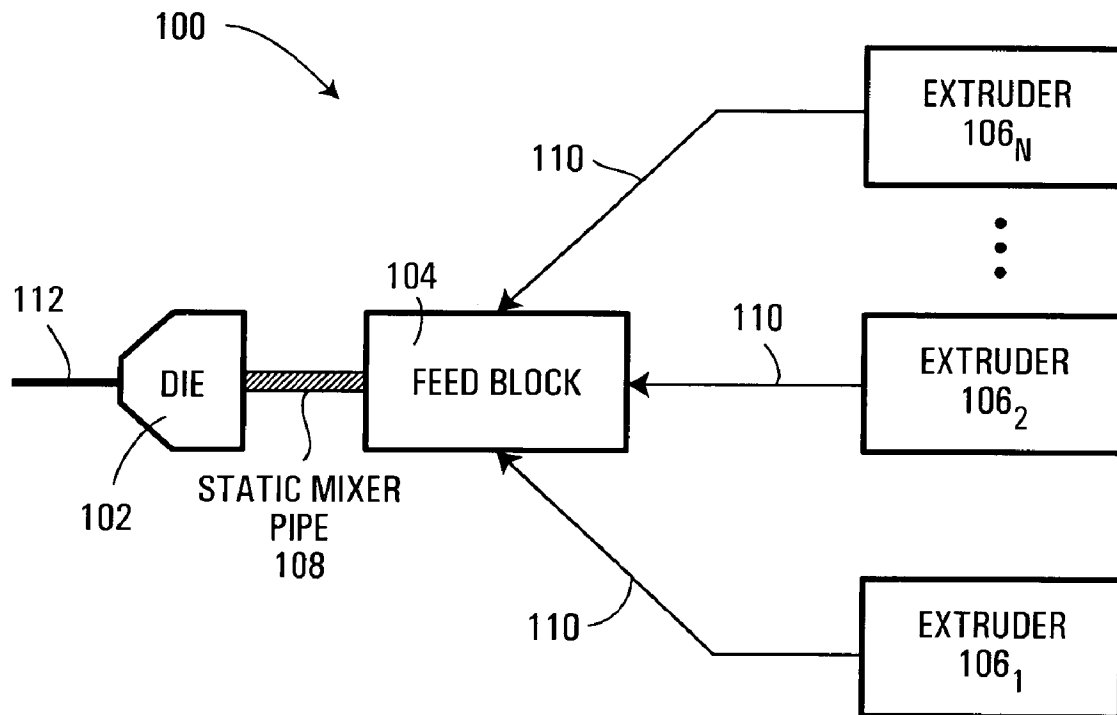


FIG. 1

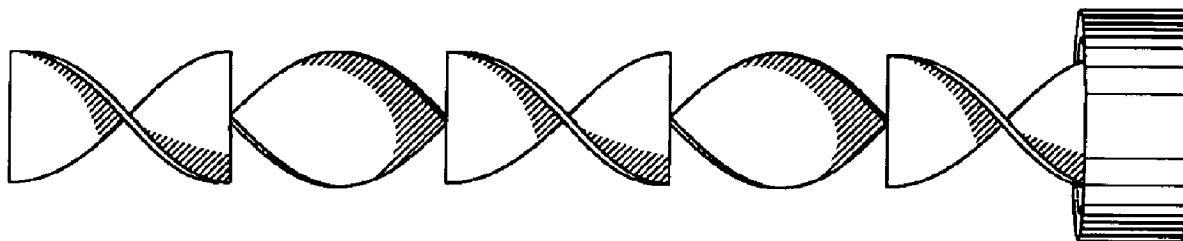


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of one of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood

material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claim 11**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Auer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 12**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 15**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 10. Piedboeuf teaches the formation of sheets utilizing the system described above with respect to claim 1. One of ordinary skill in the art would appreciate that a sheet has a similar polygonal shape to that of a board.

Regarding **claim 17 and 19**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claims 10 and 12.

Piedboeuf is silent with respect to the core being substantially free of natural wood materials.

Sudano teaches the simulated wood extruded product as discussed above with respect to claim 10. Sudano additionally teaches including real wood material is problematic in terms of material and manufacturing cost, material compatibility, and the properties of the final product (Pg. 1, Paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product simulating a wood appearance as taught above by Piedboeuf in view of Sudano, such that the materials are free of natural wood materials so as to avoid problems such as material and manufacturing cost, material compatibility, and the properties of the final product as further taught by Sudano.

Regarding **claim 20**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1. One of ordinary skill in the art would appreciate that the sheet product of Piedboeuf would comprise a third side and a fourth side spaced apart from the third side along a height direction different than the length direction and width direction, wherein the third and fourth sides define a height of the board, wherein the third and fourth sides extend along the length direction between the first and second ends, wherein the core of the board extends between the first, second, third, and fourth sides and between the first and second ends

Piedboeuf is silent with respect to the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in the individual layers of the first and second sets of polymer layers alternate within the core of the board along the height direction. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Auer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Claims 13-14 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291) as applied to claim 10 above, and further in view of Rohatgi et al. (US 2003/0021915).

Regarding **claims 13-14**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 1.

Piedboeuf is silent with respect to the sheet further including a UV inhibitor or a foaming agent (claim 13) and a foaming agent (claim 14).

Rohatgi teaches the formation of wood-like boards formed from thermoplastics and cellulosic materials having low density and enhanced strength (Pg. 1, Paragraph [0001]). The board may include a UV-stabilizer to protect from ultraviolet degradation (Pg. 5, Paragraph [0046]). A foaming agent may also be added causing the board to expand and thus reducing the density of the final product (Pg. 3, Paragraph [0037]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product having a wood appearance as taught by Piedboeuf in view of Sudano in which the starting materials of the system also include additives such as a UV stabilizer to protect from ultraviolet degradation and a foaming agent to cause the sheet to expand reducing the density of the sheet making the final product light weight as taught by Rohatgi.

Claims 21-24 are rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 21**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a

feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66;
Fig. 1).

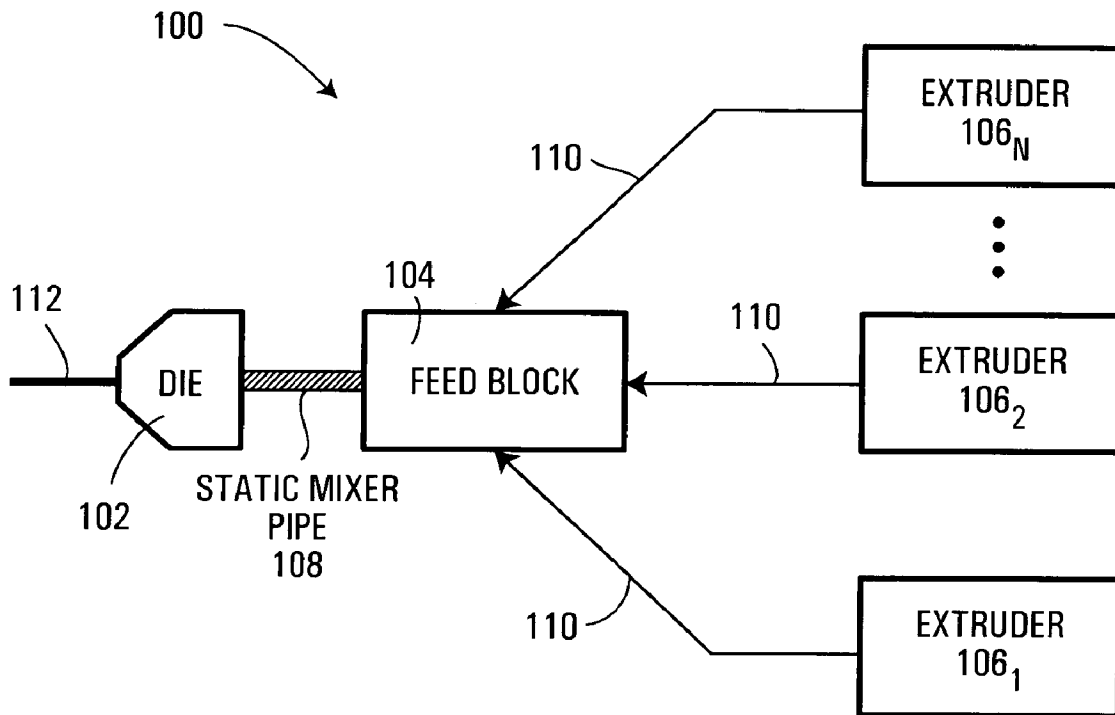


FIG. 1

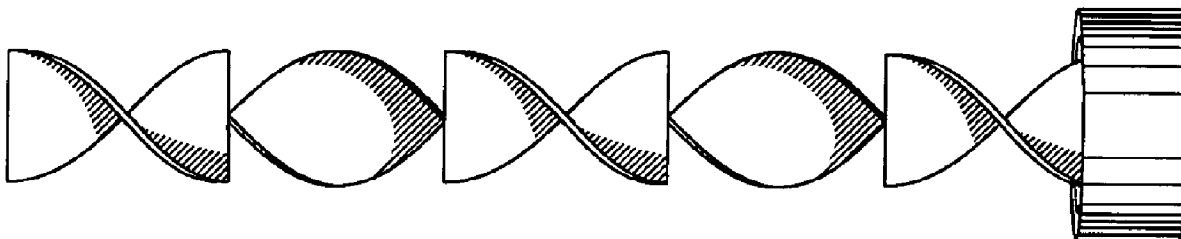


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of one of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then

co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

Regarding **claim 22**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 21.

Piedboeuf is silent with respect to the sheet having a first set of polymer layers that are generally thinner than the layers of the second set of polymers.

However, one of ordinary skill in the art would appreciate that the nearly identical systems for forming the sheet and the board would result in nearly identical products as well such that the extrusion of the final product of the sheet formed with a simulated wood grain pattern would result in one set of polymer layers being thinner than the other. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the

optimum or workable ranges by routine experimentation." In re Auer, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) See MPEP 2144.05 (II).

Regarding **claim 23**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claim 21. Piedboeuf additionally teaches the use of various thermoplastic including HDPE (Col. 3, Lines 63-64).

Regarding **claim 24**, Piedboeuf in view of Sudano teaches the formation of a sheet having a simulated wood appearance through a system that is nearly identical to that described in applicant's specification as discussed above with respect to claims 21.

Piedboeuf is silent with respect to the core being substantially free of natural wood materials.

Sudano teaches the simulated wood extruded product as discussed above with respect to claim 10. Sudano additionally teaches including real wood material is problematic in terms of material and manufacturing cost, material compatibility, and the properties of the final product (Pg. 1, Paragraph [0003]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form the sheet product simulating a wood appearance as taught above by Piedboeuf in view of Sudano, such that the materials are free of natural wood materials so as to avoid problems such as material and manufacturing cost, material compatibility, and the properties of the final product as further taught by Sudano.

Claim 25 is rejected under 35 U.S.C. 103 as being unpatentable over Piedboeuf (US 7,204,944) in view of Sudano et al. (US 2011/0177291).

Regarding **claim 25**, Piedboeuf teaches processes for creating color effects in extrudable material (Col. 1, Line 8-10). The process includes the steps of providing a first and a second stream of viscous materials of different colors and combining those streams feeding them into a helical static mixer, shown in Fig. 3 (Col. 1, Lines 49-63). The system additionally includes a die, a feed block, and at least two extruders as shown below with the static mixer (Col. 1, Lines 64-66; Fig. 1).

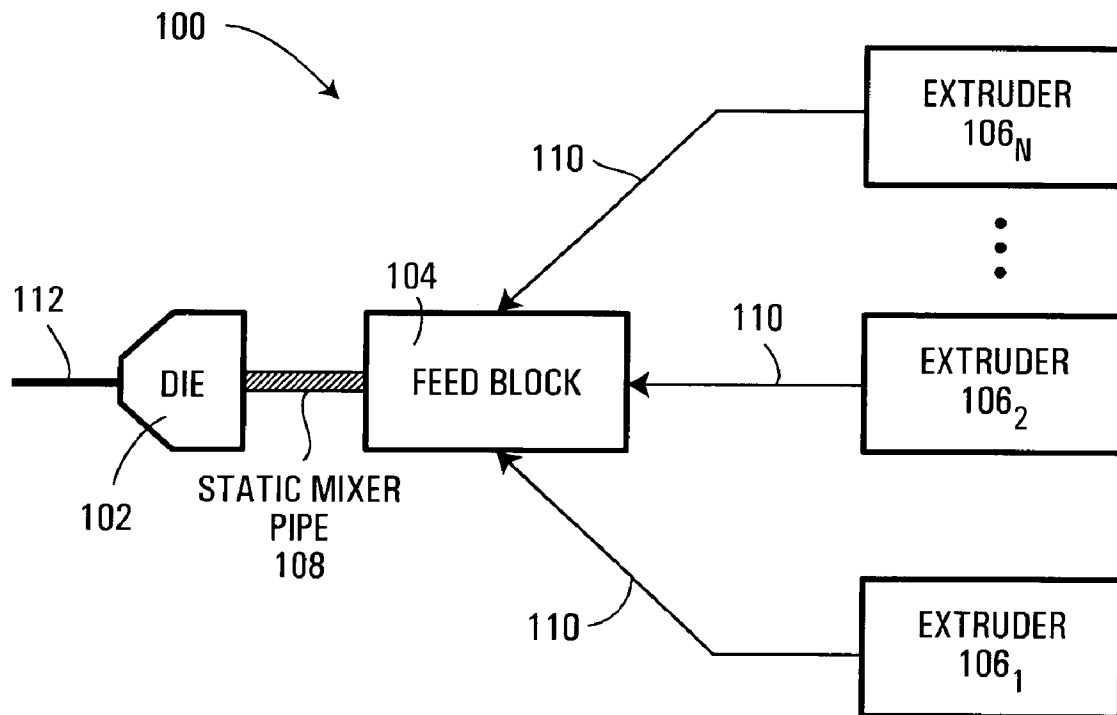


FIG. 1

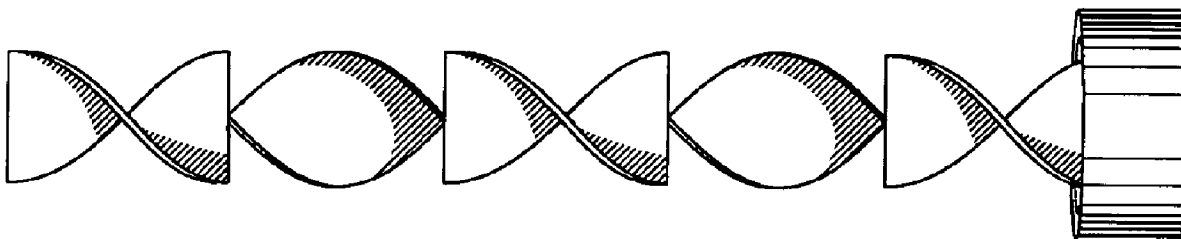


FIG. 3

The materials that are formed from the system are sheets or tubes of plastics that can be used in different applications (Col. 9, Lines 6-8).

It is noted that the system taught by Piedboeuf is nearly identical to the system which forms the simulated natural wood-grained polymer board as claimed by the applicant in that the system as defined by applicant's specification is formed by the input of two different materials having two differing colors which are then mixed through a static mixer similar to the one shown above taught by Piedboeuf, and then extruded to form the board as shown in Figures 1 and 5-5G. The examiner notes that the processing two polymer materials having differing colors taught by Piedboeuf would ultimately result in the in a plastic sheet having the shape of a board and would be formed of "a first set of polymer layers generally extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board; a second set of polymer layers generally extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate to the second side of the board" as required by claim 1.

Piedboeuf is silent with respect to the formation of the sheet such that the colors of the polymer layers entering the system are those that resemble and result in a sheet that simulates a natural wood-grain appearance.

Sudano teaches a co-extrusion process for making mouldings that have a simulated wood appearance and the moldings thereof (Pg. 1, Paragraph [0006]). The method involves mixing a base material and colored pellets of differing colors into a helical vein screw and then co-extruding the mixture onto a core of cellular polymer material (Pg. 1, Paragraph [0008]-[0012]). The formation of the simulated wood appearance without the use of actual wood

material, but use polymers to simulate the natural appearance of wood in that the benefits of this include water and humidity resistance, insects/termite resistance, avoiding the use of chemicals for staining or painting, little to no maintenance, and easy installation due to lightweight and structural properties (Pg. 5, Paragraph [0073]-[0074]).

Therefore, it would have been obvious to one of ordinary skill in the art before the filing of the invention to form a sheet like product utilizing the system taught by Piedboeuf which requires the combining and mixing of materials having different colors, subjecting them to mixing and extrusion, such that the colors simulate that of a wood appearance as taught by Sudano which teaches the combining of differing colors of materials and subsequent mixing and extruding such that this sheet would give the natural appearance of wood having the benefits as described by Sudano.

(2) Response to Argument

On pages 8-10, appellant asserts that the office action incorrectly relies on the processes of Piedboeuf as evidence of obviousness over the simulated wood grain polymers of claims 1, 10, 21 and 25. In particular, appellant asserts that the processes are not identical such that the feed blocks of the Piedbouf system and that of appellant invention are different as illustrated in figures 2 of each reference and would therefore not ultimately result in the final products which are appellants claimed invention.

The examiner first notes that the final products being the simulated natural wood grained polymers appear to be highly dependent on the methods of forming the polymers (Figure 1 and 5A-5G). As such, the processes are to be taken into consideration in a search for the final product, which resulted in the reference of Piedbouf which teaches an overlapping method forming products, such as those in figures 6A, such that the process includes

coextrusion and a helical mixture (Col. 5, Line 66-Col. 6, Line 19). Similarly, per appellant's disclosure, the wood grain appearance is dependent upon intermixing of polymers of varying colors using co-extrusion, a flow divider and adapter (see Appellant's specification paragraphs 0036 – 0041).

The examiner concedes that the feed blocks appear to be physically different; however, in the instant invention and in the prior art, they allow for the combination of the flows of various materials before entering the mixer (See Piedbouf, Col. 4, Lines 42-47; See Appellant's Specification, Pg. 7, Paragraph [0035]). As such, the difference in the feed block does not appear to contribute to the "wood-grained" appearance of the polymers. This features appears to be dependent upon the helical mixer illustrated in figures 5A-5G (See Appellant's Specification, Pg. 7, Paragraph [0035]). The helical mixer or flow divider 140 is comprised of sections 141-147 which "cut across and redirect the combined flow." These inserts within the helical mixer allow for the "linear graining and layering aesthetics of the product" (paragraph 0042 of Appellant's specification). Likewise, the prior art of Piedbouf has a similar mixer 108 (see figure 3) which is designed to mix the fluids coming from the feed block (Col. 5, Lines 66-67; column 6, lines 40-55). This mixing ultimately results in the products illustrated in figure 6A. As such, the examiner contends that although the feed block of Piedboeuf and that of Appellant are different, the wood-grained appearance results from the mixing done in the helical mixer and as such because Piedboeuf teaches the mixing and layering in the static mixer 108 results in a product with multiple bands with color variation as claimed, it is this final product which the examiner considers as equivalent to the polymer layers which are in appellant's claimed invention.

As the examiner points out, the claim requires "a simulated wood-grained polymer board..., comprising: a first set of polymer layers extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the

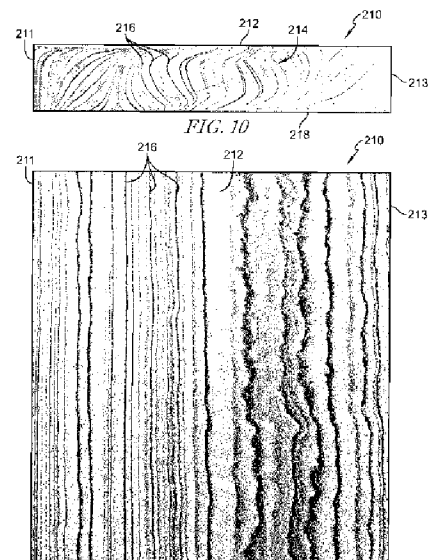
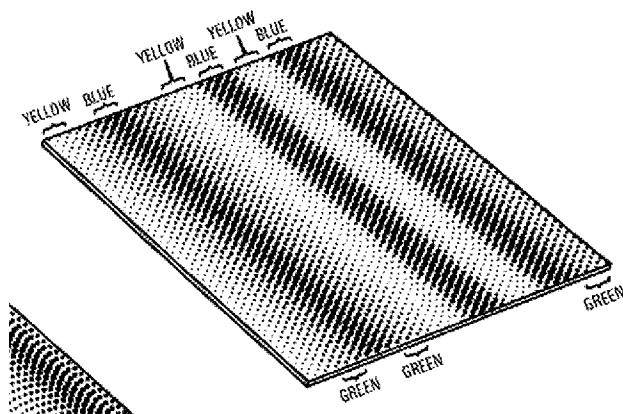
length of the entire board; a second set of polymer layers extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate the second side of the board.” Piedboeuf teaches a product exiting an extruder, comprised of a first set of polymer layers (note Piedboeuf teaches first bands or one color, see Col. 4, lines 55-65) and a second set of polymer layers (note Piedboeuf teaches second bands or more of another color, see Col. 5, lines 25-30; 35-40) wherein the resultant product has individual layers alternating within the board as claimed (see Col. 6, lines 40-50).

On pages 11-15, appellant asserts that the previous office action includes a hindsight bias such that the system of Piedbouf is being compared to that of appellant’s specification. However, the systems are still different including that of the feed blocks as mentioned above and the resulting product would still be different from that of appellant’s claimed inventions, citing figure 6A of Piedbouf and figure 11 of appellant’s disclosure.

As indicated above, the examiner notes that the wood-grained polymers appear to be highly dependent on the processes of forming the products. As such, a comparison to appellant’s specification is necessary in order to determine if a product described in a prior art reference is an equivalent of the claimed invention. However, the examiner contends the comparison of the Piedbouf reference to appellant’s specification is done without hindsight bias as indicated in the rejection, but is done to compare the final products which result from the processes. With respect to the final products of Piedbouf and appellant’s claimed invention, the examiner notes that figures 6A and 6B illustrate the products which results from the process

taught by Piedbouf which teaches the mixing of polymers with two varying colors which may result in a third color formed by combining the two colors, illustrated as yellow, blue and green in the figures. The rejection then turns to the products which are formed from the process which include kayaks and canoes, which one of ordinary skill in the art would appreciate may simulate a wood-grain. Furthermore, the blending of the two polymer materials with different colors may be adjusted in order to further simulate a variety of materials, including having sharp transitions from colors, slower gradation of colors, wavy or curved lines of colors, straight lines and so on (Col. 6, Lines 40-60). The examiner further notes that these sharp transitions and slower gradations are further illustrated in the comparison between figure 6A of Piedbouf (on the left) and figure 11 of appellant's specification (on the right) recreated below.

As illustrated in the figures above, Piedbouf illustrates sharp transitions on the right side of the sheet formed and gradual transitions on the left side of the sheet. This is also featured in



appellant's figure as well such that there are sharp transitions on the left side of the board and more gradual ones on the right side.

Appellant continues to argue (see page 14 of Appellant's brief), that the examiner has improperly shifted the burden to Applicant to rebut the rejection. Appellant additionally argues

that the examiner has not properly produced a *prima facie* case of obviousness and has concluded that the products are the same without providing evidence to show otherwise. The examiner respectfully disagrees. The examiner has pointed (as noted above), that the prior art processes *and the* resulting product as taught by Piedboeuf based on the teachings and citations in the reference do render the claims obvious. The conclusion by the examiner is based on evidence in the reference and not simply without support.

Furthermore, the examiner maintains that because the Piedboeuf reference, taken alone, teaches the variations of the colorants in the layers, the examiner concludes that the product based on the teachings in the reference renders obvious a simulated wood-grain appearance.

It is additionally noted, however, that the examiner has also rejected the claims over the combination of Piedboeuf in view of Sudano. Appellant addresses this set of rejections (see page 16 of Appellant's brief), by arguing that the Office Action fails to cure the deficiencies in Piedboeuf by introducing Sudano. Appellant argues that the Office Action only relies on supposed similarities in the process but fails to provide evidence as to the obviousness of the claimed products. The examiner respectfully disagrees. It is first noted that Piedboeuf is cited (see page 8-9 of the final rejection) as teaching and rendering obvious the extrusion apparatus *and the features of the final product* wherein the product possesses a plurality of layers of different colors as claimed. Sudano was brought in to provide further evidence *that the colorants can be used to produce a simulated natural wood-grain appearance* (see page 9 of the final rejection.) As noted in the rejection, Sudano teaches a co-extrusion process for making moldings with a wood-grain appearance. The use of polymers to simulate wood allows (per the rejection), for the aesthetic benefits of wood without the disadvantages of repeated painting,

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insect or wood rot (see page 9 of the rejection). Thus, the examiner contends that because both Piedboeuf and Sudano teach co-extrusion *and layered products of various color(s)*, it would have been obvious to make the product of Piedboeuf of colors simulating natural wood per Sudano for the purpose of avoiding the disadvantages as taught by Sudano. The claimed structure(s) *may not be expressly taught* by the references; however, the references (as combined in the rejection), *renders the claimed product obvious*.

In summary, the examiner therefore contends that because Piedboeuf teaches a process, apparatus *and* resulting polymer product, the product comprised of one or more layers, wherein the layers can include various colors in a plurality of banding configurations and color gradations and Sudano teaches a similar product with colorants simulating natural wood, the instant invention as claimed is rendered obvious.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/DANIEL P DILLON/
Examiner, Art Unit 1783

Conferees:

/MARIA V EWALD/
Supervisory Patent Examiner, Art Unit 1783

/CALLIE E SHOSHO/
Supervisory Patent Examiner, Art Unit 1787

Requirement to pay appeal forwarding fee. In order to avoid dismissal of the instant appeal in any application or ex parte reexamination proceeding, 37 CFR 41.45 requires payment of an appeal

Art Unit: 1783

forwarding fee within the time permitted by 37 CFR 41.45(a), unless appellant had timely paid the fee for filing a brief required by 37 CFR 41.20(b) in effect on March 18, 2013.

Electronic Patent Application Fee Transmittal

Application Number:	15245948			
Filing Date:	24-Aug-2016			
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE			
First Named Inventor/Applicant Name:	Andrew Stephens			
Filer:	Davis M Chin Jr/LaTanya Williamson			
Attorney Docket Number:	108357-0012			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
APPEAL FORWARDING FEE	2413	1	1120	1120
Post-Allowance-and-Post-Issuance:				

RPI1004

Page 386 of 437

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1120

Electronic Acknowledgement Receipt

EFS ID:	37723707
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	1923
Filer:	Davis M Chin Jr/LaTanya Williamson
Filer Authorized By:	Davis M Chin Jr
Attorney Docket Number:	108357-0012
Receipt Date:	12-NOV-2019
Filing Date:	24-AUG-2016
Time Stamp:	13:08:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1120
RAM confirmation Number	E2019ABD09456551
Deposit Account	500417
Authorized User	LaTanya Williamson

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

RPI1004

37 CFR 1.19 (Document supply fees)
37 CFR 1.20 (Post Issuance fees)
37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	30741	no	2
			0690b53ce3eb7aff6fea7097a2d6ee3e08a4efc4		

Warnings:

Information:

Total Files Size (in bytes):	30741
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

1923 7590 12/17/2019
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

EXAMINER

DILLON, DANIEL P

ART UNIT	PAPER NUMBER
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1783

NOTIFICATION DATE	DELIVERY MODE
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12/17/2019

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW STEPHENS et al.

Appeal 2020-001392
Application 15/245,948
Technology Center 1700

APPEAL DOCKETING NOTICE

The Patent Trial and Appeal Board received the appeal in the above-identified application from the Technology Center on December 13, 2019, and has assigned it the appeal number indicated above.

The recipient of this notice is reminded of its ongoing duty, within 20 days of any change during the proceeding, to update its mandatory notices to identify the real party-in-interest and each judicial or administrative proceeding that could affect, or be affected by, the Board proceeding. 37 C.F.R. § 41.8. For example, another docketed appeal in a related application may have the potential to affect, or be affected by, the Board proceeding.

In all future communications regarding this appeal, please include both the application number and the appeal number. Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above. The mailing address for the Board is:

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

1923 7590 12/11/2020
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

EXAMINER

DILLON, DANIEL P

ART UNIT	PAPER NUMBER
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1783

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12/11/2020

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The time period for reply, if any, is set in the attached communication.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW STEPHENS, FRANCISCO MORALES, and
TADEUSZ RYBKA

Appeal 2020-001392
Application 15/245,948
Technology Center 1700

Before TERRY J. OWENS, BRADLEY W. BAUMEISTER,
and BRIAN D. RANGE, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Examiner's decision to reject claims 1–15 and 17–25. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. The Appellant identifies the real party in interest as Tangent Technologies LLC (Appeal Br. 2).

CLAIMED SUBJECT MATTER

The claims are directed to a simulated natural wood-grained polymer substrate. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A simulated natural wood-grained polymer board having a first side and a second side spaced apart from the first side, the spacing between the first and second sides defining one of a width or a height of the board, the first and second sides extending along a length direction between a first end and a second end, the first and second ends defining a length of the board, the board comprising:
 - a first set of polymer layers extending along the length direction and containing a first colorant, a majority of the first set of polymer layers extending along the length of the entire board;
 - a second set of polymer layers extending along the length direction and containing a second colorant different than the first colorant, a majority of the second set of polymer layers extending along the length of the entire board; and
 - wherein a plurality of individual layers of the first and second sets of polymer layers alternate within the board and extend along a substantially uninterrupted curvilinear path originating proximate the first side of the board and terminating proximate the second side of the board.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Rohatgi	US 2003/0021915 A1	Jan. 30, 2003
Franco	US 2004/0038002 A1	Feb. 26, 2004
Piedboeuf	US 7,204,944 B2	Apr. 17, 2007
Sudano	US 2011/0177291 A1	July 21, 2011

REJECTIONS

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 1, 10, 21, and 25 over Piedboeuf; claims 1–4, 6, 9–12, 15, and 17–25 over Piedboeuf in view of Sudano; claim 5 over Piedboeuf in view of Sudano and Franco; and claims 7, 8, 13, and 14 over Piedboeuf in view of Sudano and Rohatgi.

OPINION

We need address only the independent claims (1, 10, 21, and 25)

Rejection over Piedboeuf

Piedboeuf discloses “a process for creating color effects in extrudable material” (col. 1, ll. 9–10). The process comprises:

providing [from extruders (106)] a first flow of viscous material of a first color and a second flow of viscous material of a second color, the second color being different from the first color. Next, the first and second flows are combined [in a feed block (104)] to form a stream of viscous material, where the stream is characterized by a first band of the first color and a second band of the second color, the second band being adjacent to the first band. The stream of viscous material is fed through a static mixer [(108)] such that, upon exiting the static mixer, the stream is further characterized by a third band of a third color, the third color being different from the first and second colors, the third band being located between the first and second bands [(col. 1, ll. 51–63; Figs. 1, 5B)].

“[U]pon exit from the static mixer **108**, only a partial mixing of the different colored bands of the multi-band stream has occurred, creating a blended, gradation in the colors of the multi-band stream” (col. 6, ll. 36–39; Fig. 6A). “[T]he sheets of plastic characterized by the color gradation effects may be thermoformed into pedal boats, kayaks, canoes or other similar watercraft products” (col. 9, ll. 12–15).

The Examiner finds (Ans. 29):

Although the feed block of Piedboeuf [(104; Fig. 2)] and that of Appellant [(125; Fig. 2)] are different, the wood-grained appearance results from the mixing done in the helical mixer and as such because Piedboeuf teaches the mixing and layering in the static mixer 108 results in a product with multiple bands with color variation as claimed, it is this final product which the examiner considers as equivalent to the polymer layers which are in appellant's claimed invention.

The Examiner does not establish that Piedboeuf's products, merely due to having multiple bands with color variation, are equivalent to the Appellant's simulated natural wood grained products.

The Examiner finds that Piedboeuf's products "include kayaks and canoes, which one of ordinary skill in the art would appreciate may simulate wood grain" (Ans. 31), and maintains that because the Piedboeuf reference, taken alone, teaches the variations of the colorants in the layers, the examiner concludes that the product based on the teachings in the reference renders obvious a simulated wood-grain appearance" (Ans. 32).

The Examiner does not establish that even if kayaks and canoes can have a simulated wood grain appearance, Piedboeuf would have suggested forming the streams of viscous material such that the product has that appearance. Nor does the Examiner explain how one of ordinary skill in the art would have carried out Piedboeuf's process in a way that produces a product having a simulated wood grain appearance.

Rejection over Piedboeuf in view of Sudano

Sudano discloses "a co-extrusion process for making decorative mouldings having a simulated wood appearance and a given profile" (¶ 7) by:

mixing a base material [(10)] and colour particles [(12)] to form a mixture [(14)], the base material comprising rigid polymer and the colour particles having a different colour from the base material and a higher melt temperature than the base material;

heating and displacing the mixture using a feed screw [(18)] such that the colour particles move helically along the trajectory of the feed screw while avoiding backflow and melting to thereby create corresponding helical vein segments [(26)] within the base material;

forcing the mixture through a tubular channel [(24)] while controlling heat and shear conditions such that the helical vein segments remain substantially intact;

feeding the mixture into a die having at least a first tubular inlet [(30)] communicating with the tubular channel, a first outlet [(32)] having a planar shape corresponding to the given profile, and a first cavity [(28)] in between the inlet and the outlet, the cavity having a form to flatten and widen the mixture to produce a planar surface coating at the outlet wherein the helical vein segments are transposed into two-dimensional nested arches [(48)] simulating wood appearance; and

co-extruding the surface coating onto a first side of a core comprising cellular polymer material, thereby producing the decorative mouldings. [(¶¶ 8–12, 43–51; Figs. 1–3, 6)]

“The Examiner contends that because both Piedboeuf and Sudano teach co-extrusion *and layered products of various color(s)*, it would have been obvious to make the product of Piedboeuf of colors simulating natural wood per Sudano for the purpose of avoiding the disadvantages [of using wood instead of polymers (Final Rej. 9)] as taught by Sudano” (Ans. 33).

The Examiner does not address the differences between Piedboeuf’s and Sudano’s processes and explain how, regardless of those differences, Sudano would have led one of ordinary skill in the art to use Piedboeuf’s process to made a simulated natural wood product.

Thus, the record indicates that the Examiner’s rejections are based upon impermissible hindsight in view of the Appellant’s disclosure. *See In*

re Warner, 379 F.2d 1011, 1017 (CCPA 1967) (“A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art”). Accordingly, we reverse the rejections.

CONCLUSION

The Examiner’s rejections are reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 10, 21, 25	103	Piedboeuf		1, 10, 21, 25
1–4, 6, 9–12, 15, 17–25	103	Piedboeuf, Sudano		1–4, 6, 9–12, 15, 17–25
5	103	Piedboeuf, Sudano, Franco		5
7, 8, 13, 14	103	Piedboeuf, Sudano, Rohatgi		7, 8, 13, 14
Overall Outcome				1–15, 17–25

REVERSED



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

1923 7590 01/07/2021
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

EXAMINER

DILLON, DANIEL P

ART UNIT

PAPER NUMBER

1783

DATE MAILED: 01/07/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

TITLE OF INVENTION: WOOD-GRAINED POLYMER SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	04/07/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

1923 7590 01/07/2021
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

TITLE OF INVENTION: WOOD-GRAINED POLYMER SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	04/07/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
DILLON, DANIEL P	1783	428-151000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690
1923 7590 01/07/2021 MCDERMOTT, WILL & EMERY LLP The McDermott Building 500 North Capitol Street, N.W. Washington, DC 20001				
EXAMINER DILLON, DANIEL P				
ART UNIT 1783			PAPER NUMBER	
DATE MAILED: 01/07/2021				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/245,948	Applicant(s) Stephens et al.	
	Examiner DANIEL P DILLON	Art Unit 1783	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/11/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-25. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____ 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____	5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____
--	---

/DANIEL P DILLON/ Examiner, Art Unit 1783	/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783
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DETAILED ACTION

Allowable Subject Matter

Claims 1, 10, 21 and 25 are allowed. **Claims 2-9, 11-20 and 22-24** are allowed based on their dependency to claims 1, 10 and 21.

The following is an examiner's statement of reasons for allowance:

In response to the decision from the Patent Trial and Appeal Board (PTAB) dated 12/11/2020, Piedbouf fails to teach the simulated natural wood-grained polymer boards of claims 1, 10, 21 and 25 in that the examiner failed to establish that Piedbouf's products are equivalent to those described in the instant claims. In particular, the rejection failed to indicate that the products being formed from the streams of viscous material would have the same pattern as those described in the claims. As such, claims 1, 10, 21 and 25 are indicated as allowable over the prior art of Piedbouf.

With respect to the rejections of claims 1, 10, 21 and 25 in view of Piedbouf and Sudano, the PTAB decision further indicated that the rejection failed to address how one of ordinary skill in the art would for the claimed products would have been formed by the combination of Piedbouf in view of Sudano. As such, claims 1, 10, 21 and 25 are allowable over the prior art of Piedbouf and Sudano. Furthermore, claims 2-9, 11-20 and 22-24 are allowable based on their dependency on claims 1, 10 and 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL P DILLON whose telephone number is (571)270-5657. The examiner can normally be reached on Mon-Fri; 8 AM to 5 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MARIA V EWALD can be reached on 571-272-8519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

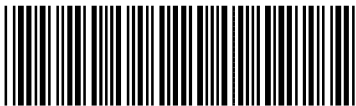
DANIEL P. DILLON
Examiner
Art Unit 1783

/MARIA V EWALD/
Supervisory Patent Examiner, Art Unit 1783

<i>Index of Claims</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	12/11/2017	07/09/2018	12/20/2018	12/23/2020					
	1	✓	✓	✓	=					
	2	✓	✓	✓	=					
	3	✓	✓	✓	=					
	4	✓	✓	✓	=					
	5	✓	✓	✓	=					
	6	✓	✓	✓	=					
	7	✓	✓	✓	=					
	8	✓	✓	✓	=					
	9	✓	✓	✓	=					
	10	✓	✓	✓	=					
	11	✓	✓	✓	=					
	12	✓	✓	✓	=					
	13	✓	✓	✓	=					
	14	✓	✓	✓	=					
	15	✓	✓	✓	=					
	16	✓	-	-	=					
	17		✓	✓	=					
	18		✓	✓	=					
	19		✓	✓	=					
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	25		✓	✓	=					

Search Notes 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

CPC - Searched*		
Symbol	Date	Examiner
B01F 5/0615	7/5/2018	/DD/
B29C 47/046	7/5/2018	/DD/
B29C 47/56	7/5/2018	/DD/
B32B 27/08	12/23/2020	/DD/
B29K 2023/065	12/23/2020	/DD/

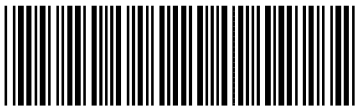
CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
428	151	7/28/2017	/DD/

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

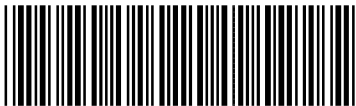
Search Notes		
Search Notes	Date	Examiner
East Search History Provided	12/11/2017	/DD/
Updated EAST Search Provided	07/07/2018	/DD/
Updated EAST Search Provided	12/20/2018	/DD/

/DANIEL P DILLON/ Examiner, Art Unit 1783	RPI1004 Part of Paper No.: 20201222
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<i>Search Notes</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
B32B	27/08	12/23/2020	/DD/

/DANIEL P DILLON/ Examiner, Art Unit 1783	
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Issue Classification 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

CPC						
Symbol					Type	Version
B32B	/	3	/	263	F	2013-01-01
B32B	/	27	/	08	I	2013-01-01
B29C	/	48	/	07	I	2019-02-01
B32B	/	2307	/	408	A	2013-01-01
B32B	/	2307	/	71	A	2013-01-01
B32B	/	2307	/	712	A	2013-01-01
B32B	/	2419	/	00	A	2013-01-01
B29K	/	2023	/	065	A	2013-01-01
B29L	/	2007	/	002	A	2013-01-01
B29L	/	2009	/	00	A	2013-01-01

CPC Combination Sets					
Symbol			Type	Set	Ranking
/	/	/			

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	23 December 2020 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	28 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

<i>Issue Classification</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

INTERNATIONAL CLASSIFICATION			
CLAIMED			
B32B	/	27	/ 08
NON-CLAIMED			
/	/		

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	23 December 2020 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	28 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

<i>Issue Classification</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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6	6	15	15	24	24										
7	7	16	16	25	25										
8	8	17	17												
9	9	18	18												

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	23 December 2020 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	28 December 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

Bibliographic Data

Application No: 15/245,948

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged: /DANIEL P DILLON/

Examiner's Signature

Initials

Title:

WOOD-GRAINED POLYMER SUBSTRATE

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/24/2016	428	1783	108357-0012
RULE			

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CONTINUING DATA

This application has PRO of 62208928 08/24/2015

FOREIGN APPLICATIONS

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09/02/2016

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FILING FEE RECEIVED

\$800

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	((("TANGENT") near3 ("TECHNOLOGIES") near3 ("LLC")).AANM.	USPAT	OR	OFF	2017/07/28 12:22
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S3	52	((("STEPHENS") near3 ("Andrew"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
S4	47	((("MORALES") near3 ("Francisco"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
S5	9	((("RYBKA") near3 ("Tadeusz"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/07/28 12:22
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S12	1	S10 and (layer same (alternate or alternating))	US-PGPUB; USPAT	OR	ON	2017/07/28 12:31

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S21	3	S19 and ("HDPE" or (high near density near polyethylene)) and (foaming near agent)	US-PGPUB; USPAT	OR	OFF	2017/12/04 12:07
S22	590	(428/151).CCLS.	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:12
S23	97	S22 and (layer with polymer)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:12
S24	0	S22 and ((alternating or alternate) same (layer with polymer))	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:13
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S31	21	S29 and (curvilinear or curved)	US-PGPUB; USPAT	OR	OFF	2017/12/05 12:17
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S43	1	(double near3 adhesive).ti. and ("UV" near5 (cure or cured or curing)) and ((heat or thermal) near5 (cure or cured or curing))	USPAT	OR	OFF	2017/12/08 14:45
S44	4	(double near3 adhesive).ti. and ("UV" near5 (cure or cured or curing)) and ((heat or thermal) near5 (cure or cured or curing))	US-PGPUB; USPAT	OR	OFF	2017/12/08 14:47
S45	7	(double near3 adhesive).ti. and (("UV" or ultraviolet) near5 (cure or cured or curing)) and ((heat or thermal) near5 (cure or cured or curing))	US-PGPUB; USPAT	OR	OFF	2017/12/08 14:54
S46	1	"7204944".pn.	USPAT	OR	OFF	2018/07/05 11:47
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S48	344	(428/151).CCLS. and (wood or grain or burly)	US-PGPUB; USPAT	OR	OFF	2018/07/05 11:50
S49	0	(polymer same (wood or grain or burly)) and (helical) and (flow near adaptor)	USPAT	OR	OFF	2018/07/05 13:48
S50	0	(polymer same (wood or grain or burly)) and (helical) and (flow near adaptor)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:48

S51	0	(polymer same (wood or grain or burly)) and (helical) and (flow near adapter)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:48
S52	4	(polymer and (wood or grain or burly)) and (helical) and (flow near adapter)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:48
S53	15,595	(polymer and (wood or grain or burly)) and (helical)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:48
S54	1,586	(polymer same (wood or grain or burly)) and (helical)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:49
S55	590	(428/151).CCLS.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:49
S56	1	S54 and S55	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:49
S57	1	"20160176230".pn.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:52
S58	283,536	(428/\$).CCLS.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:54
S59	130	S54 and S58	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:54
S61	2	(B01F5/0615 and B29C47/046 and B29C47/56).CPC.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:57
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S64	2	(B01F5/0615 and B29C47/56).CPC.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:58

S65	313	(B01F5/0615).CPC.	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:58
S66	20	(B01F5/0615).CPC. and (wood or grain or burly)	US-PGPUB; USPAT	OR	OFF	2018/07/05 13:58
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S71	1	"8197733".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/05 16:13
S72	1	"5866639".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/05 16:17
S73	1,530	extrusion and (wood near grain)	US-PGPUB; USPAT; USOCR	OR	OFF	2018/07/06 11:32
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S76	0	(B01F5/0615).CPC. and (wood near grain)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:38
S77	18	(B01F5/0615).CPC. and (wood)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:38
S78	2	(B01F5/0615).CPC. and grain	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:40

S79	35,315	(wood) same (polymer)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:40
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S81	12	((wood) same (polymer)).ab. and (helical)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:41
S82	9	((wood) same (polymer)).ab. and (multiple near5 extrusion)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:44
S83	4	((wood) same (polymer)).ab. and (multiple near5 extruder)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:47
S84	2,981,271	((wood) same (polymer))\ and (multiple near5 extruder)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:51
S85	173	((wood) same (polymer)) and (multiple near5 extruder)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:51
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S87	266	428/151.ccls,icls. and (wood)	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:53
S88	22	428/151.ccls,icls. and (wood) and ((multiple or (first and second)) same (extruder\$1 or flow\$1))	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:55
S89	8	428/151.ccls,icls. and (wood) and ((multiple or (first and second)) near5 (extruder\$1 or flow\$1))	US-PGPUB; USPAT	OR	OFF	2018/07/06 11:56
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S93	2	"20110177291".pn. or "7204944".pn.	US-PGPUB; USPAT	OR	OFF	2018/07/06 12:32
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S96	2	"7204944".pn. or "20110177291".pn.	US-PGPUB; USPAT	OR	OFF	2018/07/07 10:55
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S99	44	(simulate\$3 near3 wood) with (emboss or embossment)	US-PGPUB; USPAT	OR	OFF	2018/07/07 11:38
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S109	135	(wood near3 extru\$4) and ("HDPE") and polystyrene	US-PGPUB; USPAT	OR	OFF	2018/12/12 12:06
S110	52	(wood near3 extru\$4) and ("HDPE") and polystyrene and hopper	US-PGPUB; USPAT	OR	OFF	2018/12/12 12:07
S111	2	"20100021715".pn. or "9527341".pn.	US-PGPUB; USPAT	OR	OFF	2018/12/12 12:55
S112	1	"20100107530".pn.	US-PGPUB; USPAT	OR	OFF	2018/12/13 09:33
S113	179,712	B32B27/08.cpc,ipc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:00
S114	448	S113 and (wood near3 grain)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:01
S115	12,171	B29K2023/065.cpc,ipc.	US-PGPUB; USPAT;	OR	OFF	2020/12/23 12:01

			USOCR; FPRS; EPO; JPO			
S116	19	S114 and S115	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:01
S117	25,490	B29K23/00.cpc,ipc.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:05
S118	179,712	B32B27/08.cpc,ipc.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:05
S119	448	S118 and (wood near3 grain)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:05
S120	3	S119 and S117	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2020/12/23 12:05

12/23/2020 12:06:44 PM

C:\Users\ddillon\Documents\Applications\15\200\15245948-Wood grained polymer substrate\EAST
Search.wsp

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

1923 7590 01/07/2021
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

James Oehler	(Typed or printed name)
/James Oehler/	(Signature)
February 2, 2021	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

TITLE OF INVENTION: WOOD-GRAINED POLYMER SUBSTRATE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	04/07/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
DILLON, DANIEL P	1783	428-151000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 McDermott Will & Emery LLP

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Tangent Technologies LLC

Aurora, IL

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 50-0417

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /James Oehler/

Date February 2, 2021

Typed or printed name James Oehler

Registration No. 68,591

Electronic Patent Application Fee Transmittal

Application Number:	15245948			
Filing Date:	24-Aug-2016			
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE			
First Named Inventor/Applicant Name:	Andrew Stephens			
Filer:	James Oehler/Jeanette McGee			
Attorney Docket Number:	108357-0012			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	600	600

RPI1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				600

Electronic Acknowledgement Receipt

EFS ID:	41816469
Application Number:	15245948
International Application Number:	
Confirmation Number:	1690
Title of Invention:	WOOD-GRAINED POLYMER SUBSTRATE
First Named Inventor/Applicant Name:	Andrew Stephens
Customer Number:	1923
Filer:	James Oehler/Jeanette McGee
Filer Authorized By:	James Oehler
Attorney Docket Number:	108357-0012
Receipt Date:	02-FEB-2021
Filing Date:	24-AUG-2016
Time Stamp:	17:04:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$600
RAM confirmation Number	E202122H08142831
Deposit Account	500417
Authorized User	Jeanette McGee

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

RPI1004

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Part_B.pdf	212938	no	1
			d544e964de4804dabb3a7db9fa454e7471a20e78		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30652	no	2
			8d725f9a0435eccbed6b31917074fb0c8002005e		
Warnings:					
Information:					
Total Files Size (in bytes):			243590		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	08/24/2016	Andrew Stephens	108357-0012	1690

1923 7590 03/22/2021
MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

EXAMINER

DILLON, DANIEL P

ART UNIT	PAPER NUMBER
----------	--------------

1783

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/22/2021

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mweipdocket@mwe.com

Supplemental Notice of Allowability	Application No. 15/245,948	Applicant(s) Stephens et al.	
	Examiner DANIEL P DILLON	Art Unit 1783	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/11/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-15 and 17-25. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____ 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____	5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____
--	---

/DANIEL P DILLON/ Examiner, Art Unit 1783	/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783
--	---

DETAILED ACTION

Allowable Subject Matter

Claims 1, 10, 21 and 25 are allowed. **Claims 2-9, 11-15, 17-20 and 22-24** are allowed based on their dependency to claims 1, 10 and 21.

The following is an examiner's statement of reasons for allowance:

In response to the decision from the Patent Trial and Appeal Board (PTAB) dated 12/11/2020, Piedbouf fails to teach the simulated natural wood-grained polymer boards of claims 1, 10, 21 and 25 in that the examiner failed to establish that Piedbouf's products are equivalent to those described in the instant claims. In particular, the rejection failed to indicate that the products being formed from the streams of viscous material would have the same pattern as those described in the claims. As such, claims 1, 10, 21 and 25 are indicated as allowable over the prior art of Piedbouf.

With respect to the rejections of claims 1, 10, 21 and 25 in view of Piedbouf and Sudano, the PTAB decision further indicated that the rejection failed to address how one of ordinary skill in the art would for the claimed products would have been formed by the combination of Piedbouf in view of Sudano. As such, claims 1, 10, 21 and 25 are allowable over the prior art of Piedbouf and Sudano. Furthermore, claims 2-9, 11-15, 17-20 and 22-24 are allowable based on their dependency on claims 1, 10 and 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL P DILLON whose telephone number is (571)270-5657. The examiner can normally be reached on Mon-Fri; 8 AM to 5 PM.

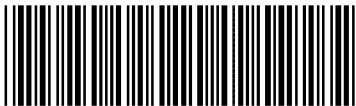
Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MARIA V EWALD can be reached on 571-272-8519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANIEL P. DILLON
Examiner
Art Unit 1783

/MARIA V EWALD/
Supervisory Patent Examiner, Art Unit 1783

Issue Classification 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

CPC						
Symbol					Type	Version
B32B	/	3	/	263	F	2013-01-01
B32B	/	27	/	08	I	2013-01-01
B29C	/	48	/	07	I	2019-02-01
B32B	/	2307	/	408	A	2013-01-01
B32B	/	2307	/	71	A	2013-01-01
B32B	/	2307	/	712	A	2013-01-01
B32B	/	2419	/	00	A	2013-01-01
B29K	/	2023	/	065	A	2013-01-01
B29L	/	2007	/	002	A	2013-01-01
B29L	/	2009	/	00	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/				

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	16 February 2021 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	25 February 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

<i>Issue Classification</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

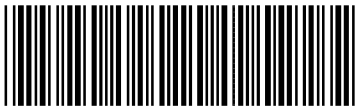
INTERNATIONAL CLASSIFICATION			
CLAIMED			
B32B	/	27	/ 08

NON-CLAIMED			
/	/		

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	16 February 2021 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	25 February 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

<i>Issue Classification</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	20										
2	2	11	11	20	21										
3	3	12	12	21	22										
4	4	13	13	22	23										
5	5	14	14	23	24										
6	6	15	15	24	25										
7	7	16	17												
8	8	17	18												
9	9	18	19												

/DANIEL P DILLON/ Examiner, Art Unit 1783 (Assistant Examiner)	16 February 2021 (Date)	Total Claims Allowed: 25	
/MARIA V EWALD/ Supervisory Patent Examiner, Art Unit 1783 (Primary Examiner)	25 February 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure Fig. 6

<i>Index of Claims</i> 	Application/Control No. 15/245,948	Applicant(s)/Patent Under Reexamination Stephens et al.
	Examiner DANIEL P DILLON	Art Unit 1783

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	12/11/2017	07/09/2018	12/20/2018	12/23/2020					
	1	✓	✓	✓	=					
	2	✓	✓	✓	=					
	3	✓	✓	✓	=					
	4	✓	✓	✓	=					
	5	✓	✓	✓	=					
	6	✓	✓	✓	=					
	7	✓	✓	✓	=					
	8	✓	✓	✓	=					
	9	✓	✓	✓	=					
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	20		✓	✓	=					
	21		✓	✓	=					
	22		✓	✓	=					
	23		✓	✓	=					
	24		✓	✓	=					
	25		✓	✓	=					

Please type a plus sign (+) inside this box:



INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number:	15/245948
Filing Date:	August 24, 2016
First Named Inventor:	STEPHENS, Andrew
Group Art Unit:	1783
Confirmation Number:	1690
Examiner Name:	Dillon, Daniel P.
Attorney Docket Number:	64844-256633

U.S. PATENT DOCUMENTS

Examiner Initials	Doc. No.	U.S. Patent Document Application or Patent Number	Kind Code	Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
	A S	2332081		Hunt	Oct. 1943	
	A T	2632204		Murray	Mar. 24, 1953	
	A U	3247047		Buckley	Apr. 1966	
	A V	3422175		Rowland	Jan. 14, 1969	
	A W	3443278		Nauta	May 13, 1969	
	A X	3531828		Nauta	Oct. 6, 1970	
	A Y	3608261		French et al.	Sep. 1971	
	A Z	3792945		Randall	Feb. 19, 1974	
	B A	3920366		Randall	Nov. 18, 1975	
	B B	4661392		Kapstad	Apr. 1987	
	B C	4836814		Bambara et al.	Jun. 6, 1989	
	B D	5110530		Havens	May 5, 1992	
	B E	5232751		Cameron et al.	Aug. 3, 1993	
	B F	7137229		Pervan	Nov. 2006	
	B G	7204944		Piedboeuf	Apr. 17, 2007	
	B H	7588821		Horwitz	Sep. 2009	
	B I	8388331		Osada et al.	Mar. 5, 2013	
	B J	2003/0021915		Rohatgi et al.	~~Jan. 30, 2015~~	
	B K	D505467		Marr	May 24, 2005	
	B L	D92186		Little	May 1934	
	B M	D299793		Yacovella	Feb. 1989	
	B N	D428500		Wederski	Jul. 2000	
	B O	D531326		Folliard	Oct. 2006	
	B P	D642287		Poland	Jul. 2011	
	B Q	D653779		Oamen	Feb. 2012	
	B R	D653780		Metcalf	Feb. 2012	
	B S	D668794		Trudel	Oct. 2012	
	B T	D671230		Lee	Nov. 2012	
	B U	D678556		Metcalf	Mar. 2013	
	B V	D710117		Euna	Aug. 2014	
	B W	D732191		Price	Jun. 2015	
	B X	D732192		Price	Jun. 2015	
	B Y	D732193		Price	Jun. 2015	
	B Z	D732194		Price	Jun. 2015	
	C A	D732195		Price	Jun. 2015	
	C B	D732197		Price	Jun. 2015	
	C C	D780333		Davis	Feb. 2017	
	C D	D780335		Davis	Feb. 2017	
	C E	D784566		Davis	Apr. 2017	
	C F	D786457		Metcalf	May 2017	

EXAMINER	/DANIEL P DILLON/	DATE CONSIDERED	12/08/2017
----------	-------------------	-----------------	------------

* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).

RPI1004



APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/245,948	04/20/2021	10981350	108357-0012	1690

1923 7590 03/31/2021

MCDERMOTT, WILL & EMERY LLP
The McDermott Building
500 North Capitol Street, N.W.
Washington, DC 20001

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 577 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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