



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. |
|---|-------------|----------------------|---------------------|------------------|
| 13/481,190 | 05/25/2012 | Brian John Conolly | 07122-P0017AUS3 | 4362 |
| 131672 | 7590 | 09/12/2019 | EXAMINER | |
| Whitmyer IP Group LLC 600 Summer Street 3rd Floor Stamford, CT 06901 | | | PIZIALI, ANDREW T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1789 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 09/12/2019 | PAPER |

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRIAN JOHN CONOLLY,
THOMAS KENNETH HUSSEY, and
CHRISTOPHER HURREN

Appeal 2018-000274
Application 13/481,190
Technology Center 1700

Before ROMULO H. DELMENDO, CHRISTOPHER C. KENNEDY, and
LILAN REN, *Administrative Patent Judges*.

REN, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The record on appeal includes the Specification of May 25, 2012 (“Spec.”), the Examiner’s Final Action of December 8, 2016 (“Final Act.”), Appeal Brief of April 28, 2017 (“Br.”), the Examiner’s Answer of August 8, 2017 (“Ans.”), and Reply Brief of October 6, 2017 (“Reply Br.”).

STATEMENT OF THE CASE

Appellants² appeal under 35 U.S.C. § 134 from a rejection of claims 58–62 and 142–145. We have jurisdiction under 35 U.S.C. § 6(b). A hearing was held on July 25, 2019.

We reverse.

CLAIMED SUBJECT MATTER

The claims are directed to a composite garment materials. Claim 58, reproduced below, is illustrative of the claimed subject matter:

58. A heat reflective composite, comprising:
a substrate comprising a moisture vapor permeable, substantially liquid impermeable material;
an insulating layer disposed over the substrate, the insulating layer comprising gaps that expose the substrate; and
a reflective layer comprising an infrared-reflective metallic material, the reflective layer being disposed on the insulating layer, within substantially all gaps of the insulating layer that expose the substrate, and *on substantially all surfaces of the substrate that are exposed through gaps of the insulating layer.*

Claims Appendix (Br. 13–14) (emphasis added).

During hearing, at the panel’s request, counsel for Appellants described the recited “gap” and presented the following annotation of Fig. 20b:

MR. DUPLESSIS: I illustrated -- right. Yeah. I drew an arrow pointing between two of these portions of the insulation layer that are rising vertically in this picture from the substrate and the arrows pointing horizontally between them.

JUDGE REN: Thank you.

² “Zhik Pty Ltd. of Australia” is identified in the Appeal Brief as the real party in interest. Br. 2.

OPINION

In rejecting claim 58, the Examiner finds that Bletsos describes a composite sheet having a moisture vapor permeable film having both a woven scrim (as an insulating layer) and a metal layer. Final Act. 4. More specifically, Bletsos ¶ [0032] describes:

In one embodiment of the present invention, one or both sides of the moisture vapor permeable sheet layer comprise a porous outer surface, such as a fibrous surface or a porous film that is coated with the organic and metal layers. The organic and metal layers are deposited on the porous surface such that only the exposed or “outer” surfaces of the fibers or film on the coated side(s) are coated, without covering the pores. This includes the internal surfaces of the walls of the interstitial spaces or pores between the fibers, as well as the fiber surfaces that are exposed when viewed from the outer surface of the sheet layer on the coated side(s); but the surfaces of fibers in the interior structure of the fabric remain uncoated.

Based on the finding that “Bletsos discloses that the metal coats the internal surfaces of the walls of the pores, as well as the surfaces that are exposed when viewed from the outer surface of the coated side[,]” the Examiner concludes Bletsos anticipates or renders obvious “the reflective layer being disposed on the insulating layer, within substantially all gaps of the insulating layer that expose the substrate, and *on substantially all surfaces of the substrate that are exposed through gaps of the insulating layer*” is anticipated or rendered obvious. Final Act. 4.

In the Examiner’s Answer, the Examiner additionally provides Fig. 1B of a reference known as Culler (U.S. Patent No. 5,955,175, issued Sep. 21, 1999) to illustrate the basis for the rejection. Ans. 7. Fig. 1B of Culler is reproduced below:

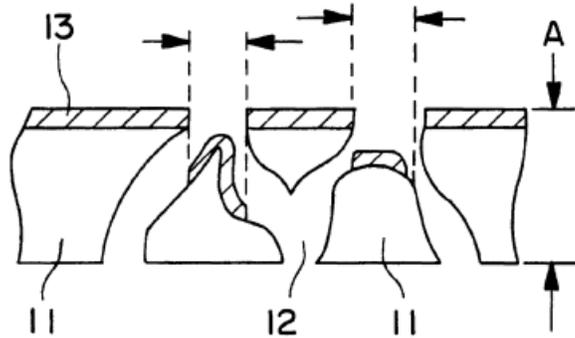


FIG. 1B

Fig. 1B of Culler showing “a cross-sectional view of the microporous membrane of FIG. 1A having a vapor deposited metal coating.” Culler 3:19–21.

To aid our discussion here, we also reproduce Culler Fig. 1A below:

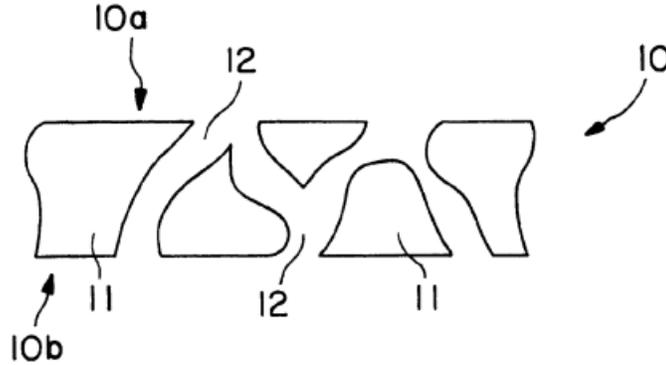


FIG. 1A

Fig. 1A of Culler showing “a cross-sectional view of a microporous membrane used in the present invention having irregularly shaped pores extending continuously from the top surface to the bottom surface.” Culler 3:14–18.

The Examiner explains that Fig. 1B of Culler is similar to Bletsos in showing that “the ‘walls’ of a pore are the exposed sub-surfaces, i.e., those

sub-surfaces which are open (exposed) as viewed from the top surface of the membrane[.]” Ans. 7 (emphasis removed). The Examiner reasons Culler helps illustrate Bletsos’s teaching that “the exposed sub-surfaces, i.e. those sub-surfaces (e.g. substrate surfaces) which are open (exposed) as viewed from the top surface of the membrane are coated with metal.” *Id.* at 8.

The Examiner finds that the moisture vapor permeable film of Bletsos describes the recited substrate whereas the woven scrim describes the recited insulating layer and the metal layer describes the recited reflective layer. Final Act. 4 (finding that the recited substrate is taught or suggested by the prior art moisture vapor permeable film, the recited insulating layer by the prior art woven scrim, and the recited reflective layer by the prior art metal layer). Anticipating or teaching the claim limitation “the reflective layer being disposed on the insulating layer, within substantially all gaps of the insulating layer that expose the substrate, and on substantially all surfaces of the substrate that are exposed through gaps of the insulating layer” would therefore require the prior art metal layer to be deposited on the part of the moisture vapor permeable film surface exposed through the gaps of the woven scrim. *See* Final Act. 4.

The Examiner’s finding that the metal layer in Bletsos coats “the surfaces that are exposed when viewed from the outer surface of the coated side” (Final Act. 4) does not show that the claim limitation is anticipated or taught because the finding is not based on the claim language. That is, the claim language requires that the reflective layer be disposed on the “surfaces of the substrate that are exposed through gaps of the insulating layer” – as opposed to the “surface that are exposed when viewed” from a particular angle as the Examiner reasons. Furthermore, the cited portion of Bletsos

paragraph 32 does not describe that the surfaces of the moisture vapor permeable sheet layer is coated but rather that the “the exposed or ‘outer’ surfaces of the fibers or the film” – that is, the surfaces of the woven scrim are coated. Bletsos ¶ 35; *see also* Final Act. 4 (“The metal layer is deposited over the porous (woven scrim) surface such that only the exposed or ‘outer’ surfaces of the (woven scrim) fibers on the coated side are coated with metal and without covering (sealing over) the (woven scrim) pores.”).

The Examiner’s analysis based on Culler clarifies this point. Culler Fig. 1A describes “a cross-sectional view of a microporous membrane **10** having a top surface **10a**, a bottom surface **10b**, and discontinuous polymer portions defining pores **12** therebetween.” Culler 3:32–36. In Culler Fig. 1B, “a vapor deposited metal coating **13** is shown in which the metal is deposited on the top surface of the membrane i.e. the metal coats the top surface and the ‘open’ pore walls[.]” Ans. 7 (quoting Culler 3:50–67). Culler Fig. 1B therefore shows only that the “sub-surfaces which are open (exposed) as viewed from the top surface of the membrane” are coated by metal coating 13.⁴ The Examiner has not adequately explained why Culler Fig. 1B shows the surfaces of membrane 10 – as exposed through pore 12 – are coated by metal coating 13.

Because the Examiner’s findings do not show that the claim limitation is anticipated, we cannot sustain the rejection.

We note, however, that we inquired during the oral hearing whether a skilled artisan would understand the scope of claim 58 based on the claim term “substantially all surfaces.” Counsel for Appellants responded that the

⁴ Membrane 10 includes polymeric particles 11 shown in Culler Fig. 1B. *See* Culler 4:1–3.

scope of claim 58 does not cover the entirety of all surfaces but declined to delineate precisely what the scope of claim 58 does cover.

JUDGE REN: Well, tell us about the substantially all. Where do we draw the line?

MR. DUPLESSIS: I'm checking the dependent claims here. I was looking at a dependent claim where we're specifically saying that it's on all surfaces not just substantially all the surfaces.

JUDGE REN: Okay. So 58 is broader, so it's less than all of the surfaces.

MR. DUPLESSIS: Correct.

JUDGE REN: Okay. But you don't have a position as to where we draw the line?

MR. DUPLESSIS: I have to return to the specification.

JUDGE REN: Okay.

MR. DUPLESSIS: I don't have the specifics ready at the moment, but this Claim 144 where we specify the gaps of the insulating layer would expose substrate collectively defined -- sorry, 143 is where we specify that all the surface that are covered, correct.

JUDGE REN: Yeah. And by the way, in your appeal brief you cite Paragraph 300 to 301 in support of essentially all the limitations including the substantially all surfaces limitation.

MR. DUPLESSIS: I can revisit that for you if you'd like but I think to the extent here is suggesting that that language of Claim 58 is (indiscernible) in some way, I would submit that Claim 143 would resolve those issues.

JUDGE REN: Okay. Now, I just kind of -- I just wanted to see if you have a position on, you know, are we talking about 95 percent versus, you know, 82 percent, so to speak.

MR. DUPLESSIS: I don't have a particular percentage, no.

Appeal 2018-000274
Application 13/481,190

Based on the discussion at hearing, upon return of the application to the Examiner's jurisdiction, the Examiner may wish to consider whether claim 58 complies with the definiteness requirement under 35 U.S.C. § 112, second paragraph.

DECISION

The Examiner's decision is reversed.

REVERSED