



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

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for 13/960,009 and 107783, inventor Mike Malia, and examiner MORGAN, EMILY M.

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):

- jones@reising.com
USPTOmail@reising.com
USPTOmail@gmx.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MIKE MALIA, BRIAN KAPLUN, and
DOMINICK CONSALVI

Appeal 2018-005589
Application 13/960,009¹
Technology Center 3600

Before MICHAEL C. ASTORINO, PHILIP J. HOFFMANN, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellants appeal from the Examiner’s rejection of claims 8–11, 24, 25, and 27–31. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

According to Appellants, the invention is directed “to live hinge structures that provide hinged movement between components via material

¹ According to Appellants, the real party in interest is “Lockheed Martin Corporation.” Appeal Br. 2.

flexure.” Spec. ¶ 1. Claim 24 is the sole independent claim on appeal. Below, we reproduce claim 24 as representative of the appealed claims.

24. A hinged component, comprising:

a first portion of material;

a second portion of material;

a first layer of elastomer;

a live hinge attaching the first and second portions of material together at a hinge region, the live hinge comprising a layer of tensile fabric at least partially infiltrated by at least part of the first layer of elastomer;

at least part of the first layer of elastomer being interposed between the tensile fabric and material of the first and second portions;

at least one of the portions of material including a structural composite comprising reinforcing fibers in a polymer matrix; and

the first layer of elastomer being co-cured with at least one of the portions of material.

REJECTIONS AND PRIOR ART

The Examiner rejects the claims as follows:²

- I. Claims 8, 9, 24, 25, and 28–31 under 35 U.S.C. § 103 as unpatentable based on Apgar et al. (US 2012/0176736 A1, pub. July 12, 2012) (“Apgar”) and Schaube et al. (US 2012/0034833 A1, pub. Feb. 9, 2012) (“Schaube”); and

² Although in the Final Office Action the Examiner rejects claim 24 as indefinite (Final Action 3–4), the Examiner withdraws this rejection based on Appellants’ subsequent claim amendments (Advisory Action 1).

- II. Claims 10, 11, and 27 under 35 U.S.C. § 103 as unpatentable based on Apgar, Schaube, and Casteras (US 2011/0177279 A1, pub. July 21, 2011).

ANALYSIS

Rejection I

As set forth above, independent claim 24, from which claims 8, 9, 25, and 28–31 depend, recites the following:

A hinged component, comprising:

a first portion of material;

a second portion of material;

a first layer of elastomer;

a live hinge attaching the first and second portions of material together at a hinge region, *the live hinge comprising a layer of tensile fabric at least partially infiltrated by at least part of the first layer of elastomer;*

at least part of the first layer of elastomer being interposed between the tensile fabric and material of the first and second portions;

at least one of the portions of material including a structural composite comprising reinforcing fibers in a polymer matrix; and

the first layer of elastomer being co-cured with at least one of the portions of material.

Appeal Br., Claims App. (Claim 24) (emphases added). “In other words, according to the invention of claim [24], it’s the elastomer layer in the live hinge that *both infiltrates the tensile fabric and that provides a (co-cured) connection* between the live hinge and one or both portions of material that are hinged together by the live hinge.” *Id.* at 10 (emphases added).

According to Appellants, the Examiner’s rejection is in error because “[n]either Apgar nor Schaubé either discloses or suggests *co-cured* elements at all—much less a live hinge element (the first layer of elastomer) co-cured *with at least one of two portions of material* that are attached together by the live hinge.” Appeal Br. 9 (emphasis added); *see also id.* 9–11; Reply Br. 3–4. Appellants persuade us. In claim 24’s rejection, the Examiner finds that “Apgar discloses . . . first portion of material 602; . . . second portion of material 603; . . . tensile fabric 610 . . .; and . . . first layer of *elastomer 605 being co[-]cured with tensile fabric 610*” rather than with first or second material portions 602, 603. Final Action 5.

In response to Appellants’ argument in the Appeal Brief, including specific arguments regarding Schaubé, the Examiner indicates that Apgar is relied upon to disclose the claimed co-cured connection. Specifically, the Examiner finds that it “is known [from] Apgar” to “attach[] the first layer of elastomer with *the tensile fabric*” consistent with claim 24’s “co-curing step.” Answer 3 (emphasis added). But, as discussed above, claim 24 recites co-curing the first layer of elastomer with at least one of the *first and second material portions*—i.e., “a co-cured connection . . . to or between portions of material that would be hinged together.” Appeal Br. 10; *see also* Reply Br. 4–5.

Thus, based on the foregoing, the Examiner does not support adequately that either Apgar or Schaubé discloses a first layer of elastomer co-cured with at least one of the first and second material portions, as recited in independent claim 24. Therefore, we do not sustain claim 24’s rejection. Further, we do not sustain the Examiner’s obviousness rejection of claims 8,

Appeal 2018-005589
Application 13/960,009

9, 25, and 28–31 that depend from claim 24, which the Examiner rejects based on the same rationale as claim 24.

Rejection II

The Examiner does not demonstrate that Casteras remedies the deficiency in claim 24's rejection. Thus, we also do not sustain the Examiner's obviousness rejection of claims 10, 11, and 27 that depend from claim 24.

DECISION

We REVERSE the Examiner's obviousness rejections of claims 8–11, 24, 25, and 27–31.

REVERSED