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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID MICHAEL LOVE

Appeal 2014-006767
Application 13/659,769
Technology Center 3600

Before MICHELLE R. OSINSKI, JAMES A. WORTH, and
AMEE A. SHAH, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

David Michael Love (Appellant)¹ appeals under 35 U.S.C. § 134 from the Examiner's Final decision rejecting claims 13–19, which are all of the pending claims.² An oral hearing was held on November 14, 2016. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ According to Appellant, the real party in interest is Intraloque, LLC.
Appeal Br. 3.

² Claims 1–12 are cancelled. Appeal Br. 5.

THE CLAIMED SUBJECT MATTER

Claims 13 and 19 are independent. Claim 13, reproduced below, is illustrative of the claimed subject matter on appeal.

13. A shipping pallet, comprising:

two or more runners,

an upper deck secured to and supported by the two or more runners, the upper deck comprising two or more pre-stressed structural members, each of the pre-stressed structural members comprising;

a core consisting essentially of a recyclable cellulose-based material, the core defining at least a first core surface, a second core surface, a core lower surface, a core upper surface, a core first end, and a core second end, and the core comprising a plurality of laminated fiberboard sheets, the fiberboard sheets having at least one linerboard and at least one fluted medium with the fiberboard sheets disposed such that linerboards lie in a substantially parallel orientation with each fiberboard sheet secured in parallel to the flutes in the fluted medium defining flute axes, at least some of the flute axes being substantially perpendicular to the core lower surface and the core upper surface,

a wrapper distinct from the core, consisting essentially of a single sheet of cellulose-based paper having a flexibility to wrap around the core, the wrapper wrapped around the core over each of the first core surface, the second core surface, the core lower surface, and the core upper surface,

an adhesive positioned between the wrapper and at least one of the core lower surface and the core upper surface, the adhesive substantially positioned between at least the core first end and the core second end, the adhesive in contact with the wrapper to secure the wrapper in tension to the core between at least the core first end and the core second end, and

the tension in the wrapper comprising a longitudinal tension, the longitudinal tension is oriented along the

longitudinal direction of the pre-stressed structural member whereby the longitudinal tension in the wrapper transmits forces to the core by the adhesive to induce compressive stress in the core in the longitudinal direction and the tension in the wrapper in combination with the compressive stress in the core pre-stresses the pre-stressed structural member, and, whereby the use of a cellulose-based material for the core and a cellulose-based paper for the wrapper permits the pre-stressed structural member to be recycled as a cellulose-based material.

EVIDENCE

The Examiner relies on the following evidence in rejecting the claims on appeal:

Wold	US 5,435,954	July 25, 1995
MacFarland	US 5,584,951	Dec. 17, 1996
Ong	US 5,797,832	Aug. 25, 1998

THE REJECTION³

Claims 13–19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over MacFarland, Wold, and Ong. Final Act. 5–13.

OPINION

The Examiner finds that MacFarland teaches many of the limitations of independent claim 13, including “a wrapper (surround 64) distinct from the core, consisting essentially of a single sheet of cellulose based paper

³ The rejections of claims 13–19 under (i) 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement (Final Act. 2–4) and (ii) 35 U.S.C. § 112(b) or 35 U.S.C. § 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or the applicant, regards as the invention (*id.* at 4–5), have been withdrawn and are not before us on appeal. Ans. 2.

having a flexibility to wrap around the core” and “an adhesive (adhesive 88) positioned between the wrapper and at least one of the core lower surface and the core upper surface, the adhesive substantially positioned between at least the core first end and the core second end.” Final Act. 5–6 (citing MacFarland, 6:35–45). The Examiner acknowledges that:

MacFarland fails to teach that the structural members are pre-stressed . . . [with] the wrapper in tension, and the tension in the wrapper comprising a longitudinal tension, the longitudinal tension is oriented . . . in the core upper surface along the longitudinal direction of the pre-stressed structural member, whereby the longitudinal tension in the wrapper transmits forces to the core by the adhesive to induce compressive stress in the core in the longitudinal direction and the tension in the wrapper in combination with the compressive stresses in the core pre-stresses the pre-stressed structural member.

Id. at 7.

The Examiner turns to Wold for teaching a pre-stressed pallet. *Id.* at 7–8. The Examiner finds that Wold’s pallet is “slightly crowned in the longitudinal direction when unloaded” and “put[s] an upper layer of a pallet in tension and a bottom layer of a pallet in compression.” *Id.* The Examiner states that the pre-stressed pallet allows “for better transferring of stress on the tension side, avoiding localized stress, and increasing load capacity” and “reduce[s] pallet deflection when the pallet is loaded.” *Id.* (citing Wold, Fig. 2, 21:57–23:55). The Examiner concludes that:

[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to pre-stress MacFarland’s structural members with the motivation of forming a crown in the structural members, thereby preventing permanent deformation when the pallet is loaded by reducing deflection when the pallet is loaded; with the motivation of better transferring of stress on the tension side; with the motivation of

avoiding localized stress; and with the motivation of increasing load capacity.

Final Act. 8.

Wold's pre-stressed pallet is created by specific molding and cooling processes applied to a composite, in which "[a]s the composite cools, it contracts, which . . . sets the plastic memory to the fixed shape and size desired" and "[t]his contraction feature enhances product performances in that, as plastic cools, it is drawn up in and around the wood fibers, which serves to pretension them." Wold, 12:33–39. The Examiner turns to Ong for "teach[ing] a way to secure MacFarland's wrapper around MacFarland's core in tension so as to achieve the crowning taught by Wold." Final Act. 8.

The Examiner finds that Ong teaches "creating structural members of a pallet using cellulose-based materials wound in tension and secured with an adhesive." *Id.* (citing Ong, 1:27–64). The Examiner concludes that "one would use Ong's ways and means to secure MacFarland's wrapper in tension along the longitudinal direction of the lower and upper core surfaces using MacFarland's adhesive 88" and that "[b]y securing the wrapper in this manner, the core would be compressed by the tension in the wrapper." *Id.*

Appellants argue that the Examiner has not adequately established that Ong's methodology would be sufficient to cause tension in a wrapped article. Appeal Br. 18–19. More particularly, Appellants argue that "[a]pplication of tension against wrapping material to [help] the wrapping material conform to a surface (e.g., without wrinkles) is not evidence of applying sufficient force to cause tension within the wrapped article." *Id.* Appellants argue that Ong only teaches "using tension during the winding process so that the wound layers are tightly wound by the winding reel." *Id.* at 18 (citing Ong, 4:43–47); *see also id.* at 21 ("[A]lthough the Office has

identified that [Ong's] Strip S was in tension during winding, the Office has not identified any evidence by way of teaching or suggestion that Ong's Strip S is secured to itself in tension.”); *see also* Reply Br. 8 (“If there were in Ong any ‘ . . . longitudinal tension in the wrapper [that] transmits forces to the core by the adhesive to induce compressive stress in the core . . . [,]’ sides surrounding open spaces such as (by way of non-limiting examples[] P15, P16, P11, P12, etc.) would collapse or at least change shape to relieve any potential tension as the mandrel were removed.”).

Even assuming *arguendo* that Ong's methodology may be capable of forming MacFarland's pallet in a crowned configuration, the Examiner has not articulated reasoning with a rational underpinning to explain why one of ordinary skill in the art would have been led to use Ong's methodology specifically to form MacFarland's pallet in a crowned configuration. As explained by Appellants, Ong is concerned with creating a structurally sound pallet out of tensioned corrugated paper, but provides no indication that it may be desirable to wrap the tensioned corrugated paper around a separate core so as to impart tension to the core. Appeal Br. 22 (“Ong teaches a method for forming a core, not wrapping a core.”); *id.* at 23 (“The evidence of Ong of a single continuous sheet rolled over itself to form a laminated core, is not evidence for providing a single sheet of cellulose-based paper wrapped over a plurality of laminated fiberboard sheets. These are two different objectives, two different purposes, and Ong does not provide evidence of a single distinct sheet being used to provide compressive pre-stress forces to a laminated panel.”).

Obviousness requires something more than the mere capability of combination. In particular, obviousness requires a reason why one of

ordinary skill in the art would have combined known elements in the fashion claimed. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417–18 (2007). The Examiner has failed to explain, absent hindsight (*see* Reply Br. 13–14, 16, 17), why one of ordinary skill in the art would be led to pre-stress MacFarland's pallet structural member specifically by securing the wrapper in tension to the core (thereby inducing compressive stress in the core).

In the Answer, the Examiner alternatively suggests that MacFarland itself “provides a . . . reason to secure surround 64 in tension – providing a smooth bottom surface by making edges 118 and 120 essentially meet.” Ans. 5. The Examiner maintains that “[w]hile not stated expressly in the reference, a person of ordinary skill would have immediately recognized that when adhering the surround 64 to surface 110 the surround 64 would be held under tension to avoid wrinkles.” *Id.* at 4. The Examiner concludes that “common sense and MacFarland's desire to have a smooth surround 64 makes it obvious to apply MacFarland's surround 64 in tension about [its] core. By pulling on surround 64 to make edges 118 and 120 meet, the claimed tensions normal to the core upper, lower, first, and second surfaces are created.” *Id.* at 9.

Appellants argue that “[t]o avoid overlapping edges, MacFarland expressly teaches selecting the width of the surround ‘before wrapping’ such that the edges meet after they are wrapped around a ‘precisely dimensioned’ laminated composite.” Reply Br. 15 (citing MacFarland, 6:66–7:5).

Appellants maintain, therefore, that “MacFarland provides no evidence, method or motivation for the tensioning of a wrapper” and that “the only rationale for the Office's proposed motivation for tensioning and associated inferences of tensioning and prestressing . . . is the impermissible use of

hindsight.” *Id.* We agree with Appellants that the Examiner’s rationale based on MacFarland itself leading one of ordinary skill in the art to tension a wrapper around MacFarland’s core lacks rational evidentiary underpinnings, considering that MacFarland relies on folding of a precisely dimensioned wrapper to achieve its non-overlapping edge. Again, absent hindsight (*see* Reply Br. 15), the Examiner has failed to explain why one of ordinary skill in the art would have been led to pre-stress MacFarland’s pallet structural member specifically by securing the wrapper in tension to the core (thereby inducing compressive stress in the core).

For the foregoing reasons, we do not sustain the rejection of independent claim 13, and its dependent claims 14–19, as unpatentable over MacFarland, Wold, and Ong.

DECISION

The Examiner’s decision to reject claims 13–19 is reversed.

REVERSED