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CORNING INCORPORATED
INTELLECTUAL PROPERTY DEPARTMENT, SP-TI-3-1
CORNING, NY 14831

EXAMINER	
RADKOWSKI, PETER	

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

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANNE GERMAINE BRINGUIER, WARREN WELBORN MCALPINE, and BRANDON ROBERT WILLIAMSON

Appeal 2019-001027
Application 14/631,149
Technology Center 2800

Before JULIA HEANEY, MONTÉ T. SQUIRE, and DEBRA L. DENNETT, *Administrative Patent Judges*.

HEANEY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–20. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Corning Optical Communications LLC, the assignee of record. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a fiber optic cable having a polymer jacket surrounding and protecting core components of the cable. Spec. ¶ 3.

Claims 1, 16, and 18 are independent claims. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A fiber optic cable, comprising:
> a core comprising:
> at least one optical fiber; and
> one or more of the following:
> a tubular element, a binding element, a strength element, a water-blocking element, a flame-retardant element, and an additional optical fiber;
> a jacket surrounding the core, the jacket comprising:
> a base layer formed from a first composition, wherein the first composition is a foamed material comprising a polymer;
> a surface layer formed from a second composition that differs from the first composition, wherein the second composition comprises the polymer; and
> an interface between the surface and base layers, the interface cohesively bonding the surface and base layers to one another at least in part due to molecular chain entanglement of the polymer of both the first and second compositions at the interface.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
D'Luzansky	US 5,275,860	Jan. 4, 1994
Risch	US 6,210,802 B1	Apr. 3, 2001
Rossi	US 6,912,347 B2	June 28, 2005
Carlsten	US 8,261,441 B1	Sept. 11, 2012
Chung	US 2009/0068453 A1	Mar. 12, 2009
Kitayama	JP408218286 A	Aug. 27, 1996

REJECTIONS

The Examiner maintains the following rejections on appeal:

1. Claims 1–7, 9, and 11 are rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Risch, Bambara, and Chung. Final Act. 5.

2. Claim 8 is rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Risch, Bambara, Chung, and D'Luzansky. *Id.* at 8.

3. Claims 10 and 12–14 are rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Risch, Bambara, Chung, and Kitayama. *Id.* at 9.

4. Claim 15 is rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Risch, Bambara, Chung, Rossi, and Carlsten. *Id.* at 11.

5. Claims 16 and 17 are rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Risch, Bambara, Chung, Kitayama, Rossi, and Carlsten. *Id.* at 14.

6. Claims 18–20 are rejected under 35 U.S.C. § 103 as being unpatentable over Risch, Bambara, Chung, Rossi, and Carlsten. *Id.* at 12.

OPINION

Rejection 1

The Examiner finds that Risch discloses a cable comprising fibers surrounded by buffer tubes that are wrapped around a central strength member, and confined by an extruded jacket. Final Act. 5 (citing Risch Fig. 1, 2:58–3:19); Ans. 3. The Examiner acknowledges that Risch does not explicitly disclose that its jacket comprises a base layer, a surface layer, and an interface between the surface and base layers, as recited in claim 1. *Id.*

The Examiner finds that Bambara discloses a multilayer tube comprising polymeric skins of different impact strengths, molecular weights, densities (foam or solid), and thicknesses, which would facilitate optimizing impact strength. Final Act. 5–6 (citing Bambara Fig. 1, Abstract); Ans. 3. The Examiner determines that a person of ordinary skill in the art would have been motivated to improve the protection of Risch's optical fibers from external and internal loads because Risch teaches that its cables protect optical fibers from such loads (*id.* (citing Risch 2:58–3:48), and thus would have modified Risch's extruded jacket by using a multilayer tube as taught by Bambara, in order to optimize the jacket's performance characteristics. Final Act. 6; Ans. 4 (citing Bambara Abstract).

The Examiner further finds that Risch, as modified by Bambara, does not explicitly disclose that the interface of the jacket cohesively bonds the surface and base layers to one another at least in part due to molecular chain entanglement. Final Act. 6. The Examiner finds that Chung discloses this feature. *Id.* (citing Chung Abstract, claim 14). The Examiner determines that it would have been obvious to provide molecular chain entanglement in the surface and base layers of the jacket in order to facilitate forming impact-resistant structures. *Id.* at 6–7 (citing Chung ¶ 96).

Appellant argues that the rejection should be reversed because the Examiner's rationale for modifying Risch's jacket with Bambara's multilayer laminate structure is unsupported. Appeal Br. 7–8. Specifically, Appellant argues that nothing in Risch supports a need to optimize its jacket's performance characteristics (*id.* at 7), and that the mechanical properties of Bambara's laminate are suited for rigid, load bearing applications such as pallets or containers. Reply Br. 2 (citing Bambara ¶¶ 8,

14 ("The laminated construction provides the foam structure with resistance to bending and flexing. The foam laminate structure has greater stiffness, resists creasing, and more effectively dissipates loading forces of the foam.")). Appellant further argues that the portions of Risch upon which the Examiner relies do not relate to the materials of the polymer jacket, but rather relate to materials suitable for the filler rods. *Id.* at 3.

Having considered Appellant's arguments, we agree that on this record, the Examiner has not sufficiently shown that it would have been obvious to modify Risch's jacket with Bambara's multilayer laminate structure. The evidence relied upon by the Examiner as showing that a person of ordinary skill in the art would have been motivated to modify Risch (Risch 2:58–3:38) does not support the rejection because it does not specifically relate to materials suitable for the cable jacket, but rather relates to Risch's filler rods. In other words, the Examiner does not identify or direct us to evidence in the record sufficient to support the following findings by the Examiner:

> Bambara's and Chung's materials, structures, and designs focus on optimizing specific facets of Risch's overarching concern to protect the integrity of optical signals carried by optical fibers enclosed within the extruded polymer jacket of Risch's optical cables.
>
> [T]he varied densities and compositions of Bambara's multilayer polymer tubes would facilitate predictably tuning the strength, ductility, and durability [of] Risch's extruded tubular polymer cable jacket.

Ans. 6. Thus, for the reasons explained by Appellant (Reply Br. 2–4), the rejection does not set forth a factual basis sufficient to support the determination that it would have been obvious to modify Risch as proposed

by the Examiner. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness ground cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."). Accordingly, we reverse Rejection 1.

Rejections 2–6

These rejections are based on the same deficient findings as discussed above for Rejection 1, and the Examiner does not rely upon the additional references for any disclosure that remedies the deficiencies in Rejection 1. Accordingly, for the reasons discussed above, we also reverse these rejections.

CONCLUSION

The rejections are reversed.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
1–7, 9, 11	103	Risch, Bambara, Chung		1–7, 9, 11
8	103	Risch, Bambara, Chung, D'Luzansky		8
10, 12–14	103	Risch, Bambara, Chung, Kitayama		10, 12–14
15	103	Risch, Bambara, Chung, Rossi, Carlsten		15
16, 17	103	Risch, Bambara, Chung, Kitayama, Rossi, Carlsten		16, 17
18–20	103	Risch, Bambara, Chung, Rossi, Carlsten		18–20

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
Overall Outcome:				1–20

REVERSED