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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/682,247	04/09/2015	Christopher LETTOW	SC-5474 (200.0012)	9078
123069	7590	09/11/2019	EXAMINER	
LKGLOBAL (S&C Electric) 7010 E Cochise Rd Scottsdale, AZ 85253			VORTMAN, ANATOLY	
			ART UNIT	PAPER NUMBER
			2835	
			NOTIFICATION DATE	DELIVERY MODE
			09/11/2019	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPHER LETTOW, JORGE MONTANTE,
HECTOR ROMAN, and RICHARD G. SMITH¹

Appeal 2018-007407
Application 14/682,247
Technology Center 2800

Before LINDA M. GAUDETTE, JAMES A. WORTH, and
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

KENNEDY, *Administrative Patent Judge*.

DECISION ON APPEAL

This case is an appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

BACKGROUND

The subject matter on appeal relates to “interrupting equipment in power distribution systems, and more particularly relates to fuse cutouts used in connection with such systems.” *E.g.*, Spec. ¶ 2; Claim 1. Claim 1 is reproduced below from page 20 (Claims Appendix) of the Appeal Brief:

¹ The Appellant is the Applicant, S&C Electric Company, which is also identified as the real party in interest. App. Br. 3.

1. A fuse link comprising:

a conductive terminal component having a generally cylindrical insertion region, the generally cylindrical insertion region having a knurled region formed therein;

a fusible element electrically coupled at a first end to the conductive terminal component and electrically coupled at a second end to a conductive cable, wherein the fusible element is configured to separate when the fusible element experiences an overload event; and

a generally tubular sheath having a first end, a length, an inner radius, and a wall thickness;

wherein the first end of the generally tubular sheath forms a press-fit connection with the knurled region of the conductive terminal component such that the generally tubular sheath substantially encloses the fusible element;

wherein the inner radius has a normalized dimension of 1.0, the wall thickness has a normalized dimension in a first range between 0.28 and 0.65, and the length of the generally tubular sheath has a normalized dimension in a second range between 37.0 and 54.0 which are together configured such that (a) the generally tubular sheath remains substantially intact when the fusible link experiences a first overload event within a first range of fault current values; and (b) the generally tubular sheath bursts when the fusible link experiences an overload event within a second range of fault current values that is greater than the first range.

REJECTIONS ON APPEAL²

The claims stand rejected as follows:

1. Claims 1–20 under 35 U.S.C. § 112(a) for failure to comply with the written description requirement.

² In the Answer, the Examiner withdraws several rejections based on the Lindell reference (US 2,599,187, issued June 3, 1952). Ans. 2–3.

2. Claims 1–20 under 35 U.S.C. § 103 as unpatentable over Triplett (US 2,157,152, issued May 9, 1939).

ANALYSIS

After review of the cited evidence in the appeal record and the opposing positions of the Appellant and the Examiner, we determine that the Appellant has not identified reversible error in the Examiner’s rejection under 35 U.S.C. § 112(a). Accordingly, we affirm that rejection for reasons set forth below, in the Final Action, and in the Examiner’s Answer. *See generally* Office Action dated Oct. 12, 2017 (“Office Act.”) at 3–4; Ans. 3–5. However, for reasons set forth below, we reverse the rejection under 35 U.S.C. § 103.

Rejection 1

The Appellant argues the claims as a group. *See* App. Br. 6–9. We select claim 1 as representative of the rejected claims, and claims 2–20 will stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that the tubular sheath wall thickness and length ranges recited by claim 1 lack written description support. *See* Office Act. 3–4. The Examiner acknowledges that the working examples described in the Appellant’s Specification include specific, individual dimensions, but the Examiner finds that neither the examples nor any other aspect of the Specification provides written description support for the claimed ranges. *Id.*

The Appellant argues the claimed ranges have written description support because the Specification describes the purpose/function of the tubular sheath and because the two examples described in the Specification

include the individual dimensions that are ultimately recited in claim 1 as the upper and lower limits of the thickness and length ranges. *See* App. Br. 7–9.

“[T]he test for [compliance with the written description requirement] is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). Although “[t]he invention claimed does not have to be described in *ipsis verbis* in order to satisfy the description requirement of § 112,” *In re Lukach*, 442 F.2d 967, 969 (CCPA 1971), the specification “must do more than merely disclose that which would render the claimed invention obvious,” *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009).

We are not persuaded of reversible error in the Examiner’s rejection. The Specification does not numerically describe the claimed ranges or, for that matter, any range related to sheath wall thickness or length. *See generally* Spec. Although the Specification’s two working examples do provide normalized wall thicknesses of 0.28 and 0.65, and normalized lengths of 37.0 and 54.0, respectively, the Appellants identify nothing in the Specification that persuasively suggests that the inventors regarded those individual values to be upper and lower limits for appropriate ranges of wall thickness and sheath length. *See id.* ¶¶ 24 et seq. By way of simple example, individually disclosing 1 and 10 is not the same as disclosing 1 *through* 10. On this record, the Appellant has not shown reversible error in the Examiner’s determination that the individual numerical species described in the examples fail to provide written description support for the broader ranges recited by claim 1. *Cf. LizardTech, Inc. v. Earth Res.*

Mapping, Inc., 424 F.3d 1336, 1346 (Fed. Cir. 2005) (“[A] patentee cannot always satisfy the requirements of section 112, in supporting expansive claim language, merely by clearly describing one embodiment of the thing claimed.”).

As to the Specification’s disclosures of the purpose and/or function of the sheaths, even if a person of ordinary skill in the art would have understood from those disclosures that a sheath should be “thick enough but not too thick, long enough but not too long,” *see* App. Br. 9, those disclosures do not describe or even suggest the specific normalized ranges recited by claim 1. At best, they provide general guidance to a person of ordinary skill in the art, but they do not demonstrate “possession” by the inventors of the precise ranges recited by claim 1. *See Ariad*, 598 F.3d at 1351.

On this record, we are not persuaded of reversible error in the Examiner’s § 112(a) rejection. *See In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections . . .”).

Rejection 2

Concerning claim 1, the Examiner finds, and the Appellant does not dispute, that Triplett teaches a fuse link comprising each physical component (i.e., conductive terminal component, fusible element, tubular sheath) of claim 1. Office Act. 5–6. The Examiner finds that tubular sheath radius, wall thickness, and length are result-effective variables, and that “discovering an optimum value of a result effective variable involves only routine skill in the art.” *Id.* at 6 (internal quotation marks and citation omitted) (citing *In re Aller*, 220 F.2d 454, 456 (CCPA 1955)).

In the Final Action, the Examiner does not cite any disclosure in Triplett, or any other evidence of record, in support of the finding that the claimed dimensions are result-effective variables. *See* Office Act. 5–6. In the Answer, the Examiner elaborates on that finding and explains that a person of ordinary skill in the art “would have been able to deduce from the teaching [of] Triplett and from general knowledge in the related arts (i.e. from the basic laws of physics) that the aforementioned dimensions of the generally tubular sheath directly affect mechanical strength thereof. To say more, one with general knowledge of physics on the middle school level would understand that the aforementioned dimensions of the generally tubular sheath directly affect mechanical strength thereof (it’s just [] simple common sense).” Ans. 9.

In general, a “routine optimization” result-effective variable analysis is not applicable “if there is no evidence in the record that the prior art recognized that particular parameter affected the result.” *See In re Antonie*, 559 F.2d 618, 620 (CCPA 1977); *see also In re Applied Materials, Inc.*, 692 F.3d 1289, 1295 (Fed. Cir. 2012) (discussing how the general rule of *Aller* “is limited to cases in which the optimized variable is a ‘result-effective variable.’”). However, even where the particular parameter is recognized by the prior art as a result-effective variable, if the parameter is recognized as a result-effective variable for a different purpose than that described in the claims and/or Specification, prima facie obviousness may not result. *See In re Marshall*, 578 F.2d 301, 304 (CCPA 1978) (reversing obviousness determination where prior art taught or suggested a particular parameter as a result-effective variable for a different purpose or use).

Here, even accepting the Examiner’s determination that the dimensions of the sheath are recognized by the prior art as result-effective variables because they affect “mechanical strength,” the Examiner has not adequately established that optimization for purposes of “mechanical strength” would have led to dimensions that fall within the claimed ranges. *Cf. In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017) (reversing a rejection based on routine optimization because the rejection failed to explain why it would have been routine optimization to arrive at the claimed invention). In particular, we observe that claim 1 is not specifically concerned with the mechanical strength of the tubular sheath. It specifically requires that certain overload events will cause the sheath to “burst[.]” *See* claim 1. Triplett provides no indication of a desire for its sheath to burst under any circumstances. *See* Triplett at p. 5, col. 2:10–68. If anything, Triplett specifically desires that its sheath *not* burst because, *e.g.*, the sheath “serves the useful purpose of confining the gases and assisting in the expulsive effect.” *Id.* While the dimensions of claim 1 are designed to permit sheath bursting under certain circumstances, it does not appear that Triplett discloses a similar purpose for its sheath, and, thus, the Examiner has not adequately established that optimizing sheath dimensions for purposes of “mechanical strength” in view of Triplett would have led to sheath dimensions that fall within the scope of claim 1. *See Stepan*, 868 F.3d at 1346; *see also Marshall*, 578 F.2d at 304.

On this record, we reverse the rejection of claim 1. Because the Examiner’s analysis of the remaining claims subject to this rejection does not remedy the defect described above, we likewise reverse the Examiner’s rejection of claims 2–20.

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1-20	§ 112(a)	1-20	
1-20	§ 103		1-20
Overall Outcome		1-20	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED