UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CERRO WIRE, INC.
Requester and Respondent

v.

SOUTHWIRE COMPANY
Patent Owner and Appellant

Appeal 2015-004351
Reexamination Control 95/000,696
Patent 7,557,301 C1
Technology Center 3900

Before RICHARD M. LEBOVITZ, MARC S. HOFF, and ERIC B. CHEN, *Administrative Patent Judges*.

CHEN, *Administrative Patent Judge*.

DECISION ON APPEAL

Patent Owner Southwire Company appeals under 35 U.S.C. § 134(b) and 35 U.S.C. § 315(a) (pre-AIA) the Examiner's final decision to reject claims 1–42.

Requester Cerro Wire Inc. appeals the Examiner's decision not to reject claims 33 and 42 under certain grounds proposed by Requester.

An oral hearing was held on August 19, 2015, with both parties in attendance. The record will include a written transcript of the oral hearing.

We affirm.

STATEMENT OF THE CASE

U.S. Patent No. 7,557,301 B2 ("'301 patent"), entitled "Method of Manufacturing Electrical Cable Having Reduced Required Force for Installation," issued July 7, 2009, to Randy D. Kummer, David Reece, Mark D. Dixon, John R. Carlson, Hai Lam, and Philip Sasse, based on Application No. 12/017,222, filed January 21, 2008, which is a continuation of Application No. 10/952,294, filed September 28, 2004, now U.S. Patent No. 7,411,129.

The '301 patent is assigned to Southwire Company, the real party in interest.

Two previous requests for *ex parte* reexamination of the '301 patent were filed on October 1, 2009, and November 17, 2009, and assigned Reexamination Control Nos. 90/009,589 and 90/009,592, respectively. The reexamination proceedings were merged, resulting in the issuance of an *Ex Parte* Reexamination Certificate (8777th) on December 27, 2011, US 7,557,301 C1, in which claims 1–21 were determined to be patentable.

Claims 1, 2, 4, 6, 8, 10, 13, 15–17, 19, and 21 were amended and new claims 22–29 were added during this previous *ex parte* reexamination.

A request for *inter partes* reexamination of '301 patent, assigned Reexamination Control No. 95/000,696, was filed on September 14, 2012, by Third-Party Requester Cerro Wire, Inc. During this proceeding, Patent Owner added new claims 30–42. All of claims 1–42 are subject to reexamination.

Related Litigation

The '301 patent has been asserted in a patent infringement suit, *Southwire Company v. Cerro Wire, Inc.*, No. 3:11-CV-101 (N.D. Ga. June 21, 2011), which is presently stayed. (Requester Reb. Br. 2–3; *see also* PO App. Br. 1.)

The Claims

Independent claim 1 is exemplary, with disputed limitations in italics, and specific limitations reformatted with paragraphing:

> 1. In a method of manufacturing a finished electrical cable having a conductor core and a jacket formed primarily of a first material, the jacket surrounding at least said conductor core and defining the outermost exterior surface of the finished cable, the improvement comprising
>
> [ ] combining a preselected lubricant with said first material prior to the formation of said jacket in order to provide a reduced coefficient of friction of said cable outermost exterior surface and also reduce the amount of force required to pull the cable,
>
> [ ] during its installation through building passageways, in which said lubricant is of the type which migrates through said

> jacket to be available at said outermost exterior surface of said finished cable during the cable's installation through building passageways,
>
> [ ] *the finished electrical cable having the characteristic that an amount of force required to install said cable* through corresponding holes in an arrangement of four 2" x 4" wood blocks having holes drilled at 15° through the broad face and the centerlines of the holes are offset 10" and pulled through at 45° to the horizontal from the last block *is at least about a 30% reduction in comparison to an amount of force required to install a non-lubricated cable of the same cable type and size through corresponding holes in said arrangement*.

The Rejections

Patent Owner appeals the Examiner's decision to reject all the pending claims as follows:

1. Claims 1–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Hauenstein (US 5,708,084; Jan. 13, 1998), Dow (Dow Corning Corporation, DOW CORNING® MB50-011 Masterbatch (1997-99)), and UL-719 (Underwriters Laboratories, Inc., *Standard for Safety Nonmetallic-Sheathed Cables* 32–34 (2000)).

2. Claims 1–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Hauenstein, Ryan (Kevin J. Ryan et al., *Ultra-High-Molecular-Weight Functional Siloxane Additives in Polymers—Effects on Processing and Properties*, J. VINYL & ADDITIVE TECH. 7–19 (2001)), and UL-719.

3. Claims 1–42 stand rejected under 35 U.S.C. § 103(a) as obvious over Summers (US 6,160,940; Dec. 12, 2000), Dow, and UL-719.

4. Claims 1–42 stand rejected under 35 U.S.C. § 103(a) as obvious over Summers, Ryan, and UL-719.

5. Claims 1–32 and 34–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Cogelia (US 3,433,884; Mar. 18, 1969), Marquis (Richard E. Marquis & Adam J. Maltby, *An Introduction to Fatty Acid Amide Slip and Anti-Blocking Agents*, POLYMERS, LAMINATIONS & COATINGS CONF. (1998)), and UL-719.

6. Claims 1–10, 12–32, and 34–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Cogelia and UL-719.

7. Claims 1–10, 12–32, and 34–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Dow, and UL-719.

8. Claims 1–10, 12–32, and 34–41 stand rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Ryan, and UL-719.

9. Claim 33 stands rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Summers, Dow, and UL-719.

10. Claim 33 stands rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Summers, and UL-719.

11. Claim 33 stands rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Summers, Ryan, and UL-719.

12. Claim 33 stands rejected under 35 U.S.C. § 103(a) as obvious over Cogelia, Summers, Marquis, and UL-719.

13. Claims 1–10, 12–32, and 34–41 stands rejected under 35 U.S.C. § 103(a) as obvious over Rinehart (US 5,356,710; Oct. 18, 1994), Dow, and UL-719.

14. Claims 1–10, 12–32, and 34–41 stands rejected under 35 U.S.C. § 103(a) as obvious over Rinehart, Ryan, and UL-719.

15. Claims 34–41 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement.

16. Claims 32 and 34–37 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.[1]

Patent Owner relied upon the following declarations in rebuttal to the Examiner's proposed rejection:

> Declaration under 37 C.F.R. § 1.132 of Philip A. Sasse, dated June 4, 2010, accompanied by Exhibits 1–3 ("Sasse Declaration") (PO Ex. A).
>
> Declaration under 37 C.F.R. § 1.132 of Gary P. Kiel, dated September 13, 2010 ("Kiel Declaration") (PO Ex. D).
>
> Declaration under 37 C.F.R. § 1.132 of Thomas C. Wright, dated September 22, 2010, accompanied by Exhibits 1–2 ("Wright Declaration") (PO Ex. E).
>
> Declaration under 37 C.F.R. § 1.132 of Randy D. Kummer, dated January 14, 2013, accompanied by Exhibits 1–4 ("Kummer Declaration") (PO Ex. F).
>
> Declaration under 37 C.F.R. § 1.132 of Brian McCardel, dated January 14, 2013, accompanied by Exhibits A–C ("McCardel Declaration") (PO Ex. G).
>
> Declaration under 37 C.F.R. § 1.132 of Ron Adams, dated January 14, 2013, accompanied by Exhibits A–D ("Adams Declaration") (PO Ex. H).
>
> Declaration under 37 C.F.R. § 1.132 of Stephen Brand, Ph.D., dated February 11, 2013, accompanied by Exhibit A ("Brand Declaration") (PO Ex. I).

---

[1] Patent Owner does not present any arguments with respect to: (i) the rejection of claims 34–41 under 35 U.S.C. § 112, first paragraph; and (ii) the rejection of claims 32 and 34–37 under 35 U.S.C. § 112, second paragraph. Thus, any such arguments are deemed to be waived.

The Non-Adopted Rejections

Requester appeals the Examiner's decision not to adopt the following proposed rejections:

1. Claim 42 under 35 U.S.C. § 103(a) as obvious over Cogelia and UL-719.

2. Claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over Cogelia, Marquis, and UL-719.

3. Claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over Cogelia, Dow, and UL-719.

4. Claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over Cogelia, Ryan, and UL-719.

5. Claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over Rinehart, Dow, and UL-719.

6. Claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over Rinehart, Ryan, and UL-719.

7. Claim 42 under 35 U.S.C. § 103(a) as obvious over Hauenstein, Dow, and UL-719.

8. Claim 42 under 35 U.S.C. § 103(a) as obvious over Hauenstein, Ryan, and UL-719.

ANALYSIS

Patent Owner's Appeal

§ 103 Rejection—Summers, Dow, and UL-719 (Rejection 3)

The Examiner's Prima Facie Case of Obviousness

The Examiner found that the combination of Summers, Dow, and UL-719 teaches the limitation "the finished electrical cable having the characteristic that an amount of force required to install said cable . . . is at least about a 30% reduction in comparison to an amount of force required to install a non-lubricated cable of the same cable type and size through corresponding holes in said arrangement." (RAN 58–62.) In particular, the Examiner adopted Requester's argument that:

> [t]he finished electrical cable of Summers in view of Dow in further view of UL-719 has the characteristic that an amount of force required to install said cable through corresponding holes . . . is at least about a 30% reduction in comparison to an amount of force required to install a non-lubricated cable of the same cable type and size through corresponding holes in said arrangement

(Request for Reexamination 30–31) and "[t]his characteristic is an inherent result of the cable being made in accordance with the method steps" (*id.* at 31). Requester further argues that

> Summers in view of UL 719 and either Dow or Ryan teaches the same manufacturing method steps of the cables claimed in the '301 patent, including the same lubricants incorporated into the same plastic materials in amounts that are known to reduce the coefficient of friction and the pulling force.

(Requester Resp. Br. 7.) Requester concludes "[t]he resulting functional characteristics, including how the cables would perform under any given

testing, are inherent properties." (*Id.*) The Examiner's rejection is supported by a preponderance of the evidence.

Summers describes "fiber optic cable that is suitable for installation in a cable passageway" (col. 1, ll. 12–13) and teaches that "fiber optic cable designs having circular profile jackets" are well known in the art (col. 1, ll. 45–47). Figure 4 of Summers illustrates fiber optical cable 40, having fiber optic cable component 10 or rod 11 surrounded by wrapping tape 47, and cable jacket 45. (Col. 2, ll. 38–49.) Similarly, Figure 6 of Summers illustrates component 10 surrounded by wrapping tape 45, and cable jacket 55. (Col. 3, ll. 53–58.) Summers explains:

> Cable jackets 45, 55 can be formed of a suitable plastic material, for example polyethylene, and, to reduce resistance to a cable pulling force, can include a friction reducing additive therein. The friction reducing additive can function by migrating to the surface of cable jackets 45, 55 and lubricating the interface between the cable jackets and virtually any surface of or in the cable passageway. The friction reducing additive can be of the type of material that is essentially non-compatible with the cable jacket material. Examples of suitable friction reducing additives include fatty acids compounds or derivatives, e.g., glycerol mono-stearate, stearic acid, or a fatty amide wax (e.g. as sold by Witco under the tradename Kenamide). Additional examples of suitable friction reducing additives include silicone oils, fluoro-compounds (e.g. Viton), and mineral oils.

(Col. 3, l. 65 to col. 4, l. 12.) Figure 5 of Summers illustrates exemplary manufacturing line 30, in which component 10 with cable jacket 45 or 55 is extruded. (*See* col. 4, ll. 17–26, 44–48.)

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or

substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977). Thus, because Summers explains that fiber optic cable 40, 50 is extruded with cable jacket 45, 55 formed from plastic material (e.g., polyethylene) containing a lubricant (e.g., fatty acids compounds, silicone oils, or fluoro-compounds), with such lubricant characterized by "migrating to the surface of cable jackets 45, 55 and lubricating the interface between the cable jackets and virtually any surface of or in the cable passageway" (col. 4, ll. 2–4), the preponderance of the evidence supports the Examiner's finding that the lubricants of Summers would achieve the claimed force reduction.

Patent Owner argues that

> Summers on its whole can be considered to be a general leading away from a standard "finished electrical cable" as would be understood by one of ordinary skill in the art when stating: "Additionally, the circular profile jacket can present a substantial degree of surface area contact and friction with the cable passageway that can result in substantial resistance to a cable pulling force."

(PO App. Br. 9–10.) Similarly, Patent Owner argues, "Summers provides an alternative surface shape to what is considered to one of ordinary skill in the art a standard surface of a finished electrical cable." (*Id*. at 10.) However, Patent Owner's arguments are not commensurate in scope with the claims, because the claims do not expressly require a circular jacket profile.

Patent Owner further argues that "the Sasse declarations . . . support Appellant's contention that prior art references that simply suggest some reduced coefficient of friction during processing or on a surface after processing is not the same as what is claimed." (PO App. Br. 6.) In

particular, Patent Owner argues that "Mr. Sasse described the testing and provided clear support that a surface measurement, or a slip test measurement of a surface does not satisfy what is claimed." (*Id.*)

> Paragraph 9 of the Sasse Declaration states that following:
>
> Each test sample [from Exhibit 1] is the plasticized PVC with the additional lubricant listed, and in the respective percentage listed. *The test results shown prove that increased concentrations of a lubricant added to the base polymer do not always result in a decreased coefficient of friction.* This is shown, for example, by the fact that when erucamide, polytetrafluoroethylene (Teflon), zinc sulfate and siloxane lubricants were added to the plasticized PVC, *the coefficient of friction of the resulting lubricated blended polymer initially increased, and certainly did not decrease in accordance with the Examiner's assumption, before additional concentrations lowered the coefficient of friction.* These test results demonstrate that (1) the addition of a lubricant, particularly Teflon, does not always reduce, and can actually increase, the coefficient of friction of the resulting blend, and (2) that the effect that adding any lubricant to the basic polymer may have on the resulting coefficient of friction is far from predictable, based upon the amount of lubricant that is added, since the addition of a fivefold increase in the amount of Teflon (from 2% to 10%) resulted in an extremely small decrease in coefficient of friction. *Thus, any presumption that the addition of a lubricant to a polymer always inherently results in the lowering of the coefficient of friction of the resulting composition is inaccurate, and any inherency characteristic based on such assumption would similarly be inaccurate.*

(Sasse Decl. ¶ 9 (emphases added).) Exhibit 1 of the Sasse Declaration with test results for the PVC control sample and select lubricants (i.e., erucamide, polytetrafluoroethylene (Teflon), zinc sulfate, and siloxane) is reproduced below:

Material/wt%	**COF**
CONTROL	0.495
Erucamide	
14%	0.191
10%	0.216
0.5%	0.307
0.2%	0.366
0.1%	0.423
0.05%	*0.537*
Teflon	
10%	0.391
2%	0.404
0.5%	*0.543*
Zinc Sulfate	
5%	
2.5%	0.308
0.5%	0.357
0.3%	0.404
0.25%	*0.496*
Siloxane	
10%	0.37
0.5%	*0.547*

(Sasse Decl. Ex. 1 (emphases added).) As indicated in Exhibit 1 of the Sasse Declaration, the general trend for erucamide, polytetrafluoroethylene (Teflon), zinc sulfate, and siloxane lubricants is that increasing the weight percentage of the lubrication results in a lower coefficient of friction (COF). Exhibit 1 of the Sasse Declaration illustrates that only at the lowest concentration of lubricant did the COF appear to be higher than the control. Mr. Sasse did not provide the statistical significance of these differences, nor the standard deviations, even though he reports these as averages. (Sasse Decl. ¶ 8.) Nonetheless, even if these points are significantly different from

the control, the claims recite "a preselected lubricant with said first material prior to the formation of said jacket in order to provide a reduced coefficient of friction," indicating that the claims require an amount of lubricant which meets the stated reduction in COF. As discussed previously, Summers teaches reducing the friction (col. 4, ll. 1–4), making it obvious to have selected such amounts.

Moreover, paragraph 10 of the of the Sasse Declaration states the following:

> The test data shown on attached Exhibit 2 demonstrates that there is no predictable correlation between the commonly measured and reported data reflecting increased surface coefficient of friction of a material and the commonly measured and reported data reflecting required pulling force of a wire or cable jacketed with such material. . . . Specifically, these results show that while a blend of a PVC polymer containing erucyl stearamide, oleamide, and erucamide lubricants have respectively increasing, and certainly not decreasing, measured coefficients of friction of 0.40, 0.42, and 0.43, the corresponding measured required pulling forces have decreasing values of 81 lbs., 73 lbs., and 66 lbs., respectively.

(Sasse Decl. ¶ 10.) Without adequate explanation, Mr. Sasse used two additional cable pulling tests, which appear to be different than the "joist pull" test described in paragraph 9 of the Sasse Declaration. The relationship between the "joist pull" and the tests in paragraph 9 are not explained (e.g., is the joist pull setup used in them, and if not, why, when the latter test utilized by Southwire). (*See* Sasse Decl. ¶ 8.)

Furthermore, even while the test data for erucyl stearamide, oleamide, and erucamide lubricants reported in Exhibit 2 may not strictly correlate (i.e., the lack of standard deviations and significance are not described), such

test data are still less than the control, and reduce the pulling force and COF as required by the claim. Finally, Mr. Sasse did not explain why there should be a correlation between different lubricants. Indeed, as shown in Exhibit 3 of the Sasse Declaration, there is a correlation between the "joist pull" test and COF when a specific lubricant is tested. Moreover, Patent Owner has neither offered an explanation to why only coefficient of friction (COF) values of 0.40, 0.42, and 0.43 for the erucyl stearamide, oleamide, and erucamide lubricants were selected and nor disclosed what amounts of these lubricants were used in the experiments.

Last, paragraph 11 of the Sasse Declaration states the following:

> This data also proves that not only is there not necessarily a correlation between the measured coefficient of friction of the material from which a wire jacket is formed and the measured pulling force required to install that jacketed wire, *but that the required pulling force of a wire jacketed with a polymer bearing a lubricant can also increase over one not containing that lubricant*. For example, with respect to a wire jacketed with PVC with no added lubricant (i.e., the control sample) that has a required pulling force of 31.4 lbs., the addition of 0. 1 % of oleamide lubricant increased the required pulling force to 33.1 lbs, rather than decreasing it, as would be expected. The increase of oleamide lubricant to 0.2% still resulted in an increase of the required pulling force over the control sample to 32.9 lbs. I also consider it significant that .8% of the oleamide lubricant resulted in a required pulling force of 21.6, or an approximate 30% decrease of required pulling force, and that 8% of the oleamide lubricant resulted in more than a 50% decrease of required pulling force.

(Sasse Decl. ¶ 11.) Exhibit 3 of the Sasse Declaration with test results for the PVC control sample, oleamide lubricant, and polytetrafluoroethylene (Teflon) lubricant is reproduced below:

Sample	**CoF**	**Pulling force (lbs.)**
Control	0.500	31.4
Oleamide		
0.1%	0.487	*33.1*
0.2%	0.454	*32.9*
0.4%	0.429	34.2*
0.8%	0.324	21.6
2.0%	0.318	23.8
4.0%	0.327	21.4
6.0%	0.284	24.8
8.0%	0.282	15.1
Teflon		
0.4%		35.8

* suspect reading

(Sasse Decl. Ex. 3 (emphases added).) As indicted in Exhibit 3 of the Sasse Declaration, the general trend for oleamide is that increasing the weight percentage of the lubrication results in a lower coefficient of friction (COF) and a lower pulling force. Thus, contrary to the statements by Mr. Sasse in paragraph 10, the COF does correlate with pulling force when a single lubricant is tested.

The data from Exhibit 3 shows that the lowest concentrations of the lubricant appear to increase the pulling force. However, as discussed previously, Summers explains that "[t]he friction reducing additive can function by migrating to the surface of cable jackets 45, 55 and lubricating the interface between the cable jackets and virtually any surface of or in the cable passageway." (Col. 4, ll. 1–4.). In other words, Summers teaches that the lubricant must reduce the friction and lubricate the cable passageway, reasonably suggesting that the pulling must also be reduced. Accordingly, while not all concentrations would achieve both results, the skilled artisan

would have had reason to select the concentrations that did. Furthermore, Patent Owner has not provided any explanation as to why the pulling force for 0.4% oleamide is considered a "suspect reading," while other data points (e.g., 0.1% and 0.2% oleamide) are not.

Accordingly, the Sasse Declaration does not persuasively establish nonobviousness of the claimed subject matter, including the Examiner's finding that the limitation "the finished electrical cable having the characteristic that an amount of force required to install said cable . . . is at least about a 30% reduction in comparison to an amount of force required to install a non-lubricated cable of the same cable type and size through corresponding holes in said arrangement" is inherently present in Summers, much less expressly refer to this disputed limitation in the Sasse Declaration.

Commercial Success and Evidence of Copying

The Examiner found that the McCardel Declaration (PO Ex. G) and Adams Declaration (PO Ex. H) were insufficient to rebut the prima facie case of obviousness. (RAN 15–17.) Requester further argues that "[t]he Declarations submitted with the PO Brief fail to establish any such nexus, much less provide any showing that such a nexus is tied to novel aspects of the claims, and thus should not be given any evidentiary weight" (Requester Resp. Br. 13) and that "[n]one of the Declarations provides any evidence that any of the Southwire products are made in accordance with the manufacturing methods, or meet the performance requirements, of the claims of the '301 patent" (*id.* at 13–14). We agree with the Examiner's determination.

Objective evidence of nonobviousness (also called "secondary considerations") must always be considered in making an obviousness determination, *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538–39 (Fed. Cir. 1983), but it is not necessarily conclusive, *Ashland Oil, Inc. v. Delta Resins & Refrac., Inc.*, 776 F.2d 281, 306 (Fed. Cir. 1985). A "nexus" is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in the determination of nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). To be persuasive, the secondary considerations must be due to the merits of the invention. "For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995).

> While objective evidence of nonobviousness lacks a nexus if it exclusively relates to a feature that was "known in the prior art," *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006), the obviousness inquiry centers on whether "the claimed invention as a whole" would have been obvious, 35 U.S.C. § 103.

Rambus Inc. v. Rea, 731 F.3d. 1248, 1257-58 (Fed. Cir. 2013). One form of secondary evidence is evidence that competitors in the marketplace are copying the invention instead of using the prior art. *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027–28 (Fed. Cir. 1985).

With respect to Patent Owner's purported evidence of commercial success, paragraph 5 of the McCardel Declaration states the following:

> In 2008, the overall housing market experienced a serious decline as part of the overall recession in the U.S. and commercial construction starts dropped by over 17% from the

> year before, as reported by McGraw Hill Construction. In 2009, the drop continued at over 43% as also reported by McGraw Hill Construction. During the same time, Southwire's market share of SIMpull copper THHN Feeder Sizes (1 - 1000) actually increased during this time period at least an estimated 33% to 50% over 2007. In view of the drop in the construction market, *I attribute that increase to the patented features of that cable, as I understand they are set forth in the claims of the patent at issue that include a silicone-based lubricant*.

(McCardel Decl. ¶ 5 (emphasis added).) Although Patent Owner articulates a market share increase from 33% to 50% in 2007, Mr. McCardel only provides a general allegation, without supporting evidence, to support the statement "I attribute that increase to the patented features of that cable, as I understand they are set forth in the claims of the patent at issue that include a silicone-based lubricant." Thus, Mr. McCardel's statements from paragraph 5 of the McCardel Declaration lack persuasive factual support because the McCardel Declaration does not cite to sufficient corroborating evidence. *See In re Beattie*, 974 F.2d 1309, 1313 (Fed. Cir. 1992) ("[D]eclarations themselves offer only opinion evidence which has little value without factual support."). Accordingly, Patent Owner has provided insufficient evidence to establish a "nexus" between the increase in market share of the Southwire SIMpull THHN® products and the claimed invention. In fact, the claims are not even limited to a silicone-based lubricant.

With respect to Patent Owner's purported evidence of copying, paragraph 9 of the McCardel Declaration states that "I believe that the cables that Cerro and Encore have been offering that do not require the use of external lubricant are copies of Southwire's patented cables." (McCardel

Decl. ¶ 9.) Moreover, paragraphs 4 and 5 of the Adams Declaration state, respectively:

> I believe that the cables that Cerro and Encore have been offering that do not require the use of external lubricant are copies of Southwire's patented cables.
>
> I have evaluated the Cerro products and the Encore products described in Exhibits B and C. I have determined these products contain silicon using the same test I use to detect silicone based lubricant in Southwire's SimPull cable's outer nylon jacket. Results of some of my evaluations are attached as Exhibit D here. It is my belief that this indicates an amount of silicone based lubricant in the Cerro and Encore product is sufficient to reduce the required installation pulling force of the cable during installation in building passageways in rafters, joists, or conduits bends than would otherwise be required for a cable without such a lubricant.

(Adams Decl. ¶¶ 4–5.) Instead of identifying the specific features of the CerroWire SLiPWire® THHN products or the Encore SuperSlick Elite® products that correspond to the claims of the '301 patent, Mr. McCardel only provides a general allegation that "I believe that the cables that Cerro and Encore have been offering that do not require the use of external lubricant are copies of Southwire's patented cables." Likewise, Mr. Adams only provides a general allegation that "I believe that the cables that Cerro and Encore have been offering that do not require the use of external lubricant are copies of Southwire's patented cables." Moreover, instead of performing the "joist pull" test on the CerroWire SLiPWire® THHN products or the Encore SuperSlick Elite® products, Mr. Adams only provides a general allegation, without supporting evidence, that

> [i]t is my belief that this [testing] indicates an amount of silicone based lubricant in the Cerro and Encore product is

> sufficient to reduce the required installation pulling force of the cable during installation in building passageways in rafters, joists, or conduits bends than would otherwise be required for a cable without such a lubricant.

Thus, both Mr. McCardel's statement from paragraph 9 of the McCardel Declaration and Mr. Adams' statements from paragraphs 4–5 of the Adams Declaration lack persuasive factual support because neither declaration cites to sufficient corroborating evidence. *See Beattie*, 974 F.2d at 1313. Accordingly, Patent Owner has provided insufficient evidence to establish that the CerroWire SLiPWire® THHN products or that the Encore SuperSlick Elite® products copy the claimed invention.

Therefore, Patent Owner's evidence of commercial success and evidence of copying does not persuasively establish the nonobviousness of the claimed subject matter.

Long-felt Need Without Solution

The Examiner found that

> the solution of adding lubricants to a plastic material to form an extruded exterior jacket of a cable in order to reduce the pulling force needed to install the cable, as recited in the claims of the '301 patent, was known in the art before the priority date of the '301 patent.

(RAN 13.) In particular, the Examiner found that "the solution of compounding a lubricant, such as fatty acid amides (the genus of which erucamide is a species) or silicone oil, with a plastic material to form a fiber optic cable jacket was described prior to the year 2000 in U.S. Patent No. 6,160,940 to Summers et al." (*Id.*) Requester further argues that "[t]he 'problem' as presented in the '301 patent is that of reducing the surface

coefficient of friction of the cable in order to make the cable easier to install" (Requester Resp. Br. 12) and "specific solution of adding lubricants to a plastic material to form an extruded exterior jacket of a cable in order to reduce the pulling force needed to install the cable, as recited in the claims of the '301 patent, was known in the art" (*id.* at 13). The Examiner's conclusion is supported by the evidence of record.

Establishing long-felt need requires objective evidence that an art-recognized problem existed in the art for a long period of time without solution. *In re Gershon*, 372 F.2d 535, 538 (CCPA 1967). The relevance of long-felt need and the failure of others to the issue of obviousness depends on several factors. First, the need must have been a persistent one that was recognized by those of ordinary skill in the art. *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1382 (Fed. Cir. 1983); *see also Gershon*, 372 F.2d at 538. Second, the long-felt need must not have been satisfied by another before the invention by applicant. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988) ("[O]nce another supplied the key element, there was no long-felt need or, indeed, a problem to be solved . . . ."). Third, the invention must satisfy the long-felt need. *In re Cavanagh*, 436 F.2d 491, 496 (CCPA 1971). "[L]ong-felt need is analyzed as of the date of an articulated identified problem and evidence of efforts to solve that problem." *Texas Instruments, Inc. v. ITC*, 988 F.2d 1165, 1178 (Fed. Cir. 1993).

As evidence of long-felt need, Patent Owner submitted: (i) the Kiel Declaration (PO Ex. D); (ii) the Kummer Declarations (PO Ex. F); and (iii) the Wright Declaration (PO Ex. E).

A relevant portion of the Kiel Declaration states:

> We were also told that with this new Southwire [NoLube Sim*pull*] cable, it would not be necessary to add any external lubricant in order to install the cable to accomplish the installation. *Having been required for decades to use the external soaps during cable installation, and during that time never presented with any successful alternatives that eliminated such requirement, we simply did not believe that the Southwire cable would demonstrate the properties claimed*. However, when we purchased the cable and successfully installed the cable in building passageways without any damage to the cable, and without the use of any external lubricant, we were convinced. *This was the solution for which we had been looking for a long time*.

(Kiel Decl. ¶ 4 (emphases added).)

Similarly, relevant portions from paragraphs 16–17 of Kummer Declaration state:

> Since the beginning of the general industry practice of coating cables with pulling lubricant at the installation site, *there has been a need for an effective way of introducing pulling lubricant at the exterior surface of a cable that reduces the coefficient of friction of the cable and lowers the required installation pulling force of the cable without incurring the inconvenience and time-consuming operation and expense associated with applying pulling lubricant during installation,* as explained below.

(Kummer Decl. ¶ 16 (emphasis added).)

> The SIM*pull* THHN™ video attached as Exhibit 2 clearly demonstrates a long-felt need in the industry for a cable with built-in lubricant such as that disclosed and claimed by the '119 patent. In particular, the video shows interviews with numerous electricians, contractors and project managers who invariably praise the tremendous advantages of Southwire's SIM*pull* THHN™ cable which utilizes the claimed technology of the '119 patent. *As described in these interviews, the chief*

> *advantage of the patented technology is that messy pulling lubricant that was traditionally applied on the job site is no longer required.* Eliminating the need for on-site application of pulling lubricant not only makes for a much cleaner and safer work environment, but also significantly lowers costs and the time needed for cable installation.

(Kummer Decl. ¶ 17 (emphasis added).) Last, a relevant portion of the Wright Declaration states:

> The video contains statements made by a number of individuals in the electoral wiring installation filed regarding their opinion of *the value of these SIMPull products as a replacement for the longtime practice of applying lubricant or "soap" to the cable at the installation site*, a practice that had long plagued the industry.

(Wright Decl. ¶ 3 (emphasis added).) Relevant portions of Exhibit 1, accompanying the Wright Declaration, are as follows:

> **Gary Kiel – Project Foreman, Sachs Electric.**
>
> *To me pulling in wire without any kind of lubrication was just pulling in wire without lubrication.* I didn't think it would work.
>
> . . . You don't have someone standing there with a 5 gallon bucket and a bag of rags. *You don't have them covered from head to toe with soap.*
>
> **Morris Lindsay – Electrician, Conaway Electric.**
>
> We was all really concerned about not soaping the head up. We didn't put anything on the head.
>
> . . . *Any kind of soap you use is going to be nasty and then you know like I say you got to take the time to clean up or you got to take time to be prepared you know for the pull* vs. the SIM there is no cardboard in the lift. There is no mess on the floor. On the head of it at the other end of it, there is no cleanup at all.

> **John Setter – Sr. Project Manager, Broadway Electric.**
>
> The salesman said that you don't need to use wire lube. You know, we were all leery of that. *In fact our wireman, they wanted to put soap in on the first pull and I said nope, nope, we're not going to do it*.
>
> . . . The wire came out just the way it vent in as far as the jackets and all of that.

(Wright Decl. Ex. 1(emphasis added).)

Accordingly, Patent Owner's evidence establishes that there was an art-recognized problem of finding an alternative solution to the current industry trend of applying a pulling lubricant (e.g., "soap") to an exterior surface of cable, so as to reduce the installation pulling force. However, Patent Owner's evidence does not persuasively establish that a long-felt need without solution existed. Any such long-felt need was solved in the prior art. *See Newell Cos*., 864 F.2d at 768. As discussed previously, Summers explains that "[t]he friction reducing additive can function by migrating to the surface of cable jackets 45,55 and lubricating the interface between the cable jackets and virtually any surface of or in the cable passageway." (Col. 4, ll. 1–4.) Furthermore, the "Background of the Invention" section of the '301 patent acknowledges the following:

> In one solution, the core of the cable passes via a first extruder which applies a conventional sheath thereto i.e., a jacket and/or insulation, often made of polyethylene. *The sheathed core then passes through a second extruder which applies a lubricant layer thereto, such as an alloy of silicone resin and polyethylene*. The cable lubricated in that way then passes in conventional manner through a cooling vessel.

(Col. 1, ll. 43–48 (emphasis added).)

Thus, while a commercial embodiment might not have been available, the Summers specifically teaches the concept of a lubricant migrating to the cable exterior surface (col. 4, ll. 1–4), the same property which Patent Owner has relied upon to establish both commercial success and a solution to a long-felt need. While we acknowledge praise by customers, it is not sufficient to establish the non-obviousness of the claimed invention because the praised feature appears to have been taught by Summers, and accordingly, Patent Owner has not demonstrated a nexus. *See Rambus*, 731 F.3d. at 1257–58.

Patent Owner further argues that "the Examiner incorrectly concluded that the claimed invention was known in the art and therefore the long-felt need had been satisfied." (PO App. Br. 8.) In particular, Patent Owner argues that

> [t]he claimed invention is much more specific than the Examiner's characterization as it includes requirements such as migration of the lubricant to the outermost exterior surface of a finished cable and that the cable has certain characteristics based on that lubricant to allow a 30% reduction in pulling force needed to install that cable compared to a non-lubricated cable through a particular arrangement of holes in wood blocks.

(*Id.*) However, Patent Owner has provided insufficient evidence to support this argument because Patent Owner's evidence is silent with respect to an art recognized problem of a 30% reduction in pulling force as determined by the "joist pull" test.

Therefore, Patent Owner's evidence that a long-felt need without solution does not persuasively establish the nonobviousness of the claimed subject matter.

Accordingly, we affirm the Examiner's decision to reject claims 1–42 under 35 U.S.C. § 103(a) as obvious over Summers, Dow, and UL-719.

Other § 103 Rejections

We do not reach the additional cumulative rejections of claims 1–42 under 35 U.S.C. § 103(a) as obvious over various combinations of Hauenstein, Summers, Cogelia, Rinehart, Dow, Ryan, Marquis, and UL-719. Affirmance of the obviousness based rejections discussed previously renders it unnecessary to reach the remaining obviousness rejections, as all of pending claims have been addressed and found unpatentable.

Requester's Appeal

We do not reach the rejections of claims 33 and 42 under 35 U.S.C. § 103(a) as obvious over various combinations of Cogelia, Rinehart, Hauenstein, Marquis, Dow, Ryan, and UL-719, because it is unnecessary to reach the propriety of the Examiner's decision not to reject these claims on a different basis.

DECISION

The Examiner's decision to reject claims 1–42 under U.S.C. § 103(a) is affirmed.

The Examiner's decision to reject 34–41 stand rejected under U.S.C. § 112, first paragraph, is affirmed *pro forma*.

The Examiner's decision to reject claims 32 and 34–37 under 35 U.S.C. § 112, second paragraph, is affirmed *pro forma*.

Appeal 2015-004351
Reexamination Control 95/000,696
Patent 7,557,301 C1

Requests for extensions of time in this *inter partes* reexamination proceeding are governed by 37 C.F.R. § 1.956. *See* 37 C.F.R. § 41.79.

AFFIRMED

PATENT OWNER:

Alston & Bird LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000

THIRD PARTY REQUESTER:

Patent Group
DLA PIPER US LLP
203 N. LaSalle Street
Suite 1900
Chicago, IL 60601-1293