

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 49

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte UBALDO VALLAURI and FRANCESCO PORTAS

Appeal No. 1996-3350
Application 08/187,114

HEARD: April 17, 2000

Before PAK, WARREN and WALTZ, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 5, 6 and 12 through 20, which are the only claims remaining in this application.

According to appellants, the invention is directed to an

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elastic sleeve for electrical cable joints having specified physical characteristics (Brief, page 2).¹ As stated by appellants, "the rejected claims stand or fall together." (Brief, page 4). Pursuant to this statement and the provisions of 37 CFR § 1.192(c)(7)(1995), we select claim 13 from the group of claims and decide this appeal as to this ground of rejection on the basis of claim 13 alone. A copy of illustrative claim 13 is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence of obviousness:

Nelson 1982	4,363,842	Dec. 14,
Clabburn 1983	4,383,131	May 10,

Claims 5, 6 and 12-20 stand rejected under 35 U.S.C. § 103 as unpatentable over Clabburn in view of Nelson (Answer, page 3).² We *affirm* the examiner's rejection but for

¹All references and citations are from the Brief dated Dec. 18, 1995, Paper No. 42, which replaced the Brief dated Oct. 18, 1995, Paper No. 39.

²The final rejection of claims 5, 6 and 12-20 for obviousness-type double patenting over claims 1-13 and 27-39 of U.S. Patent No. 5,294,752 was obviated by appellants'

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different reasoning than that advanced by the examiner. Accordingly, we denominate this "affirmance" as a *new ground of rejection* pursuant to the provisions of 37 CFR § 1.196(b).

OPINION

The examiner finds that Clabburn discloses an enclosure for shielding a cable termination or joint which comprises three layers, including an insulating inner layer and an optional stress grading innermost layer (Answer, page 3, citing Figure 2 of Clabburn). The examiner further finds that Clabburn teaches that particularly good results have been obtained using polyolefins, olefin copolymers, and blends of olefin polymers for the insulating inner layer (*id.*, citing column 2, lines 54-58). Clabburn also teaches that the enclosure can be formed by urging the protective sleeve into conforming engagement with the cable joint or termination to be protected wherein the sleeve comprises elastomeric or heat recoverable materials (Answer, page 4, see Clabburn, column 3, lines 27-34). Although Clabburn teaches that heat recoverable

submission of a terminal disclaimer dated May 25, 1995, Paper No. 34 (Answer, page 3).

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enclosures are preferable (column 3, lines 64-67), Clabburn also discloses the following:

Where the tubular article is elastomeric, it may be urged into conforming engagement with the electrical apparatus by simply pushing it onto the electrical apparatus, the elasticity of the article enabling it to conform closely to the contours thereof. In another embodiment the elastomeric tubular article may be "held-out" in a stretched state by an inner or outer hold-out member which can be removed or displaced, the

elastic stresses released thereby urging the tubular article to recover into conforming engagement with the electrical apparatus. (Column 3, lines 50-60, see the Answer, page 4).

Therefore the examiner finds that Clabburn discloses all of the claimed elements except use of a tubular support to "hold-out" the elastic sleeve (Answer, page 4).

The examiner cites Nelson for the teaching of an elastic tubular member supported in a stretched condition on an easily removable core or tubular support (*id.*). The examiner thus concludes that it would have been obvious to one having ordinary skill in the art to have applied the tubular core of Nelson to the sleeve of Clabburn to maintain the sleeve in a "held-out" position (Answer, page 5). We agree.

Nelson is directed to the same field of endeavor as Clabburn, namely elastomeric pre-stretched tubular members for the splicing and termination of high voltage power cables (column 1, lines 6-10). Nelson teaches that the pre-stretched tube (PST) technique is a simple one step operation using an easily removable core and is an improvement over the use of heat shrinkable material such as the preferred embodiment of Clabburn (see Nelson, column 2, lines 36-65). Accordingly, Nelson would have suggested to one of ordinary skill in the art to use the easily removable core or tubular support as the hold-out member to achieve the "held-out" or stretched state of the elastomeric sleeve of Clabburn.

Appellants argue that there is no suggestion in the references themselves that they should be combined (Brief, pages 6-10). This argument is not persuasive since, as discussed above, Clabburn is silent as to the specific hold-out member to support the sleeve in a "held-out" or stretched state while Nelson suggests the ease of stretching the elastomeric sleeve with an easily removable core or tubular support. Accordingly, the use of a core or tubular support in

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Clabburn for ease of removal would have been suggested to one of ordinary skill in the art by the teachings of Nelson.

Appellants also argue that neither reference suggests sleeves having the properties of the claimed subject matter (Brief, pages 4, 7 and 8). The examiner states that, since Clabburn teaches a three layer sleeve made of the same materials with the same thickness as disclosed in appellants' specification, stretched and applied into conforming engagement in the same manner, one of ordinary skill in the art "would certainly expect the sleeve of Clabburn to exhibit the identically recited elasticity and residual deformation." (Answer, page 5). The examiner further states that the claimed pressure "would be inherent to the sleeve taught by Clabburn as would the additional claimed properties." (Answer, sentence bridging pages 5-6).

Clabburn teaches that particularly good results have been obtained when using polyolefins as the material for the insulating inner layer (column 2, lines 55-57). This material may be crosslinked (column 4, lines 33-35) and the thicknesses may be similar to those disclosed in appellants' specification

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(column 6, lines 1-8). However, to establish that the claimed properties are inherent to the sleeve of Clabburn, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent properties necessarily flow from the teachings of the applied prior art. Inherency may not be established by probabilities or possibilities. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981). On this record, the examiner has not established that the claimed properties would necessarily be present in the sleeve of Clabburn.

However, Clabburn teaches that the "elasticity of the article" is critical to enable it to conform closely to the contours of the electrical apparatus (column 3, lines 53-54). Clabburn also teaches that when the elastomeric tubular article is "held-out" in a stretched state, the elastic stresses released by removing the support urge the tubular

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article to recover into conforming engagement with the electrical apparatus (column 3, lines 54-60). Similarly, Nelson teaches that excellent elastic memory is desired for the PST, as measured by the permanent set, as well as several other physical performance criteria (column 4, lines 32-60). Accordingly, the elastic properties of the tubular elastic sleeve would have been recognized as result-effective variables by one of ordinary skill in the art, depending on the size of the cables being spliced, the sealing pressure and the recovery time desired. Optimization of such properties would have been well within the ordinary skill in the art. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See Nelson, column 4, lines 3-7, where Nelson teaches the specific monomer systems to prepare the elastomers that will provide the necessary physical characteristics for his PST. For the foregoing reasons, we determine that the properties of the

elastic sleeve recited in claim 13 on appeal would have been result-effective variables readily optimized by one of

ordinary skill in the art.

Appellants argue that Clabburn does not teach any relative sizes of the tube and cables, does not teach any pressure caused by the tube on the cable, and in fact proposes use of a sealant between the tube and cables which implies that the tube does not press against the cable (Brief, pages 6-7). This argument is not persuasive since Clabburn specifically teaches that the elastic stresses released by removing the hold-out member urges the tubular article to recover into conforming engagement, thus implying a pressure against the cables (column 3, lines 57-59). Furthermore, the use of a sealant to ensure air-tight engagement does not imply that the pressure of the tubular article against the cable is insufficient.³

Appellants argue that the Pegoraro Declaration supports their position that the materials used to make the claimed sleeve are not obvious in view of Clabburn (Brief, pages 4-5). However, the burden is on appellants to explain the results of

³ See the specification, page 6, where appellants disclose the use of a sealing compound **9** in conjunction with the claimed elastic sleeve.

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the Pegoraro Declaration and appellants have not proffered any explanation. Appellants have also not rebutted the examiner's evaluation of the Pegoraro Declaration as found on page 7 of the Answer. We adopt the examiner's evaluation of this Declaration and add the following comments. The Declaration appears to support the analysis discussed above that the properties of the elastic sleeve would have been easily determined by one of ordinary skill in the art *for a specific cable diameter* (see the Declaration, pages 2-3, paragraphs 11 and 12). It is noted that claim 13 on appeal includes a tubular element for specific cable diameters.

For the foregoing reasons, we determine that the examiner has established a *prima facie* case of obviousness in view of the reference evidence. Reevaluating this *prima facie* case of obviousness in light of appellants' arguments and evidence, we determine that the preponderance of the evidence weighs in favor of obviousness within the meaning of § 103.

Accordingly, the examiner's decision to reject claims 5, 6 and 12-20 under 35 U.S.C. § 103 as unpatentable over Clabburn in view of Nelson is affirmed. As discussed above, since this

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"affirmance" is based

on reasoning not set forth by the examiner, we denominate this "affirmance" as a new ground of rejection under 37 CFR § 1.196(b).

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the

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application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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

AFFIRMED - 37 CFR § 1.196(b)

CHUNG K. PAK)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CHARLES F. WARREN)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
THOMAS A. WALTZ)	
Administrative Patent Judge)	

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APPENDIX

13. A storable, tubular element for applying a tubular elastic sleeve including an electrically insulating layer to joints between pairs of electrical cables, each cable having electrical insulation adjacent the joined ends of the cables to which, when applied to the joint, the elastic sleeve applies radially inwardly directed pressure, and the insulation of said pairs of cables having outer diameters in a predetermined range which includes a first, smaller diameter and a second, larger diameter whereby the elastic sleeve must have an inner diameter expansion of at least 120% to fit over the insulation of the second, large diameter, said element comprising:

a tubular elastic sleeve having at least an electrically insulating layer and having an internal bore smaller in the unstretched condition of said sleeve, than the first, smaller outer diameter of said insulation;

a tubular support within the internal bore of said sleeve and with an internal bore larger than said second, larger diameter and with an outer diameter which expands and

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increases said inner diameter of said tubular elastic sleeve by at least 120% with respect to its diameter in its unstretched condition, said support having a rigidity sufficient to maintain said tubular elastic sleeve in its elastically expanded condition and being removeable from within said tubular elastic sleeve;

said tubular elastic sleeve having a modulus of elasticity in the range from 5 to 0.05 MPa and upon removal of said tubular support from within said tubular elastic sleeve, the internal bore thereof returns substantially instantaneously to a diameter at least 10% less than said first smaller outer diameter of said insulation by reason of elasticity of the sleeve and without heating;

the radial thickness of said sleeve and said electrically insulating layer being selected to cause a radially inward pressure on a cable electrical insulation of said first, smaller outer diameter, after application thereto and substantially instantaneously after removal of said tubular support, of at least 0.1 MPa; and

said electrically insulating layer of said tubular elastic sleeve being made of a cross-linked polymeric material selected to have an instantaneous residual deformation of at least 23% upon removal of said tubular support at room temperature after the insulating layer has been subjected to an elastic expansion of at least 170% for a storage time equivalent to at least 24 months at room temperature.