

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte DARYLE PAT DONNER, HAROLD WAINE FRIESEN,  
DAVID R. HAWKINS, and STEPHEN TAYLOR ZERBS

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Appeal No. 2001-0382  
Application No. 08/861,481

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ON BRIEF

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Before BARRETT, FLEMING, and RUGGIERO, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-14 and 24, which are all of the claims pending in the present application. Claims 15-23 have been canceled. An amendment after final rejection filed June 4, 1999, and resubmitted on August 5, 1999, was denied entry by the Examiner.

The claimed invention relates to a cable having at least two conductor pairs in which each conductor pair includes two individual insulated metallic conductors twisted together to define

a conductor pair with a predetermined twist length. More particularly, the twist length for a first conductor pair differs from the twist length of a second conductor pair. Further, at least one of the individual insulated conductors that make up each conductor pair is pre-twisted by being rotated about its central axis at a predetermined rate of revolution prior to being twisted with another conductor to establish a conductor pair. Appellants assert (specification, page 4) that the insulated conductor rotation improves the capacitance unbalance and the structural return loss characteristics of the resulting cable.

Representative claim 1 is reproduced as follows:

1. A cabling media comprising:

two individual insulated metallic conductors twisted together with a predetermined first twist length to form a first conductor-pair;

two individual insulated metallic conductors twisted together with a predetermined second twist length different than the first twist length of the first conductor-pair to form a second conductor-pair;

wherein at least one of the individual conductors in each of the first conductor-pair and the second conductor-pair has been rotated about its central axis at a predetermined rate of revolution prior to being twisted with another conductor to establish a conductor-pair; and

a sheath collectively surrounding the conductor-pairs.

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The Examiner relies on the following prior art:

Friesen	4,873,393	Oct. 10, 1989
Newmoyer (Newmoyer '071)	5,493,071	Feb. 20, 1996
Newmoyer et al. (Newmoyer '173)	5,519,173	May 21, 1996
Brorein et al. (Brorein)	5,767,441	Jun. 16, 1998
		(filed Jan. 04, 1996)

Claims 2-5 and 8 stand finally rejected as being indefinite under the second paragraph of 35 U.S.C. § 112. Claims 1-14 and 24 stand finally rejected under 35 U.S.C. § 103(a). As evidence of obviousness, the Examiner offers Brorein in view of Newmoyer '173 with respect to claims 1-3, 5-11, and 24. To this basic combination, the Examiner separately adds Freisen with respect to claim 4, and Newmoyer '071 with respect to claims 12-14.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs<sup>1</sup> and Answer for the respective details.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner and the evidence of obviousness relied upon by the Examiner as support for the prior art rejection. We have, likewise, reviewed and taken into

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<sup>1</sup> The Appeal Brief (revised) was filed October 3, 2000 (Paper No. 19). In response to the Examiner's Answer dated November 20, 2000 (Paper No. 20), a Reply Brief was filed February 27, 2001 (Paper No. 21), which was acknowledged and entered by the Examiner in the communication dated May 2, 2001 (Paper No. 23).

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consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that claims 2-5 and 8 particularly point out the invention in a manner which complies with 35 U.S.C. § 112, second paragraph. We are also of the view that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in appealed claims 1-9 and 11-14. We reach the opposite conclusion with respect to the Examiner's obviousness rejection of claims 10 and 24. Accordingly, we affirm-in-part.

With respect to the Examiner's 35 U.S.C. § 112, second paragraph, rejection of claims 2-5 and 8, we note that the general rule is that a claim must set out and circumscribe a particular area with a reasonable degree of precision and particularity when read in light of the disclosure as it would be by the artisan. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed in light of the specification. Seattle Box Co. v. Industrial Crating &

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Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984).

After reviewing the arguments of record, we are in agreement with Appellants (Brief, pages 6-9) that, contrary to the Examiner's assertion, there is no ambiguity or lack of clarity in the claimed terminology "the length per rotation" in rejected claims 2-5. It is apparent to us that the language in the clause beginning with "the length per rotation" is specifically providing a definition of the term "twist length" previously recited in independent claim 1. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. The failure to provide explicit antecedent basis for terms does not always render a claim indefinite. Ex parte Porter, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992). Similarly, we agree with Appellants that no ambiguity exists in the use of the term "the same" in rejected claims 3 and 8 in describing the relationship of twist lengths between two conductor pairs (claim 3) and that of direction of rotation and direction of twist (claim 8).

It is our view that the skilled artisan, having considered the specification in its entirety, would have no difficulty ascertaining the scope of the invention recited in the appealed

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claims. Therefore, the Examiner's rejection under the second paragraph of 35 U.S.C. § 112 is not sustained.

Turning to a consideration of the Examiner's 35 U.S.C. § 103(a) rejection of the appealed claims, we note initially that Appellants' arguments against this rejection are organized according to a suggested grouping of claims indicated at page 4 of the Brief. We will consider the claims separately only to the extent that separate arguments for patentability are presented. Any dependent claim not separately argued will stand or fall with its base claim. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983).

With respect to independent claim 1, the representative claim for Appellants first suggested grouping (including claims 1-9 and 11-14), the Examiner, as the basis for the obviousness rejection, proposes to modify the twisted pair cable conductor disclosure of Brorein. According to the Examiner (Answer, page 6) Brorein describes an electrical cable having first and second conductor pairs with each pair including two individual conductors twisted together with a predetermined twist length with at least one of the individual conductors being pre-twisted before being twisted with the other individual conductor to form a conductor pair. The

Examiner further asserts (id.) that Brorein discloses the claimed invention except for an explicit disclosure that the first and second conductor pairs have differing twist lengths. To address this deficiency, the Examiner turns to Newmoyer '173 which, as illustrated in Figure 4, discloses a cable with conductor pairs with different twist lengths  $l_1$  and  $l_2$ . In the Examiner's analysis, the Examiner makes particular reference to column 3, lines 59-65 and column 4, lines 4-10 of Newmoyer '173 and concludes that the skilled artisan would have been motivated and found it obvious to apply the differing twist length conductor pair teachings of Newmoyer '173 to Brorein. In the Examiner's view (id.), these passages from Newmoyer '173 provide clear motivation for the proposed combination with Brorein "... in order to produce a cable having conductor pairs with a configuration that will significantly reduce cross-talk... and allow the cable to be flexed without damaging the physical spacing of the twisted pairs...."

After reviewing the Examiner's analysis, it is our view that such analysis carefully points out the teachings of the Brorein and Newmoyer '173 references, reasonably indicates the perceived differences between this prior art and the claimed invention, and provides reasons as to how and why the prior art teachings would have been modified and/or combined to arrive at the claimed

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invention. In our opinion, the Examiner's analysis is sufficiently reasonable that we find that the Examiner has at least satisfied the burden of presenting a prima facie case of obviousness. The burden is, therefore, upon Appellants to come forward with evidence and/or arguments which persuasively rebut the Examiner's prima facie case of obviousness. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered [see 37 CFR § 1.192(a)].

Appellants' arguments in response assert that the Examiner has failed to set forth a prima facie case of obviousness since proper motivation for combining the Brorein and Newmoyer '173 references has not been established. In particular, Appellants contend (Brief, pages 10-12; Reply Brief, page 5) that Brorein, aside from not disclosing that the conductor pairs have differing twist lengths as in appealed claim 1, actually specifies (columns 11, lines 45-46) that the lay length or twist length of the conductor pairs is the same. In Appellants' view, given Brorein's disclosure of having the same twist length for the conductor pairs, there is an express teaching away from any combination with Newmoyer '173 to provide conductor pairs with differing twist lengths.

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After careful review of the applied Brorein and Newmoyer '173 references, we find ourselves in agreement with the Examiner's position as stated in the Answer. As asserted by the Examiner (Answer, pages 10 and 11), Appellants' arguments have relied on a misinterpretation of the disclosure of Brorein. Contrary to Appellants' contention that Brorein discloses that the plural conductor pairs are to be of the same twist length, Brorein's disclosure actually provides for the individual conductors in each conductor pair as having the same twist length. In our view, rather than teaching away from a cable structure with plural conductor pairs having differing twist lengths, Brorein is silent about the twist length configuration for the plural conductor pairs. In our opinion, the skilled artisan seeking guidance on designing the twist length arrangement for a multiple conductor pair cable would be led to the teachings of Newmoyer '173 which clearly discloses (column 3, lines 59-65 and column 4, lines 4-10) that providing adjacent twisted conductor pairs with differing twist lengths reduces crosstalk and permits flexing of the cable without damaging the conductor spacing of the cable.

In view of the above discussion and the totality of the evidence on the record, it is our opinion that the Examiner has established a prima facie case of obviousness which has not been

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rebutted by any convincing arguments from Appellants. Accordingly, the Examiner's 35 U.S.C. § 103(a) rejection of representative independent claim 1, as well as dependent claims 2-9 and 11-14 which fall with claim 1, is sustained.

Turning to a consideration of the Examiner's obviousness rejection of claims 10 and 24, separately argued by Appellants, we note that, while we found Appellants' arguments to be unpersuasive with respect to the rejection of claims 1-9 and 11-14 discussed supra, we reach the opposite conclusion with respect to claims 10 and 24. Each of these claims includes a cable structure feature which requires that the "... conductor pairs having shortest twist lengths are positioned diagonal relative to each other." In addressing this feature, the Examiner calls attention to Figure 3 of Newmoyer '173 as disclosing the claimed diagonal relationship feature. In our view, however, while the Figure 3 illustration in Newmoyer '173 may provide a teaching of a cable arrangement in which two conductor pairs are arranged diagonally to a central longitudinal axis of the cable, there is no disclosure that the conductor pairs are positioned diagonally relative to each other as set forth in claims 10 and 24.

In summary, with respect to the Examiner's 35 U.S.C. § 103(a) rejection of the appealed claims, we have sustained the rejection

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of claims 1-9 and 11-14, but have not sustained the rejection of claims 10 and 24. We have also not sustained the Examiner's 35 U.S.C. § 112, second paragraph, rejection of claims 2-5 and 8. Therefore, the Examiner's decision rejecting claims 1-14 and 24 is affirmed-in-part.

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

AFFIRMED-IN-PART

LEE E. BARRETT	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
MICHAEL R. FLEMING	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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JOSEPH F. RUGGIERO	)	
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