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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte ERIC D. JUNTWAIT, JEFFREY C. HOWLAND
and CHARLES R. MURPHY

_____

Appeal No. 97-2619
Application 08/104,461[1]

_____

ON BRIEF

_____

Before CALVERT, STAAB and NASE, Administrative Patent Judges.

STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1-9, all the claims in the application.

[1] Application for patent filed August 9, 1993.

Appellants' invention pertains to an electrical connector having a housing for holding a plurality of contact elements. Each contact element is terminated to an insulated wire by crimping adjacent crimp portions of the contact element to, respectively, an exposed conductor wire and an insulation layer of the wire. In appellants' connector, the portion of the contact element crimped to the insulation layer of the wire is of oval configuration, with the smaller dimension of the oval being oriented in the longitudinal direction of the housing. According to appellants, this allows for a greater density of contact elements. Independent claim 1, a copy of which is appended to appellants' brief, is illustrative of the appealed subject matter.

The references of record relied upon by the examiner in support of rejections under 35 U.S.C. § 103 are:

Berg	3,707,933	Jan. 2, 1973
Bruni et al. (Bruni)	3,941,444	Mar. 2, 1976
Piscitelli et al. (Piscitelli)	4,373,773	Feb. 15, 1983
Shindo et al. (Shindo)	4,979,912	Dec. 25, 1990
German published application (Beyer)[2]	240,466	Oct. 29, 1986

The following reference, cited by appellants in the Information Disclosure Statement filed June 26, 1997, is relied upon by this merits panel in support of new rejections pursuant to 37 CFR § 1.196(b):

Japanese patent document,	63-38536	Oct. 11, 1988

[2] Our understanding of this German language publication is derived from a translation prepared in the Patent and Trademark Office. A copy of the translation is attached to this decision.

Nishijo et al. (Nishijo)

Claims 1-4 and 6-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bruni or Shindo in view of Beyer.

Claims 5-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bruni or Shindo in view of Beyer, and further in view of Berg or Piscitelli.

The rejections are explained in the final rejection and the answer.

The opposing viewpoints of appellants are set forth in the brief and reply brief.

Claim 1 calls for an electrical connector having a housing for holding a plurality of contact elements, with each contact element being connected to an insulated wire by crimping. Regarding the crimping of the contact elements to the insulating jacket of the wire, claim 1 requires that

> said insulation crimping portion defining a cross-section when crimped wherein its dimension along the longitudinal direction of the housing is less than its dimension along a direction substantially orthogonal to the longitudinal direction of said housing, each of said wire contact assemblies [i.e., the contact element with the wire crimped thereto] being positioned within the respective cavities in substantially the same orientation with respect to each other.

There appears to be no dispute that Bruni and Shindo generally disclose the subject matter of claim 1 with the exception of the above quoted claim requirement regarding the configuration of the insulation crimping portions and their orientation in the housing. For a teaching of this claim requirement, the examiner relies on Beyer. Specifically, the examiner has taken the position that

> [Beyer] discloses an oval crimp section, and to form the insulation crimping portion of

> the contacts of either . . . [Bruni or Shindo] in an oval shape thus would have been obvious, for better engagement between the insulation and the contact. The oval shape thus would allow closer spacing between the contacts. [Final rejection, page 2.]

In responding to appellants' argument in the brief, the examiner acknowledges on pages 3-4 of the answer that in Beyer the oval shaped crimp section is for the conductor of the wire rather than the insulation jacket, and that there is no disclosure at all in Beyer of crimping a wider insulation jacket of a wire into an oval configuration. Nevertheless, the examiner posits that

> it also would have been obvious to one of ordinary skill in the art to form the insulation crimping portion of the male contact of either Bruni er al or Shindo et al as an oval shape . . . to allow for a reliable connection with the conductor [sic, insulation jacket]. Clearly, it would have been desirable to have a reliable connection between the contact and both the wire conductor itself and the surrounding insulation. [Answer, page 4.]

The examiner's position is not well taken. Like appellants, we find no teaching whatsoever in Beyer of crimping an insulation jacket to a contact, much less a teaching of crimping an insulation jacket to a contact with a crimp barrel that is oval in its final configuration. While Beyer teaches that the disclosed conductor crimp of oval configuration is advantageous as a conductor connection because it prevents nicks to the conductor and protects the connection from the deleterious effects of aggressive substances (translation, pages 2 and 3), it is not clear to us that these considerations would apply to a crimp connection for the insulating jacket of a wire as well. In short, it is not at all apparent to us that the ordinarily skilled artisan would consider Beyer's oval conductor crimp portion to be of any benefit in terminating the insulation jacket of a wire. Where prior art references require a selective combination

to render obvious a claimed invention, there must be some reason for the combination other than hindsight gleaned from appellants' disclosure. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). In the fact situation before us, we are unable to agree with the examiner that one of ordinary skill in the art would have been motivated by the teachings of Beyer to incorporate oval crimps in the connectors of Bruni or Shindo for terminating the insulating jackets of the wires in the manner called for in claim 1.

In light of the foregoing, we will not sustain the §103 rejection of claim 1, or claims 2-4 and 6-9 that depend therefrom, as being unpatentable over Bruni or Shindo in view of Beyer.

As to the examiner's second rejection, we have carefully reviewed the Berg and Piscitelli references additionally relied upon and find nothing therein that makes up for the deficiencies of Bruni, Shindo and Beyer noted above. Hence, we also will not sustain the § 103 rejection of claims 5-9 as being unpatentable over Bruni or Shindo in view of Beyer, and further in view of Berg or Piscitelli.

Under the provisions of 37 CFR § 1.196(b), we enter the following new rejections.

Claims 1-4 are rejected under 35 U.S.C. § 103 as being unpatentable over the Japanese publication to Nishijo (cited by appellants in the Information Disclosure Statement filed June 26, 1997) in view of Shindo.

Nishijo, Figures 3-8, discloses a wire contact assembly comprising an insulated wire 2 including a conductor surrounded by a layer of insulation, and a contact crimped thereto. The contact includes a

locking portion (generally adjacent reference numeral 4), a conductor crimping portion 3B, and an insulation crimping portion 3A. The forward end of the contact may

comprise either a receptacle (Figure 3) or an elongate terminal pin (Figure 9). As clearly seen in Figure 4, the insulation crimping portion 3A defines a cross-section when crimped wherein its horizontal dimension is less than its vertical dimension. The wire contact assembly is carried in a housing (see, for example, Figure 10).

Shindo discloses an electrical connector generally as called for in the first 16 lines of claim 1. Thus, Shindo's connector 60 comprises an elongate housing including a front face (i.e., the face of connector 60 beyond which the elongate terminals 51, as seen in Figure 2, extend) and a rear face. The housing includes a plurality of cavities 62 separated by partitions. Shindo's cavities are provided in an array that extends both longitudinally and laterally. The cavities receive wire contact assemblies, each comprising an insulated wire 70 and electrical contact 50 having a wire crimp portion 53, an insulation crimp portion 52, a locking portion 21, and an elongate terminal 51. The locking portions of the contacts engage with housing latches 37 (Figure 2) to releasibly hold the wire contact assemblies in their respective cavities.

Considering first claim 1, it would have been obvious to one of ordinary skill in the art to provide a housing of the type shown by Shindo for holding a plurality of Nishijo's wire contact

assemblies for the self evident advantages to be gained by incorporating a plurality of contact terminals in a single electrical housing. The resulting combination would meet the configuration and orientation limitations for the insulation crimping portions found in the last 5 lines of claim 1, in our view. The requirement of claim 1 that the housing cavities are spaced on centers less

than 0.09 inches apart, and that the insulation crimping portions of the contact are adapted to receive a range of wire sizes including 28 AWG, are considered to be obvious matters of engineering choice depending on the contact density and wire size, respectively, called for by the particular connector application.

The limitation of claim 2 is disclosed by Shindo. As to claims 3 and 4, the requirement that the contact terminal is of rectangular cross-section, and the requirement that contact terminal is of solid cross-section, are at the very least suggested by Shindo's showing in Figure 3 at element 51, such that the subject matter of these dependent claims also would have been obvious.

Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Nishijo in view of Shindo, and further in view of Berg. Berg teaches (e.g., column 6, lines 13-25) milling stock material to form a bi-level strip 10 from which contacts are made, such that the rearward ends of the resulting contacts 60, including the crimp portions 64 thereof, are of reduced thickness to facilitate crimping. In light of Berg's teaching, it would have been further obvious to one of ordinary skill in the art to provide

contacts in the Nishijo/Shindo combination that have terminal end portions of a first predetermined thickness and the remainder of the contact, including the crimp portions, of a second lesser thickness, for the reasons taught by Berg.

In summary, the examiner's rejections of the appealed claims are reversed. New rejections of claims 1-5 pursuant to 37 CFR § 1.196(b) have been made.

The decision of the examiner is reversed.

This decision contains new grounds 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 appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings (37 CFR § 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 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).

REVERSED; 37 CFR § 1.196(b)

IAN A. CALVERT	)
Administrative Patent Judge	)
	)
	)
	) BOARD OF PATENT
LAWRENCE J. STAAB	)
Administrative Patent Judge	) APPEALS AND
	)
	) INTERFERENCES
	)
JEFFREY V. NASE	)
Administrative Patent Judge	)

Appeal No. 97-2619
Application 08/104,461

LJS/caw

Michael L. Hoelter
Chief Patent Counsel
8155 T & B Boulevard
Memphis, TN 38125