

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 10

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARVIND PATEL, WILLIAM R. LENZ,
KEN GRAMBLEY, JACK J. SCHAFER, DANIEL M. PRESCOTT,
GLEN ELLYN and CHARLES T. WALSH

Appeal No. 97-3682
Application 08/491,458¹

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 4, 7, 9, 15 and 16, all the claims currently pending in the application.

¹ Application for patent filed June 16, 1995. According to appellants, the application is a continuation-in-part of Application 08/241,383, filed, May 11, 1994, now U. S. Patent No. 5,453,028, issued September 26, 1995.

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Appellants' invention pertains to an electrical connector for removably connecting a conductor of a mating contact member to a printed circuit member. Independent claims 15 and 16, copies of which appear in the appendix to appellants' brief, are exemplary of the appealed subject matter.

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

Lytle	5,403,209	Apr. 4, 1995
Frantz	5,445,528	Aug. 29, 1995 (filed May 31, 1994)

Claims 4, 7, 9, 15 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Frantz in view of Lytle.

Frantz pertains to a connector 20 for electrically connecting the conductor 24 of a wire 22 to circuitry on a circuit board 14. The connector includes a dielectric housing 32 having cavities 60 receiving a contact terminal 34. The conductors 24 of the wires are terminated to the contact terminal 34 by pushing the wires through openings and into locking engagement with beam portions 44 of the contact terminal to trap the wires in the connector and thereby prevent removal of the wires in the direction A. This is shown in Figure 12. To release the wires, a tool 94 is pushed through a second opening

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78 in the housing to push a beam portion out of engagement with a wire so that the wire may be withdrawn. See Figure 12. The configuration of the contact terminal is shown in Figures 10, 11 and 14.

Lytle discloses an electrical connector comprising a dielectric housing 24 having uniform straight, cross section T-shaped contact receiving slots 16, and a plurality of spring contacts 14 received in the slots. Each contact includes a bottom section 26 adapted to make electrical connection with a printed circuit board, a middle section 28 having retention arms 32a, 32b for retaining the contact in the housing, and a top section 30. The top section comprises a bight portion 38 for engaging a male contact 52, shown in phantom lines in Figures 2 and 3. In addition, the top section comprises preload tabs 42 received behind shoulders founded between the head section 18 and the base section 20 of a receiving slot to preload the bight portion and thereby enhance contact pressure between the contact 14 and its male contact counterpart 52.

Independent claim 15 calls for, among other things, a terminal including a base, a spring contact arm having an outwardly bowed contact portion, and "a free end portion being bent so that the free end portion is located generally between

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the bowed portion of the spring contact arm and the terminal base." Independent claim 16 contains similar language. The examiner concedes that the contact terminal 34 of Frantz does not meet this claim limitation. Nevertheless, the examiner has taken the position that it would have been obvious "to provide . . . preloading terminal free end portion[s] in Frantz, to provide increased retention force as taught by Lytle" (answer, page 3). The "Response to Argument" section of the answer indicates that the examiner's proposed modification of the terminals of Frantz's includes not only incorporation of preload tabs therein, but also a further modification of terminals 34 of Frantz so that protruding contact portions similar to Lytle's bight portions 38 are substituted for the trap-like beam portions 44 of Frantz. In this regard, see pages 4-5 of the answer, wherein the examiner states:

It should be noted that both Frantz and Lytle accept mating terminals in a longitudinal insertion direction forming a resilient grip on the terminal. Elements generally at 40, 42, 16 of Lytle are clearly analogous to those of France [sic, Frantz] (i.e. 44, 72), with Lytle additionally suggesting to one of average skill that a preloaded terminal end (Fig. 4 of Lytle) *with a protruding contacting portion* may clearly be a substitute for a pinching or trapping resilient terminal of the type shown at 44, 72 of Frantz. [Emphasis added.]

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We appreciate that the contact terminal 34 of Frantz, modified to incorporate *both* preload tabs *and* a protruding contact portion might very well result in a contact arm having a free end portion located generally between a bowed portion of the spring contact arm and a terminal base portion, as now claimed. We agree with appellants, however, that it would not have been obvious to substitute a protruding contacting portion like that disclosed in Lytle at bight portion 38 for the trap-like beam portion 44 of Frantz. As pointed out by appellants on pages 14-15 of the brief, "Frantz teaches using a wire trap terminal. By bending the trapping free end of the Frantz terminal, as in the claimed invention, the Frantz terminal would no longer be able to 'trap' the wire." We agree. In view of the fact that the examiner's proposed modification would render the apparatus of Frantz unsuitable for its intended purpose of locking the conductor in place (column 2, lines 6-12; column 4, lines 37-42), it cannot be said that it would have been obvious to one of ordinary skill in the art. *Ex parte Rosenfeld*, 130 USPQ 113, 115 (Bd. App. 1961). It follows that we cannot sustain the standing rejection of the appealed claims as being unpatentable over Frantz in view of Lytle.

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In addition, independent claim 16 calls for the spring contact arm to have a portion projecting through the side opening in the housing "for engagement by a conductor on an appropriate mating contact member *outside* the housing" (emphasis added). The examiner has not explained, and it is not apparent to us, where the combining teachings of Frantz and Lytle disclose, suggest or infer such an arrangement. This constitutes an additional reason necessitating reversal of the standing rejection of claim 16.

The decision of the examiner is reversed.

REVERSED

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