

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LOWELL A. KLEVEN and BRAD L. LESMEISTER

Appeal No. 2001-0778
Application No. 08/717,995

ON BRIEF

Before CAROFF, PAK and POTEATE, Administrative Patent Judges.

CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-2, 4-5, 7 and 10. The examiner has indicated that claims 11-13, the only other claims pending in appellants' involved application, would be allowable if rewritten in independent form.

The claims on appeal are directed to a flowmeter tube having an inner surface coated with a layer of a bonding metal, e.g., aluminum, and having a fluoropolymer liner bonded to an exposed surface of the bonding layer.

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Appellants indicate on page 4 of their brief that the appealed claims should be considered in a single group; therefore all of the claims on appeal stand or fall together. Accordingly, we shall limit our consideration to claim 1 which is illustrative of the subject matter encompassed by appellants' claims and which reads as follows:

1. A flowmeter tube for measuring an amount of flow of liquid through an interior of the tube comprising a metal tube; an inner surface of the tube having a coating of aluminum applied thereto around the entire inner surface for providing an interface bonding layer for receiving a fluoropolymer liner, an inner liner of fluoropolymer bonded to an exposed surface of the bonding layer to provide a liner for the entire inner surface of the metal tube; and a pair of facing electrical conductor electrodes mounted in the fluoropolymer layer and relative to the tube on opposite sides of the interior of the tube, and terminals connected to the electrical conductor electrodes for coupling to a circuit to provide a signal indicating flow through the tube.

The claims on appeal stand rejected for obviousness under 35 U.S.C. § 103 based upon the combined disclosures of the following two prior art references:

Gardner et al. (Gardner)	EP 116 875 A1	Aug. 29, 1984
Tsai	GB 2 277 466 A	Nov. 02, 1994

We have carefully evaluated the cited references in light of the positions taken by the appellants and the examiner. Having done so, we conclude that the examiner has established a prima facie case of obviousness which appellants have failed to rebut. Accordingly, we shall affirm the rejection at issue essentially for the reasons stated in the examiner's answer.

In particular, we agree with the examiner that it would have been obvious, within the purview of 35 U.S.C. § 103, to provide an intermediate metal bonding layer in the tubular electromagnetic flowmeter of Gardner in order to enhance the adhesion of a fluoropolymer (PTFE) liner to the metal surface of the tubular flowmeter housing. The motivation for making this modification arises from the suggestion by Tsai (pg. 4, ln. 27 - pg. 5, ln. 4; pg. 11, lns. 7-13) that the application of a thin metallic layer to a metal substrate will facilitate the attachment and bonding of an overlying fluoropolymer layer to the substrate.

With regard to claim 1, we also note that Tsai (pg. 7, lns. 15-22) indicates that the intermediate metallic layer may be aluminum.

In essence, appellants urge that Tsai cannot be combined with Gardner since Tsai is from a non-analogous field (cookware v. tubular flowmeters). We disagree. As stated by the examiner, Tsai would appear to be reasonably pertinent to the particular problem, i.e., adequate bonding of a fluoropolymer coating to a metal surface, with which the inventor was involved. Both Gardner and Tsai relate to bonding the same basic coating material, i.e., polytetrafluoroethylene (PTFE), to a metal surface (Gardner: pg. 1, lns. 16-24; Tsai: pg. 4, lns. 15-24). Accordingly, the teachings of Tsai are relevant to Gardner.

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Furthermore, again as noted by the examiner, fluoropolymer liners may be exposed to significant thermal stresses in cookware (Tsai) as well as in flowmeter tubes (Gardner: pg. 1, Ins. 21-24). Accordingly, adequate adhesion of the fluoropolymer liners to metal substrates under harsh temperature conditions would reasonably be expected to be of concern in both environments.

For the foregoing reasons, the decision of the examiner is affirmed.

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

AFFIRMED

MARC L. CAROFF)	
Administrative Patent Judge)	
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CHUNG K. PAK)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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LINDA R. POTEATE)	
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