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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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

PAT.&T.M. OFFICE
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AND INTERFERENCES

Ex parte IAN S. BIGGS, and
BRONISLAW RADVAN

Appeal No. 94-2376
Application 07/546,858¹

HEARD: MAY 9, 1996

Before CALVERT, STAAB and McQUADE, Administrative Patent Judges.
McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

This appeal is from the final rejection of claims 2 through 7 and 9 through 15, all of the claims pending in the application.

¹ Application for patent filed July 2, 1990. According to appellants, this application is a continuation of Application 07/217,324 filed July 11, 1988, now U.S. Patent No. 4,957,805 issued September 18, 1990, which is a continuation-in-part of Application 07/078,112 filed July 27, 1987, now abandoned.

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The invention relates to the manufacture of laminates from fiber-reinforced sheets of different thermoplastic materials.

Claim 14 is representative and reads as follows:

14. A method of making a laminated reinforced thermoplastic sheet with improved resistance to delamination which comprises the steps of preparing a first porous sheet comprising 20% to 60% by weight of reinforcing fibers having a high modulus of elasticity and 40% to 80% by weight of a first thermoplastics material, preparing a second porous sheet comprising 20% to 60% by weight of reinforcing fibers having a high modulus of elasticity and 40% to 80% by weight of a second thermoplastics material differing from the first thermoplastic material, placing the sheets together so that projecting fibers from the adjacent sheets interengage in a boundary zone, and applying heat and pressure to cause the sheets to consolidate and adhere together to form a laminate.

The references relied upon by the examiner as evidence of obviousness are:

Hofer	3,621,092	Nov. 16, 1971
Temple et al. (Temple)	3,684,645	Aug. 15, 1972
Ackley	3,850,723	Nov. 26, 1974
Hata et al. (Hata)	3,865,661	Feb. 11, 1975
Radvan et al. (Radvan)	4,670,331	June 2, 1987

(filed Jan. 4, 1985)

The appealed claims stand rejected under 35 U.S.C. § 103 as follows:

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a) claims 4 through 6 and 9 through 15 as being unpatentable over Hofer in view of Ackley, Radvan and Temple; and

b) claims 2, 3 and 7 as being unpatentable over Hofer in view of Ackley, Radvan and Temple, and further in view of Hata.²

Hofer pertains to "the formation of shaped articles in a cold stamping process from heated composites made of thermoplastic resin and lofty glass fiber mats" (column 1, lines 7 through 9). While this reference appears to teach that a plurality of composite sheets may be laminated together in a stamping operation (see column 7, lines 50 through 54), the examiner concedes that Hofer would not have suggested that the sheets be of different thermoplastics materials as recited in independent claims 13 through 15 (see page 5 in the main answer). To overcome this deficiency in Hofer, the examiner relies on Ackley and Temple.

² These rejections were entered for the first time in the main answer (Paper No. 18). Since the rejections set forth in the final rejection were not restated in the main answer, they are presumed to have been withdrawn by the examiner in favor of the new rejections (see Ex parte Emm, 118 USPQ 181 (Bd. App. 1958)).

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Ackley discloses a method of making stamped products from sheets formed of "unique combinations of fibrous mat structures and resin so that virtually any of the above product characteristics or properties [e.g., surface smoothness; uniform fiber content, distribution and strength; dimensional uniformity and stability], or any desired combination thereof, may be obtained with relative ease and economy" (column 1, lines 32 through 36). Figures 2 through 8 and the examples described in columns 6 through 8 illustrate different fibrous mat and resin combinations.

Temple also discloses a method of making products from reinforced resin sheets. Of particular interest is Temple's teaching that

... in the manufacture of the reinforced sheet, a plurality of plies of fiber-containing resin layers and glass fiber strand mats can be employed to provide thicker sheets or sheets having surface layers of resin different from interior layers in order to produce shaped products of differing properties [column 10, lines 24 through 29].

According to the examiner,

... it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the laminating method of Hofer ... to include a

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would have suggested making the layers of different thermoplastics materials. Thus, the examiner's conclusion that Ackley and Temple would have motivated one of ordinary skill in the art to utilize different thermoplastics materials in the method disclosed by Hofer to provide desired product characteristics is predicated on an unfounded hindsight interpretation of these references.

Hence, the combined teachings of Hofer, Ackley and Temple would not have suggested a method meeting the limitations in claims 13 through 15 relating to the first and second different thermoplastics materials. Radvan and Hata, the other two references relied upon by the examiner, do not cure this shortcoming.

For these reasons, the prior art evidence applied by the examiner does not support a conclusion that the conceded difference between the subject matter recited in claims 13 through 15 and the prior art is such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Accordingly, we shall not sustain the standing 35 U.S.C. § 103 rejection of these

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Burns, Doane, Swecker and Mathis
George Mason Bldg.
Washington and Prince Streets
P.O. Box 1404
Alexandria, VA 22313-1404