

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEIZO ITO, TAKASHI KATO,
SHOJI SAKAIDA and HIKARU ANDO

Appeal No. 95-4853
Application No. 08/019,335¹

HEARD: February 8, 1999

Before GARRIS, WALTZ, and KRATZ, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-10, which are all of the claims pending

¹Application for patent filed February 18, 1993. According to appellants, this application is a continuation of Application No. 07/796,900 filed November 25, 1991, now abandoned, which is a continuation of Application No. 07/599,468 filed October 18, 1990, now abandoned.

in this application. A declaration under 37 CFR § 1.132 filed together with a request for reconsideration (Paper No. 29) after the final rejection was entered as advised by the examiner (Paper No. 30).

BACKGROUND

The appellants' invention relates to a method of forming a synthetic resin formed article. An understanding of the invention can be derived from a reading of exemplary claims 1, 4, and 5 which are reproduced below².

1. A method of forming a synthetic resin formed article having a double-layer structure consisting of a base portion and a covering portion which covers an outer periphery of said base portion and which has an inwardly curved portion for covering an end portion of said base portion, said method comprising the steps of:

forming a sheet-like material into a predetermined shape by vacuum forming utilizing a vacuum forming die apparatus to obtain a preliminary covering portion;

trimming an end portion of said preliminary covering portion obtained in the forming step to obtain said covering portion of said formed article, said covering portion being formed via vacuum forming prior to formation of the base portion;

²We note that in claim 1, lines 25 and 26 (Paper No. 21), the phrase "the slide cores" appears to be inadvertently in the plural form, the previous recitation being to "a slide core" (claim 1, line 17).

setting said covering portion of said formed article on one of a first and second dies which constitute a press-type forming die with said curved portion of said covering portion being supported by a slide core located at a forefront portion;

setting a molten resin which is a forming material of said base portion into a gap between said first die and said second die in a state in which said covering portion of said formed article is being set on said first die;

clamping said press-type forming die in a state wherein said slide core is in contact with said second die at the forefront position and causing said molten resin to set, thereby forming said resin, the contact between the second die and the slide cores preventing leakage of molten resin and thus avoiding the formation of burrs;

compressing said covering portion so as to join said covering portion with said formed resin; and

opening said forming die and then removing the formed article obtained in said clamping step from said press-type forming die.

4. A method of forming a formed article having a double-layer structure consisting of a base portion and a covering portion which covers an outer periphery of said base portion, said method comprising the steps of:

forming a sheet-like material, made of a thermoplastic resin and having a surface layer and a foam layer, into a predetermined shape by vacuum forming to obtain a preliminary covering portion using a two-part die, one part of which is connected to an evacuation means, said sheet-like material being heated, said foam layer located at a corner in said two-part die being compressed thus causing said foam layer to be eliminated via action of said two-part die, said covering portion being formed prior to forming said base portion;

setting said covering portion of said formed article obtained in the forming step on one of a pair of dies which constitute a press-type forming die;

setting a molten resin which is a forming material of said base portion into a gap between said first die and said second die in a state in which said covering portion of said formed article is being set on said first die;

clamping said press-type forming die and causing said molten resin to set in a gap between said covering portion and said second die to form said resin and said covering portion into said formed article and preventing leakage of said molten resin from said two-part die and thus avoiding the formation of burrs on said formed article due to contact between said second die and a slide core member; and

opening said press-type forming die and then removing the formed article obtained in said clamping step from said press-type forming die.

5. A method of forming a formed article having a double-layer structure consisting of a base portion and covering portion that covers an outer periphery of said base portion and which has an inwardly curved portion for covering an end portion of the base portion, said method comprising the steps of:

forming a sheet-like material, made of a thermoplastic resin and having a surface layer and a foam layer, into a predetermined shape by vacuum forming to obtain a preliminary covering portion using a two-part die, one part of which is connected to an evacuation means, said sheet-like material being heated, said foam layer located at a corner in said two-part die being compressed and thereby eliminated by said two-part die;

trimming an end portion of said preliminary covering portion obtained in the forming step to obtain said covering portion of said formed article, said covering portion being obtained prior to formation of said base portion;

setting said covering portion of said formed article on one of a first and second dies which constitute a press-type forming die with said curved portion of said covering portion being supported by a slide core located at a forefront position;

setting a molten resin which is a forming material of said base portion into a gap between said first die and said second die in a state in which said covering portion of said formed article is being set on said first die;

clamping said press-type forming die in a state wherein said slide core is in contact with said other die at the forefront position and causing said molten resin to set in a gap between said covering portion and said other die to form it into said formed article, said contact between said slide core and said second die preventing leakage of said molten resin and thus avoiding the formation of burrs; and

opening said press-type forming die and then removing the formed article obtained in said clamping step from said press-type forming die.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

European Patent (Masui)	186 016	Jul. 2, 1986
European Patent (Suzuki)	343 245	Nov. 29, 1989

Claims 1-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Masui in view of Suzuki.

We make reference to the answer for the position of the examiner and to the brief and reply brief for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective arguments articulated by the appellants and the examiner. For the reasons which follow, we cannot sustain the rejection presented by the examiner in this appeal.

We find ourselves in agreement with appellants' basic contention (brief, pages 9-11 and the reply brief) that the teachings of Masui and Suzuki, even if combinable, would not have rendered the claimed process prima facie obvious to one of ordinary skill in the art. In this regard, we note that the method(s) defined by each of the three independent claims on appeal include, as part of the separately claimed process(es), the combined steps of: (1) vacuum forming a sheet-like material into a predetermined shape in a vacuum forming die to obtain a covering portion of a double-layer synthetic resin formed article having a base portion and a covering portion; (2)

setting the thus formed covering portion on one of the dies of a press-type die; and (3) forming a molten resin base portion of the article from molten resin set in the press-type die by clamping the press-type die that has the previously formed covering portion set therein.

The examiner cites Masui for teaching a method of forming a multi-layer laminated article using a press-type molding device wherein an upper layer member (cover portion) and molten resin (base portion) are both formed therein. Thus, Masui does not teach forming a cover portion into a predetermined shape using a vacuum forming die prior to the resin forming step and setting the thus formed cover portion on one of the dies of the press-type die wherein the resin is set and thereafter formed. In this regard, the examiner relies on the teachings of Suzuki for showing the use of a combination vacuum and press-type molding device in forming a decorative-sheet carrying laminated molding. However, we find that the examiner has failed to specifically point out how the combined teachings of Masui and Suzuki would have suggested the use of a vacuum die for modifying the method of Masui to arrive at the claimed invention. In our view, the teachings of Masui and Suzuki,

even if combinable, would have resulted in a method which, at best, somehow included the use of a vacuum assist in the press-type die of Masui wherein the cover portion and base portion are formed together in the same molding apparatus, not a process involving sequential use of a vacuum forming die for the cover formation and then a press-type molding device in which the previously formed cover portion is set and the base portion is formed from molten resin as claimed herein. Thus, in addition to other specifically claimed features argued by counsel with respect to the separate groupings of claims presented (brief, pages 5-13), we do not find that the combined steps as outlined above, which are common to all of the claims on appeal, would have been obvious to one of ordinary skill in the art from the applied reference teachings.

On the record of this appeal, the examiner has not carried the burden of establishing a prima facie case of obviousness with respect to the subject matter defined by the appealed claims. Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967),

cert. denied, 389 U.S. 1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellants' disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. See, e.g., Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

We disagree with the examiner's conclusion of obviousness of the claimed method, based on the combined teachings of Masui and Suzuki as the evidence relied upon. From our perspective, this rejection appears to be premised on unsanctioned hindsight reasoning.

Accordingly, the decision of the examiner to reject claims

1-10 under 35 U.S.C. § 103 as unpatentable over Masui in view
of Suzuki is reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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PETER F. KRATZ)	
Administrative Patent Judge)	

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