

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte GALYN SCHULZ

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Appeal No. 1999-1375  
Application 08/619,806

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HEARD: OCTOBER 25, 2000

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Before COHEN, McQUADE and LAZARUS, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Galyn Schulz appeals from the final rejection of claims 1 through 7 and 15 through 21, all of the claims pending in the application.

THE INVENTION

The invention relates to "a method of producing two-ply point-to-point embossed webs with equal embossed definition on both sides" (specification, page 1). Claim 1 is illustrative and reads as follows:<sup>1</sup>

1. A method of producing a multi-ply web comprising the steps of:

embossing a first ply between a first pair of matched embossing rolls including a first embossing roll having protuberances formed in a substantially rigid outer surface and a second embossing roll having protuberances formed in an outer surface formed of a resilient material thereby forming raised portions and recessed portions in said first ply;

embossing a second ply between a second pair of matched embossing rolls including a third roll having protuberances formed in an outer surface formed of a resilient material and a fourth roll having protuberances formed in a substantially rigid outer surface thereby forming raised portions and recessed portions in said second ply;

positioning said first and second pairs of matched

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<sup>1</sup>Read in light of the underlying specification and the claim language which precedes it, the reference in claim 7 to "said second roll" should instead be to --said third roll--.

embossing rolls such that said first embossing roll is positioned adjacent said third embossing roll forming a nip region between the protuberances formed in each roll;

applying an adhesive to the web carried by said first embossing roll; and

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adhering said first ply and said second ply to one another in said nip region;

wherein at least a portion of said raised portions of said first and second plies are adhered to one another and said recessed portions of said first and second plies are spaced from one another.

#### THE PRIOR ART

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

Thomas	3,738,905	June 12, 1973
Schulz (Schulz `671)	4,376,671	Mar. 15, 1983
Grupe	5,215,617	June 1, 1993
Schulz (Schulz `983)	5,269,983	Dec. 14, 1993

#### THE REJECTION

Claims 1 through 7 and 15 through 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schulz `671 or

Thomas in view of Schulz `983 and Grupe.

Attention is directed to the appellant's main and reply  
briefs (Paper Nos. 13 and 15) and to the examiner's answer  
(Paper

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No. 14) for the respective positions of the appellant and the  
examiner with regard to the merits of this rejection.

#### DISCUSSION

Schulz `671 and Thomas, the examiner's alternative  
primary references, both disclose a method of producing a  
multi-ply paper web.

In the context of the terminology employed in  
representative claim 1, the Schulz `671 method comprises the  
steps of embossing a first ply (web 21) between a first pair  
of rolls including an embossing roll (rigid steel embossing  
roll 11) having protuberances (13) formed in a substantially  
rigid outer surface and a second roll (resilient rubber backup  
roll 17) having an outer surface formed of a resilient

material to thereby form raised portions (embossments 24) and corresponding recessed portions in the first ply, embossing a second ply (web 22) between a second pair of rolls including a roll (resilient rubber backup roll 18) having an outer surface formed of a resilient material and an embossing roll (rigid steel embossing roll 12) having protuberances (14) formed in a substantially rigid outer

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surface to thereby form raised portions (embossments 26) and corresponding recessed portions in the second ply, positioning the first and second pairs of rolls such that the rigid embossing rolls are adjacent one another forming a nip region between the protuberances on each, applying an adhesive (via adhesive applicator 23) to the web carried by the first embossing roll and adhering the first ply and the second ply to one another in the nip region wherein at least a portion of the raised portions of the first and second plies are adhered to one another and the recessed portions of the first and second plies are spaced from one another.

Similarly, the Thomas method comprises the steps of

embossing a first ply (web 1) between a first pair of rolls including an embossing roll (metal embossing roll 4) having protuberances formed in a substantially rigid outer surface and a second roll (resilient rubber roll 2) having an outer surface formed of a resilient material to thereby form raised portions (embossments 6) and corresponding recessed portions in the first ply, embossing a second ply (web 12) between a second pair of rolls including a roll (resilient rubber roll 13) having an outer surface formed of a resilient material and an embossing roll

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(metal embossing roll 14) having protuberances formed in a substantially rigid outer surface to thereby form raised portions (15) and corresponding recessed portions in the second ply, positioning the first and second pairs of rolls such that the rigid embossing rolls are adjacent one another forming a nip region between the protuberances on each, applying an adhesive (via adhesive applicator 8) to the web carried by the first embossing roll and adhering the first ply and the second ply to one another in the nip region wherein at least a portion of the raised portions of the first and second

plies are adhered to one another and the recessed portions of the first and second plies are spaced from one another.

Neither Schulz '671 nor Thomas meets the limitations in independent claim 1, or the corresponding limitations in independent claim 15, requiring the resilient rolls to have protuberances and/or recessed portions and the nip for adhering/joining the two plies to be formed by the rigid roll of one roll pair and the resilient roll of the other roll pair. The appellant's specification (see pages 2 and 13) establishes that the latter feature reduces roll wear, generates less heat and

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requires less pressure as compared with prior art metal-to-metal nips. The examiner's reliance on Schulz '983 and Grupe to cure the foregoing deficiencies in Schulz '617 and Thomas is well taken with respect to the first deficiency, but not with respect to the second.

Schulz '983 and Grupe disclose roll pairs for embossing paper plies wherein each roll pair is composed of mated or

matched rigid and resilient rolls having complementary protuberances and recesses. The references teach that such mated or matched rolls afford a number of benefits including the production of high quality embossments (see, for example, Schulz `983 at column 2, line 57, through column 3, line 68; and Grupe at column 2, line 66, through column 3, line 2).

The examiner's conclusion (see page 7 in the answer) that it would have been obvious in view of Schulz `983 and Grupe to provide the resilient rolls of either Schulz `671 or Thomas with protuberances/recesses matching those on their associated rigid rolls to enhance embossment quality is amply supported by the fair teachings of the references and has not been specifically disputed by the appellant.

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Grupe, which discloses a web production method having much in common with the methods disclosed by Schulz `671 and Thomas, also teaches that

[t]oday, with the further development of laser engraving, the concept of matched embossing rolls can be extended to rubber rolls. As a result, any combination of steel/rubber or rubber/rubber matched embossing rolls is

within the scope of this invention, provided that the embossing roll which doubles as a backing roll for the rotogravure adhesive application is rubber [column 2, lines 2 through 9].

The examiner focuses on this passage (see, for example, pages 9 and 12 in the answer) as being suggestive of the limitations in claims 1 and 15 requiring the nip for adhering/joining the two plies to be formed by a rigid roll of one roll pair and a resilient roll of the other roll pair.

The passage in question, however, is a rather general statement of the advantages furnished by laser engraving in terms of producing rubber embossing rolls. It does not speak directly to adhering nips of the sort at issue here and does not expressly disclose the particular rigid-resilient adhering nip recited in claims 1 and 15; nor does it address or even recognize the

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problems (undue wear, heat and pressure) solved by the claimed rigid-resilient adhering nip. In this light, although an adhering nip meeting the terms of claims 1 and 15 arguably falls within the broad reach of Grupe's assertion that "any

combination of steel/rubber or rubber/rubber matched embossing rolls is within the scope of this invention" (column 2, lines 5 through 7), we agree with the appellant that Grupe alone or in any combination with Schulz `983 and either Schulz `671 or Thomas would not have suggested the rigid-resilient adhering nip set forth in claims 1 and 15. It is only through an impermissible hindsight reconstruction of the claimed invention that the examiner has reached the opposite conclusion.

Accordingly, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1 and 15, or of claims 2 through 7 and 16 through 21 which depend therefrom, as being unpatentable over Schulz `671 or Thomas in view of Schulz `983 and Grupe.

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SUMMARY

The decision of the examiner to reject claims 1 through 7 and 15 through 21 is reversed.

REVERSED

IRWIN CHARLES COHEN	)	
Administrative Patent Judge	)	
	)	
	)	BOARD OF PATENT
JOHN P. McQUADE	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
RICHARD B. LAZARUS	)	
Administrative Patent Judge	)	

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