

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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID J. MCGINTY, ERVIN T. POWERS, JR., HYUNKOOK SHIN,

ROGER K. SIEMIONKO and DAVID M. TAYLOR

Appeal No. 1998-3094
Application 08/550,968

ON BRIEF

Before PAK, WARREN and OWENS, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 37 and 42-48, which are all of the claims remaining in the application. In the examiner's answer, the examiner indicates claims 43 and 46 to be allowable (page 3). Thus, the claims before us are claims 37, 42, 44, 45, 47 and 48.

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THE INVENTION

The appellants claim a solution for flash-spinning plexifilimentary film-fibril strands of a fiber-forming crystalline polyolefin. The solution contains at least one charge-improving compound which, the appellants state, is for providing satisfactory electrostatic web charging performance of a flash spun plexifilimentary film fibril web at acceptable charge currents using and an environmentally suitable solvent (specification, page 3, lines 8-11). Claim 37 is illustrative:

37. A solution for flash-spinning plexifilimentary film-fibril strands of a fiber-forming crystalline polyolefin, said solution consisting essentially of 8 to 35 weight percent of the polyolefin and 92 to 65 weight percent of a spin liquid comprising a mixture of at least one saturated C₄-C₇ hydrocarbon and at least one charge-improving compound belonging to one of groups A and B,

wherein group A comprises compounds that have an atmospheric boiling temperature of less than 100°C and consists of one of carbon dioxide, hydrofluorocarbons, hydrochlorofluorocarbons, perfluoro-carbons, alcohols, aliphatic ketones, and polar solvents; and

wherein group B consists of compounds not listed in group A that are within the following categories of compounds:

compounds of the types listed in group A

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except having atmospheric boiling temperatures
of at least 100°C; halogen gases; acid halides;
halocarbons that are not listed in group A;
hydroxylic compounds, ethers, carboxylic acids;

esters; sulfur compounds; non-aliphatic ketones;
aldehydes; nitro compounds; nitrogen oxides;
nitriles; ammonia; amines; amides; and halogenated
derivatives of the above compounds which do not
already contain a halogen atom;

such that said spin liquid comprises at least
0.1 ppm of charge-improving compounds, up to ten
weight percent of group A charge-improving
compounds, and less than seventy-five weight percent
of group B charge improving compounds.

THE REFERENCE

Shin et al. (Shin) 5,147,586 Sep. 15,
1992

THE REJECTION

Claims 37, 42, 44, 45, 47 and 48 stand rejected under 35
U.S.C. § 103 as being unpatentable over Shin.¹

OPINION

We affirm the aforementioned rejection.

The appellants state (brief, page 3) that independent

¹ An obviousness-type double patenting rejection of claims 37 and 42-48
over claims 1-19 of Shin and a rejection of claims 37 and 42-48 under 35
U.S.C. § 103 over Shin in view of U.S. 3,387,326 to Hollberg et al. are
withdrawn in the examiner's answer (page 3).

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claims 37 and 42 do not stand or fall together, but make no separate argument regarding the patentability of these claims. The appellants also state that dependent claims 44, 45, 47 and 48 stand or fall separately, *see id.*, but do not provide an explanation as to why the appellants consider these claims to be separately patentable over the Shin reference taken alone. Accordingly, we limit our discussion to one claim, i.e., claim 37. *See In re Ochiai*, 71 F.3d 1565, 1566 n.2, 37 USPQ2d 1127, 1129 n.2 (Fed. Cir. 1995); 37 CFR § 1.192(c)(7)(1995).

The appellants' claims require that the polyolefin is crystalline. The term "crystalline polyolefin" is not defined in the appellants' specification. One of the two polyolefins which the appellants disclose as being typically used in their solution is polyethylene (specification, page 5, lines 19-20), which is a semicrystalline polymer having a crystallinity of 35-80%.² Accordingly, we consider polyethylene homopolymers, in general, to fall within the scope of "crystalline polyolefin" as that term is used by the appellants.

Shin discloses a solution for flash-spinning

² See 17 *Kirk-Othmer Encyclopedia of Chemical Technology* 708, 728 (John Wiley & Sons 4th ed. 1996).

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plexifilimentary film-fibril strands of a fiber-forming polyolefin (col. 2, lines 52-53). In figures 1, 3 and 4, the solution contains 22 wt% polyethylene, which falls within the appellants' range of 8-35 wt%, and 78 wt% of a pentane/co-solvent spin liquid (co. 5, lines 7-16), which falls within the appellants' range of 92-65 wt%. The co-solvents in figures 1, 3 and 4 are, respectively, methanol, HFC-134a (a hydrofluoro-carbon), and carbon dioxide. All of these co-solvents are in the appellants' group A,³ and the percentage of each co-solvent in the spin liquid in figures 1, 3 and 4 is 10 wt%. Thus, the solutions used to obtain Shin's figures 1, 3 and 4 anticipate the solution recited in the appellants' claim 37.

The solution in the appellants' claim 37 also is anticipated by the solutions in Shin's examples 7-9 (table 2). Each of these solutions contains 22 wt% polyethylene and 78 wt% pentane/co-solvent spin liquid, 10 wt% of which is carbon dioxide.

³ Shin teaches that the co-solvents have atmospheric boiling point temperatures which are less than 100°C (col. 6, lines 25-29).

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The appellants argue that their claims have been limited to certain charge improving compounds which are less than 10% of the total spin liquid (brief, page 4). The claimed solution actually includes up to 10 wt% of at least one group A compound, not less than 10 wt%. As discussed above, Shin discloses group A compounds present in an amount of 10 wt%.

The appellants argue that Shin's spin liquids must contain more than 10 wt% co-solvent in order for Shin's goal of increasing the cloud point by at least 200 psig to be reached (brief, page 4).⁴ The solution in the appellants' claim 37 is anticipated by the disclosed Shin solutions discussed above regardless of whether they are capable of producing Shin's desired cloud point increase.

Moreover, although Shin teaches that the amount of co-solvent must be greater than 10 wt% and must be sufficient to raise the cloud point by 200 psig (col. 3, lines 4-10 and 42-47; col. 4, lines 24-30), the disclosure that an amount of co-solvent of 10 wt% produces the desired cloud point increase

⁴ This argument is not factually correct because as shown in Shin's figures 1, 3 and 4, addition of 10 wt% of the co-solvent increases the cloud point by 200 psig or more.

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(figures 1, 3 and 4) would have fairly suggested, to one of ordinary skill in the art, use of 10 wt% co-solvent even though this amount is not greater than 10 wt%. Thus, Shin would have rendered the appellants' claimed solution *prima facie* obvious to one of ordinary skill in the art.

Because anticipation is the epitome of obviousness, see *In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 83 (CCPA 1975); *In re Pearson*, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974), and further because a *prima facie* case of obviousness has been established which has not been effectively rebutted by the appellants, we affirm the examiner's rejection under 35 U.S.C. § 103.

DECISION

The rejection of claims 37, 42, 44, 45, 47 and 48 under 35 U.S.C. § 103 over Shin is affirmed.

AFFIRMED

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CHUNG K. PAK)	
Administrative Patent Judge)	
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CHARLES F. WARREN)	APPEALS AND
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TERRY J. OWENS)	
Administrative Patent Judge)	

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