Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GAUTAM P. SHAH

Appeal No. 1999-0981[1]
Application 08/787,895

ON BRIEF

Before WARREN, OWENS and JEFFREY T. SMITH, *Administrative Patent Judges.*

WARREN, *Administrative Patent Judge.*

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellant, in the brief and reply brief, and based on our review, find that we cannot sustain grounds of rejection of appealed claims 14 and 20,[2] all of the claims in the application, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, under 35 U.S.C. § 103 as being unpatentable over Mueller,

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[1] This appeal is related to Appeal 1999-2661 in application 08/430,632, which we decide concurrently herewith.

[2] See the amendment of March 18, 1996 in patent application 08/433,279 (Paper No. 18) and the amendment of January 23, 1997 in the present application (Paper No. 14). We observe that

and under 35 U.S.C. § 103 as being unpatentable over Mueller in view of Bossaert et al. (Bossaert).[3] We determine that the examiner has failed to make out a *prima facie* case with respect to all grounds of rejection.

The dispositive issue in this appeal is the interpretation to be made of the claim language "two outer layers comprising a blend of propylene polymer or copolymer, and a hydrocarbon resin, wherein the hydrocarbon resin comprises a thermoplastic resin of low molecular weight made from relatively impure monomers that are derived from coal-tar fractions or petroleum distillates." We must interpret the claim in light of the written description in appellant's specification as it would be interpreted by one of ordinary skill in this art. *See In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). In this instance, our consideration of this matter also involves review of the ground of rejection under 35 U.S.C. § 112, second paragraph. The initial burden of establishing a *prima facie* case on any ground under the second paragraph of § 112 rests with the Examiner. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992*), citing In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984) ("As discussed in *In re Piasecki*, the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability."). In making out a *prima facie* case of non-compliance with this statutory provision on the basis that a claim is indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention, the examiner must establish that when the language of the claim is considered *as a whole as well as in view of the written description in the specification* as it would be interpreted by one of ordinary skill in the art, the claim in fact fails to set out and circumscribe a particular area with a reasonable degree of precision and particularity. *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). In other words, the operative standard for determining whether § 112, second paragraph, has been complied with is "whether those skilled in the art would understand what is claimed when the claim is read in light of the specification." *See The Beachcombers, Int'l. v. WildeWood*

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appealed claim 20 as it stands of record reads in part "the film is an oriented, heat shrinkable film" and not as set forth in the appendix to the brief.

[3] Answer, pages 4-9.

Creative Prods., 31 F.3d 1154, 1158, 31 USPQ2d 1653, 1656 (Fed. Cir. 1994), *quoting Orthokinetics Inc v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986).

It is clear that the plain language of the claim specifies two layers, each of which comprises a blend of a polymer or copolymer of propylene and a hydrocarbon resin, wherein the hydrocarbon resin comprises "a thermoplastic resin of *low molecular weight* made from *relatively impure* monomers that are derived from coal-tar fractions or petroleum distillates" (emphasis supplied).

The examiner contends that the phrase specifying the "hydrocarbon resin" material is indefinite because the italicized terms are "indefinite; it is not clear what is [sic] constitutes 'low molecular weight' and 'relatively impure monomers'" (answer, page 4). The examiner takes the position that "appellant's definition of the term 'hydrocarbon resin' in the specification is very broad, and included [sic, includes] all polymeric resins consisting of hydrogen and carbon" (*id.*, page 8, lines 8-9; see also page 6, last paragraph, page 9, lines 8-9; and page 10, lines 1-2).

We note here that the written description in the specification contains the following disclosure:

> "Hydrocarbon resin" ("HC" herein) and the like as used herein means resins made by the polymerization of monomers composed of carbon and hydrogen only. Thermoplastic resins of *low molecular weight* made from *relatively impure* monomers derived from coal-tar fractions, petroleum distillates, etc. are also included. A discussion of HC resins can be found e.g., in . . . [Bossaert] . . . . [Page 5, lines 4-10; emphasis supplied.]

Appellant submits that the claim language complies with the requirements of the statute because the definition of "hydrocarbon resin" in claim 14 is "a term of art in the chemical and technical literature"), pointing to "Whittington's Dictionary of Plastics, Third Edition, 1993" for the quoted "dictionary definition"

> [i]n the plastics industry, hydrocarbon resins are considered to be those thermoplastic resins of low molecular weight made from relatively impure monomers that are derived from coal-tar fractions, cracked-petroleum distillates, and turpentine. [Brief, page 13.]

In this respect, appellant further contends that "The Encyclopedia of Polymer Science & Engineering, Vol. 7, 1987, at page 758, contains a similar definition" (brief, page 13). Appellant

further points to, *inter alia*, Bossaert as an example that "hydrocarbon resin" is "also a term of art in the patent literature" (*id*.).

The examiner does not accept appellant's contentions that the claim language specifies a material known in the art, and points out that the range of molecular weights disclosed in Bossaert, "usually less than 5000, preferably less than 1000, for example 500 to 1000 (column 1, lines 65+) . . . is contradictory to the definition given in the Encyclopedia of Polymer Science and Engineering, which discloses hydrocarbon resins having a molecular weight of usually below 2000" (answer, pages 8-9).

We have found a definition similar to that quoted from "Whittington's" in *McGraw-Hill Dictionary of Scientific and Technical Terms*:[4]

> **hydrocarbon resins** Brittle or gummy materials prepared by the polymerization of several unsaturated constituents of coal-tar, rosin or petroleum . . . . [Page 967.]

We further find that Bossaert discloses low molecular weight resins, "usually less than 5000" molecular weight, which include "hydrocarbon resins" among "[s]uitable resins which can subsequently be hydrogenated," wherein

> Examples of hydrocarbon resins are polymers of coke oven gas, cracked naphtha, gas oil and terpene oil.
>
> Particularly preferred hydrocarbon resins are hydrogenated petroleum reins. These are usually prepared by catalytically hydrogenating a thermally polymerized steam cracked petroleum distillate fraction, especially a fraction having a boiling point of between 20° and 280° C. These fractions usually are of compounds having one or more unsaturated cyclic rings in the molecule, such as cyclo dienes, cycloalkenes and indenes. It is also possible to hydrogenate resins produced by the catalytic polymerization of unsaturated hydrocarbons. [Col. 1, line 63, to col. 2, line 20.]

Based on this record, we determine that one of ordinary skill in this art would have recognized the "low molecular weight" polymeric material required by claim 14 as specified by the term "hydrocarbon resin" as further characterized in the claim and the specification by the method and "relatively impure monomer" materials from which it is made. *See generally, In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Indeed, it is apparent from the recitation of the monomeric starting materials in the dictionary definitions and as further seen from Bossaert that one of ordinary skill in this art would have known that "hydrocarbon resins"

are simply not the carbon and hydrogen containing product of any polymerization process using any hydrocarbon monomer that contains any type of impurity as the examine contends.

Thus, we must conclude that the claim in fact set outs and circumscribes a particular area with a reasonable degree of precision and particularity, and accordingly, we reverse the ground of rejection under § 112, second paragraph.

In view of the requirements for a "hydrocarbon resin" in claim 14, the examiner must provide evidence in support of the allegation that "VLDPE[, that is, very low density polyethylene,] meets the . . . definition of a 'hydrocarbon resin' since it is made solely of hydrogen and carbon" (answer, page 6) in order to establish that the claimed thermoplastic multi-layer film would have been *prima facie* obvious over Mueller or the combined teachings of Mueller and Bossaert. Indeed, on this record, it seems that the only similarity between "VLDPE" and a "hydrocarbon resin" is hydrogen and carbon, as there appears to be a distinct difference in polymeric structure. As pointed out by appellant (brief, pages 14-17), the examiner has not provided such evidence. With respect to the combined teachings of Mueller and Bossaert, we find that the examiner has not explained why one of ordinary skill in this art would have been motivated to substitute a "hydrocarbon resin" of Bossaert for the apparently dissimilar "VLDPE" or for the copolyester in the polymer blend used in layers **42** and **50** of the multi-layer film of Mueller, and particularly has not addressed appellant's contention that such a substitution would not provide a barrier film within the teaching of Mueller. Indeed, the fact that the multi-layer film of Mueller could be modified by using the hydrocarbon resin disclosed by Bossaert does not alone provide the basis for combining the applied prior art. *See, e.g., In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

Accordingly, we reverse the grounds of rejection under § 103(a).

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[4] Sybil P. Parker, ed., New York, McGraw-Hill, Inc. 1994.

The examiner's decision is reversed.

Reversed

CHARLES F. WARREN Administrative Patent Judge	)	
TERRY J. OWENS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY T. SMITH Administrative Patent Judge	)	

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