

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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKASHI ISOGAI
and
NOBORU OHARA

Appeal No. 2003-1512
Application No. 09/256,709

ON BRIEF

Before LIEBERMAN, JEFFREY T. SMITH, and PAWLIKOWSKI, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 5 which are all the claims pending in this application.

THE INVENTION

The invention is directed to a UV curable resin composition which comprises a coating film. The film contains 10 - 30 % by weight of a methyl methacrylate polymer

having a molecular weight of 10,000 to 200,000. Additional limitations are described in the following illustrative claim.

THE CLAIM

Claim 1 is illustrative of appellants' invention and is reproduced below:

1. A UV curable resin composition for coating which comprises at least the coating film forming components:

(a) 10 - 70 % by weight of a mono- or bi- functional monomer having a molecular weight of 130 - 700, and having an ether bond and one or two acryloyloxy groups per molecule,

(b) 5 - 60 % by weight of an aliphatic urethane acrylate oligomer,

(c) 10-30 % by weight of a methyl methacrylate polymer having a molecular weight of 10000 to 200000,

and which also includes as necessary ingredients, relative to 100 parts by weight of said coating film forming components:

(e) 2 - 10 parts by weight of a photopolymerization initiator, and

(f) 2 - 20 parts by weight of a UV absorber.

THE REFERENCES OF RECORD

As evidence, the examiner relies upon the following references:

Nakayama et al. (Nakayama)	4,613,652	Sep. 23, 1986
Sakamoto	5,726,268	Mar. 10, 1998

THE REJECTIONS

Claims 1 through 5 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants' regard as the invention.

Claims 1 through 5 stand rejected under 35 U.S.C. 35 U.S.C. § 112, paragraph one, as the specification, as originally filed, does not provide support for the invention as now claimed and for failing to enable any person skilled in the art to make and use the invention.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the appellants that the rejection of the claims under Section 112, first paragraph is not well founded. We agree with the examiner that the rejection of the claims under Section 112, second paragraph is well founded. Accordingly, we sustain the examiner's Section 112, second paragraph rejection for the reasons discussed herein.

As an initial matter, it is the appellants position that, "[c]laims 1, 2, 3, 4, and 5 stand or fall as a group." See Brief, page 4. Accordingly, we select claim 1 as representative of the claimed subject matter and limit our consideration thereto. See 37 CFR §1.192(c)(7) (2000).

The Rejections under Section 112

Any analysis of the claims for compliance with 35 U.S.C. § 112 should start with

the second paragraph, then proceed with the first paragraph. In re Angstadt, 537 F.2d 498, 501, 190 USPQ 214, 217 (CCPA 1976). “The legal standard for definiteness [under the second paragraph of 35 U.S.C. § 112] is whether a claim reasonably apprises those of [ordinary] skill in the art of its scope.” In re Warmerdam, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). The inquiry is to determine whether the claim sets out and circumscribes a particular area with a reasonable degree of precision and particularity. The definiteness of the language employed in a claim must be analyzed not in a vacuum, but in light of the teachings of the particular application. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

It is the examiner’s position that the claimed subject matter is indefinite in that, “[t]he failure to disclose the type of molecular weight is indefinite because the scope of the claims is not clear.” See Answer, page 9. We agree with the examiner’s position.

The claimed subject matter is directed to a methyl methacrylate polymer having a molecular weight of 10,000 to 200,000. We find that the specification is devoid of any disclosure identifying whether the stated molecular is a weight average molecular weight, a number average molecular weight or some other designated polymeric molecular weight. Weight average molecular weight is related to the weight of the molecules in a certain molecular weight class, whereas number average molecular weight is dependent on the

number of molecules present in a given molecular weight class.¹ Regardless of the molecular weight designation, there are numerous methods utilized to obtain molecular weight measurements and the values obtained depend upon the method of measurement. See Ex Parte Simpson, 61 USPQd2d 1009, 1011-12 (Bd. Pat. App. & Int. 2001). The aforesaid case is substantially directed to the same issue of absence of molecular weight identity as it related to the scope of the claimed subject matter. To the extent that the factual presentation is substantially the same as the subject matter before us, we incorporate the findings and analysis in our decision herein.

The issue before us is the scope of the molecular weight encompassed by the molecular weight range. The appellants have submitted a declaration by one of the inventors Isogai wherein the declarant states, “that in the application as originally filed, I was referencing a number average molecular weight for the methyl methacrylate polymer. Accordingly, the reference, for example 10-30% by weight of methacrylate polymer having a molecular weight range of 10,000 to 200,000 in claim 1, as originally filed, was intended to indicate a number average molecular weight.” In contrast the appellants argue that, “[t]he fact that there may be more than one way of calculating molecular weight does not make the boundaries of the claims ambiguous.” See Reply Brief, page 4. Furthermore the appellants state that 10-30% of a methyl methacrylate polymer having a Z-average

¹Encyclopedia of Chemical Technology, John Wiley & Sons, Volume 18, page 207 (3rd ed. 1982).

molecular weight of 10,000 to 200,000 would read on claim 1. See Brief, page 15. Stated otherwise, although neither the specification nor the claims designate the type of molecular weight utilized for the methacrylate polymer, the inventor declares that the molecular weight referred exclusively to a number average molecular weight while the appellants also argue that the scope of the claims is intended to read on any molecular weight designation provided only that it falls within the range of 10,000 to 200,000. These two arguments not only conflict with each other, they add to the ambiguity and indefiniteness of the claimed subject matter.

Furthermore, the examiner has declined to give weight to the statement of declarant Isogai that the molecular weight designated is a number average molecular weight and finds it to be self serving and unsupported by evidence. We agree to the extent that there is no supporting evidence. We further conclude that the appellants have failed to establish that the examiner erred in failing to give weight to the declarant Isogai.

Furthermore, the record before us contains numerous references cited by both the examiner and the appellants. Each of the references define molecular weight of polymers similar to those present in the claimed subject matter in terms of the number average molecular weight, the weight average molecular weight or other molecular weight designations. We conclude based upon this evidence that the molecular weight is usually and customarily explicitly identified including the nature of the molecular weight to which reference is made. In addition, the appellants acknowledge that molecular weight can be

calculated in different ways. See Reply Brief, page 4.

Based upon the above findings and analysis, we conclude that the absence of a molecular weight designation renders the claims indefinite. Accordingly, the rejection of the examiner under Section 112, second paragraph is sustainable.

The Rejection under Section 112, First Paragraph

We turn next to the examiner's rejection under the first paragraph of 35 U.S.C. Section 112, first paragraph, on the grounds of lack of enablement. When rejecting a claim under the enablement requirement of section 112, the PTO bears the initial burden of setting forth a reasonable explanation as to why it believes the scope of protection provided by the claimed subject matter is not adequately enabled by the description of the invention provided in the specification of the application. This includes providing sufficient reasons for doubting any assertions in the specification as to the scope of enablement. If this burden is met, the burden then shifts to the appellants to provide suitable proofs that the specification is enabling. In re Wright, 999 F.2d 1557, 1561-62, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993); In re Marzocchi, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971).

The examiner's position is that the claimed subject matter is not enabled in the specification, because

[t]he instant specification teaches that the claimed molecular weight is critical to the practice of appellants invention. Specifically on page 9, Appellants' disclose that if the molecular weight of the methyl methacrylate polymer (c) is less than 10,000, the adhesion to the base layer and weatherability are reduced, and if the molecular weight exceeds 200,000, the viscosity of the composition for forming a coating increases, and as a result, the spreadability decreases and it becomes difficult to obtain a smooth film surface. Since the molecular weight of large polymers can vary significantly,

depending on the measurement technique used, one skilled in the art seeking to use a polymer of a specific molecular weight would necessarily have to know the type being referred to. [Answer, page 4.]

Stated otherwise, it is the examiner's position that, "***[b]y failing to disclose the type of molecular weight, the specification does not enable one skilled in the art to make and use the claimed invention without 'undue experimentation.'***" See Answer, page 6.

The claims are indeed broad and determining the particular molecular weight designation would undoubtedly be time consuming. However, it is the initial burden of the PTO to show that the disclosure entails undue experimentation. See In re Angstadt, 537 F.2d 498, 503, 504, 190 USPQ 214, 219 (CCPA 1976). Moreover as stated in Ex Parte Jackson, 217 USPQ 804, 807 (Bd. App. 1982), "[t]he determination of what constitutes undue experimentation in a given case requires the application of a standard of reasonableness, having due regard for the nature of the invention and the state of the art." Furthermore, "[t]he test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed to enable the determination of how to practice a desired embodiment of the invention claimed."

We are persuaded that the degree of experimentation required to determine the requisite molecular weight designation is routine and that any person having ordinary skill in the art would be able to easily determine the specific molecular weight designation needed and while the experimentation necessary to practice the full scope of the claimed subject matter, while possibly considerable, would not be undue.

Accordingly, we will not sustain the rejection under Section 112, first paragraph.

DECISION

The rejection of claims 1 through 5 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants' regard as the invention is affirmed.

The rejection of claims 1 through 5 under 35 U.S.C. 35 U.S.C. § 112, first paragraph, for failing to enable any person skilled in the art to make and use the invention is reversed.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

PAUL LIEBERMAN)	
Administrative Patent Judge)	
)	BOARD OF PATENT
)	APPEALS AND
)	INTERFERENCES
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)	
BEVERLY A. PAWLIKOWSKI)	
Administrative Patent Judge)	

JEFFREY T. SMITH, Administrative Patent Judge, concurring.

I agree with the majority's affirmance of the rejection under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants' regard as the invention.

I concur with the result of reversing the Examiner's rejection under respectfully 35 U.S.C. § 112, first paragraph, as the specification, as originally filed, does not provide support for the invention as now claimed and for failing to enable any person skilled in the art to make and use the invention. However, my reasons differ.

Any analysis of the claims for compliance with 35 U.S.C. § 112 should start with the second paragraph, then proceed with the first paragraph. In re Angstadt, 537 F.2d 498, 501, 190 USPQ 214, 217 (CCPA 1976).

I agree with the majority's factual findings, analysis and conclusion that the absence of a molecular weight designation renders the claims indefinite. Thus, claims 1 to 5 do not comply with the requirements of 35 U.S.C. § 112, second paragraph. (*Slip op. pages 3-6*).

Since the specification is devoid of any disclosure identifying whether the stated molecular is a weight average molecular weight, a number average molecular weight or some other designated polymeric molecular weight. I am of the opinion that Appellants do not particularly point out and distinctly claim the subject matter which they regard as their invention in a manner such that a skilled person would be able to determine the metes and

bounds of the claimed invention with the precision required by the second paragraph of 35 U.S.C. § 112. See In re Hammack, 427 F.2d 1378, 1382, 166 USPQ 204, 208 (CCPA 1970).

Since the metes and bounds of the claimed invention cannot be determined, I do not believe that we should determine the merits of the rejection under the first paragraph of Section 112. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971)(If upon analysis the claims were found to be indefinite under the second paragraph of Section 112, they could not even be analyzed under the first paragraph of §112, because that analysis of the claims could not be carried out unless one was able “to determine exactly what subject matter they encompass”). Cf. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)(“[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art. If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious-the claim becomes indefinite.”); In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962)(Before claimed subject matter can properly be compared to the prior art, it “is essential to know what the claims do in fact cover”.)

Accordingly, I am constrained to reverse, pro forma, the Examiner's rejections of claims 1 through 5 under 35 U.S.C. § 112, first paragraph.

JEFFREY T. SMITH
Administrative Patent Judge

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