

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL K. ALDRIDGE

Appeal No. 96-3615
Application 08/237,567¹

ON BRIEF

Before ABRAMS, STAAB and McQUADE, *Administrative Patent Judges*.

STAAB, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 4-8, 13-15, 17 and 23-30, and from the examiner's refusal to allow claim 31 added by an amendment

¹ Application for patent filed May 3, 1994.

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filed subsequent to the final rejection.² Claims 1-3, 9-12, 16 and 18-22 have been canceled. No other claims are currently pending.

Appellant's invention pertains to an apparatus and method for mixing compositions of matter and detecting the homogeneity thereof "on-line."³ Independent claims 31 and 25, copies of which appear in the appendix to appellant's brief, are representative of the claimed apparatus and method, respectively.

The references of record relied upon by the examiner in support of rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103 are:

Fischer	2,514,126	Jul. 4, 1950
Westhof et al. (Westhof) ⁴	3,337,403	May 2, 1985

² In the final rejection (Paper No. 8, mailed May 17, 1995), the examiner inadvertently included claim 12 as a rejected claim despite claim 12 having been canceled by a prior amendment (Paper No. 7, submitted February 6, 1995).

³ "The term on-line means that the blender does not have to be turned off in order to take the measurements to determine homogeneity and potency." Specification, page 2.

⁴ Our understanding of this German language document is derived from a translation prepared on behalf of the Patent and Trademark Office. A copy of said translation is attached

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(German Patent)

Alonso et al., *Powder Coating in a Rotary Mixer with Rocking Motion*, Powder Technology, 1988, pp. 134-141.

Fan et al., *Recent Developments in Solids Mixing*, Powder Technology, 1990 pp. 255-287.

The following rejections are before us for review:⁵

(a) claims 23, 24, 29, 30 under 35 U.S.C. § 112, second paragraph, as being indefinite;

(b) claims 4, 25, 27, 31 under 35 U.S.C. § 102(b) as being anticipated by Alonso;

(c) claims 5-8, 13-15, 17, 23, 24, 29 and 30 under 35 U.S.C. § 103 as being unpatentable over Alonso in view of Fan;

(d) claims 5-8, 13-15, 17, 23, 24, 29 and 30 under 35 U.S.C. § 103 as being unpatentable over Alonso in view of Fischer; and

(e) claims 26 and 28 under 35 U.S.C. § 103 as being

to this opinion.

⁵ The examiner has also objected to the drawings under 37 CFR § 1.83(a) for allegedly failing to show every feature of the invention specified in the claims. Matters within the examiner's discretion, such as objections to the drawings, are not subject to our review. Rather, such matters may be resolved by petition to the Commissioner under 37 CFR § 1.181.

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unpatentable over Westhof in view of Alonso.

The rejections are explained in the examiner's answer (Paper No. 15, mailed May 13, 1996).

The opposing viewpoints of appellant are set forth in the brief (Paper No. 14, filed December 15, 1995).

*The 35 U.S.C. § 112, Second Paragraph, Rejection
(rejection (a))*

In rejecting claims 23, 24, 29 and 30 under 35 U.S.C. § 112, second paragraph, the examiner alleges that the term "said arbor," which appears in various places in claims 23, 24, 29 and 30, lacks proper antecedent basis. For the reasons stated by appellant on pages 8 and 9 of the brief, the examiner's position in this regard is not well taken.

The examiner also considers claim 23 to be unclear because (answer, page 4):

I. Part (i) of (a) [of claim 23] refers to the container having [an] aperture.

Part (vi) of (a) [of claim 23] refers to the container having an aperture. Are the apertures of parts (i) and (vi) the same apertures or different ones? How are these apertures related to each other?

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II. Part (xi) of (a) [of claim 23] refers to said aperture. What aperture does this refer to?

While we appreciate the examiner's point, we believe an artisan would understand, when reading the claim in light of the specification, that the aperture recited in sub-paragraph (vi) of

claim 23 is the same aperture as the one recited in paragraph (i) thereof.⁶

In light of the foregoing, we will not sustain the

⁶ In the interest of further clarifying the claim language, appellant may wish to change the language "said container having an aperture disposed" in subparagraph (a)(vi) of claim 23 to --said aperture being disposed--. Similarly, appellant may wish to change "said container has an aperture disposed" (claim 5, paragraph (c)) to --said aperture being disposed--, and "means for detecting" (claim 23, subparagraph (a)(xvii) to --said means for detecting--. In addition, it appears that "said detection means" in claim 17 should be --said spectroscopic means--, and that "said aperture" (claim 27, paragraph (b); claim 28, paragraph (b)) should be --said one or more apertures--.

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standing rejection of claims 23, 24, 29 and 30 under 35 U.S.C. § 112, second paragraph.

*The 35 U.S.C. § 102(b) Rejection based on Alonso
(rejection (b))*

At the outset, consistent with appellant's specification, we interpret the detection means called for in paragraph (b) of claim 31 to comprise the spectroscopic means of paragraph (c) and the conduction means of paragraph (d), rather than means separate and distinct from that which is called for in paragraphs (c) and (d).

Alonso pertains to an apparatus for (1) coating a coarse granular material with a fine cohesive powder, and (2) measuring continuously by optical means the fraction of granular material coated by the fine powder. The mixing is accomplished by a rotary barrel-type mixer. The measuring means includes a series of probes which appear to be continuously submerged in the mixture, each probe including plastic optical fibers for transmitting light to and from the mixture. The light reflected by the mixture is sensed by a remote photosensitive diode. The sensed light signal is thereafter filtered and rectified to obtain a signal

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proportional to the intensity of the reflected light. The examiner has implicitly found, and appellant does not dispute, that the measuring means of Alonso constitutes a spectroscopic measuring means.

Independent claim 31 calls for the container of the mixing means to have an aperture, and a pellucid sealing means for sealing said aperture. Independent claim 27 contains similar language. In rejecting these claims as being anticipated by Alonso, the examiner has taken the position that the glass plate at the end of the probe in Figure 2 of Alonso meets this limitation. We agree with appellant, however, that the corresponding aperture in the experimental set-up of Alonso is the aperture in the right-hand end of the mixer barrel formed by the cylindrical shaft, and that the glass plate at the end of the probe clearly does not seal this aperture. Accordingly, we will not sustain the standing § 102 rejection of independent claims 31 and 27, or claim 4 which depends from claim 31.

Independent method claim 25 includes the step of detecting on-line the spectroscopic characteristics of the mixture during the mixing process, wherein on-line detecting

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"is synchronized with the detecting of the rotational position of said container by means of a means for detecting rotational position." The examiner has taken the position (answer, page 12) that this step is inherent and/or essential in Alonso. The examiner's position is not reasonable in that he has provided no evidence or convincing scientific reasoning in support thereof, and none is apparent to us. We therefore will not sustain the standing § 102 rejection of claim 25.

The 35 U.S.C. § 103 Rejection based on Alonso and Fan or Fischer

(rejections(c) and (d))

Claims 5-8 depend either directly or indirectly from claim 31 and therefore require, through their dependency, that the container have an aperture, and that the pellucid sealing means seal said aperture. Fan is relied upon by the examiner for its teaching of a V-blender. Fischer is relied upon in a simpler capacity. While the secondary references indeed disclose V-blenders, neither of them contain any teaching which makes up for the deficiency of Alonso with respect to the aperture and pellucid sealing means limitation discussed above. Therefore, the standing § 103 rejections of claims 5-8

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based on Alonso and either Fan or Fischer cannot be sustained.

Claims 13-15 depend from canceled claim 12. For this reason, their scope is indeterminate. While we might speculate, as urged by appellant⁷ and as apparently done by the examiner⁸, on precisely what subject matter is covered by claims 13-15, we are reluctant to do so in light of the guidance in such matters provided by a predecessor of our court of review. *In re Steele*, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962) ("Our analysis of the claims indicates that considerable . . . assumptions as to the scope of such claims were made by the examiner and the board. We do not think a rejection under 35 U.S.C. 103 should be based on such speculation and assumption."); *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ("If no reasonably definite meaning can be ascribed to certain terms of the claim, the subject matter does not become obvious - the claim becomes indefinite."). As a result, we are constrained to reverse the examiner's rejections of claims 13-15 under 35

⁷ See the paragraph spanning pages 23 and 24 of the brief.

⁸ See page 3 of the answer.

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U.S.C. § 103. We add that this reversal is not based on the merits of the examiner's rejections. We take no position as to the pertinence of the applied prior art to the specifics of these claims.

Independent claim 23 requires, inter alia, a brace attached to the support for the container and a means for detecting rotational position attached to said brace. Independent claim 29 contains similar language. This feature is not disclosed or suggested by the combined teachings of Alonso and Fan, or the combined teachings of Alonso and Fischer. It follows that we cannot sustain the standing § 103 rejections of these claims, or claim 30 which depends from claim 29, based on Alonso and either Fan or Fischer.

Claim 24 is directed to an apparatus comprising a V-blender having an aperture, an arbor having a tunnel therethrough sealing said aperture, means for rotating the V-blender about said arbor, and detection means including a spectroscopic means for detecting on-line the homogeneity of the mixture in the V-blender. The detection means includes means for conducting radiation to and from the mixture, with said means for conducting being removably inserted in the

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tunnel of the arbor.

In rejecting this claim, the examiner asserts that Alonso discloses everything except that the blender is not a V-blender. The examiner considers that it would have been obvious to provide a V-blender in Alonso in view of Fan or Fischer "since the 'v' shaped container is well known and used in the art of mixing among many other types of containers as taught by Fan [or Fischer]" (answer, pages 5-6). Implicit in the rejections is the examiner's position that the modified Alonso apparatus would correspond to the claimed subject matter in all respects.

From our perspective, the examiner's foundation position that it would have been obvious to provide a V-blender in Alonso in view of Fan or Fischer is questionable at the outset for at least two reasons. First, it is not clear that the multiple probes of Alonso, which appear to be continuously submerged in the powder mixture, would function properly in a V-blender, where they would most likely not be continuously submerged in the mixture. Second, the examiner has not advanced any persuasive argument as to whether a V-blender,

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wherein mixing takes place primarily by diffusion (Fan, Table 1), would be a viable alternative for achieving Alonso's "ordered mixing" (i.e., coating a coarse granular material with a fine cohesive powder), where the mechanism for intermixing the coarse and fine materials is by transferring fine particles from one coated particle to another by "collision, friction and shearing" (Alonso, page 137, column 1).

In any event, even if we were to agree with the examiner that it would have been obvious as a general proposition to provide a V-blender in Alonso in view of Fan or Fischer, it is questionable that the subject matter of claim 24 would result.

Alonso states that

actually the dye is not uniformly distributed in the coated powder; rather a few particles are likely to be highly coated while a few others are just starting to be coated. For the time being *it is not possible to measure this distribution* and it will be assumed that most of the particles are coated to the same extent so that only the mean value of the distribution will be considered hereafter. [page 137, column 1; emphasis added]

Given this disclosure, it is debatable whether the photosensitive diodes of Alonso are capable of functioning to

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detect on-line the *homogeneity*⁹ of a mixture, as called for in the function portion of the means-plus-function limitation of paragraph (b) of claim 24. Also, it is not seen where the combined teachings of Alonso and either Fan or Fischer teach an arbor with a tunnel *sealing* the aperture of the blender, with the conduction means being *removably inserted* in the tunnel of the arbor, as now claimed. In this regard, we note that the corresponding aperture in the right hand side of the barrel of Alonso is neither disclosed as being sealed, nor required to be sealed since the level of the powder mixture in the barrel is below the level of the aperture.

In light of the foregoing, the standing § 103 rejections of claim 24, and claim 17 which depends therefrom, are not sustainable.

*The § 103 Rejection based on Westhof and Alonso
(rejection (e))*

Westhof pertains to an apparatus for monitoring the progress of mixing concrete by a TV camera. The ingredients

⁹ "[H]omogeneity of a pharmaceutical composition refer[s] to the *distribution* of the active drug in the pharmaceutical composition" (specification of the present application, page 1; emphasis added).

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for the concrete are introduced into a mixing chamber and the mixing process is continuously observed by high resolution TV camera 13 through window 15 in the mixing chamber. As stated by Westhof, "[b]y watching the monitor while the mixture is made, the actual recipe can be qualitatively compared with the set values" (translation, page 8). In this way, "the mixing supervisor [can] be confident of maintaining the required quality standards and hence recognize possible problems before delivery to the work site" (translation, page 9).

Claim 26 is directed to a method of homogeneously mixing compositions of matter and detecting on-line the homogeneity of the mixture which includes the step detecting on-line the homogeneity and potency of the mixture with spectroscopic means. Apparatus claim 28 is similarly limited in the sense that it requires a spectroscopic means for detecting on-line the homogeneity of the mixture.

In rejecting these claims, the examiner has taken the position that Westhof discloses everything "except is vague as to measuring/using a spectroscopic means." The examiner has taken the position, however, that it would have been obvious to one of ordinary skill in the art to modify Westhof to

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incorporate a spectroscopic measuring means therein in view of Alonso because "measuring spectroscopically the material being mixed allows for a more effective accurate result" (answer, page 6).

We fail to perceive any teaching, suggestion, or incentive in either of the applied references which would have led one of ordinary skill in the art to modify Westhof to include spectroscopic measuring means as proposed by the examiner. There is no indication in Westhof of any particular problem associated with the use of a TV camera for monitoring the mixing process. Further, it is not apparent why using a spectroscopic means like that of Alonso to monitor the progress of Westhof's process would allow for more accurate results, notwithstanding the examiner's statement to the contrary. In this respect, the examiner's position is speculative. Finally, there is no indication in either of the references that a measuring means of the type disclosed by Alonso, which appears to be continuously submerged in the mixture, would be capable of effectively monitoring a process like that of Westhof. In this regard, the differences in structure and manner of operation of the remote camera

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detecting means of Westhof and submerged probes and photosensitive diodes of Alonso raise significant questions as to the feasibility of using a detection means of the sort disclosed by Alonso in Westhof. In short, the disparate teachings of the applied references lead us to conclude that the proposed modification is based on the use of impermissible hindsight rather than on that which is fairly suggested by the references.

It follows that the standing § 103 rejection of claims 26 and 28 based on Westhof and Alonso cannot be sustained.

New Rejection under 37 CFR § 1.196(b)

Pursuant to our authority under 37 CFR § 1.196(b), we enter the following new rejection.

Claims 13-15 are rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter sought to be patented because they each depend, either directly or indirectly, from a canceled claim.

Summary

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Each of the standing rejections is reversed. Our reversal of the standing rejections of claims 13-15 is not based on the merits of the examiner's rejections. We take no position as to the pertinence of the applied prior art to the specifics of these claims.

A new rejection of claims 13-15 pursuant to 37 CFR § 1.196(b) has been made.

The decision of the examiner is reversed.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)).

37 CFR

§ 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings

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(§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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

REVERSED; 37 CFR § 1.196(b)

NEAL E. ABRAMS)	
Administrative Patent Judge)	
)	
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)	
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