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EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

Ex parte JASON N. CAMPBELL and BRUCE W. HUDSON

Appeal 2019-001635
Application 11/928,559
Technology Center 1700

Before BEVERLY A. FRANKLIN, CHRISTOPHER L. OGDEN, and MERRELL C. CASHION, JR., *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] requests our review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1–3, 9–16, and 22–33. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We reverse.

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[1] We use the word "Appellant" to refer to "Applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Evonik Corporation. Appeal Br. 1.

STATEMENT OF THE CASE

Claim 1 is illustrative of Appellant's subject matter on appeal and is set forth below:

> 1. A method of producing a spheroid polymer particle, comprising:
> a. providing a mixture comprising a non-spheroid polymer particle and a liquid medium, wherein the polymer particle comprises one or more secondary components selected from the group consisting of pharmaceutical, biomolecule, imaging agent, targeting moiety, or magnetic particle, wherein the liquid medium comprises a surfactant; and wherein the polymer particle is at least partially insoluble in the liquid medium;
> b. heating the mixture above the glass transition temperature or the melting temperature of the polymer while mixing the mixture; and
> c. cooling the mixture to below the glass transition temperature or melting temperature of the polymer,
> thereby producing a spheroid polymer particle;
> wherein the non-spheroid polymer particle comprises a poly(lactide-glycolide) copolymer, lactide homopolymer, glycolide homopolymer, caprolactone, or a mixture thereof.

Independent claims 14 and 32 are directed to methods similar to claim 1 that also require the same polymer particle and heat treatment recited in claim 1.

The Examiner relies on the following prior art references as evidence of unpatentability:

Lerman et al. (hereafter "Lerman")	US 3,586,654	June 22, 1971
Churchill et al. (hereafter "Churchill")	US 4,526,938	July 2, 1985
Woiszwillo et al. (hereafter "Woiszwillo")	US 5,981,719	Nov. 9, 1999

Vergez et al. US 6,676,933 B2 Jan. 13, 2004
(hereafter "Vergez")

Mallinckrodt Baker, Inc., *Polyethylene Glycol MSDS*, 11/21/2008 (hereafter "MSDS").

Chun, *Biodegradable PLGA Microcarriers for Injectable Delivery of Chondrocytes: Effect of Surface Modification on Cell Attachment and Function*, Biotechnol. Prag. 2004, 20, pg. 1797-1801.

THE REJECTIONS

1. Claims 1–3, 9–16, and 22–32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Woiszwillo in view of Lerman and Churchill (claims 1 and 14 evidenced by MSDS and claims 3 and 16 as evidenced by Vergez).

2. Claim 33 is rejected under 35 U.S.C. §103(a) as being unpatentable over Woiszwillo in view of Lerman and Churchill as applied to claims 1–3, 9–16, and 22–32 above, and further in view of Chun.

ANALYSIS

Upon consideration of the evidence and each of the respective positions set forth in the record, we find that the preponderance of evidence supports Appellant's position in the record. We thus reverse the Examiner's decision to reject claims 1–3, 9–16, and 22–33 for the reasons provided by Appellant in the record, and add the following for emphasis.

We are persuaded by Appellant's argument (Appeal Br. 7) that Woiszwillo cannot be used to teach Appellant's claimed feature of heating

the mixture to a temperature above the glass transition temperature or the melting temperature of poly(lactide-glycolide) copolymer, lactide homopolymer, glycolide homopolymer, and caprolactone as recited in claim 8 based on Woiszwillo's PEG. Appeal Br. 4.

The Examiner contends that Woiszwillo teaches the incubation temperature varies based on the materials, concentrations, and ultimate function of the particle. Ans. 3; Woiszwillo col. 12, ll. 54–67. However, Woiszwillo's particular disclosure does not mention the claimed poly(lactide-glycolide)copolymer, lactide homopolymer, glycolide homopolymer, or caprolactone. In addressing Appellant's arguments, the Examiner does not provide an adequate technical explanation with the requisite rational underpinning of why or how a person of ordinary skill in the art would have arrived at the claimed invention from the teachings of the cited art.[2]

Furthermore, Appellant presents arguments that Woiszwillo teaches away from using the claimed polymers in the disclosed process by explaining that the claimed compounds result in microspheres havings undesirable characteristics for Woiszwillo's purposes. Appeal Br. 4–6; Woiszwillo col. 1, ll. 48-65, col. 2, ll. 46–65. The Examiner's response that there is no evidence that the polymers of Churchill, including caprolactone, would have the same negative effects discussed in Woiszwillo, or that the

[2] "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), quoted with approval in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

polymers of Churchill would not be suitable for the method of Woiszwillo, even if a large bore needle or larger quantities would be needed, is also insufficient to support a determination of obviousness. Ans. 2. Moreover, as pointed out by Appellant in the record, Woiszwillo does discuss the negative effects of caprolactone (among other polymers mentioned). Appeal Br. 4–6. Thus, the Examiner's response to this argument also fails to explain sufficiently how a person of ordinary skill in the art would have arrived at the claimed invention from the teachings of the cited art.

In view of the above, we reverse Rejections 1 and 2 for the reasons presented by Appellant and given above.[3]

CONCLUSION

In summary:

Claims Rejected	**35 USC §**	**Basis**	**Affirmed**	**Reversed**
1–3, 9–16, 22–32	103(a)	Woiszwillo, Lerman, Churchill, MSDS, Vergez		1–3, 9–16, 22–32
33	103(a)	Woiszwillo, Lerman, Churchill, MSDS, Vergez, Chun		33
Overall outcome				1–3, 9–16, 22–33

REVERSED

[3] The additionally applied reference of Chun in Rejection 2 was not used by the Examiner to cure the aforementioned stated deficiency of the combination of references applied in Rejection 1. *See* Non-Final Act.