

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JIANN H. CHEN,
STEPHEN V. DAVIS, ROBERT A. LANCASTER
and ALLEN KASS

Appeal No. 2004-1287
Application 09/211,410

ON BRIEF

Before OWENS, KRATZ, and DELMENDO, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 3, 6-14 and 16-21, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a fuser member¹ including a metallic core and a layer of composite material including an aluminum powder and a cross-linked poly(dialkylsiloxane) formed over the core. An understanding of the invention can be derived from a reading of exemplary claim 6, which is reproduced below.

6. A fuser member having a support metallic core and a layer of material formed over the metallic core, the layer including composite material, comprising:

(a) an aluminum powder having an average particle size less than 25 microns and being present in an amount less than 30 weight percent;

(b) a cross-linked poly(dialkylsiloxane) incorporating an oxide, wherein the poly(dialkylsiloxane) has a weight average molecular weight before crosslinking of about 5,000 to 80,000; and

(c) a silane crosslinking agent.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Fitzgerald	5,292,606	Mar. 08, 1994
Visser et al. (Visser)	5,654,052	Aug. 05, 1997
Law et al. (Law)	5,837,340	Nov. 17, 1998

Claims 3, 6-10, 14 and 16-21 stand rejected under 35 U.S.C.

¹ Fusing members are employed for affixing toner material to a receiving sheet in a photocopying device.

§ 103(a) as being unpatentable over Visser in view of Law. Claims 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Visser in view of Law and Fitzgerald.

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

OPINION

Having carefully considered each of appellants' arguments set forth in the brief, appellants have not persuaded us of reversible error on the part of the examiner. Accordingly, we will affirm the examiner's rejections for substantially the reasons set forth by the examiner in the answer. We add the following for emphasis.

Appellants state that the appealed claims stand or fall together (brief, page 13). Consequently, we select claim 6 as the representative claim on which we decide this appeal as to the examiner's first stated ground of rejection.

Appellants do not dispute the examiner's determination that Visser discloses a fuser member including: (1) a core that can be made of metal materials; and (2) a composite material coating including, inter alia, a cross linked poly(dimethylsiloxane) of a molecular weight overlapping the molecular weight range specified in

representative claim 6, a silane crosslinking agent, and a metal oxide filler. See, e.g., column 2, line 37 through column 4, line 17 and column 5, lines 26-36 of Visser.

Law discloses a fuser member wherein the fuser core is surrounded by an outer layer that can include a silicone polymer material and a thermally conductive filler including, inter alia, metal particles including aluminum, and metal oxides. See, e.g., column 4, line 54 through column 5, line 12 and column 7, lines 7-29.

According to the examiner, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the conductive aluminum powder of Law in the composite material of Visser to enhance the conductive properties of the composite material layer by the added aluminum powder as suggested by Law. Moreover, the examiner has reasonably determined that the selection of an aluminum powder size of 25 microns or less on average and an amount thereof less than about 30 weight percent for use in the fuser core coating layer of Visser would have been within the ordinary skill of the art upon routine experimentation to determine the workable amounts and sizes of such aluminum powder. See In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003) ("The normal desire of scientists or artisans to improve upon

what is generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

We agree with the examiner's obviousness position.

Appellants' principal arguments are directed to a proposed modification that the examiner did not present in the stated rejection; that is, a modification of the fuser roller substrate of Law. We decline to address such a misdirected argument. We recognize that the fuser roller of Law is disclosed as being made of a plastic material as opposed to the here claimed metallic fuser core (roller). Nonetheless, appellants have not fairly explained how the material construction of the roller of Law would vitiate against the teachings of Law with respect to employing an aluminum powder filler as an alternative or in addition to a metal oxide filler in an outer composite layer to control and enhance the conductivity of that layer in a fuser device having a metallic core

such as disclosed in Visser, as discussed above. In this regard, appellants have not articulated a persuasive argument explaining why the use of an aluminum filler to enhance conductivity of the metallic core composite coating of Visser would not have been fairly suggested by the combined teachings of Visser and Law as reasonably explained by the examiner. We note that Visser (column 1, lines 25-34) teaches that heat can be applied from the interior of the roller to the receiver sheet which makes evident that the fuser roller layers of Visser must conduct some heat just as the fuser roller layers of Law (column 2, lines 41-62) must be capable of conducting heat.

To the extent that appellants are asserting that the examples furnished in the specification establish unexpected results for the claimed subject matter by the presentation thereof in the brief (pages 9-12), we note that the question as to whether unexpected advantages have been demonstrated is a factual question. In re Johnson, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984). Thus, it is incumbent upon appellants to supply the factual basis to rebut the prima facie case of obviousness established by the examiner. See, e.g., In re Klosak, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972). Appellants, however, do not provide an adequate explanation regarding any factual showing in the specification, that

is referred to in the brief, to support a conclusion of unexpected advantages.

In particular, appellants have not established that the test results presented represent unexpected results since metal powder would be expected to be more conductive than metal oxides and metal oxides would be expected to wear somewhat better than the metal, which appears to be consistent with the reported results. Moreover, the furnished test results are not reasonably commensurate in scope with the here claimed invention. We note that representative claim 6 is not limited to the specific cross-linked polymer, the specific amounts and sizes of aluminum powder, and the specific molding method employed in making the test sample as outlined in the referenced Examples 1 and 2 of the specification as evident by a comparison of representative claim 6 with those Examples of appellants' specification. We note for example that appellants' specification at page 7 illustrates that 55-85 weight percent oxide fillers are used which corresponds with Visser (column 4, lines 9-11) whereas any amount of aluminum powder in an amount less than 30 weight percent (which essentially includes 0 weight percent) are employed in appellants' preferred embodiment. Thus, it is apparent that appellants' evidence is considerably more narrow in scope than

the representative appealed claim 6. See In re Dill, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979).

Moreover, appellants simply have not shown that the examples prepared for comparison represent the closest prior art given the disclosure of Visser as to the amount of metal oxide heat transfer particles to be included, as discussed above. Hence, we are not satisfied that the evidence of record that is offered demonstrates results that are truly unexpected and commensurate in scope with the claims. Nor have appellants satisfied their burden of explaining how the results reported for those limited examples presented can be extrapolated therefrom so as to be reasonably guaranteed as attainable through practicing the invention as broadly claimed.

Having reconsidered all of the evidence of record proffered by the examiner and appellants, we have determined that the evidence of obviousness, on balance, outweighs the evidence of nonobviousness. Hence, we conclude that the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art. Accordingly, we affirm the examiner's § 103(a) rejection of claims 3, 6-10, 14 and 16-21.

Concerning the examiner's § 103(a) rejection of claims 11-13 further employing the teachings of Fitzgerald, we note that

appellants have specified that all of the appealed claims stand or fall together and do not argue the additional features set forth in any of dependent claims 11, 12 or 13 as patentably distinguishing over the applied references. Consequently, we shall also affirm the § 103(a) rejection of claims 11-13 on this record.

CONCLUSION

The decision of the examiner to reject claims 3, 6-10, 14 and 16-21 under 35 U.S.C. § 103(a) as being unpatentable over Visser in view of Law and to reject claims 11-13 under 35 U.S.C. § 103(a) as being unpatentable over Visser in view of Law and Fitzgerald 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

Terry J. Owens)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
Peter F. Kratz)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
Romulo H. Delmendo)	
Administrative Patent Judge)	

Appeal No. 2004-1287
Application 09/211,410

Page 11

Lawrence P. Kessler
Nexpress Solutions, LLC
1447 St. Paul Street
Rochester, NY 14653-7002

PFK/cam