

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUTCHINSON TECHNOLOGY INC.,
HUTCHINSON TECHNOLOGY OPERATIONS (Thailand) CO., LTD.,
Petitioner,

v.

NITTO DENKO CORPORATION,
Patent Owner.

Case IPR2017-01607
Patent 8,692,126

Before MELISSA A. HAAPALA, *Acting Vice Chief Administrative Patent Judge*, and THOMAS L. GIANNETTI and CHRISTA P. ZADO, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73
DECISION ON MOTION TO AMEND
35 U.S.C. § 316(d) and 37 C.F.R. § 42.121

I. INTRODUCTION

Hutchinson Technology Incorporated and Hutchinson Technology Operations (Thailand) Co., Ltd. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–6 and 10–12 of U.S. Patent No. 8,692,126 (Ex. 1001, “the ’126 patent”). Paper 2 (“Pet.”). Nitto Denko Corporation (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we granted Petitioner’s request and instituted an *inter partes* review for challenged claims 1, 3–6, and 10–12. Paper 8 (“Institution Dec.”). We denied the Petition as to claim 2 and one ground of challenge directed to claims 1–6 and 10–12.

Following institution, we granted Petitioner’s request for rehearing of the Institution Decision and added claim 2 to the trial. Paper 12 (“Rehearing Dec.”), 7. In addition, we added the previously denied ground of challenge to claims 1–6 and 10–12. *Id.*

Following institution, Patent Owner filed a Response to the Petition (Paper 15, “PO Resp.”) and Petitioner filed a Reply (Paper 22, “Pet. Reply”). In addition, Patent Owner filed a Motion to Amend (Paper 16, “Mot. Amend”). Petitioner filed an Opposition to the Motion (Paper 23, “Mot. Amend Opp.”). Patent Owner filed a Reply (Paper 26, “Mot. Amend Reply”), and Petitioner filed a Sur-reply in Opposition (Paper 27, “Mot. Amend Sur-reply”).

An Oral Hearing was held on October 2, 2018. The Hearing Transcript (“Tr.”) is included in the record as Paper 36. Having considered the evidence of record, and for the reasons set forth below, we determine

that Petitioner has demonstrated by a preponderance of the evidence that claims 1–6 and 10–12 of the '126 patent are unpatentable. In addition, for the reasons that follow, we grant the Motion to Amend. Finally, we order cancellation of claims 1–6 and 10–12 and replacement by new claims 13–19.

II. BACKGROUND

A. *The '126 Patent*

The '126 patent is titled “Wired Circuit Board and Producing Method Thereof.” The patent is directed to a wired circuit board used for a suspension board with circuit. Ex. 1001, col. 1, ll. 16–20. Such boards are typically mounted in hard disk drives after a magnetic head is positioned using a reference hole formed in a metal supporting layer. *Id.* at col. 1, ll. 27–30.

According to the '126 patent, the terminals of magnetic heads and the terminal portions of suspension boards with circuit were configured at a finer pitch, making it necessary to increase the reliability of connections between them. *Id.* at col. 1, ll. 31–34. Therefore, it became necessary to form the reference hole used in manufacturing the boards with high accuracy, to improve the accuracy of positioning the magnetic head. *Id.* at col. 1, ll. 34–36. The circuit board configuration described and claimed in the '126 patent is directed at addressing this need.

The circuit board of the '126 patent has a specific three layer structure, with a “metal supporting layer,” an “insulating layer” formed on the metal supporting layer, and a “conductive layer” formed on the

insulating layer. A reference hole for positioning is formed in the metal supporting layer, and a stepped portion is formed so as to surround the reference hole on all sides. *Id.* at col. 2, ll. 22–27.

B. Challenged Claims

The '126 patent has twelve claims. Claims 1–6 and 10–12 are challenged by Petitioner. Claims 1 and 12 are the independent claims. Claims 2–6, 10, and 11 all depend from claim 1.

Claim 1 follows:

1. A wired circuit board, comprising:
 - a metal supporting layer;
 - an insulating layer formed on the metal supporting layer;
 - and
 - a conductive layer formed on the insulating layer,wherein a reference hole for positioning is formed in the metal supporting layer, and a stepped portion is formed so as to surround on all sides the reference hole; and
 - wherein the stepped portion is formed in at least one of:
 - a) the same layer as the insulating layer, b) the same layer as the conductive layer, or c) directly in the metal supporting layer.

Claim 12 follows:

12. A wired circuit board, comprising:
 - a metal supporting layer;
 - an insulating layer formed on the metal supporting layer;
 - and
 - a conductive layer formed on the insulating layer,wherein a reference hole for positioning is formed in the metal supporting layer, and a stepped portion is formed so as to surround on all sides the reference hole; and
 - wherein the stepped portion is formed in the same layer as the insulating layer and/or the conductive layer.

The two independent claims of the '126 patent call for the same three-layer structure, and require the reference hole to be formed in the metal supporting layer. The claims differ in that claim 1 requires that the stepped portion be formed in at least one of (a) the same layer as the insulating layer, (b) the same layer as the conductive layer, or (c) directly in the metal supporting layer. Claim 12 requires that the stepped portion be formed in the same layer as the insulating layer, the conducting layer, or both.

C. Real Parties in Interest

Petitioner identifies the following additional real parties in interest:

1. Magnecomp Precision Technology Public Company Limited
2. Magnecomp Corporation
3. Headway Technologies, Inc.
4. TDK Corporation
5. TDK U.S.A. Corporation
6. SAE Magnetics (Hong Kong) Limited
7. Acrathon Precision Technologies (HK) Limited
8. Acrathon Precision Technologies (Dong Guan) Co., Ltd

Pet. 2–3. Patent Owner identifies no additional real parties in interest.

Paper 3, 1.

D. Related Matters

The parties identify the following related civil action involving the '126 patent: *Nitto Denko Corporation v. Hutchinson Technology Incorporated*, C.A. No. 2:16-cv-03595-MF, pending in the United States District Court for the District of New Jersey. Pet. 3; Paper 3, 1.

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