

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ABIOMED, INC. and ABIOMED R&D, INC.,
Petitioner,

v.

MAQUET CARDIOVASCULAR, LLC,
Patent Owner.

Cases IPR2017-01204
IPR2017-01205
Patent 9,561,314 B2

Before BART A. GERSTENBLITH, JEREMY M. PLENZLER, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

CHERRY, *Administrative Patent Judge*.

DECISION
Denying *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Abiomed, Inc. and Abiomed R&D, Inc. (collectively, “Petitioner”) filed Petitions to institute an *inter partes* review of claims 1–8, 10–23, 25–27, 29, and 30 (“the challenged claims”) of U.S. Patent No. 9,561,314 B2 (Ex. 1001¹, “the ’314 patent”). IPR2017-01204, Paper 2 (“’1204 Pet.”)²; IPR2017-01205, Paper 2 (“’1205 Pet.”)³. Maquet Cardiovascular, LLC (“Patent Owner”) filed a Preliminary Response in each proceeding. IPR2017-01204, Paper 7 (“’1204 Prelim. Resp.”); IPR2017-01205, Paper 6 (“’1205 Prelim. Resp.”). We review the Petitions according to 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petitions and Patent Owner’s Preliminary Responses, we do not institute an *inter partes* review for any of the challenged claims.

B. Related Matters

Petitioner and Patent Owner identify a number of proceedings related to the ’314 patent. ’1204 Pet. 1; ’1205 Pet. 1; ’1204 Paper 8, 1–2; ’1205 Paper 7, 1–2.

¹ The Exhibit number is the same in both of IPR2017-01204 and IPR2017-01205. References to exhibits and papers include the appropriate ’1204 or ’1205 prefix to indicate the relevant proceeding. When no prefix is included for an exhibit, the exhibit number (and exhibit) is the same in both proceedings.

² The ’1204 Petition challenges claims 1–8, 10–23, 25, and 26 of the ’314 patent.

³ The ’1205 Petition challenges claims 27, 29, and 30 of the ’314 patent.

C. Asserted Grounds of Unpatentability and Evidence of Record

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103(a) as set forth below (’1204 Pet. 4, 30–93; ’1205 Pet. 4, 29–102).

References	Claim(s) Challenged
Aboul-Hosn ⁴ , Siess ⁵ , and Wampler ⁶	1–8, 14, 16–20, 25, and 26
Aboul-Hosn, Siess, Wampler, and Jegaden ⁷	10, 11, 13, 21, 23, 27, 29, and 30
Aboul-Hosn, Siess, Wampler, and Crowley ⁸	12 and 22
Aboul-Hosn, Siess, Wampler, and Wampler ’712 ⁹	15
Aboul-Hosn, Yock ¹⁰ , Siess, and Wampler	27
Aboul-Hosn, Yock, Siess, Wampler, and Jegaden	29 and 30

Petitioner provides testimony from John M. Collins, Ph.D. ’1204 Ex. 1002; ’1205 Ex. 1002 (collectively, “the Collins Declaration”).

⁴ WO 99/02204 A1, pub. Jan. 21, 1999 (Ex. 1004, “Aboul-Hosn”).

⁵ U.S. Pat. No. 5,921,913, iss. July 13, 1999 (Ex. 1005, “Siess”).

⁶ Richard K. Wampler & Raymond A. Riehl, *Clinical Experience with the Hemopump Left Ventricular Assist Device*, published in Supported Complex and High Risk Coronary Angioplasty, Ch. 14, 231–49 (Springer 1st ed. 1991) (Ex. 1007, “Wampler”).

⁷ O. Jegaden, *Clinical Results of Hemopump Support in Surgical Cases*, published in Temporary Cardiac Assist with an Axial Pump System, p. 61–65 (Springer 1991) (Ex. 1033, “Jegaden”).

⁸ U.S. Pat. No. 5,421,338, iss. June 6, 1995 (’1204 Ex. 1047, ’1205 Ex. 1045, “Crowley”).

⁹ U.S. Pat. No. 4,625,712, iss. Dec. 2, 1986 (Ex. 1008, “Wampler ’712”).

¹⁰ U.S. Pat. No. 5,061,273, iss. Oct. 29, 1991 (Ex. 1006, “Yock”).

D. The '314 Patent

The '314 patent “relates generally to blood pumps and, more particularly, to an improved intra-vascular blood pump having a guide mechanism which provides the ability to selectively guide the intravascular pump to a desired location within a patient’s circulatory system.” Ex. 1001, 1:27–31. Figures 1 and 3 of the '314 patent are exemplary, and are reproduced below.

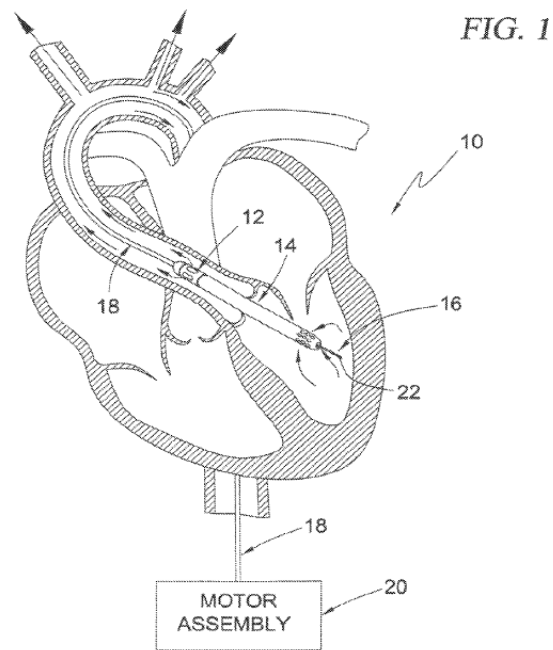


Figure 1, reproduced above, is a fragmentary section view of a human heart including an intravascular blood pump system. *Id.* at 5:25–30.

FIG. 3

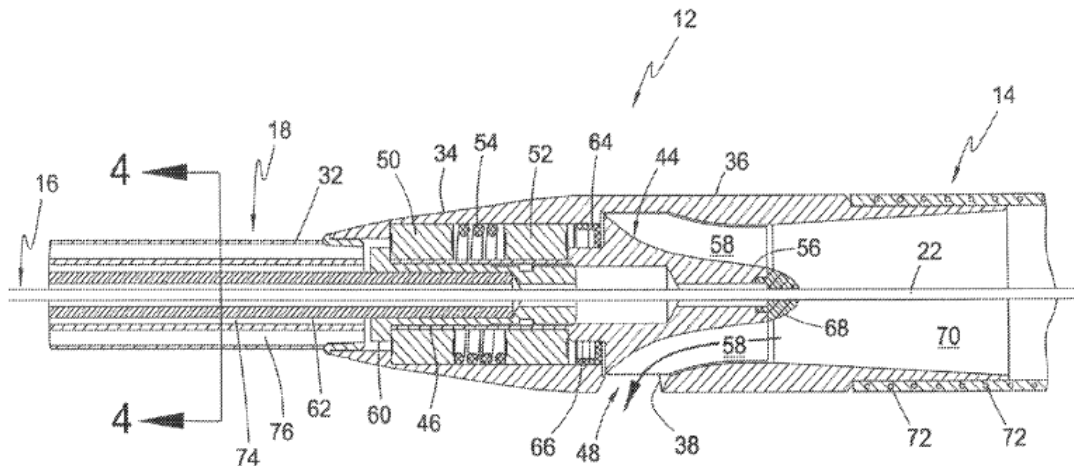


Figure 3, reproduced above, is a section view of the intravascular blood pump system shown in Figure 1. *Id.* at 5:35–38.

The '314 patent explains that its “intravascular blood pump system . . . overcomes the drawbacks of the prior art by providing a guide mechanism as part of the intravascular blood pump.” *Id.* at 8:54–56.

Intravascular blood pump system 10 includes intravascular blood pump 12, cannula 14, and guide mechanism 16. *Id.* at 9:16–19. Intravascular blood pump 12 is driven by drive cable assembly 18 and motor assembly 20. *Id.* at 9:19–20. Guide mechanism 16 is described as an “over-the-wire” mechanism having “a suitable guide element dimensioned to pass slideably through a central lumen extending through the drive cable 18, blood pump 12, and cannula 14.” *Id.* at 9:20–24. An example guide element may include guide wire 22. *Id.* at 9:26–27.

The '314 patent explains that “‘over-the-wire’ guide mechanism 16 provides the ability to selectively guide the blood pump 12 and cannula 14 to a predetermined position in the circulatory system of a patient. . . .” *Id.* at 9:28–32. First, guide wire 22 is introduced into the patient’s vascular

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