Trials@uspto.gov
571-272-7822

Paper 7
Date: January 4, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOMENTUM DYNAMICS CORPORATION,
Petitioner,

v.

AUCKLAND UNISERVICES LIMITED,
Patent Owner.

IPR2021-01116
Patent 9,767,955 B2

Before JAMESON LEE, SALLY C. MEDLEY, and SCOTT RAEVSKY, *Administrative Patent Judges.*

MEDLEY, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Momentum Dynamics Corporation ("Petitioner") filed a Petition for *inter partes* review of claims 1–13 of U.S. Patent No. 9,767,955 B2 (Ex. 1001, "the '955 patent"). Paper 2 ("Pet."). Auckland UniServices Limited ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). Institution of an *inter partes* review is authorized by statute when "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to the unpatentability of at least one claim of the '955 patent. Accordingly, for the reasons that follow, we institute an *inter partes* review of claims 1–13 of the '955 patent.

A. Real Parties in Interest

Petitioner lists Momentum Dynamics Corporations as its only real party-in-interest. Pet. 80.

Patent Owner lists Auckland UniServices Limited, the University of Auckland, and exclusive licensee WiTricity Corporation as its real parties-in-interest. Paper 4, 1.

B. Related Matters

The parties list a related district court litigation, *WiTricity Corp., et al, v. Momentum Dynamics Corp.*, C.A. No. 20-1671-MSG (D. Del.). Pet 80; Paper 4, 1. The parties also identify the following *inter partes* review petitions for other patents asserted in the district court litigation: IPR2021-01127, involving U.S. Patent No. 9,306,635; IPR2021-01165, involving

U.S. Patent No. 7,741,734; IPR2021-01166, involving U.S. Patent No. 8,304,935; and IPR2021-01167, involving U.S. Patent No. 8,884,581. *See* Pet. 80; Paper 4, 1–2. Patent Owner further identifies U.S. Application No. 16/138,653, filed September 21, 2018. Paper 4, 2.

C. The '955 Patent

The '955 patent describes an inductive power transfer ("IPT") pad for charging a battery without a cable. Ex. 1001, 1:17–25, 2:23–24. The '955 patent aims to improve the wireless charging of electric batteries, including those used in electric vehicles. *See id.* at 2:12–24.

In one embodiment, the IPT pad includes a coil; one or more ferromagnetic slabs; and a shield member arranged around both the coil and the ferromagnetic slabs for channeling electromagnetic flux when in use. *Id.* at 2:39–44. The IPT pad preferably includes a backplate, where the backplate and shield member serve to direct flux upwards from the plane of the backplate with less splay of flux in and parallel to the plane of the backplate. *Id.* at 3:10–11, 3:35, 3:53–56. The '955 patent explains that by directing flux upward, the IPT pad improves inductive coupling and controls induced field leakage thereby preventing damage of surrounding objects. *Id.* at 3:56–62.

Figure 4 is illustrative and is reproduced below.

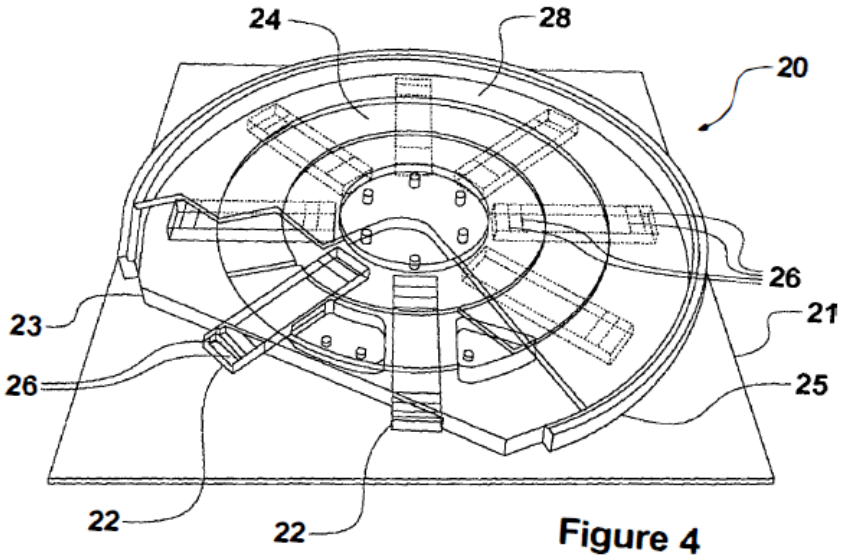

Figure 4

Figure 4 shows a perspective view of IPT pad 20, with a ghost outline to show internal detail. *Id.* at 7:54–60. IPT pad 20, from bottom to top, includes square backplate 20, on top of which are eight rectangular ferrite bars 22, displaced radially at 45 degrees with respect to each other. *Id.* at 8:62–67. A circular ring region 24 spans the top of ferrite bars 22 and holds coil 27 (shown in Figure 5). *Id.* at 8:67–9:5, Fig. 5. Coil 27 winds round the generally circular body of the pad approximately half way along the lengths of bars 22. *Id.* Rubbery molding 23 fills the gaps between ferrite bars 23 and forms a circular outline raised from square backplate 21. *See id.* at 8:66–67, Fig. 4. Raised strip 25 circumferentially surrounds circular rubbery molding 23 and extends vertically from backplate 21. *Id.* at 9:5–7. Cover 28 covers the main circular body of the pad including molding 23, coil 27, and ferrite bars 22. *See id.* at 9:8–14.

The ’955 patent discloses that “strip 25 is coupled or formed integral to backplate 21 to assist in controlling the pattern of the flux generated.” *Id.* at 9:5–7. The ’955 patent further explains that “backplate 21 and strip 25 are appropriately coupled to work together to direct flux generated by the

charging pad through cover 28 in a generally perpendicular direction to backplate 21." *Id.* at 9:15–18.

D. Illustrative Claims

Petitioner challenges claims 1–13 of the '955 patent. Claims 1 and 13 are independent claims and are reproduced below.

> 1. An inductive power transfer pad to receive power from a transmitting pad, the inductive power transfer pad comprising:
>
> one or more permeable magnetic material members in a first layer;
>
> a coil having at least one turn of a conductor, the coil being arranged in a second layer substantially parallel to that of said permeable magnetic material members; and
>
> a shield member comprising a backplate defining a third layer, said backplate arranged to control electromagnetic flux generated by said transmitting pad.

Ex. 1001, 14:37–48.

> 13. An inductive power transfer system comprising a wireless power receiver pad separable from a wireless power transmitter pad, the two said pads each comprising:
>
> one or more permeable magnetic material members in a first layer;
>
> a coil having at least one turn of a conductor, the coil being arranged in a second layer substantially parallel to that of said permeable magnetic material members; and
>
> a shield member comprising a backplate defining a third layer, said backplate arranged to control electromagnetic flux.

Id. at 16:4–16.

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