

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION,
Petitioner,

v.

SIEMENS MOBILITY, INC.,
Patent Owner.

Case IPR2017-01669
Patent 6,824,110 B2

Before KRISTEN L. DROESCH, MEREDITH C. PETRAVICK, and
TIMOTHY J. GOODSON, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a), 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

We have authority to hear this *inter partes* review under 35 U.S.C. § 6, and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine by a preponderance of the evidence that claims 1–9 and 11–19 (“challenged claims”) of U.S. Patent No. 6,824,110 B2 (Ex. 1001, “’110 Patent”) are unpatentable.

B. Procedural History

Westinghouse Air Brake Technologies Corporation (“Petitioner”) filed a Petition (Paper 1, “Pet.”) for *inter partes* review of the challenged claims of the ’110 Patent. *See* 35 U.S.C. §§ 311–312. Siemens Mobility, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8, “Prelim. Resp.” Pursuant to 35 U.S.C. § 314, we instituted trial on January 31, 2018, as to all of the challenged claims of the ’110 Patent (Paper 11, “Institution Decision” or “Dec.”).

After institution of trial, Patent Owner filed a Response (Paper 17, “PO Resp.”), to which Petitioner filed a Reply (Paper 42, “Reply”).

Petitioner relies on a Declaration of Steven R. Ditmeyer (Ex. 1002) to support its Petition. Patent Owner relies on a Declaration of Nabil Ghaly, Eng. Sc. D. (Ex. 2005) to support its Patent Owner Response. Both witnesses were cross-examined during the trial, and transcripts of their depositions are in the record. Ex. 1015 (Ghaly Deposition); Ex. 2006 (Ditmeyer Deposition).

Petitioner filed a Motion to Exclude Exhibits 2010 and 2011 (Paper 31, “Mot. to Excl.”), to which Patent Owner filed an Opposition (Paper 37, “Opp. Mot. to Excl.”), to which Petitioner filed a Reply (Paper 38).

Patent Owner submitted Supplemental Information (Paper 41, “Supp. Info.”), to which Petitioner filed a Response (Paper 48, “Resp. Supp. Info.”).

Petitioner filed a Motion to Exclude Exhibit 2017 (Paper 53, “2nd Mot. to Excl.”), to which Patent Owner filed an Opposition (Paper 56, “Opp. 2nd Mot. to Excl.”), to which Petitioner filed a Reply (Paper 57).

Oral argument was held on November 13, 2018. A transcript of the oral argument is included in the record. Ex. 2019 (“Tr.”).

C. Related Proceedings

The parties indicate the ’110 Patent is asserted in *Siemens Industry, Inc. v. Westinghouse Air Brake Technologies Corporation*, Case No. 1:16-cv-00284 (D. Del.). *See* Pet. viii; Paper 4, 1; Paper 7, 2.

Petitioner indicates that the ’110 Patent is a continuation of U.S. Patent No. 6,609,049, for which Petitioner has requested *inter partes* review in Case No. IPR2017-02044. *See* Paper 7, 2.

D. The ’110 Patent (Ex. 1001)

The ’110 Patent discloses a system and method for automatically activating a train warning device, such as a train horn, at a grade crossing. *See* Ex. 1001, 1:14–18, 2:53–57. The system includes a control unit, a global positioning system (GPS) receiver, a database of crossing locations in the system, and an electrically activated horn. *See id.* at 2:30–58, Fig. 1. The control unit determines the next crossing based on the train location reported by the GPS receiver by indexing the database. *See id.* at 2:60–63,

Fig. 2:210. If the next crossing is subject to state regulations, the warning is activated in accordance with state regulations. *See id.* at 2:63–67, Fig. 2:220, 230. If the next crossing is not subject to state regulations, the system treats the grade crossing as subject to Federal Regulation 49 C.F.R. § 222. *See id.* at 3:1–4, Fig. 2:220. In that case, the control unit determines whether the train is within $\frac{1}{4}$ mile of the crossing, and if it is, calculates the estimated time of arrival at the crossing based on the position and speed of the train reported by the GPS receiver. *See id.* at 3:4–10, Fig. 2:240, 250. If the estimated time of arrival is less than 24 seconds, the horn is activated. *See id.* at 3:12–14, Fig. 2:260, 270.

E. Illustrative Claims

Of the challenged claims, claims 1 and 11 are independent, with claims 2–9 dependent from claim 1, and claims 12–19 dependent from claim 11. Claims 1 and 11 are illustrative and are reproduced below with labels added by Petitioner for ease of reference:

1. A computerized method for activating a warning device on a train at a location comprising the steps of:
 - [a] maintaining a database of locations at which the warning device must be activated and corresponding regulations concerning activation of the warning device;
 - [b] obtaining a position of the train from a positioning system;
 - [c] selecting a next upcoming location from among the locations in the database based at least in part on the position;
 - [d] determining a point at which to activate the warning device in compliance with a regulation corresponding to the next upcoming location; and
 - [e] activating the warning device at the point.

11. A system for automatically activating a warning device on a train at a location, the system comprising:
- [a] a control unit connected to the warning device;
 - [b] a storage device connected to the control unit, the storage device having stored therein a database of locations at which the warning device must be activated and corresponding regulations concerning activation of the warning device;
 - [c] a positioning system in communication with the control unit, the positioning system being configured to supply a position of the train to the control unit; and
 - [d] wherein the control unit is configured to perform the steps of
 - selecting a next upcoming location from among the locations in the database;
 - [e] determining a point at which to activate the warning device in compliance with a regulation corresponding to the next upcoming location; and
 - [f] activating the warning device at the point.

Ex. 1001, 3:42–56, 4:17–36; *see* Pet. 64–66 (reproducing claims with added labels).

F. Asserted Grounds of Unpatentability

We instituted an *inter partes* review challenging the patentability of the following claims of the '110 Patent on the following grounds and prior art (Pet. 10–62; Dec. 36–37):

Claims	Statutory Basis	Reference(s)
1–9 and 11–19	§ 103	FR2230 ¹ and Blesener ²
1–7, 9, 11–17, 19	§ 103	FR2230 and Haas ³

¹ Ex. 1006, Use of Locomotive Horns at Highway-Rail Grade Crossings, 65 Fed. Reg. 2230–2270 (Jan. 13, 2000) (“FR2230”).

² Ex. 1007, WO 02/091013 A2, published Nov. 14, 2002 (“Blesener”).

³ Ex. 1008, US 6,519,512 B1, issued Feb. 11, 2003 (“Haas”).

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