

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TETRA TECH CANADA INC.,
Petitioner,

v.

GEORGETOWN RAIL EQUIPMENT COMPANY,
Patent Owner.

IPR2019-01409
Patent 8,209,145 B2

Before HUBERT C. LORIN, JENNIFER S. BISK, and
KRISTINA M. KALAN, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

This is a Final Written Decision in an *inter partes* review challenging the patentability of claims 1–12 of U.S. Patent No. 8,209,145 B2 (Ex. 1001, “the ’145 patent”). We have jurisdiction under 35 U.S.C. § 6.

Petitioner has the burden of proving unpatentability of a claim by a preponderance of the evidence. 35 U.S.C. § 316(e). Having reviewed the arguments of the parties and the supporting evidence, we find that Petitioner has demonstrated by a preponderance of the evidence that claims 1–12 are unpatentable.

A. Background

Tetra Tech Canada Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–12 of the ’145 patent. Paper 1 (“Pet.”).

Georgetown Rail Equipment Company (“Patent Owner”) did not file a Preliminary Response to the Petition.

On February 5, 2020, we instituted an *inter partes* review, pursuant to 35 U.S.C. § 314(a). Specifically, we instituted an *inter partes* review of claims 1–12 on all asserted grounds of unpatentability. Paper 6 (“DI”).

After institution, Patent Owner filed a Patent Owner Response (Paper 8, “PO Resp.”); Petitioner filed a Reply (Paper 9, “Pet. Reply”); and Patent Owner filed a Sur-reply (Paper 11, “PO Sur-reply”).

On November 4, 2020, the parties presented arguments at oral hearing, the transcript of which is of record. Paper 14 (“Tr.”).

B. Related Proceedings

Petitioner indicates that it “is unaware of any related matters involving the ’145 patent.” Pet. 2. Petitioner identifies various proceedings involving patents related to the ’145 patent, including three *inter partes* review

proceedings (IPR2019-00619, IPR2019-00620, and IPR2019-00662)¹ and co-pending litigation captioned Georgetown Rail Equipment Company v. Tetra Tech Canada Inc. (E.D. Tex.) (Tyler) (6:18-cv-377). *Id.* at 3. After filing the petition in this case, Petitioner filed a petition for *inter partes* review of related Patent No. 8,081,320 B2. *See* IPR2019-01581, Paper 1.² Petitioner also notifies us of proceedings in Canada involving Canadian national stage entries of patents related to the '145 patent. Pet. 4.

C. The '145 patent (Ex. 1001)

1. Disclosure

The '145 patent, titled “Methods for GPS to Milepost Mapping,” “relates generally to methods for determining the location of various features along a railroad track, and, more particularly to [a] method for increasing the accuracy of GPS to milepost mapping.” Ex. 1001, code (54), 1:32–35.

The '145 patent describes an imaging system that captures features of a rail system and increases the accuracy of interpolation of mileposts in the rail system. *Id.* at 1:57–62. “Based upon this image data and data provided in the track chart, reference points are selected along the track, and their location is verified using GPS data” and “the milepost location of various points between the reference points are determined using mathematical interpolation.” *Id.* at 1:62–67.

Figures 1 and 2 of the '145 patent, reproduced below, illustrate “inspection system 30.” *Id.* at 2:19–23.

¹ Trial was instituted in each of these proceedings. *See* IPR2019-00619, Paper 12; IPR2019-00620, Paper 8; IPR2019-00662, Paper 13.

² Trial was instituted. *See* IPR2019-01581. Paper 6.

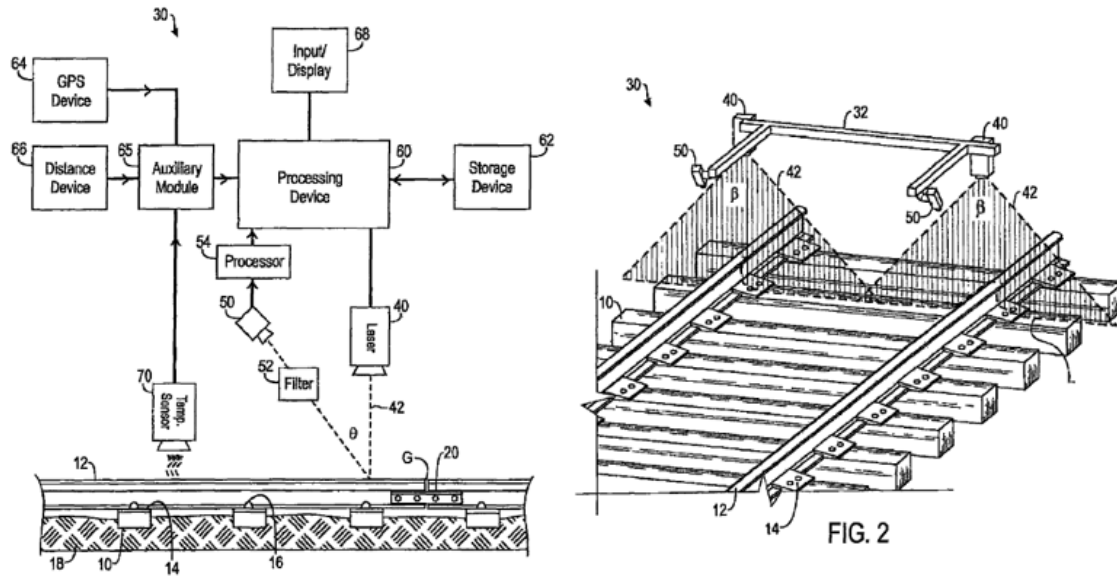


FIG. 1

Figures 1 and 2 (above) show a system for inspecting railroad track. *Id.* at 3:15–17.

As shown in both figures, “[t]he track bed includes crossties 10, rails 12, tie plates 14, spikes 16, and ballast 18.” *Id.* at 3:36–37.

“[I]nspection system 30 includes a light generator such as a laser 40” (*id.* at 3:22–23) which “projects a beam 42 of laser light at the track bed” (*id.* at 3:37–38).

As shown in Figure 2, “beam 42 produces a projected line L.” *Id.* at 3:38–39. Projected line L “follows the contours of the surfaces and components of the track bed” (*id.* at 3:39–40) and, further, projected line L “is substantially straight and extends substantially across the track bed” (*id.* at 4:11–12). “The light receiver, camera 50, captures an image of the line L of laser light 42 projected on the track bed. The camera 50 sends the captured image to the processing device 60 for processing and analysis.” *Id.* at 3:41–44.

Figure 3, reproduced below, illustrates “[a]n example image or frame showing the projected line L of the track bed.” *Id.* at 5:30–31.

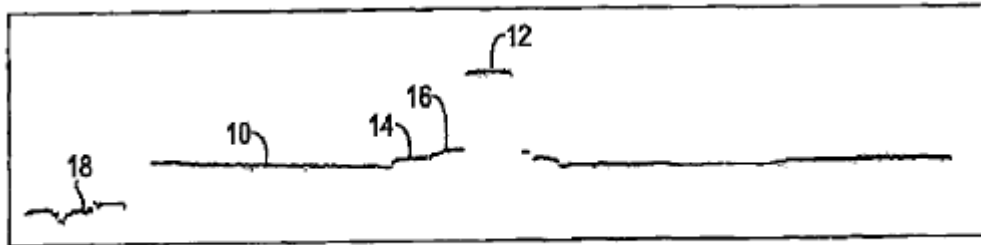


FIG. 3

Fig. 3 illustrates an image or frame projecting across line L of Fig. 1.

The description associated with Figure 3 (above) is as follows:

The image data or frame includes a plurality of pixels given X-Y coordinates and shows a contour of the track bed captured by the cameras 50. Due to filtering and other image processing techniques known in the art, the image includes two pixel values, where the dark pixels represent the contour of the track bed. Every pixel of a given image data is given the same Z-coordinate, which represents the particular position along the length of the track at which the image data was captured. In this manner, a plurality of captured images produce a three-dimensional scan of the track bed in which each image of the scan has X-Y coordinates showing the contour of the track bed and has a Z-coordinate representing the particular position of the contour along the length of rail.

Id. at 5:31–44.

The '145 patent also describes methods of identifying the location of track features. *Id.* at 13:48–50. As shown in Figure 1, inspection system 30 includes Global Position System (GPS) receiver 64. *Id.* at 5:66–67. In one embodiment of the '145 patent, “the system records a unique global position satellite (GPS) location for each rail feature it records.” *Id.* at 13:57–59. “Milepost identification is achieved via a lookup table, provided by each customer that provides a milepost location marker and its corresponding

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