

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIKEN DETECTION CORPORATION,
Petitioner,

v.

AMERICAN SCIENCE AND ENGINEERING, INC.,
Patent Owner.

PGR2022-00047
Patent 11,143,783 B2

Before SCOTT A. DANIELS, CARL M. DEFRANCO, and
MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

DEFRANCO, *Administrative Patent Judge*.

DECISION
Denying Institution of Post-Grant Review
35 U.S.C. § 324

American Science and Engineering, Inc. (“ASE”) is the owner of U.S. Patent No. 11,143,783 B2 (Ex. 1001, “the ’783 patent”). Viken Detection Corporation (“Viken”) filed a Petition requesting post-grant review of claims 1–22 of the ’783 patent. Paper 1 (“Pet.”). ASE elected to “waive” filing a preliminary response. Paper 6. Because we determine that Viken fails to demonstrate that any of the challenged claims of the ’783 patent is more likely than not unpatentable, we do not institute a post-grant review. *See* 35 U.S.C. § 324(a).

I. BACKGROUND

A. *Related Matters*

The ’783 patent is the subject of an infringement action filed April 1, 2022 in *American Science & Engineering, Inc., v. Viken Detection Corp.*, No. 1:20-cv-11883 (D. Mass.). *See* Pet. 44; Paper 4, 2.

B. *The ’783 Patent*

The ’783 patent relates to a “four-sided imaging system that provides high detection performance using a combination of transmission and backscatter imaging sensors.” Ex. 1001, 2:13–16. As explained in the ’783 patent, “[m]aterials exposed to X-ray radiation absorb differing amounts of X-ray radiation and, therefore, attenuate an X-ray beam to varying degrees, resulting in a transmitted or backscattered level of radiation that is characteristic of the material.” *Id.* at 2:22–27. Figure 1 of the ’783 patent, reproduced below, illustrates an embodiment of the four-sided X-ray imaging system. *Id.* at 6:4–5.

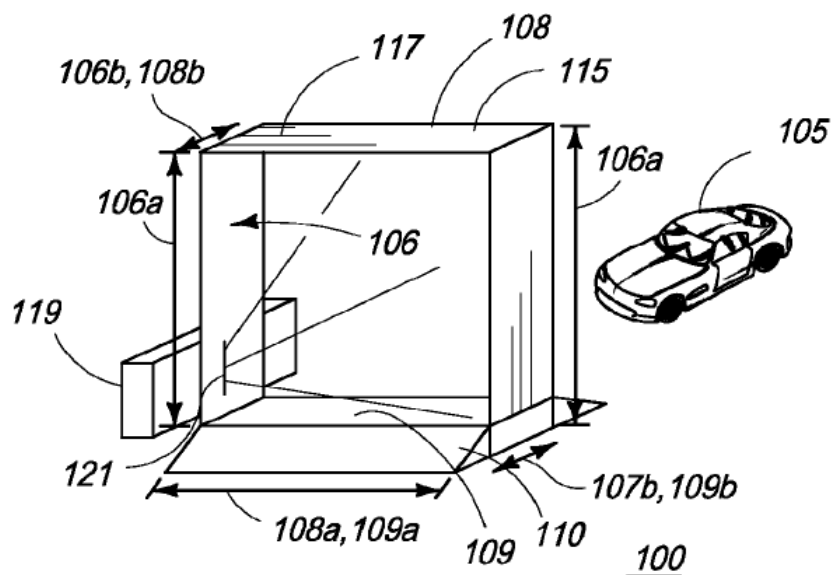


FIG. 1

As shown in Figure 1, four-sided X-ray imaging system 100 includes archway 115 and bottom platform 109, which together define an inspection portal for a vehicle to be inspected. Archway 109 includes first vertical (left) side 106, second vertical (right) side 107, and top side 108, while bottom platform 109 includes ramp 110 over which vehicle 105 drives. *Id.* at 7:36–42. Archway 115 houses X-ray source 119 on first vertical side 106, and houses a plurality of X-ray transmission detectors 117 along second vertical side 107 and top side 108. *Id.* at 7:48–53. In similar fashion, a second X-ray source can be located on second vertical side 107 to form a “dual-view system.” *Id.* at 8:43–51. The ’783 patent explains that a “transmission system” can be mounted in a “side-shooter” configuration, where the X-ray source enclosure is positioned on the first side or second

side and emits X-rays toward one side of the vehicle, or “down-shooter” configuration, where the source enclosure is positioned on the bottom portion of the first side or second side and emits X-rays from this lower position in an upward direction. *Id.* at 8:56–66.

In order to provide a high level of inspection capability, ramp 110, over which the vehicle drives, is equipped with a backscatter X-ray imaging unit, which comprises a low energy X-ray source and a plurality of detectors. *Id.* at 9:15–20. According to the ’783 patent, the backscatter X-ray unit enables detection of certain materials with a low atomic number which may be hidden in the floor of the vehicle and would be invisible to standard visible inspection. *Id.* at 9:32–35. Figure 9 of the ’783 patent, reproduced below, depicts a backscatter X-ray unit.

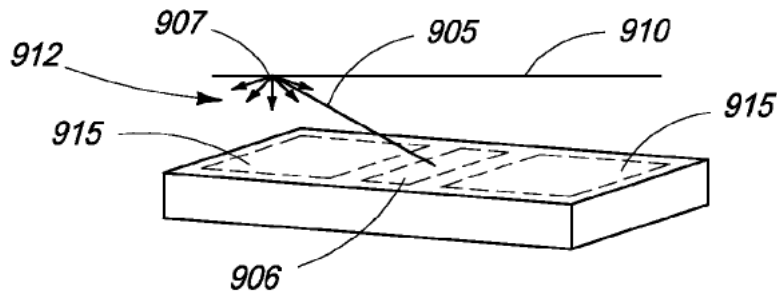


FIG. 9

As shown in Figure 9, X-ray beam 905 emerges from X-ray source 906 and comes into contact with object 910 under inspection which, in turn, generates backscatter radiation 912 that is then received by detectors 915. Ex. 1001, 13:30–34. The backscatter units may be arranged into a four-sided backscatter imaging system, as shown below in Figure 12 of the ’783 patent.

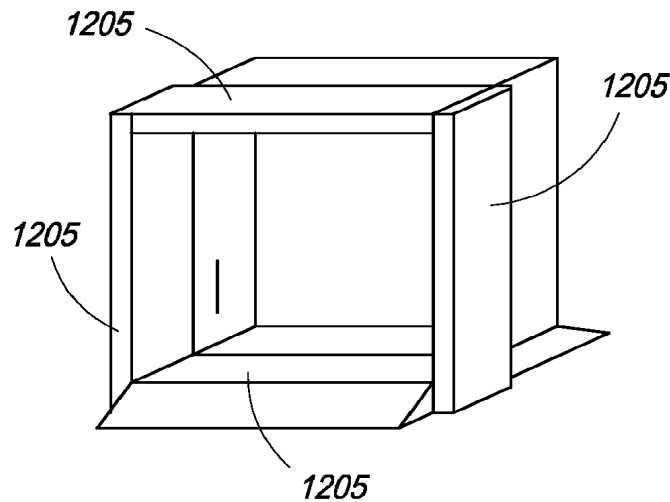


FIG. 12

Figure 12 depicts four-sided backscatter imaging system 1205 mounted around the periphery of the “scanning tunnel” (unlabeled) as depicted in Figure 1 of the ’783 patent. *Id.* at 7:1–3, 14:38–40.

“Advantageously, the backscatter detectors are mounted to the same frame as the transmission X-ray system such that simultaneous transmission and backscatter image data can be acquired. This allows overlay of backscatter and transmission X-ray images by suitable image manipulation.” *Id.* at 14:43–48. As described, “back scatter detectors, and not a backscatter X-ray source,” are integrated into one or more of the first and second vertical sides 106, 107, and horizontal top side 108, of the frame. *Id.* at 14:48–51. Alternatively, backscatter detectors “with a backscatter X-ray source” are integrated into one or more of the three sides. *Id.* at 14:54–55.

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