

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.

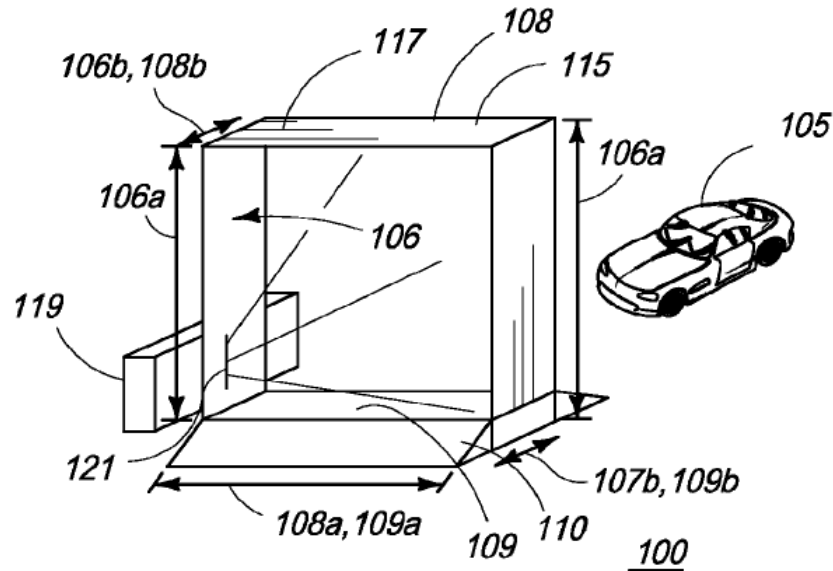


FIG. 1

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.

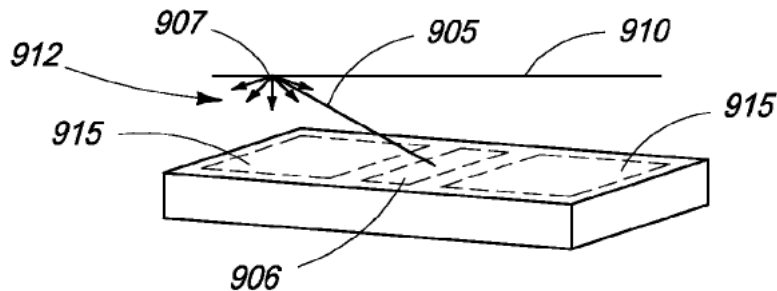


FIG. 9

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.

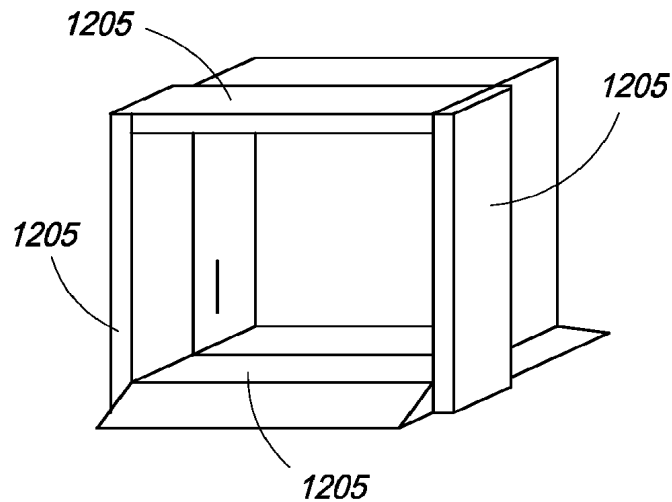


FIG. 12

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.

C. The Asserted Challenges

Challenged Claims	35 U.S.C. §	Basis
1–22	112(a)	Written Description
1–22	112(a)	Written Description
1–22	112(a)	Written Description
1–22	112(a)	Written Description
1–22	112(a)	Enablement

In support of these challenges, Viken also submits the declaration of Richard C. Lanza, Ph.D., P.E. *See* Ex. 1012.

D. The Challenged Claims

Claim 1, the only independent claim, recites:

1. An X-ray scanning system configured to inspect an object moving along a direction of travel through an inspection area, the X-ray scanning system comprising:

a first vertical side and a first top horizontal side positioned orthogonal to the first vertical side, wherein the first vertical side and the first top horizontal side define a first plane within the inspection area;

a first X-ray source configured to generate first X-rays, wherein the first X-ray source is positioned proximate the first vertical side and proximate the first top horizontal side and is configured to generate the first X-rays from the first vertical side and the first top horizontal side into the inspection area and toward the object moving through the inspection area;

a first set of backscatter detectors disposed at least partially within the first plane and configured to receive the first X-rays scattered from the object as it travels through the inspection area;

a second vertical side and a second top horizontal side positioned orthogonal to the second vertical side, wherein the second vertical side and the second top horizontal side define a second plane within the inspection area, wherein the first plane

and the second plane define a distance along the direction of travel;

a second X-ray source configured to generate second X-rays, wherein the second X-ray source is positioned proximate the second vertical side and proximate the second top horizontal side and configured to generate the second X-rays from the second vertical side and the second top horizontal side into the inspection area and toward the object moving through the inspection area;

a second set of backscatter detectors disposed at least partially within the second plane and configured to receive the second X-rays scattered from the object as it moves through the inspection area;

a third X-ray source positioned within a horizontal base along the direction of travel and configured to generate third X-rays into the inspection area and toward the object;

a third set of backscatter detectors positioned within the horizontal base and configured to receive the third X-rays scattered from the object as it travels through the inspection area, wherein an operation of the first X-ray source and the second X-ray source are synchronized; and

a controller configured to execute programmatic instructions that, when executed, receive data from the first set of backscatter detectors, receive data from the second set of backscatter detectors, receive data from the third set of backscatter detectors and generate one or more images.

Ex. 1001, 15:52–16:35.

II. ANALYSIS

A. Claim Construction

We apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). That is, “the words of a claim ‘are generally given their ordinary and customary meaning’ . . . that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1312–13; *see also* 37 C.F.R. § 42.200(b).

Viken asserts that “the only terms that need construction are ‘a first X-ray source,’ ‘a second X-ray source,’ and ‘a third X-ray source’ of claim 1.” Pet. 20. According to Viken, the “X-ray sources of claim 1 should be construed to be ‘a first *backscatter* X-ray source,’ ‘a second *backscatter* X-ray source,’ and ‘a third *backscatter* X-ray source,’ respectively,” because one skilled in the art “would understand these sources to be backscatter sources in view of the intrinsic evidence (claims and specification).” *Id.* at 21 (citing Ex. 1012 ¶ 95). In particular, Viken asserts “[t]he only sources paired with backscatter detectors in the ’783 patent are backscatter sources.” *Id.* at 22 (citing Ex. 1012 ¶¶ 88, 95). We disagree, as discussed below in connection with Viken’s first ground.

B. Level of Ordinary Skill in the Art

Viken asserts that a person having ordinary skill in the art would be “a person with [a] Ph.D. in physics or similar discipline and at least two years of experience working with an interdisciplinary team designing and creating systems involving penetrating radiation sources and detectors.” Pet. 9 (citing Ex. 1012 ¶ 20). At this stage, ASE does not contest that formulation of the level of skill in the art. Nor do we discern any reason to question Viken’s formulation, as it appears consistent with the level of skill reflected in the ’783 patent and the prior art of record. We, therefore, apply Viken’s formulation for purposes of determining whether to institute.

C. Ground 1 – Backscatter-Only Imaging

We begin with Viken’s challenge that claims 1–22¹ are unpatentable as failing to provide adequate written description support for a system that

¹ Viken only makes arguments with respect to claim 1, asserting that “[n]one of the dependent claims cure” the shortcomings of claim 1. See Pet. 28. We

includes only backscatter imaging. Pet. 26. According to Viken, claim 1 is directed to a system that includes “only backscatter detectors and associated X-ray sources.” *Id.* (citing Ex. 1012 ¶¶ 92–93, 96). In contrast, Viken contends, the Specification of the ’783 patent “requires that the invention include a *combination* of transmission and backscatter imaging in order to effectively scan the object to be inspected.” *Id.* (citing Ex. 1001, 9:15–49) (emphasis added). As such, Viken surmises, “there is no adequate written description of an invention that includes only backscatter imaging systems because the disclosure is limited to systems combining transmission and backscatter imaging.” *Id.* (citing *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir. 1998)). And “because the specification does not describe a backscatter-only imaging system,” Viken contends that “claims 1–22 are invalid for failing to comply with the written description requirement of 35 U.S.C. § 112(a).” *Id.* at 29.

Viken is mistaken on both counts. First, we disagree with Viken’s assertion that the claims are limited to a backscatter-only imaging system. Nor do we agree with Viken’s assertion that the Specification is limited to describing only a combined transmission/backscatter imaging system. We address each of these assertions in turn.

Starting with the claim language itself, we note that claim 1 recites the transitional term “comprising,” which presumptively indicates that the claim is open-ended. So, while reciting only “backscatter detectors” for generating images, the claim does not otherwise exclude additional, unrecited elements

likewise address only claim 1, and because claims 2–22 depend directly or indirectly from claim 1, our analysis of Viken’s arguments for claim 1 applies equally to the dependent claims.

that may perform transmission X-ray imaging. Indeed, claim 18, which depends from claim 1, expressly supports such an interpretation by adding that the scanning system of claim 1 “further compris[es] at least one detector configured to detect at least one of the first [or second or third] X-rays . . . *transmitted through the object.*” Ex. 1001, 18:10–13. Claim 18’s addition of a transmission detector to claim 1’s recitation of “backscatter detectors . . . configured to receive the first [or second or third] X-rays scattered from the object” negates Viken’s assertion that claim 1 necessarily excludes a transmission imaging system.

Dependent claim 18 also negates Viken’s interpretation of the claimed “X-ray source” as being limited to a “backscatter X-ray source,” as opposed to encompassing an X-ray source capable of also being used for transmission imaging. See Pet. 21–22, 26, 28–29, 34, 35. On its face, claim 1 recites simply “a first X-ray source,” “a second X-ray source,” and “a third X-ray source.” Ex. 1001, 15:59, 16:9, 16:20. And, as mentioned above, dependent claim 18 requires that X-rays from at least one of the X-ray sources of claim 1 be “transmitted through the object.” *Id.* at 18:10–13. As such, claim 18 supports that the “X-ray source” as claimed be capable of emitting X-rays for both transmission and backscatter imaging.

That interpretation is consistent with the Specification’s disclosure of an X-ray source operating at energy levels used for both transmission and backscatter imaging. For example, the embodiment of Figure 12 discloses that “backscatter detectors, *and not a backscatter X-ray source*, are integrated into one or more of the first side 106, second side 107, and top side 108” of the inspection portal. *Id.* at 14:48–51 (emphasis added). Implicit in that disclosure is that one or more of the high-energy X-ray

sources used for transmission imaging is also capable of being used for backscatter imaging. Indeed, the Specification states “it is advantageous to use a high energy X-ray source, even if tuned to a low output intensity” and that “[a] suitable high voltage source has an energy ranging from 100 kVp to 2 MV.” *Id.* at 9:4–14. It is undisputed that 100 kVp is within a range used for backscatter imaging (Pet. 13) and 2 MV is within a range used for transmission imaging (*id.* at 12). This is consistent with dependent claim 18, which, as discussed above, requires that X-rays from at least one X-ray source be “transmitted through the object,” in addition to claim 1’s requirement that they be “scattered from the object.” *Id.* at 18:11–13.

So, although claim 1 recites first, second, and third sets of “backscatter detectors,” there is no requirement that either the first, second, and third “X-ray source” be a “backscatter source,” as Viken asserts. One skilled in the art would understand from reading the Specification as a whole that the high energy X-ray source described therein can have a dual purpose, namely, generating X-rays that are transmitted through the vehicle as well as generating X-rays that are backscattered from the vehicle. Thus, claim 1 is not necessarily limited to a backscatter-only source, although it certainly may encompass such a source.

For these reasons, we reject the notion that “the claims recite only backscatter detectors and associated X-ray sources,” as Viken asserts. Because Viken’s assertions rely on the improper premise that claim 1 is limited to a backscatter-only imaging system, we are not persuaded that it fails to comply with the written description requirement of 35 U.S.C. § 112(a).

Moreover, we disagree with Viken’s assertion that the Specification is “limited to systems combining transmission and backscatter imaging.” *See* Pet. 26; *see also id.* at 27–28 (repeating essentially the same). Rather, from our review, the Specification supports the use of backscatter imaging either alone or in combination with transmission imaging. More specifically, although the Specification focuses on a “four-sided imaging system which combines X-ray backscatter imaging with X-ray transmission imaging,” the Specification nonetheless speaks of the combination in terms of comprising “two X-ray systems.” Ex. 1001, 9:36–43; *see also id.* at 13:57–60 (“In order to minimize cross talk between the backscatter imaging component and the transmission X-ray imaging system, it is advantageous to synchronize the operation of the *two systems*.” (emphasis added)).

In that regard, the Specification discloses a Figure 1 embodiment of an “inspection portal” comprising “ramp 110” and “archway 115,” each housing one of the two systems. Ex. 1001, 7:36–39. For instance, as described, “archway 115 houses multiple X-ray *transmission* detectors 117 and at least one X-ray source 119, housed within an enclosure, shown as 220 in FIG. 2.” *Id.* at 7:48–51 (emphasis added). This “transmission system” employs a “high energy X-ray source” that is “positioned on the first side or second side and emit[s] X-rays toward one side of the vehicle.” *Id.* at 8:56–9:7.

Only after describing the transmission system within the inspection portal’s archway 115 does the Specification proceed to describe “a backscatter X-ray unit” contained within “ramp 110, over which the vehicle drives.” *Id.* at 9:15–18, Fig. 1. As described, the “backscatter X-ray unit” comprises “a low-energy X-ray source . . . and a plurality of detectors.” *Id.*

at 9:17–20. These components are wholly contained within ramp 110, as opposed to being part of archway 115 that houses the transmission system. *See id.* at 10:41–43 (“The base platform preferably houses the above-described backscatter system”); *see also id.* at 12:44–63, Fig. 7 (illustrating the backscatter unit contained within base platform 109 of ramp 110). Notably, the Specification explains that “[i]t should be appreciated that *the backscatter unit can be integrated into any floor structure which is moveable and deployable* to different locations and over which a car can drive.” *Id.* at 9:20–23 (emphasis added). That description of the backscatter system as a self-contained unit capable of being integrated into any moveable floor structure, in our view, adequately supports an embodiment of the inspection portal in which only backscatter imaging is performed. In other words, one skilled in the art would understand, from reading the Specification as a whole, that the backscatter unit may be configured as its own distinct inspection portal or, alternatively, may be combined with a transmission system in situations where a higher level of inspection capability is needed.

Thus, for all the above reasons, we are not persuaded that the ’783 patent is limited to describing only a system that combines backscatter and transmission imaging. As such, we determine that claims 1–22 are not invalid for lacking written description support of a backscatter-only system.

D. Ground 2 – Different Planes for Source/Detector Pairs

Viken asserts that claims 1–22 are also unpatentable because the ’783 patent does not “provide an adequate written description of a system that includes backscatter source and detector pairs *located in two different planes*,” as recited in claim 1. Pet. 29 (emphasis added). While indisputably written description support exists for the claimed “first plane,” Viken argues

there is no support for the claim recitation of “a ‘second plane’ or a ‘distance of travel’ between first and second planes,” nor is there support for the recitation of “two backscatter imaging systems located in two different planes a distance apart,” as recited in claim 1. *Id.* at 29–30 (citing Ex. 1012 ¶ 97). According to Viken, although the term “plane” appears twice in the Specification of the ’783 patent, “neither reference to a ‘plane’ . . . has anything to do with first and second planes spaced a distance apart.” *Id.* at 30–31. Instead, Viken contends, “reference is only made to a four-sided system, also referred to as a portal” and “[n]o second portal with a second set of top and vertical sides is ever described, and no reference is made to a ‘second’ imaging plane in the single portal system.” *Id.* at 31.

Although we agree there is no *in haec verba* disclosure of a “second plane” in the ’783 patent, we disagree that it does not disclose a second portal spaced a distance apart from a first portal so as to, in effect, form two imaging planes. More specifically, Figure 12 of the ’783 patent, reproduced below, depicts a two-plane imaging system.

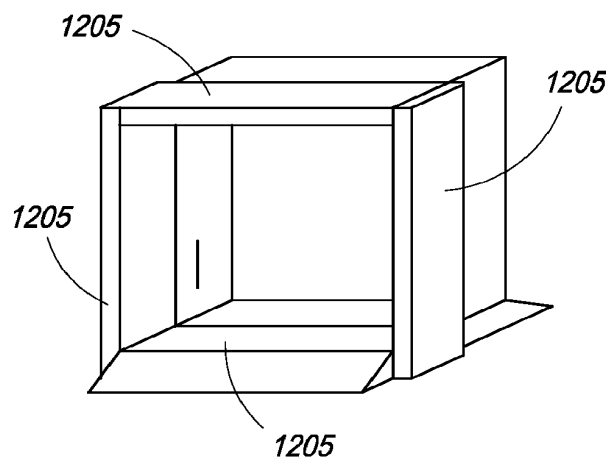


FIG. 12

As described, Figure 12 is an embodiment “in which a four-sided backscatter detector 1205 is *mounted around the periphery of* the scanning tunnel.” Ex. 1001, 14:38–40 (emphasis added). More specifically, the Specification states that four-sided backscatter detector 1205 is “*mounted to the same frame as* the transmission X-ray system such that simultaneous transmission and backscatter image data can be acquired.” *Id.* at 14:44–46 (emphasis added). That disclosure of backscatter detector 1205 being “mounted around the periphery of,” and “to the same frame as,” the transmission system is reasonably understood to mean that the transmission system has its own four-sided frame (unlabeled) and the backscatter system likewise has its own four-sided frame (labeled 1205), both of which are connected together to form a tunnel consisting of adjacent but distinct inspection portals.

Also, while referencing the backscatter unit of Figures 7 and 9, the Specification describes four-sided backscatter system 1205 in terms that correspond to a distinct inspection portal—“backscatter detectors with a backscatter X-ray source may be integrated into one or more of the first side 106, second side 107, and top side 108.” *Id.* at 14:40–56. And the Specification’s disclosure that backscatter system 1205 is mounted to a “scanning tunnel,” which Figure 12 depicts as having a slit for an X-ray source, comports with the description of the combined transmission and backscatter inspection portal of Figure 1.²

² Figure 1 discloses X-ray source 119 and transmission detectors 117 housed in sides 106, 107, and 108 (Ex. 1001, 7:36–8:51), as well as backscatter source and backscatter detectors housed in base platform 109 and any of the three sides (*see id.* at 5:31–37, 9:15–20, 14:63–15:4).

So, from reading the Specification as a whole, one skilled in the art would easily discern that the unlabeled frame or portal in Figure 12 defines a first plane, the details of which are shown in Figure 1, and that frame or portal 1205 defines a second plane, the details of which are shown in Figures 7 and 9. Thus, in our view, sufficient written description support exists for the “first plane” and “second plane” as claimed, including that each plane be equipped with backscatter detectors.

For all the above reasons, we are not persuaded by Viken’s assertion that claims 1–22 are invalid for lacking written description support for the claim limitations directed to first and second spaced-apart planes.

E. Ground 3 – X-Ray Sources Proximate Vertical and Top Sides

Viken asserts that “[c]laims 1–22 are invalid for lack of an adequate written description of a system that includes X-ray sources proximate vertical and top sides.” Pet. 35. More specifically, the pertinent claim limitations recite, “a first X-ray source configured to generate first X-rays, wherein the first X-ray source is positioned proximate the first vertical side and proximate the first top horizontal side,” and “a second X-ray source configured to generate second X-rays, wherein the second X-ray source is positioned proximate the second vertical side and proximate the second top horizontal side.” Ex. 1001, 15:59–62, 16:9–12.

The plain meaning of these two limitations, Viken argues, “is that each [X-ray] source is located near the upper corner where the top side meets the vertical side.” Pet. 35 (citing Ex. 1012 ¶ 98). But, according to Viken, rather than disclosing X-ray sources near the upper corner of the imaging system, all the embodiments in the ’783 patent depict a “transmission source in a lower corner” or involve a “down shooter”

configuration in which the transmission source is located in the center of the top side.” *Id.* at 35–36 (citing Ex. 1001, Figs. 1, 13A–C). And with respect to the backscatter imaging embodiments, Viken contends they fair no better because they describe the X-ray source as being located either in base 109 or integrated into one of sides 106, 107, and 108, without otherwise specifying their location within a particular side. *Id.* at 36 (citing 9:15–23, 14:54–56).

We disagree with Viken’s contentions regarding the ’783 patent’s disclosure of the claimed locations of the X-ray sources. While the figures in the ’783 patent may not disclose the locations as claimed, the Specification does. More specifically, the Specification explains that the position of the enclosure for the X-ray source “depends upon the size of the inspection portal” and describes embodiments where the enclosure occupies 20%, 50%, and 100% of the height of any particular portal. *See* Ex. 1001, 8:7–12. In that regard, Figure 13B of the ’783 patent, reproduced below, depicts an embodiment equipped with “side-shooter” X-ray source 1305b and “down-shooter” X-ray source 1310b. *Id.* at 14:61–63.

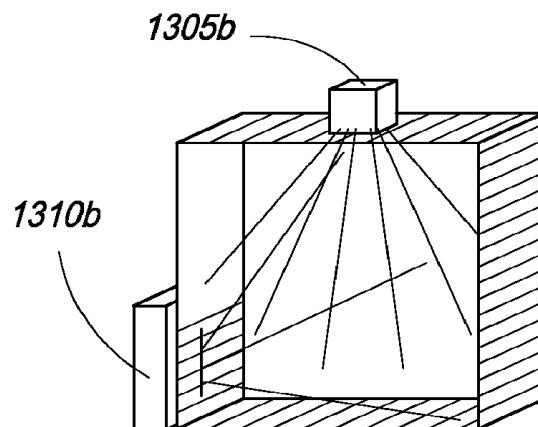


FIG. 13B

Although Figure 13B shows X-ray source 1310b at the bottom of the vertical side, and X-ray source 1305b in the center of the top side, the figure also depicts a slit (unlabeled) adjacent the X-ray source. As explained with respect to the similar embodiment of Figure 1, the slit is an “opening” in the X-rays source’s enclosure “through which X-rays are emitted.” *See id.* at 8:16–17, Fig. 1. Importantly, the Specification states that the slit or opening “extends substantially up first side 106 to approximately 100% of the height.” *Id.* at 8:17–19.

Given that the height of the slit corresponds to the height of X-ray source 1310b in Figure 13B (or X-ray source 119 in Figure 1), one skilled in the art would understand that a slit extending to approximately 100% of the height of the side would mean that the X-ray source does as well, in order to emit X-rays over the full extent of the slit. That understanding would position the X-ray source along the top of the vertical side in proximity to the top horizontal side, as required by claim 1. And, insofar as being located in a backscatter system, one skilled in the art would reasonably understand that the Specification’s disclosure of extending the slit along the full length of the vertical side is applicable not only to the embodiments of Figures 1 and 13B, but also to the backscatter embodiment of Figure 12, given the similarity of the slit depicted in each of those figures.

As for a second X-ray source being positioned in the same manner as the first X-ray source, the Specification of the ’783 patent explains that “an enclosure housing an X-ray source can be provided on both the first side 106 and second side 107” of the inspection portal, and, like slit 121 on first side 106, “a slit or opening (not shown) is similarly provided on second side 107.” *Id.* at 8:43–51. From those disclosures, one skilled in the art would

understand that an X-ray source may be disposed in each of the two vertical sides of the portal, with a slit extending the full height of the sides. As such, the '783 patent discloses that each of the X-ray sources in the vertical sides may be positioned proximate the top horizontal side, as required by claim 1.

For these reasons, we are not persuaded that claims 1–22 are invalid as lacking written description support for positioning X-ray sources proximate the vertical and top sides of the inspection portal.

F. Ground 4 – “Synchronized” First and Second X-Ray Sources

Viken asserts that claims 1–22 are unpatentable for failing to adequately describe a system in which first and second backscatter X-ray sources are synchronized. Pet. 37. Claim 1 recites the relevant limitation as follows: “an operation of the first X-ray source and the second X-ray source are synchronized.” Ex. 1001, 16:27–29. According to Viken, “[t]here is no disclosure in the specification, however, of 1) synchronized backscatter X-ray sources; or 2) synchronized X-ray sources in first and second planes.” Pet. 37. We disagree.

At the outset, we note that claim 1 does not recite that *backscatter* X-ray sources are synchronized, as Viken asserts, only that the claimed “first X-ray source” and “second X-ray source” are synchronized, without otherwise describing the type of X-ray source. As discussed above in section II.D with respect to the embodiment of Figure 12, a transmission X-ray source is located in a first plane and a backscatter X-ray source is located in a second plane. *See* Ex. 1001, 14:38–40, Fig. 12. To that end, the Specification explains, “[i]n order to minimize cross talk between the backscatter imaging component and the transmission X-ray imaging system, it is advantageous to *synchronize* the operation of the two systems.” *Id.* at

13:57–60 (emphasis added); *see also id.* at 9:36–43 (“[T]he transmission beam X-ray pulse *may be timed to coincide* with a period in time when the backscatter system is inactive, thus eliminating any cross-talk between the two X-ray systems.” (emphasis added).)

Those disclosures provide clear and unambiguous support for the “synchronized” operation of the first and second X-ray sources as claimed. Thus, we reject the notion that claim 1 lacks written description support for that limitation.

G. Ground 5 – Enablement of System that is not a Combination

Viken asserts that “claims 1–22 of the ’783 patent are invalid for failing to comply with the enablement requirement of 35 U.S.C. § 112(a) because the specification does not enable a two-plane backscatter-only system.” Pet. 41. Viken’s non-enablement assertions fail for the simple reason that they are premised on the same improper assumptions discussed above with respect to Viken’s assertions that claim 1 is limited to a backscatter-only imaging system. As discussed above in section II.C., the claims of the ’783 patent are not so limited. Also, as discussed above in section II.D, the Specification of ’783 patent provides adequate written description support for an X-ray imaging system that includes two planes. Given the high level of skill in the art based on Viken’s formulation—“a person with [a] Ph.D. in physics or similar discipline and at least two years of experience working with an interdisciplinary team designing and creating systems involving penetrating radiation sources and detectors” (Pet. 9)—and given Viken’s improper reading of limitations into the claims in alleging lack of enablement, we are not persuaded that one skilled in the art would be unable to make or use the invention as claimed.

III. CONCLUSION

For the above reasons, we determine that the information presented in Viken's Petition does not show it is more likely than not that any claims of the '783 patent are unpatentable for failing to comply with the written description requirement or the enablement requirement of 35 U.S.C. § 112(a). Because Viken does not demonstrate that at least one claim of the '783 patent meets the threshold for institution, we do not institute a post-grant review. 37 C.F.R. § 42.208(c).

IV. ORDER

Accordingly, it is:

ORDERED that the Petition is *denied*, and no trial is instituted.

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