United States Court of Appeals for the Federal Circuit

BRITA LP,
Appellant

v.

INTERNATIONAL TRADE COMMISSION,
Appellee

VESTERGAARD FRANDSEN INC., D/B/A LIFESTRAW, KAZ USA, INC., HELEN OF TROY LIMITED,
Intervenors

2024-1098

Appeal from the United States International Trade Commission in Investigation No. 337-TA-1294.

Decided: October 15, 2025

DEANNE MAYNARD, Morrison & Foerster LLP, Washington, DC, argued for appellant. Also represented by SETH W. LLOYD; PAUL ASHLEY AINSWORTH, Sterne Kessler Goldstein & Fox PLLC, Washington, DC.

PANYIN HUGHES, Office of the General Counsel, United States International Trade Commission, Washington, DC, argued for appellee. Also represented by HOUDA MORAD.

ADAM SWAIN, Alston & Bird LLP, Washington, DC, argued for all intervenors. Intervenors KAZ USA, Inc., Helen of Troy Limited also represented by THOMAS WILLIAM DAVISON; KIRK T. BRADLEY, KARLEE N. WROBLEWSKI, Charlotte, NC; KATHERINE RUBSCHLAGER, San Francisco, CA.

JEFFREY R. GARGANO, K&L Gates LLP, Chicago, IL, for intervenor Vestergaard Frandsen Inc. Also represented by DEVON C. BEANE, Alston & Bird LLP, Chicago, IL.

Before PROST, REYNA, and CHEN, *Circuit Judges*.

PROST, *Circuit Judge*.

Brita LP ("Brita") appeals from a United States International Trade Commission ("Commission") decision determining claims 1–6 and 23 of U.S. Patent No. 8,167,141 ("the '141 patent") invalid for lack of written description, lack of enablement, and indefiniteness. For the following reasons, we affirm as to lack of written description and lack of enablement.

BACKGROUND

I

The '141 patent is titled "Gravity Flow Filter" and issued on May 1, 2012. '141 patent Title (capitalization normalized). The application for the '141 patent was filed as a continuation-in-part on September 9, 2008 based on several other applications, each of which Brita abandoned. The '141 patent, similar to its predecessor applications, is directed to gravity flow fluid filtration systems used for removing contaminants from water. *Id.* at col. 1 ll. 15–18. It claims "filter media including at least activated carbon and a lead scavenger." *Id.* at claim 1. Activated carbon is used "to generally improve the taste and odor of the water," *id.* at col. 1 ll. 58–61, and is typically used together with an

additive to facilitate the removal of heavy metals, such as lead and copper, *id.* at col. 3 ll. 51–57. The '141 patent explains that activated carbon may be used with a "lead scavenger," which is "for removing lead from water." *Id.* at col. 11 ll. 60–65.

The sole independent claim at issue, claim 1, recites:

> A gravity-fed water filter, comprising:
>
> filter media including at least activated carbon and a lead scavenger;
>
> wherein the filter achieves a Filter Rate and Performance (FRAP) factor of about 350 or less according to the following formula:
>
> $$FRAP = \frac{[V * f * c_e]}{[L * 2]}$$
>
> where:
>
> V=volume of the filter media (cm^3),
>
> f=average filtration unit time over lifetime L (min/liter),
>
> c_e=effluent lead concentration at end of lifetime L when source water having a pH of 8.5 contains 90–120 ppb (µg/liter) soluble lead and 30–60 ppb (µg/liter) colloidal lead greater than 0.1 µm in diameter, and
>
> L=filter usage lifetime claimed by a manufacturer or seller of the filter (gallons).

The '141 patent identifies various types of filter media, including carbon blocks, mixed media, membranes, nonwovens, depth media, nanoparticles and nanofibers, and ligands. *Id.* at col. 25 ll. 9–12, col. 26 ll. 30–37. These filter media have different characteristics and face different challenges associated with their use in filtering water. For example, carbon blocks use activated carbon held together with a binder, while loose or mixed media use

granular activated carbon packed into a compartment without a binder. For carbon blocks, "lead-reducing sorbents" can be blended with the carbon particles and the binder particles. *Id.* at col. 2 ll. 38–39, col. 11 ll. 60–65. For other types of media, an additive, such as ion exchange resin, can be mixed with carbon to help the filter reduce lead. *Id.* at col. 3 ll. 24–38; *see also id.* at col. 26 ll. 30–34. One problem with mixed media filters is that "they require a long contact time to work properly, which limits the flow rate," and "they take up a large amount of space inside the filter." *Id.* at col. 3 ll. 51–63; *see also id.* at col. 3 ll. 64–67 ("A further problem associated with blended media of granular carbon and ion exchange resin is that they have limited contaminant removal capability due to particle size and packing geometry of the granules.").

The '141 patent expresses a desire to achieve a suitable tradeoff of competing requirements for filter performance. *Id.* at col. 5 ll.19–20. Achieving the right balance is important because users "do not want to wait a long time for the filtered water" and do not want the filter to take up excessive space in their home. *Id.* at col. 4 ll. 41–50. At the same time, a filter should achieve "effective contaminant removal and long filter life." *Id.* at col. 4 ll. 50–56. The patent explains, however, that adjusting the characteristics of a filter to achieve good filter performance is not straightforward. For example, configuring a filter to have a low pressure drop to achieve a fast flowrate is at odds with the design goals of "effective contaminant removal and long life." *Id.* at col. 4 ll. 52–61. "It would be useful to have gravity flow filters that exhibit both good water flow rates and high contaminant reduction." *Id.* at col. 5 ll. 19–20.

The '141 patent characterizes filters in terms of a performance metric that it calls "Filter Rate and Performance Factor (FRAP) Factor." *Id.* at col. 25 ll. 13–17. "Preferred filters have a FRAP Factor ranging from 0–350." *Id.* at col. 25 ll. 17–19. "The nature of the filter meeting [this]

performance criteria is independent of the exact embodiment of the filter and thus applicable to mixed-media, carbon blocks, nonwovens, hollow fibers and other filtration formats." *Id.* at col. 25 ll. 9–12. Claim 1 requires a FRAP factor "of about 350 or less." *Id.* at col. 34 ll. 9–11.

The only type of filter disclosed in the '141 patent as meeting the claimed FRAP factor of 350 or less is carbon block. All of the figures of filters in the patent depict carbon blocks, not any other type of filter media. *Id.* at Figs. 1–20B. The '141 patent also states:

> Several gravity fed carbon blocks and mixed media filters have been tested for flow rate and lead reduction capability against the defined lead challenge water. Filters tested include several formulations of carbon blocks along with commercially available mixed media filters produced by BRITA® and PUR®. Based on the results from testing, the FRAP factors were calculated for each filter and reported below. No mixed media filters tested met the claimed FRAP factor range due to their inability to remove particulate lead. The formulations of gravity fed carbon blocks disclosed are unique in [their] ability to meet the required FRAP factor. The "Examples" below include many examples of gravity flow carbon blocks that have a FRAP factor of less than 350. It is not believed that any currently-marketed gravity-flow filters have a FRAP factor of less than 350.

Id. at col. 26 l. 55–col. 27 l. 2. The "examples" mentioned in this paragraph refer to specific formulations of carbon-block filters provided in the '141 patent as well as certain "mixed media filters" identified as "the current BRITA® gravity-flow mixed media filter, the BRITA® Germany MAXTRA® gravity-flow mixed media filter, and the Proctor and Gamble PUR® 2-stage gravity-flow filter with pleated microfilter." *See id.* at col. 27 l. 14–col. 33 l. 12.

Various characteristics of carbon-block filters, such as geometry and chemistry, affect their filtration performance. For example, the use of particular formulations of binders in carbon blocks enables "maximizing the available surface area of the carbon" which allows for "a carbon block that is hydrophilic and readily absorbs water." *Id.* at col. 14 ll. 39–41. "Typical carbon block filters" have flow rates that are "unacceptably slow," *id.* at col. 11 ll. 26–31, but "according to embodiments of the invention," formulations of carbon blocks could be made having "excellent pressure drop" (and thus, fast flow rate) as a result of the "block shapes and the porosity and high amount of interstitial spaces and passages through the solid profile." *Id.* at col. 14 l. 61–col.15 l. 6. The '141 patent does not disclose any specific filter formulation using a filter media other than carbon block that achieves the claimed FRAP factor.

II

On December 27, 2021, Brita filed a complaint with the Commission under section 337, alleging that various respondents, including Kaz USA, Inc., Helen of Troy Limited, and Vestergaard Frandsen Inc. (together, "Intervenors"), imported and sold water filters that infringed various claims of the '141 patent. The Commission initiated its investigation on January 31, 2022.

After a *Markman* hearing, the administrative law judge ("ALJ") construed "filter usage lifetime claimed by a manufacturer or seller of the filter" to mean "[t]he total number of gallons of water that a manufacturer or seller has validated can be filtered before the filter is replaced," and rejected respondents' arguments that the limitation is indefinite. *Certain High-Performance Gravity-Fed Water Filters & Prods. Containing the Same*, Inv. No. 337-TA-1294, 2022 WL 3357878, at *2, 12–16 (July 20, 2022). The ALJ then issued her initial determination ("ID"), which determined that there was a violation of section 337. *Initial Determination*, Inv. No. 337-TA-1294, 2023 WL 2644291,

at *1 (Feb. 28, 2023). As relevant here, the ALJ determined that asserted claims 1–6 and 23 met the written description and enablement requirements. *Id.* at *135, 165–66.

On the respondents' petition for review, the Commission agreed to review the ALJ's conclusions concerning: (1) the construction of "filter usage lifetime claimed by a manufacturer or seller of the filter" and her determination that the term was not indefinite; (2) written description; and (3) enablement. *Certain High-Performance Gravity-Fed Water Filters & Prods. Containing the Same*, Inv. No. 337-TA-1294, 2023 WL 6290623, at *3 (Sep. 22, 2023) ("*Commission Opinion*"). The Commission determined that (1) the term "filter usage lifetime claimed by a manufacturer or seller of the filter" is indefinite; (2) the asserted claims are invalid for lack of written description as to any filter media meeting the claimed FRAP factor other than carbon-block filters; and (3) the asserted claims are non-enabled as to non-carbon-block filters. *Id.* at *17, *38. Given these conclusions, the Commission reversed the ID's finding of a violation of section 337. *Id.* at *38.

Brita timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(6).

DISCUSSION

We review the Commission's legal determinations de novo and its factual findings for substantial evidence. *Guandong Alison Hi-Tech Co. v. ITC*, 936 F.3d 1353, 1358 (Fed. Cir. 2019). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Importantly, "the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence. *Consolo v. Fed. Mar. Comm'n*, 383 U.S. 607, 620 (1966).

On appeal, Brita challenges the Commission's determinations regarding: (1) written description, (2) enablement, and (3) indefiniteness. We address each issue in turn.

I

We begin with written description. Section 112 of the Patent Act contains a written description requirement distinct from the enablement requirement. 35 U.S.C. § 112 ¶ 1 (pre-AIA); *see Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc). To satisfy written description, the disclosure of the application must "reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Ariad*, 598 F.3d at 1351. Assessing such "possession as shown in the disclosure" requires "an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Id.* "[T]he specification must describe an invention understandable to [a person of ordinary skill in the art] and show that the inventor actually invented the invention claimed." *Id.* A "mere wish or plan" for obtaining the claimed invention is not adequate written description. *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997).

Whether the asserted claims of the '141 patent lack written description support is a question of fact that we review for substantial evidence. *Rivera v. ITC*, 857 F.3d 1315, 1319 (Fed. Cir. 2017). Here, the asserted claims cover any filtration media type with activated carbon and a lead scavenger that meet the functional FRAP factor limitation. As discussed below, substantial evidence supports the Commission's determination that the asserted claims lack written description support as to any filter media meeting the claimed FRAP factor other than carbon-block filters.

The Commission found that the specification "only provides examples of 'gravity flow carbon blocks that have a

FRAP factor of less than 350.'" *Commission Opinion*, 2023 WL 6290623, at *21 (quoting '141 patent col. 26 ll. 63–67). We agree. While broadly claiming any "filter media including at least activated carbon and a lead scavenger; wherein the filter achieves a [FRAP] factor of about 350 or less," '141 patent claim 1, the specification describes only a single type of filter media that can meet the claimed FRAP factor—carbon block. The '141 patent provides a number of "examples" of the "formulations" of filters that were tested to obtain a FRAP factor. '141 patent col. 27 l. 14–col. 28 l. 2, Table 1. Table 5 of the '141 patent demonstrates that among the filters tested, carbon-block filters were the only filter that met the claimed FRAP factor of 350 or less. *Id.* at col. 33 ll. 16–22, Table 5. Thus, the only working examples of filters meeting the claimed FRAP factor disclosed in the '141 patent are those using carbon-block filter media.

Further, the specification only provides the details of specific formulations of filter components (e.g., lead sorbent, carbon, and binder) for carbon blocks, *id.* at col. 27 l. 14–col. 28 l. 47, and the only types of filters that are illustrated in the figures are carbon blocks. On the other hand, the tested "mixed media filters fall above the preferred FRAP range (0–350)." *Id.* at col. 33 ll. 24–25; *see also id.* at col. 26 ll. 61–63 ("No mixed media filters tested met the claimed FRAP factor range due to their inability to remove particulate lead."); *id.* at col. 31 ll. 54–55 ("All mixed media filters tested fail to adequately reduce total led concentrations . . . .").

The Commission cited testimony from both sides' experts confirming that the '141 patent provides working examples only of carbon-block filters, and no working examples of any non-carbon-block filters. *Commission Opinion*, 2023 WL 6290623, at *20. The inventors themselves also testified that they did not invent any non-carbon-block filters that would meet the claimed FRAP factor. *Id.* at *22. Dr. Elizabeth Knipmeyer, one of the inventors, testified that in addressing the issue of removing

particulate lead in water filters without sacrificing flow rates, her group "changed technology from a granular media to a carbon block." J.A. 32707–08 (Dr. Knipmeyer's deposition testimony); *see also* J.A. 22202 (Dr. Knipmeyer's testimony at evidentiary hearing).

The Commission also found that, as far as filters meeting the required FRAP factor, "[b]y their own admission in the patent, the inventors were only in possession of a filter that uses carbon blocks, not other types of filter media." *Commission Opinion*, 2023 WL 6290623, at *21. Again, we agree. The specification states that "[t]he formulations of gravity fed carbon blocks disclosed are unique in [their] ability to meet the required FRAP factor." '141 patent col. 26 ll. 63–65. The properties that make carbon blocks "unique" are evident from other portions of the specification, where the '141 patent describes the benefits of carbon blocks while identifying the "drawbacks," "problems," and "disadvantages" of other filter media. *See, e.g.*, *id.* at col. 3 l. 57–col. 4 l. 24. Notably, the '141 patent purports to configure carbon-block filters in such a way that addresses issues particular to carbon blocks to enhance performance, whereas other types of filter media face different performance limitations.

Indeed, the distinctions between carbon blocks and other types of filter media pervade the '141 patent. For example, the specification explains that mixed or blended media using carbon granules and other additives have limited contaminant removal capability. *Id.* at col. 3 l. 57–col. 4 l. 11. This is because of the nature of loose granular media, namely, "particle size and packing geometry of the granules," which causes water to flow through the voids between granules rather than directly contacting the granules. *Id.* at col. 3 l. 64–col. 4 l. 5. The '141 patent explains that one way to address the issue of water flowing through the voids is to use smaller granules, however, doing so comes at the cost of longer filtration time. *Id.* at col. 4 ll. 20–24. Another factor affecting performance is that

granular media is hydrophobic, meaning the granules tend to resist wetting and thus it is difficult for such a filter to readily absorb water. *Id.* at col. 4 ll. 41–67.

Carbon blocks, by their nature, do not face the same problems and exhibit particular structural and chemical properties that make them advantageous for water filtration. Because they are formed in "an integrated, porous, composite, carbon block," *id.* at col. 13 ll. 23–24, there are no loose granules, and the carbon-block filter media can achieve more effective flow characteristics. *Id.* at col. 14 l. 53–col. 15 l. 6. Also, "one can achieve a carbon block that is hydrophilic and readily absorbs water." *Id.* at col. 14 ll. 31–41.

The '141 patent purports to achieve further refinements of carbon-block filters by maximizing the surface area of the media available for filtration. *Id.* at col. 14 ll. 39–41; *see also id.* at col. 17 ll. 39–42 (seeking to "maximize the volume of a filtration media block media in a given cartridge or housing total volume, while decreasing pressure drop"). It also describes embodiments that employ a multi-core structure for carbon blocks to ensure effective water filtration. *Id.* at col. 23 ll. 18–45. The patent remarks on the "noteworthy" property of such carbon blocks as providing "excellent performance" for water filtration. *Id.* at col. 23 ll. 25–37. Thus, the specification itself amply supports the conclusion that the '141 patent only discloses carbon-block filters as being unique in their ability to meet the claimed FRAP factor. The '141 patent's disclosure does not demonstrate possession of non-carbon-block filter media achieving the claimed FRAP factor. Other evidence, discussed below, reinforces this conclusion.

"[T]he level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology." *Ariad*, 598 F.3d at 1351 (citing *Capon v. Eshhar*, 418 F.3d 1349, 1357–58 (Fed. Cir.

2005)). The witness testimony in this case, while acknowledging that individual variables within the FRAP equation were known, demonstrates that achieving the required FRAP factor with any filter media was a complex task with unpredictable challenges. J.A. 23434–38 (respondents' expert, Dr. Gary Hatch, testifying to the interrelated nature of the variables in the FRAP equation, such that changing one variable in a filter can result in unpredictable changes in other variables and the ultimate FRAP value); *see also* J.A. 23467–68 (Dr. Hatch testifying that while it would be possible to configure a gravity-fed water filter in order to achieve "certain desired benefits, such as faster flow rate or improved contaminant reduction," doing so would involve compromising other aspects of performance); J.A. 22218–19 (Brita's witness, Dr. Knipmeyer, testifying that the variables in the FRAP equation are "all interrelated"). This also comports with the statements of the applicant in the parent application to the '141 patent that the art of making an effective filter is a "very difficult task" and that "small differences in many variables can make large differences in . . . performance." J.A. 41077, 41112–13.

The inventors' admissions that they did not create non-carbon-block filters achieving the claimed FRAP factor, and that doing so would involve "new technology" further confirms the conclusion that the '141 patent's disclosure does not demonstrate possession of non-carbon-block filter media achieving the claimed FRAP factor. *See Commission Opinion*, 2023 WL 6290623, at *22, *35–36. The inventor testimony here "illuminates the absence of critical description in this case." *Nuvo Pharms. (Ir.) Designated Activity Co. v. Dr. Reddy's Labs. Inc.*, 923 F.3d 1368, 1381 (Fed. Cir. 2019). It is not enough for the patent to simply mention a desired outcome, i.e., "meeting the [FRAP] performance criteria," '141 patent col. 25 ll. 9–12, with non-carbon-block filter media. *See Ariad*, 598 F.3d at 1357. Here, the written description requirement demands that the specification provide more detail than merely listing examples of

non-carbon-block filter media, particularly when the record evidence shows no such media met the claimed FRAP factor at the time of invention.

Brita offers three principal arguments for why the Commission erred in determining a lack of written description. We find none of them persuasive, as they fail to overcome the express disclosures in the patent and undisputed testimony of the inventors and experts. First, Brita argues that the original claims provide sufficient written description support. Appellant's Br. 33–36. Second, Brita asserts that generic statements in the specification suggesting its invention is "applicable to all embodiments" provides constructive reduction to practice. *Id.* at 36–38. Third, Brita argues that the '141 patent adequately discloses representative examples and common structural features supporting its possession of the "genus" of filters covered by claim 1. *Id.* at 38–40. Brita recognizes that its arguments are "related," *id.* at 33, and so we will address them together.

"[W]hile it is true that original claims are part of the original specification, that truism fails to address the question whether original claim language necessarily discloses the subject matter that it claims." *Ariad*, 598 F.3d at 1349 (citation omitted); *see also Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968–69 (Fed. Cir. 2002) ("If a purported description of an invention does not meet the requirements of the statute, the fact that it appears as an original claim or in the specification does not save it."). Brita's original claims, reciting "filter media including at least activated carbon and a lead scavenger," '141 patent claim 1, do nothing to provide an adequate description of the types of filter media that can satisfy the claimed FRAP factor. Nor does the mere fact that these words appear in the specification suggest to a skilled artisan that the inventors were in possession of an invention comprising non-carbon-block filter media that can meet the claimed FRAP factor. None of the generic citations to different types of filter media, '141

patent col. 13 ll. 30–34, col. 25 ll. 5–12, and col. 26 ll. 30–37, relay any meaningful disclosure related to the specific FRAP factor limitations in the asserted claims beyond expressing a desired result.

We have held that a genus can be sufficiently disclosed by "either a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can visualize or recognize the members of the genus." *Ariad*, 598 F.3d at 1350 (cleaned up). The problem with Brita's genus argument, however, is that the '141 patent does not identify a representative number of species or common structural features of members of the alleged genus. And the problem "is especially acute with genus claims that use functional language to define the boundaries of a claimed genus." *Id.* at 1349.

Contrary to Brita's argument that "the claimed invention is a novel way of arranging known filter-media types," Appellant's Br. 39, claim 1 is defined functionally. The claim requires a functional result, namely, "achiev[ing]" a value of its self-defined FRAP factor of 350 or less. '141 patent col. 34 ll. 10–12. Indeed, the Commission recognized that the '141 patent claims "any and all filtration media types with activated carbon and a lead scavenger that meet the functional FRAP factor limitation." *Commission Opinion*, 2023 WL 6290623, at *20. For a broad, functional claim to meet the written description requirement, the patentee must demonstrate he "has invented species sufficient to support a claim to the functionally-defined genus." *Ariad*, 598 F.3d at 1349.

As discussed above, the '141 patent does not disclose species other than carbon-block filters that can meet the claimed FRAP factor. Brita's reliance on the specification's statement that "[t]he nature of the filter meeting the following performance criteria is independent of the exact embodiment of the filter," is misplaced. Appellant's Br. 35–36

(citing '141 patent col. 25 ll. 9–12). The specification does not demonstrate that satisfying the claimed FRAP factor can be decoupled from the properties of carbon-block filters. Merely pronouncing that the "nature of the filter meeting" the FRAP factor is independent of the exact embodiment does not make it so, particularly in light of the patent's testing results that demonstrate otherwise. And, while the specification may provide a listing of various types of filter media, including non-carbon-block media, and state that the FRAP factor criteria is "applicable" to filters using different types of media, *id.* at col. 13 ll. 30–34 and col. 26 ll. 30–37, this does nothing to show possession of non-carbon-block media that meets the claim's requirements of a FRAP factor of 350 or less.

Furthermore, the '141 patent does not explain what common characteristics its carbon-block filters would share with non-carbon-block filters that might make them effective for meeting the claimed FRAP factor. Instead, the patent suggests the opposite, that "[t]he formulations of gravity fed carbon blocks disclosed are unique." '141 patent col. 26 ll. 63–65. As detailed above, the specification describes numerous advantageous characteristics for water filtration that are unique to carbon blocks and which are inapplicable to other media, like loose granular and mixed media. The mere inclusion of activated carbon and lead scavenger is not enough to achieve the claimed FRAP factor. *Id.* at Table 5 (showing mixed media filters, having activated carbon and lead scavenger, outside the claimed FRAP factor range). The '141 patent's failure to describe structural features common to the members of the genus "so that one of skill in the art can visualize or recognize the members of the genus" further demonstrates its lack of support for a claim to a genus encompassing non-carbon-block filters. *Ariad*, 598 F.3d at 1350 (cleaned up).

Brita's reliance on the knowledge of persons of ordinary skill is similarly unavailing. Brita alleges this case involves a "predictable art," and so less detail is required to

show adequate written description. Appellant's Br. 33, 39. According to Brita, because other non-carbon-block filter media types were known to those of ordinary skill in the art, the '141 patent's detailed description of carbon-block embodiments "sufficed to show possession of an invention applicable to other well-known filter media types." *Id.* at 39–40. Brita also argues that a skilled artisan would know how to configure filters to achieve "certain desired benefits." *Id.* at 39 (citing the questioning of Dr. Hatch). What Brita overlooks is that in the context of the FRAP equation (itself previously unknown), the ultimate effect of adjusting known variables was far from certain. That is, while one might know how to configure a filter to individually achieve "certain desired benefits," such as "faster flow rate" or "improved contaminant reduction," J.A. 23468, the effect that this has on the overall FRAP value is unpredictable due to the interrelatedness of variables. J.A. 23437. Even Dr. Knipmeyer admitted that the individual variables in the FRAP equation are "interrelated." J.A. 22219. Thus, even accepting Brita's argument that an ordinarily skilled artisan would know how to configure individual variables of the FRAP equation in other, well-known filter media, it does not follow that an ordinary artisan would know how to configure such filter media to achieve a FRAP factor of 350 or less.

"The knowledge of ordinary artisans may be used to inform what is actually in the specification, but not to teach limitations that are not in the specification, even if those limitations would be rendered obvious by the disclosure in the specification." *Rivera*, 857 F.3d at 1322 (cleaned up). Here, Brita cannot use the knowledge of a skilled artisan to make up for the specification's lack of disclosure as to non-carbon-block filters that can meet the claimed FRAP factor. Brita has not shown that a skilled artisan would understand that the specification discloses non-carbon-block filters meeting the claimed FRAP factor.

In sum, substantial evidence supports the Commission's determination that the asserted claims of the '141 patent lack adequate written description. The Commission appropriately found that the specification, read in light of the background knowledge in the art, failed to inform a skilled artisan that the inventors were in possession of filter media other than carbon blocks that achieve the claimed FRAP factor.

II

We separately address the Commission's determination that the asserted claims of the '141 patent are non-enabled as to non-carbon-block filters. Section 112 sets forth the enablement requirement: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same." 35 U.S.C. § 112 ¶ 1 (pre-AIA). "If a patent claims an entire class of processes, machines, manufactures, or compositions of matter, the patent's specification must enable a person skilled in the art to make and use the entire class. In other words, the specification must enable the full scope of the invention as defined by the claims." *Amgen Inc. v. Sanofi*, 598 U.S. 594, 610 (2023). The standard for enablement is whether a person skilled in the art can "make and use" the invention "without undue experimentation." *In re Wands*, 858 F.2d 731, 735–37 (Fed. Cir. 1988). Enablement is a question of law reviewed de novo based on underlying factual findings reviewed for substantial evidence. *FS.com Inc. v. ITC*, 65 F.4th 1373, 1376 (Fed. Cir. 2023).

The Commission analyzed each of the *Wands* factors and concluded that it would take undue experimentation to make and use non-carbon-block filters that meet the claim requirements. *Commission Opinion*, 2023 WL

6290623, at *36–37. Brita fails to identify any reversible error in the Commission's analysis.

Brita primarily argues that the Commission misread the specification by treating its admissions of the inability of tested mixed media filters to meet the claimed FRAP factor as a failure by the inventors to apply their invention to non-carbon-block filter media. Oral Arg. at 1:37–2:21, ("The Commission's decision hinges on a plain misreading of column 26.").[1] We are not persuaded that the Commission misinterpreted the specification of the '141 patent.

The relevant passage reads: "No mixed media filters tested met the claimed FRAP factor range due to their inability to remove particulate lead. The formulations of gravity fed carbon blocks disclosed are unique in [their] ability to meet the required FRAP factor." '141 patent col. 26 ll. 61–65. In its *Wands* factor analysis, the Commission determined that the '141 patent specification provides no teaching on how any filter other than carbon block can achieve the required FRAP factor. *Commission Opinion*, 2023 WL 6290623, at *31–32. In support, the Commission cited this passage and others in the '141 patent explaining that the tested mixed media filters "fail to adequately reduce" lead concentrations. *Id.* at *31 (citing '141 patent col. 31 ll. 9–10, col. 31 ll. 54–55). Despite the conceded failures of the tested filters, the specification "does not provide a road map for how mixed media materials, or any type of filter other than carbon blocks, can achieve the required FRAP." *Commission Opinion*, 2023 WL 6290623, at *31.

Much of the same evidence discussed above with respect to written description also supports the Commission's findings regarding enablement. For example, the '141 patent describes some of the specific problems that prevent

---

[1] No. 24-1098, https://www.cafc.uscourts.gov/oral-arguments/24-1098_08052025.mp3.

non-carbon-block filter media types, like mixed media, from achieving performance comparable to the carbon blocks that meet the claimed FRAP factor. *See, e.g.*, '141 patent col. 3 ll. 51–67 (limited contaminant removal capability), col. 4 ll. 41–67 (hydrophobic nature of granular media). Even though the '141 patent acknowledges that non-carbon-block filters are different from carbon-block filters, the '141 patent provides no solutions to overcome the problems associated with non-carbon-block filters, and instead characterizes its formulations of carbon-block filters meeting the claimed FRAP factor as "unique." *Id.* at col. 26 ll. 63–65. The inventors' testimony confirms that the inventors did not create any working examples of non-carbon-block filters, i.e., the inventors failed to create any filters besides carbon block that achieved the claimed FRAP factor. *Commission Opinion*, 2023 WL 6290623, at *31. Indeed, Dr. Knipmeyer testified that she "changed technology from a granular media to a carbon block" in developing the invention. J.A. 32707–08.

Brita further argues that the passage in column 26 of the patent is unremarkable because the mixed media filters tested were prior art, which merely demonstrates novelty. Oral Arg. at 2:22–2:32. Regardless of whether the tested filters were prior art, the fact remains that the specification does not provide any teaching or guidance on how to achieve the claimed FRAP factor with any type of filter besides carbon block, going so far as to disparage other filter types. Taken together with the specification's description of "drawbacks," "problems," and "disadvantages" of non-carbon-block filter media, '141 patent col. 3 l. 57–col. 4 l. 24, the specification's test results constitute a "clear[] and strong[] warn[ing]" against non-carbon-block filter media. *See AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).

Brita's other principal argument is that the invention of the '141 patent involves a "highly developed, predictable art." Appellant's Br. 30–32. This stands in stark contrast

to the Commission's findings on the *Wands* factors. *Commission Opinion*, 2023 WL 6290623, at *33–35. For example, the Commission, recognizing that the invention is "directed broadly to gravity-fed water filters that can achieve FRAP of less than 350," found "the nature of the invention is not gravity-fed water filters generally, but gravity-fed water filters that achieve the claimed FRAP with any type of filter media," *id.* at *33–34, and that the variables of the FRAP equation are "interrelated such that changing one variable will change other variables in a non-linear and unpredictable manner," *id.* at *34. We find no error in the Commission's findings.

Ample evidence in the record before us supports the finding of lack of predictability in the relevant field. At oral argument, Brita argued that both parties' experts agreed that a skilled artisan would know how to modify the various components of a filter in order to achieve desired characteristics. Oral Arg. at 10:57–11:08 (citing to J.A. 23467–68). However, as discussed in Section I of the discussion section in this opinion concerning written description, Brita's argument fails to adequately account for the unpredictable nature of the FRAP equation itself due to the interrelatedness of its input characteristics. Respondents' expert, Dr. Hatch, merely acknowledged it was known that one could configure a filter to achieve "certain desired benefits" such as volume, flow rate, or contaminant reduction. J.A. 23468. That is, one could configure a filter to achieve a certain value for the input variables to the FRAP equation. It does not follow, however, that one could configure a filter of any media type to achieve the claimed FRAP factor—let alone that the specification enabled an ordinary artisan to do so without undue experimentation. Dr. Hatch testified that the input variables to the FRAP equation are "interrelated" and that "when you change one of these factors, you do not know what is going to be the final result of your FRAP value." J.A. 23437. Dr. Knipmeyer also acknowledged that the variables are "interrelated." J.A.

22218–19. Moreover, the testimony of Brita's expert, Dr. Benny Freeman, demonstrates agreement with this principle that a particular change to one variable in the FRAP equation affects others. The '141 patent itself recognizes the tradeoff relationship between some aspects of filter characteristics in the context of granular media. '141 patent col. 4 ll. 41–67 (the goal of fast flowrate is counter to long lifetime and effective contaminant removal). But importantly, the patent does not explain how to adjust the various characteristics to achieve the claimed FRAP factor for such granular media, or for any filter media besides carbon block.

Furthermore, Dr. Knipmeyer's testimony that creating non-carbon-block embodiments would involve "new technology," J.A. 32984, severely undercuts Brita's reliance on the level of skill in the art. The Commission found that "how to develop that new technology remains unclear and unpredictable from [the] patent disclosure." *Commission Opinion*, 2023 WL 6290623, at *35. As discussed above, the specification lacks any guidance on how to achieve the claimed FRAP factor with filter media other than carbon block.

We have held that "[i]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement." *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997). Brita's reliance on Dr. Freeman's testimony that one could use the same "starting materials" and reach the claimed invention essentially places the entire inventive effort on one of ordinary skill in the art. This violates the very quid pro quo central to the enablement requirement—"requiring a patentee to teach the public how 'to practice the full scope of the claimed invention.'" *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 959 F.3d 1091, 1091–1100 (Fed. Cir. 2020) (quoting *AK Steel*, 344 F.3d at 1244). In light of other record evidence demonstrating the differences between carbon

blocks and other filter media types, the specification's lack of disclosure to guide one of ordinary skill to achieve the claimed FRAP factor with other filter media is fatal to Brita's argument.

We conclude that substantial evidence supports the factual findings as to the *Wands* factors underlying the Commission's enablement determination. The record thus supports the Commission's legal conclusion that the '141 patent required undue experimentation to enable the full scope of the asserted claims.

III

The Commission ultimately determined there could be no section 337 violation because the asserted claims of the '141 patent were invalid. We are not required to address every possible ground on which the Commission's determination might be sustained. *Solomon Techs., Inc. v. ITC*, 524 F.3d 1310, 1320 (Fed. Cir. 2008). Therefore, we decline to reach the issue of indefiniteness.

CONCLUSION

For the foregoing reasons, we affirm.

AFFIRMED