

# United States Court of Appeals for the Federal Circuit

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ADRIAN RIVERA, ADRIAN RIVERA MAYNEZ  
ENTERPRISES,  
*Appellants*

v.

INTERNATIONAL TRADE COMMISSION,  
*Appellee*

SOLOFILL, LLC,  
*Intervenor*

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2016-1841

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Appeal from the United States International Trade  
Commission in Investigation No. 337-TA-929.

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Decided: May 23, 2017

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

LINN, *Circuit Judge*.

Adrian Rivera and Adrian Rivera Maynez Enterprises (collectively, “Rivera”) appeal from a divided decision by the International Trade Commission, finding no violation of Section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, based on the Commission’s holding of invalidity of certain asserted claims of Rivera’s U.S. Patent No. 8,720,320 (“’320 patent”), filed July 13, 2007, titled “Pod Adaptor System for Single Service Beverage Brewers.” *In re Certain Beverage Brewing Capsules, Components Thereof, and Products Containing the Same*, Inv. No. 337-TA-929 (April 5, 2016) (Final) (“*Beverage Capsules*” and “*Beverage Capsules Dissent*”).

Because substantial evidence supports the Commission’s holding that all asserted claims are invalid for lack of written description, we affirm. We need not, and do not, reach any of the alternative grounds for affirmance.

## I. BACKGROUND

### A. The Disclosure in the ’320 patent

The ’320 patent describes single-brew coffee machines falling into two general categories. “Some machines have brewing chambers configured to receive pods which are small, flattened disk-shaped filter packages of beverage extract, while other machines are configured to accommodate larger, cup-shaped beverage filter cartridges.” ’320 patent, col. 1, ll. 17–21. The Keurig® system, which uses “K-Cups,” is an example of the latter system.

The patent describes the Keurig® brewer in some detail, and notes that it “inherently limits the use of the machine to cup-shaped cartridges,” *id.* at col. 1, ll. 40–41, so that “users of the Keurig machine . . . would have to purchase a different machine to brew beverage from pods, which are typically somewhat flattened disc shaped filter paper packets containing coffee,” *id.* at col. 1, ll. 41–45. Because multiple machines are inconvenient and expensive, the ’320 patent identifies “a need for brewers configured for cup-shaped cartridges [to] also be used to brew beverages from pods.” *Id.* at col. 1, ll. 47–50.

The ’320 explicitly defines a “pod” as follows: “As used herein, the term ‘pod’ is a broad term and shall have its ordinary meaning and shall include, but not be limited to, a package formed of a water permeable material and containing an amount of ground coffee or other beverage therein.” *Id.* at col. 1, l. 66 – col. 2, l. 3.

As explained in the specification, the ’320 patent purports to solve two problems: (1) the incompatibility between pod-based and cartridge-based systems; and (2) the lack of flavor from single-service brewed coffee resulting from the lack of tamping (i.e., contraction) of the coffee. *Id.* at col. 1, ll. 11–62. The claims at issue here are only concerned with the first problem and Rivera’s asserted solution to it. The ’320 patent Abstract explains that “[t]he assembly is especially designed for brewing pods in brewers configured for cup-shaped beverage extract cartridges.” The invention “more particularly relates to an adaptor assembly configured to effect operative compatibility between a single serve beverage brewer and beverage pods.” *Id.* at col. 1, ll. 6–9.

The ’320 patent includes several embodiments to effectuate its purposes. Every embodiment in the ’320 patent shows a cup-shaped “receptacle,” adapted in various ways to receive a discrete water permeable, coffee-containing “pod.” For example, the embodiment shown in



years of prosecution and multiple amendments, the '320 patent issued. None of the claims as issued included any reference to a “pod,” “pod adaptor assembly,” or “brewing chamber for a beverage pod.” Instead, the relevant claims call for “a container . . . adapted to hold brewing material.” Representative claim 5 reads as follows:

5. A beverage brewer, comprising:

a brewing chamber;

a container, disposed within the brewing chamber and adapted to hold brewing material while brewed by a beverage brewer, the container comprising:

a receptacle configured to receive the brewing material; and

a cover;

wherein the receptacle includes

a base, having an interior surface and an exterior surface, wherein at least a portion of the base is disposed a predetermined distance above a bottom surface of the brewing chamber, and

at least one sidewall extending upwardly from the interior surface of the base,

wherein the receptacle has at least one passageway that provides fluid flow from an interior of the receptacle to an exterior of the receptacle;

wherein the cover is adapted to sealingly engage with a top edge of the at least one sidewall, the cover including an opening, and

wherein the container is adapted to accept input fluid through the opening and to provide a corresponding outflow of fluid through the passageway;

an inlet port, adapted to provide the input fluid to the container; and

a needle-like structure, disposed below the base;

wherein the predetermined distance is selected such that a tip of the needle-like structure does not penetrate the exterior surface of the base.

'320 patent, col. 8, l. 60 – col. 9, l. 23.

#### B. Procedural History

On September 9, 2014, Rivera filed a complaint with the International Trade Commission (“Commission”), alleging that Solofill, LLC (“Solofill”) was importing beverage capsules that infringed claims 5–8 and 18–20 of the '320 patent, in violation of Section 337. Rivera thereafter withdrew its allegations with respect to claims 8 and 19, leaving currently pending claims 5–7, 18, and 20. Solofill’s K2 and K3 beverage capsules are made to fit into a Keurig® brewer, and include an integrated mesh filter surrounding a space designed to accept loose coffee grounds.

In an initial decision, the Administrative Law Judge (“ALJ”) held that Rivera had established both the technical and economic prongs of the domestic industry requirement, and Solofill had not proved invalidity of the '320 patent. However, the ALJ found no violation of § 337, concluding that Rivera failed to show infringement. In particular, the ALJ held that Solofill did not directly infringe because Solofill only imported the cartridges, and the claims required the combination of Solofill’s accused

cartridges and a Keurig®-type brewer. The ALJ also held that Solofill was not liable for induced or contributory infringement because it did not have pre-suit knowledge of the '320 patent, and therefore lacked the required mens rea for indirect infringement.

On review, the Commission also concluded that there was no violation of § 337, but for different reasons. The Commission held that, *inter alia*, asserted claims 5–7, 18, and 20, were invalid for lack of written description, and that claims 5 and 6 were additionally invalid as anticipated by U.S. Patent No. 6,079,315 to Beaulieu (“Beaulieu”). *Beverage Capsules* at 36–52. Commissioner Kieff dissented-in-part, concluding that the specification as filed satisfied the written description requirement. Commissioner Kieff reasoned that the specification gave a “broader-than-typical definition to the word ‘pod,’” which included both closed packets and open packages of a water permeable material containing ground coffee. *Beverage Capsule Dissent* at 5.

Rivera timely appeals. We have jurisdiction to review a final decision by the Commission under 28 U.S.C. § 1295(a)(6).

## II. DISCUSSION

### A. Standard of Review

Written description is a question of fact, which we review for substantial evidence on appeal from the International Trade Commission. *SSIH Equip. S.A. v. Int’l Trade Comm’n*, 718 F.2d 365, 371 (Fed. Cir. 1983). The accused party must show a lack of written description by clear and convincing evidence. *Hynix Semiconductor v. Rambus Inc.*, 645 F.3d 1336, 1351 (Fed. Cir. 2011).

### B. Written Description

The specification of a patent as filed must “contain a written description of the invention.” 35 U.S.C. § 112. A

specification has an adequate written description when it “reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date” of the patent. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). “[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art . . . [to] show that the inventor actually invented the invention claimed.” *Id.*

The basic issue in this case is whether the “pod adaptor assembly,” “pod,” and “receptacle” disclosures in the patent as filed, support Rivera’s “container . . . adapted to hold brewing material,” as recited in independent claim 5. Rivera argues all the asserted claims together, and we treat dependent claims 6–7, 18, and 20 as rising or falling with independent claim 5.

The Commission concluded that the specification did not provide the necessary written description support for the full breadth of the asserted claims, because the specification was entirely focused on a “pod adaptor assembly” or “brewing chamber,” and did not disclose a container that was itself a pod or that contained an integrated filter. The Commission only cited the explicit definition of “pod” in its Background section, and cited the narrower “typical” definitions of “pod” in its analysis section. *See Beverage Capsules* at 26 (background section), 27 & n.13 (analysis section).

Both parties analyze the written description issue under the assumption that the asserted claims read on Solofill’s K2 and K3 cup-shaped containers. The salient feature of the K2 and K3 containers is the integration of the filter into the cup itself, allowing the insertion of loose coffee into the receptacle. The parties agree that nothing in the ’320 patent explicitly describes a pod adaptor assembly with a filter integrated into the cartridge.

Rivera’s primary argument is that the Commission failed to apply the broad definition of a “pod” contained in the specification, and that correctly applying that definition would have provided written description support for the claimed integrated filter cartridge. Rivera reasons that the integrated filter cartridge is simply a configuration of the generic disclosure of a “pod.” The specification explicitly defines a “pod”: “[A]s used herein, the term ‘pod’ is a broad term and shall have its ordinary meaning and shall include, but not be limited to, a package formed of a water permeable material and containing an amount of ground coffee or other beverage therein.” ’320 patent, col. 1, l. 66 – col. 2, l. 3. According to Rivera, this definition teaches a broad genus, which provides written description support for the species shown in the specification’s embodiments (with a “pod” including a filter distinct from the cartridge), and the species represented by the accused products (with a filter integral to the cartridge).

The Commission and Solofill respond that the broader definition of a “pod” does not provide written description support for the claimed “container . . . adapted to hold brewing material” (i.e., a container with an integral filter) because: (1) every embodiment and teaching in the specification shows the “pod” and the cartridge or container as distinct elements; (2) the distinction of the “pod” from the cartridge or container is fundamental to the problem and solution taught in the specification; and (3) the embodiments shown in the specification would not work without a separate filter.

We agree with the Commission and Solofill. The underlying concern addressed by the ’320 patent is enabling compatibility between pods used in pod-type beverage brewers and cartridges used in cartridge-type beverage brewers. See ’320 patent, Abstract (“The assembly is especially designed for brewing pods in brewers configured for cup-shaped beverage extract cartridges.”); *id.* at

col. 1, ll. 7–9 (“This invention . . . more particularly, relates to an adaptor assembly configured to effect operative compatibility between a single serve beverage brewer and beverage pods.”); *id.* at col. 1, ll. 17–21 (distinguishing machines “configured to receive pods” and machines “configured to accommodate larger, cup-shaped beverage filter cartridges”); *id.* at col. 1, ll. 39–45 (explaining that Keurig machines are “inherently limit[ed]” to using cup-shaped cartridges, and users “would have to purchase a different machine to brew beverage from pods”); *id.* at col. 1, ll. 47–50 (“[T]here is a need for an apparatus and method for modifying single serve beverage brewers configured for cup-shaped cartridges so that they can also be used to brew beverages from pods.”).

The distinction between “pods” and cartridges permeates the entire patent. There is no hint or discussion of a cartridge or pod adaptor assembly or receptacle that also serves as the “pod.” Instead, the specification explains how the cartridge may be *adapted* to *accept* a separate “pod” to be used inside the cartridge. For example, the embodiment in Figure 1A calls for a “cup-shaped receptacle” with “protrusions 122 [to] collectively provide a plurality of spaced apart raised surfaces for the pod to rest against.” ’320 patent, col. 4, ll. 1–2, 42–44; *see also id.* at col. 4, ll. 48–49 (explaining that the protrusions may also be configured as in Figure 1B); *id.* at col. 5, ll. 16–20 (describing the “pod adapter assembly 200” of Figure 2, “compris[ing] a cup shaped receptacle 202 adapted to receive a pod”). Likewise, Figure 3A shows an embodiment of the “pod adaptor assembly 300” with a “receptacle 302” with a “raised portion 314 [that] provides a raised support surface 318 for a pod 320 so that the pod 320 does not contact and possibly block the opening 324 for brewed coffee to flow through.” *Id.* at col. 5, ll. 38–51.

This relationship between the pod adaptor assembly, the receptacle (i.e., cartridge) and the pod carries through every embodiment. *See id.* at col. 5, ll. 61–62 (explaining

that Figure 3B is an implementation of the receptacle in the embodiment in Figure 3A); *id.* at col. 6, ll. 11–15 (explaining that in Figure 4, “a beverage pod 404, preferable containing ground coffee, is positioned inside the receptacle 302 of the assembly 100,” such that the “pod 402 preferably fits snugly inside the receptacle 302 and rests against the protrusion 330.”); *id.* at col. 6, ll. 35–46 (identifying the pod 502 as fitting inside the receptacle 504, and showing the pod being pressed against the cover of the receptacle to compact the coffee within the pod); *id.* at col. 7, ll. 22–26, ll. 50–65 (describing Figure 6 as comprising a “cup-shaped housing 602” “sized to receive a circular beverage pod,” which may be compressed). As confirmed by Solofill’s expert, Dr. Howle, “[n]one of the embodiments in the ’320 patent resemble [Rivera’s] [integrated filter] Eco-Fill products because none of the described embodiments are adapted to be used without a separate ‘pod.’” J. App’x 2193.

Indeed, Dr. Howle explained that without a separate “pod,” the assemblies shown in the ’320 patent would not function, because inserting loose-grain coffee or loose-leaf tea into the containers shown in the embodiments would clog the brewing chamber. *Id.* Dr. Howle concluded that “[o]ne of ordinary skill would therefore read the description of the ’320 patent as limited to embodiments that require use of a separate ‘pod.’” *Id.*

The disclosure of the ’320 patent consistently describes an invention in which the “pod” and the receptacle or container are distinct components. Thus, even applying the “broad” definition of “pod” as “a package formed of a water permeable material and containing an amount of ground coffee or other beverage therein,” written description support for broad claims covering a receptacle with integrated filter such as Solofill’s accused products and Rivera’s Eco-Fill products is lacking. Whatever a “pod” is, the specification indicates that it is distinct from the receptacle; for the integral filter cartridge to be supported

by the written description definition of a “pod” it must act as both a “pod” and a receptacle. But nothing in the specification shows that the “pod” and the receptacle may be the same structure. Indeed, Rivera’s expert, Mr. Phillips, agreed that “the patent is silent on [the] option” of using an integrated filter media or integrated filter mesh in a pod adaptor assembly. *Id.* at 721. Moreover, Mr. Phillips agreed that a “filter cup,” i.e. a cup-shaped cartridge with an integrated filter that would fit into a pod brewing chamber as shown in Figure 6, would not be a “pod” “because a pod implies to me some sort of a construction that . . . has been prepared and sealed, and that filter cup is still an open device.” *Id.* at 719–20.

Rivera’s argument essentially requires that an ordinary artisan would read the broad definition of “pod” as encompassing anything containing a water permeable material that contains brewing material, in whatever form. Appellants’s Opening Br. 25. For this, Rivera relies on *Honeywell Int’l Inc. v. United States*, 609 F.3d 1292, 1301 (Fed. Cir. 2010), in which we held that the teaching of a CRT-type monitor provided written description support for other types of monitors. Rivera argues that he was “not required to recite in the ’320 patent the multitude of well-known water permeable materials.” Appellants’s Opening Br. 28. This argument is inapposite. The question is not whether the disclosure of one water permeable material (equivalent to the disclosure of a CRT monitor in *Honeywell*) supports the use of other water permeable materials. Rather, the question is whether a pod adaptor assembly intended to allow compatibility between distinct brewing systems, also supports an undisclosed configuration that eliminates a fundamental component of one of those systems (i.e., the “pod”) through integration. It does not.

Moreover, we believe that the Commission did not use the citations to the “typical” definitions of “pod” contained in the specification in a limiting way, but merely to

demonstrate that the purpose of the '320 patent was bridging the compatibility gap between pod-type beverage brewers and cup-shaped cartridge brewers. *See Beverage Capsules* at 27. As described above, a key characteristic of a “pod” is that it is separate from the claimed container into which it fits. The Commission did not require that the pod be “small,” “flattened,” “disk-shaped,” or composed of “filter paper,” as provided by the typical definitions of “pod.” We thus reject Rivera’s argument that the Commission’s failure to apply the “broad” definition of “pod” is reversible error.

Finally, Rivera argues that the background knowledge of those skilled in the art can supplement the teaching in the specification to provide written description support. For this proposition, Rivera relies on *Boston Scientific Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1366 (Fed. Cir. 2011) and *Falkner v. Inglis*, 448 F.3d 1357, 1367–68 (Fed. Cir. 2006). Rivera argues as follows: (1) ordinary artisans recognized the need for some type of filter in the cartridge; (2) ordinary artisans were aware of the availability of an integrated filter; (3) nothing in the patent limits the use of a filter to an enclosed package to put into a separate cartridge; and therefore (4) the '320 patent provides written description support for an integrated filter.

We reject Rivera’s argument. As we explained in *Ariad*, the written description inquiry looks to “the four corners of the specification” to discern the extent to which the inventor(s) had possession of the invention as broadly claimed. *Ariad*, 598 F.3d at 1351; *see also Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997) (“It is the disclosures of the applications that count.”). The knowledge of ordinary artisans may be used to inform what is actually in the specification, *see Lockwood*, 107 F.3d at 1571, 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. *Id.* at

1571–72. The specification here does not teach a container with an integrated filter, and so, does not provide written description support for such a container, even if that type of container might be rendered obvious by the specification.

*Falkner* and *Boston Scientific* are not to the contrary. In *Falkner*, we held that a disclosure in an application of vaccinia, a type of poxvirus, provided sufficient written description for a claim requiring that a mutation in the vaccinia was to an “essential gene.” 448 F.3d at 1366. Although the patent did not teach the gene sequence of the essential gene, we held that the specification provided adequate written description support because the sequence of the essential gene was well-known in the art. *Id.* Unlike *Falkner*, where the application disclosed the use of essential genes in a poxvirus and simply did not include the well-known sequence, the patent here does not teach the identity of the pod and the pod adaptor assembly. *Boston Scientific*, too, is inapposite. There, we noted that “[b]ecause the specification is viewed from the perspective of one of skill, in some circumstances, a patentee may rely on information that is ‘well-known in the art’ for purposes of meeting the written description requirement.” 647 F.3d at 1366 (citing *Falkner*, 448 F.3d at 1366-68). However, nothing in the ’320 patent disclosure indicates the possibility of a cartridge with an integrated filter. The gap-filling Rivera attempts here is thus non-analogous to that allowed under *Boston Scientific*.

As the Commission correctly explained, this case is substantially similar to several of our cases holding claims unsupported by the written description, in which the specification fails to teach a potential configuration of elements. For example, in *ICU Medical*, the specification (and the initially filed claims) included a medical device valve for the transmission of fluids requiring a spike to pierce a seal in an intravenous medicine delivery setup. *ICU Medical, Inc. v. Alaris Medical Sys., Inc.*, 558 F.3d

1368, 1377 (Fed. Cir. 2009). A group of later filed claims eliminated the spike limitation. We held that the specification only described medical valves with spikes, and that the specification could not support claims for spikeless valves, even though ordinary artisans would have understood that the slits originally made by the spikes could also have been made by compression of a (disclosed) preslit seal. *Id.* at 1378–79 (“The fact that compression of a preslit seal would allow an opening for fluid transmission [(and thus accomplish what the spike accomplished)] does not answer the question of whether the claimed invention nevertheless requires a spike capable of piercing the seal in preslit embodiments.”). The ’320 patent similarly discloses only a pod adapter assembly with a separate “pod.” That ordinary artisans may have understood that the filter could be incorporated into the cartridge does not save the claims—ordinary artisans would not have understood that Rivera had possession of an integrated filter system. The “broad” definition of a pod does not change that—however broad “pod” is, it must still be distinct from pod adapter assembly.

Rivera attempts to distinguish *ICU Medical*, arguing that the broad definition of “pod” here also includes integral filter cartridges. As explained above, even the broad definition of “pod” does not provide such a teaching. We thus reject Rivera’s argument.

#### CONCLUSION

For the foregoing reasons, we affirm the Commission’s conclusion that claims 5–7, 18, and 20 are invalid for lack of written description and that Solofill thus did not violate Section 337. We need not and do not consider the Commissioner’s holding with respect to anticipation of claims 5 and 6, nor the alternative grounds for affirmance presented by Solofill.

**AFFIRMED**