

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

10X GENOMICS, INC.
Petitioner,

v.

BIO-RAD LABORATORIES, INC.
Patent Owner

Case IPR2020-00086
U.S. Patent No. 9,562,837

PATENT OWNER SURREPLY

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I. INTRODUCTION

In its Reply, Petitioner doubles down on its attempts to equate the novel separation chambers of the ‘837 patent with the so-called “hole punches” at the beginning and end of microchannels from the prior art. As demonstrated in the Patent Owner’s Response (“POR”), these hole punches were not intended to facilitate the separation of droplets from immiscible fluid, but rather existed as a necessity for moving fluids into and out of a microfluidic device. Petitioner improperly introduces new arguments and evidence from its expert, Dr. Fair, concerning the shape and dimension of these holes in its Reply, and argues that separation would necessarily occur in them because they are “bucket-shaped” and upright to the microchannel. However, Ismagilov does not describe the holes this way or provide any dimensions showing that they are “sized to accommodate multiple droplets and an immiscible fluid in separated form,” which is the proper construction of the claim term “separation chamber.” Instead, Petitioner relies on a series of assumptions concerning how a POSA might have read Ismagilov if the POSA were trying to separate and collect droplets as recited in the claims of the ‘837 patent. Petitioner’s arguments are improper hindsight. *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (“[I]t is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art . . .”).

Petitioner has also failed to explain why a POSA would have been motivated to combine the various disclosures cited from Ismagilov with those from an entirely different device disclosed in Quake. As Petitioner's expert Dr. Fair readily admitted, the devices disclosed in these two references are directed to very different use cases, and Petitioner's Reply arguments bolster the conclusion that a POSA would not be motivated to combine the two references for the specific teachings upon which the Petition relies for asserting obviousness. A POSA would not assume that the alleged well structures used in a specific sorting embodiment in Quake, where no droplets are even being formed, would be the same structures used for outlets of the droplet generation devices disclosed in Ismagilov.

In an attempt to revive the previously rejected Grounds 3-5 from its Petition, Petitioner introduces even more new arguments, and also improperly incorporates over 8 pages of additional argument from its expert's Reply declaration. The Board correctly held that Petitioner did not meet its burden in the Petition, and Petitioner's arguments in Reply are insufficient at this stage to overcome the Board's prior ruling.

Finally, Petitioner has failed to rebut Patent Owner's assertions that several secondary considerations with a sufficient nexus to the challenged claims of the '837 patent warrant a finding of non-obviousness.

For all of these reasons, as explained in more detail below, the Board should find the Challenged Claims of the '837 patent novel and non-obvious.

II. PETITIONER'S NEW ARGUMENTS IN ITS REPLY AND EXPERT DECLARATION SHOULD BE EXCLUDED

As demonstrated further below, Petitioner's Reply is replete with new arguments not raised in the Petition, and relies on new evidence introduced through an improper Reply declaration from its expert, Dr. Richard Fair. Each of Petitioner's late-raised invalidity arguments and evidence should be disregarded. *See Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) ("It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'") (citing 35 U.S.C. § 312(a)(3)); *see also SAS Inst., Inc. v. Iancu*, 138 S.Ct. 1348, 1355 (2018) ("Much as in the civil litigation it mimics, in an inter partes review the petitioner is the master of its complaint."); *Canfield Scientific, Inc. v. Melanoscan, LLC*, IPR2017-02125, Final Written Decision (Paper No. 62, Mar. 26, 2019) ("Allowing Petitioner to hide the ball in this manner also would be fundamentally unfair to the Patent Owner, which was entitled to a complete explanation of Petitioner's contentions at the outset of this proceeding."). The Board should reject Petitioner's attempts to shift its substantive invalidity arguments in its Reply, and instead hold Petitioner to the arguments it asserted in the Petition. *See Wasica Fin. GmbH v. Cont'l Auto. Sys.*,

Inc., 853 F.3d 1272, 1286 (Fed. Cir. 2017) (“Shifting arguments in this fashion is foreclosed by statute, our precedent, and Board guidelines.”).

III. ISMAGILOV DOES NOT ANTICIPATE THE CHALLENGED CLAIMS IN GROUND 1

Petitioner’s Reply fails to substantively address the deficiencies in Ismagilov that were highlighted in the POR. Petitioner has still not established that Ismagilov discloses the separation chamber and related elements in the ‘837 patent. Rather than address the deficiencies with the original 086 Petition that were raised by Patent Owner in its POR, Petitioner uses its Reply as a vehicle to improperly introduce entirely new invalidity arguments. Even if the Board were to entertain Petitioner’s new arguments (it should not), Petitioner has still failed to explain how the substantive deficiencies in Ismagilov’s disclosures warrant a finding that the reference anticipates the challenged claims in Ground 1 of the Petition.

A. The Outputs In Ismagilov Are Not Separation Chambers.

As demonstrated in the POR, Ismagilov’s minimal, generic description of outlets simply does not contain any disclosure of a structure with a volume capable of accumulating fluid at the outlet of the device in order to facilitate separation of multiple droplets from an immiscible fluid. (*See* POR at 29-34). As a result, Ismagilov does not disclose a “separation chamber” under the proper construction of that term requiring a “chamber sized to accommodate multiple droplets and an immiscible fluid in separated form.” (*See id.* at 18-22). Petitioner’s assertion that

Patent Owner's proposed construction is analogous to what was advanced in the Petition—i.e. that Patent Owner's proposed construction is “broad enough to include open wells”—is incorrect and ignores the arguments made in the POR that distinguish Patent Owner's construction from Petitioner's overly broad proposal. (*Id.*).

Ismagilov's failure to even hint at the dimensions or configuration of its outlets, or concept of separating droplets from an immiscible fluid, supports a finding that the reference in no way teaches any of the characteristics of the claimed separation chamber. Instead, the minimal description Ismagilov provides concerning the outlets that are included in its fabricated chips makes clear that there was nothing special about these structures. Patent Owner provided a detailed explanation, supported by the expert opinion of Dr. Anna, that a POSA would understand Ismagilov was merely describing standard off-the-shelf techniques for designing microfluidic devices from that time period. (POR at 8-9, 16-17, 34-37). The POR also explained how the off-hand references to “outlet ports” or “wells or reservoirs” that Petitioner relies on do not disclose any new design or configuration, such as the claimed separation chamber, but rather would have been well known in the prior art and to the Examiner during prosecution, and never mistaken for the claimed separation chamber in the '837 patent. (*Id.* at 29-34). Petitioner's response to these arguments in its Reply is simply that each of these separate discussions of outlet

ports that dispense fluid, outlet ports that may be in communication with wells or reservoirs, and outlets that can be adapted for receiving a segment of tubing or a sample tube in Ismagilov “are complimentary and reinforcing disclosures that a POSA would read together.” (Reply at 5-6). However, even when taken together, these disclosures fail to recite a structure with sufficient characteristics to be considered the “separation chamber” of the ‘837 claims for the reasons detailed in the POR and further highlighted herein.

For example, Patent Owner detailed in the POR how the differing description of the inlet and outlet wells in Ismagilov demonstrated that the inventors were more than capable of including specific descriptions of functionality when it was necessary, and that a failure to provide any additional detail was an indication on behalf of the inventors that no additional functionality was intended. (POR at 30-32). Indeed, Ismagilov includes additional descriptions of the intended functionality of accumulating fluid in the inlet wells of the device, with no such description included in those same sections of the specification when discussing the outlets of the device. (*Id.*) Petitioner has no explanation for these discrepancies other than to assert, in a conclusory manner, that Patent Owner’s arguments are “directly contradicted by the text.” (Reply at 6). However, the text of Ismagilov is precisely what Patent Owner has cited in support of this argument. Petitioner cannot overcome these discrepancies in the disclosures of Ismagilov by simply asking the Board to

ignore them. As Patent Owner explained in the POR, these material differences support a conclusion that Ismagilov does not disclose any structure containing dimensions and configurations sufficient for the outlets to act as a separation chamber from the '837 claims.

Petitioner also attempts to fault Patent Owner for not providing a citation from Ismagilov to prove a negative—namely that there is no disclosure in Ismagilov that teaches any structure with the dimensions and configuration sufficient to disclose the claimed separation chamber from the '837 patent. (Reply at 6). That there is nothing to cite in Ismagilov, however, is precisely the point. The reference teaches nothing that would support Petitioner's arguments concerning the dimensions of the outlet port, and therefore cannot support Petitioner's arguments that Ismagilov anticipates the separation chamber elements of the '837 patent.

In contrast, it is Petitioner who has the burden to provide evidence that Ismagilov anticipates the claims of the '837 patent. Tellingly, Petitioner still fails to provide any citations to evidence explaining or showing how collection of separated droplets using micropipettes would have been accomplished in Ismagilov, or anywhere else in the prior art. On this point, however, Patent Owner did provide citations to evidence, including *from Ismagilov himself*, that explain how a POSA would have used micropipettes to move fluid into and out of the microfluidic devices at that time. (POR at 34; Exs. 2020, 2021). Patent Owner's evidence from the POR

flatly contradicts Petitioner’s argument that the “collection” alluded to in Ismagilov, without any further description or explanation, is evidence of a well structure with a sufficient volume and configuration that would necessarily allow for separation of droplets from immiscible fluid.

In short, Petitioner has failed to meet its burden to prove that Ismagilov’s generic references to outlet ports disclose the separation chamber elements of the ‘837 patent claims, and therefore Ismagilov cannot anticipate the ‘837 patent.

B. Petitioner’s New Arguments Concerning Cork Borers Should Be Rejected.

In the POR, Patent Owner highlighted how a POSA reading from Ismagilov that “[h]oles may be cut into the PDMS [substrate] using, for example, a tool such as a cork borer or a syringe needle” would understand the structures being fabricated simply included the “hole punches” that would have been well known to a POSA designing microfabricated chips, and merely described the simple mechanism that would allow for the movement of fluids into and out of the device. (POR at 8-9, 16-17, 35-37).

Realizing that this disclosure from Ismagilov is detrimental to the 086 Petition, Petitioner has crafted an entirely new invalidity theory in its Reply, based on a new declaration from Dr. Fair, concerning the dimensions of cork borers. (Reply at 7-11, 16, 21-22; Exs. 1076-79). This new argument was never raised in the 086 Petition, and for that reason alone it should be ignored. (*See* Pet. at 35-47 (never

discussing, or even mentioning cork borers, or holes punched with cork borers, and never citing column 16, lines 35-36 from Ismagilov in support of its invalidity arguments)).

Even if considered, Petitioner's arguments concerning cork borers are flawed because they are not supported by any disclosure in Ismagilov itself, which provides no further detail concerning the size or dimensions of the hole punches that would be created by a cork borer *or* a syringe needle. In the POR, Patent Owner explained based on the testimony of Dr. Anna how a POSA reading the explanation that "[h]oles may be cut into the PDMS [substrate] using, for example, a tool such as a cork borer or a syringe needle" would understand the structures being fabricated in Ismagilov are simply "hole punches" that allow for fluid to be diverted into and out of the device at the inlets and outlets. (POR at 8-9, 16-17, 35-37). Petitioner's response in its Reply to this lack of anticipating disclosure of separation chambers is to rely on *other references* to fill the evidentiary gap left by Ismagilov. (Reply at 9). These supplemental references suffer from issues demonstrating the lack of relevance to the question of whether *Ismagilov* discloses a separation chamber and thus anticipates the challenged claims of the '837 patent in Ground 1.

For example, Petitioner and Dr. Fair rely on a reference that they say proves that a POSA was using 4 mm cork borers to create outlet wells in the prior art. (Reply at 9; Ex. 1071, ¶ 31). However, the reference does not teach construction of outlet

wells at all, but rather teaches the creation of *valve structures* on a microfluidic device by cutting 4 mm holes in the top portion of a substrate that are then filled with polyurethane. (*See* Ex. 1076, 1 (“This work describes the fabrication of valves for microfluidic devices based on small machine screws embedded in a layer of polyurethane.”); *id.*, 3 (“Holes 4 mm in diameter...were drilled into the PDMS with a cork borer...the holes served as a reservoir for the polyurethane.”); *id.*, Fig. 1). Petitioner also attempts to gloss over the deficiencies in Ismagilov by incorporating its hindsight driven arguments regarding the combination of Quake and Ismagilov, which have been addressed in the POR, and also further below. At the very least, Petitioner’s reliance on its own obviousness combination, along with another reference that was not even disclosed in the Petition, as a basis to assert that Ismagilov is somehow an *anticipatory* reference is merely evidence that it is not.

C. Petitioner’s Reliance On Dr. Fair’s New Drawings and Its Own Infringing Device Highlight the Inadequacies of Ismagilov.

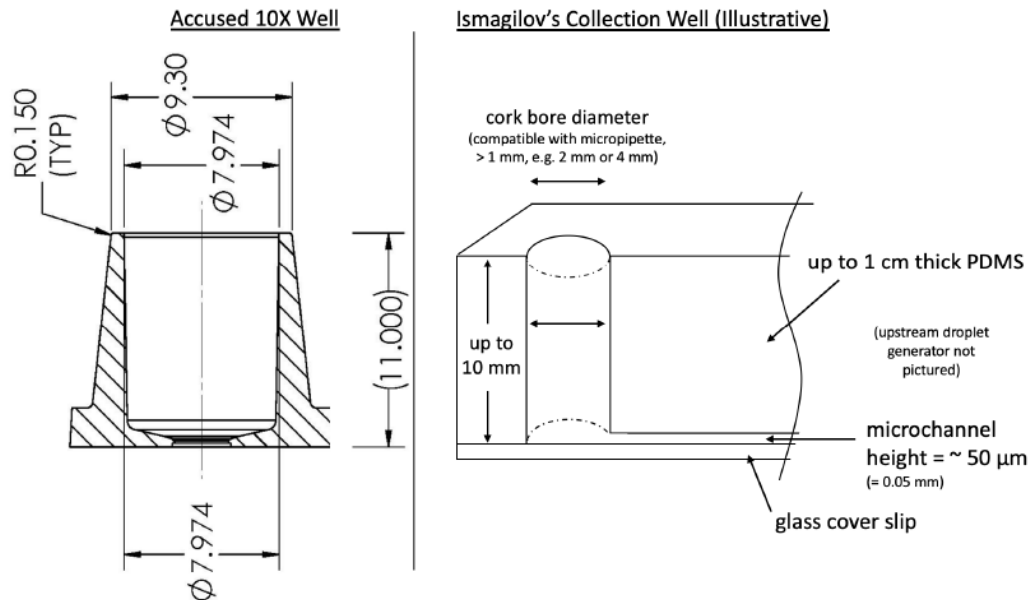
Recognizing the shortcomings of the Ismagilov disclosures, Petitioner turns to 10X’s own infringing device and another new theory that incorporates its improper cork borer arguments and new evidence submitted by Dr. Fair in his Reply Declaration. (Reply at 11-14). In sum, Petitioner attempts to use its new arguments and evidence to fill the gaps in its prior argument asking the Board to draw improper parallels with the dimensions of the 10X infringing separation chamber. There are several flaws with this argument.

First, there is no evidence in Ismagilov disclosing the shape or configuration of the alleged outlets, let alone that these outlets are “bucket-shaped” as Petitioner now asserts in its Reply.¹ (Reply at 5-8, 12-14). The unsupported inference that Petitioner seeks to have the Board draw is that the outlets in Ismagilov, not pictured or described anywhere in the reference, would necessarily look the same and have the same or similar dimensions as the 10X infringing separation chamber. In its Reply, Petitioner asked Dr. Fair to draw his own “illustrative” picture in order to depict what he believes the outlets in Ismagilov would have looked like. (Reply at 10-11; Ex. 1071, ¶ 37). Petitioner then uses Dr. Fair’s new drawing to conclude that “[t]he cross-sectional view confirms PO is accusing of infringement the same kind of cylindrical bore-hole, bucket shaped well that Ismagilov discloses with similar dimensions[.]” (Reply at 12). Again, Ismagilov never discloses the size, shape, or configuration of its outlets, let alone refers to them as “bucket-shaped” structures. Ismagilov certainly does not disclose that its outlets operate as “separation chambers” nor even suggests that they could be used to separate droplets from immiscible fluid. As Dr. Anna explained, the type of hole punches alluded to by Ismagilov in referencing the use of syringes and cork borers as tools for creating holes in PDMS to allow for the flow of solution into and out of the device are not

¹ The Petition never described the outlets in Ismagilov as “bucket-shaped”—this is yet another new argument asserted for the first time in Petitioner’s Reply.

“separation chambers.” They are merely outlets at the end of the microchannels that are necessary in order for there to be fluid flow out of the device. Notably, Dr. Anna also explained how the outlet wells in Ismagilov that Petitioner alleges to be “separation chambers” are really only “hole punches.” (*See supra*).

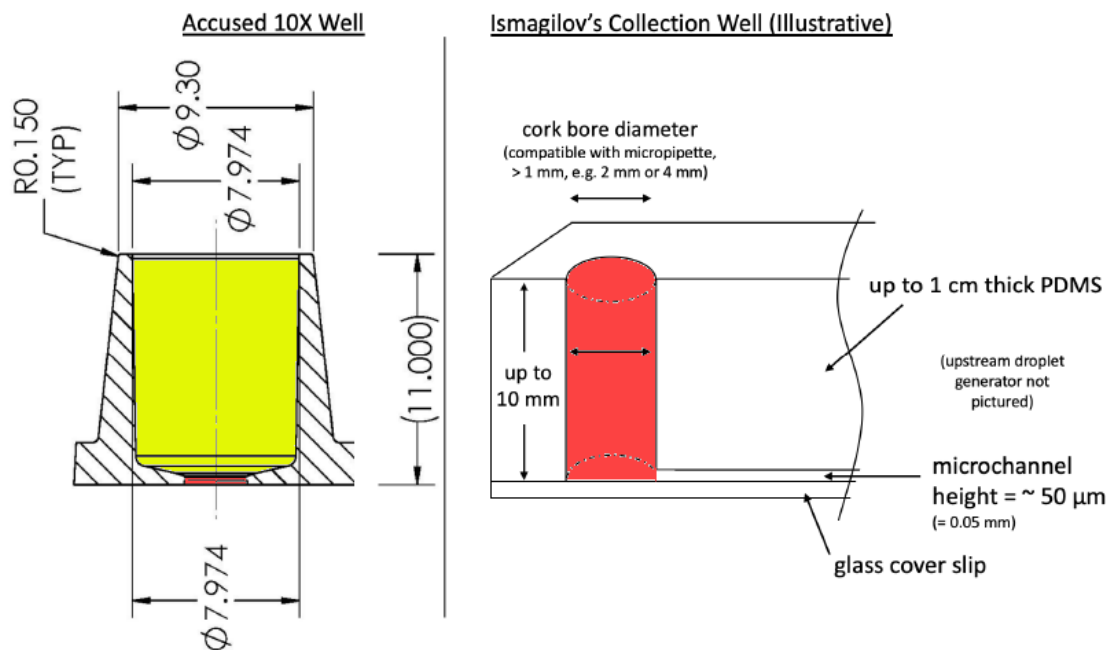
Third, Petitioner’s comparison of the “bucket-shaped structures” in the image below on the right to the 10X accused device on the left is also flawed. (Reply at 12-14).



Petitioner implies that the “bucket-shaped structure” on the right indicates that Ismagilov’s outlet port had similar dimensions to the 10X accused device. That is wrong. Petitioner simply drew its own figure of what it would like the outlets of Ismagilov to look like in order to anticipate the separation chamber limitations of the challenged claims. This “illustrative” drawing—prepared in 2020 by Dr. Fair and conveniently showing dimensions that match what Patent Owner accuses of

infringement—does not exist in Ismagilov, or anywhere else in the prior art, and is further evidence that the 086 Petition is driven by hindsight. *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (“[I]t is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art . . .”).

Fourth, as explained above, Petitioner’s “bucket-shaped structure” on the right is really only a hole punch. As explained in the POR and shown again below, the hole punch in the 10X Accused Device is the red portion of the device that sits underneath the yellow separation chamber. Thus, Petitioner’s “bucket-shaped structure” on the right would really only be the red portion at the bottom of the image on the left. The yellow portion in the image on the left is the separation chamber. Again, that is missing from the prior art.



D. Ismagilov Fails to Disclose the Remaining Separation Chamber Elements of the Claims.

The POR also explained why Ismagilov failed to disclose the additional limitations related to the separation chamber in the '837 claims. (POR at 38-42). Specifically, Ismagilov has no express disclosure that describes a separation chamber that “is upright to the microchannel and out of the horizontal plane” or that “is of a volume sufficient to separate the plurality of droplets comprising the sample from the immiscible fluid within the separation chamber.” In its Reply Petitioner fails to address the baseline point that there are no disclosures in Ismagilov that provide any details regarding the configuration, size, or shape of the outlets in Ismagilov’s chips. (Reply at 14-20). On the other hand, Patent Owner provided several arguments, with citations to what is actually disclosed in Ismagilov, that support the conclusion that there are no such structures described in Ismagilov.

IV. PETITIONER’S OBVIOUSNESS COMBINATION OF QUAKE AND ISMAGILOV IN GROUND 2 FAILS

Petitioner’s Reply further establishes that the asserted obviousness combination of Ismagilov and Quake in Ground 2 of the Petition is based purely on impermissible hindsight and should be rejected. The “illustrative” image of the Ismagilov-Quake combination constructed by Dr. Fair in his Reply Declaration is a further example of new evidence and argument submitted in Reply that should be rejected out of hand. (Reply at 21-22; Ex. 1071, ¶¶ 40-42). Further, the image and

Dr. Fair’s testimony from his first deposition confirm that the modifications to Ismagilov Petitioner is proposing are based entirely on an inappropriate attempt to reconstruct a device out of whole-cloth that matches what Patent Owner has accused of infringement. Moreover, the Reply does not adequately address the arguments made in the POR that a POSA would not be motivated to combine the wells from Quake—used in a specific sorting embodiment employing platinum electrodes that drive fluid flow with voltage differentials—with the droplet generation devices of Ismagilov that Petitioner admits utilize pressure driven flow.

A. Petitioner’s Proposed Combination Of Ismagilov And Quake Is Based On Impermissible Hindsight.

Dr. Fair’s new drawings are an admission that the entire obviousness theory using a combination of Ismagilov and Quake is based on hindsight and should be rejected. *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious.”); *InTouch Techs., Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1338 (Fed. Cir. 2014) (holding that Defendant’s expert testimony was nothing more than impermissible hindsight because she “relied on the patent itself as her roadmap for putting what she referred to as pieces of a ‘jigsaw puzzle’ together ... consist[ing] of conclusory references to her belief that one of ordinary skill in the art could combine these references, not that they would have been motivated to do so.”).

Dr. Fair admitted as much in his prior deposition when he testified that he “started with looking at the claim language” and then “found appropriate references to cite in an invalidity analysis.” (Ex. 2017 at 53:5-8). Petitioner has now made it abundantly clear through the drawing exercise in its Reply that it is following the same hindsight-driven template that was rejected in its previous IPR petitions against other Bio-Rad patents. *See 10X Genomics, Inc. v. Bio-Rad Laboratories, Inc.*, Case IPR2018-00692, Paper No. 11 at 16 (July 10, 2018) (denying institution and finding that “[t]he number of mental steps and physical modifications necessary to achieve the proposed Combined System suggests it is proposed out of hindsight, and not in view of the knowledge and skill in the art as of the earliest priority date of the ’844 patent.”). Dr. Fair’s Reply Declaration—where he takes a schematic of the 10X separation chamber that is being accused of infringement in Delaware and prepares an image of what he believes to be a matching depiction of an Ismagilov-Quake combination (with dimensions Petitioner argues are substantially similar to the accused device)—is further proof that his opinion is based purely on hindsight-driven analysis. Faced with the lack of a disclosure of separation chambers in Ismagilov, Dr. Fair attempts leverage a disclosure from Quake that lacks any connection to the devices described in Ismagilov.

B. Petitioner Has Not Shown That A POSA Would Have A Motivation To Combine Ismagilov With Quake.

Petitioner has also not established a motivation to combine the microfabricated substrates used to form plugs in Ismagilov with the specific sorting disclosures in Quake upon which it relies for its obviousness combination. Petitioner fails to clarify in the Reply why a POSA would look to the sorting embodiment disclosures in Quake for wells that could be incorporated into the droplet formation devices of Ismagilov. Petitioner also fails to address Dr. Fair's admission from his first deposition that the embodiment in Quake that discloses the wells Petitioner claims a POSA would use in a droplet generation system is actually ***"not a droplet-based system."*** (See POR at 46). Instead, Petitioner attempts to distract from these deficiencies by pointing to other disclosures in Quake that actually disclose droplet generation. (See Reply at 24-26). However, none of these separate embodiments from Quake discloses the same type of well structures that are included in the specific sorting embodiment disclosed in Quake's Examples 6-8. As the POR explained, this droplet sorting embodiment is not relevant to other disclosures related to forming droplets in Ismagilov, and it is similarly not relevant to any droplet forming disclosure in Quake.

Petitioner's argument in the Reply that "PO identifies no incompatibility in the combination of Ismagilov and Quake" ignores Dr. Fair's testimony, the arguments concerning the different embodiments that were presented in the POR,

and Petitioner’s own Reply arguments that highlight Ismagilov’s pressure-driven flow system (in contrast to the voltage differential flow system from Quake). Specifically, in the Reply, Petitioner relies on the argument that Ismagilov is a “pressure-driven” flow system. (Reply at 17). This admission further distances Ismagilov’s device from the disclosures in the relevant embodiment from Quake that utilizes a voltage differential generated by the insertion of platinum electrodes into the sorting wells to drive flow. (Ex. 1006, ¶220). Indeed, Patent Owner explained in the POR that, after all of the wells in Quake are filled with buffer solution, the flow of material in the sorting embodiment is “driven by electrodes.” (POR at 46). Petitioner provides no explanation for why a POSA would look to Quake’s sorting system utilizing wells with electrodes designed to facilitate voltage differentials and drive flow between the wells in designing Ismagilov’s device that utilizes pressure-driven flow techniques to generate droplets.

C. The Ismagilov-Quake Combination Fails to Disclose a Separation Chamber.

Like Ismagilov, Quake also does not disclose a “separation chamber” and the related limitations in claim 1, and thus the Ismagilov-Quake combination cannot together disclose a separation chamber.² The POR explained how Petitioner is

² The POR also highlighted how, in simply incorporating its arguments from claim 1 with no further analysis or detail, Petitioner failed to meet its burden to establish in the Petition that the Ismagilov Quake combination discloses that a “droplet

misreading the disclosures, which do not disclose a separation chamber as properly construed. (POR at 48-49). Petitioner does not respond to these arguments, other than to incorporate Dr. Fair's new hindsight-driven drawing and incorporate its prior inherency-based arguments that also fail to demonstrate that Quake itself actually discloses separating droplets and immiscible fluid in its wells. (Reply at 21-27). Thus, as the POR demonstrated, even if a POSA were motivated to combine Ismagilov with Quake, the combination would still fail to teach the claimed separation chamber and related limitations of the '837 patent.

V. THE BOARD SHOULD REJECT PETITIONER'S ATTEMPTS TO REVIVE GROUNDS 3-5

The Board has already found that with respect to Grounds 3-5 in the Petition, "Petitioner has not shown a reasonable likelihood of prevailing on these grounds" (Dec. at 43-44; *see also id.* at 48, 51), and the attempt made by Petitioner to revive these grounds in the Reply fails. The arguments in the Reply as it relates to these Grounds again introduce improper new arguments and evidence and should be rejected. In addition, through a single citation, the Reply also improperly incorporates by reference eight pages of argument from Dr. Fair's second declaration into the page-and-a-half of the Reply that addresses Grounds 3-5. (*Compare* Reply

receiving outlet is coupled to a vessel" or that "the vessel is a PCR tube or test tube" as required in claims 7 and 9 of the '837 patent respectively. (POR at 50-51). The Board should reject the new arguments introduced for the first time in the Reply related to these dependent claims.

at 27-28 *with* Ex. 1071, ¶¶ 46-55). This is a clear violation of the PTAB regulations that clearly and unambiguously provide that “[a]rguments must not be incorporated by reference from one document into another document.” 37 C.F.R. § 42.6(a)(3). Dr. Fair’s Reply declaration is not a vehicle to make additional arguments that are not developed in the Reply itself (or in the Petition), and for this additional reason the arguments in the Reply should be rejected out of hand. *Cisco Sys., Inc. v. C-Cation Techs., LLC*, Case IPR2014–00454, slip op. at 7–10 (PTAB August 29, 2014) (Paper 12) (declining to consider arguments from a declaration that the petitioner attempted to incorporate by reference into its petition).

Even if the Board were to entertain all of the improperly introduced arguments and evidence from the Reply, Petitioner has still failed to overcome deficiencies in Grounds 3-5 identified by the Board in its initial Decision. As explained in the POR, the Board (1) properly limited of Grounds 3-5 to the arguments in the Petition that were based on Petitioner’s proposed constructions, (2) correctly rejected Petitioner’s proposed constructions. (POR at 59-61). Furthermore, the Board correctly found that Petitioner’s obviousness analysis of Ismagilov 119 in Ground 3 “improperly relies on hindsight and conclusory assertions about the knowledge of a POSA to supply multiple important claim limitations that are missing from the cited disclosure of Ismagilov 119.” (Dec. at 46). Finally, the Board correctly held that Grounds 4 and 5, based on combinations of Ismagilov 119 and the Pamula references, are also

“motivated by impermissible hindsight, rather than reasoning that would have been employed upon by a POSA who had not seen claim 1 and the supporting disclosure of the ‘837 Patent.” (Dec. at 50).

VI. SECONDARY CONSIDERATIONS SUPPORT A FINDING OF NON-OBVIOUSNESS

In the POR, Patent Owner described in detail several secondary considerations that weigh in favor of a finding of non-obviousness. (POR at 53-59). In its Reply, Petitioner makes only three arguments to rebut these secondary considerations, none of these arguments are persuasive. (Reply at 28-29).

First, Petitioner argues that there is no nexus between the ‘837 patent and the secondary considerations because Dr. Anna allegedly testified that she was not asked and did not analyze the nexus between the ‘837 patent and the asserted secondary considerations. (Reply at 28). This is a mischaracterization of Dr. Anna’s testimony. Dr. Anna testified in no uncertain terms that she had, in fact, analyzed nexus and concluded that there was a direct nexus between the novel separation chamber of the ‘837 patent and the secondary considerations relied upon by Patent Owner. (Ex. 1075 at 175:25-176:7 (“What I was asked to opine about is whether these secondary considerations, which include long-felt need, commercial success, praise, and acquiescence in licensing . . . support a finding of nonobviousness . . . And there are plenty of features that are relevant to the [claims].”).

Second, Petitioner argues that “[t]he ITC determined the success and praise of 10X’s products have nexus to 10X’s own patents, not the 837 patent.” (Reply at 28). This argument also misses the mark. The referenced ITC case involved different patents, and the ITC was not asked to consider the ‘837 patent or whether there was a nexus between the ‘837 patent and 10X’s own product. As Dr. Anna found, the success of the 10X products is directly related to their use of the novel inventions of the ‘837 patent.

Third, Petitioner argues that “[t]he ddSEQ product PO asserts practices the ‘837 patent has been a failure, further negating any connection between success and the Challenged Claims.” (*Id.* at 29). The only evidence cited for this is Petitioner’s own brief from the related ITC litigation. (Ex. 1086). This is wholly insufficient to rebut Patent Owner’s showing of secondary considerations here.

VII. CONCLUSION

In view of the foregoing, Patent Owner respectfully submits that the Board should reject all grounds of the 086 Petition and uphold the patentability of the Challenged Claims.

Date: December 8, 2020

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CERTIFICATE OF COMPLIANCE

I, the undersigned, certify that the above Patent Owner Sur-Reply complies with the applicable type-volume limitations of 37 C.F.R. § 42.24 (c)(1). Exclusive of the portions exempted by 37 C.F.R. § 42.24(a), this Sur-Reply, including footnotes, contains 5,123 words, as counted by the word count function of Microsoft Word. This is less than the limit of 5,600 words as specified by 37 C.F.R. §§ 42.24(c)(1).

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CERTIFICATION OF SERVICE (37 C.F.R. §§ 42.6(E), 42.105(A))

The undersigned hereby certifies that the foregoing document was served in its entirety on December 8, 2020 upon the following parties via Electronic Mail.

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