

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

DAKO DENMARK A/S,
Appellant

v.

LEICA BIOSYSTEMS MELBOURNE PARTY LTD.,
Appellee

2015-1997

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. 95/001,613,
95/001,692.

DAKO DENMARK A/S,
Appellant

v.

LEICA BIOSYSTEMS MELBOURNE PARTY LTD.,
Appellee

2016-1000

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 95/001,671.

Decided: December 2, 2016

JOHN M. GRIEM, JR., Carter Ledyard & Milburn LLP, New York, NY, argued for appellant. Also represented by THEODORE YOUNG McDONOUGH.

DAVID G. MANGUM, Parsons Behle & Latimer, Salt Lake City, UT, argued for appellee. Also represented by C. KEVIN SPEIRS; DANA M. HERBERHOLZ, Boise, ID.

Before PROST, *Chief Judge*, REYNA and HUGHES, *Circuit Judges*.

PROST, *Chief Judge*.

These appeals arise from two *inter partes* reexaminations that invalidated the challenged claims of U.S. Patent No. 7,217,392 (“392 patent”) and a continuation of that patent, U.S. Patent No. 7,553,672 (“672 patent”). In those reexaminations, the United States Patent and Trademark Office, Patent Trial and Appeal Board (“Board”) determined that the claims of the ’392 patent are invalid as obvious under 35 U.S.C. § 103 and that the claims of the ’672 patent are invalid as anticipated under 35 U.S.C. § 102 and obvious under 35 U.S.C. § 103. On appeal, Dako Denmark A/S (“Dako”) challenges the Board’s determinations with respect to claim 7 of the ’392 patent and claim 2 of the ’672 patent. For the reasons discussed below, we affirm.

BACKGROUND

I

Dako is the assignee of both the '392 patent and the '672 patent. On May 3, 2011, Leica Biosystems Melbourne Party Ltd. (“Leica”) filed a request for *inter partes* reexamination of the '392 patent. Shortly thereafter, Leica filed a second request regarding the '392 patent. The Board granted both requests and subsequently merged the reexaminations. Upon reexamination, the patent examiner rejected all the issued claims of the '392 patent. Dako only appealed the examiner’s rejection of independent claim 7 to the Board. On appeal, the Board affirmed the examiner’s rejection, concluding that the claim was obvious based on the combination of two prior art references—U.S. Patent No. 5,439,649 (“Tseung”), and U.S. Patent No. 5,273,905 (“Muller”).

On June 29, 2011, Leica requested *inter partes* reexamination of the '672 patent. After reexamination, the examiner rejected four of the issued claims. Dako only appealed the rejection of dependent claim 2 to the Board. On appeal, the Board affirmed the examiner’s rejection, concluding that the claim was both anticipated by Tseung and obvious based on Tseung.

Dako now appeals the Board’s decisions. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

We address each patent in turn.

II

The '392 patent relates to slide staining devices “for the application and removal of reagents to biologic tissue sections mounted on microscope slides.” '392 patent col. 2 ll. 7–9. Slide staining is a tool used to aid in the microscopic examination of tissue samples. *Id.* at col. 1 ll. 17–19. In preparation for examination, tissue sections are thinly sliced before being placed on a microscope slide,

and are “nearly transparent” if untreated. *Id.* at col. 1 ll. 19–21. In order to visualize various features of the samples, different techniques are applied which have the effect of coloring, or staining, the sample. *Id.* at col. 1 ll. 20–29. Because different staining techniques “require[] the addition and removal of reagents in a defined sequence for specific time periods, at defined temperatures[,] . . . a need arises for a slide stainer that can perform a diversity of stains simultaneously under computer control, as specified by the technologist.” *Id.* at col. 1 ll. 29–35.

In addition to the need for a slide stainer that can apply different processes to a single slide, the specification identifies a further need for a slide stainer that is able to simultaneously process multiple slides in different ways. *See id.* at col. 2 ll. 7–16. As different staining techniques potentially require that slides be heated at different temperatures, and for different times, the ’392 patent describes slide staining systems and methods that “allow[] for the heating of each slide to its own specified temperature.” *Id.* at col 2 ll. 13–18.

In order to facilitate this individualized control, the patent describes a system containing multiple “slide frames” in which each slide frame contains a separate heating element. *Id.* at col. 4 ll. 4–11. Figure 5, shown below, illustrates one embodiment of a slide frame and, “is a top view of the slide frame base with five microscope slides in their appropriate positions, showing the area to which heat is applied.” *Id.* at col. 3 ll. 17–20.

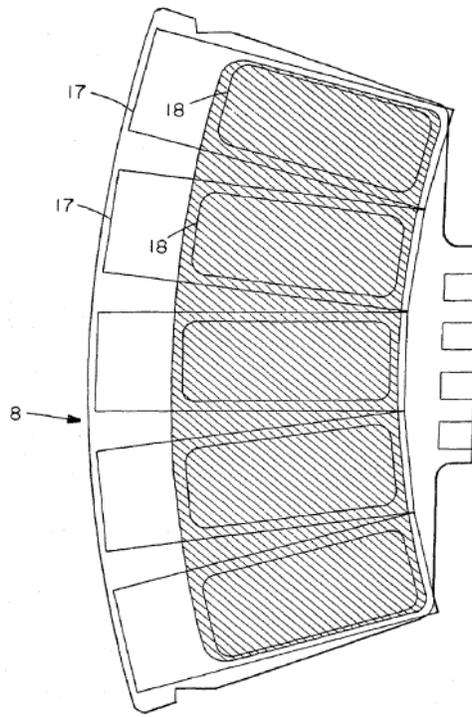


FIG. 5

Id. at fig.5.

Claim 7 of the '392 patent, which the Board found obvious, reads:

7. A microscope slide stainer, comprising:

a staining protocol program comprising instructions for applying reagents and heat to a plurality of microscope slides bearing biological samples;

a plurality of slide supports, each support being comprised of a *heating element that underlies only one microscope slide* and having a surface on which only one microscope slide rests so as to transfer heat to the one microscope slide;

- at least one reagent dispenser that can dispense a liquid reagent onto a microscope slide on one of the slide supports;
- a movable carriage that causes the reagent dispenser to be aligned over a desired microscope slide on one of the slide supports, as specified in the slide staining program, so that reagent dispensed out of the reagent dispenser drops onto an underlying microscope slide on one of the slide supports; and
- a control system that issues commands to cause relative motion between the reagent dispenser and the microscope slide on one of the slide supports so that the reagent dispenser is aligned over the microscope slide on one of the slide supports, as specified in the staining protocol program, and that issues commands to cause the heating elements to heat at the times specified in the staining protocol program, the control system controlling heating of one heating element to a different temperature as another.

'392 patent col. 13 l. 14–col. 14 l. 3 (emphasis added).

In its analysis, the Board first determined that Tseung, a prior art reference, disclosed every claim limitation except the requirement that each heating element underlies only one microscope slide. To supply this limitation, the Board looked to Muller, a second prior art reference, which disclosed individual heating elements for each slide. The Board also determined that there was a motivation to combine Tseung with Muller because Muller's teachings were "directly pertinent to Tseung." No. 15-1997 J.A. 15. The Board explained that both references used heating in their automated staining devices and that this provided a reason to combine the references.

In finding a motivation to combine, the Board addressed, and rejected, four arguments Dako made that were supported only by testimony from Dr. Floyd, its expert, and Dr. Bogen, one of the named inventors of the '392 patent.

First, Dako argued that Muller was used for in situ hybridization ("ISH"), whereas Tseung was designed for immunohistochemical ("IHC") staining, which is a different technique. The Board rejected this argument based on the express disclosures of both Tseung and Muller. The Board explained that Tseung's disclosure was not limited to IHC staining and contemplates other staining techniques. The Board also noted that, even if Tseung were limited to IHC staining, Dako's argument would not be persuasive because Muller also expressly discusses IHC staining, in addition to ISH.

Second, Dako argued that a skilled artisan would not be motivated to combine Tseung and Muller because modifying Tseung, which describes four heating blocks with ten slides, to have forty individual heating blocks would increase the complexity and reduce the overall reliability of the system. In further support of this argument, Dako asserted that for two years after the priority date of the patent, there were no systems on the market that provided individualized heating controls. According to Dako, this "support[ed] the contention that the increased cost and complexity associated with individual heating was a non-trivial barrier." *Id.* at 2920.

The Board also found this argument unconvincing. It explained that the disclosures in both Muller and Tseung showed that having multiple heaters was within the knowledge of a person of ordinary skill. The Board also noted that Tseung was not limited to the preferred embodiment and could be modified to support only one slide on each heating block, which would result in a system identical to Tseung, only reduced in size.

Third, Dako argued that the staining part of IHC is performed at room temperature and, consequently, a person of ordinary skill would not recognize the benefit of adding heating elements to Tseung. The Board found that this argument was directly rebutted by Tseung's statement that "some staining techniques can be enhanced by providing heat so that either incubation or drying times are shortened, thereby increasing the speed of the overall operation." *Id.* at 18 (quoting Tseung col. 12, ll. 6–9). The Board then stated that this "not only provide[d] a reason[] to have utilized heating in [Tseung], but also to have 'adapted' Muller's approach of individualized heaters for each slide." *Id.*

Finally, Dako argued that, at the time of the invention, one of ordinary skill would not have attempted to create an automated staining system because experts in the field did not believe that special staining processes could be automated at all. The Board rejected this argument because it found that neither Tseung nor Muller was restricted to special staining protocols.

The Board thus concluded that a person of ordinary skill would have been motivated to combine Tseung with Muller to arrive at the claimed invention.

The Board next turned to Dako's evidence of secondary considerations. For secondary considerations, Dako argued that the invention had been copied by Ventana, a competitor.¹ In support, Dako relied on Dr. Bogen's declaration, which stated that Ventana obtained a confidential business plan from CytoLogix, the original owner of the '392 patent. According to Dako, this business plan described the invention of the '392 patent. Dr. Bogen's declaration further stated that Ventana subsequently

¹ This was the same argument that Dako previously brought before the examiner.

used the confidential business plan to create its own device. Dr. Bogen also attached a transcript of a speech by Ventana's chairman, Mr. Schuler, who boasted that Ventana launched a competitive product six months after seeing the CytoLogix business plan. As additional evidence of copying, Dako pointed to a license agreement in which Ventana licensed two related patents from Dako, and a patent application Ventana filed that included individual heating of slide samples.

The Board found Dako's secondary consideration evidence unpersuasive. According to the Board, Dako did not provide evidence beyond the declaration that Ventana created a device with individual heating elements for each slide support. The Board also stated that neither Mr. Schuler's statement nor Ventana's patent application established the existence of such a device. The Board therefore found that, because it could not adequately confirm that Ventana had created a device with individual heating elements, no nexus had been established. The Board also noted that, even had a nexus been established, the evidence of copying would not be dispositive in this case in light of the other evidence of obviousness.

Consequently, after reviewing all the evidence before it, the Board determined that a preponderance of the evidence supported the conclusion that claim 7 of the '692 patent would be obvious to a person of ordinary skill in the art.

III

Whether a claimed invention is obvious is a question of law based on underlying facts. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We review the Board's ultimate conclusion of obviousness de novo and any underlying factual determinations for substantial evidence. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000).

Dako does not contest the Board's finding that, together, Tseung and Muller disclose every element of the patented claim. Dako makes three arguments challenging the Board's conclusion that claim 7 of the '392 patent is obvious: (1) the Board did not give proper consideration to the evidence of secondary considerations; (2) the Board inappropriately treated the ability to combine prior art references as a motivation to combine them; and (3) the Board did not give proper weight to Dako's copying and long-felt need arguments. We address each of Dako's arguments in turn.

A

First, Dako argues that the Board failed to consider evidence of secondary considerations before it made its ultimate conclusion of obviousness. Dako bases this argument on the Board's statement after finding a motivation to combine that "it would have been obvious to one of ordinary skill in the art to implement individual slide heating in Tseung for those staining procedures which are accomplished in an open system and for which heating to different temperatures is desired." *See* No. 15-1997 J.A. 16. According to Dako, because this statement appears before the Board's consideration of any evidence of secondary considerations, the Board made its ultimate conclusion of obviousness before considering all the evidence.

Reading the Board's opinion in its entirety, it is clear that the Board properly considered all the evidence before coming to its ultimate legal conclusion. Indeed, in its opinion, the Board expressly evaluated Dako's evidence of secondary considerations and appropriately considered it before ultimately determining that the claim was obvious. Therefore, we reject Dako's arguments in this regard.

B

Dako next argues that the Board improperly determined that the ability to combine prior art references established a motivation to combine. In support, Dako points to portions of the Board's decision in which it states that "providing a plurality of slide heaters would have been within the skill of the ordinary artisan" and relies on Tseung's language that "[n]umerous techniques exist for heating microscope slides and can be adapted to the present apparatus." No. 15-1997 J.A. 18–19. According to Dako, the Board never articulated a specific reason or motivation to combine the references and ignored the un rebutted testimony of its expert, Dr. Floyd, who testified at length that a person of ordinary skill would have been discouraged from combining Tseung and Muller.

The existence of a motivation to combine is a factual determination. *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1374–75 (Fed. Cir. 2011). Under a substantial evidence standard of review, we must draw all reasonable inferences in favor of the Board's decision that are supported by the record and should take care not to make credibility determinations or to weigh the evidence. *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000). "[A]lthough the court should review the record as a whole, it must disregard all evidence favorable to the [appellant] that the [factfinder] is not required to believe." *Id.* at 151.

Here, in support of its position, Dako exclusively relies upon the testimony of its expert, Dr. Floyd. In his declaration, Dr. Floyd stated that a person of ordinary skill would not have been motivated to combine Tseung with Muller because a person of ordinary skill would not have appreciated a need to include individual heating to the system of Tseung. Dr. Floyd further stated that modifying Tseung to include individual heating elements would increase the complexity of the system and substan-

tially increase the cost. Finally, Dr. Floyd stated that a person of ordinary skill would not have combined Tseung with Muller because Tseung related to IHC staining, whereas Muller related to ISH staining.

The question before us is whether, based on all of the evidence before the Board, a reasonable factfinder could find that there was a motivation to combine Tseung and Muller. The answer to this question is “yes.” A motivation to combine can be found in “any need or problem known in the field of endeavor at the time of the invention and addressed by the patent.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007). “[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418.

In its analysis, the Board primarily relied on Tseung’s statement that “some staining techniques can be enhanced by providing heat so that either incubation or drying times are shortened, thereby increasing the speed of the overall operation.” No. 15-1997 J.A. 17 (quoting Tseung, col. 12 ll. 6–9). According to the Board, this both provided a reason to use heating in Tseung and adapt it to use Muller’s individual heaters. Given the disclosures of Tseung and Muller, this conclusion is supported by substantial evidence. Because Tseung teaches a system that is “readily programmable to allow automated staining of individual microscope slides with different techniques without operator intervention in a single operation,” its later discussion as to the benefits of heating slides would reasonably motivate a person of ordinary skill to look for a way to adapt the system to heat individual slides to different temperatures. *See* Tseung col. 2 ll. 27–31.

In this case, the Board evaluated Dr. Floyd’s testimony and found it lacking against the express disclosures of both Tseung and Muller. We will not disturb this deter-

mination. Therefore, the Board's finding that a person of ordinary skill would have been motivated to combine Tseung and Muller is supported by substantial evidence.

C

Finally, Dako asserts that the Board discounted its evidence of copying in finding that there was no nexus between its proffered evidence and claim 7 of the '392 patent. Dako also argues that the Board failed to consider whether the evidence established the existence of a long-felt need.

According to Dako, un rebutted evidence shows that Ventana had access to CytoLogix's business plan, that Ventana's product was substantially similar to Dako's product, and that a patent application subsequently filed by Ventana disclosed a system that provides for separate heating of individual microscope slides. Dako asserts that this evidence compels only one conclusion—Ventana copied the invention embodied by claim 7 of the '392 patent.

In its opinion, the Board credited Dako's evidence that Ventana had access to CytoLogix's business plan and that the business plan disclosed a system with individual heaters for each slide support. The Board found that this was insufficient to establish a nexus because, aside from a statement by Dr. Bogan which the Board deemed conclusory, there was no record evidence showing that Ventana produced, or attempted to produce, a device with individual heating elements after seeing the business plan. The Board also determined that neither Mr. Schuler's statements nor Ventana's subsequent patent application established that Ventana ever attempted to copy the patented feature.

The Board's analysis here is supported by substantial evidence. The Board considered Dr. Bogan's testimony and concluded that it was insufficient to establish a

nexus. The only other pieces of evidence Dako submitted to establish copying were Mr. Schuler's speech and Ventana's patent. The speech does not describe the features of the product Ventana ultimately released, and the mere existence of Ventana's patent does not necessarily imply that the patent is based on the specific product referred to in Mr. Schuler's statement. Because a reasonable factfinder could interpret the evidence Dako presented as failing to provide a nexus, the Board's conclusion is supported by substantial evidence.

Dako also argues that the evidence establishes the existence of a long-felt need. In support of this argument, Dako points to aspects of Dr. Bogdan's declaration and an article attached as an exhibit thereto. But Dako never made this argument before the Board or the examiner. In its submissions to the Board, Dako only cited this evidence to "support[] the contention that the increased cost and complexity associated with individual heating was a non-trivial barrier." No. 15-1997 J.A. 2920. Before the examiner, Dako only argued that copying was a secondary consideration that supported non-obviousness, not that there was a long-felt need. *Id.* at 3286–87.

Though Dako did present the evidence it now relies on to the Board, it did not do so in the context of long-felt need. It is hardly surprising, and not error, therefore, that the Board considered the evidence in the context in which it was presented, and not in the context of long-felt need.

Thus, Tseung and Muller together disclose all the limitations of claim 7 of the '392 patent, and a person of ordinary skill would have been motivated to combine them. There is also a lack of evidence of secondary considerations. Therefore, claim 7 of the '392 patent is invalid as obvious under 35 U.S.C. § 103.

IV

We now turn to the '672 patent. The '672 patent is a continuation of the '392 patent and shares a common specification with the '392 patent. '672 patent at [60].

Claim 2 of the '672 patent, which the Board found anticipated by Tseung is at issue in this appeal. Claim 2 depends from claim 1. The claims read:

1. A method of processing samples mounted on microscope slides comprising:

providing a plurality of *slide supports* on a platform, *each support being comprised of a heating element that underlies at least one microscope slide* and having a surface on which the at least one microscope slide and having a surface on which the at least one microscope slide rests so as to transfer heat to the at least one microscope slide, said heating elements being capable of heating said microscope slides, under independent electronic control to heat some slides to a different temperature than other slides;

placing two or more microscope slides on the platform;

providing relative motion between the platform and a liquid dispenser;

dispensing liquid from the liquid dispenser onto the slides; and

on the platform, heating one slide to a different temperature than a second slide.

2. A method of processing samples mounted on microscope slides as claimed in claim 1, *wherein each slide support accommodates only one microscope slide.*

Id. at col. 12 ll. 24–44 (emphases added).

In its decision, the Board first construed the term “slide support,” in claim 2, which appears in the claim, but not the specification. Before the Board, Dako argued that the term should be construed as “a heating element that underlies the only one microscope slide and has a surface on which the only one microscope slide rests so as to transfer heat to the at least one microscope slide.” No. 16-1000 J.A. 22. In support of this construction, Dako argued that, because a slide support is “comprised of” a heating element, it necessarily follows that a one-to-one relationship must exist between a slide support and a heating element. The Board disagreed. It determined that the heating element described in claim 1 supports “at least one” microscope slide, which indicates that it may support multiple slides. The Board further determined that there was no limitation in claim 2 which narrowed this capability. The Board found additional support for its interpretation from the ’392 patent, which expressly disclosed a system in which a heating element underlies only one slide.

Based on this construction, the Board determined that a preponderance of the evidence supported the conclusion that Tseung met all the limitations of claim 2 and thus anticipated it.

V

Claim construction is an issue of law based on underlying factual considerations. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838 (2015). We review the Board’s ultimate construction de novo, and any underlying factual determinations for substantial evidence. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015). In *inter partes* reexamination proceedings, claims are given their “broadest reasonable interpretation” consistent with the specification. *In re Rambus, Inc.*, 753 F.3d 1253, 1255 (Fed. Cir. 2014).

Dako makes one argument challenging the Board's conclusion that claim 2 of the '672 patent is anticipated: that the Board incorrectly construed "slide support" as not requiring individual heating elements for each slide support and that, under the correct construction, Tseung does not anticipate. Dako does not argue that under the Board's construction Tseung would not be an anticipatory reference.

According to Dako, claim 1 of the '672 patent, from which claim 2 depends, creates a "one-to-one correspondence between slide supports and heating elements." No. 16-1000 Appellant's Br. 27. Dako asserts that this is "the only interpretation that permits each single slide supported by each slide support of [c]laim 2 to heat each slide to a different temperature." *Id.*

Dako's argument is premised on the conclusion that claim 2 requires individual slide supports to be capable of individual temperature control. But, as the Board noted, such a requirement is not apparent on the face of either claim 1 or claim 2.

In claim 1, a slide support may support a plurality of slides, and the limitation that "each support being comprised of a heating element that underlies at least one microscope slide" does not preclude one heating element from underlying multiple slide supports. Indeed, figure 5 of the specification discloses exactly such an embodiment. *See* '672 patent fig.5; *id.* at col. 3 ll. 16–18 (stating that figure 5 "is a top view of the slide frame base with five microscope slides in their appropriate positions, showing the area to which heat is applied").

Claim 2 only limits the slide support, not the heating element. Consequently, it does nothing to change the conclusion that, as in claim 1, a single heating element may underlie multiple slide supports.

In further support of its construction, Dako points to language in claim 1 that requires the ability to “heat[] one slide to a different temperature than a second slide.” *Id.* at col. 12 ll. 40–41. This argument does not render the Board’s interpretation unreasonable in light of the specification. The quoted limitation refers to the capabilities of the *platform* and is met when two heating blocks are present in the system, regardless of how many slide supports are present.

We therefore agree with the Board’s construction. Though the construction is broader than Dako’s proposed construction, it is not unreasonable and is consistent with both the claims and the specification. *See In re NTP, Inc.*, 654 F.3d 1268, 1274 (Fed. Cir. 2011).

Because we agree with the Board’s construction of “slide support,” and, further, because Dako does not argue that Tseung fails to anticipate under this construction, claim 2 of the ’672 patent is invalid under 35 U.S.C. § 102.

CONCLUSION

For the foregoing reasons, we affirm the Board’s rejections of claim 7 of the ’392 patent and claim 2 of the ’672 patent.

AFFIRMED