

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WANGS ALLIANCE CORPORATION d/b/a WAC LIGHTING CO.,
Petitioner,

v.

KONINKLIJKE PHILIPS N.V.,
Patent Owner.

Case IPR2015-01290
Patent 6,250,774 B1

Before, GLENN J. PERRY, TREVOR M. JEFFERSON, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

QUINN, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

Wangs Alliance Corporation (“Petitioner”) filed a Petition to institute *inter partes* review of claims 1, 3, 5, and 14 (“the challenged claims”) of U.S. Patent No. 6,250,774 B1 (“the ’774 patent”) pursuant to 35 U.S.C. § 311–319. Paper 2 (“Pet.”). Koninklijke Philips N.V. (“Patent Owner”) timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314.

For the reasons that follow, we institute *inter partes* review with respect to the challenged claims of the ’774 patent.

I. BACKGROUND

A. RELATED MATTERS

Petitioner states that the patent-at-issue is the subject matter of a district court case filed in the U.S. District Court for the District of Massachusetts (Case No. 14-cv-12298-DJC). Pet. 1.

B. ASSERTED GROUNDS

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 103 based on the following specific ground:

Reference[s]	Basis	Claims challenged
Turnbull ¹ and Kish ²	§ 103	1, 3, 5, and 14

¹ U.S. Patent No. 5,803,579 (Exhibit 1003) (“Turnbull”).

² F.A. Kish, et al., *High Luminous Flux Semiconductor Wafer-Bonded AlGaInP/GaP Large-Area Emitters*, 30 (21) Elecs. Letters 1790 (Oct. 13, 1994) (Exhibit 1004) (“Kish”).

C. THE '774 PATENT (EX. 1001)

The '774 patent is directed to a luminaire comprising multiple lighting units, each lighting unit having a light emitting diode (“LED”) chip and an optical system for use in a variety of applications, such as street lighting, spotlighting, or floodlighting. Ex. 1001, 1:33–40, 1:57–62.

Figure 2 of the '774 patent, reproduced below, is a cut away view of one embodiment of luminaire 1. *See id.* at 5:36–37.

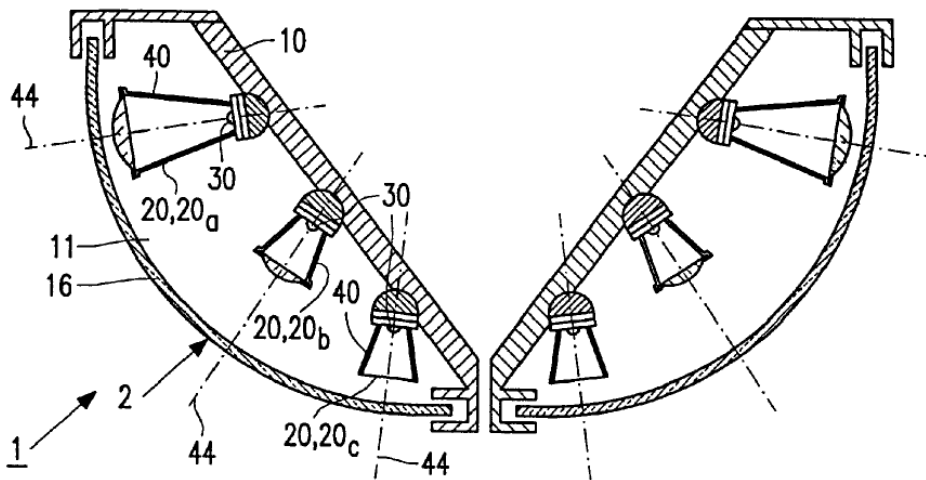


FIG. 2

Lighting module 2 of Figure 2 comprises a set of lighting units 20, each comprising LED chip 30 and optical system 40 cooperating with the chip. *Id.* at 5:51–53. LED chips 30 each supply a luminous flux of at least 5 lm. *Id.* at 5:56–57.

D. ILLUSTRATIVE CLAIM

Claim 1 is illustrative of the claimed subject matter, and is reproduced below.

1. A luminaire comprising a housing with a light emission window, at least one lighting module in said housing for illuminating an object outside said housing, the lighting module comprising a set of lighting units, each of said lighting units comprising at least one LED chip and an optical system configured to illuminate portions of the object during operation, each said LED chip supplying a luminous flux of at least 5 lm during operation.

II. ANALYSIS

A. CLAIM INTERPRETATION

Petitioner has proposed constructions for three terms: “luminaire,” “lighting module,” and “lighting unit.” Pet. 5–6. The table below summarizes the constructions proposed by Petitioner, for each term.

Term	Proposed Construction
“luminaire”	lighting device
“lighting module”	set of lighting units
“lighting unit”	at least one LED chip and an optical system cooperating therewith.

Patent Owner argues that we should not construe the above terms because their construction is not needed to decide whether to grant or deny the Petition. Prelim. Resp. 3. We agree with Patent Owner. At this juncture, we do not need to construe any claim term.

B. OBVIOUSNESS GROUND BASED ON TURNBULL AND KISH

The instant Petition presents a single ground: obviousness over Turnbull and Kish.

1. Overview of Turnbull (Ex. 1003)

Turnbull describes an illuminator assembly incorporating light emitting diodes, and more particularly, white light illumination systems utilizing light emitting diodes having complementary hues. Ex. 1003, 1:5–9. Turnbull explains that white illuminators of the past rely almost exclusively on incandescent lamps as light sources because incandescent light bulbs are inexpensive to produce in a variety of forms, and they produce copious quantities of white light. *Id.* at 3:41–45. Incandescent lamps had various shortcomings, however. *Id.* at 3:46–48. Turnbull provides an LED illuminator capable of producing white light with sufficient luminous intensity to illuminate subjects of interest well enough to be seen and to have sufficient apparent color and contrast so as to be readily identifiable. *Id.* at 7:19–24.

Figure 1, reproduced below, shows one embodiment incorporating conventional discrete LEDs, and Figure 2 shows an embodiment incorporating individual LED chips. *Id.* at 10:42–46.

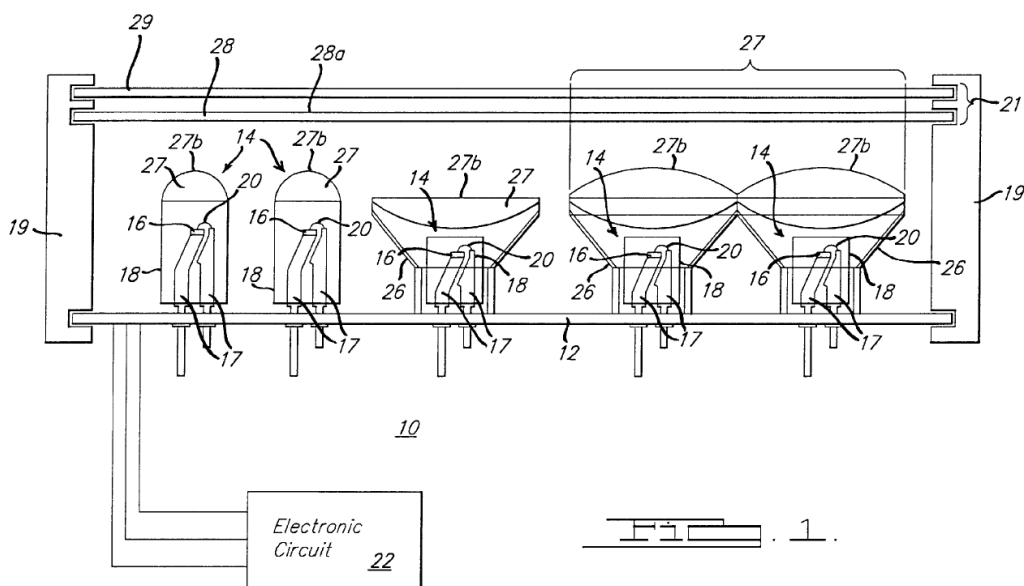


Figure 1 depicts illuminator 10, including support member 12, which maintains a spatial relationship between a plurality of conventional discrete LEDs 14. *Id.* at 10:59–67. Conventional discrete LED 14 generally includes a semiconductor LED chip or “die” 16. *Id.* at 11:6–11. In most conventional discrete LED designs, enclosure 18 also acts as an integral optical element such as lens 27, deviator 28, or diffuser 29. *Id.* at 11: 49–53. Separate or secondary elements 21, however, may be incorporated in illuminator 10 to improve performance or appearance. *Id.* Reflector 26 collects or assists in the collection of light emitted by LED chip 16 and projects it toward the area to be illuminated in a narrower and more intense beam. *Id.* at 12:67–13:3.

2. *Overview of Kish (Ex. 1004)*

Kish describes high luminous flux operation of large-area LEDs fabricated by semiconductor wafer bonding. Ex. 1004, p. 1790. This device is capable of emitting a peak DC luminous flux of 84 lumens, which is two orders of magnitude greater than a conventional LED. *Id.*

3. *Discussion of Independent Claims 1 and 14*

Petitioner contends that Turnbull discloses most of the limitations of claims 1 and 14. Pet. 14–26, 32–39. Petitioner argues that Kish teaches an LED that would supply a luminous flux in excess of 5 lumens when in operation, in an LED lamp architecture, such that a person of ordinary skill in the art would be motivated to combine the Kish LED with the LED lamp architecture of Turnbull. Prelim. Resp. 24.

Patent Owner counters that Turnbull teaches away from Kish, and, therefore, a person of ordinary skill in the art would not have been motivated

to combine their teachings. Prelim. Resp. 11–22. In particular, Patent Owner argues that Turnbull teaches away from lighting systems that generate high heat, are inefficient, require high current and high surge current, do not generate metameric white light, and are large. *Id.* at 13. Patent Owner also argues that Kish’s device is ambiguous as to whether the LED device comprises a single LED chip or multiple LED chips. *Id.* at 22–24. Also, Patent Owner contends that the Petition fails to address how the Kish LED chip would be incorporated in Turnbull or that the combination would achieve a reasonable expectation of success. *Id.* at 24–26. We are not persuaded at this time by any of the arguments presented by Patent Owner in the preliminary response.

First, whether Turnbull teaches away from using the Kish LED is a question of fact that we will resolve after reviewing the full record. At this juncture, we are not persuaded that any of the “teaching away” contentions of Patent Owner have sufficient factual support. We especially consider that arguments Patent Owner presents focus on disclosures in Turnbull that are directed to a discussion of the benefits and shortcomings of incandescent lamps (not higher power LED chips) compared to a conventional LED lamp. We also are not persuaded by Patent Owner’s arguments insofar the benefits gained from the Kish LED have not been fairly weighed against the alleged disadvantages. *See Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n. 8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). Additionally, whether a person of ordinary skill in the art would

have a reasonable expectation of success regarding the alleged combination of Turnbull and Kish is also an issue of fact that we will resolve after review of the full record.

Second, Patent Owner's arguments are not persuasive to the extent they focus on the bodily incorporation of the Kish LED with Turnbull's LED lamp. And third, Petitioner provides, at this juncture, a sufficient rationale for the combination of the teachings in Turnbull and Kish as understood by a person of ordinary skill in the art. *See* Pet. 20–26 (providing detailed analysis—supported by Declaration of Dr. Bretschneider—of the desires and motivations of a person of ordinary skill in the art to take advantage of the benefits of the Kish LED, and that such an LED is appropriate for inclusion in Turnbull to achieve high luminous flux, efficacy, and acceptable uses for street lighting applications).

Having reviewed the Petition, the supporting evidence, and Patent Owner's arguments in rebuttal, we determine that the rationale presented by Petitioner is sufficient, for purposes of this Decision. Accordingly, on the record before us, we determine that Petitioner has shown sufficiently a reasonable likelihood that it will prevail in its contention that claims 1 and 14 of the '774 patent are unpatentable over the combination of Turnbull and Kish.

4. Discussion of Dependent Claim 3

Claim 3 recites “a primary reflector on which the LED chip is provided.” Patent Owner argues that Turnbull's “miniature reflector cup,” although “adjacent to the LED chip,” does not teach that the LED chip is “on,” as recited. Prelim. Resp. 26–27 (relying on the disclosure of the '774 patent to argue that the LED chip must be “on” a reflective surface).

This argument is not persuasive. One inference of Turnbull's teachings regarding the miniature reflector cup is that it is positioned relative to the LED chip to "improve light extraction from the device." Ex. 1003, 11:18–20. We are not persuaded at this time that "adjacent placement" excludes positioning "on" the reflector. The parties will have an opportunity in the Response and Reply to address claim construction regarding this limitation.

Patent Owner also argues that the Petition fails to provide the required showing of how claim 3 is obvious over Kish because the Petition does not mention Kish as disclosing any element recited in claim 3. Prelim. Resp. 27–28. This argument is not persuasive. Claim 3 depends from claim 1, which has been challenged under the obviousness ground. We understand, therefore, that the obviousness allegations regarding claim 3 stem from the assertion of obviousness of claim 1. We are not persuaded at this time that Petitioner's assertion that Turnbull's matrix enclosure 18, as described with respect to the challenge of claim 1, would be inapplicable to the assertion of unpatentability of claim 3.

Having reviewed the Petition, the supporting evidence, and Patent Owner's arguments in rebuttal concerning claim 3, we determine that, on the record before us, Petitioner has sufficiently shown a reasonable likelihood that it will prevail in its contention that claim 3 of the '774 patent is unpatentable over the combination of Turnbull and Kish.

5. Discussion of Dependent Claim 5

Claim 5 recites the "optical system of the lighting unit [that] comprises a transparent body with a first optical part which deflects the light generated by the LED chip through refraction and a second optical part

which deflects the light generated by the LED chip through reflection.” Patent Owner contends that Petitioner failed to show that Turnbull’s deviator 28 and reflector 26 (the alleged “first optical part” and the “second optical part”) are parts of the recited “transparent body.” We are not persuaded by Patent Owner’s argument.

Petitioner points out the secondary optical elements in Turnbull include lens 27, deviator 28, and diffuser 29. Pet. 30. Therefore, Petitioner’s assertions are not limited to alleging that deviator 28 teaches the recited “first optical part.” Furthermore, the Petition states that a catadioptric optical element is a variant of lenslet 27a. *Id.* Dr. Bretschneider asserts that a “catadiotropic [sic] optical element utilizes both reflection and refraction.” Ex. 1006 ¶ 75. Therefore, we understand the Petition as alleging that deviator 28 is not the only Turnbull feature that teaches the “first optical part.” Although it is not clear at this time how Turnbull’s deviator 28 would be part of the alleged “transparent body,” the Petition does point to lenslet 27a, separately, which in Figure 2 of Turnbull is integral to lens 27.

As to the “second optical part,” Petitioner points to reflector 26 in Turnbull. Pet. 31. Reflector 26, according to Petitioner, may be made integral with lens surface 27b. *Id.* (citing Ex. 1003 at 13:64–14:2). As we understand Petitioner’s position, lens surface 27b is integral to lens 27, and is part of Turnbull’s secondary optical elements. Accordingly, we are not persuaded by Patent Owner’s arguments that Petitioner has not shown how reflector 26 is a “second optical part” that is part of the recited “transparent body.”

Having reviewed the Petition, the supporting evidence, and Patent Owner's arguments in rebuttal concerning claim 5, we determine that, on the record before us, Petitioner has shown sufficiently a reasonable likelihood that it will prevail in its contention that claim 5 of the '774 patent is unpatentable over the combination of Turnbull and Kish.

III. CONCLUSION

For the foregoing reasons, we institute *inter partes* review of the '774 patent with respect to claims 1, 3, 5, and 14 on the ground based on Turnbull and Kish.

The Board has not made a final determination on the patentability of the challenged claims, nor has the Board made a final determination of any underlying factual or legal issue.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is granted as to claims 1, 3, 5, and 14 of the '774 patent;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '774 patent is hereby instituted with trial commencing on the entry date of this decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial; and

FURTHER ORDERED that the trial is limited to the grounds on which we institute *inter partes* review identified in the Conclusion, and that all other grounds are *denied*.

IPR2015-01290
Patent 6,250,774 B1

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