

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THERMALTAKE TECHNOLOGY CO., LTD. and
THERMALTAKE INC. (a.k.a. THERMALTAKE USA),

Petitioners,

v.

LIAN LI INDUSTRIAL CO., LTD., and CHEN, CHIEN-HAO,

Patent Owners.

IPR2024-01230
U.S. Patent No. 10,690,336

**PETITIONERS' OPPOSITION TO PATENT OWNER'S
CONTINGENT MOTION TO AMEND**

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EXHIBIT LIST

<i>Exhibit No.</i>	<i>Description</i>
1001	U.S. Patent No. 10,690,336 B1 to Chen
1002	File History for U.S. Patent No. 10,690,336 B1 to Chen
1003	Taiwanese Patent Application No. 107217659 U, filed on December 26, 2018
1004	Declaration of Dr. Andrew Wolfe (“Wolfe Decl.”)
1005	<i>Curriculum Vitae</i> of Dr. Andrew Wolfe
1006	Japanese Publication No. 2018041147A to Tsuji et al. (“Tsuji”) published March 15, 2018
1007	Certified Translation of Tsuji
1008	U.S. Patent No. 10,082,286 B1 to Huang issued September 15, 2018 (“Huang”)
1009	U.S. Publication No. 2008/0124234 A1 to Echazarreta (“Echazarreta”)
1010	U.S. Publication No. 2008/0279694 A1 to Chou et al. (“Chou”)
1011	U.S. Publication No. 2015/0233391 A1 to Liu (“Liu”)
1012	U.S. Publication No. 2017/0314777A1 to Lai (“Lai”)
1013	Japanese Publication No. 2005051085A to Hasegawa (“Hasegawa”)
1014	Certified Translation of Hasegawa

<i>Exhibit No.</i>	<i>Description</i>
1015	Complaint for Patent Infringement, <i>Lian Li Industrial Co., Ltd., and, Chen, Chien-Hao v. Thermaltake Technology Co., Ltd. and Thermaltake Inc. (a.k.a. Thermaltake USA)</i> , No. 2:23-cv-07470-HDV-MARx (C.D. Cal.) (the “California Action”)
1016	Waiver of Service (Dkt. No. 22 of the California Action)
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1018	Disclosure of Asserted Claims and Infringement Contentions in the California Action, dated March 6, 2024
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1023	Declaration of Christopher Kao in Support of Petitioners’ Unopposed Motion for Admission <i>Pro Hac Vice</i> of Christopher Kao
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1025	Declaration of Brock S. Weber in Support of Petitioners' Unopposed Motion for Admission <i>Pro Hac Vice</i> of Brock S. Weber
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1027	Demonstrative of Figure 2 of Ex[1001] ('336 Patent), marked during deposition of Dr. David Tuckerman
1028	Expert Declaration of Dr. David Tuckerman Regarding Claim Construction (Dkt. 50-2) in the California Action
1029	Page 20 of Declaration of Dr. David Tuckerman in Support of Patent Owner Response and Contingent Motion to Amend (Ex[2006])
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1032	"Side," <i>Merriam-Webster's Collegiate Dictionary</i> , Eleventh Edition (2003)
1033	RayPCB Article, <i>What is the difference between WS2813 and WS2812B LED strips?</i> , accessed at: https://www.raypcb.com/ws2812b-vs-ws2813/
1034	Product page for WS2812B LED, accessed at: https://alitove.com/products/alitove-dream-color-led-strip-16-4ft
1035	Data sheet for Kingbright WP1503ID T-1 3/4 LED, Spec No. DSAF2382, Rev V.6A, dated January 20, 2015.

<i>Exhibit No.</i>	<i>Description</i>
1036	Tom's Hardware Article, <i>Thermaltake Launches Software-Controlled Riing RGB LED Radiator Fans</i> , accessed at: https://www.tomshardware.com/news/thermaltake-riing-led-rgb-fans,32338.html
1037	AnandTech, <i>Capsule Review: Sunon MagLev 120 mm Fan</i> , retrieved from: https://web.archive.org/web/20240902073447/https://www.anandtech.com/print/21376/capsule-review-sunon-maglev-120mm-fan
1038	Manual for Thermaltake Riing 12 RGB Radiator Fan TT Premium Edition
1039	Tom's Hardware Article, <i>Noctua Releases All-New NF-A12x25 120 mm Fan</i> , accessed at: https://www.tomshardware.com/news/noctua-releases-nf-a12x25-120mm-fan,36994.html
1040	"IEC 60320," Wikipedia entry, accessed at: https://en.wikipedia.org/wiki/IEC_60320
1041	User Manual for SilverStone Multi-RVZ01-E

I. INTRODUCTION

Patent Owner's ("PO") Contingent Motion to Amend ("MTA," Paper 19) should be denied because substitute claims 6-7 of U.S. Patent No. 10,690,336 (the "'336 Patent") fail to meet the written description, enablement, or definiteness standards of 35 U.S.C. § 112, and are also obvious in view of the prior art under 35 U.S.C. § 103.

II. SUMMARY OF THE PROPOSED, NEW LIMITATIONS

PO proposes claims 6-7 as substitutes for original claims 2-3 of the '336 Patent in the event that claims 2-3 are found to be unpatentable. MTA at 1-2. The only limitations that PO argues are not taught by the prior art are:

- "(iv) a power socket comprising an opening located on the first side of the body" and
- "(v) a first connector disposed on the first side of the body, wherein the first connector is structurally distinct and separable from the power socket"

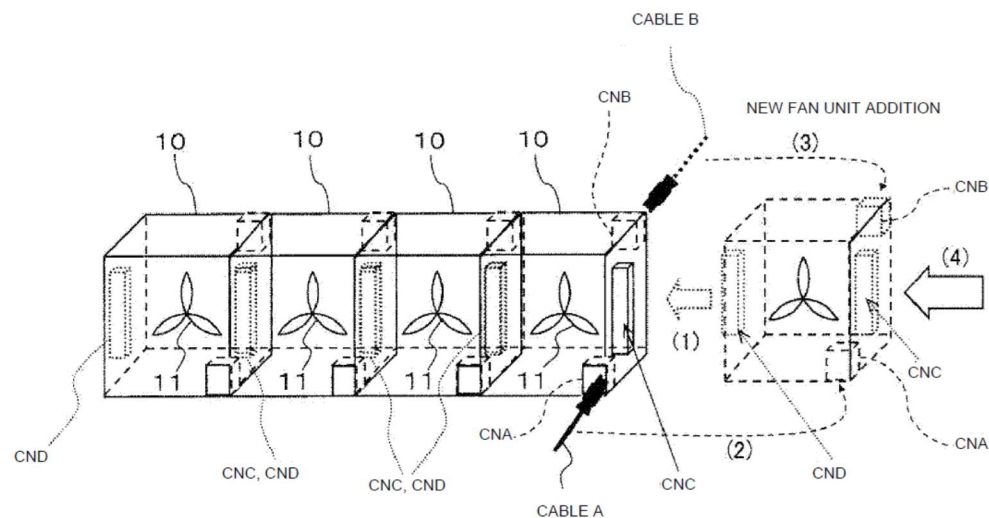
MTA at 17. PO argues a power socket that comprises an opening and that a power socket and first connector that are structurally distinct and separable are not taught, disclosed, or rendered obvious by the prior art. However, neither of these additions to the claims are novel, innovative, or non-obvious.

A. A Power Socket Comprising An Opening Located On The First Side Of The Body Would Have Been Obvious In Light Of The Prior Art Relied Upon In The Petition.

A power socket comprising an opening is an ordinary kind of computer fan power socket. Ex[1031], ¶83. For example, connector 111 in Lai is situated within an opening. Ex[1012] at Figs 2-3. To the extent that the proposed opening limitations require that the opening be part of the connector, that is not supported by the specification in the '336 Patent. Ex[1031], ¶84. As in Lai, the '336 Patent discloses only a connector situated within an opening. *Id.*; Ex[1001] at Figures 1-5 (connector 4 situated within an opening).

As another example, connectors CNC and CNA in Tsuji also include an opening. Ex[1031], ¶85; *see, e.g.*, Ex[1007], Fig. 6.

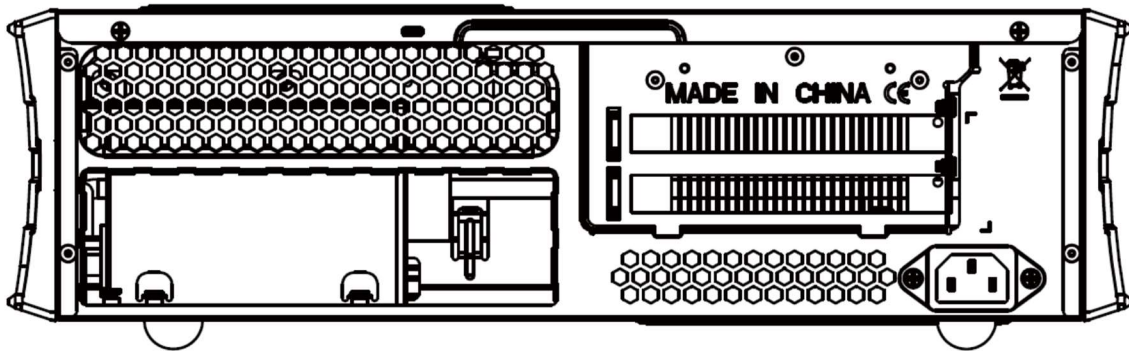
FIGURE 6



To the extent that the proposed opening limitations require that the connector housing opening not extend beyond the surface of the housing, it would have been obvious to place the connector internal to the housing. Ex[1031], ¶85. Tsuji's connectors CNC and CND clearly mate in a way that the fan surfaces are adjacent to each other and that the connectors mate within the fan body. Ex[1007], Fig. 6. It is a simple design choice as to which of the two connectors is an "innie" and which is an "outie" to a POSITA. Ex[1031], ¶85.

For instance, a POSITA would have known that existing commercial fans included a power socket comprising an opening located on the first side of the body. Ex[1031], ¶86 (citing Ex[1039]; Ex[1036]; Ex[1037]; Ex[1038]; Ex[1039]). Such power sockets comprising an opening on a side of a body were used in computer fans prior to the priority date of the '336 Patent. *Id.*

In fact, ordinary PCs commonly included a power socket comprising an opening located on a first side of a body. Ex[1031], ¶87 (providing an illustration from the PC case that Dr. Wolfe purchased in 2017, comprising a standard IEC 60320 power socket, below). A standard IEC 60320 power socket comprised an opening located on the first side of a body. *Id.* (quoting Ex[1040]). Any computer component designer would have known about power sockets with openings. *Id.*



BACK

RVZ01-E manual at 4

B. A First Connector Structurally Distinct And Separable From A Power Socket Was Well-Known And It Would Have Been Obvious To Implement It In The Prior Art Relied Upon In The Petition

As established in Petition, it would have been obvious to a POSITA to separate power connections and signals into separate housings to implement a structurally distinct and separate first connector and power socket. Pet. 62; Ex[1004], ¶116. It is a simple design choice whether to combine the power connections and signals into a single connector or to split them between two connectors. Ex[1031], ¶88. To the extent that this new limitation requires splitting multiple connections into two housings, this would have been a simple and obvious design choice to a POSITA. *Id.*

To the extent that the amended claim does not allow for including power connections on the first and second connectors, the '336 Patent lacks written description for such a proposed new limitation. *Id.*, ¶89. The '336 Patent specification does not disclose a mechanism to provide power to the second fan other than through the first and second connectors. *Id.*

III. SUBSTITUTE CLAIMS 6-7 LACK WRITTEN DESCRIPTION SUPPORT UNDER 35 U.S.C. § 112

Substitute claims must be supported by the written description of the original application and may not introduce new subject matter. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121(A)(2)(ii). To satisfy the written description requirement, “the description must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (cleaned up). “The written description requirement is particularly important when, as here, claims are added later in prosecution in response to development by others.” *FWP IP ApS v. Biogen MA, Inc.*, 749 F. App’x 969, 974 (Fed. Cir. 2018).

The added limitations at issue here are not, in fact, disclosed anywhere in the specification of the '336 Patent. But even if PO could successfully identify support for each individual limitation, “an amalgam of disclosures plucked selectively from the [original] application” does not satisfy the written description requirement.

Novozymes A/S v. DuPont Nutrition Biosciences APS, 723 F.3d 1336, 1349 (Fed. Cir. 2013); *accord Ariad Pharms.*, 598 F.3d at 1352 (Fed. Cir. 2010). Rather, the original application must support each claim “as an integrated whole rather than as a collection of independent limitations.” *Novozymes*, 723 F.3d at 1349.

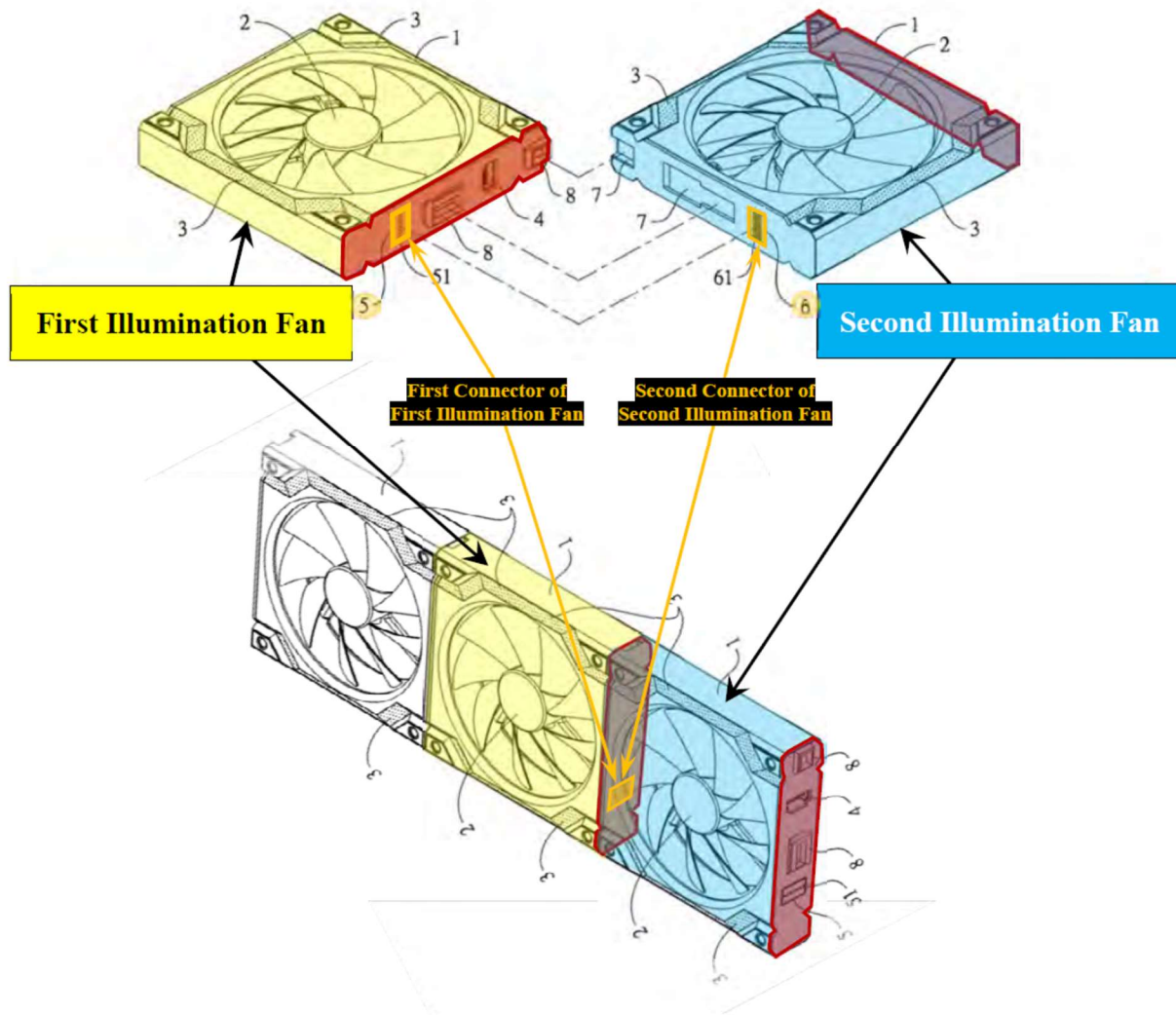
PO cannot make that showing. Substitute claims 6-7 include new limitations, plucked from disparate portions of the specification, that have been arbitrarily combined in an attempt to evade the prior art. However, in combination, the proposed new features are not disclosed in the specification, and the Board should decline PO’s invitation to introduce new matter into the claims. *See Hyatt v. Dudas*, 492 F.3d 1365, 1371 (Fed. Cir. 2007) (upholding a rejection for lack of written description where “each element [was] individually described in the specification,” but specification failed to “provide support for the linkage of the claimed elements creating the embodiment”) (emphasis in original).

A. Substitute Claim 6 Is Not Supported By The Specification.

Limitations 6(A)(iv) and 6(A)(v) require the power socket and the first connector to be on a first side of a first illumination fan. Limitation 6(B) requires that “when the first connector of the body is connected with a second connector of a body of the second illumination fan, a center fan and an illumination area of the body of the second illumination fan are respectively driven into rotation and illumination.”

Limitation 6(C) requires that, “when the first connector of the body is connected with a second connector of a body of the second illumination fan, a center fan and an illumination area of the body of the second illumination fan are respectively driven into rotation and illumination.”

As such, substitute claim 6 requires that power is supplied to the power socket on the first side of the first illumination fan, and from the first connector on the same first side of the first illumination fan to the second connector of the second illumination fan to drive the rotation and illumination. Ex[1031], ¶90 (citing annotated '336 Patent Figs 2-3 in Ex[2006], at 14).



However, the '336 Patent specification discloses only a single mechanism for connecting the first connector of the first illumination fan and the second connector of the second illumination fan by direct contact, as illustrated in Figures 2-5, and demonstrated by PO's annotations above. Ex[1031], ¶90. PO's proposed new limitations are not supported by the '336 Patent disclosures—*i.e.*, when the first

connector of the first illumination fan is directly connected with the second connector of the second illumination fan, there is no space between the first side of the first illumination fan and the second side of the second illumination fan to allow for supplying power to the claimed power socket located on the first side of the first illumination fan. *Id.*

B. Substitute Claim 7 Is Not Supported By The Specification.

Limitations 7(A)(iv) and 7(A)(v) require two connectors, each with a flat surface. The term “flat” does not appear in the specification of the ’336 Patent. Ex[1031], ¶91. And the specification provides no disclosure on how to implement or select flat surface connectors, thereby implicitly admitting that such connectors would have been well-known to a POSITA and that implementing them based on the mere suggestion that the fans slide together would have been within the skill of a POSITA and would not have required undue experimentation. *Id.*

PO seeks to rely on Figure 1 of the ’336 Patent, which is at best ambiguous as to whether connector 5 and terminal 51 are flat or merely can flex or spring back. *Id.* Tellingly, while the specification describes connector 6 as having contact face 61, connector 5 is described as having “electrically conductive terminal 51.” Ex[1001], 3:7-12.

IV. SUBSTITUTE CLAIMS 6-7 ARE INDEFINITE AND ARE NOT ENABLED UNDER 35 U.S.C. § 112

A. Indefiniteness

1. Claim 6: Limitations 6(A)(iv), 6(A)(v), 6(B), 6(C)

Including as discussed above in Section III.A, a POSITA would not be able to understand, with reasonable certainty, what it means in the context of the '336 Patent specification: (a) for the power socket and the first connector to be on a first side of a first illumination fan; (b) when the first connector of the body is connected with a second connector of a body of the second illumination fan, a center fan and an illumination area of the body of the second illumination fan are respectively driven into rotation and illumination; and (c) when the first connector of the body is connected with a second connector of a body of the second illumination fan, a center fan and an illumination area of the body of the second illumination fan are respectively driven into rotation and illumination. Ex[1031], ¶90. Given this lack of clarity, the claim “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

2. Claim 7: connectors with a “flat” surface

As discussed above in Section III.B, the term “flat” does not appear in the specification, and the specification provides no disclosure on how to implement or

select flat surface connectors. For example, this term may encompass two flat surfaces without any springs or other structures to maintain contact that would be an unreliable connection mechanism to a POSITA. Ex[1031], ¶91. Thus, the term “flat” is indefinite in the context of the ’336 Patent. *See Nautilus*, 572 U.S. at 901.

B. Enablement

1. Claim 6: Limitations 6(A)(iv), 6(A)(v), 6(B), 6(C)

As discussed above in Section III.A, the specification requires the first connector of the body of the first illumination fan to be directly connected with the second connector of the body of the second illumination fan, thereby leaving no space to provide power to a power socket located on the same first side of the first illumination fan. Ex[1031], ¶90. Thus, the ’336 Patent does not provide any teaching or examples that would enable the proposed limitations. *Id.*

2. Claim 7: connectors with a “flat” surface

As discussed above in Section III.B, the ’336 Patent specification provides no enabling disclosure on how to implement or select flat surface connectors nor does it mention them. Ex[1031], ¶91.

V. PROPOSED SUBSTITUTE CLAIMS 6-7 ARE OBVIOUS UNDER GROUND 1 IN THE PETITION: TSUJI IN VIEW OF HUANG

Proposed substitute claims 6-7 are obvious over Tsuji in view of Huang as shown in the Petition (Paper 1 at 23-44), in the Reply in support of the Petition being

filed concurrently herewith, and as established by Dr. Wolfe in his Reply Declaration (Ex[1031] at ¶¶95-131). Again, the only limitations that PO argues are not taught by the prior art are:

- “(iv) a power socket comprising an opening located on the first side of the body” and
- “(v) a first connector disposed on the first side of the body, wherein the first connector is structurally distinct and separable from the power socket”

MTA at 17. PO’s position is without merit. These two limitations are addressed below (relying upon PO’s only attempts to distinguish the prior art).

A. Claim 6

6(A)(iv): a power socket comprising an opening disposed on the first side of the body; and

Tsuji discloses a power socket and a first connector on one side of the body, and a second connector on another side of the body. Ex[1031], ¶¶ 106-108. For example, Tsuji teaches that “two adjacent fan units among the plurality of the fan units transmit the pulse signal from one side to the other side, and are connected via an inter-fan unit connector that supplies power from one end to the other end.” Ex[1007], claim 5. As discussed above in Section II.A, it would have been obvious for such a power socket to comprise an opening disposed on the first side of the body. Ex[1031], ¶106.

Tsuji also discloses the power connector in claim 6: “[t]he electronic device as claimed in Claim 5, wherein each fan unit among the plurality of the fan units includes a power connector to which two or more power cables that can supply power to its own fan unit are connected when its own fan unit is arranged on one end side of the plurality of the fan units.” Ex[1007], claim 6.

The power sockets are shown as connectors CNA and CNB in Figures 5-7 and Figure 14. Each includes power (VCCA or VCCB) and ground (GND). *Id.*, Figures 5-7. Tsuji discloses that the “two connectors CNA and CNB (both female) [] enable power supply”. Ex[1007] at [0039]-[0044], [0069], [0092]. Connectors CNA and CNB each includes power (VCCA or VCCB) and ground (GND). *Id.* at Fig. 14. A POSITA would understand these to be power sockets because they receive a male end part plug from cables A and B. *Id.* at [0039]; Ex[1031], ¶108.

6(A)(v): a first connector disposed on the first side of the body, wherein the first connector is structurally distinct and separable from the power socket

Tsuji discloses first connector CNC that is structurally distinct from a power socket CNA. Ex[1031], ¶109. To the extent that CNA is not determined to be on a first side of the body, it would be obvious to place it there because connector CNC is on that side of the body and has the same power connections. Ex[1031], ¶109. It

would also be obvious to split connector CNC into two connectors, one of which is a power socket, as a simple design choice. *Id.*

B. Claim 7

7(A)(iv): a power socket comprising an opening disposed on the first side of the body; and

Tsuji discloses and/or renders obvious a power socket comprising an opening disposed on the first side of the body for the same reason as discussed for Limitation 6(A)(iv). *Id.*, ¶125.

7(A)(v): a first connector comprising a first flat surface disposed on the first side of the body, wherein the first connector is structurally distinct and separable from the power socket

As discussed for Limitation 6(A)(v), Tsuji discloses and/or renders obvious a first connector disposed on the first one side of the body wherein the first connector is structurally distinct and separable from the power socket, and wherein the first connector comprises a first electrical terminal configured to electrically connect with a second electrical terminal of the second illumination fan. *Id.*, ¶126.

As previously discussed in Section III.B, using a flat surface as the connector was widely known in the art. *Id.*, ¶127. The '336 Patent provides no enabling disclosure on how to implement or select flat surface connectors nor does it mention them, admitting that such connectors would have been well-known to a POSITA and that implementing them based on the mere suggestion that the fans slide together

would have been within the skill of a POSITA and would not have required undue experimentation. *Id.* It would have been obvious to a POSITA to employ flat connectors with Lai based on Lai's disclosure that the fan bodies should be places adjacent to one another so that their sides touch and based on the general availability of flat connectors as a design choice. *Id.*

7(A)(vi): a second connector comprising a second flat surface disposed on the second side of the body;

Tsuji discloses and/or renders obvious a second connector 112 on the right side of the fan body. *Id.*, ¶128. As explained above for Limitation 7(A)(v), using a flat surface as the connector was widely known in the art and would have been obvious. *Id.*, ¶129.

VI. PROPOSED SUBSTITUTE CLAIMS 6-7 ARE OBVIOUS UNDER GROUND 4 IN THE PETITION: LAI IN VIEW OF HASEGAWA

A. Claim 6

Proposed substitute claims 6-7 are obvious over Lai in view of Hasegawa as shown in the Petition (Paper 1 at 55-76), in the Reply in support of the Petition being filed concurrently herewith, and as established by Dr. Wolfe in his Reply Declaration (Ex[1031] at ¶¶132-173). Again, the only two limitations that PO incorrectly contends are novel and non-obvious over the prior art are addressed below.

6(A)(iv): a power socket comprising an opening disposed on the first side of the body; and

Lai discloses a power socket comprising an opening disposed on the first side of the body. Ex[1031], ¶139. Figure 3 of Lai, for example, shows that the power connections are within an opening in the housing, as shown below. *Id.*, ¶140.

Furthermore, on the left side of the body as illustrated in Figure 2, the power socket and first connector comprise input 111 (in a blue box, below). Input 111 is illustrated in Figure 2 as including 6 connectors, which corresponds to the embodiments illustrated in Figures 4 and 5. Ex[1012], Figures 2, 4-5. Figure 2 shows a single ground connection on input 111 connected to both the fan and the lights. The power socket is comprised of the ground connector and the two VCC connectors. Ex[1031], ¶139. The first connector is comprised of the LED data signal, the PWM signal, and the sense signal. *Id.* Alternatively, it would be obvious to include separate power and ground signals as suggested by Figure 6 on the first connector. *Id.* Figures 4, 5, and 6 all suggest that there are two places where power and ground are required in the fan system and illustrate two sets of connections on one side. It would have been obvious therefore to have two connectors on one side that each have power and ground and each have control signals. *Id.* Either one could be the power socket and the other would be the first connector. *Id.*

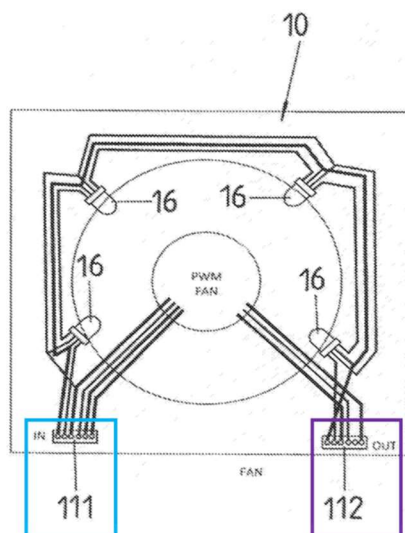


FIG. 2

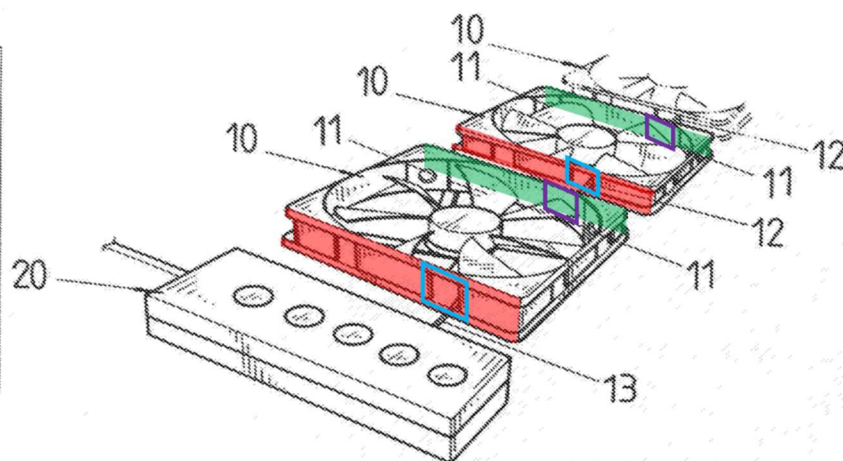


FIG. 3

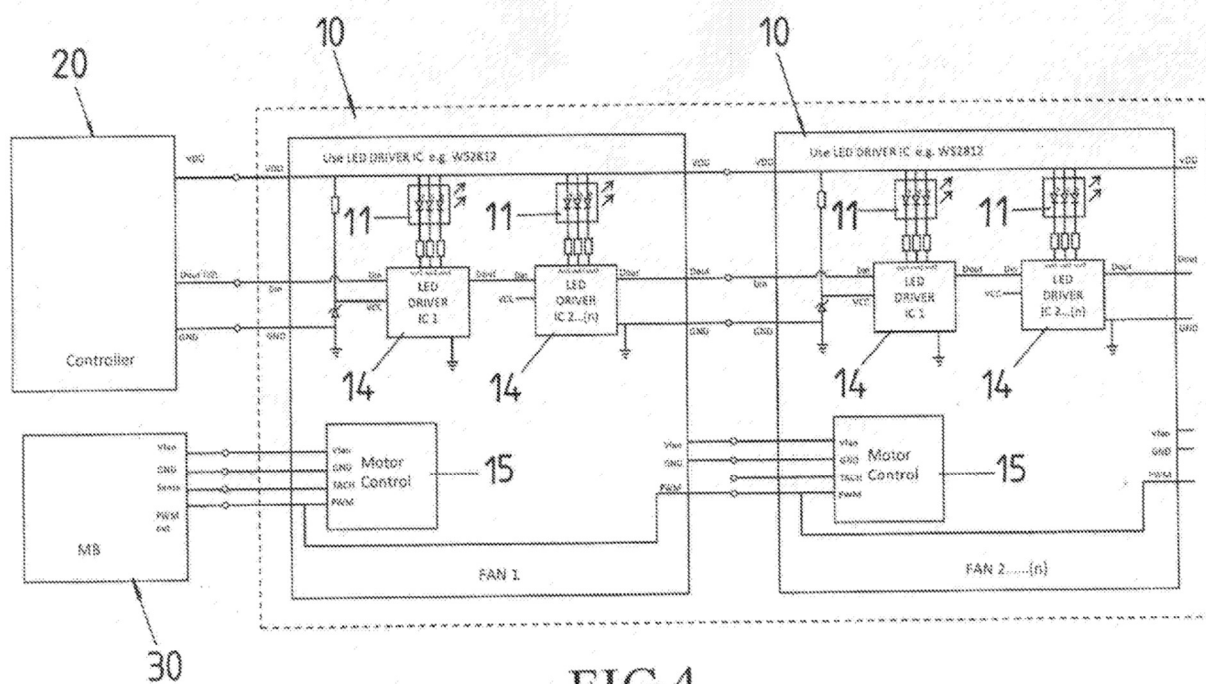


FIG. 4

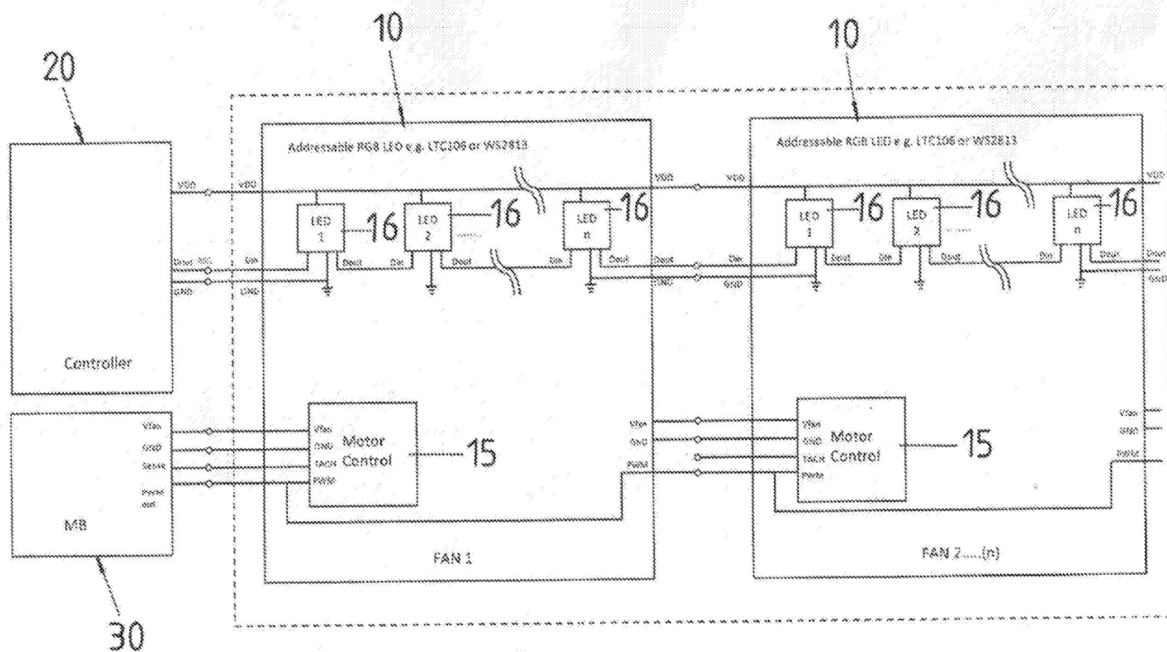


FIG. 5

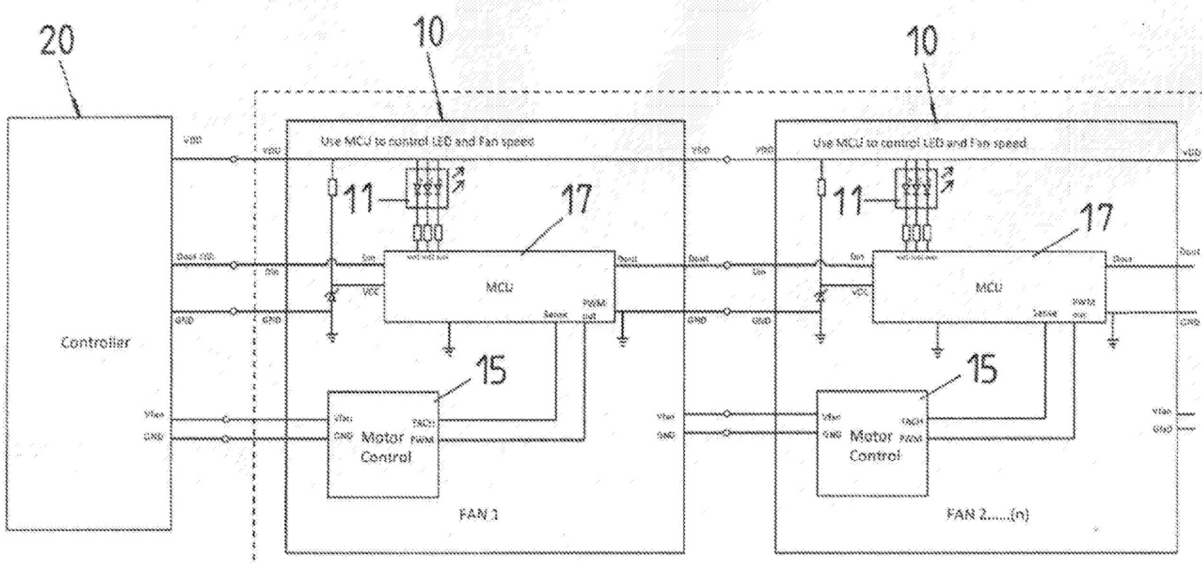


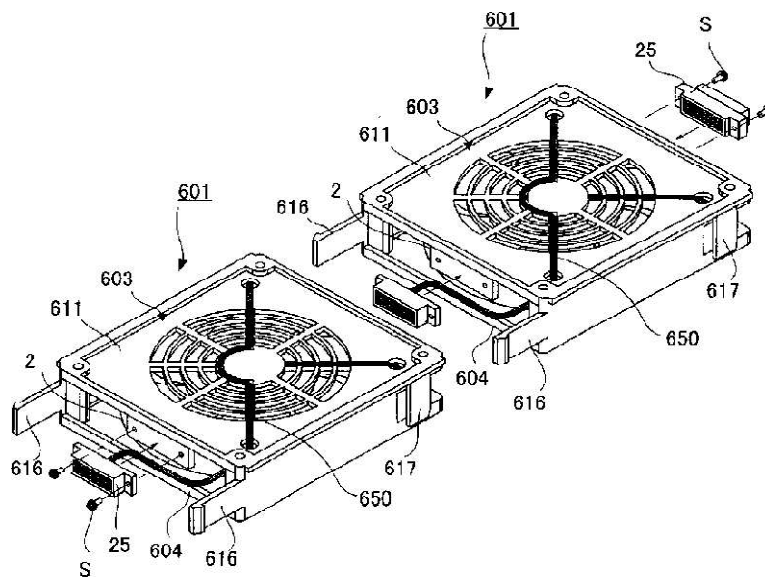
FIG. 6

It would have been obvious to a POSITA to separate a first connector and the power socket into two housings for the same reasons stated above. *Id.* A plurality of signals can be combined onto a single connector housing or split between two as a matter of simple design choice in this application. *Id.* To the extent that the power and ground terminals are not a “socket” it would be obvious to a POSITA to use a socket-style power connector. These were common in the art and often used for fans, as discussed above in Gound 1. *Id.* They would be a trivial substitute for a connector that was not considered a “socket.” Both male and female connectors are commonly available and for low-voltage applications can be interchangeable as to which is on the cable, and which is on the device. *Id.*

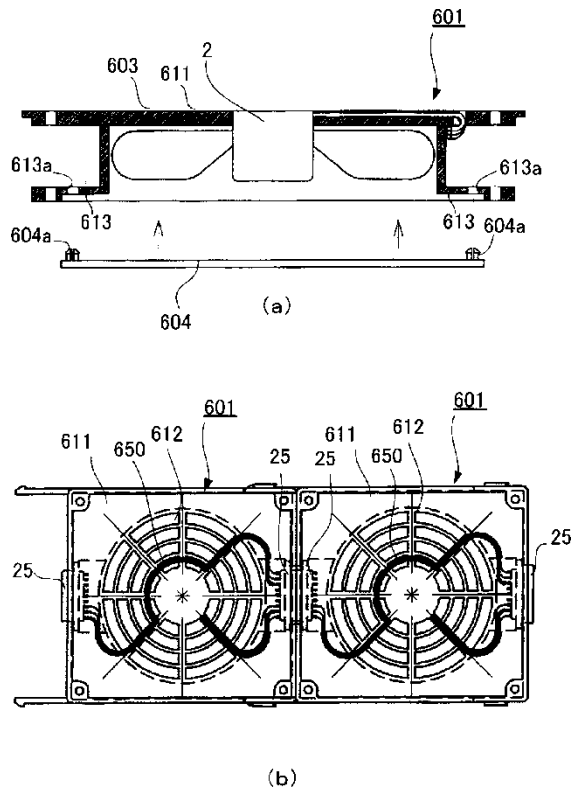
To the extent that one was to understand Lai not to disclose the power socket on the side of the fan body, it would be obvious to a POSITA that Lai’s connectors can be moved to the left and right edges of the fan body without any substantial impact to the structure or operation of Lai’s embodiments. *Id.*, ¶141. Lai already indicates that one connector should be near the left corner, and one should be near the right corner. Ex[1012] at Figure 2. There are no physical limitations that prevent or discourage moving them around the corner to the sides. Wire lengths would not need to substantially change and there are no obstacles to avoid. Electronics modules are commonly available in a choice of connector configurations, e.g. top or

bottom or side connectors, to facilitate wiring. Side-mounted connectors would reduce or eliminate the cabling required to connect adjacent fans as suggested in Lai figure 3. Ex[1031], ¶141.

Furthermore, a POSITA would be motivated to look to Hasegawa (Ex[1014]) to see an alternative positioning of the connectors for serial connection of fans and modify Lai to place connectors on opposing sides. *Id.*, ¶142. The connectors on two sides are illustrated in Figures 29 and 31.

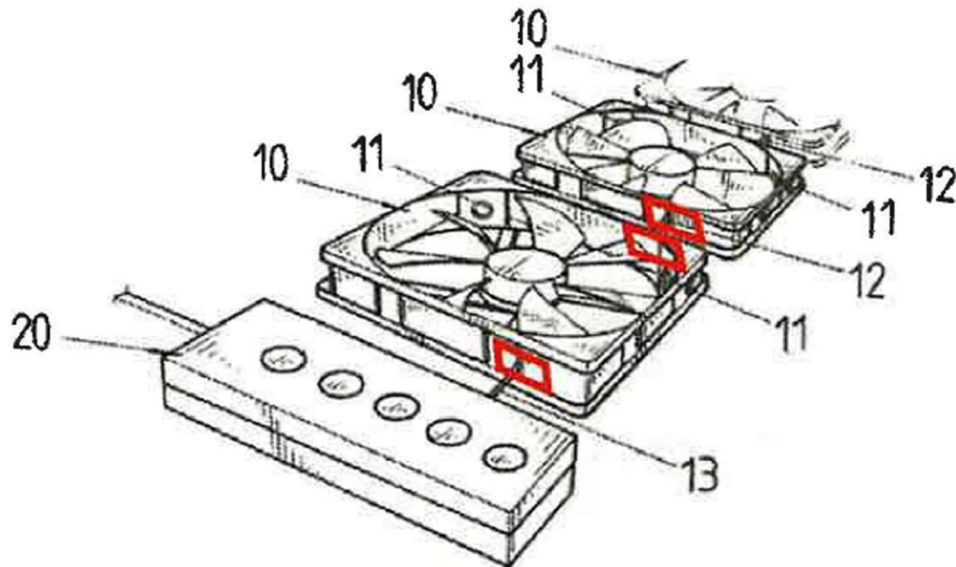


Ex [1014] at Figure 29



Ex [1014] at Figure 31

The combination of Lai and Hasegawa would have involved applying Hasegawa's known technique of placing cooling fan connectors on the fan body sides to the known LED fans of Lai to yield predictable results of connecting the fans in series. Ex[1031], ¶143. The combination would have appeared similar to Figure 3 of Lai, but with visible connectors on the fan body sides as shown below in red boxes and not just visible transmission lines:



Ex[1012] at Figure 3 (modified)

In this combination, it would still be obvious to include the connection in the illustrated opening so the fans could be abutted as shown in Figure 3 and described in Lai. Ex[1031], ¶144.

6(A)(v): a first connector disposed on the first one side of the body, wherein the first connector is structurally distinct and separable from the power socket

Lai discloses a first connector disposed on the first one side of the body. Ex[1031], ¶145. As discussed for Limitation 6(A)(iv), on the left side of the body as illustrated in Figure 2, the power socket and first connector comprise input 111. Input 111 is illustrated in Figure 2 as including 6 connectors, which corresponds to the embodiments illustrated in Figures 4 and 5. Figure 2 shows a single ground connection on input 111 connected to both the fan and the lights. The power socket is comprised of the ground connector and the two VCC connectors. The first

connector is comprised of the LED data signal, the PWM signal, and the sense signal. It would be obvious to include separate power and ground signals as suggested by Figure 6 on the first connector. Figures 4, 5, and 6 all suggest that there are two places where power and ground are required in the fan system and illustrate two sets of connections on one side. It would have been obvious therefore to have two structurally distinct and separable connectors, a power socket and a first connector, on one side that each have power and ground whereby the first connector includes the control signals. It would be obvious to a POSITA to separate a first connector and the power socket into two housings for the same reasons stated above for Limitation 6(A)(iv). Ex[1031], ¶145. A plurality of signals can be combined onto a single connector housing or split between two as a matter of simple design choice in this application. *Id.*

Alternatively, it would have been obvious, therefore, to have two connectors on one side that each have power and ground and each have control signals. *Id.*, ¶146. Either one could be the power socket and the other would be the first connector. Since the proposed claim 6 includes a limitation that the power socket is electrically connected with the first connector, it must encompass the situation where both the power socket and first connector include power and ground signals. *Id.*

B. Claim 7

7(A)(iv): a power socket comprising an opening disposed on the first side of the body; and

Lai discloses a power socket comprising an opening disposed on the first side of the body for the same reasons as discussed for Limitation 6(A)(iv). *Id.*, ¶167.

7(A)(v): a first connector comprising a first flat surface disposed on the first side of the body, wherein the first connector is structurally distinct and separable from the power socket

As discussed for Limitation 6(A)(v), Lai discloses and/or renders obvious a first connector disposed on the first one side of the body wherein the first connector is structurally distinct and separable from the power socket, and wherein the first connector comprises a first electrical terminal configured to electrically connect with a second electrical terminal of the second illumination fan. *Id.*, ¶168. As discussed above in Section III.B, using a flat surface as the connector was widely known in the art and would have been obvious. *Id.*, ¶169.

7(A)(vi): a second connector comprising a second flat surface disposed on the second side of the body;

Lai discloses and/or renders obvious a second connector 112 on the right side of the fan body. *Id.*, ¶170. And, as discussed above for Limitation 7(A)(v), using a flat surface as the connector was widely known in the art and would have been obvious. *Id.*, ¶171.

VII. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that the Board find that proposed substitute claims 6-7 are unpatentable and deny the MTA.

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CERTIFICATE OF COMPLIANCE

1. The undersigned certifies that this brief complies with the type volume limitations of 37 CFR § 42.24(a)(1)(i). This brief contains 4,261 words (excluding the table of contents, the table of authorities, mandatory notices under 37 CFR § 42.8, the certificate of service, certificate of compliance, and appendix of exhibits), as calculated by the “Word Count” feature of Microsoft Word 360, the word processing program used to create it.

2. The undersigned further certifies that this brief complies with the typeface requirements of 37 CFR § 42.6(a)(2)(ii) and typestyle requirements of 37 CFR § 42.6(a)(2)(iii). This brief has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-point font.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on August 13, 2025, a true and correct copy of the foregoing **PETITIONERS' OPPOSITION TO PATENT OWNER'S CONTINGENT MOTION TO AMEND** is being served via electronic mail as agreed by the parties on the following attorneys of record:

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