

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

GUANGZHO EKO TRADING DEVELOPMENT CO., LTD.,

Petitioner,

v.

NINE STARS GROUP (U.S.A.) INC.,

Patent Owner.

Case No. IPR2025-01191

U.S. Patent No. 10,822,165 B2

PATENT OWNER'S SUR-REPLY

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I. INTRODUCTION

Petitioner's Reply does not cure the Petition's failure to show that Wang discloses or enables the claimed waterproof concealed-compartment arrangement of U.S. Patent No. 10,822,165 (the "'165 patent"). The Reply repeatedly relies on Wang's generalized use of the word "waterproof" and then attempts to fill the remaining gaps with new generic waterproofing references concerning O-rings, gaskets, potting, tape, flanges, and unrelated waterproof housings. That is not anticipation, and it is not a properly developed obviousness theory.

Patent Owner does not contend that the claims require an underwater container, a gas-proof enclosure, an O-ring, a gasket, potting compound, or any particular commercial water-ingress rating. A trash container is not used underwater. In this field, the practical waterproof objective is to protect concealed electrical and mechanical components from direct water contact, spilled liquid, moisture, mist, humidity, and trash residuals associated with ordinary trash-container use.

The claims address that practical objective by reciting structure. Claim 1 requires first and second side concealed compartments at the rear portion of the control housing, a pivot shaft with first and second end portions extended into those side concealed compartments, and an actuation unit concealed in the first side concealed compartment "in a waterproof manner." Claim 1 also recites an element arranged to initially push up the cover panel and partially offset the cover-panel

weight. Dependent claims further recite the upper casing sealed and coupled at the lower base frame, the resilient element, the shaft sleeve, and the non-circular shaft/sleeve relationship. See Ex. 1001, claims 1, 5, 9, 11, 12, 15, and 17-22.

Wang, by contrast, is an earlier Chinese utility-model disclosure. It states an objective - a "waterproof sensing trash can" - but its claim body and short written disclosure do not disclose the later-developed waterproof concealed-compartment configuration of the '165 patent. The inventor declarations already of record explain why that earlier Wang configuration was an immature concept and was not suitable for commercial production as a waterproof trash container. Ex. 2002 ¶¶ 11-25; Ex. 2003 ¶¶ 11-25. The Reply does not overcome that evidence. It merely substitutes Wang's intended result and generic after-the-fact waterproofing techniques for the claimed structure.

II. PETITIONER MISSTATES PATENT OWNER'S WATERPROOF POSITION

Petitioner's Reply repeatedly argues as if Patent Owner required Wang to disclose every preferred embodiment detail of the '165 patent, or required O-ring/underwater sealing. Patent Owner's position is narrower and claim-based. The claims require a trash-container waterproof arrangement in which the actuation unit and related drive components are concealed in side concealed compartments in a waterproof manner. Claim 11 further recites the specific housing relationship: a

lower base frame and an upper casing sealed and coupled at the lower base frame to define the first and second side concealed compartments. Ex. 1001, claim 11.

The specification confirms the practical meaning of that claim language. It discloses the base frame 34, upper casing 35, sealing channel 342, and bottom edge of the upper casing sealed and coupled at the sealing channel. Ex. 1001, 5:56-6:4. A sealing element 343 is described as a preferred way to seal the connection, but Patent Owner does not argue that an O-ring or gasket is required by the claims. *Id.* at 5:65-67. The important point is the structural cooperation between the housing components that forms concealed compartments and keeps electrical and mechanical parts separated from the trash-container environment.

Nor does Patent Owner contend that waterproof means gas-proof. References in the specification to corrosive gas or odor concern the trash-container environment; they do not convert the claimed waterproof limitation into a gas-sealing limitation. The relevant waterproof concern is water exposure in ordinary trash use, including direct water contact, spilled liquid, moisture, mist, humidity, and trash residuals. Petitioner therefore attacks a strawman when it treats Patent Owner's argument as requiring immersion-grade or O-ring sealing.

III. WANG STATES A DESIRED RESULT, NOT AN ENABLING DISCLOSURE OF THE CLAIMED WATERPROOF ARRANGEMENT

Petitioner's enablement argument rests on the wrong premise. Wang does not become an enabling anticipatory disclosure merely by stating the intended objective of a "waterproof sensing trash can." A reference must disclose the claimed invention in sufficient detail to enable a POSITA to make and use what is claimed. Patent Owner does not require Wang to provide water-test results or commercial efficacy proof. Patent Owner requires disclosure of the claimed structure.

Wang's claim 1 uses the phrase "waterproof sensing trash can" and then recites an upper can body, lower can body, annular middle body seat, annular covering housing, can cover, rotating shaft, sector gear, sensor, circuit board, battery box, motor, and transmission mechanism. Ex. 1005, claim 1. The body of Wang's claim does not recite a sealed-and-coupled lower base frame and upper casing, a sealing channel/recess and corresponding casing edge/rim configuration, a shaft sleeve preventing exposure of the pivot shaft to the container opening, or a non-circular shaft/sleeve relationship. Id.; compare Ex. 1001, claims 1, 5, 11, and 17-22.

Wang's written description is similarly limited. It states that components are "wrapped" in an isolation space and isolated from the garbage storage portion, and then concludes that the trash can has good waterproof, moisture-proof, and corrosion-proof performance. Ex. 1005 ¶¶ 0008, 0018. Those statements identify

Wang's intended waterproof performance and generally attribute isolation to its housing, but they do not disclose how Wang's housing achieves the particular waterproof side-concealed-compartment arrangement required by the challenged claims. The Petitioner's Reply therefore confuses naming an objective with disclosing an enabling configuration.

This distinction matters because the claim limitations are not merely aspirational. Claim 1 requires the actuation unit to be concealed in the first side concealed compartment in a waterproof manner. Claim 11 requires the upper casing sealed and coupled at the lower base frame to define the side concealed compartments. Claims 17-22 require a shaft sleeve receiving the exposed portion of the pivot shaft and, in claims 18, 20, and 22, corresponding non-circular cross-sections. Those structural limitations cannot be supplied by Wang's title, preamble, or generalized waterproof statement.

IV. THE CLAIMED LIMITATIONS CORRESPOND TO LATER-DISCLOSED STRUCTURES THAT WANG DOES NOT DISCLOSE OR ENABLE

Petitioner argues that Patent Owner improperly faults Wang for not repeating every detail of the '165 specification. That mischaracterizes the issue. Patent Owner identifies the later-disclosed structures because they explain and support limitations actually recited in the challenged claims. Table 1 maps those claimed limitations to

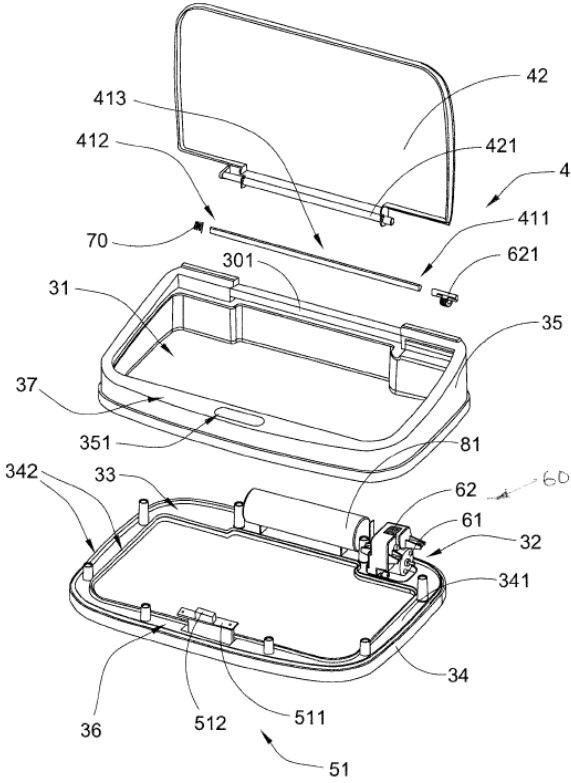
the corresponding later-disclosed structures, and Table 2 visually compares the relevant drawings of the '165 patent and Wang/CN203740427. The comparison is not a specification-to-specification demand; it is a claim-based showing that Wang lacks the structural configuration required by the claims and later disclosed in the '165 patent.

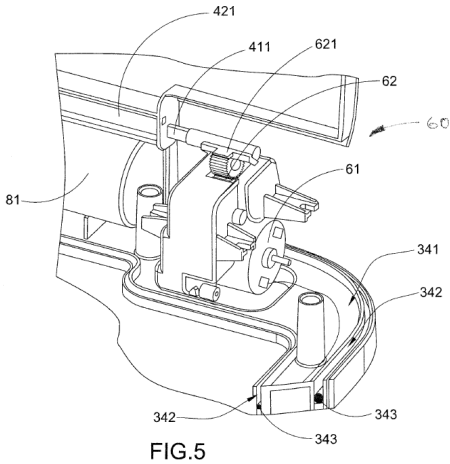
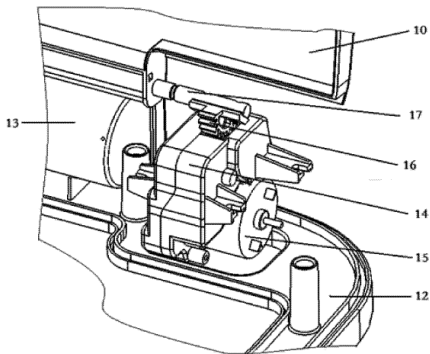
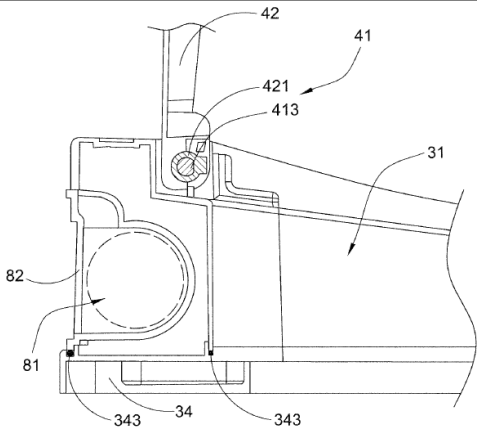
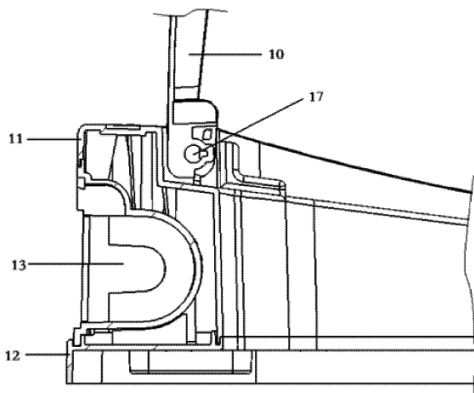
Table 1. Claimed Limitations/Issues Compared with Later-Disclosed Structures in the '165 Patent

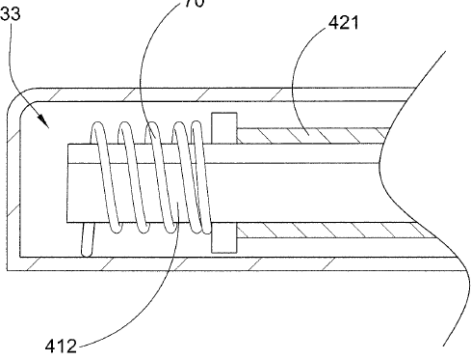
Claimed limitation or issue	Later-disclosed structure in the '165 patent	Wang deficiency
Actuation unit concealed in first side concealed compartment in a waterproof manner (claim 1)	First/second side concealed compartments 32/33 formed by the control housing; lower base frame 34 and upper casing 35; sealing channel 342 and corresponding bottom edge/rim engagement; preferred sealing element 343. The structural disclosure supports the claim-recited waterproof manner. See '165 Patent, 5:56-6:4; claim 1.	Wang recites an annular covering housing and inner cavity, but does not disclose the later-developed sealed-and-coupled base-frame/upper-casing arrangement or the channel/recess and corresponding rim/edge configuration associated with the claimed waterproof side concealed compartments.
Upper casing sealed and coupled at lower base frame to define first and second side concealed compartments (claims 5, 11)	Upper casing 35 sealed and coupled at lower base frame 34; bottom edge of upper casing sealed and coupled at sealing channel 342. Ex. 1001, claim 11; 5:56-6:4.	Wang states that an annular covering housing is buckled on a middle body seat, but does not identify a lower base frame/upper casing sealed-and-coupled relationship as claimed.
Element initially pushing up cover panel and partially offsetting cover-panel weight (claim 1; claims 9, 12, 15)	Resilient element 70 concealed in second side concealed compartment and coupled to second end portion 412 of pivot shaft to provide initial force and weight-supporting force. Ex. 1001, 7:4-22.	Wang mentions a torsion spring, but lacks the detailed side-concealed-compartment arrangement, shaft-sleeve interaction, and claimed functional relationship as disclosed and claimed in the '165 patent.
Shaft sleeve and non-circular shaft/sleeve relationship (claims 17-22)	Shaft sleeve 421 receives exposed portion 413 of pivot shaft 41 to prevent exposure to the container opening; corresponding non-circular cross-sections drive the cover panel. Ex. 1001, 6:19-31; claims 17-22.	Wang does not expressly disclose a shaft sleeve performing the claimed concealment function or corresponding non-circular cross-sections; Petitioner relies on inference from drawings rather than clear disclosure.

The same distinction is apparent from the record drawings. The figures below are reproduced from the existing patent and Wang disclosures to illustrate the structural differences relevant to the challenged claim limitations; they are not offered as new evidence.

Table 2. Figure Comparison of the '165 Patent and Wang/CN203740427

'165 Patent	Wang / CN203740427
 FIG.4 '165 Patent, FIG. 4 Exploded view of base frame 34, upper casing 35, cover panel 42, resilient element 70, gear worm sector 621, two end portions 411, 412 of the pivot shaft 41, and drive components.	No corresponding exploded structural disclosure identified in Wang.
Claim relevance / Wang deficiency: The exploded view shows the later-developed relationship among the housing, side concealed compartments, pivot shaft, resilient element, and drive components that supports the claim-recited waterproof and cover-driving arrangement. Wang does not provide a corresponding disclosure of this integrated configuration.	

'165 Patent	Wang / CN203740427
 FIG.5 '165 Patent, FIG. 5 Detailed relationship of base frame 34, sealing channel 342, sealing element 343, upper casing 35, drive components, and pivot-shaft structure.	 图 5 Wang/CN203740427, FIG. 5 Earlier drive/housing configuration.
Claim relevance / Wang deficiency: The '165 patent identifies the sealing-channel/housing relationship associated with the claimed waterproof concealed-compartment architecture. Wang FIG. 5 shows the earlier drive arrangement but does not disclose the later-developed sealing-channel and corresponding rim/edge configuration.	
 FIG.7 '165 Patent, FIG. 7 Exposed pivot-shaft portion 413, shaft sleeve 421, battery compartment 81, and sealing structure 343.	 图 7 Wang/CN203740427, FIG. 7 Earlier sectional arrangement.
Claim relevance / Wang deficiency: The '165 patent expressly identifies the shaft sleeve and exposed pivot-shaft relationship relevant to claims 17-22. Wang FIG. 7 does not expressly disclose a shaft sleeve performing the claimed concealment function or the corresponding non-circular shaft/sleeve relationship.	

'165 Patent	Wang / CN203740427
 FIG.8 '165 Patent, FIG. 8 Resilient element 70, shaft sleeve 421, second pivot-shaft end portion 412, and second side concealed compartment 33.	No corresponding structural disclosure identified in Wang.
Claim relevance / Wang deficiency: FIG. 8 provides the detailed structure corresponding to the initial push-up/weight-offset and resilient-element limitations and the shaft-sleeve arrangement. Wang mentions a torsion spring, but does not disclose this later-developed side-concealed-compartment and shaft-sleeve configuration.	

Tables 1 and 2 directly respond to the Reply's assertion that Patent Owner relies only on unclaimed subject matter. The cited structures are not random embodiment details. They are the disclosed structures corresponding to the claim-recited concealed compartments, waterproof manner, sealed-and-coupled housing relationship, resilient element, shaft sleeve, and non-circular shaft/sleeve limitations. Wang lacks those later-developed structural configurations.

Patent Owner recognizes that the Sur-Reply is not a vehicle to add new evidence. Tables 1 and 2 are argument based on the existing record: the challenged claims, the '165 patent disclosure, Wang, and the inventor declarations. They

demonstrate why Wang's generalized waterproof label does not anticipate or render obvious the actual claimed arrangement.

V. THE INVENTOR DECLARATIONS REBUT PETITIONER'S ENABLEMENT THEORY

Petitioner asserts that Wang is presumed enabled once Petitioner maps it to the claims. Even assuming an initial presumption applies, Patent Owner rebutted it. The inventor declarations are direct evidence from persons with firsthand knowledge of Wang's developmental status. They explain that Wang reflected an early conceptual arrangement and was not suitable for commercial production as a waterproof trash container because moisture and contaminants could enter areas containing electrical components. Ex. 2002 ¶¶ 11-12; Ex. 2003 ¶¶ 11-12. The declarations further identify later-developed structural details of the '165 patent's waterproof architecture. Ex. 2002 ¶¶ 12-25; Ex. 2003 ¶¶ 12-25.

Petitioner responds that inventor declarations are irrelevant because enablement is judged from a POSITA's perspective. That overstates the point. Patent Owner does not rely on the declarations to impose a commercial-production requirement or to prove that inventor difficulty alone defeats enablement. Patent Owner relies on the declarations to identify what Wang did not disclose: the actual waterproof concealed-compartment configuration later developed and claimed in the

'165 patent. That evidence directly addresses whether Wang enables the arrangement Petitioner relies upon for anticipation.

The fact that Wang was a Chinese utility-model registration does not change the analysis. Wang may be a printed publication, but anticipation still requires disclosure of the claimed structure arranged as claimed. Wang may show that the inventors desired a waterproof sensing trash can at the earlier utility-model stage. The record shows, however, that Wang did not disclose the later-developed waterproof configuration disclosed and claimed through the first and second side concealed compartments and the sealed-and-coupled housing configuration of the '165 patent.

VI. PETITIONER'S GENERIC O-RING/GASKET THEORY CONFIRMS GAP-FILLING, NOT ANTICIPATION

Petitioner relies on additional references and expert testimony discussing seals, gaskets, O-rings, potting compound, interlocked rims, tape, flanges, and similar waterproofing concepts. Reply at 9-11. That new discussion does not establish anticipation by Wang. Those references are not Wang, and they are not incorporated into Wang. For anticipation, Wang itself must disclose the limitations arranged as claimed. Petitioner cannot use unrelated waterproofing references to supply the claimed concealed-compartment and sealed/coupled housing structure missing from Wang.

Petitioner and its expert do not analyze whether an O-ring or gasket would be suitable for an ordinary trash-container environment, including considerations of trash residue, food waste, sticky liquids, spilled water, cleaning, maintenance, and manufacturability. The mere availability of generic sealing techniques therefore does not establish that a POSITA would have selected such techniques, much less the particular claimed configuration, when implementing Wang.

Patent Owner does not argue that O-rings can never be used in any trash can. The point is more basic: Petitioner's generic statement that waterproofing techniques were known does not show that Wang discloses the claimed arrangement, and it does not provide a reasoned, trash-container-specific motivation to modify Wang to arrive at the claimed sealed-and-coupled recess/rim housing configuration. Known does not mean suitable, and known does not mean disclosed.

VII. PETITIONER'S OBVIOUSNESS THEORY IS AN IMPROPER RECONSTRUCTION OF THE CLAIMED INVENTION

Petitioner attempts to avoid the problem by saying no modification is needed because Wang itself allegedly discloses the claims. But if Wang itself discloses the claims, Petitioner's new O-ring, gasket, potting, tape, flange, and waterproof-housing references are unnecessary. If those references are necessary, then Petitioner is no longer relying on Wang alone and must provide a properly articulated obviousness theory in the Petition, not a reconstructed theory in Reply.

A reply may respond to Patent Owner's arguments, but it may not present a new direction or new approach to make out the case that should have been made in the Petition. 37 C.F.R. § 42.23(b); see *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015). Petitioner's new waterproofing references and expert discussion should therefore be given no weight to the extent they are used to supply missing claim limitations or create a new obviousness rationale.

Nor does generic knowledge of waterproofing supply a motivation to use the claimed arrangement. The claimed invention uses the housing structure itself - independent side concealed compartments and a sealed/coupled lower-base-frame and upper-casing relationship - to protect the actuation unit in the trash-container environment. Petitioner does not explain why a POSITA starting from Wang would have selected and implemented that particular configuration, rather than any number of other possible waterproofing techniques.

VIII. WANG DOES NOT DISCLOSE THE RESILIENT-ELEMENT, SHAFT-SLEEVE, AND NON-CIRCULAR-SHAFT LIMITATIONS

Petitioner's Reply also fails to establish the limitations directed to the initial push-up/weight-offset element, the shaft sleeve, and the corresponding non-circular shaft/sleeve configuration. Wang mentions a torsion spring at the other end of the

rotating shaft. Ex. 1005 ¶ 0022. But the challenged claims require more than the mere existence of a spring. Claim 1 requires an element arranged to initially push up the cover panel when the cover panel starts to move from the closed position and to partially offset the weight of the cover panel when the cover panel starts to move from the opened position. Claims 9, 12, and 15 further recite the resilient element concealed in the second side concealed compartment and coupled at the second end portion of the pivot shaft.

The '165 patent discloses the corresponding structure in connection with FIG. 8: resilient element 70 is concealed in the second side concealed compartment 33 and coupled at the second end portion 412 of the pivot shaft 41; one end of the coil spring is biased against the shaft sleeve 421 and the other end is biased against shaft housing 301 to provide the claimed initial and weight-supporting forces. Ex. 1001, 7:4-22. Wang lacks that later-disclosed configuration.

The shaft-sleeve limitations provide independent reasons to reject Petitioner's challenge. Claims 17, 19, and 21 require a shaft sleeve formed along the folding edge of the cover panel, with the exposed portion of the pivot shaft received in the shaft sleeve to conceal the exposed portion and prevent the pivot shaft from being exposed to the container opening. Claims 18, 20, and 22 require corresponding non-circular cross-sections. Ex. 1001, claims 17-22. Wang's text does not expressly disclose a shaft sleeve performing that concealment function or corresponding non-

circular cross-sections. Petitioner's annotated drawing inference is insufficient to meet its burden.

IX. WANG DOES NOT ANTICIPATE CLAIMS 1-24 BECAUSE MULTIPLE CLAIM LIMITATIONS ARE ABSENT FROM WANG

Anticipation requires more than similarity in overall purpose or appearance. A single prior-art reference must disclose every limitation of the challenged claim, expressly or inherently, and those limitations must be arranged or combined in the same way as in the claim. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369-71 (Fed. Cir. 2008); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1252 (Fed. Cir. 2014). In an IPR, Petitioner retains the ultimate burden of proving unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1375-76 (Fed. Cir. 2016).

Measured against that standard, Wang does not anticipate the challenged claims. The point is not that Wang lacks identical labels or identical drawings. The point is that Wang lacks multiple relationships expressly required by the claims. For claim 1, Wang does not disclose the claimed first and second side concealed compartments arranged at the rear portion of the control housing together with a pivot shaft having first and second end portions extended into the respective compartments and an actuation unit concealed in the first side concealed compartment in a waterproof manner. Wang's generalized 'inner cavities' and

statement of waterproof performance do not disclose that claimed combination arranged as claimed. Nor does Wang disclose the claim 1 element arranged to initially push up the cover panel and partially offset its weight in the claimed relationship. Its generalized torsion-spring disclosure does not establish the claimed structure and operation.

The dependent claims add further limitations that independently defeat anticipation. Claims 5 and 11 require the upper casing to be sealed and coupled at the lower base frame so as to define the side concealed compartments. Claims 9, 12, and 15 further define the resilient element in relation to the second side concealed compartment and second end portion of the pivot shaft. Claims 17, 19, and 21 require the exposed pivot-shaft portion to be received in a shaft sleeve so as to conceal that portion from the container opening, while claims 18, 20, and 22 further require corresponding non-circular shaft/sleeve cross-sections. As Tables 1 and 2 show, Wang does not expressly disclose these arrangements. Petitioner instead asks the Board to infer them from generalized cavities, a torsion spring, and ambiguous drawings. Anticipation cannot be established by assembling separate possibilities or by supplying undisclosed relationships through hindsight. *Net MoneyIN*, 545 F.3d at 1371.

The same defect carries through claims 1-24. Each challenged claim stands or falls on all of its own limitations, including the limitations inherited through

dependency. Where Wang fails to disclose a limitation of an independent claim, it necessarily fails to anticipate claims depending from that claim unless the missing limitation is otherwise necessarily present. And where a dependent claim adds a further limitation not disclosed in Wang, that omission provides an additional independent reason that Wang does not anticipate that claim. Petitioner's Reply therefore cannot establish anticipation merely by asserting that Wang is 'virtually identical' or by pointing to its repeated use of the word 'waterproof.' The legal inquiry is limitation-by-limitation and arrangement-by-arrangement, and Wang does not satisfy it.

X. PETITIONER HAS NOT ESTABLISHED OBVIOUSNESS OF CLAIMS 1–24 BECAUSE THE PETITION DOES NOT IDENTIFY PRIOR-ART TEACHINGS THAT SUPPLY THE DISTINCTIVE MISSING LIMITATIONS IN THE CLAIMED ARRANGEMENT

Petitioner's alternative obviousness theory fails for a related but distinct reason. Obviousness requires a reasoned showing that the prior art would have led a POSITA to the claimed invention, including the limitations that distinguish the claims from Wang, with a reasonable expectation of success. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016). Although KSR permits a flexible analysis, it still requires an articulated reason with rational underpinning;

conclusory statements that a feature was 'known' or could have been added do not establish that the claimed configuration would have been obvious. KSR, 550 U.S. at 418.

Here, the Petition did not identify a secondary reference that teaches the distinctive waterproof concealed-compartment architecture missing from Wang: the side concealed compartments in the claimed relationship, the upper casing sealed and coupled at the lower base frame to define those compartments, and the later-disclosed channel/recess and corresponding casing-edge/rim relationship that supports that waterproof arrangement. Nor did the Petition identify a reference that supplies the claimed shaft-sleeve concealment relationship or the complete resilient-element arrangement in the manner recited by the claims. Petitioner's Reply instead points to newly cited generic waterproofing references and asserts that gaskets, O-rings, tape, potting, flanges, and other techniques were generally known. Reply at 9-11. Those generic techniques are not the distinctive claimed configuration and do not explain why a POSITA starting from Wang would have selected the claimed architecture.

The Federal Circuit has cautioned against using 'common sense' or general knowledge as a wholesale substitute for evidence and reasoned analysis, particularly where the approach is used to supply a missing claim limitation. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361-63 (Fed. Cir. 2016). That principle is directly

relevant here. It is not enough to say that waterproofing was well known and therefore any missing waterproof structure was obvious. The claimed invention does not merely claim the abstract idea of making a housing waterproof; it recites particular structural relationships among the control housing, concealed compartments, pivot shaft, actuation unit, and, in dependent claims, the sealed-and-coupled casing/base-frame and shaft-sleeve structures. Petitioner must prove why the prior art would have led a POSITA to those relationships, not merely why a POSITA could have attempted some form of waterproofing.

The IPR statute also places the obligation on Petitioner to identify in the Petition, with particularity, the grounds and evidence supporting the challenge to each claim. 35 U.S.C. § 312(a)(3). A reply may respond to Patent Owner's arguments, but it may not replace the Petition's theory with a materially new one. *Intelligent Bio-Systems*, 821 F.3d at 1369-70. Thus, Exhibits 1014-1018 cannot be used in Reply to create, for the first time, a combination that supplies structural limitations that Wang and the Petition's asserted theory did not disclose. To the extent those exhibits are offered merely to show background knowledge, they still do not prove the required motivation to select the claimed configuration or a reasonable expectation of arriving at the complete claimed arrangement.

Accordingly, the obviousness challenge fails claim-by-claim. For claims whose distinctive limitations are absent from Wang, Petitioner has not identified a

properly asserted prior-art teaching that supplies those limitations in the claimed arrangement and has not articulated a reason why a POSITA would have made the specific modifications necessary to arrive at them. For the dependent claims, the additional resilient-element, sealed-and-coupled housing, shaft-sleeve, non-circular cross-section, and related limitations provide further reasons why the claims are not rendered obvious by Wang. Petitioner's theory amounts to using the '165 patent as a roadmap and then selecting generic technologies after the fact to reconstruct the claimed invention. That is hindsight, not a reasoned § 103 analysis.

XI. PETITIONER HAS NOT CARRIED ITS BURDEN

Petitioner bears the ultimate burden to prove unpatentability. That burden never shifts to Patent Owner. Here, the Reply relies on Wang's generalized waterproof label, an overbroad attack against a position Patent Owner does not take, generic waterproofing references not disclosed in Wang, and expert assertions untethered to practical trash-container design. That is insufficient.

At minimum, Petitioner has not shown that Wang anticipates or renders obvious the limitations requiring the actuation unit concealed in a side concealed compartment in a waterproof manner; the upper casing sealed and coupled at the lower base frame to define the first and second side concealed compartments; the claimed resilient element/initial push-up and weight-offset arrangement; and the

shaft-sleeve/non-circular shaft limitations. The Board should therefore determine that Petitioner has not shown the challenged claims unpatentable.

XII. CONCLUSION

For the foregoing reasons, and for the reasons set forth in Patent Owner's Response, Petitioner has failed to prove that any challenged claim is unpatentable.

Dated: August 08, 2026

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Patent Owner Sur-Reply complies with the type-volume limitation of 37 C.F.R. §42.24(c)(4). This Sur-Reply contains 4,481 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

Dated: August 08, 2026

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CERTIFICATE OF SERVICE

The undersigned certifies that on August 08, 2026, a true and correct copy of the foregoing PATENT OWNER'S SUR-REPLY was served by electronic mail on counsel of record for Petitioner at the email addresses of record in this proceeding.

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